Data File: \\target_server\gg\chem\gcms-n.i\N052518.b\N8724.D
Report Date: 29-May-2018 11:19

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-n.i\N052518.b\N8724.D
Lab Smp Id: WG228119-1RA2 Client Smp ID: WG228119-Blank
Inj Date : 25-MAY-2018 11:11 MS Autotune Date: 25-OCT-2017 08:54
Operator : JCG Inst ID: gcms-n.i
Smp Info : WG228119-1RA2,SL3995
Misc Info : WG229077,WG228119,WG228910-4,SL3995-15
Comment :
Method : \\target_server\gg\chem\gcms-n.i\N052518.b\NSPSIM96.m
Meth Date : 29-May-2018 11:04 cgomez Quant Type: ISTD
Cal Date : 23-MAY-2018 12:01 Cal File: N8665.D
Als bottle: 5 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: sw8270sim.sub
Target Version: 4.12
Processing Host: V200T4

Concentration Formula: Amt * DF * Uf*(Vt/Vo*Vi)*1000 * CpndVariable

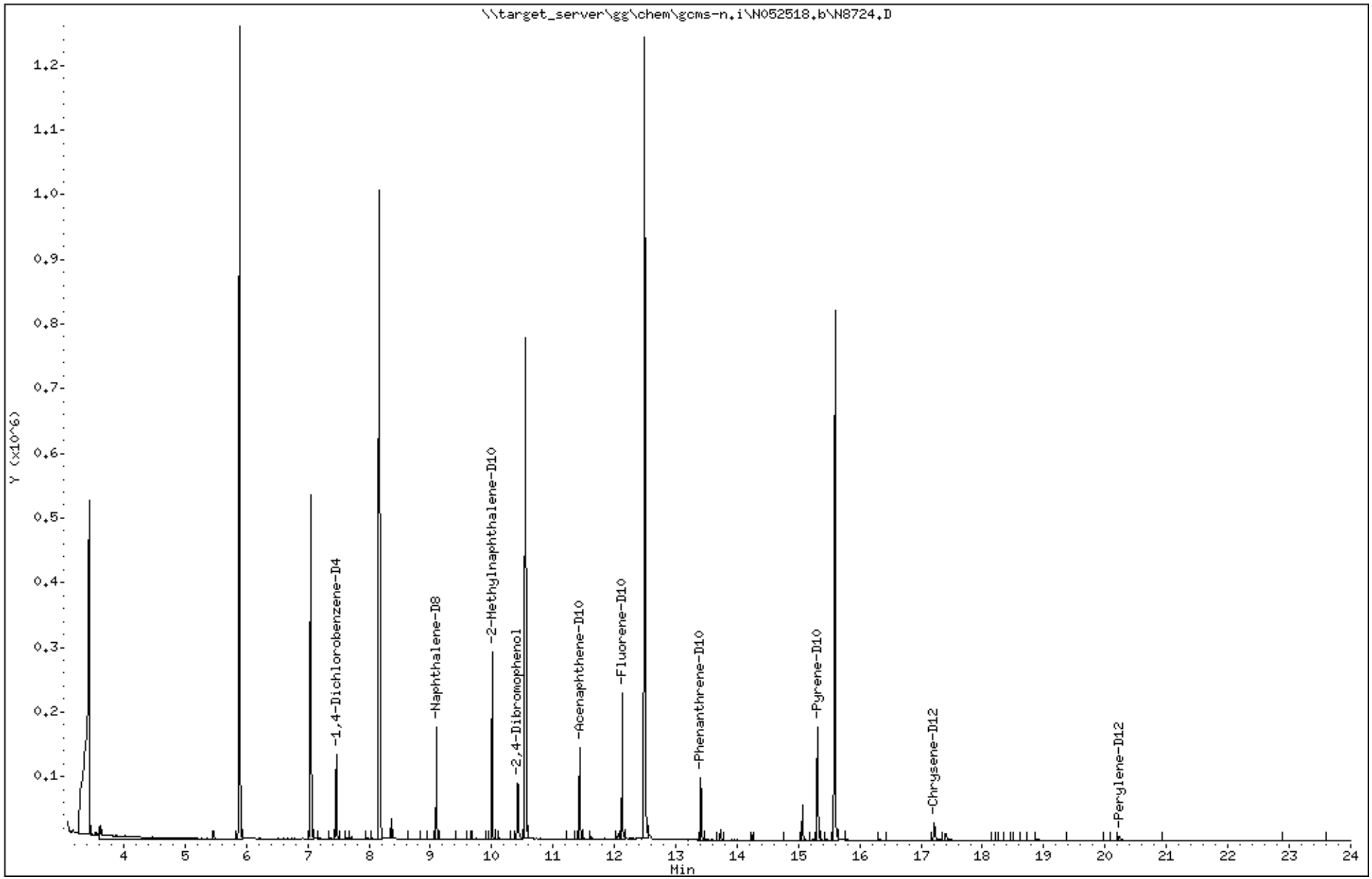
Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	Correction Factor
Vt	0.00100	Final Volume (L)
Vo	1.000	Sample Volume (L)
Vi	1.000	Volume injected (uL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	FINAL (ug/L)	REVIEW CODE
* 10 1,4-Dichlorobenzene-D4	152	7.469	7.470	(1.000)	39955	0.80000	(aQ)	
* 26 Naphthalene-D8	136	9.100	9.101	(1.000)	135962	0.80000	(a)	
$ 32 2-Methylnaphthalene-D10	152	10.004	10.004	(1.099)	113914	1.48673	1.49	
* 47 Acenaphthene-D10	164	11.432	11.433	(1.000)	59457	0.80000	(a)	
$ 55 Fluorene-D10	174	12.130	12.131	(1.061)	105642	1.52904	1.53	
* 65 Phenanthrene-D10	188	13.410	13.421	(1.000)	99289	0.80000	(a)	
$ 71 Pyrene-D10	212	15.313	15.323	(0.889)	129537	2.27843	2.28	
* 76 Chrysene-D12	240	17.217	17.228	(1.000)	30633	0.80000	(a)	
* 83 Perylene-D12	264	20.232	20.233	(1.000)	15197	0.80000	(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
Q - Qualifier signal failed the ratio test.

Data File: \\target_server\gg\chem\gcms-n.i\N052518.b\N8724.D
Date : 25-MAY-2018 11:11
Client ID: WG228119-Blank
Instrument: gcms-n.i
Sample Info: WG228119-1RA2,SL3995
Volume Injected (uL): 1.0
Operator: JCG
Column phase: ZB5-MS
Column diameter: 0.25



Katahdin Analytical Services 2000352

Katahdin
ANALYTICAL SERVICES

LCS Recovery Report

Client:
Lab ID: WG228119-2RA
Client ID: LCS
Project:
SDG: SL3995
LCS File ID: N8562.D

Sample Date:
Received Date:
Extract Date: 11-MAY-18
Extracted By: JMS
Extraction Method: SW846 3510C
Lab Prep Batch: WG228119

Analysis Date: 17-MAY-18
Analyst: JCG
Analysis Method: SW846 8270D SIM
Matrix: AQ
% Solids: NA
Report Date: 29-MAY-18

Compound	Recovery (%)	Conc Added	Conc Recovered	Conc Units	Limits
Naphthalene	73.0	2.00	1.46	ug/L	43-120
2-Methylnaphthalene	75.0	2.00	1.50	ug/L	39-120
Acenaphthylene	71.0	2.00	1.42	ug/L	35-121
Acenaphthene	74.0	2.00	1.48	ug/L	48-120
Fluorene	70.0	2.00	1.40	ug/L	50-120
Phenanthrene	76.0	2.00	1.52	ug/L	53-120
Anthracene	75.5	2.00	1.51	ug/L	53-120
Fluoranthene	83.0	2.00	1.66	ug/L	58-120
Pyrene	88.0	2.00	1.76	ug/L	53-121
Benzo(a)anthracene	89.0	2.00	1.78	ug/L	59-120
Chrysene	84.0	2.00	1.68	ug/L	57-120
Benzo(b)Fluoranthene	55.0	2.00	1.10	ug/L	53-126
Benzo(k)fluoranthene	* 52.5	2.00	1.05	ug/L	54-125
Benzo(a)pyrene	81.0	2.00	1.62	ug/L	53-120
Indeno(1,2,3-cd)pyrene	90.5	2.00	1.81	ug/L	48-130
Dibenzo(a,h)anthracene	70.5	2.00	1.41	ug/L	44-131
Benzo(g,h,i)perylene	79.0	2.00	1.58	ug/L	44-128
2-Methylnaphthalene-D10	76.7				43-120
Fluorene-D10	69.4				29-120
Pyrene-D10	84.0				53-166

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Data File: \\target_server\gg\chem\gcms-n.i\N051718.b\N8562.D
Report Date: 29-May-2018 11:56

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-n.i\N051718.b\N8562.D
Lab Smp Id: WG228119-2RA Client Smp ID: WG228119-LCS
Inj Date : 17-MAY-2018 19:28 MS Autotune Date: 25-OCT-2017 08:54
Operator : JCG Inst ID: gcms-n.i
Smp Info : WG228119-2RA,SL3995
Misc Info : WG228559,WG228119,WG228559-4,SL3995-15
Comment   :
Method   : \\target_server\gg\chem\gcms-n.i\N051718.b\NSPSIM93.m
Meth Date : 18-May-2018 08:50 cgomez Quant Type: ISTD
Cal Date : 17-MAY-2018 17:52 Cal File: N8559.D
Als bottle: 10 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: sw8270sim.sub
Target Version: 4.12
Processing Host: V200T4

Concentration Formula: Amt * DF * Uf*(Vt/Vo*Vi)*1000 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	Correction Factor
Vt	0.00100	Final Volume (L)
Vo	1.000	Sample Volume (L)
Vi	1.000	Volume injected (uL)
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	FINAL (ug/L)	REVIEW CODE
*	10 1,4-Dichlorobenzene-D4	152	7.479	7.479	(1.000)	28266	0.80000	(aQ)	
*	26 Naphthalene-D8	136	9.110	9.110	(1.000)	95207	0.80000	(a)	
	27 Naphthalene	128	9.140	9.140	(1.003)	161127	1.46531	1.46	
$	32 2-Methylnaphthalene-D10	152	10.013	10.014	(1.099)	79797	1.53464	1.53	
	33 2-Methylnaphthalene	142	10.063	10.063	(1.105)	103929	1.49897	1.50	
	45 Acenaphthylene	152	11.247	11.247	(0.983)	142935	1.42547	1.42	
*	47 Acenaphthene-D10	164	11.443	11.444	(1.000)	41698	0.80000	(a)	
	48 Acenaphthene	153	11.487	11.487	(1.004)	96331	1.48497	1.48	
$	55 Fluorene-D10	174	12.141	12.141	(1.061)	73870	1.38869	1.39	
	56 Fluorene	166	12.184	12.184	(1.065)	106565	1.40272	1.40	
*	65 Phenanthrene-D10	188	13.431	13.432	(1.000)	61629	0.80000	(a)	
	66 Phenanthrene	178	13.453	13.464	(1.002)	142468	1.51500	1.52	
	67 Anthracene	178	13.527	13.528	(1.007)	135732	1.50879	1.51	
	70 Fluoranthene	202	15.060	15.060	(1.121)	146700	1.66019	1.66	
$	71 Pyrene-D10	212	15.332	15.341	(0.890)	90153	1.68035	1.68	
	72 Pyrene	202	15.350	15.360	(0.891)	154554	1.75634	1.76	
	75 Benzo(a)anthracene	228	17.218	17.227	(0.999)	83904	1.78407	1.78	
*	76 Chrysene-D12	240	17.236	17.246	(1.000)	29574	0.80000	(a)	
	77 Chrysene	228	17.283	17.293	(1.003)	96289	1.67829	1.68	
	80 Benzo(b)fluoranthene	252	19.449	19.460	(0.960)	45806	1.09948	1.10	

Data File: \\target_server\gg\chem\gcms-n.i\N051718.b\N8562.D
Report Date: 29-May-2018 11:56

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	CONCENTRATIONS FINAL (ug/L)	REVIEW CODE
81	Benzo(k)fluoranthene	252	19.506	19.517	(0.963)	78058	1.05253	1.05(RH)	
82	Benzo(a)pyrene	252	20.130	20.142	(0.994)	67707	1.62034	1.62	
* 83	Perylene-D12	264	20.255	20.255	(1.000)	27714	0.80000	(a)	
84	Indeno(1,2,3-cd)pyrene	276	22.368	22.390	(1.298)	21354	1.81437	1.81(M)	M3
85	Dibenzo(a,h)anthracene	278	22.447	22.459	(1.108)	27960	1.41230	1.41	
86	Benzo(g,h,i)perylene	276	22.969	22.992	(1.134)	53745	1.57940	1.58	

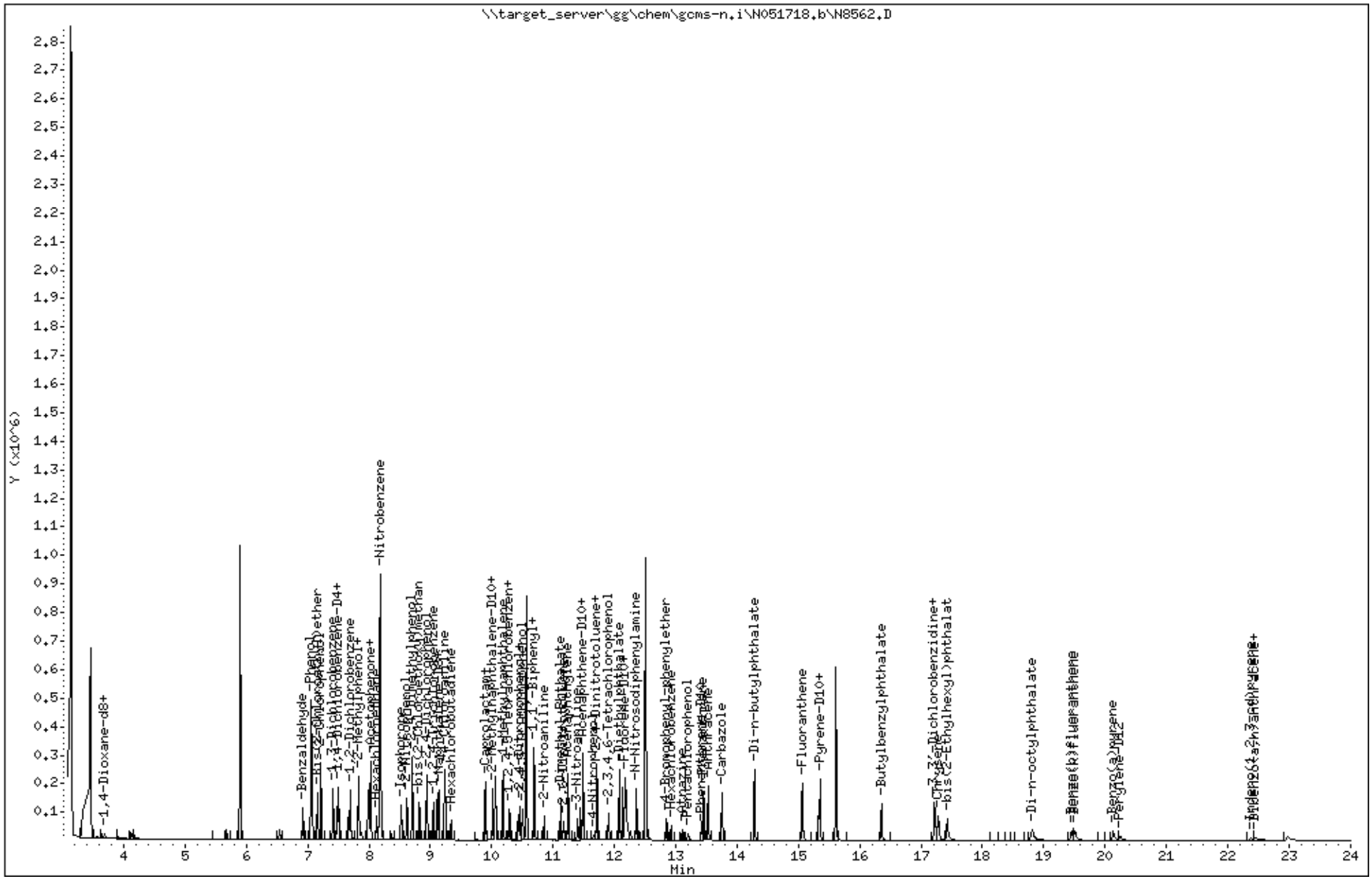
QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
Q - Qualifier signal failed the ratio test.
R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.
H - Operator selected an alternate compound hit.



1:05 pm, May 29, 2018

Data File: \\target_server\gg\chem\gcms-n.i\N051718.b\N8562.D
Date : 17-MAY-2018 19:28
Client ID: WG228119-LCS
Instrument: gcms-n.i
Sample Info: WG228119-2RA,SL3995
Volume Injected (uL): 1.0
Operator: JCG
Column phase: ZB5-MS
Column diameter: 0.25

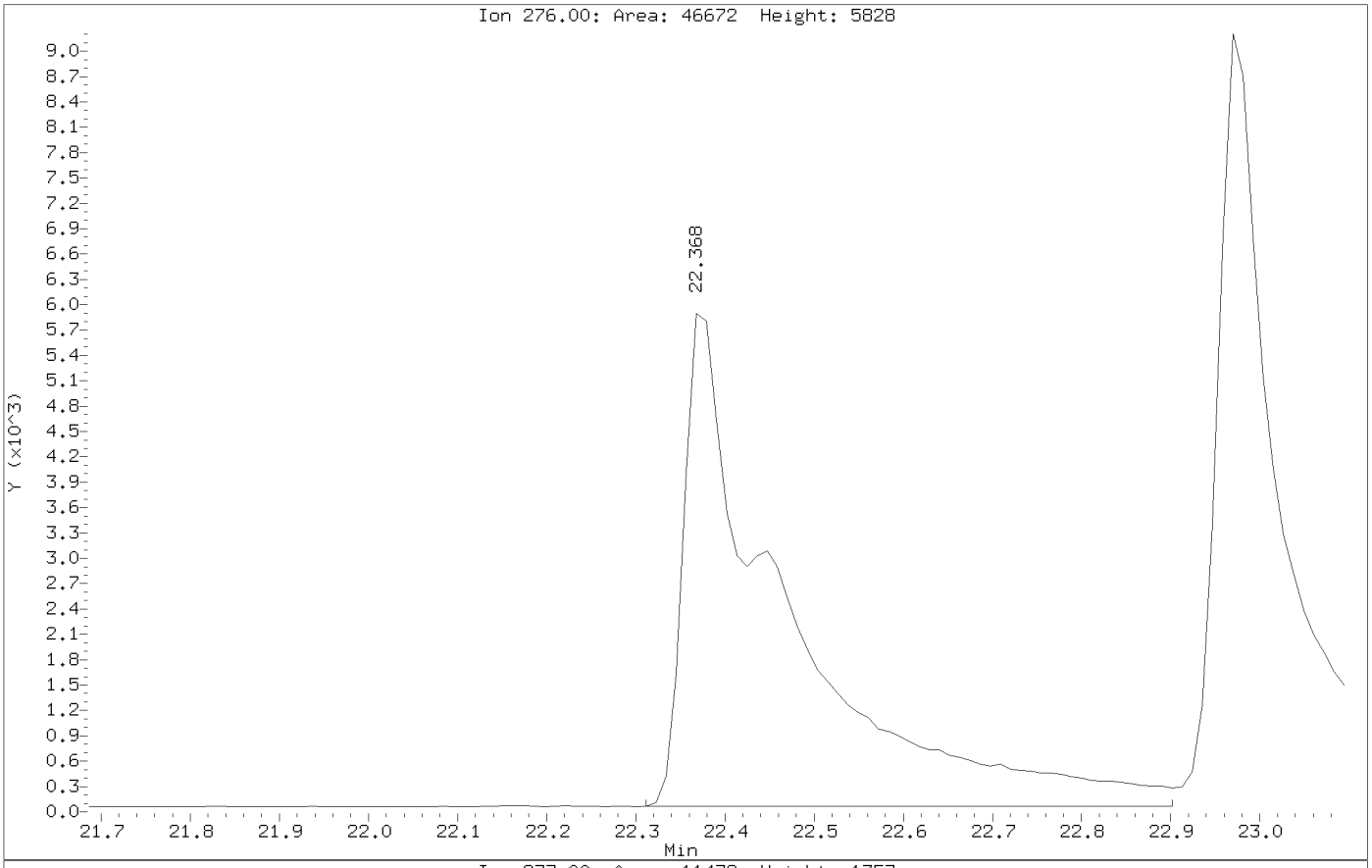


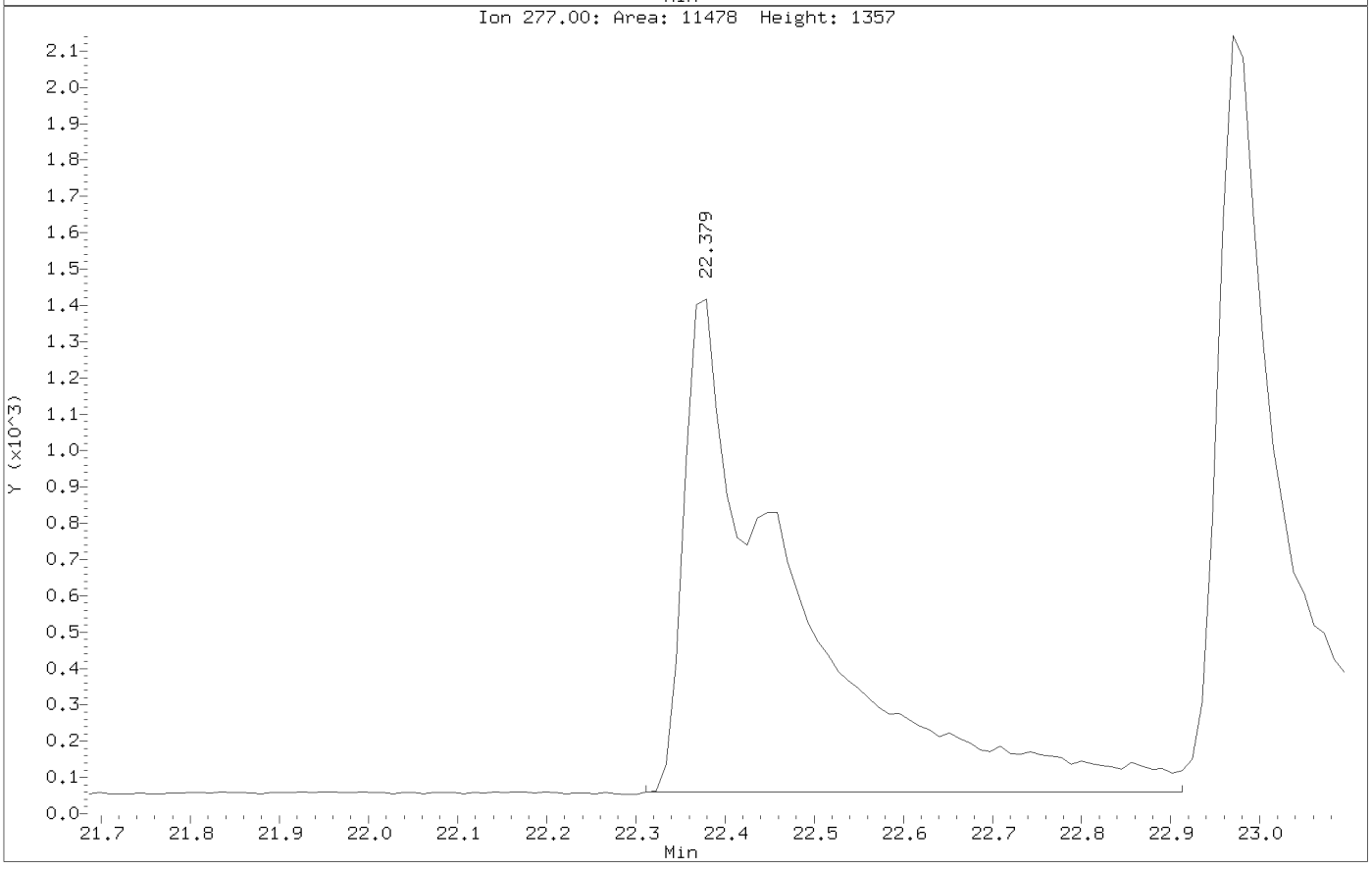
Katahdin Analytical Services 2000356

Data File: \\target_server\gg\chem\gcms-n.i\N051718.b\N8562.D
Injection Date: 17-MAY-2018 19:28
Instrument: gcms-n.i
Client Sample ID: WG228119-LCS

Compound: Indeno(1,2,3-cd)pyrene
CAS Number: 193-39-5

BEFORE MANUAL INTEGRATION

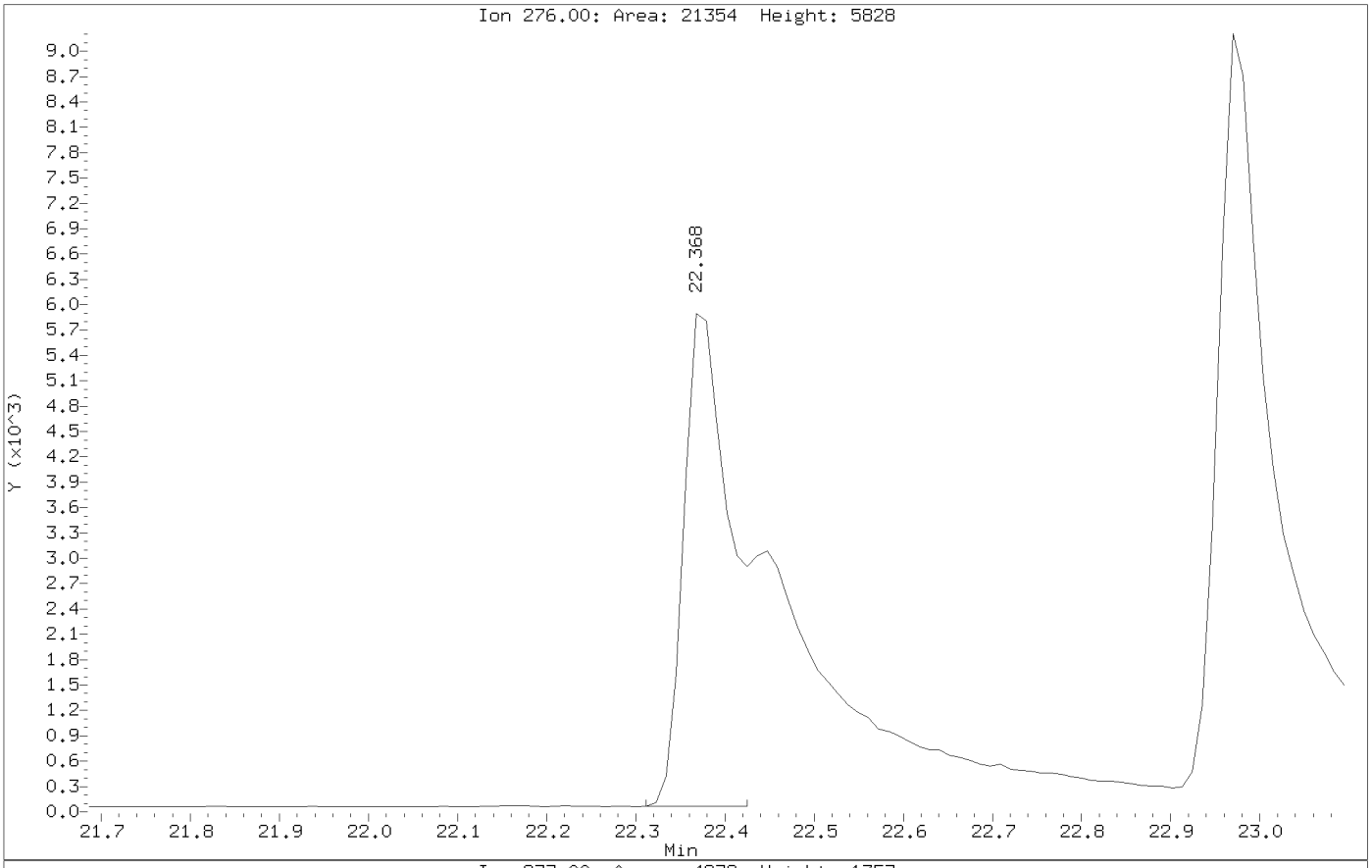


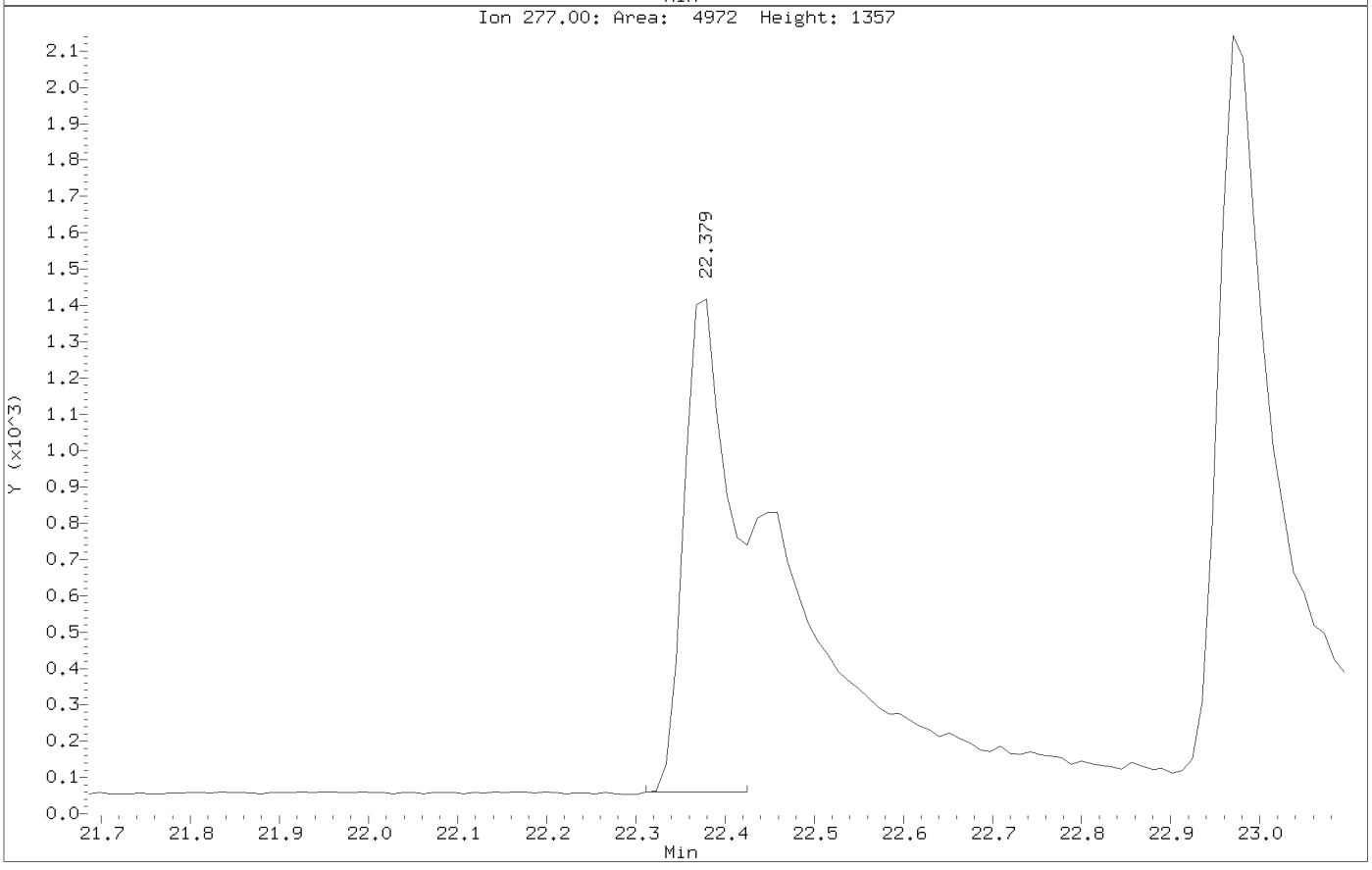


AFTER MANUAL INTEGRATION

Data File: \\target_server\gg\chem\gcms-n.i\N051718.b\N8562.D
Injection Date: 17-MAY-2018 19:28
Instrument: gcms-n.i
Client Sample ID: WG228119-LCS

Compound: Indeno(1,2,3-cd)pyrene
CAS Number: 193-39-5





Katahdin
ANALYTICAL SERVICES

LCS Recovery Report

Client:
Lab ID: WG228098-2
Client ID: LCS
Project:
SDG: SL3995
LCS File ID: N8564.D

Sample Date:
Received Date:
Extract Date: 11-MAY-18
Extracted By: DP
Extraction Method: SW846 3550C
Lab Prep Batch: WG228098

Analysis Date: 17-MAY-18
Analyst: JCG
Analysis Method: SW846 8270D SIM
Matrix: SL
% Solids: NA
Report Date: 29-MAY-18

Compound	Recovery (%)	Conc Added	Conc Recovered	Conc Units	Limits
Naphthalene	63.1	66.7	42.1	ug/Kgdrywt	38-125
2-Methylnaphthalene	66.7	66.7	44.5	ug/Kgdrywt	39-125
Acenaphthylene	60.7	66.7	40.5	ug/Kgdrywt	39-125
Acenaphthene	63.3	66.7	42.2	ug/Kgdrywt	44-125
Fluorene	60.1	66.7	40.1	ug/Kgdrywt	47-125
Phenanthrene	66.6	66.7	44.4	ug/Kgdrywt	49-125
Anthracene	66.6	66.7	44.4	ug/Kgdrywt	50-125
Fluoranthene	71.4	66.7	47.6	ug/Kgdrywt	55-125
Pyrene	68.2	66.7	45.5	ug/Kgdrywt	55-125
Benzo(a)anthracene	75.6	66.7	50.4	ug/Kgdrywt	54-125
Chrysene	69.0	66.7	46.0	ug/Kgdrywt	57-125
Benzo(b)Fluoranthene	74.7	66.7	49.8	ug/Kgdrywt	53-128
Benzo(k)fluoranthene	60.1	66.7	40.1	ug/Kgdrywt	56-125
Benzo(a)pyrene	69.3	66.7	46.2	ug/Kgdrywt	50-125
Indeno(1,2,3-cd)pyrene	54.3	66.7	36.2	ug/Kgdrywt	49-130
Dibenzo(a,h)anthracene	65.4	66.7	43.6	ug/Kgdrywt	50-129
Benzo(g,h,i)perylene	62.5	66.7	41.7	ug/Kgdrywt	49-127
2-Methylnaphthalene-D10	75.8				19-125
Fluorene-D10	64.1				20-125
Pyrene-D10	71.7				31-128

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Data File: \\target_server\gg\chem\gcms-n.i\N051718.b\N8564.D
Report Date: 29-May-2018 11:09

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-n.i\N051718.b\N8564.D
Lab Smp Id: WG228098-2 Client Smp ID: WG228098-LCS
Inj Date : 17-MAY-2018 20:32 MS Autotune Date: 25-OCT-2017 08:54
Operator : JCG Inst ID: gcms-n.i
Smp Info : WG228098-2,SL3995
Misc Info : WG228559,WG228098,WG228559-4,SL3995-5
Comment :
Method : \\target_server\gg\chem\gcms-n.i\N051718.b\NSPSIM93.m
Meth Date : 18-May-2018 08:50 cgomez Quant Type: ISTD
Cal Date : 17-MAY-2018 17:52 Cal File: N8559.D
Als bottle: 12 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: sw8270sim.sub
Target Version: 4.12
Processing Host: V200T4

Concentration Formula: Amt * DF * (Vt/Ws*Vi)*(100/(100-M))*1000 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00100	Final Volume (L)
Ws	0.03000	Weight of Sample (Kg)
Vi	1.000	Volume injected (uL)
M	0.00000	% Moisture
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	FINAL (ug/Kgdrywt)	REVIEW COD
*	10 1,4-Dichlorobenzene-D4	152	7.489	7.479	(1.000)	32618	0.80000	(Q)	
*	26 Naphthalene-D8	136	9.110	9.110	(1.000)	113037	0.80000		
	27 Naphthalene	128	9.140	9.140	(1.003)	164887	1.26298	42.1	
$	32 2-Methylnaphthalene-D10	152	10.014	10.014	(1.099)	93624	1.51655	50.6	
	33 2-Methylnaphthalene	142	10.063	10.063	(1.105)	110009	1.33639	44.5	
	45 Acenaphthylene	152	11.247	11.247	(0.983)	151163	1.21527	40.5	
*	47 Acenaphthene-D10	164	11.443	11.444	(1.000)	51726	0.80000		
	48 Acenaphthene	153	11.487	11.487	(1.004)	101879	1.26602	42.2	
$	55 Fluorene-D10	174	12.141	12.141	(1.061)	84621	1.28239	42.7	
	56 Fluorene	166	12.184	12.184	(1.065)	113504	1.20441	40.1	
*	65 Phenanthrene-D10	188	13.431	13.432	(1.000)	77520	0.80000		
	66 Phenanthrene	178	13.453	13.464	(1.002)	157469	1.33126	44.4	
	67 Anthracene	178	13.528	13.528	(1.007)	150698	1.33175	44.4	
	70 Fluoranthene	202	15.060	15.060	(1.121)	158689	1.42773	47.6	
$	71 Pyrene-D10	212	15.332	15.341	(0.890)	100713	1.43485	47.8	
	72 Pyrene	202	15.351	15.360	(0.891)	160100	1.36610	45.5	
	75 Benzo(a)anthracene	228	17.218	17.227	(0.999)	91623	1.51299	50.4	
*	76 Chrysene-D12	240	17.236	17.246	(1.000)	38081	0.80000		
	77 Chrysene	228	17.283	17.293	(1.003)	101924	1.37965	46.0	
	80 Benzo(b)fluoranthene	252	19.449	19.460	(0.960)	53923	1.49253	49.8	

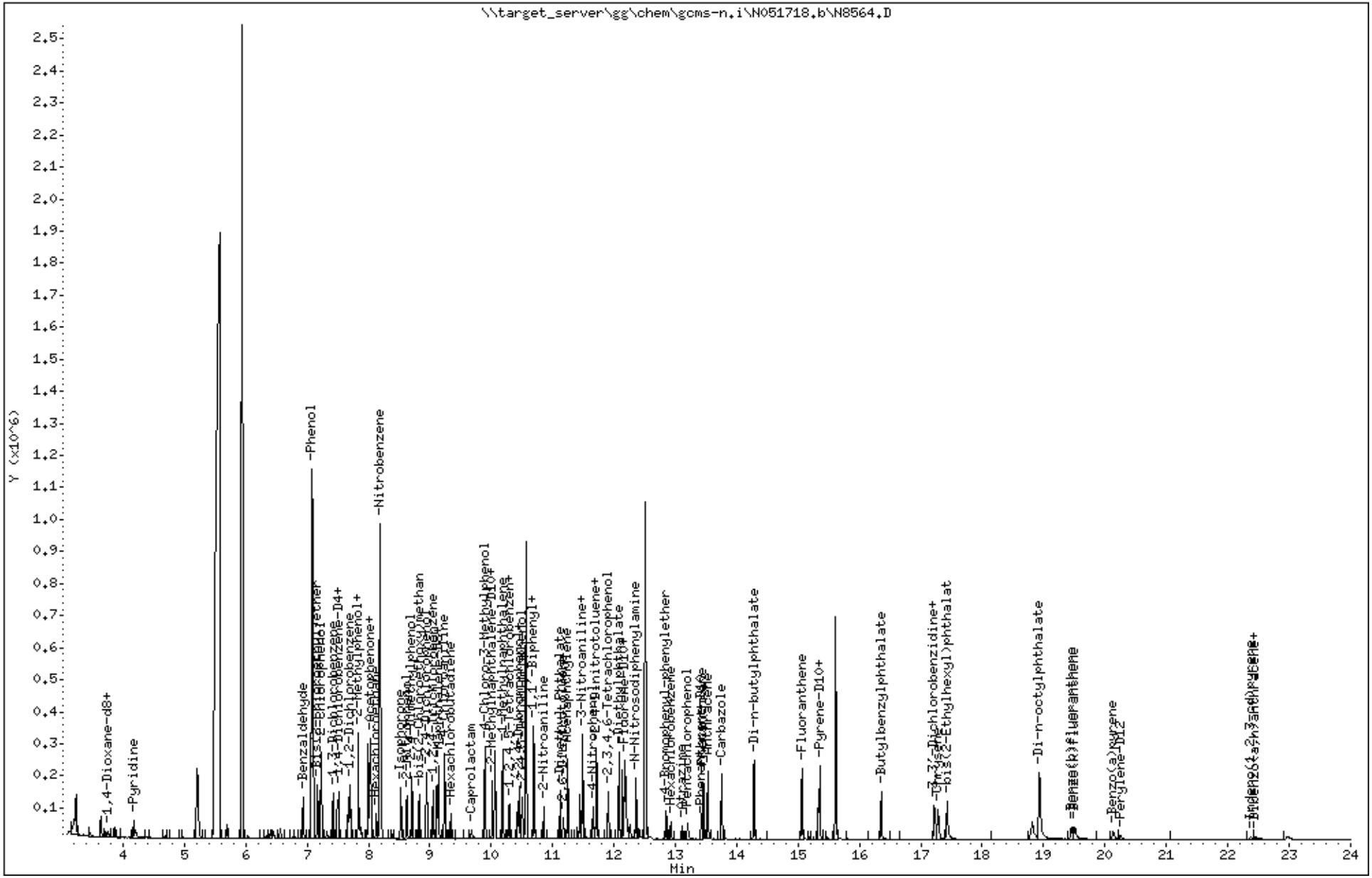
Data File: \\target_server\gg\chem\gcms-n.i\N051718.b\N8564.D
Report Date: 29-May-2018 11:09

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	FINAL (ug/Kgdrywt)	REVIEW COD
	81 Benzo(k)fluoranthene	252	19.506	19.517	(0.963)	74106	1.20289	40.1(H)	
	82 Benzo(a)pyrene	252	20.130	20.142	(0.994)	48113	1.38602	46.2	
*	83 Perylene-D12	264	20.255	20.255	(1.000)	23023	0.80000		
	84 Indeno(1,2,3-cd)pyrene	276	22.379	22.390	(1.298)	16438	1.08467	36.2	
	85 Dibenzo(a,h)anthracene	278	22.459	22.459	(1.109)	21066	1.30693	43.6	
	86 Benzo(g,h,i)perylene	276	22.970	22.992	(1.134)	35366	1.25106	41.7	

QC Flag Legend

Q - Qualifier signal failed the ratio test.
H - Operator selected an alternate compound hit.

Data File: \\target_server\gg\chem\gcms-n.i\N051718.b\N8564.D
Date : 17-MAY-2018 20:32
Client ID: WG228098-LCS
Instrument: gcms-n.i
Sample Info: WG228098-2,SL3995
Volume Injected (uL): 1.0
Operator: JCG
Column phase: ZB5-MS
Column diameter: 0.25



Katahdin Analytical Services 2000362

Katahdin
ANALYTICAL SERVICES

LCS Recovery Report

Client:
Lab ID: WG228851-2
Client ID: LCS
Project:
SDG: SL3995
LCS File ID: N8697.D

Sample Date:
Received Date:
Extract Date: 22-MAY-18
Extracted By: DP
Extraction Method: SW846 3550C
Lab Prep Batch: WG228851

Analysis Date: 24-MAY-18
Analyst: JCG
Analysis Method: SW846 8270D SIM
Matrix: SL
% Solids: NA
Report Date: 29-MAY-18

Compound	Recovery (%)	Conc Added	Conc Recovered	Conc Units	Limits
Naphthalene	69.7	66.7	46.5	ug/Kgdrywt	38-125
2-Methylnaphthalene	68.4	66.7	45.6	ug/Kgdrywt	39-125
Acenaphthylene	67.9	66.7	45.3	ug/Kgdrywt	39-125
Acenaphthene	70.9	66.7	47.3	ug/Kgdrywt	44-125
Fluorene	70.5	66.7	47.0	ug/Kgdrywt	47-125
Phenanthrene	72.3	66.7	48.2	ug/Kgdrywt	49-125
Anthracene	67.6	66.7	45.1	ug/Kgdrywt	50-125
Fluoranthene	83.0	66.7	55.4	ug/Kgdrywt	55-125
Pyrene	73.3	66.7	48.9	ug/Kgdrywt	55-125
Benzo(a)anthracene	82.6	66.7	55.1	ug/Kgdrywt	54-125
Chrysene	79.2	66.7	52.8	ug/Kgdrywt	57-125
Benzo(b)Fluoranthene	78.6	66.7	52.4	ug/Kgdrywt	53-128
Benzo(k)fluoranthene	70.9	66.7	47.3	ug/Kgdrywt	56-125
Benzo(a)pyrene	68.8	66.7	45.9	ug/Kgdrywt	50-125
Indeno(1,2,3-cd)pyrene	76.3	66.7	50.9	ug/Kgdrywt	49-130
Dibenzo(a,h)anthracene	73.8	66.7	49.2	ug/Kgdrywt	50-129
Benzo(g,h,i)perylene	70.3	66.7	46.9	ug/Kgdrywt	49-127
2-Methylnaphthalene-D10	87.5				19-125
Fluorene-D10	69.6				20-125
Pyrene-D10	70.7				31-128

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Data File: \\target_server\gg\chem\gcms-n.i\N052418.b\N8697.D
Report Date: 29-May-2018 11:17

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Data file : \\target_server\gg\chem\gcms-n.i\N052418.b\N8697.D
Lab Smp Id: WG228851-2 Client Smp ID: WG228851-LCS
Inj Date : 24-MAY-2018 11:18 MS Autotune Date: 25-OCT-2017 08:54
Operator : JCG Inst ID: gcms-n.i
Smp Info : WG228851-2,SL3995
Misc Info : WG229005,WG228851,WG228910-4,SL3995-1
Comment :
Method : \\target_server\gg\chem\gcms-n.i\N052418.b\NSPSIM96.m
Meth Date : 25-May-2018 09:22 cgomez Quant Type: ISTD
Cal Date : 23-MAY-2018 12:01 Cal File: N8665.D
Als bottle: 5 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: sw8270sim.sub
Target Version: 4.12
Processing Host: V200T4

Concentration Formula: Amt * DF * (Vt/Ws*Vi)*(100/(100-M))*1000 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00100	Final Volume (L)
Ws	0.03000	Weight of Sample (Kg)
Vi	1.000	Volume injected (uL)
M	0.00000	% Moisture
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	FINAL (ug/Kgdrywt)	REVIEW COD
*	10 1,4-Dichlorobenzene-D4	152	7.469	7.470	(1.000)	38041	0.80000		
*	26 Naphthalene-D8	136	9.100	9.101	(1.000)	132251	0.80000		
	27 Naphthalene	128	9.120	9.131	(1.002)	203331	1.39480	46.5	
$	32 2-Methylnaphthalene-D10	152	10.003	10.004	(1.099)	130483	1.75076	58.4	
	33 2-Methylnaphthalene	142	10.043	10.053	(1.104)	129125	1.36876	45.6	
	45 Acenaphthylene	152	11.236	11.237	(0.983)	181022	1.36045	45.3	
*	47 Acenaphthene-D10	164	11.432	11.433	(1.000)	57234	0.80000		
	48 Acenaphthene	153	11.465	11.477	(1.003)	121738	1.41820	47.3	
$	55 Fluorene-D10	174	12.119	12.131	(1.060)	92523	1.39117	46.4	
	56 Fluorene	166	12.162	12.174	(1.064)	126231	1.40965	47.0	
*	65 Phenanthrene-D10	188	13.410	13.421	(1.000)	98551	0.80000		
	66 Phenanthrene	178	13.442	13.453	(1.002)	185950	1.44712	48.2	
	67 Anthracene	178	13.506	13.517	(1.007)	175134	1.35253	45.1	
	70 Fluoranthene	202	15.031	15.051	(1.121)	197119	1.66357	55.4	
$	71 Pyrene-D10	212	15.313	15.323	(0.890)	118851	1.41450	47.2	
	72 Pyrene	202	15.332	15.351	(0.891)	200363	1.46762	48.9	
	75 Benzo(a)anthracene	228	17.189	17.209	(0.999)	107761	1.65220	55.1	
*	76 Chrysene-D12	240	17.208	17.228	(1.000)	45272	0.80000		
	77 Chrysene	228	17.255	17.274	(1.003)	126782	1.58387	52.8	
	80 Benzo(b)fluoranthene	252	19.415	19.438	(0.960)	54184	1.57177	52.4	

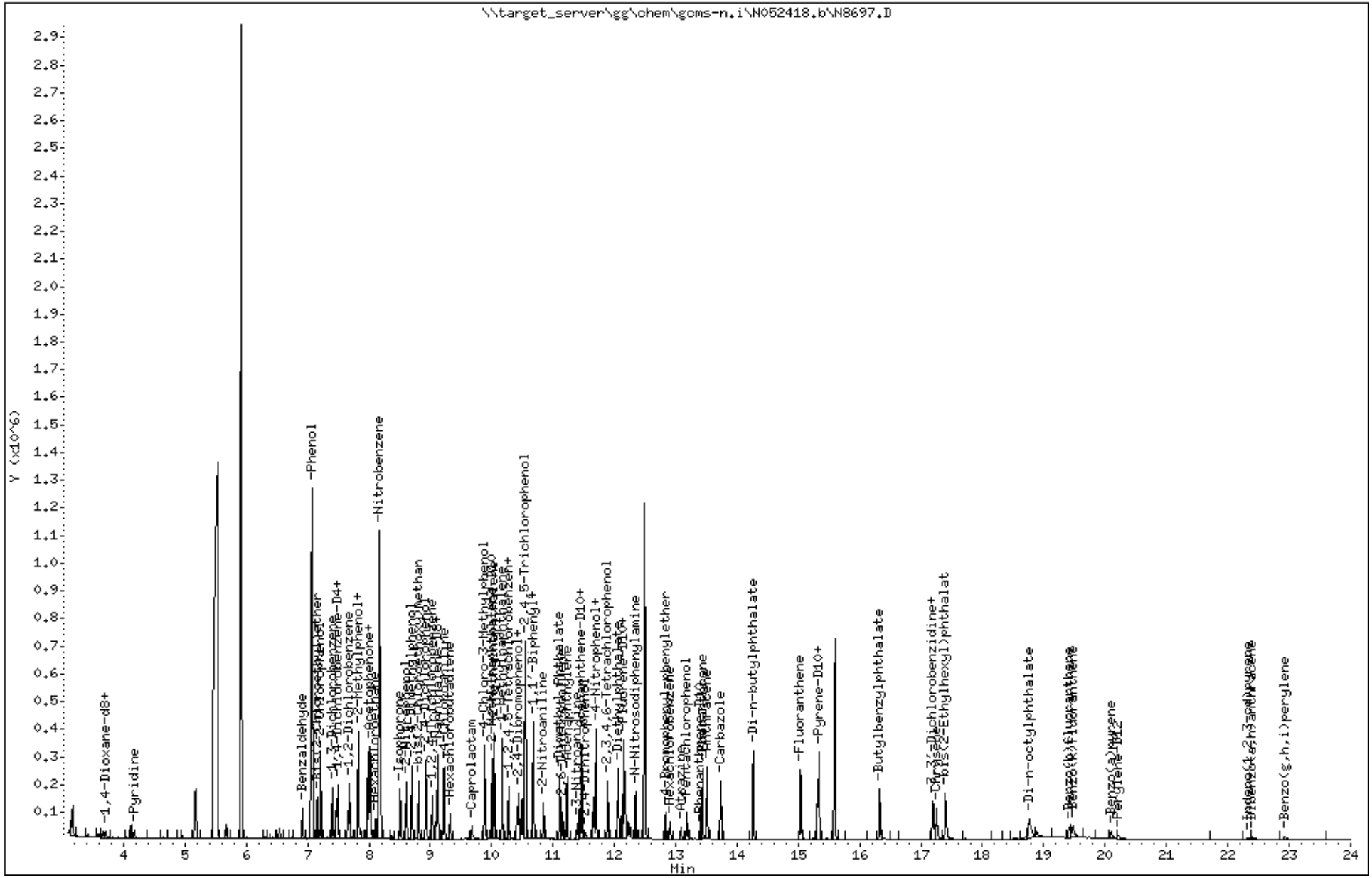
Data File: \\target_server\gg\chem\gcms-n.i\N052418.b\N8697.D
Report Date: 29-May-2018 11:17

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	FINAL (ug/Kgdrywt)	REVIEW COD
	81 Benzo(k)fluoranthene	252	19.472	19.495	(0.963)	87632	1.41816	47.3(H)	
	82 Benzo(a)pyrene	252	20.096	20.120	(0.994)	52312	1.37701	45.9	
*	83 Perylene-D12	264	20.221	20.233	(1.000)	24354	0.80000		
	84 Indeno(1,2,3-cd)pyrene	276	22.322	22.357	(1.297)	33948	1.52714	50.9	
	85 Dibenzo(a,h)anthracene	278	22.402	22.436	(1.108)	21443	1.47646	49.2	
	86 Benzo(g,h,i)perylene	276	22.924	22.959	(1.134)	37108	1.40743	46.9	

QC Flag Legend

H - Operator selected an alternate compound hit.

Data File: \\target_server\gg\chem\gcms-n.i\N052418.b\N8697.D
Date : 24-MAY-2018 11:18
Client ID: WG228851-LCS
Instrument: gcms-n.i
Sample Info: WG228851-2,SL3995
Volume Injected (uL): 1.0
Operator: JCG
Column phase: ZB5-MS
Column diameter: 0.25



Katahdin Analytical Services 2000366

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ANALYTICAL SERVICES

MS/MSD Recovery Report

MS ID: WG228098-3
MSD ID: WG228098-4
Sample ID: SL3995-5
Client ID: CHAAP-BKRD-SS04
Project:
SDG: SL3995
MS File ID: N8571.D

Received Date:
Extract Date: 11-MAY-18
Extracted By: DP
Extraction Method: SW846 3550C
Lab Prep Batch: WG228098
Report Date: 29-MAY-18
MSD File ID: N8572.D

Analysis Date: 18-MAY-18
Analyst: JCG
Analysis Method: SW846 8270D SIM
Matrix: SL
% Solids: 83.

Compound	MS Spike	MSD Spike	Conc Units	Samp Conc	MS Conc	MSD Conc	MS Rec (%)	MSD Rec (%)	RPD (%)	RPD Limit	Limits
Naphthalene	79.6	80.2	ug/Kgdrywt	U12	44.	41.	55.4	51.3	7	20	38-125
2-Methylnaphthalene	79.6	80.2	ug/Kgdrywt	U12	49.	47.	61.2	58.5	4	20	39-125
Acenaphthylene	79.6	80.2	ug/Kgdrywt	U12	43.	44.	54.5	54.3	0	20	39-125
Acenaphthene	79.6	80.2	ug/Kgdrywt	U12	49.	50.	61.7	62.1	1	20	44-125
Fluorene	79.6	80.2	ug/Kgdrywt	U12	46.	49.	57.8	61.0	6	20	47-125
Phenanthrene	79.6	80.2	ug/Kgdrywt	U12	43.	45.	54.0	55.9	4	20	49-125
Anthracene	79.6	80.2	ug/Kgdrywt	UMM12	38.	40.	48.2*	49.4*	3	20	50-125
Fluoranthene	79.6	80.2	ug/Kgdrywt	UMM12	38.	41.	47.3*	51.1*	8	20	55-125
Pyrene	79.6	80.2	ug/Kgdrywt	UMM12	32.	36.	40.7*	45.5*	12	20	55-125
Benzo(a)anthracene	79.6	80.2	ug/Kgdrywt	UMM12	36.	40.	44.7*	49.4*	11	20	54-125
Chrysene	79.6	80.2	ug/Kgdrywt	JMM2.7	32.	35.	36.3*	40.3*	10	20	57-125
Benzo(b)Fluoranthene	79.6	80.2	ug/Kgdrywt	UM12	40.	43.	49.6*	53.5	8	20	53-128
Benzo(k)fluoranthene	79.6	80.2	ug/Kgdrywt	UMM12	26.	30.	33.0*	37.0*	12	20	56-125
Benzo(a)pyrene	79.6	80.2	ug/Kgdrywt	UMM12	26.	30.	32.0*	37.3*	16	20	50-125
Indeno(1,2,3-cd)pyrene	79.6	80.2	ug/Kgdrywt	JMM2.5	34.	37.	40.2*	42.9*	7	20	49-130
Dibenzo(a,h)anthracene	79.6	80.2	ug/Kgdrywt	UM12	38.	41.	48.0*	51.6	8	20	50-129
Benzo(g,h,i)perylene	79.6	80.2	ug/Kgdrywt	UMM12	27.	28.	34.3*	34.3*	1	20	49-127
2-Methylnaphthalene-D10							67.3	61.1			19-125
Fluorene-D10							59.8	59.0			20-125
Pyrene-D10							40.1	40.1			31-128

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Data File: \\target_server\gg\chem\gcms-n.i\N051718.b\N8571.D
Report Date: 29-May-2018 11:09

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Data file : \\target_server\gg\chem\gcms-n.i\N051718.b\N8571.D
Lab Smp Id: WG228098-3 Client Smp ID: CHAAP-BKRD-SS04MS
Inj Date : 18-MAY-2018 00:15 MS Autotune Date: 25-OCT-2017 08:54
Operator : JCG Inst ID: gcms-n.i
Smp Info : WG228098-3,SL3995
Misc Info : WG228559,WG228098,WG228559-4,SL3995-5
Comment :
Method : \\target_server\gg\chem\gcms-n.i\N051718.b\NSPSIM93.m
Meth Date : 18-May-2018 08:50 cgomez Quant Type: ISTD
Cal Date : 17-MAY-2018 17:52 Cal File: N8559.D
Als bottle: 19 QC Sample: MS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: sw8270sim.sub
Target Version: 4.12
Processing Host: V200T4

Concentration Formula: Amt * DF * (Vt/Ws*Vi)*(100/(100-M))*1000 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00100	Final Volume (L)
Ws	0.03020	Weight of Sample (Kg)
Vi	1.000	Volume injected (uL)
M	16.832	% Moisture
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	FINAL (ug/Kgdrywt)	REVIEW COD
*	10 1,4-Dichlorobenzene-D4	152	7.489	7.479	(1.000)	27018	0.80000	(Q)	
*	26 Naphthalene-D8	136	9.110	9.110	(1.000)	94438	0.80000		
	27 Naphthalene	128	9.140	9.140	(1.003)	120884	1.10829	44.1	
$	32 2-Methylnaphthalene-D10	152	10.013	10.014	(1.099)	69468	1.34688	53.6	
	33 2-Methylnaphthalene	142	10.063	10.063	(1.105)	84206	1.22440	48.7	
	45 Acenaphthylene	152	11.247	11.247	(0.983)	114171	1.08959	43.4	
*	47 Acenaphthene-D10	164	11.443	11.444	(1.000)	43574	0.80000		
	48 Acenaphthene	153	11.487	11.487	(1.004)	83578	1.23291	49.1	
$	55 Fluorene-D10	174	12.141	12.141	(1.061)	66499	1.19630	47.6	
	56 Fluorene	166	12.184	12.184	(1.065)	91656	1.15453	46.0	
*	65 Phenanthrene-D10	188	13.431	13.432	(1.000)	64434	0.80000		
	66 Phenanthrene	178	13.463	13.464	(1.002)	106210	1.08027	43.0	
	67 Anthracene	178	13.527	13.528	(1.007)	90639	0.96367	38.4(R)	
	70 Fluoranthene	202	15.060	15.060	(1.121)	87394	0.94597	37.7(R)	
$	71 Pyrene-D10	212	15.332	15.341	(0.890)	49478	0.80191	31.9	
	72 Pyrene	202	15.351	15.360	(0.891)	85104	0.81412	32.4(R)	
	75 Benzo(a)anthracene	228	17.218	17.227	(0.999)	43896	0.89485	35.6(R)	
*	76 Chrysene-D12	240	17.236	17.246	(1.000)	30847	0.80000		
	77 Chrysene	228	17.283	17.293	(1.003)	47585	0.79516	31.6(R)	
	80 Benzo(b)fluoranthene	252	19.449	19.460	(0.960)	29130	0.99311	39.5(R)	

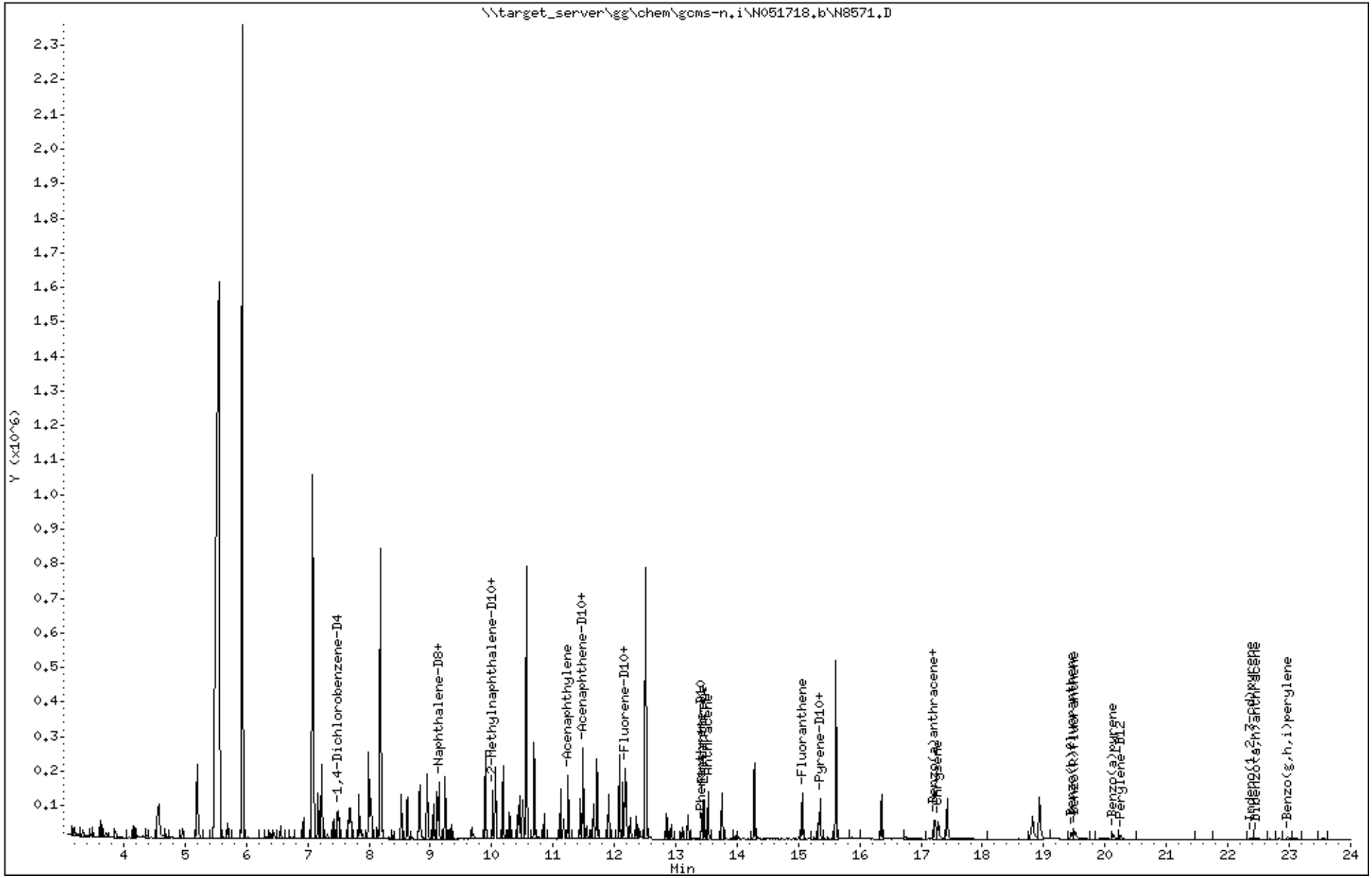
Data File: \\target_server\gg\chem\gcms-n.i\N051718.b\N8571.D
Report Date: 29-May-2018 11:09

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	FINAL (ug/Kgdrywt)	REVIEW COD
81	Benzo(k)fluoranthene	252	19.506	19.517	(0.963)	34756	0.66047	26.3(RH)	
82	Benzo(a)pyrene	252	20.130	20.142	(0.994)	19160	0.63964	25.5(R)	
* 83	Perylene-D12	264	20.255	20.255	(1.000)	19867	0.80000		
84	Indeno(1,2,3-cd)pyrene	276	22.379	22.390	(1.298)	10650	0.86755	34.5(R)	
85	Dibenzo(a,h)anthracene	278	22.458	22.459	(1.109)	12054	0.96095	38.2(R)	
86	Benzo(g,h,i)perylene	276	22.981	22.992	(1.135)	16720	0.68542	27.3(R)	

QC Flag Legend

Q - Qualifier signal failed the ratio test.
R - Spike/Surrogate failed recovery limits.
H - Operator selected an alternate compound hit.

Data File: \\target_server\gg\chem\gcms-n.i\N051718.b\N8571.D
Date : 18-MAY-2018 00:15
Client ID: CHAAP-BKRD-SS04MS
Instrument: gcms-n.i
Sample Info: WG228098-3,SL3995
Volume Injected (uL): 1.0
Operator: JCG
Column phase: ZB5-MS
Column diameter: 0.25



Katahdin Analytical Services 2000370

Data File: \\target_server\gg\chem\gcms-n.i\N051718.b\N8572.D
Report Date: 29-May-2018 11:09

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-n.i\N051718.b\N8572.D
Lab Smp Id: WG228098-4 Client Smp ID: CHAAP-BKRD-SS04MSD
Inj Date : 18-MAY-2018 00:47 MS Autotune Date: 25-OCT-2017 08:54
Operator : JCG Inst ID: gcms-n.i
Smp Info : WG228098-4,SL3995
Misc Info : WG228559,WG228098,WG228559-4,SL3995-5
Comment :
Method : \\target_server\gg\chem\gcms-n.i\N051718.b\NSPSIM93.m
Meth Date : 18-May-2018 08:50 cgomez Quant Type: ISTD
Cal Date : 17-MAY-2018 17:52 Cal File: N8559.D
Als bottle: 20 QC Sample: MSD
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: sw8270sim.sub
Target Version: 4.12
Processing Host: V200T4

Concentration Formula: Amt * DF * (Vt/Ws*Vi)*(100/(100-M))*1000 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00100	Final Volume (L)
Ws	0.03000	Weight of Sample (Kg)
Vi	1.000	Volume injected (uL)
M	16.832	% Moisture
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	FINAL (ug/Kgdrywt)	REVIEW COD
*	10 1,4-Dichlorobenzene-D4	152	7.489	7.479	(1.000)	22964	0.80000	(Q)	
*	26 Naphthalene-D8	136	9.110	9.110	(1.000)	81965	0.80000		
	27 Naphthalene	128	9.140	9.140	(1.003)	97082	1.02551	41.1	
$	32 2-Methylnaphthalene-D10	152	10.014	10.014	(1.099)	54740	1.22283	49.0	
	33 2-Methylnaphthalene	142	10.063	10.063	(1.105)	69837	1.16999	46.9	
	45 Acenaphthylene	152	11.247	11.247	(0.983)	97312	1.08462	43.5	
*	47 Acenaphthene-D10	164	11.444	11.444	(1.000)	37310	0.80000		
	48 Acenaphthene	153	11.487	11.487	(1.004)	72068	1.24160	49.8	
$	55 Fluorene-D10	174	12.141	12.141	(1.061)	56183	1.18041	47.3	
	56 Fluorene	166	12.185	12.184	(1.065)	82910	1.21970	48.9	
*	65 Phenanthrene-D10	188	13.432	13.432	(1.000)	57613	0.80000		
	66 Phenanthrene	178	13.453	13.464	(1.002)	98358	1.11885	44.8	
	67 Anthracene	178	13.528	13.528	(1.007)	83022	0.98720	39.6(R)	
	70 Fluoranthene	202	15.060	15.060	(1.121)	84481	1.02270	41.0(R)	
$	71 Pyrene-D10	212	15.332	15.341	(0.890)	44405	0.80302	32.2	
	72 Pyrene	202	15.351	15.360	(0.891)	83302	0.91093	36.5(R)	
	75 Benzo(a)anthracene	228	17.218	17.227	(0.999)	43500	0.98921	39.6(R)	
*	76 Chrysene-D12	240	17.236	17.246	(1.000)	27653	0.80000		
	77 Chrysene	228	17.283	17.293	(1.003)	46901	0.87426	35.0(R)	
	80 Benzo(b)fluoranthene	252	19.449	19.460	(0.960)	27462	1.07144	42.9	

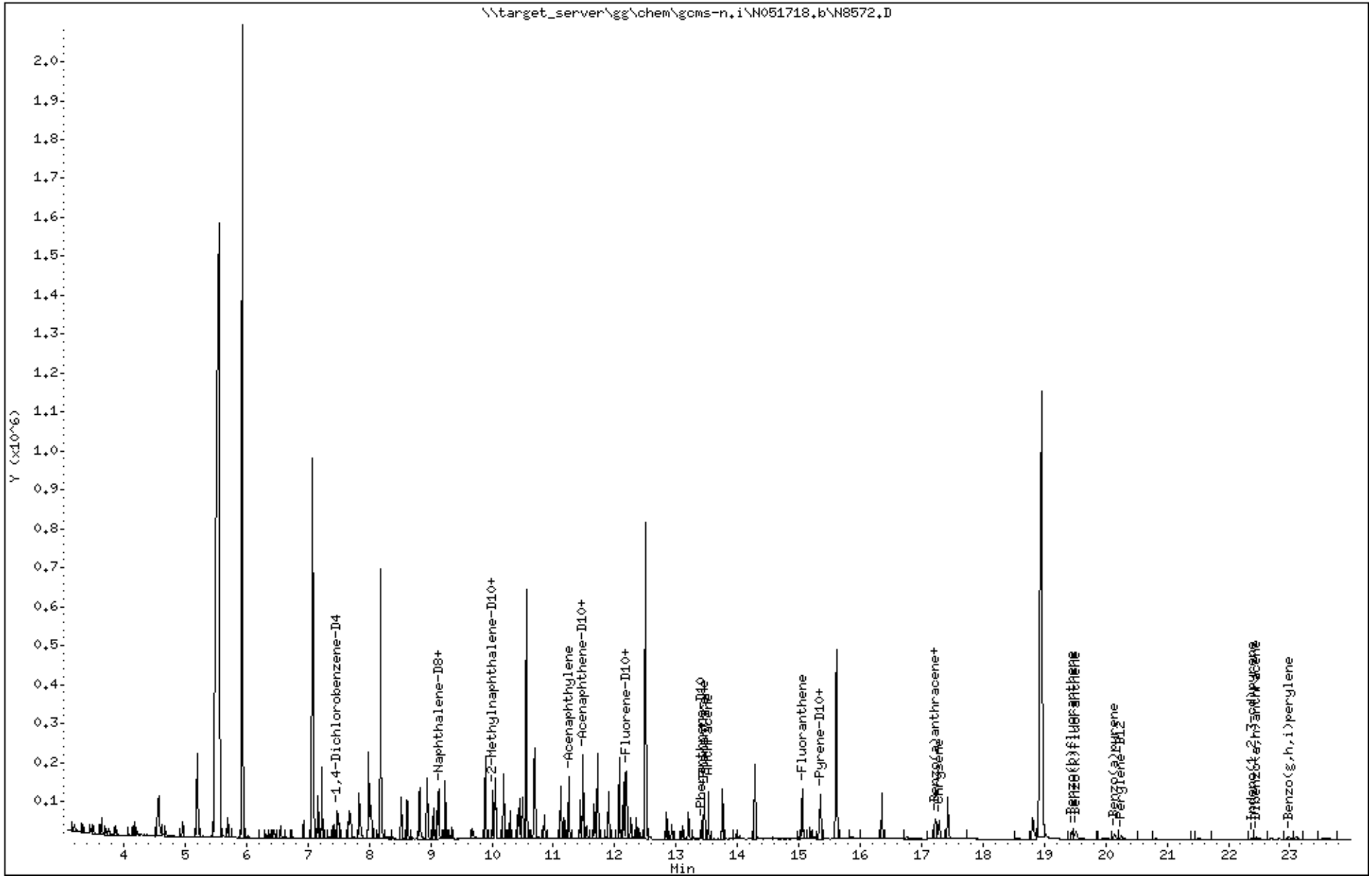
Data File: \\target_server\gg\chem\gcms-n.i\N051718.b\N8572.D
Report Date: 29-May-2018 11:09

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	FINAL (ug/Kgdrywt)	REVIEW COD
81	Benzo(k)fluoranthene	252	19.517	19.517	(0.964)	33807	0.74220	29.7(RH)	
82	Benzo(a)pyrene	252	20.142	20.142	(0.994)	19265	0.74612	29.9(R)	
* 83	Perylene-D12	264	20.255	20.255	(1.000)	17125	0.80000		
84	Indeno(1,2,3-cd)pyrene	276	22.379	22.390	(1.298)	10135	0.92095	36.9(R)	
85	Dibenzo(a,h)anthracene	278	22.459	22.459	(1.109)	11497	1.03348	41.4	
86	Benzo(g,h,i)perylene	276	22.981	22.992	(1.135)	14416	0.68560	27.5(R)	

QC Flag Legend

Q - Qualifier signal failed the ratio test.
R - Spike/Surrogate failed recovery limits.
H - Operator selected an alternate compound hit.

Data File: \\target_server\gg\chem\gcms-n.i\N051718.b\N8572.D
Date : 18-MAY-2018 00:47
Client ID: CHAAP-BKRD-SS04MSD
Instrument: gcms-n.i
Sample Info: WG228098-4,SL3995
Volume Injected (uL): 1.0
Operator: JCG
Column phase: ZB5-MS
Column diameter: 0.25



Katahdin Analytical Services 2000373

Logbooks and Supporting Documents

SIM SEP

KATAHDIN ANALYTICAL SERVICES, LLC.
ORGANIC EXTRACTIONS LOG - AQUEOUS SEMI-VOLATILES

Extraction Method: (check one)	SW846 3510 (SEP) ✓	SW846 3520 (CLLE)	SW846 3535 (SPE)
Analytical Method:(check one)	SW846 8270	SW846 8270 SIM ✓	EPA 625 (mark meniscus w/ marker to determine IV)
Surrogate ID: SV2849	Surrogate ID:	Spike ID: SV2846	Spike ID:
Methylene Chloride Lot #: DT742	pH Paper Lot # HC727135	KI Starch Paper ID: 022017	Note samples requiring TRC neutralization in comments section.
pH (1st Extraction) ≤2	H_2SO_4 Lot # 177543	pH (2nd Extraction) ≥11	NaOH Lot # 040393
$NaSO_4$ Lot # 27968001	Filter Paper Lot #: 14081047	Boiling Stones ID: 03277014	Vial Lot #: 393232
Nitrogen Bath Temperature: 36°C			
Prep Start Time: 1045	Prep End Time: 11:30	CLLE Start Time: —	CLLE End Date & Time: —

Date Extracted	Ext. Init.	Sample ID	Initial Vol. mL	Surr. Vol.	Spike Vol.	Fraction SV	Fraction SIM	Final Vol. mL	Date Conc.	Tray Location SV2846	Initials	Comments
5-11-18	JMS	WG228119-1	1000	1mL	NR		✓	1mL	5-14-18	C4	KF	R473175
↓	↓	↓ 2	↓	↓	1mL		↓	↓	↓	C5	↓	
									KF	5-14-18		

EX-007 – Revision 5 – 11/08/2017

QAEX342

0000182

Date Extracted	Ext. Init.	Sample ID	Initial Vol. mL	Surr. Vol.	Spike Vol.	Fraction SV	Fraction SIM	Final Vol. mL	Date Conc.	Tray Location	Initials	Comments
5-11-18	JMS	SL3995-15 H	960	1mL	NR		✓	1mL	5-14-18	C6	KF	
		SL4072-1 G	1060							C7		
		-2 G								C8		
		-3 G								C9		
		-4 G								C10		
		-5 G								D1		
		-6 G								D2		
		-7 G	1050							D3		
									KF	5-14-18		

Reviewed By_____ Date_____

EX-007 – Revision 5 – 11/08/2017

QAEX342

0000183

SIM-SON

KATAHDIN ANALYTICAL SERVICES, LLC

ORGANIC EXTRACTIONS LOG - SOIL SEMIVOLATILE

Extraction Method:	SW846 3550: X	SW846 3540:	SW846 3545:	SW846 3546:	SW846 3580:
Analytical Method:	SW846 8270:	OTHER:			
Standards	Surrogate ID (1): SV2849		Spike ID (1): SV2846	Spike ID (3): —	
	Surrogate ID (2): —		Spike ID (2): —	—	
Solvents / Chemicals / Consumables	Solvent Lot # (MeCl2): DT742		Solvent Lot # (Acetone): DT350	Sodium Sulfate (granular) Lot #: 2796800	
	Filter Paper Lot # (SON): 16732060		Filter Paper Lot # (KD): 14081047	Sodium Sulfate (powder) Lot #: 2797004	
Misc.	Nitrogen Bath Temperature: 36°	Sonicator Horns Tuned: 40%	Balance ID: METTLER PG400	Vial Lot ID: 393232	
Prep Start Time: 13:30	Prep Stop Time: 1450	Sox Start Time: —	Sox End Date: —	Sox End Time: —	

Ext. Date	Ext. Init.	Sample ID	Initial Weight (g)	Surr. Vol. (mL)	Spk. Vol. (mL)	Fraction ACID	Fraction BN	Pre-GPC Date Conc.	Pre-GPC Conc. Init.	Pre-GPC Final Vol. (mL)	Post-GPC Date Conc.	Post-GPC Conc. Init.	Post-GPC Final Vol. (mL)	Tray Loc.	Comments
05-11-18	PP	WG728098-1	30.00	1.00	NA		X	5-11-18	DP	5mL	05-14-18	KF	1.00	B4	R473193
		-2	30.02		1.00									B5	
		-3	30.24											B6	MS: SL3995-5N
		-4	30.03											B7	MSD: SL3995-5N
															PP 05-11-18

Ext. Date	Ext. Init.	Sample ID	Initial Weight (g)	Surr. Vol. (mL)	Spk. Vol. (mL)	Fraction ACID	Fraction BN	Pre-GPC Date Conc.	Pre-GPC Conc. Init.	Pre-GPC Final Vol. (mL)	Post-GPC Date Conc.	Post-GPC Conc. Init.	Post-GPC Final Vol. (mL)	Tray Loc.	Comments
5-11-18	DP	SL3995-1E	30.82	1.00	NA		X	5-11-18	DP	5mL	05-14-18	KF	1.00	B8	
		-2E	31.10											B9	
		-3E	30.58											B10	
		-4E	31.18											C1	
		-5N	30.50											C2	MS/MSD
		-6E	31.16											3	
		-7E	31.03											4	
		-8E	30.64											5	
		-9E	30.49											6	
		-10E	30.12											7	
		-11E	30.71											8	
		-12E	30.82											9	
		-13E	30.38											C10	
		-14E	30.77											D1	
		GPC Blank	#3	5-14-18										D2	
															JP 05-14-18

Reviewed By_____ Date_____

Katahdin Analytical Services 2000376

Katahdin Analytical Services
GPC03 Logbook

Analytical Method: (check one)	SW846 8081 ✓	SW846 8082 ✓		SW846 8270 ✓	
MeCl2 Lot #: DT742	Filter Lot #: –	Room Temperature (beginning):	21.8	Room Temperature (ending):	20.7
Flow Rate: 5.0 mL/min	Flow Rate Set at: 5.14 mL/min	GPC Dump Time:	45 min	GPC Collect Time:	–
Time to fill 50 mL: 9.1 min	Column Pressure: 3				

Tray Pos. No.	Sample Identification	Date Extracted	Extract Volume	GPC Analyst	Date GPC Started	GPC Initial Volume	S V	P P	Comments
1	Dry Run	–	–	KF	5-11-18	5mL	✓	✓	
2	GPC calib STD 7763	–	–	↓	↓	↓	✓	✓	
3	conc # 32041								
4	lot # AD124918								
5	0.5mL → 10mL								
6	Meth lot # DT742								
7					KF	5-11-18			
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									
21									
22									

Katahdin Analytical Services
GPC03 Logbook

Tray Pos. No.
23
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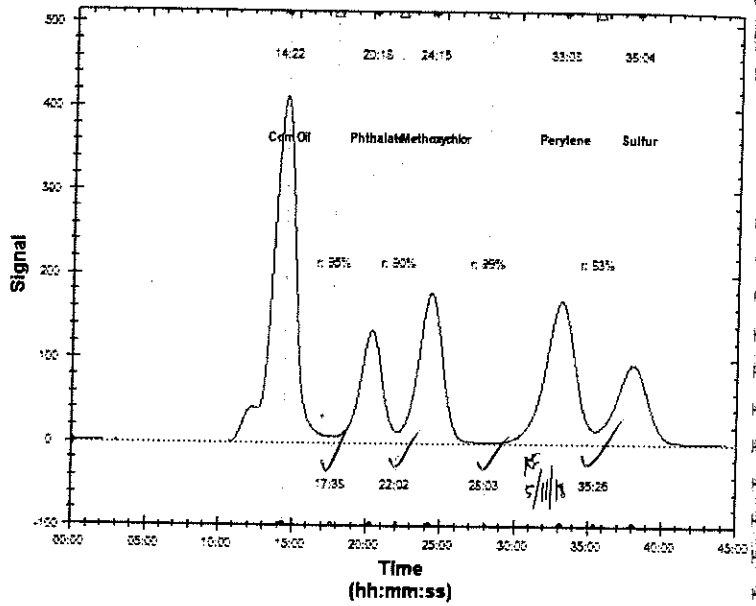
CALIBRATION REPORT

Sequence: CALIB051118.seq, Sample: [2] - [DT1]



TEMPLATE NAME : CO775_with_CO776_Guard

PEAK	SAMPLE	RET. TIME	SIGNAL
1	Corn Oil	14:22	413
2	Phthalate	20:18	133
3	Methoxychlor	24:15	178
4	Perylene	33:08	169
5	Sulfur	38:04	94

VALLEY	PEAKS	RES.	LIMIT	P/F
1	Corn Oil/Phthalate	95	0	P
2	Phthalate/Methoxychlor	90	0	P
3	Methoxychlor/Perylene	99	0	P
4	Perylene/Sulfur	83	0	P

P/P Dump: 22.02
collect: 13.24

S/S Dump: 17.38
collect: 22.62

EX-006 – Revision 4 – 08/29/2017 QAEX338 Updated: 08/29/2017 000017

Katahdin Analytical Services 2000377

Katahdin Analytical Services
GPC03 Logbook

Analytical Method: (check one)	SW846 8081	SW846 8082		SW846 8270 ✓	
MeCl2 Lot #: DT42	Filter Lot #: 70607172025	Room Temperature (beginning):	21.1	Room Temperature (ending):	20.3
Flow Rate: 5.0mL/min	Flow Rate Set at: 5.44mL/min	GPC Dump Time:	05:17.38	GPC Collect Time:	0022.62
Time to fill 50 mL: 9.1 min	Column Pressure: 7				

Tray Pos. No.	Sample Identification	Date Extracted	Extract Volume	GPC Analyst	Date GPC Started	GPC Initial Volume	S V	P P	Comments
1	GPC BLANK - SIM	—	—	DP	05-14-18	5mL	X		SIM-SOM
2	WG228098-1	05-11-18	5.00						
3	-2								
4	-3								
5	-4								
6	SL3995 -1								
7	-2								
8	-3								
9	-4								
10	-5								
11	-6								
12	-7								
13	-8								
14	-9								
15	-10								
16	-11								
17	-12								
18	-13								
19	-14								
20	DRY RUN								
21	WG228237-1								
22	-2								

Katahdin Analytical Services
GPC03 Logbook

Tray Pos. No.	Sample Identification	Date Extracted	Extract Volume	GPC Analyst	Date GPC Started	GPC Initial Volume	S V	P P	Comments
23	SL3708 - 4	05-14-18	5.00mL	DP.	05-14-18	5.0mL	✓		SIM-SON
24	-19								
25	SL4072 - 15								
26	-16								
27	-17								
28	-20								
29	-21								
30	-18								
31	-19								
32	-26								
33	-27								
34	-22								
35	-23								
36	-24								
37	-25								
38	DRY RUN								
39									
40									
41									
42									
43									
44									
45					MF	5/16-MF			

Katahdin Analytical Services 2000378

SIM-SON

KATAHDIN ANALYTICAL SERVICES, LLC

ORGANIC EXTRACTIONS LOG - SOIL SEMIVOLATILE

Extraction Method:	SW846 3550: K	SW846 3540:	SW846 3545:	SW846 3546:	SW846 3580:
Analytical Method:	SW846 8270:	OTHER:			
Standards	Surrogate ID (1): SV8849		Spike ID (1): SV8846		Spike ID (3): —
	Surrogate ID (2): —		Spike ID (2): —		—
Solvents / Chemicals / Consumables	Solvent Lot # (MeCl2): DT447		Solvent Lot # (Acetone): DT350		Sodium Sulfate (granular) Lot #: 879680-1
	Filter Paper Lot # (SON): 16732060		Filter Paper Lot # (KD): 14081047		Sodium Sulfate (powder) Lot #: 27977004
Misc.	Nitrogen Bath Temperature: 36°	Sonicator Horns Tuned: 40%	Balance ID: Mettler PJ400		Vial Lot ID: 393932
Prep Start Time: 11:10	Prep Stop Time: 13:20	Sox Start Time: —	Sox End Date: —		Sox End Time: —

Ext. Date	Ext. Init.	Sample ID	Initial Weight (g)	Surr. Vol. (mL)	Spk. Vol. (mL)	Fraction ACID	Fraction BN	Pre-GPC Date Conc.	Pre-GPC Conc. Init.	Pre-GPC Final Vol. (mL)	Post-GPC Date Conc.	Post-GPC Conc. Init.	Post-GPC Final Vol. (mL)	Tray Loc.	Comments
05-22-18	DP	WG1228851-1	29.99	1.00	NR		K	05-22-18	KF	5.0	05-23-18	DP	1.00	C2	847873
		-2	30.00		1.00									3	
		-3	30.41											4	MS: SL3995-5N
		-4	33.67											5	MSD: SL3995-5N
		GPC Blank #3			5-22-18									6	
															DP 05-23-18

Ext. Date	Ext. Init.	Sample ID	Initial Weight (g)	Surr. Vol. (mL)	Spk. Vol. (mL)	Fraction ACID	Fraction BN	Pre-GPC Date Conc.	Pre-GPC Conc. Init.	Pre-GPC Final Vol. (mL)	Post-GPC Date Conc.	Post-GPC Conc. Init.	Post-GPC Final Vol. (mL)	Tray Loc.	Comments
05-22-18	DP	SL3995-1E	30.72	1.00	NR		X	05-22-18	KF	5.00	05-23-18	DP	1.00	C1	
		-2E	32.91											8	
		-3E	30.11											9	
		-4E	30.34											10	
		-5N	32.00											D1	
		-6E	30.76											2	
		-7E	30.19											3	
		-8E	30.58											4	
		-9E	30.94											5	
		-10E	30.18											6	
		-11E	30.72											7	
		-12E	30.63											8	
		-13E	30.37											9	
		-14E	30.36											10	
															DP 05-23-18

Reviewed By_____ Date_____

Katahdin Analytical Services 2000379

Katahdin Analytical Services
GPC03 Logbook

Analytical Method: (check one)	SW846 8081 ✓	SW846 8082 ✓		SW846 8270 ✓	
MeCl2 Lot #: DT447	Filter Lot #: –	Room Temperature (beginning):	20.3	Room Temperature (ending):	20.6
Flow Rate: 5.0 mL/min	Flow Rate Set at: 5.4 mL/min	GPC Dump Time:	45 min	GPC Collect Time:	–
Time to fill 50 mL: 9.1 min	Column Pressure: 10				

Tray Pos. No.	Sample Identification	Date Extracted	Extract Volume	GPC Analyst	Date GPC Started	GPC Initial Volume	S V	P P	Comments
1	Dry Run	–	–	KF	5-22-18	5mL	✓	✓	
2	GPC Calib STD 7763	–	–	↓	↓	↓	✓	✓	
3	cat # 32041								
4	lot # A0124918								
5	0.5mL → 10mL in								
6	MeCl2 lot # DT742								
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									
21					KF	5-22-18			
22									

Katahdin Analytical Services
GPC03 Logbook

Tray Pos. No.
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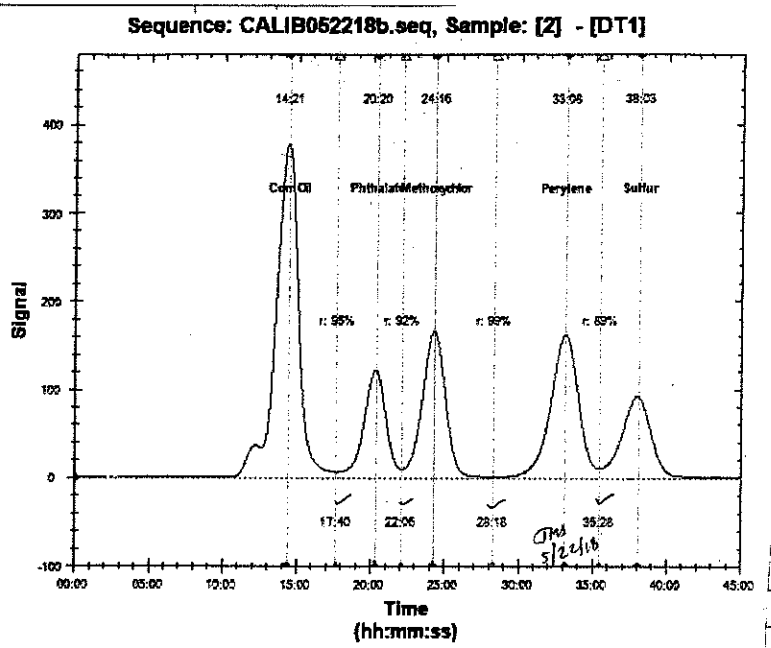

TEMPLATE NAME : CO775_with_CO776_Guard

PEAK	SAMPLE	RET. TIME	SIGNAL
1	Corn Oil	14:21	378
2	Phthalate	20:20	122
3	Methoxychlor	24:16	166
4	Perylene	33:08	162
5	Sulfur	38:03	92

VALLEY	PEAKS	RES.	LIMIT	P/F
1	Corn Oil/Phthalate	95	0	P
2	Phthalate/Methoxychlor	92	0	P
3	Methoxychlor/Perylene	99	0	P
4	Perylene/Sulfur	89	0	P

P/P Dump: 22.00
Collect: 33.22

S/S Dump: 17.40
Collect: 22.62

Katahdin Analytical Services 2000380

Katahdin Analytical Services
GPC03 Logbook

Analytical Method: (check one)	SW846 8081	SW846 8082		SW846 8270 ✓	
MeCl2 Lot #: DT447	Filter Lot #: 10407172025	Room Temperature (beginning):	19.8	Room Temperature (ending):	20.1
Flow Rate: 5.0 mL/min	Flow Rate Set at: 5.4 mL/min	GPC Dump Time:	SS 17.40	GPC Collect Time:	SS 22.62
Time to fill 50 mL: 9.1 min	Column Pressure: 2				

Tray Pos. No.	Sample Identification	Date Extracted	Extract Volume	GPC Analyst	Date GPC Started	GPC Initial Volume	S V	P P	Comments
1	GPC Blank SIM	–	–	KF	5-22-18	5 mL	✓		Expected: 113mL Actual: 110mL
2	462285 1-1	5-22-18	5mL						
3	-2								
4	-3								
5	-4								
6	SL3995-1								
7	-2								
8	-3								
9	-4								
10	-5								
11	-6								
12	-7								
13	-8								
14	-9								
15	-10								
16	-11								
17	-12								
18	-13								
19	-14								
20	DRY RUN								
21	DRY RUN								
22	DRY RUN								

Katahdin Analytical Services
GPC03 Logbook

Tray Pos. No.	Sample Identification	Date Extracted	Extract Volume	GPC Analyst	Date GPC Started	GPC Initial Volume	S V	P P	Comments
23									
24									
25									
26									
27									
28									
29									
30									
31									
32									
33									
34									
35									
36									
37									
38									
39									
40									
41									
42									
43						KF		5-23-18	
44									
45									

Katahdin Analytical Services 2000381

KATAHDIN ANALYTICAL SERVICES
GC/MS SVOA INJ LOG INSTRUMENT: 5975B - N

DATE OF DFTPP INJECTION: 05/7/18

JOB	SAMPLE	DATAFILE	DF	VIAL #	METHOD	UL INJ	CHEMIST	COMMENTS
WG228559-1	50 ng DFTPP	ND518	1	1	DFTPPSIM	2.0	JCH	OK
-4	SSTD 2.0 N0577	N8554		2	NSPSIM93			✓
-2	0.2	55		3				✓ PAHs, BNHP only
-3	0.5	56		4				✓
-5	7.0	57		5				✓
-6	10.	58		6				✓
-7	15	59		7				✓
-8	IMD	60		8				
	WG228119-1 RA	61		9				1556↓
	↓ -2 RA	62		10				OK
	WG228098-1	63		11				OK
	↓ -2	64		12				OK
	SL3995-15	65		13				551↑
	-1	66		14				553↓
	-2	67		15				553↓
	-3	68		16				553↓
	-4	69		17				553↓
	-5	70		18				OK
	WG228098-3	71		19				OK low RRFs
	↓ -4	72		20				OK low RRFs
	SL3995-6	73		21				553↓
	-7	74		22				553↓
-9	SSTD 2.0 N0577	75		23				OK
-10	↓	76		↓				—
-11	↓	77	↓	↓	↓	↓	↓	—
	1,4-Dioxane-d8	78	2	24				— SV285D
	↓	79	↓	↓	↓	↓	↓	—

STANDARD	CODE
DFTPP	53064
CAL. STD.	53067 53150
ICV. STD.	53095
IS MIX	53092

REVIEWED AND APPROVED BY: _____
DATE: _____

Katahdin Analytical Services 2000382

KATAHDIN ANALYTICAL SERVICES
GC/MS SVOA INJ LOG INSTRUMENT: 5975B - N

DATE OF DFTPP INJECTION: 052818

JOB	SAMPLE	DATAFILE	DF	VIAL #	METHOD	UL INJ	CHEMIST	COMMENTS
WG228639-1	50ng DFTPP	ND519	1	1	DFTPP SIM	2.0	JLG	OK
-4	SSTD2.0 ND518	ND580		2	NSP SIM94			✓
-2	0.2	81		3				✓
-3	0.5	82		4				✓
-5	7.0	83		5				✓
-6	10.	84		6				✓
-7	15.	85		7				✓
-8	IND	86		8				OK
	WG227847-1 RA	87		9				1556 ✓
	1 -2 RA	88		10				OK
	SL3841-2 RA2	89		11				OK
	-4 RA	90		12				OK
	-6 RA	91		13				OK
	-8 RA	92		14				OK
	-10 RA2	93		15				OK
	-12 RA	94		16				OK
	-14 RA	95		17				OK
	-16 RA	96		18				OK
	-18 RA	97		19				OK
	-20 RA	98		20				OK
	SL3995-1 RA	99		21				$53 ✓
	1 -2 RA	~~86~~ 00		22				OK
-9	SSTD2.0 ND518	01		23				OK
-10	↓	02		↓				—
-11	↓	03	↓	↓	↓	↓	↓	—
	SL3995-8 to 13	04-10	↓	24-30	↓	↓	↓	Spear

STANDARD	CODE
DFTPP	53064
CAL. STD.	53067 53100
ICV. STD.	53101
IS MIX	53052

REVIEWED AND APPROVED BY: _____
DATE: _____

Katahdin Analytical Services 2000383

KATAHDIN ANALYTICAL SERVICES
GC/MS SVOA INJ LOG INSTRUMENT: 5975B - N

DATE OF DFTPP INJECTION: 052118

JOB	SAMPLE	DATAFILE	DF	VIAL #	METHOD	UL INJ	CHEMIST	COMMENTS
WG228771-1	50ng DFTPP	ND520	1	1	DFTPP SIM	2.0	JLG	OK
-2	SSTD2.0 ND521	N8611		2	NSPSIM94			OK
	Hellx	12		3				-
	WG227847-1RA	13		4				OK
	WG228429-1RA	14		5				OK
	↓ -2RA	15		6				OK
	SL38694-32RE	16		7				OK
	-60RA	17		8				OK
	-55RA	18		9				OK
	SL4072-17	19		10				OK
	-21	20		11				OK
	-27	21		12				OK SPIKED?
	SL3995-8	22		13				SSI↓
	-9	23		14				OK
	-10	24		15				SSI↓
	-11	25		16				OK
	-12	26		17				SSI↓
	-13	27		18				SSI↓
	-14	28	↓	19				SSI↓
	SL4072-22DL	29	5	20				OK DL1:7
	-23DL	30	↓	21				OK DL1:10
	-24DL	31		22				OK DL1:10
	-25DL	32	↓	23				OK DL1:10
-3	SSTD2.0 ND521	33	1	24				OK USE
-4	↓	34	↓	↓				OK ↓
-5	↓	35	↓	↓	↓	↓	↓	OK ↓

STANDARD	CODE
DFTPP	53064
CAL. STD.	53067 53100
ICV. STD.	-
IS MIX	53092

REVIEWED AND APPROVED BY: _____
DATE: _____

Katahdin Analytical Services 2000384

KATAHDIN ANALYTICAL SERVICES
GC/MS SVOA INJ LOG INSTRUMENT: 5975B - N

DATE OF DFTPP INJECTION: 052318

JOB	SAMPLE	DATAFILE	DF	VIAL #	METHOD	UL INJ	CHEMIST	COMMENTS
WG228910-1	50ng DFTPP	ND522	1	1	DFTPPSIM	2.0	JLG	OK
-4	SSTD 2.0 ND523	ND660		2	NSPSIM96			✓
	0.2	61		3				✓
	0.5	62		4				✓
	1.0	63		5				✓
	10.	64		6				✓
	15.	65		7				✓
	(ND)	66		8				

STANDARD	CODE
DFTPP	53064
CAL. STD.	53067 53600
ICV. STD.	53601
IS MIX	53292

REVIEWED AND APPROVED BY: _____
DATE: _____

Katahdin Analytical Services 2000385

KATAHDIN ANALYTICAL SERVICES
GC/MS SVOA INJ LOG INSTRUMENT: 5975B - N

DATE OF DFTPP INJECTION: 052418

JOB	SAMPLE	DATAFILE	DF	VIAL #	METHOD	UL INJ	CHEMIST	COMMENTS
WG229005-1	50 ng DFTPP	ND524	1	1	DFTPPSIM	2.0	JLT	OK
	SSTD 2.0 NO524	N8694		2	NSPSIM96			OK
	MeCl2	95		3				—
	WG228851-1	96		4				OK
	+ -2	97		5				OK
	SL3995-1DE	98		6				OK
	-2RE	99		7				SS3↓
	-3RE	N8700		8				OK
	-4RE	01		9				SS3↓
	-5RE	02		10				OK
	WG228851-3	03		11				OK
	+ -4	04		12				OK
	SL3995-6RE	05		13				SS3↓
	-7RE	06		14				SS3↓
	-8RE	07		15				OK
	-9RE	08		16				OK
	-10RE	09		17				OK
	-11RE	10		18				SS1↓
	-12RE	11		19				SS1↓
	-13RE	12		20				SS1↓
	-14RE	13		21				OK
	S4072-27DA	14		22				OK
-3	SSTD 2.0 NO524	15		23				
-4		16						
-5		17						

STANDARD	CODE
DFTPP	53064
CAL. STD.	53067 53100
ICV. STD.	—
IS MIX	53092

REVIEWED AND APPROVED BY: _____
DATE: _____

KATAHDIN ANALYTICAL SERVICES

GC/MS SVOA INJ LOG INSTRUMENT: 5975B - N

DATE OF DFTPP INJECTION: 052518

JOB	SAMPLE	DATAFILE	DF	VIAL #	METHOD	UL INJ	CHEMIST	COMMENTS
WG228077-1	50ng DFTPP	ND525	1	1	DFTPPSM	2.0	JCL	OK
	SSTD 2.0 ND525	N8721		2	NSPSM96			OK
	MeCl2	22		3				—
	WG228098-1RA	23		4				OK
	WG228119-1RA2	24		5				OK
	SL42278-2	25		6				OK
	-3	26		7				OK
	-4	27		8				OK
	-5	28		9				OK
	-6	29		10				OK
	-7	30		11				OK
	-8	31		12				OK
	-9	32		13				OK
	-10	33		14				OK
	WG228551-3	34		15				OK
	↓ -4	35		16				OK
	SL42278-11	36		17				OK
	-12	37		18				ISSV
	-13	38		19				OK
	-14	39		20				OK
	SL4072-24DL2	40	8	21				OK 50|400
	↓ -25DL2	41	8	22				OK ↓
-3	SSTD 2.0 ND525	42	1	23				OK
-4	↓	43	↓	↓				—
-5		44						—

STANDARD	CODE
DFTPP	53064
CAL. STD.	53067 53100
ICV. STD.	—
IS MIX	53092

REVIEWED AND APPROVED BY: _____

DATE: _____

Katahdin Analytical Services 2000387

EXPLOSIVES DATA

QC Summary Section

Katahdin
ANALYTICAL SERVICES

Form 2
System Monitoring Compound Recovery

Lab Name: Katahdin Analytical Services **Project:** Cornhusker Army Ammunition Plant **Matrix:** AQ
Lab Code: KAS **SDG:** SL3995

Client Sample ID	Lab Sample ID	Col. ID	DNB	#
CHAAP-EB-050818-HA	SL3995-15	B	94.4	
Method Blank Sample	WG228021-1	B	87.4	
Laboratory Control S	WG228021-2	B	93.8	

		QC Limits
DNB	1,2-DINITROBENZENE	83-120

= Column to be used to flag recovery limits.
* = Values outside of contract required QC limits.
D= System Monitoring Compound diluted out.

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Katahdin
ANALYTICAL SERVICES

Form 2
System Monitoring Compound Recovery

Lab Name: Katahdin Analytical Services **Project:** Cornhusker Army Ammunition Plant **Matrix:** SL
Lab Code: KAS **SDG:** SL3995

Client Sample ID	Lab Sample ID	Col. ID	DNB	#
CHAAP-BKRD-SS01	SL3995-1	B	97.9	
CHAAP-BKRD-SB03	SL3995-10	B	101.	
CHAAP-BKRD-SB04	SL3995-11	B	100.	
CHAAP-BKRD-SB05	SL3995-12	B	93.4	
CHAAP-BKRD-SB105	SL3995-13	B	95.0	
CHAAP-BKRD-SB06	SL3995-14	B	89.7	
CHAAP-BKRD-SS02	SL3995-2	B	96.4	
CHAAP-BKRD-SS102	SL3995-3	B	95.5	
CHAAP-BKRD-SS03	SL3995-4	B	93.2	
CHAAP-BKRD-SS04	SL3995-5	B	95.8	
CHAAP-BKRD-SS05	SL3995-6	B	94.4	
CHAAP-BKRD-SS06	SL3995-7	B	98.7	
CHAAP-BKRD-SB01	SL3995-8	B	95.5	
CHAAP-BKRD-SB02	SL3995-9	B	98.0	
Method Blank Sample	WG228106-1	B	94.8	
Laboratory Control S	WG228106-2	B	108.	
Matrix Spike	WG228106-3	B	92.6	
Matrix Spike Duplica	WG228106-4	B	108.	

		QC Limits
DNB	1,2-DINITROBENZENE	78-125

= Column to be used to flag recovery limits.
* = Values outside of contract required QC limits.
D= System Monitoring Compound diluted out.

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Katahdin
ANALYTICAL SERVICES

Method Blank Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
Lab File ID : HLE10312.D
Instrument ID : HPLC02
Matrix : AQ

SDG : SL3995
Lab Sample ID : WG228021-1
Date Extracted : 10-MAY-18
Date Analyzed : 10-MAY-18
Time Analyzed : 23:38

This Method Blank applies to the following samples, LCS, MS and MSD:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
Laboratory Control S	WG228021-2	HLE10313.	05/11/18	00:09
CHAAP-EB-050818-HA	SL3995-15	HLE10316.	05/11/18	01:42

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Katahdin
ANALYTICAL SERVICES

Method Blank Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
Lab File ID : HLE10485.D
Instrument ID : HPLC02
Matrix : SL

SDG : SL3995
Lab Sample ID : WG228106-1
Date Extracted : 14-MAY-18
Date Analyzed : 16-MAY-18
Time Analyzed : 04:19

This Method Blank applies to the following samples, LCS, MS and MSD:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
Laboratory Control S	WG228106-2	HLE10486.	05/16/18	04:50
Matrix Spike	WG228106-3	HLE10487.	05/16/18	05:21
Matrix Spike Duplica	WG228106-4	HLE10488.	05/16/18	05:52
CHAAP-BKRD-SS01	SL3995-1	HLE10489.	05/16/18	06:23
CHAAP-BKRD-SS02	SL3995-2	HLE10490.	05/16/18	06:54
CHAAP-BKRD-SS102	SL3995-3	HLE10491.	05/16/18	07:25
CHAAP-BKRD-SS03	SL3995-4	HLE10492.	05/16/18	07:56
CHAAP-BKRD-SS04	SL3995-5	HLE10493.	05/16/18	08:27
CHAAP-BKRD-SS05	SL3995-6	HLE10494.	05/16/18	08:58
CHAAP-BKRD-SS06	SL3995-7	HLE10496.	05/16/18	10:00
CHAAP-BKRD-SB01	SL3995-8	HLE10497.	05/16/18	10:31
CHAAP-BKRD-SB02	SL3995-9	HLE10498.	05/16/18	11:02
CHAAP-BKRD-SB03	SL3995-10	HLE10499.	05/16/18	11:33
CHAAP-BKRD-SB04	SL3995-11	HLE10500.	05/16/18	12:04
CHAAP-BKRD-SB05	SL3995-12	HLE10501.	05/16/18	12:35
CHAAP-BKRD-SB105	SL3995-13	HLE10502.	05/16/18	13:06
CHAAP-BKRD-SB06	SL3995-14	HLE10503.	05/16/18	13:37

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Form 8
GC Analytical Sequence

Lab Name : Katahdin Analytical Services
SDG : SL3995
Project : Cornhusker Army Ammunition Plant
Column ID : B
Instrument ID : HPLC02

Client Sample ID	Lab Sample ID	Date Analyzed	Time Analyzed	DNB	DNB
Initial Calibration	WG225143-7	03/20/18	14:54	8.575	
Initial Calibration	WG225143-6	03/20/18	15:26	8.57	
Initial Calibration	WG225143-5	03/20/18	15:58	8.57	
Initial Calibration	WG225143-4	03/20/18	16:30	8.57	
Initial Calibration	WG225143-3	03/20/18	17:01	8.57	
Initial Calibration	WG225143-2	03/20/18	17:33	8.574	
Initial Calibration	WG225143-1	03/20/18	18:05	8.587	
Independent Source	WG225143-8	03/20/18	18:37		
Continuing Calibrati	WG227995-4	05/10/18	23:07	8.522	
Method Blank Sample	WG228021-1	05/10/18	23:38	8.543	
Laboratory Control S	WG228021-2	05/11/18	00:09	8.539	
CHAAP-EB-050818-HA	SL3995-15	05/11/18	01:42	8.53	
Continuing Calibrati	WG227995-5	05/11/18	04:48	8.521	
Continuing Calibrati	WG228756-4	05/16/18	03:48	8.528	
Method Blank Sample	WG228106-1	05/16/18	04:19	8.52	
Laboratory Control S	WG228106-2	05/16/18	04:50	8.52	
Matrix Spike	WG228106-3	05/16/18	05:21	8.539	
Matrix Spike Duplica	WG228106-4	05/16/18	05:52	8.532	
CHAAP-BKRD-SS01	SL3995-1	05/16/18	06:23	8.548	
CHAAP-BKRD-SS02	SL3995-2	05/16/18	06:54	8.552	
CHAAP-BKRD-SS102	SL3995-3	05/16/18	07:25	8.558	
CHAAP-BKRD-SS03	SL3995-4	05/16/18	07:56	8.561	
CHAAP-BKRD-SS04	SL3995-5	05/16/18	08:27	8.556	
CHAAP-BKRD-SS05	SL3995-6	05/16/18	08:58	8.558	
Continuing Calibrati	WG228756-5	05/16/18	09:29	8.546	
CHAAP-BKRD-SS06	SL3995-7	05/16/18	10:00	8.551	
CHAAP-BKRD-SB01	SL3995-8	05/16/18	10:31	8.552	
CHAAP-BKRD-SB02	SL3995-9	05/16/18	11:02	8.554	
CHAAP-BKRD-SB03	SL3995-10	05/16/18	11:33	8.563	
CHAAP-BKRD-SB04	SL3995-11	05/16/18	12:04	8.557	
CHAAP-BKRD-SB05	SL3995-12	05/16/18	12:35	8.566	
CHAAP-BKRD-SB105	SL3995-13	05/16/18	13:06	8.565	
CHAAP-BKRD-SB06	SL3995-14	05/16/18	13:37	8.565	
Continuing Calibrati	WG228756-6	05/16/18	15:34	8.528	

Sample Data Section

KATAHDIN ANALYTICAL SERVICES - ORGANIC DATA QUALIFIERS

The sampled date indicated on the attached Report(s) of Analysis (ROA) is the date for which a grab sample was collected or the date for which a composite sample was completed. Beginning and start times for composite samples can be found on the Chain-of-Custody.

U Indicates the compound was analyzed for but not detected above the specified level. This level may be the Limit of Quantitation (LOQ)(previously called Practical Quantitation Level (PQL)), the Limit of Detection (LOD) or Method Detection Limit (MDL) as required by the client.

Note: All results reported as "U" MDL have a 50% rate for false negatives compared to those results reported as "U" PQL/LOQ or "U" LOD, where the rate of false negatives is <1%.

* Compound recovery or percent RPD (relative percent difference) was outside of quality control limits.

D Indicates the result was obtained from analysis of a diluted sample. Surrogate recoveries may not be calculable.

E Estimated value. This flag identifies compounds whose concentrations exceed the upper level of the calibration range of the instrument for that specific analysis.

J Estimated value. The analyte was detected in the sample at a concentration less than the laboratory Limit of Quantitation (LOQ)(previously called Practical Quantitation Limit (PQL)), but above the Method Detection Limit (MDL).

or

J Used for Pesticides, PCBs, Herbicides, Formaldehyde, Explosives and Method 504.1 analytes when there is a greater than 40% difference for detected concentrations between the two GC columns.

B Indicates the analyte was detected in the laboratory method blank analyzed concurrently with the sample.

C Indicates that the flagged compound did not meet DoD criteria in the corresponding daily calibration verification (CV).

L Indicates that the flagged compound did not meet DoD criteria in the corresponding Laboratory Control Sample (LCS) and/or Laboratory Control Sample Duplicate (LCSD) prepared and/or analyzed concurrently with the sample.

M Indicates that the flagged compound did not meet DoD criteria in the Matrix Spike and/or Matrix Spike Duplicate prepared and/or analyzed concurrently with the native sample.

N Presumptive evidence of a compound based on a mass spectral library search.

A Indicates that a tentatively identified compound is a suspected aldol-condensation product.

P Used for Pesticide/Aroclor analyte when there is a greater than 25% difference for detected concentrations between the two GC columns. (for CLP methods only).

Katahdin Analytical Services, Inc.

Manual Integration Codes For GC/MS, GC, HPLC and/or IC

M1	Peak splitting.
M2	Well defined peaks on the shoulders of the other peaks.
M3	There is additional area due to a coeluting interferant.
M4	There are negative spikes in the baseline.
M5	There are rising or falling baselines.
M6	The software has failed to detect a peak or misidentified a peak.
M7	Excessive peak tailing.
M8	Analysis such as GRO, DRO and TPH require a baseline hold.
M9	Peak was not completely integrated as in GC/MS.
M10	Primary ion was correctly integrated, but secondary or tertiary ion needed manual integration as in GC/MS.
M11	For GC analysis, when a sample is diluted by 1:10 or more, the surrogate is set to undetected and then the area under the surrogate is manually integrated.
M12	Manual integration saved in method due to TurboChrom floating point error.

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL3995-1
Client ID: CHAAP-BKRD-SS01
Project: Cornhusker Army Ammunition Plant
SDG: SL3995
Lab File ID: HLE10489.D

Sample Date: 08-MAY-18
Received Date: 09-MAY-18
Extract Date: 14-MAY-18
Extracted By: DP/AC
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228106

Analysis Date: 16-MAY-18
Analyst: AAB
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 85.
Report Date: 24-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	57	ug/Kgdrywt	1	100	110	9.8	57.
RDX	U	57	ug/Kgdrywt	1	100	110	7.8	57.
1,3,5-Trinitrobenzene	U	57	ug/Kgdrywt	1	100	110	7.6	57.
1,3-Dinitrobenzene	U	57	ug/Kgdrywt	1	100	110	7.1	57.
Tetryl	U	57	ug/Kgdrywt	1	100	110	6.2	57.
Nitrobenzene	U	57	ug/Kgdrywt	1	100	110	25.	57.
2,4,6-Trinitrotoluene	U	57	ug/Kgdrywt	1	100	110	7.6	57.
2-Am-DNT	U	57	ug/Kgdrywt	1	100	110	24.	57.
4-Am-DNT	U	57	ug/Kgdrywt	1	100	110	19.	57.
2,6-Dinitrotoluene	U	57	ug/Kgdrywt	1	100	110	31.	57.
2,4-Dinitrotoluene	U	57	ug/Kgdrywt	1	100	110	17.	57.
2-Nitrotoluene	U	57	ug/Kgdrywt	1	100	110	14.	57.
3-Nitrotoluene	U	57	ug/Kgdrywt	1	100	110	9.0	57.
4-Nitrotoluene	U	57	ug/Kgdrywt	1	100	110	31.	57.
Nitroglycerin	U	460	ug/Kgdrywt	1	800	910	140	460
PETN	U	460	ug/Kgdrywt	1	800	910	120	460
1,2-Dinitrobenzene		97.9	%					

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HLE10489.D
Report Date: 24-May-2018 09:28

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HLE10489.D
Lab Smp Id: SL3995-1 Client Smp ID: CHAAP-BKRD-SS01
Inj Date : 16-MAY-2018 06:23
Operator : AAB Inst ID: hplc02.i
Smp Info : SL3995-1
Misc Info : WG228756,WG228106,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE15.b\EXPB05A.m
Meth Date : 21-May-2018 08:50 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 8
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01030	Weight of Sample (Kg)
M	14.892	% Moisture
Cpnd Variable		Local Compound Variable

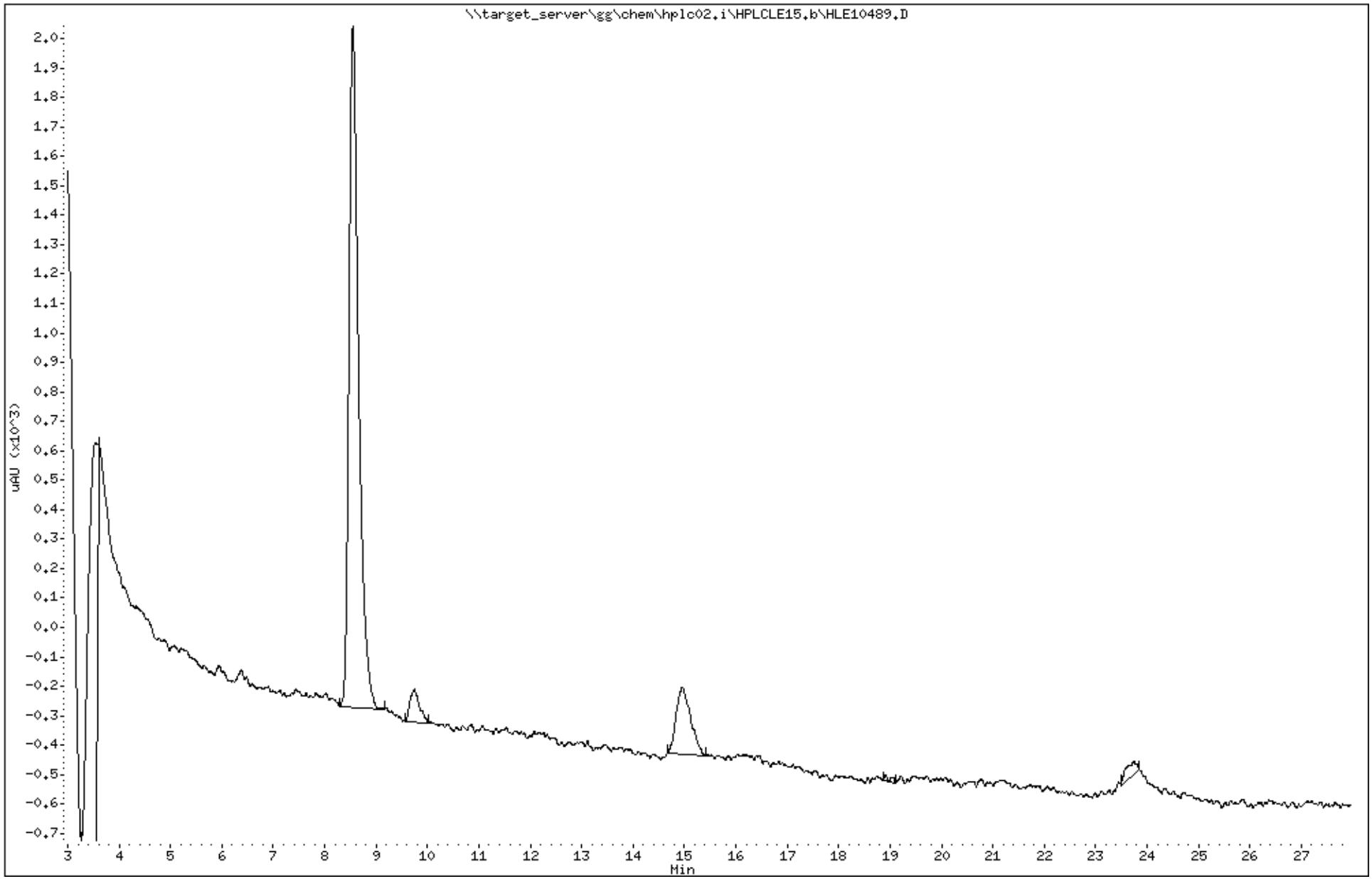
Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HLE10489.D
Date : 16-MAY-2018 06:23
Client ID: CHAAP-BKRD-SS01
Sample Info: SL3995-1

Instrument: hplc02.i

Operator: AAB
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 3000013

Data File: HLE10489.D
Report Date: 24-May-2018 09:31

Katahdin Analytical Services

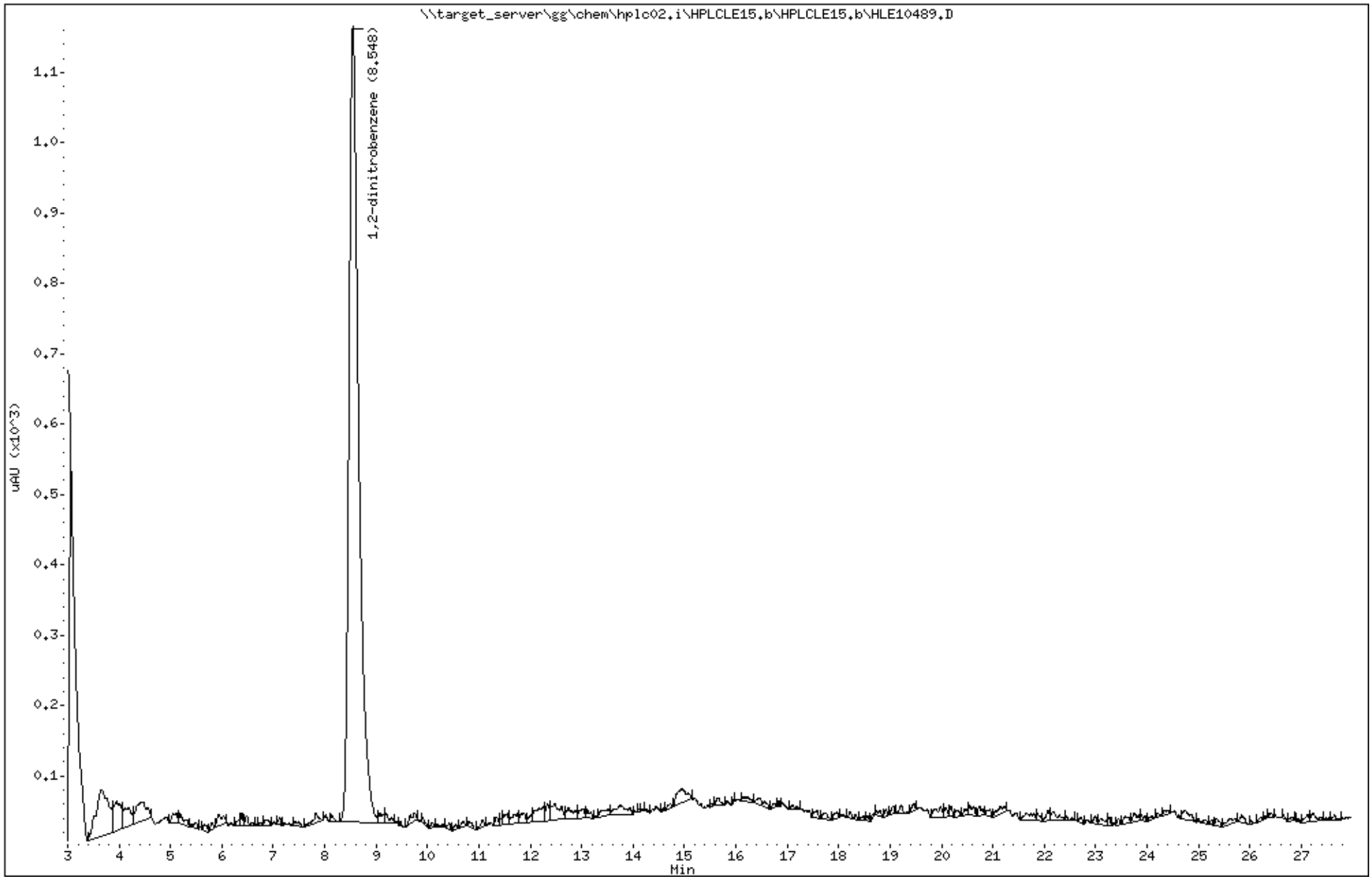
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HPLCLE15.b\HLE10489.D
Lab Smp Id: SL3995-1 Client Smp ID: CHAAP-BKRD-SS01
Inj Date : 16-MAY-2018 06:23
Operator : AAB Inst ID: hplc02.i
Smp Info : SL3995-1
Misc Info : WG228756,WG228106,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE15.b\EXPB05A.m\EXPB05A.m
Meth Date : 21-May-2018 08:35 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 8
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01030	Weight of Sample (Kg)
M	14.892	% Moisture
Cpnd Variable		Local Compound Variable

						CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	
Compounds	RT	EXP RT	DLT RT	RESPONSE				REVIEW CODE
$ 2 1,2-dinitrobenzene	8.548	8.538	0.010	1132		0.24463	558	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HPLCLE15.b\HLE10489.D
Date : 16-MAY-2018 06:23
Client ID: CHAAP-BKRD-SS01
Instrument: hplc02.i
Sample Info: SL3995-1
Operator: AAB
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 3000015

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL3995-2
Client ID: CHAAP-BKRD-SS02
Project: Cornhusker Army Ammunition Plant
SDG: SL3995
Lab File ID: HLE10490.D

Sample Date: 08-MAY-18
Received Date: 09-MAY-18
Extract Date: 14-MAY-18
Extracted By: DP/AC
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228106

Analysis Date: 16-MAY-18
Analyst: AAB
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 84.
Report Date: 24-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	53	ug/Kgdrywt	1	100	100	9.1	53.
RDX	U	53	ug/Kgdrywt	1	100	100	7.2	53.
1,3,5-Trinitrobenzene	U	53	ug/Kgdrywt	1	100	100	7.1	53.
1,3-Dinitrobenzene	U	53	ug/Kgdrywt	1	100	100	6.6	53.
Tetryl	U	53	ug/Kgdrywt	1	100	100	5.7	53.
Nitrobenzene	U	53	ug/Kgdrywt	1	100	100	23.	53.
2,4,6-Trinitrotoluene	U	53	ug/Kgdrywt	1	100	100	7.1	53.
2-Am-DNT	U	53	ug/Kgdrywt	1	100	100	22.	53.
4-Am-DNT	U	53	ug/Kgdrywt	1	100	100	18.	53.
2,6-Dinitrotoluene	U	53	ug/Kgdrywt	1	100	100	28.	53.
2,4-Dinitrotoluene	U	53	ug/Kgdrywt	1	100	100	16.	53.
2-Nitrotoluene	U	53	ug/Kgdrywt	1	100	100	13.	53.
3-Nitrotoluene	U	53	ug/Kgdrywt	1	100	100	8.4	53.
4-Nitrotoluene	U	53	ug/Kgdrywt	1	100	100	28.	53.
Nitroglycerin	U	420	ug/Kgdrywt	1	800	840	130	420
PETN	U	420	ug/Kgdrywt	1	800	840	110	420
1,2-Dinitrobenzene		96.4	%					

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HLE10490.D
Report Date: 24-May-2018 09:28

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HLE10490.D
Lab Smp Id: SL3995-2 Client Smp ID: CHAAP-BKRD-SS02
Inj Date : 16-MAY-2018 06:54
Operator : AAB Inst ID: hplc02.i
Smp Info : SL3995-2
Misc Info : WG228756,WG228106,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE15.b\EXPB05A.m
Meth Date : 21-May-2018 08:50 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 9
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01130	Weight of Sample (Kg)
M	16.302	% Moisture
Cpnd Variable		Local Compound Variable

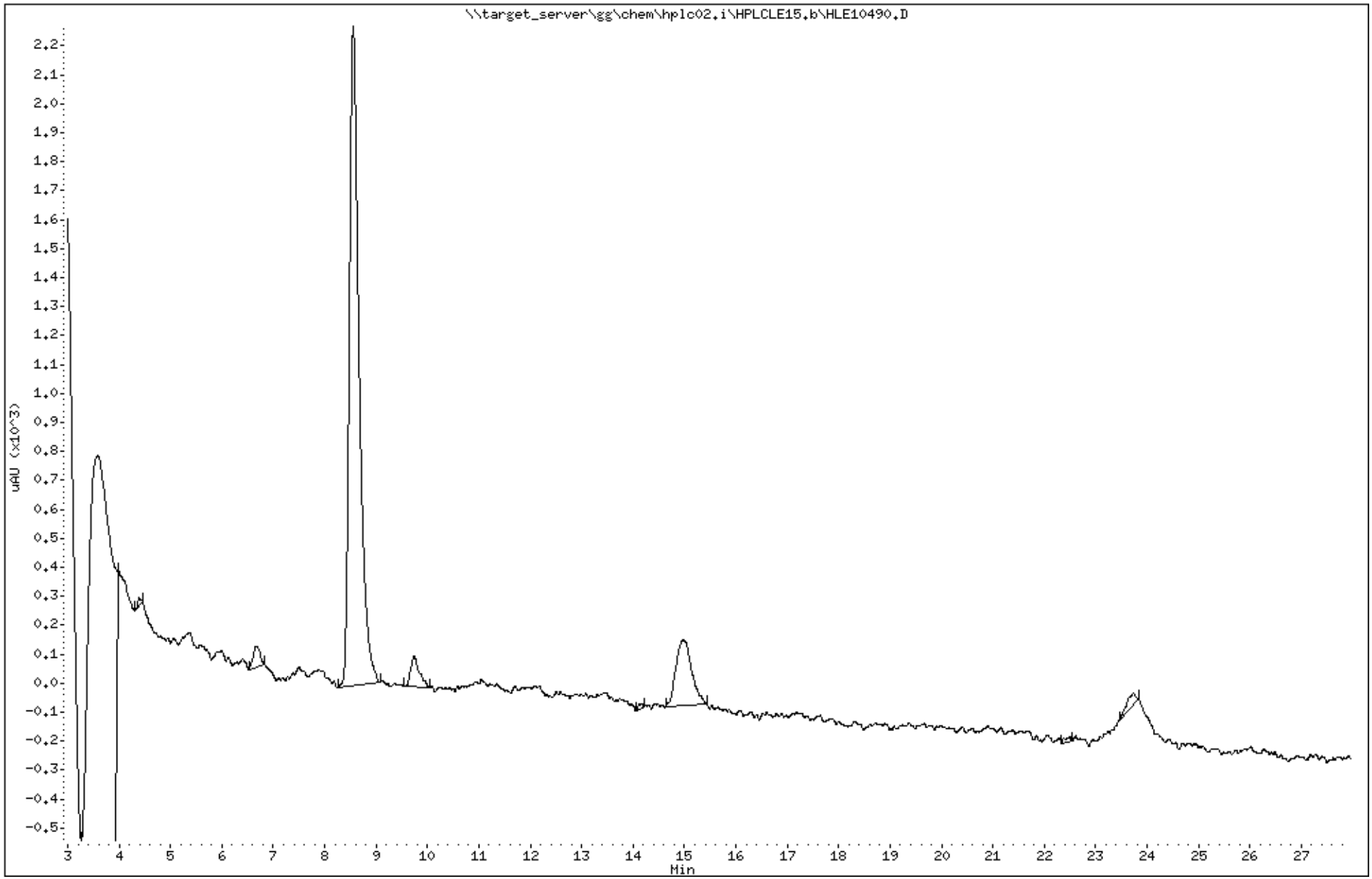
Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HLE10490.D
Date : 16-MAY-2018 06:54
Client ID: CHAAP-BKRD-SS02
Sample Info: SL3995-2

Instrument: hplc02.i

Operator: AAB
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 3000018

Data File: HLE10490.D
Report Date: 24-May-2018 09:31

Katahdin Analytical Services

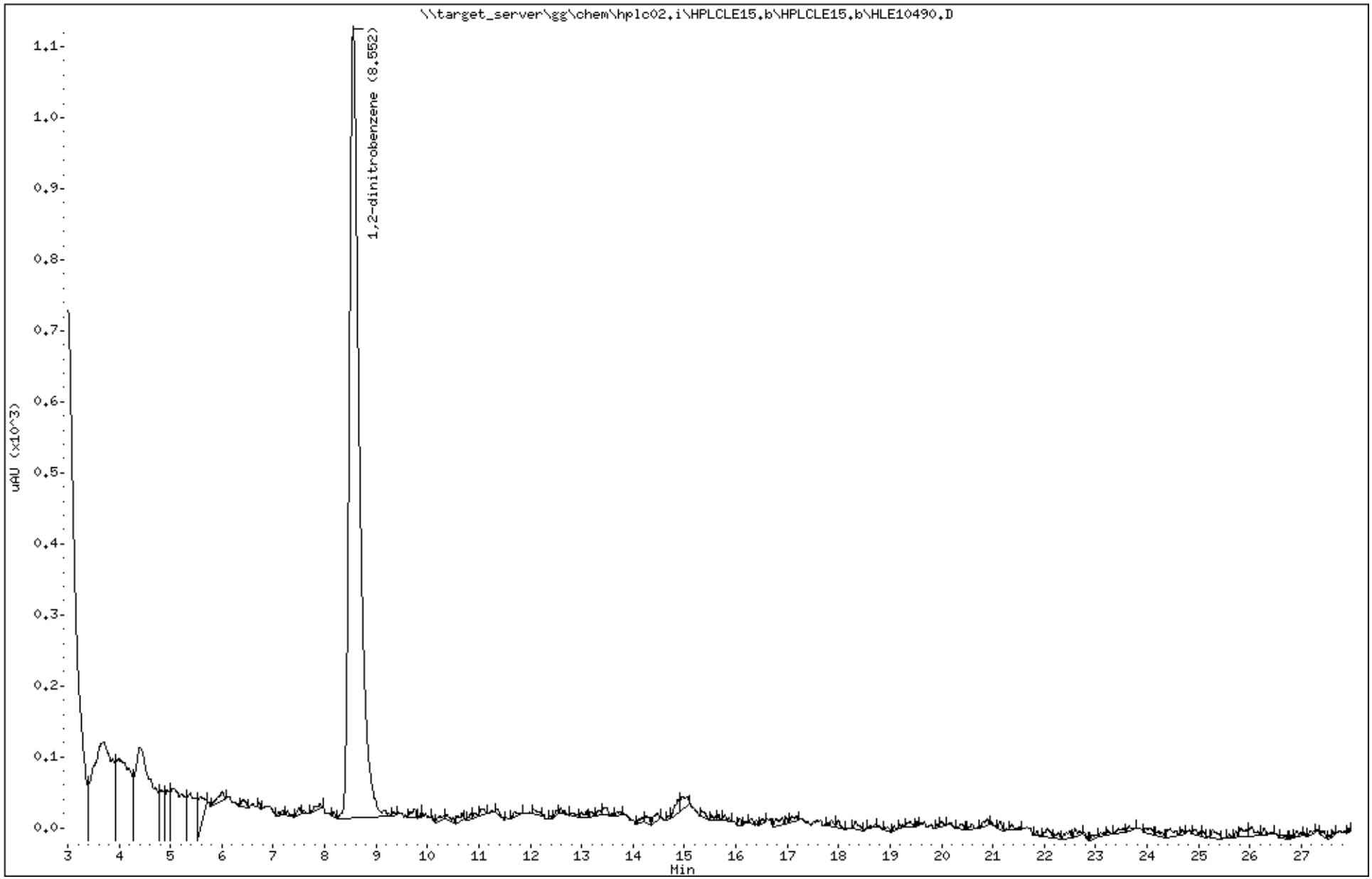
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HPLCLE15.b\HLE10490.D
Lab Smp Id: SL3995-2 Client Smp ID: CHAAP-BKRD-SS02
Inj Date : 16-MAY-2018 06:54
Operator : AAB Inst ID: hplc02.i
Smp Info : SL3995-2
Misc Info : WG228756,WG228106,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE15.b\EXPB05A.m\EXPB05A.m
Meth Date : 21-May-2018 08:35 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 9
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01130	Weight of Sample (Kg)
M	16.302	% Moisture
Cpnd Variable		Local Compound Variable

						CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	
Compounds	RT	EXP RT	DLT RT	RESPONSE				REVIEW CODE
$ 2 1,2-dinitrobenzene	8.552	8.538	0.014	1116		0.24117	510	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HPLCLE15.b\HLE10490.D
Date : 16-MAY-2018 06:54
Client ID: CHAAP-BKRD-SS02
Instrument: hplc02.i
Sample Info: SL3995-2
Operator: AAB
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 3000020

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL3995-3
Client ID: CHAAP-BKRD-SS102
Project: Cornhusker Army Ammunition Plant
SDG: SL3995
Lab File ID: HLE10491.D

Sample Date: 08-MAY-18
Received Date: 09-MAY-18
Extract Date: 14-MAY-18
Extracted By: DP/AC
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228106

Analysis Date: 16-MAY-18
Analyst: AAB
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 83.
Report Date: 24-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	53	ug/Kgdrywt	1	100	110	9.2	53.
RDX	U	53	ug/Kgdrywt	1	100	110	7.2	53.
1,3,5-Trinitrobenzene	U	53	ug/Kgdrywt	1	100	110	7.1	53.
1,3-Dinitrobenzene	U	53	ug/Kgdrywt	1	100	110	6.6	53.
Tetryl	U	53	ug/Kgdrywt	1	100	110	5.8	53.
Nitrobenzene	U	53	ug/Kgdrywt	1	100	110	23.	53.
2,4,6-Trinitrotoluene	U	53	ug/Kgdrywt	1	100	110	7.1	53.
2-Am-DNT	U	53	ug/Kgdrywt	1	100	110	22.	53.
4-Am-DNT	U	53	ug/Kgdrywt	1	100	110	18.	53.
2,6-Dinitrotoluene	U	53	ug/Kgdrywt	1	100	110	29.	53.
2,4-Dinitrotoluene	U	53	ug/Kgdrywt	1	100	110	16.	53.
2-Nitrotoluene	U	53	ug/Kgdrywt	1	100	110	13.	53.
3-Nitrotoluene	U	53	ug/Kgdrywt	1	100	110	8.4	53.
4-Nitrotoluene	U	53	ug/Kgdrywt	1	100	110	29.	53.
Nitroglycerin	U	430	ug/Kgdrywt	1	800	850	130	430
PETN	U	430	ug/Kgdrywt	1	800	850	120	430
1,2-Dinitrobenzene		95.5	%					

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HLE10491.D
Report Date: 24-May-2018 09:28

Katahdin Analytical Services

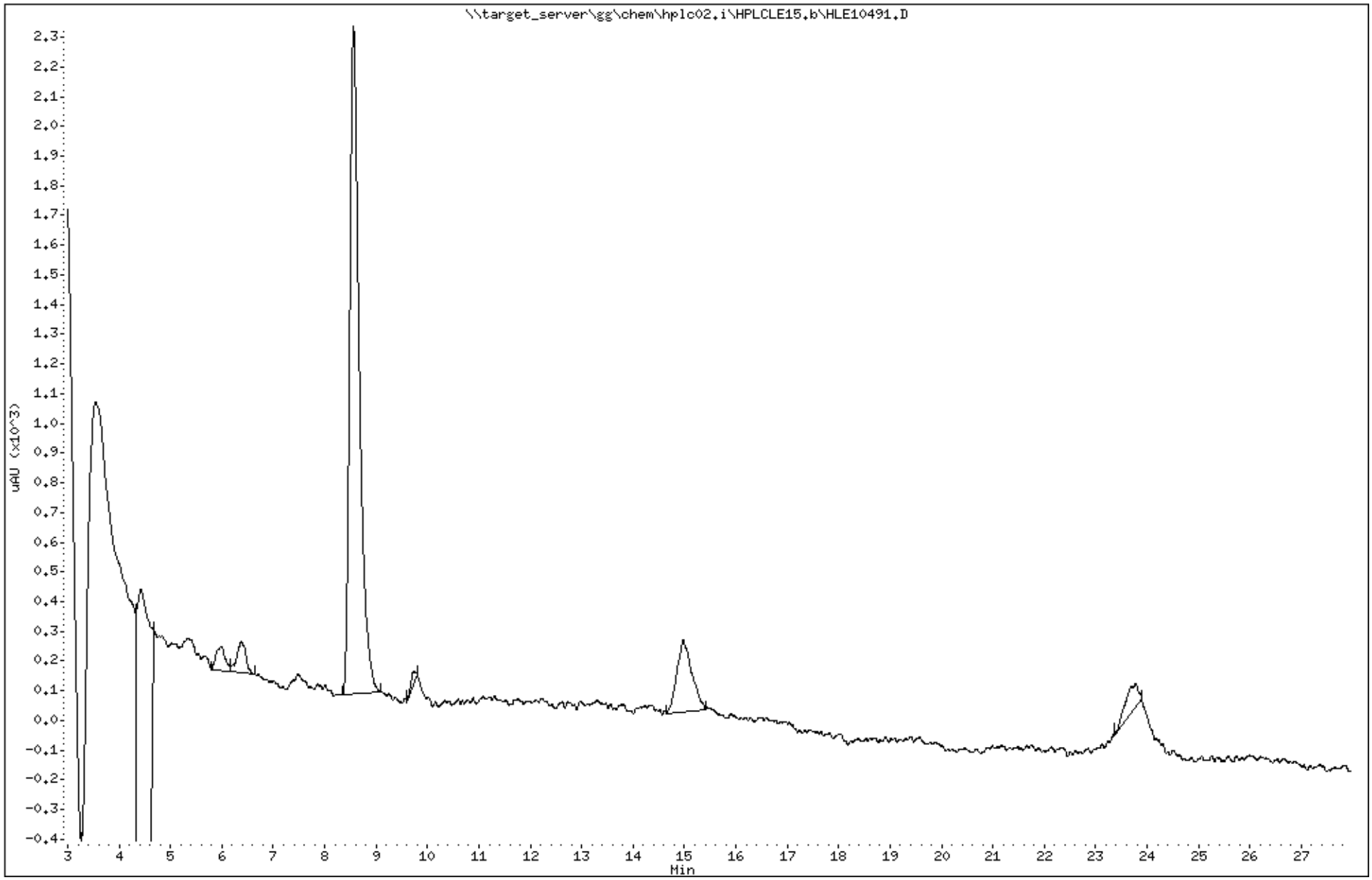
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HLE10491.D
Lab Smp Id: SL3995-3 Client Smp ID: CHAAP-BKRD-SS102
Inj Date : 16-MAY-2018 07:25
Operator : AAB Inst ID: hplc02.i
Smp Info : SL3995-3
Misc Info : WG228756,WG228106,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE15.b\EXPB05A.m
Meth Date : 21-May-2018 08:50 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 10
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01130	Weight of Sample (Kg)
M	16.929	% Moisture
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HLE10491.D
Date : 16-MAY-2018 07:25
Client ID: CHAAP-BKRD-SS102
Instrument: hplc02.i
Sample Info: SL3995-3
Operator: AAB
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 3000023

Data File: HLE10491.D
Report Date: 24-May-2018 09:31

Katahdin Analytical Services

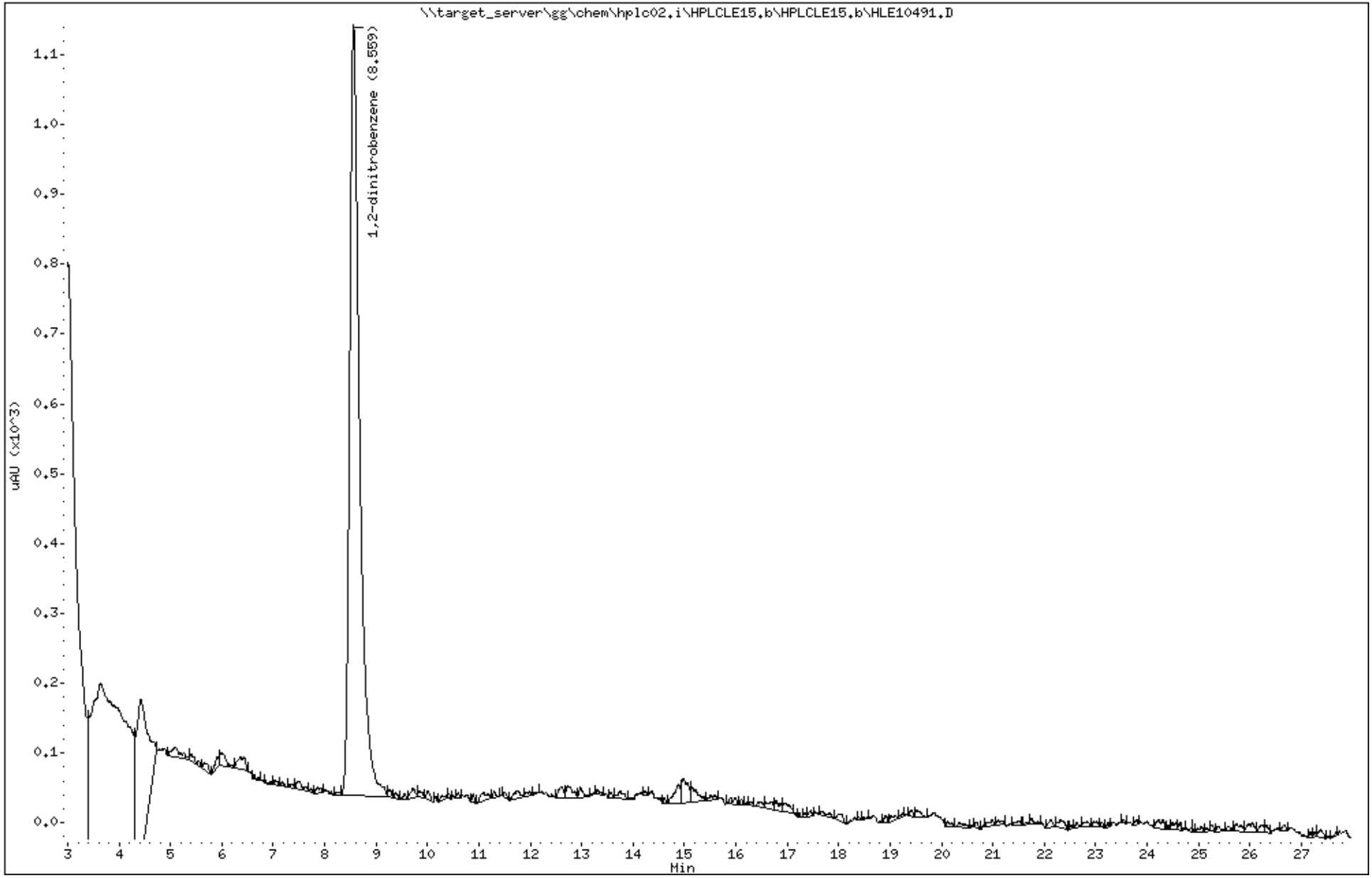
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HPLCLE15.b\HLE10491.D
Lab Smp Id: SL3995-3 Client Smp ID: CHAAP-BKRD-SS102
Inj Date : 16-MAY-2018 07:25
Operator : AAB Inst ID: hplc02.i
Smp Info : SL3995-3
Misc Info : WG228756,WG228106,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE15.b\EXPB05A.m\EXPB05A.m
Meth Date : 21-May-2018 08:35 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 10
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01130	Weight of Sample (Kg)
M	16.929	% Moisture
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	REVIEW CODE
$ 2 1,2-dinitrobenzene	8.558	8.538	0.020	1105	0.23879	509	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HPLCLE15.b\HLE10491.D
Date : 16-MAY-2018 07:25
Client ID: CHAAP-BKRD-SS102
Instrument: hplc02.i
Sample Info: SL3995-3
Operator: AAB
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 3000025

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL3995-4
Client ID: CHAAP-BKRD-SS03
Project: Cornhusker Army Ammunition Plant
SDG: SL3995
Lab File ID: HLE10492.D

Sample Date: 08-MAY-18
Received Date: 09-MAY-18
Extract Date: 14-MAY-18
Extracted By: DP/AC
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228106

Analysis Date: 16-MAY-18
Analyst: AAB
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 83.
Report Date: 24-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	50	ug/Kgdrywt	1	100	100	8.6	50.
RDX	U	50	ug/Kgdrywt	1	100	100	6.8	50.
1,3,5-Trinitrobenzene	U	50	ug/Kgdrywt	1	100	100	6.7	50.
1,3-Dinitrobenzene	U	50	ug/Kgdrywt	1	100	100	6.2	50.
Tetryl	U	50	ug/Kgdrywt	1	100	100	5.4	50.
Nitrobenzene	U	50	ug/Kgdrywt	1	100	100	22.	50.
2,4,6-Trinitrotoluene	U	50	ug/Kgdrywt	1	100	100	6.7	50.
2-Am-DNT	U	50	ug/Kgdrywt	1	100	100	21.	50.
4-Am-DNT	U	50	ug/Kgdrywt	1	100	100	17.	50.
2,6-Dinitrotoluene	U	50	ug/Kgdrywt	1	100	100	27.	50.
2,4-Dinitrotoluene	U	50	ug/Kgdrywt	1	100	100	15.	50.
2-Nitrotoluene	U	50	ug/Kgdrywt	1	100	100	12.	50.
3-Nitrotoluene	U	50	ug/Kgdrywt	1	100	100	8.0	50.
4-Nitrotoluene	U	50	ug/Kgdrywt	1	100	100	27.	50.
Nitroglycerin	U	400	ug/Kgdrywt	1	800	800	120	400
PETN	U	400	ug/Kgdrywt	1	800	800	110	400
1,2-Dinitrobenzene		93.2	%					

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HLE10492.D
Report Date: 24-May-2018 09:28

Katahdin Analytical Services

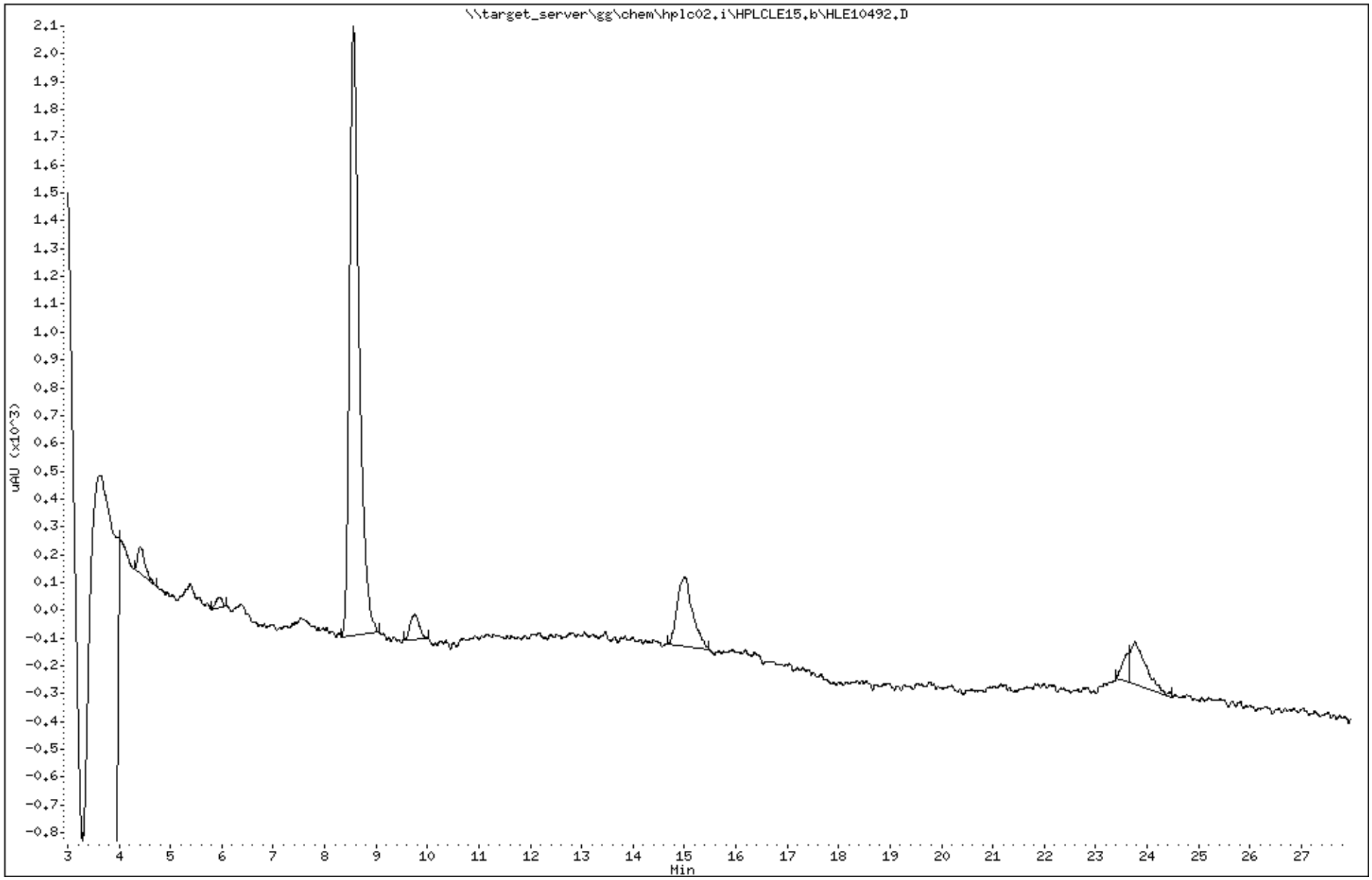
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HLE10492.D
Lab Smp Id: SL3995-4 Client Smp ID: CHAAP-BKRD-SS03
Inj Date : 16-MAY-2018 07:56
Operator : AAB Inst ID: hplc02.i
Smp Info : SL3995-4
Misc Info : WG228756,WG228106,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE15.b\EXPB05A.m
Meth Date : 21-May-2018 08:50 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 11
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01190	Weight of Sample (Kg)
M	16.541	% Moisture
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HLE10492.D
Date : 16-MAY-2018 07:56
Client ID: CHAAP-BKRD-SS03
Instrument: hplc02.i
Sample Info: SL3995-4
Operator: AAB
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 3000028

Data File: HLE10492.D
Report Date: 24-May-2018 09:32

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HPLCLE15.b\HLE10492.D
Lab Smp Id: SL3995-4 Client Smp ID: CHAAP-BKRD-SS03
Inj Date : 16-MAY-2018 07:56
Operator : AAB Inst ID: hplc02.i
Smp Info : SL3995-4
Misc Info : WG228756,WG228106,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE15.b\EXPB05A.m\EXPB05A.m
Meth Date : 21-May-2018 08:35 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 11
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

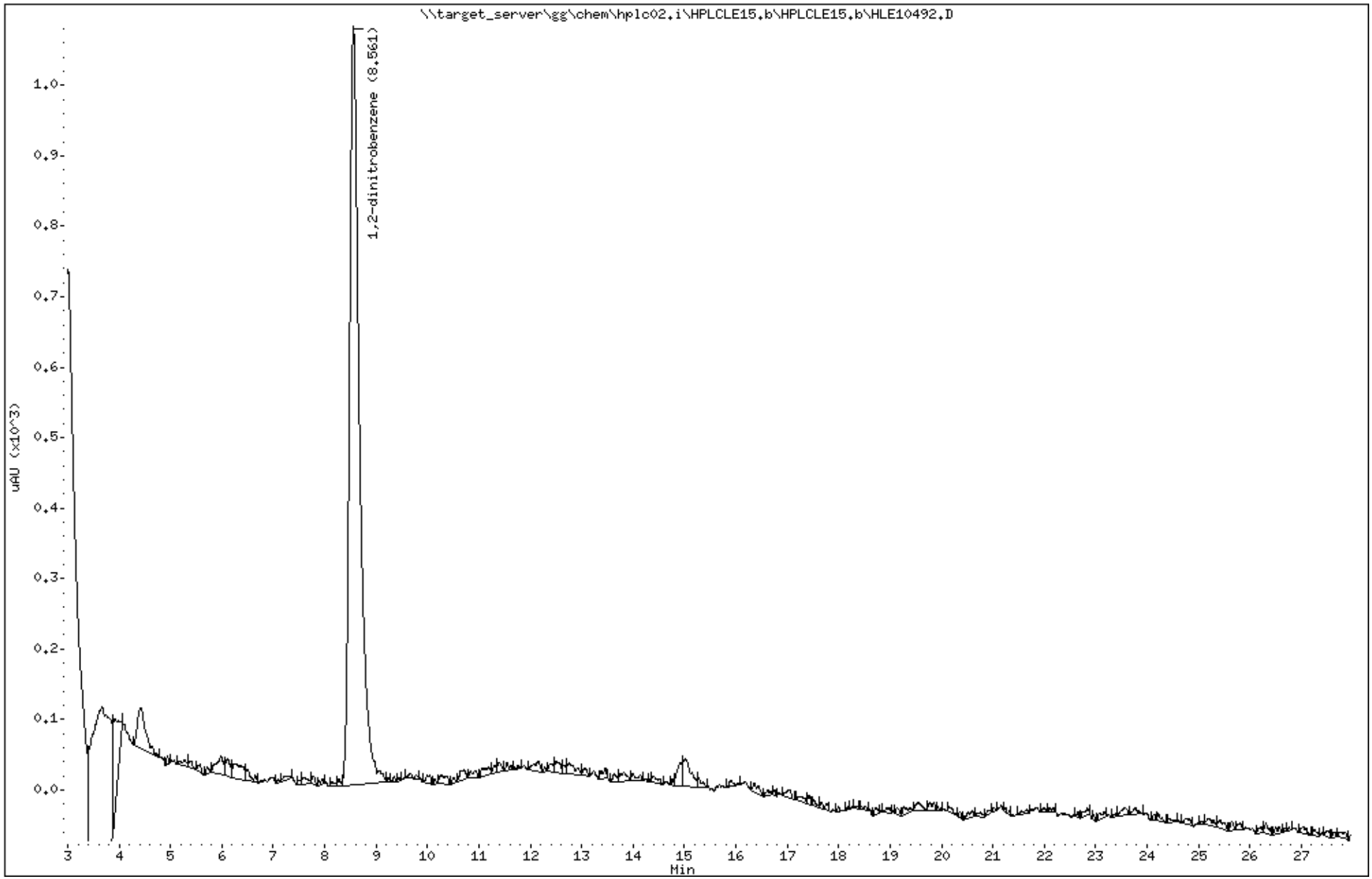
Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01190	Weight of Sample (Kg)
M	16.541	% Moisture
Cpnd Variable		Local Compound Variable

						CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	
Compounds	RT	EXP RT	DLT RT	RESPONSE				REVIEW CODE
$ 2 1,2-dinitrobenzene	8.561	8.538	0.023	1077		0.23274	469	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HPLCLE15.b\HLE10492.D
Date : 16-MAY-2018 07:56
Client ID: CHAAP-BKRD-SS03
Sample Info: SL3995-4

Instrument: hplc02.i

Operator: AAB
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 3000030

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL3995-5
Client ID: CHAAP-BKRD-SS04
Project: Cornhusker Army Ammunition Plant
SDG: SL3995
Lab File ID: HLE10493.D

Sample Date: 08-MAY-18
Received Date: 09-MAY-18
Extract Date: 14-MAY-18
Extracted By: DP/AC
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228106

Analysis Date: 16-MAY-18
Analyst: AAB
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 83.
Report Date: 24-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	60	ug/Kgdrywt	1	100	120	10.	60.
RDX	U	60	ug/Kgdrywt	1	100	120	8.2	60.
1,3,5-Trinitrobenzene	U	60	ug/Kgdrywt	1	100	120	8.0	60.
1,3-Dinitrobenzene	U	60	ug/Kgdrywt	1	100	120	7.4	60.
Tetryl	U	60	ug/Kgdrywt	1	100	120	6.5	60.
Nitrobenzene	U	60	ug/Kgdrywt	1	100	120	26.	60.
2,4,6-Trinitrotoluene	U	60	ug/Kgdrywt	1	100	120	8.0	60.
2-Am-DNT	U	60	ug/Kgdrywt	1	100	120	25.	60.
4-Am-DNT	U	60	ug/Kgdrywt	1	100	120	20.	60.
2,6-Dinitrotoluene	U	60	ug/Kgdrywt	1	100	120	32.	60.
2,4-Dinitrotoluene	U	60	ug/Kgdrywt	1	100	120	18.	60.
2-Nitrotoluene	U	60	ug/Kgdrywt	1	100	120	14.	60.
3-Nitrotoluene	U	60	ug/Kgdrywt	1	100	120	9.5	60.
4-Nitrotoluene	U	60	ug/Kgdrywt	1	100	120	32.	60.
Nitroglycerin	U	480	ug/Kgdrywt	1	800	960	150	480
PETN	U	480	ug/Kgdrywt	1	800	960	130	480
1,2-Dinitrobenzene		95.8	%					

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HLE10493.D
Report Date: 24-May-2018 09:29

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HLE10493.D
Lab Smp Id: SL3995-5 Client Smp ID: CHAAP-BKRD-SS04
Inj Date : 16-MAY-2018 08:27
Operator : AAB Inst ID: hplc02.i
Smp Info : SL3995-5
Misc Info : WG228756,WG228106,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE15.b\EXPB05A.m
Meth Date : 21-May-2018 08:50 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 12
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01000	Weight of Sample (Kg)
M	16.832	% Moisture
Cpnd Variable		Local Compound Variable

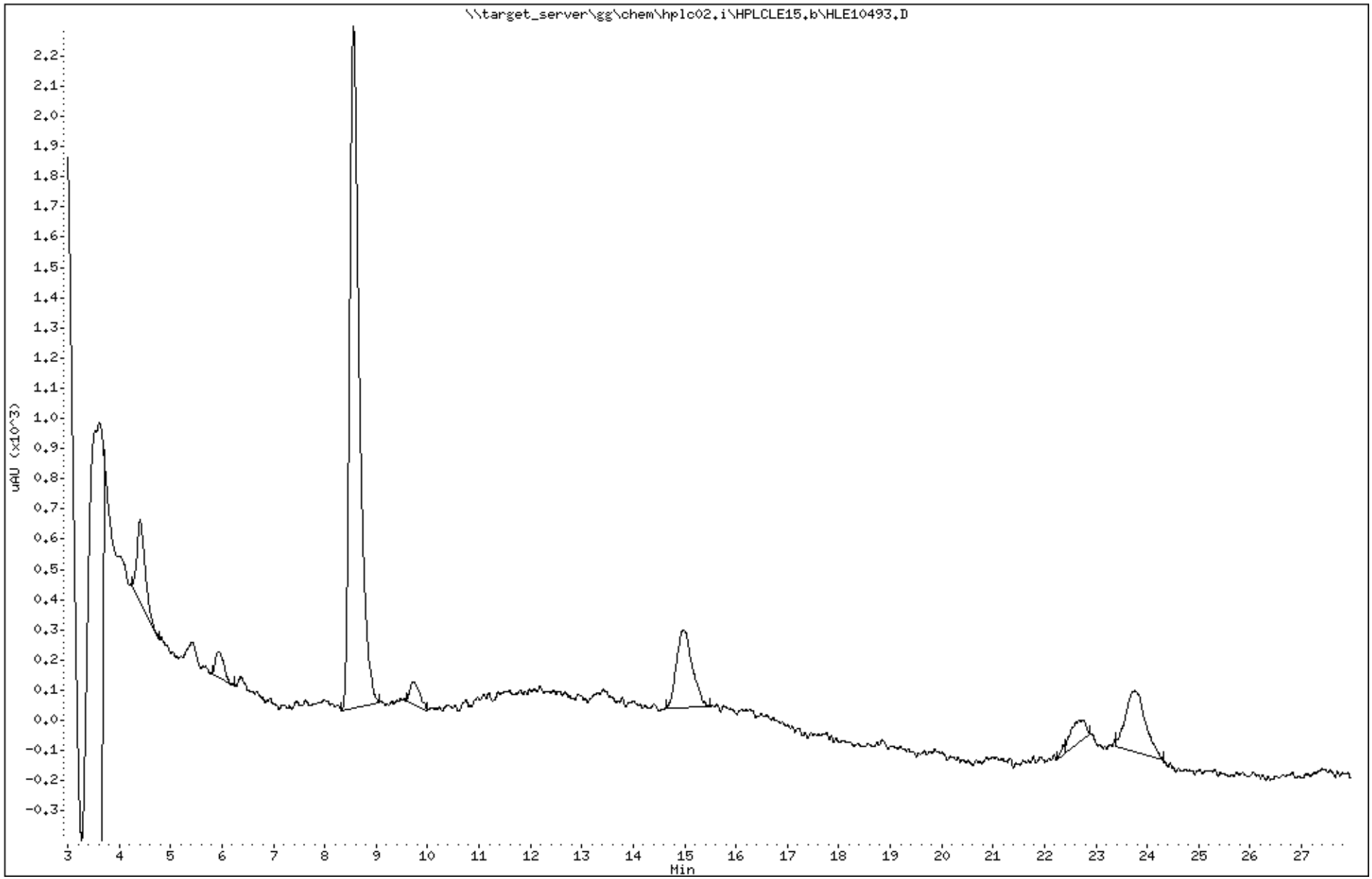
Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HLE10493.D
Date : 16-MAY-2018 08:27
Client ID: CHAAP-BKRD-SS04
Sample Info: SL3995-5

Instrument: hplc02.i

Operator: AAB
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 3000033

Data File: HLE10493.D
Report Date: 24-May-2018 09:32

Katahdin Analytical Services

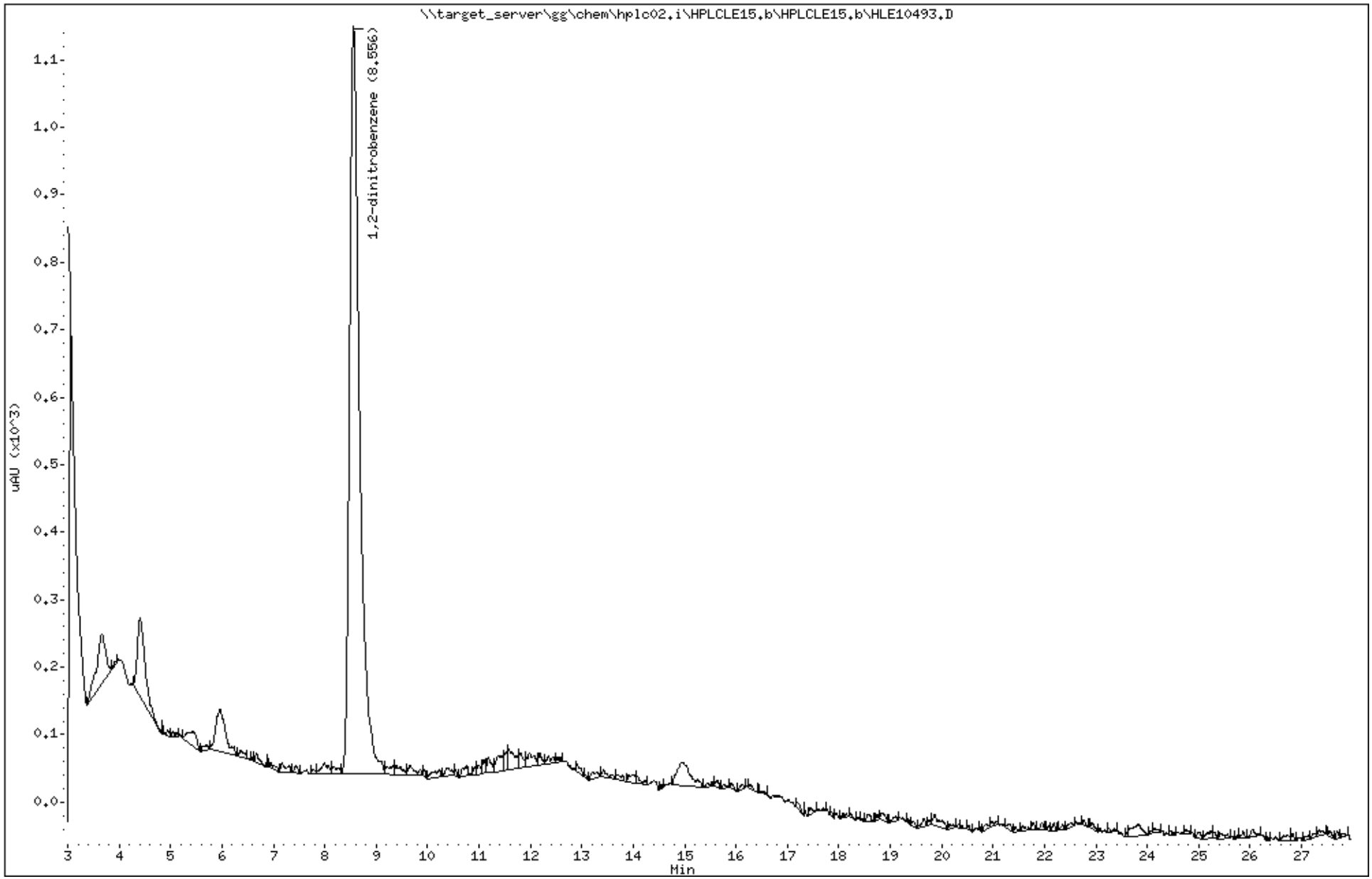
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HPLCLE15.b\HLE10493.D
Lab Smp Id: SL3995-5 Client Smp ID: CHAAP-BKRD-SS04
Inj Date : 16-MAY-2018 08:27
Operator : AAB Inst ID: hplc02.i
Smp Info : SL3995-5
Misc Info : WG228756,WG228106,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE15.b\EXPB05A.m\EXPB05A.m
Meth Date : 21-May-2018 08:35 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 12
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01000	Weight of Sample (Kg)
M	16.832	% Moisture
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	REVIEW CODE
$ 2 1,2-dinitrobenzene	8.556	8.538	0.018	1108	0.23944	576	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HPLCLE15.b\HLE10493.D
Date : 16-MAY-2018 08:27
Client ID: CHAAP-BKRD-SS04
Instrument: hplc02.i
Sample Info: SL3995-5
Operator: AAB
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 3000035

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL3995-6
Client ID: CHAAP-BKRD-SS05
Project: Cornhusker Army Ammunition Plant
SDG: SL3995
Lab File ID: HLE10494.D

Sample Date: 08-MAY-18
Received Date: 09-MAY-18
Extract Date: 14-MAY-18
Extracted By: DP/AC
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228106

Analysis Date: 16-MAY-18
Analyst: AAB
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 79.
Report Date: 24-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	52	ug/Kgdrywt	1	100	100	8.9	52.
RDX	U	52	ug/Kgdrywt	1	100	100	7.1	52.
1,3,5-Trinitrobenzene	U	52	ug/Kgdrywt	1	100	100	7.0	52.
1,3-Dinitrobenzene	U	52	ug/Kgdrywt	1	100	100	6.4	52.
Tetryl	U	52	ug/Kgdrywt	1	100	100	5.6	52.
Nitrobenzene	U	52	ug/Kgdrywt	1	100	100	23.	52.
2,4,6-Trinitrotoluene	U	52	ug/Kgdrywt	1	100	100	7.0	52.
2-Am-DNT	U	52	ug/Kgdrywt	1	100	100	22.	52.
4-Am-DNT	U	52	ug/Kgdrywt	1	100	100	18.	52.
2,6-Dinitrotoluene	U	52	ug/Kgdrywt	1	100	100	28.	52.
2,4-Dinitrotoluene	U	52	ug/Kgdrywt	1	100	100	16.	52.
2-Nitrotoluene	U	52	ug/Kgdrywt	1	100	100	12.	52.
3-Nitrotoluene	U	52	ug/Kgdrywt	1	100	100	8.2	52.
4-Nitrotoluene	U	52	ug/Kgdrywt	1	100	100	28.	52.
Nitroglycerin	U	420	ug/Kgdrywt	1	800	830	130	420
PETN	U	420	ug/Kgdrywt	1	800	830	110	420
1,2-Dinitrobenzene		94.4	%					

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HLE10494.D
Report Date: 24-May-2018 09:29

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HLE10494.D
Lab Smp Id: SL3995-6 Client Smp ID: CHAAP-BKRD-SS05
Inj Date : 16-MAY-2018 08:58
Operator : AAB Inst ID: hplc02.i
Smp Info : SL3995-6
Misc Info : WG228756,WG228106,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE15.b\EXPB05A.m
Meth Date : 21-May-2018 08:50 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 13
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01220	Weight of Sample (Kg)
M	21.192	% Moisture
Cpnd Variable		Local Compound Variable

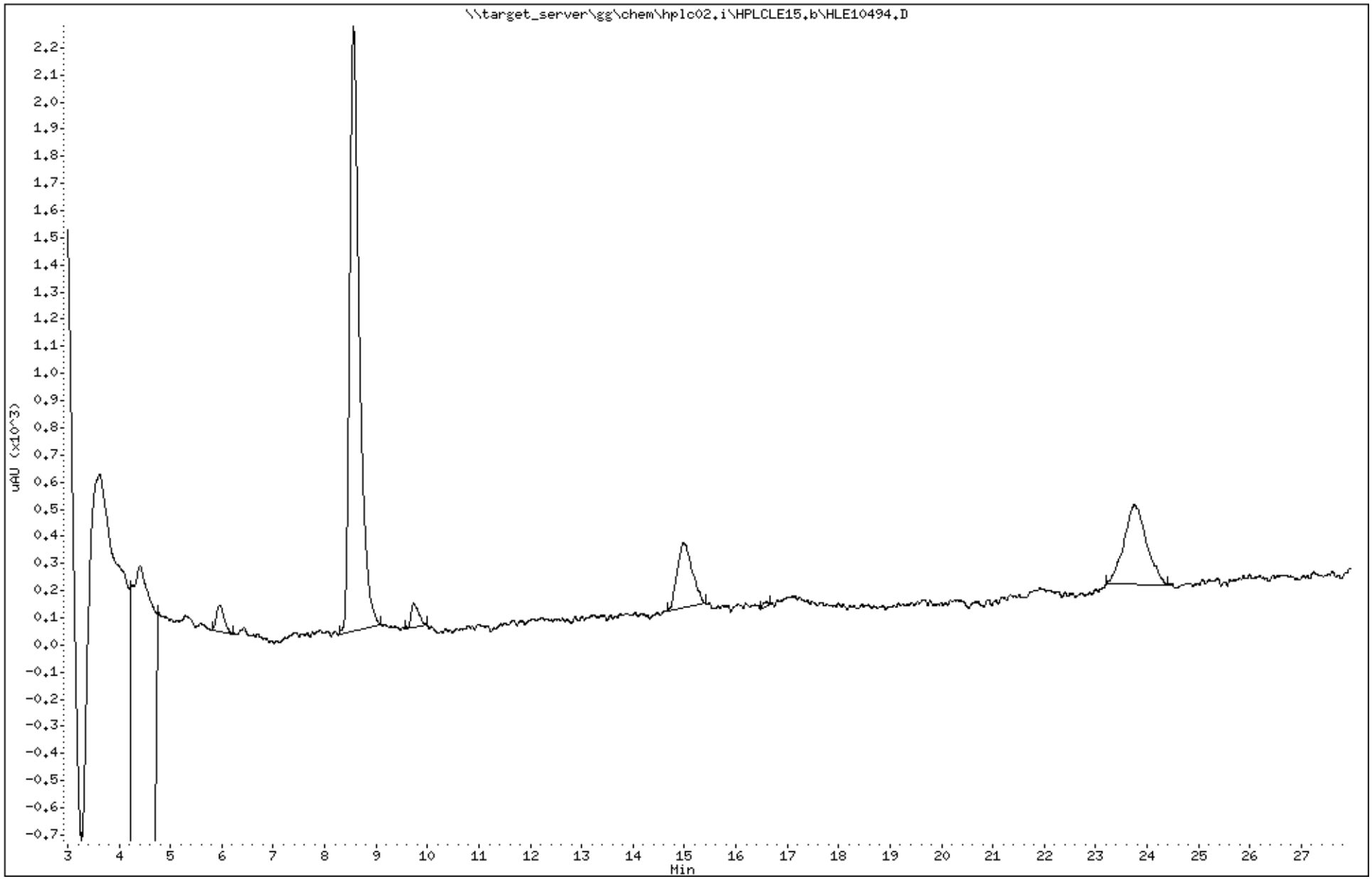
Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HLE10494.D
Date : 16-MAY-2018 08:58
Client ID: CHAAP-BKRD-SS05
Sample Info: SL3995-6

Instrument: hplc02.i

Operator: AAB
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 3000038

Data File: HLE10494.D
Report Date: 24-May-2018 09:32

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HPLCLE15.b\HLE10494.D
Lab Smp Id: SL3995-6 Client Smp ID: CHAAP-BKRD-SS05
Inj Date : 16-MAY-2018 08:58
Operator : AAB Inst ID: hplc02.i
Smp Info : SL3995-6
Misc Info : WG228756,WG228106,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE15.b\EXPB05A.m\EXPB05A.m
Meth Date : 21-May-2018 08:35 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 13
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

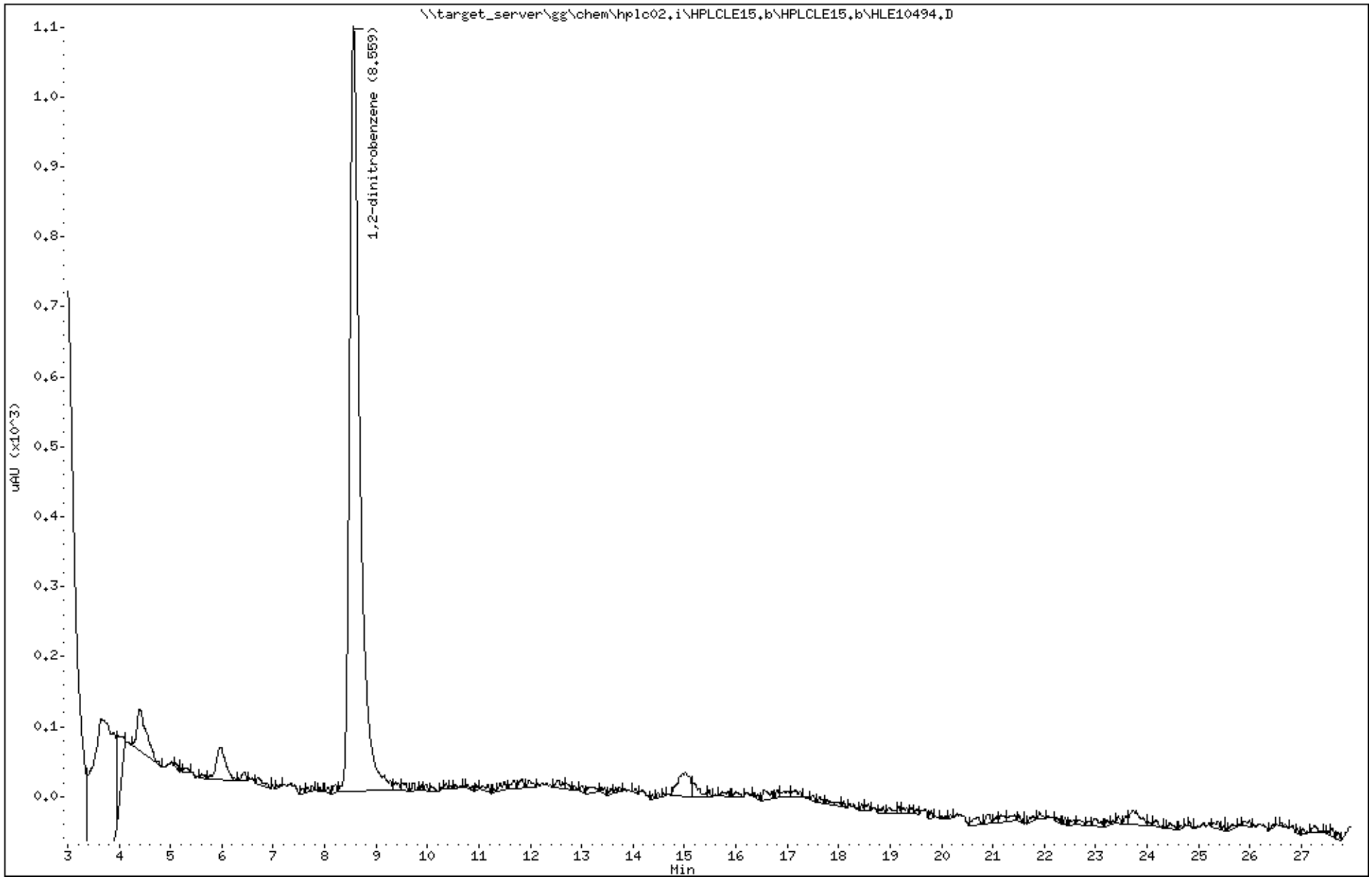
Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01220	Weight of Sample (Kg)
M	21.192	% Moisture
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	REVIEW CODE
$ 2 1,2-dinitrobenzene	8.558	8.538	0.020	1093	0.23620	491	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HPLCLE15.b\HLE10494.D
Date : 16-MAY-2018 08:58
Client ID: CHAAP-BKRD-SS05
Sample Info: SL3995-6

Instrument: hplc02.i

Operator: AAB
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 3000040

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL3995-7
Client ID: CHAAP-BKRD-SS06
Project: Cornhusker Army Ammunition Plant
SDG: SL3995
Lab File ID: HLE10496.D

Sample Date: 08-MAY-18
Received Date: 09-MAY-18
Extract Date: 14-MAY-18
Extracted By: DP/AC
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228106

Analysis Date: 16-MAY-18
Analyst: AAB
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 79.
Report Date: 24-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	53	ug/Kgdrywt	1	100	110	9.2	53.
RDX	U	53	ug/Kgdrywt	1	100	110	7.2	53.
1,3,5-Trinitrobenzene	U	53	ug/Kgdrywt	1	100	110	7.2	53.
1,3-Dinitrobenzene	U	53	ug/Kgdrywt	1	100	110	6.6	53.
Tetryl	U	53	ug/Kgdrywt	1	100	110	5.8	53.
Nitrobenzene	U	53	ug/Kgdrywt	1	100	110	23.	53.
2,4,6-Trinitrotoluene	U	53	ug/Kgdrywt	1	100	110	7.2	53.
2-Am-DNT	U	53	ug/Kgdrywt	1	100	110	22.	53.
4-Am-DNT	U	53	ug/Kgdrywt	1	100	110	18.	53.
2,6-Dinitrotoluene	U	53	ug/Kgdrywt	1	100	110	29.	53.
2,4-Dinitrotoluene	U	53	ug/Kgdrywt	1	100	110	16.	53.
2-Nitrotoluene	U	53	ug/Kgdrywt	1	100	110	13.	53.
3-Nitrotoluene	U	53	ug/Kgdrywt	1	100	110	8.4	53.
4-Nitrotoluene	U	53	ug/Kgdrywt	1	100	110	29.	53.
Nitroglycerin	U	430	ug/Kgdrywt	1	800	850	130	430
PETN	U	430	ug/Kgdrywt	1	800	850	120	430
1,2-Dinitrobenzene		98.7	%					

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HLE10496.D
Report Date: 24-May-2018 09:29

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HLE10496.D
Lab Smp Id: SL3995-7 Client Smp ID: CHAAP-BKRD-SS06
Inj Date : 16-MAY-2018 10:00
Operator : AAB Inst ID: hplc02.i
Smp Info : SL3995-7
Misc Info : WG228756,WG228106,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE15.b\EXPB05A.m
Meth Date : 21-May-2018 08:50 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 15
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01180	Weight of Sample (Kg)
M	20.589	% Moisture
Cpnd Variable		Local Compound Variable

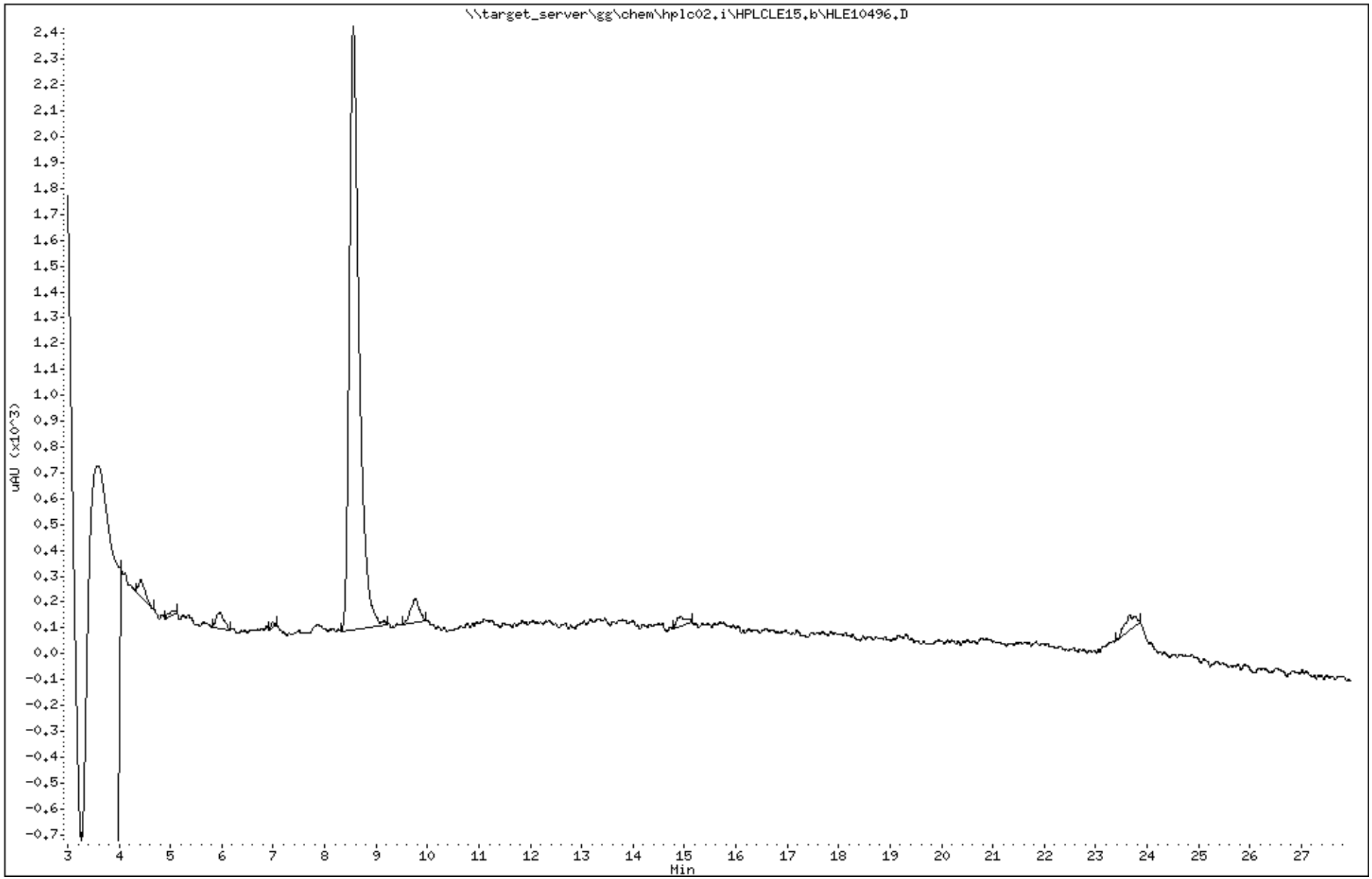
Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HLE10496.D
Date : 16-MAY-2018 10:00
Client ID: CHAAP-BKRD-SS06
Sample Info: SL3995-7

Instrument: hplc02.i

Operator: AAB
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 3000043

Data File: HLE10496.D
Report Date: 24-May-2018 09:32

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HPLCLE15.b\HLE10496.D
Lab Smp Id: SL3995-7 Client Smp ID: CHAAP-BKRD-SS06
Inj Date : 16-MAY-2018 10:00
Operator : AAB Inst ID: hplc02.i
Smp Info : SL3995-7
Misc Info : WG228756,WG228106,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE15.b\EXPB05A.m\EXPB05A.m
Meth Date : 21-May-2018 08:35 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 15
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

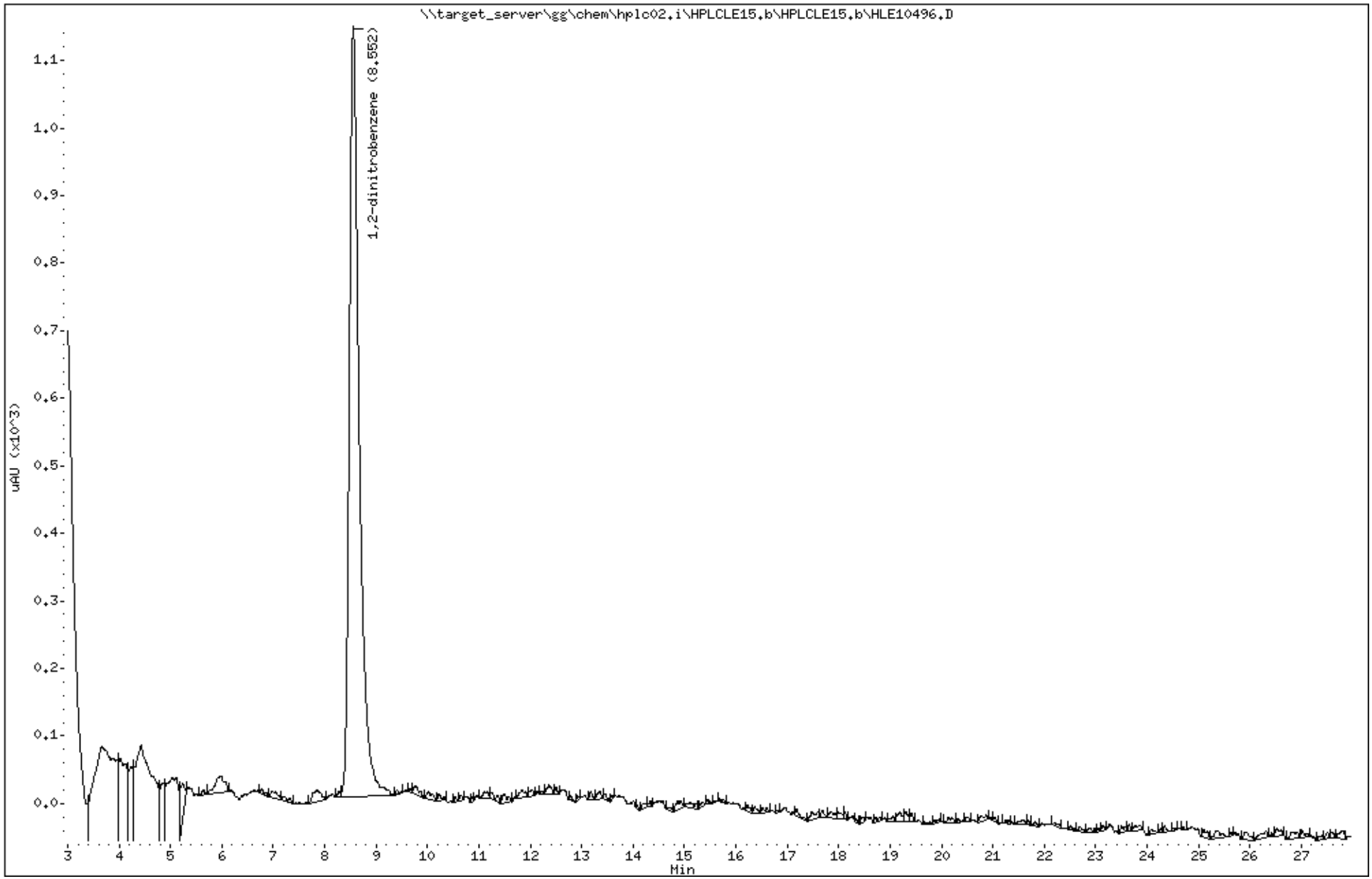
Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01180	Weight of Sample (Kg)
M	20.589	% Moisture
Cpnd Variable		Local Compound Variable

						CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	
Compounds	RT	EXP RT	DLT RT	RESPONSE				REVIEW CODE
$ 2 1,2-dinitrobenzene	8.551	8.538	0.013	1142		0.24679	527	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HPLCLE15.b\HLE10496.D
Date : 16-MAY-2018 10:00
Client ID: CHAAP-BKRD-SS06
Sample Info: SL3995-7

Instrument: hplc02.i

Operator: AAB
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 3000045

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL3995-8
Client ID: CHAAP-BKRD-SB01
Project: Cornhusker Army Ammunition Plant
SDG: SL3995
Lab File ID: HLE10497.D

Sample Date: 08-MAY-18
Received Date: 09-MAY-18
Extract Date: 14-MAY-18
Extracted By: DP/AC
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228106

Analysis Date: 16-MAY-18
Analyst: AAB
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 81.
Report Date: 24-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	55	ug/Kgdrywt	1	100	110	9.5	55.
RDX	U	55	ug/Kgdrywt	1	100	110	7.5	55.
1,3,5-Trinitrobenzene	U	55	ug/Kgdrywt	1	100	110	7.4	55.
1,3-Dinitrobenzene	U	55	ug/Kgdrywt	1	100	110	6.8	55.
Tetryl	U	55	ug/Kgdrywt	1	100	110	6.0	55.
Nitrobenzene	U	55	ug/Kgdrywt	1	100	110	24.	55.
2,4,6-Trinitrotoluene	U	55	ug/Kgdrywt	1	100	110	7.4	55.
2-Am-DNT	U	55	ug/Kgdrywt	1	100	110	23.	55.
4-Am-DNT	U	55	ug/Kgdrywt	1	100	110	19.	55.
2,6-Dinitrotoluene	U	55	ug/Kgdrywt	1	100	110	30.	55.
2,4-Dinitrotoluene	U	55	ug/Kgdrywt	1	100	110	16.	55.
2-Nitrotoluene	U	55	ug/Kgdrywt	1	100	110	13.	55.
3-Nitrotoluene	U	55	ug/Kgdrywt	1	100	110	8.7	55.
4-Nitrotoluene	U	55	ug/Kgdrywt	1	100	110	30.	55.
Nitroglycerin	U	440	ug/Kgdrywt	1	800	880	140	440
PETN	U	440	ug/Kgdrywt	1	800	880	120	440
1,2-Dinitrobenzene		95.5	%					

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HLE10497.D
Report Date: 24-May-2018 09:29

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HLE10497.D
Lab Smp Id: SL3995-8 Client Smp ID: CHAAP-BKRD-SB01
Inj Date : 16-MAY-2018 10:31
Operator : AAB Inst ID: hplc02.i
Smp Info : SL3995-8
Misc Info : WG228756,WG228106,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE15.b\EXPB05A.m
Meth Date : 21-May-2018 08:50 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 16
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01120	Weight of Sample (Kg)
M	18.988	% Moisture
Cpnd Variable		Local Compound Variable

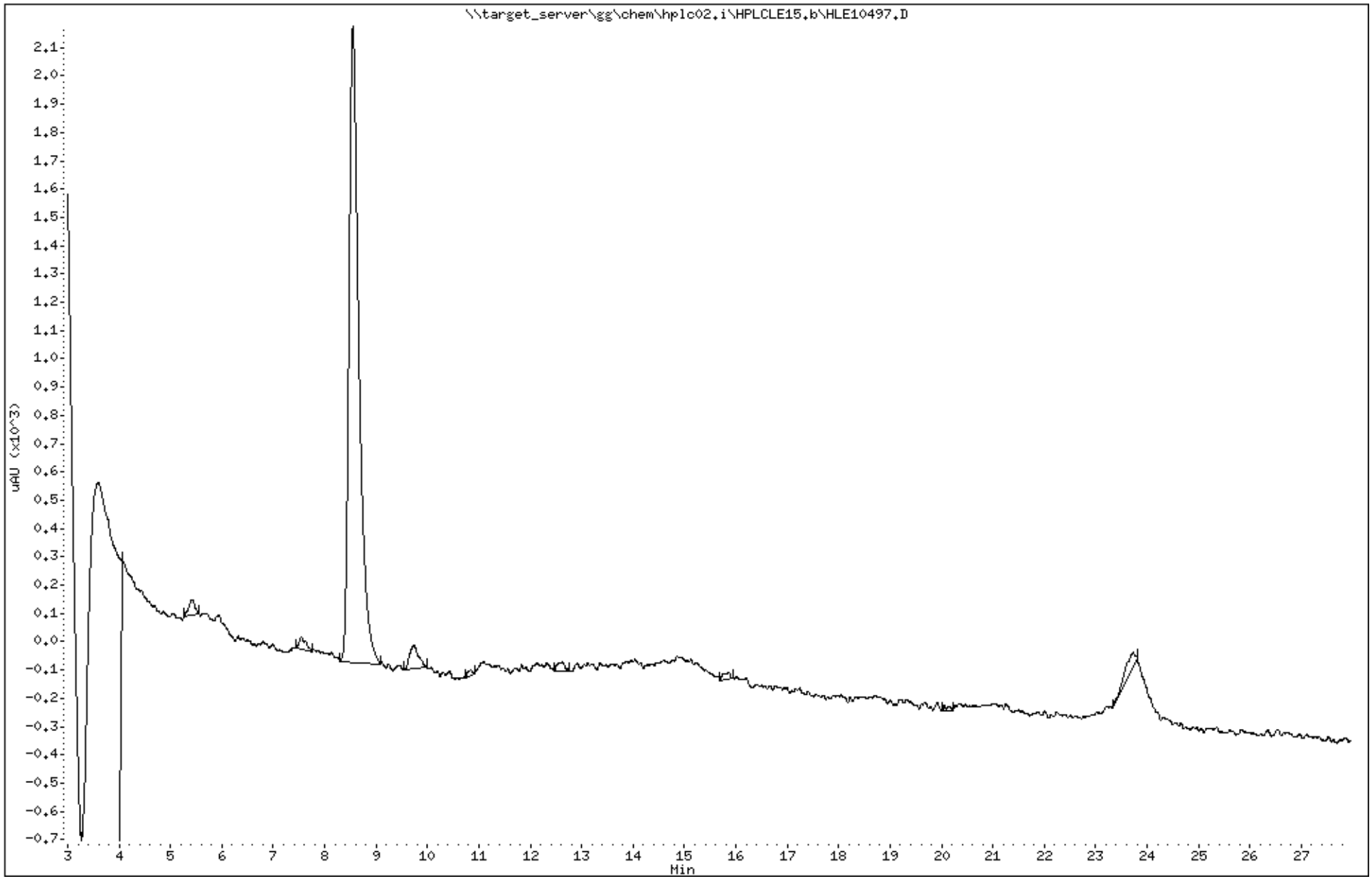
Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HLE10497.D
Date : 16-MAY-2018 10:31
Client ID: CHAAP-BKRD-SB01
Sample Info: SL3995-8

Instrument: hplc02.i

Operator: AAB
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 3000048

Data File: HLE10497.D
Report Date: 24-May-2018 09:32

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HPLCLE15.b\HLE10497.D
Lab Smp Id: SL3995-8 Client Smp ID: CHAAP-BKRD-SB01
Inj Date : 16-MAY-2018 10:31
Operator : AAB Inst ID: hplc02.i
Smp Info : SL3995-8
Misc Info : WG228756,WG228106,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE15.b\EXPB05A.m\EXPB05A.m
Meth Date : 21-May-2018 08:35 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 16
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01120	Weight of Sample (Kg)
M	18.988	% Moisture
Cpnd Variable		Local Compound Variable

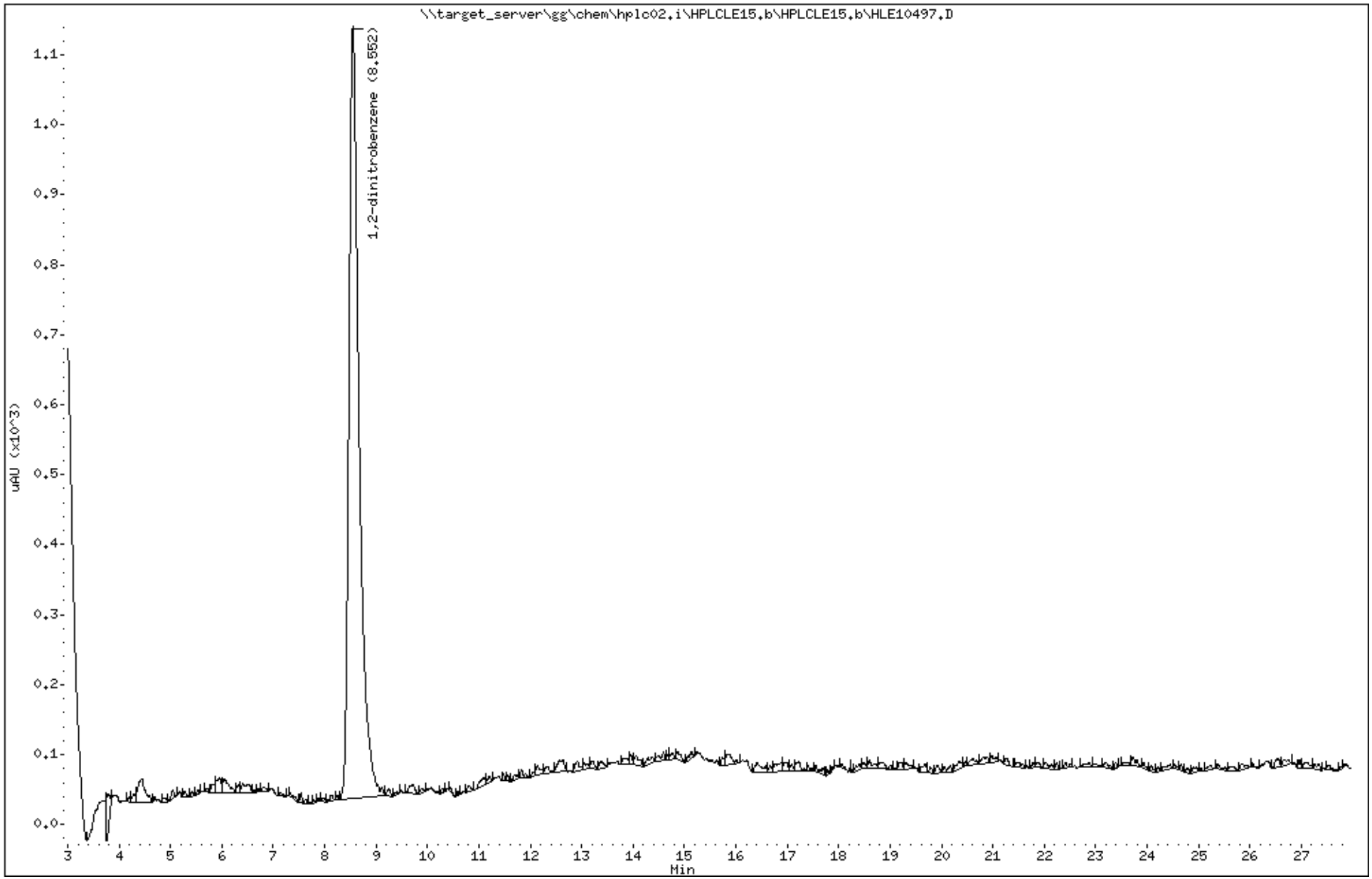
						CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	
Compounds	RT	EXP RT	DLT RT	RESPONSE				REVIEW CODE
$ 2 1,2-dinitrobenzene	8.552	8.538	0.014	1104		0.23858	526	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HPLCLE15.b\HLE10497.D
Date : 16-MAY-2018 10:31
Client ID: CHAAP-BKRD-SB01
Sample Info: SL3995-8

Instrument: hplc02.i

Operator: AAB
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 3000050

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL3995-9
Client ID: CHAAP-BKRD-SB02
Project: Cornhusker Army Ammunition Plant
SDG: SL3995
Lab File ID: HLE10498.D

Sample Date: 08-MAY-18
Received Date: 09-MAY-18
Extract Date: 14-MAY-18
Extracted By: DP/AC
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228106

Analysis Date: 16-MAY-18
Analyst: AAB
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 81.
Report Date: 24-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	56	ug/Kgdrywt	1	100	110	9.7	56.
RDX	U	56	ug/Kgdrywt	1	100	110	7.7	56.
1,3,5-Trinitrobenzene	U	56	ug/Kgdrywt	1	100	110	7.6	56.
1,3-Dinitrobenzene	U	56	ug/Kgdrywt	1	100	110	7.0	56.
Tetryl	U	56	ug/Kgdrywt	1	100	110	6.1	56.
Nitrobenzene	U	56	ug/Kgdrywt	1	100	110	25.	56.
2,4,6-Trinitrotoluene	U	56	ug/Kgdrywt	1	100	110	7.6	56.
2-Am-DNT	U	56	ug/Kgdrywt	1	100	110	24.	56.
4-Am-DNT	U	56	ug/Kgdrywt	1	100	110	19.	56.
2,6-Dinitrotoluene	U	56	ug/Kgdrywt	1	100	110	30.	56.
2,4-Dinitrotoluene	U	56	ug/Kgdrywt	1	100	110	17.	56.
2-Nitrotoluene	U	56	ug/Kgdrywt	1	100	110	14.	56.
3-Nitrotoluene	U	56	ug/Kgdrywt	1	100	110	8.9	56.
4-Nitrotoluene	U	56	ug/Kgdrywt	1	100	110	30.	56.
Nitroglycerin	U	450	ug/Kgdrywt	1	800	900	140	450
PETN	U	450	ug/Kgdrywt	1	800	900	120	450
1,2-Dinitrobenzene		98.0	%					

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HLE10498.D
Report Date: 24-May-2018 09:29

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HLE10498.D
Lab Smp Id: SL3995-9 Client Smp ID: CHAAP-BKRD-SB02
Inj Date : 16-MAY-2018 11:02
Operator : AAB Inst ID: hplc02.i
Smp Info : SL3995-9
Misc Info : WG228756,WG228106,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE15.b\EXPB05A.m
Meth Date : 21-May-2018 08:50 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 17
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01090	Weight of Sample (Kg)
M	18.690	% Moisture
Cpnd Variable		Local Compound Variable

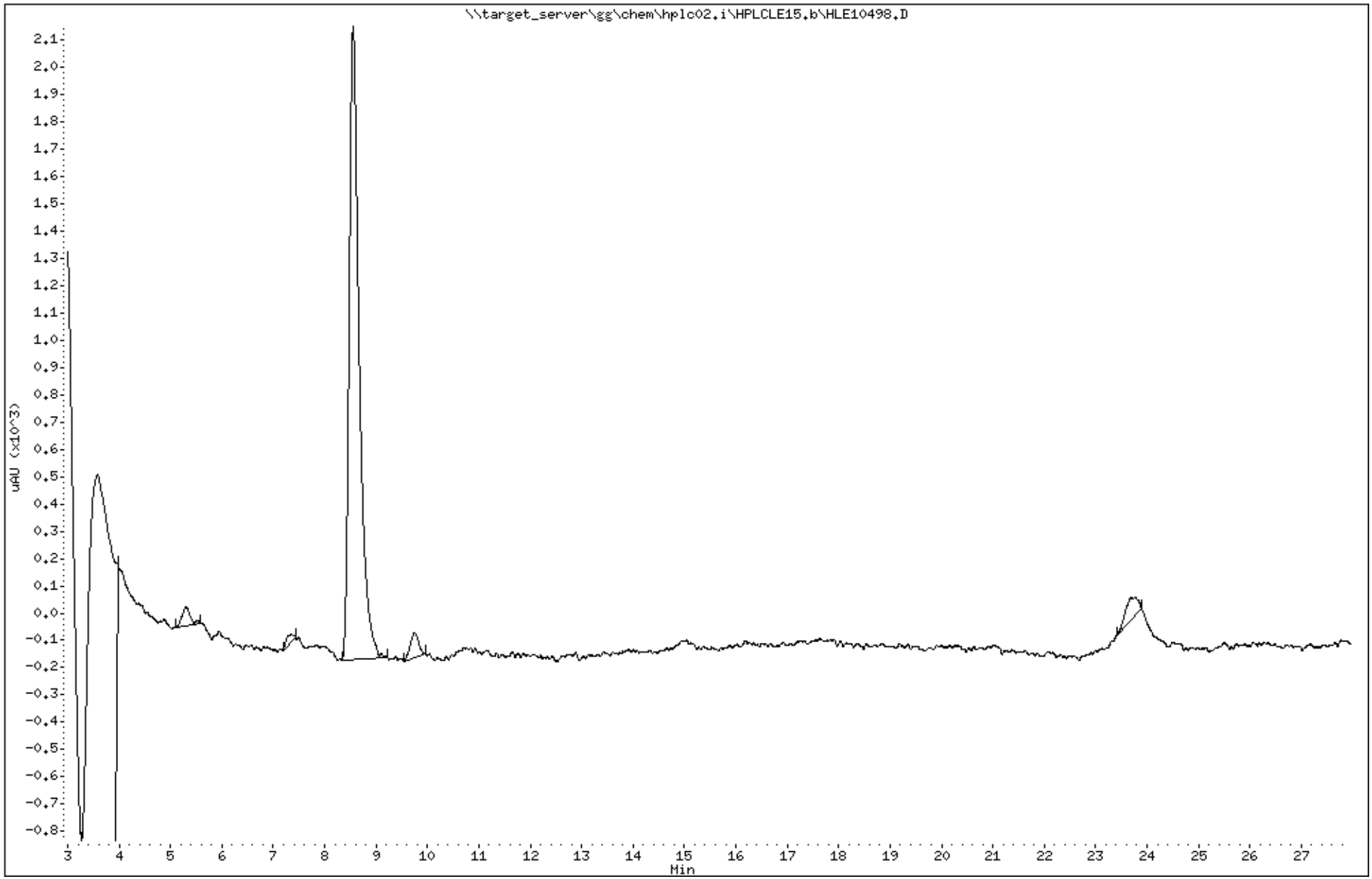
Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HLE10498.D
Date : 16-MAY-2018 11:02
Client ID: CHAAP-BKRD-SB02
Sample Info: SL3995-9

Instrument: hplc02.i

Operator: AAB
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 3000053

Data File: HLE10498.D
Report Date: 24-May-2018 09:32

Katahdin Analytical Services

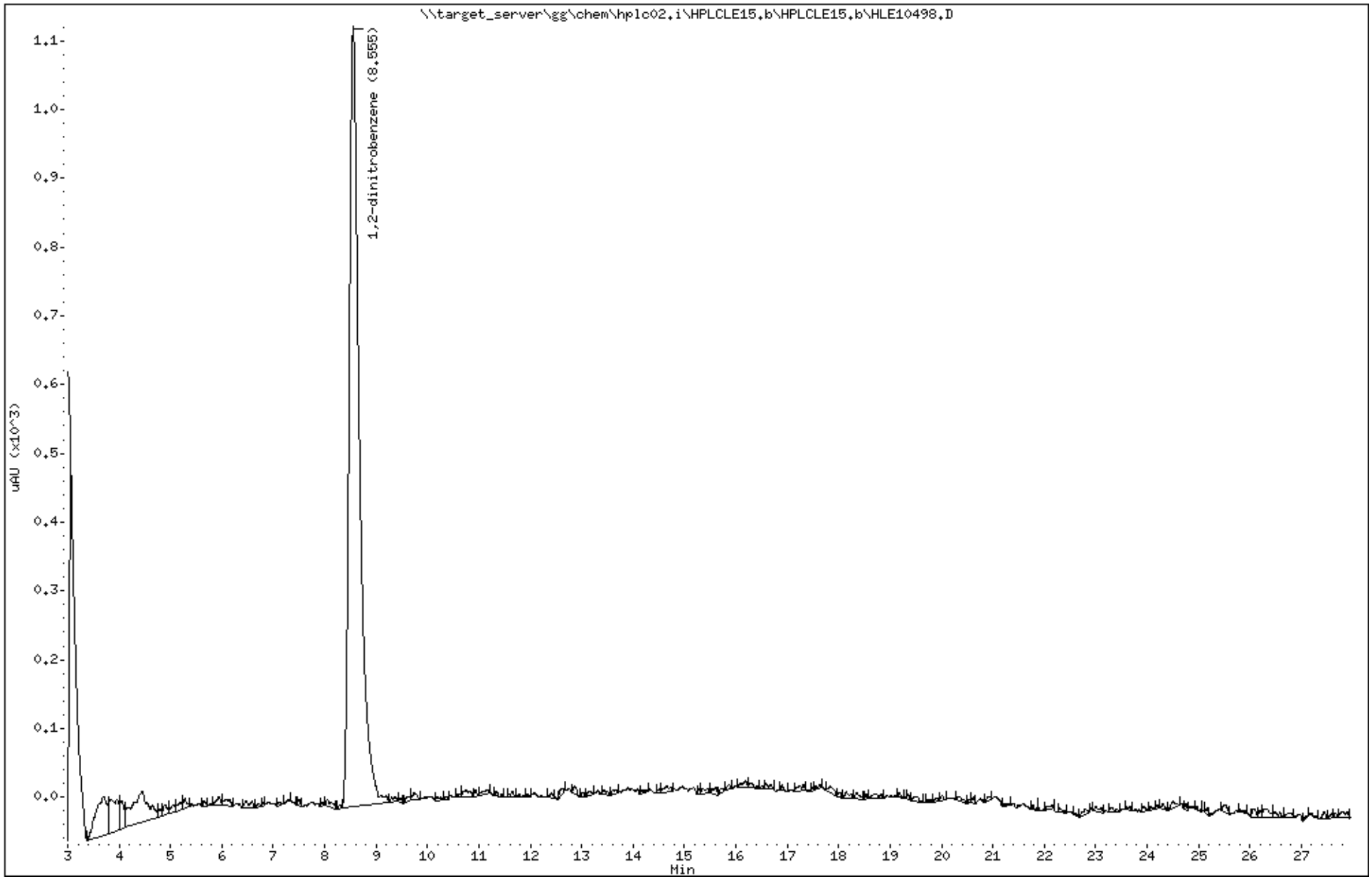
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HPLCLE15.b\HLE10498.D
Lab Smp Id: SL3995-9 Client Smp ID: CHAAP-BKRD-SB02
Inj Date : 16-MAY-2018 11:02
Operator : AAB Inst ID: hplc02.i
Smp Info : SL3995-9
Misc Info : WG228756,WG228106,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE15.b\EXPB05A.m\EXPB05A.m
Meth Date : 21-May-2018 08:35 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 17
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01090	Weight of Sample (Kg)
M	18.690	% Moisture
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	REVIEW CODE
$ 2 1,2-dinitrobenzene	8.554	8.538	0.016	1135	0.24528	553	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HPLCLE15.b\HLE10498.D
Date : 16-MAY-2018 11:02
Client ID: CHAAP-BKRD-SB02
Instrument: hplc02.i
Sample Info: SL3995-9
Operator: AAB
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 3000055

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL3995-10
Client ID: CHAAP-BKRD-SB03
Project: Cornhusker Army Ammunition Plant
SDG: SL3995
Lab File ID: HLE10499.D

Sample Date: 08-MAY-18
Received Date: 09-MAY-18
Extract Date: 14-MAY-18
Extracted By: DP/AC
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228106

Analysis Date: 16-MAY-18
Analyst: AAB
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 80.
Report Date: 24-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	58	ug/Kgdrywt	1	100	120	9.9	58.
RDX	U	58	ug/Kgdrywt	1	100	120	7.8	58.
1,3,5-Trinitrobenzene	U	58	ug/Kgdrywt	1	100	120	7.7	58.
1,3-Dinitrobenzene	U	58	ug/Kgdrywt	1	100	120	7.1	58.
Tetryl	U	58	ug/Kgdrywt	1	100	120	6.2	58.
Nitrobenzene	U	58	ug/Kgdrywt	1	100	120	25.	58.
2,4,6-Trinitrotoluene	U	58	ug/Kgdrywt	1	100	120	7.7	58.
2-Am-DNT	U	58	ug/Kgdrywt	1	100	120	24.	58.
4-Am-DNT	U	58	ug/Kgdrywt	1	100	120	20.	58.
2,6-Dinitrotoluene	U	58	ug/Kgdrywt	1	100	120	31.	58.
2,4-Dinitrotoluene	U	58	ug/Kgdrywt	1	100	120	17.	58.
2-Nitrotoluene	U	58	ug/Kgdrywt	1	100	120	14.	58.
3-Nitrotoluene	U	58	ug/Kgdrywt	1	100	120	9.1	58.
4-Nitrotoluene	U	58	ug/Kgdrywt	1	100	120	31.	58.
Nitroglycerin	U	460	ug/Kgdrywt	1	800	920	140	460
PETN	U	460	ug/Kgdrywt	1	800	920	120	460
1,2-Dinitrobenzene		101.	%					

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HLE10499.D
Report Date: 24-May-2018 09:29

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HLE10499.D
Lab Smp Id: SL3995-10 Client Smp ID: CHAAP-BKRD-SB03
Inj Date : 16-MAY-2018 11:33
Operator : AAB Inst ID: hplc02.i
Smp Info : SL3995-10
Misc Info : WG228756,WG228106,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE15.b\EXPB05A.m
Meth Date : 21-May-2018 08:50 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 18
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

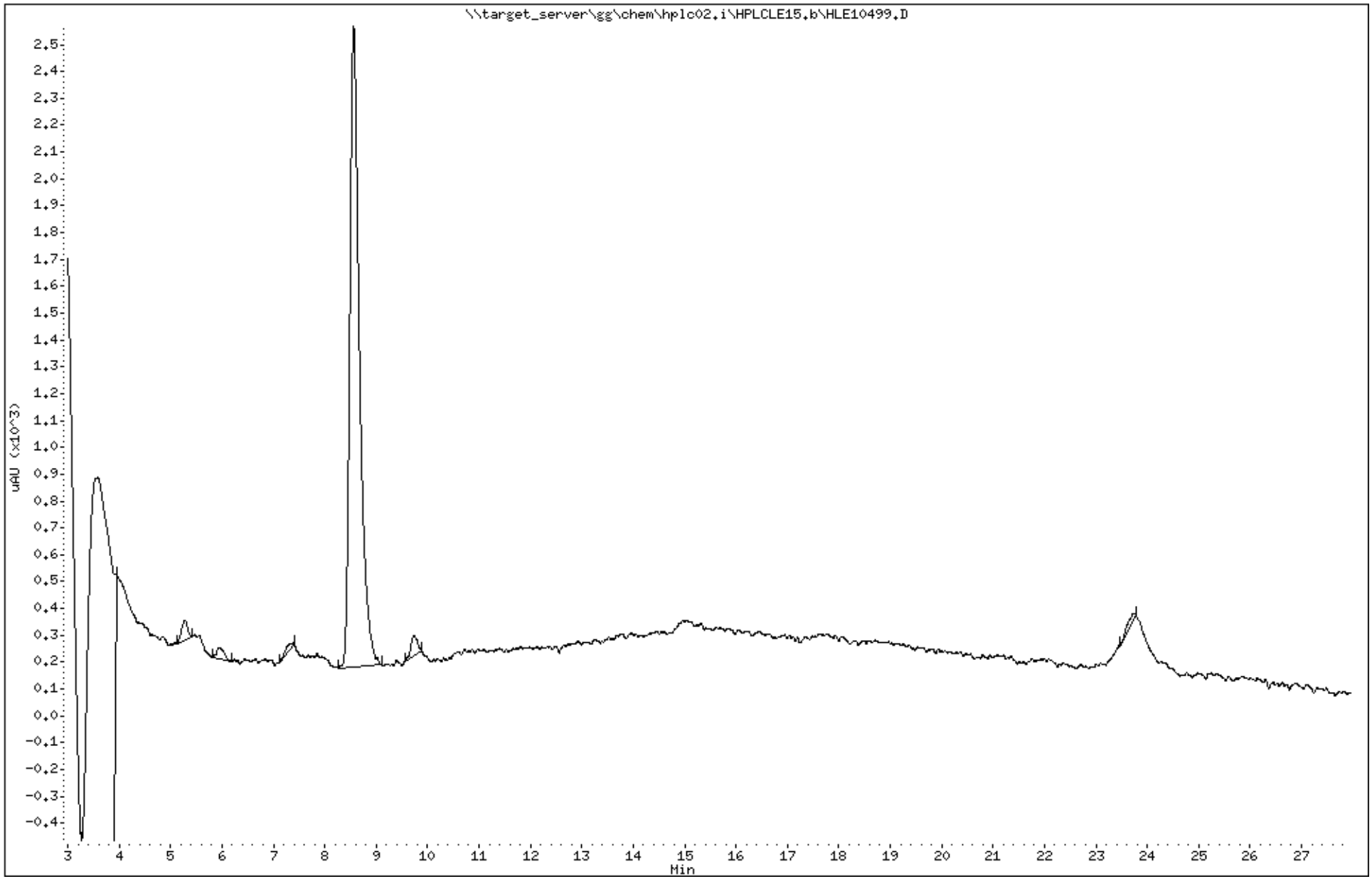
Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01080	Weight of Sample (Kg)
M	19.559	% Moisture
Cpnd Variable		Local Compound Variable

					CONCENTRATIONS	
					ON-COLUMN	FINAL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/mL)	(ug/Kgdrywt)

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HLE10499.D
Date : 16-MAY-2018 11:33
Client ID: CHAAP-BKRD-SB03
Sample Info: SL3995-10

Instrument: hplc02.i

Operator: AAB
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 3000058

Data File: HLE10499.D
Report Date: 24-May-2018 09:32

Katahdin Analytical Services

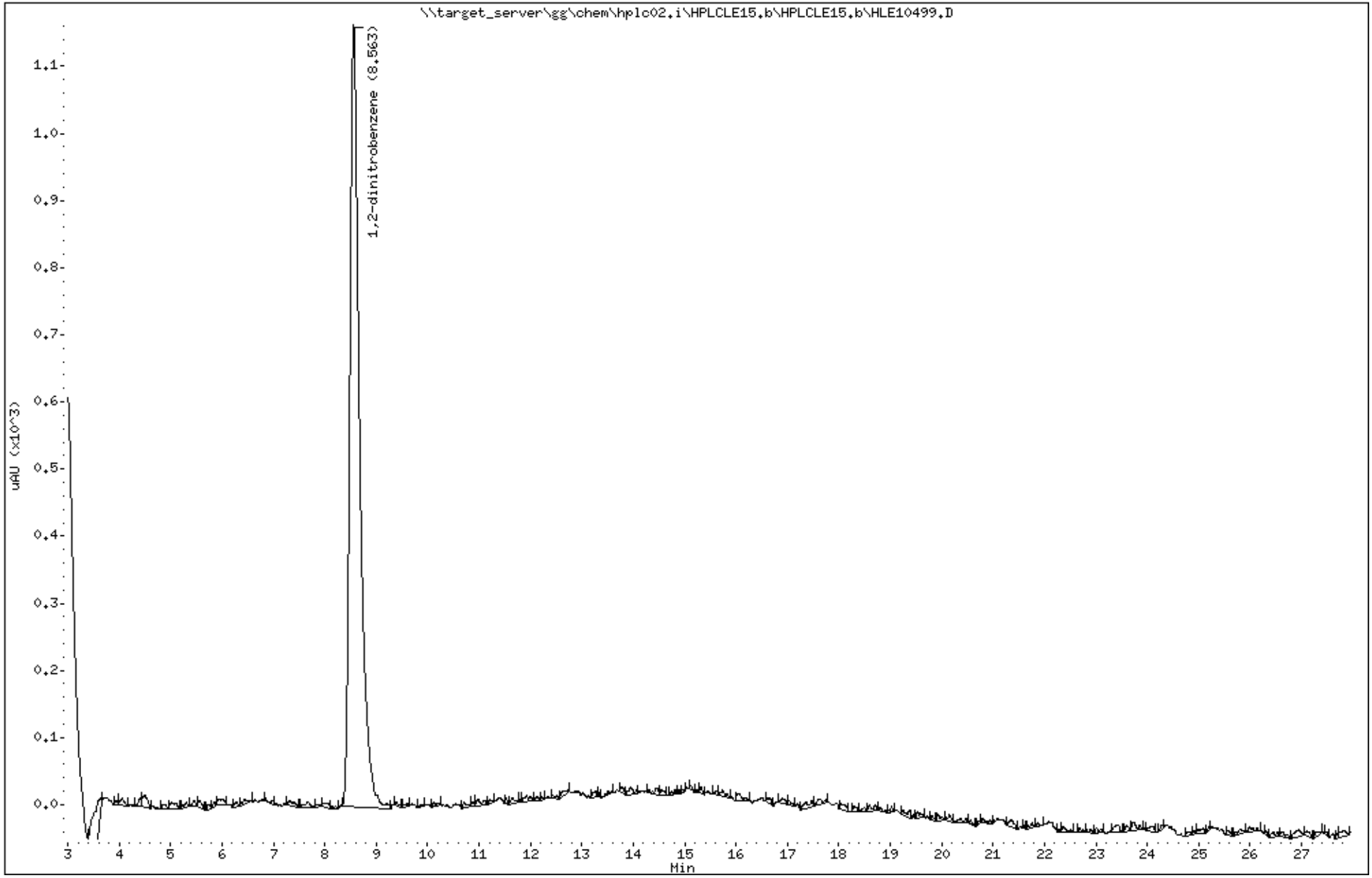
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HPLCLE15.b\HLE10499.D
Lab Smp Id: SL3995-10 Client Smp ID: CHAAP-BKRD-SB03
Inj Date : 16-MAY-2018 11:33
Operator : AAB Inst ID: hplc02.i
Smp Info : SL3995-10
Misc Info : WG228756,WG228106,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE15.b\EXPB05A.m\EXPB05A.m
Meth Date : 21-May-2018 08:35 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 18
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01080	Weight of Sample (Kg)
M	19.559	% Moisture
Cpnd Variable		Local Compound Variable

						CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	
Compounds	RT	EXP RT	DLT RT	RESPONSE				REVIEW CODE
$ 2 1,2-dinitrobenzene	8.563	8.538	0.025	1165		0.25176	580	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HPLCLE15.b\HLE10499.D
Date : 16-MAY-2018 11:33
Client ID: CHAAP-BKRD-SB03
Instrument: hplc02.i
Sample Info: SL3995-10
Operator: AAB
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 3000060

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL3995-11
Client ID: CHAAP-BKRD-SB04
Project: Cornhusker Army Ammunition Plant
SDG: SL3995
Lab File ID: HLE10500.D

Sample Date: 08-MAY-18
Received Date: 09-MAY-18
Extract Date: 14-MAY-18
Extracted By: DP/AC
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228106

Analysis Date: 16-MAY-18
Analyst: AAB
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 81.
Report Date: 24-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	60	ug/Kgdrywt	1	100	120	10.	60.
RDX	U	60	ug/Kgdrywt	1	100	120	8.1	60.
1,3,5-Trinitrobenzene	U	60	ug/Kgdrywt	1	100	120	8.0	60.
1,3-Dinitrobenzene	U	60	ug/Kgdrywt	1	100	120	7.4	60.
Tetryl	U	60	ug/Kgdrywt	1	100	120	6.5	60.
Nitrobenzene	U	60	ug/Kgdrywt	1	100	120	26.	60.
2,4,6-Trinitrotoluene	U	60	ug/Kgdrywt	1	100	120	8.0	60.
2-Am-DNT	U	60	ug/Kgdrywt	1	100	120	25.	60.
4-Am-DNT	U	60	ug/Kgdrywt	1	100	120	20.	60.
2,6-Dinitrotoluene	U	60	ug/Kgdrywt	1	100	120	32.	60.
2,4-Dinitrotoluene	U	60	ug/Kgdrywt	1	100	120	18.	60.
2-Nitrotoluene	U	60	ug/Kgdrywt	1	100	120	14.	60.
3-Nitrotoluene	U	60	ug/Kgdrywt	1	100	120	9.5	60.
4-Nitrotoluene	U	60	ug/Kgdrywt	1	100	120	32.	60.
Nitroglycerin	U	480	ug/Kgdrywt	1	800	960	150	480
PETN	U	480	ug/Kgdrywt	1	800	960	130	480
1,2-Dinitrobenzene		100.	%					

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HLE10500.D
Report Date: 24-May-2018 09:29

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HLE10500.D
Lab Smp Id: SL3995-11 Client Smp ID: CHAAP-BKRD-SB04
Inj Date : 16-MAY-2018 12:04
Operator : AAB Inst ID: hplc02.i
Smp Info : SL3995-11
Misc Info : WG228756,WG228106,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE15.b\EXPB05A.m
Meth Date : 21-May-2018 08:50 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 19
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01030	Weight of Sample (Kg)
M	18.993	% Moisture
Cpnd Variable		Local Compound Variable

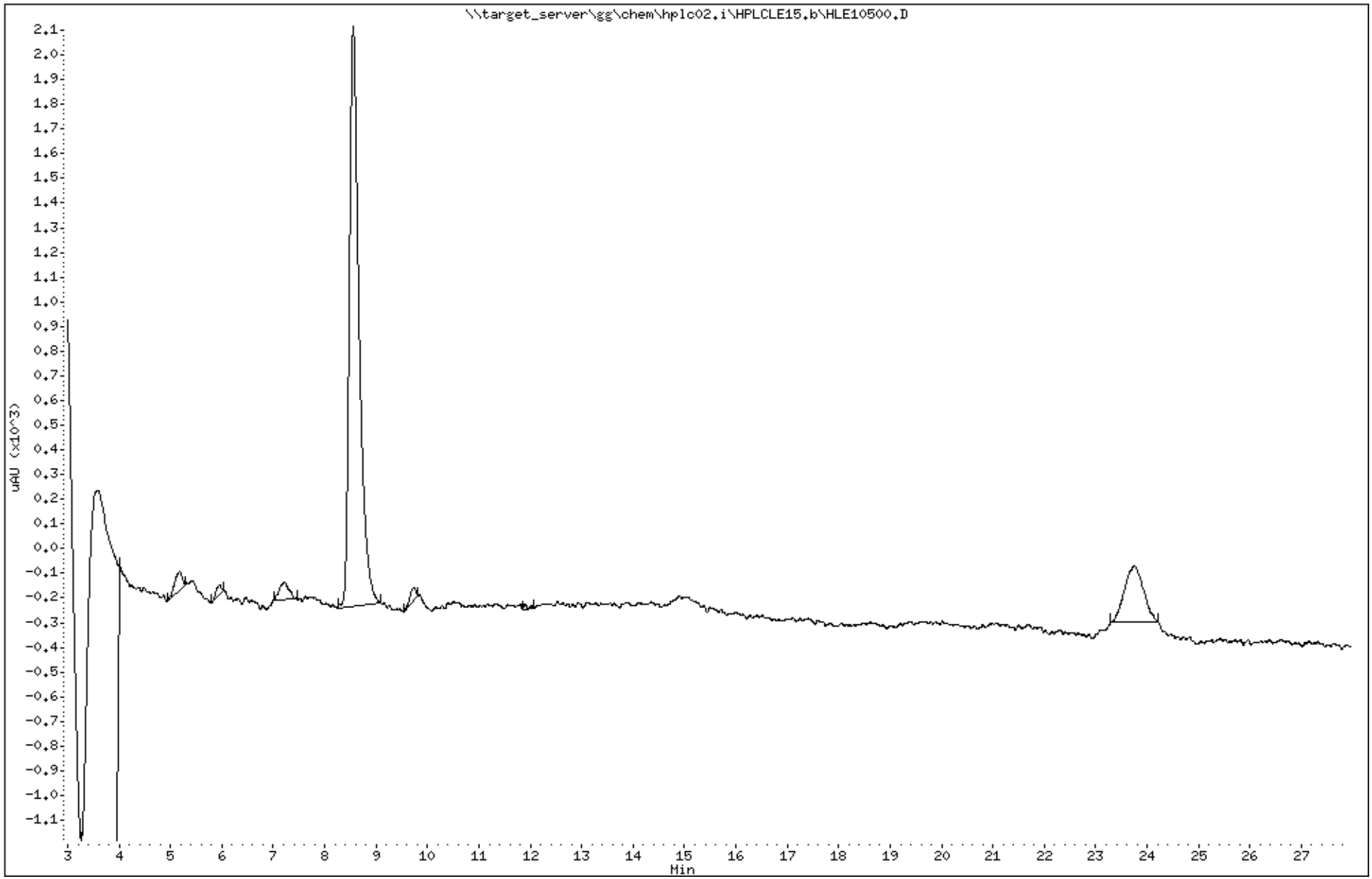
Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HLE10500.D
Date : 16-MAY-2018 12:04
Client ID: CHAAP-BKRD-SB04
Sample Info: SL3995-11

Instrument: hplc02.i

Operator: AAB
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 3000063

Data File: HLE10500.D
Report Date: 24-May-2018 09:32

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HPLCLE15.b\HLE10500.D
Lab Smp Id: SL3995-11 Client Smp ID: CHAAP-BKRD-SB04
Inj Date : 16-MAY-2018 12:04
Operator : AAB Inst ID: hplc02.i
Smp Info : SL3995-11
Misc Info : WG228756,WG228106,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE15.b\EXPB05A.m\EXPB05A.m
Meth Date : 21-May-2018 08:35 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 19
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

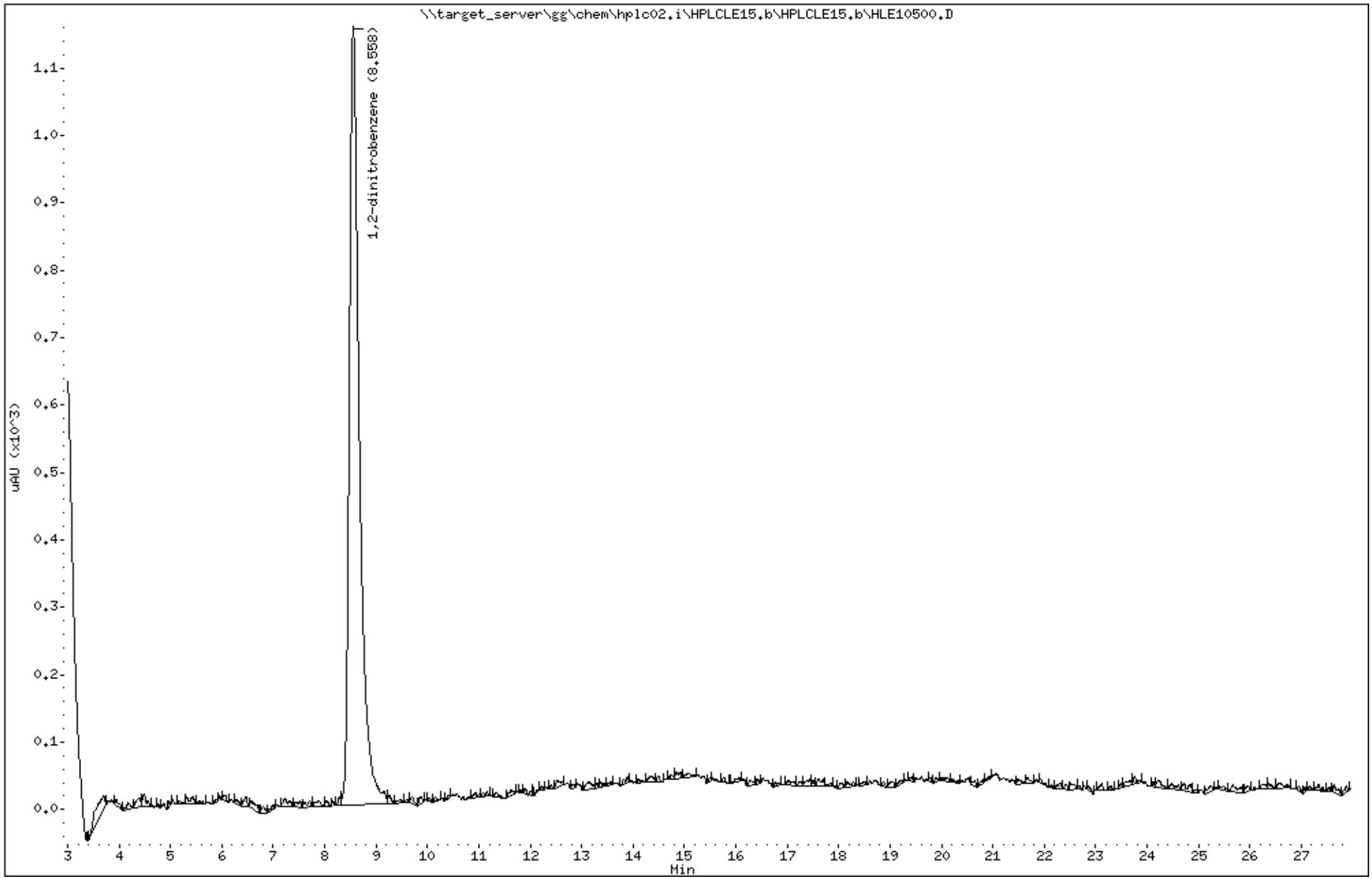
Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01030	Weight of Sample (Kg)
M	18.993	% Moisture
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	REVIEW CODE
$ 2 1,2-dinitrobenzene	8.557	8.538	0.019	1156	0.24981	599	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HPLCLE15.b\HLE10500.D
Date : 16-MAY-2018 12:04
Client ID: CHAAP-BKRD-SB04
Sample Info: SL3995-11

Instrument: hplc02.i

Operator: AAB
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 3000065

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL3995-12
Client ID: CHAAP-BKRD-SB05
Project: Cornhusker Army Ammunition Plant
SDG: SL3995
Lab File ID: HLE10501.D

Sample Date: 08-MAY-18
Received Date: 09-MAY-18
Extract Date: 14-MAY-18
Extracted By: DP/AC
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228106

Analysis Date: 16-MAY-18
Analyst: AAB
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 82.
Report Date: 24-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	55	ug/Kgdrywt	1	100	110	9.5	55.
RDX	U	55	ug/Kgdrywt	1	100	110	7.5	55.
1,3,5-Trinitrobenzene	U	55	ug/Kgdrywt	1	100	110	7.4	55.
1,3-Dinitrobenzene	U	55	ug/Kgdrywt	1	100	110	6.8	55.
Tetryl	U	55	ug/Kgdrywt	1	100	110	5.9	55.
Nitrobenzene	U	55	ug/Kgdrywt	1	100	110	24.	55.
2,4,6-Trinitrotoluene	U	55	ug/Kgdrywt	1	100	110	7.4	55.
2-Am-DNT	U	55	ug/Kgdrywt	1	100	110	23.	55.
4-Am-DNT	U	55	ug/Kgdrywt	1	100	110	19.	55.
2,6-Dinitrotoluene	U	55	ug/Kgdrywt	1	100	110	30.	55.
2,4-Dinitrotoluene	U	55	ug/Kgdrywt	1	100	110	16.	55.
2-Nitrotoluene	U	55	ug/Kgdrywt	1	100	110	13.	55.
3-Nitrotoluene	U	55	ug/Kgdrywt	1	100	110	8.7	55.
4-Nitrotoluene	U	55	ug/Kgdrywt	1	100	110	30.	55.
Nitroglycerin	U	440	ug/Kgdrywt	1	800	880	140	440
PETN	U	440	ug/Kgdrywt	1	800	880	120	440
1,2-Dinitrobenzene		93.4	%					

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HLE10501.D
Report Date: 24-May-2018 09:29

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Data file : \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HLE10501.D
Lab Smp Id: SL3995-12 Client Smp ID: CHAAP-BKRD-SB05
Inj Date : 16-MAY-2018 12:35
Operator : AAB Inst ID: hplc02.i
Smp Info : SL3995-12
Misc Info : WG228756,WG228106,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE15.b\EXPB05A.m
Meth Date : 21-May-2018 08:50 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 20
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

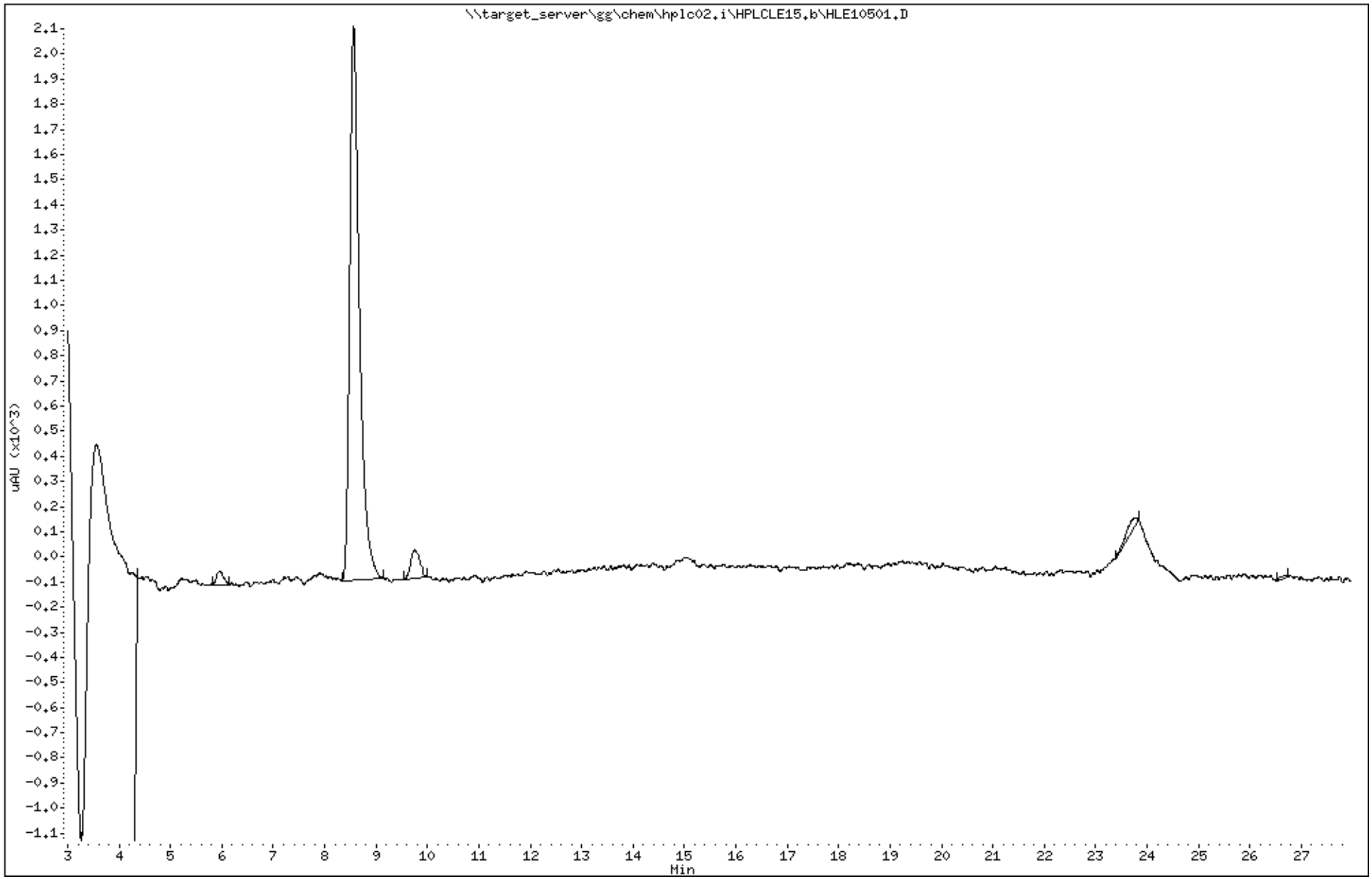
Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01110	Weight of Sample (Kg)
M	18.108	% Moisture
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HLE10501.D
Date : 16-MAY-2018 12:35
Client ID: CHAAP-BKRD-SB05
Sample Info: SL3995-12

Instrument: hplc02.i

Operator: AAB
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 3000068

Data File: HLE10501.D
Report Date: 24-May-2018 09:32

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HPLCLE15.b\HLE10501.D
Lab Smp Id: SL3995-12 Client Smp ID: CHAAP-BKRD-SB05
Inj Date : 16-MAY-2018 12:35
Operator : AAB Inst ID: hplc02.i
Smp Info : SL3995-12
Misc Info : WG228756,WG228106,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE15.b\EXPB05A.m\EXPB05A.m
Meth Date : 21-May-2018 08:35 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 20
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

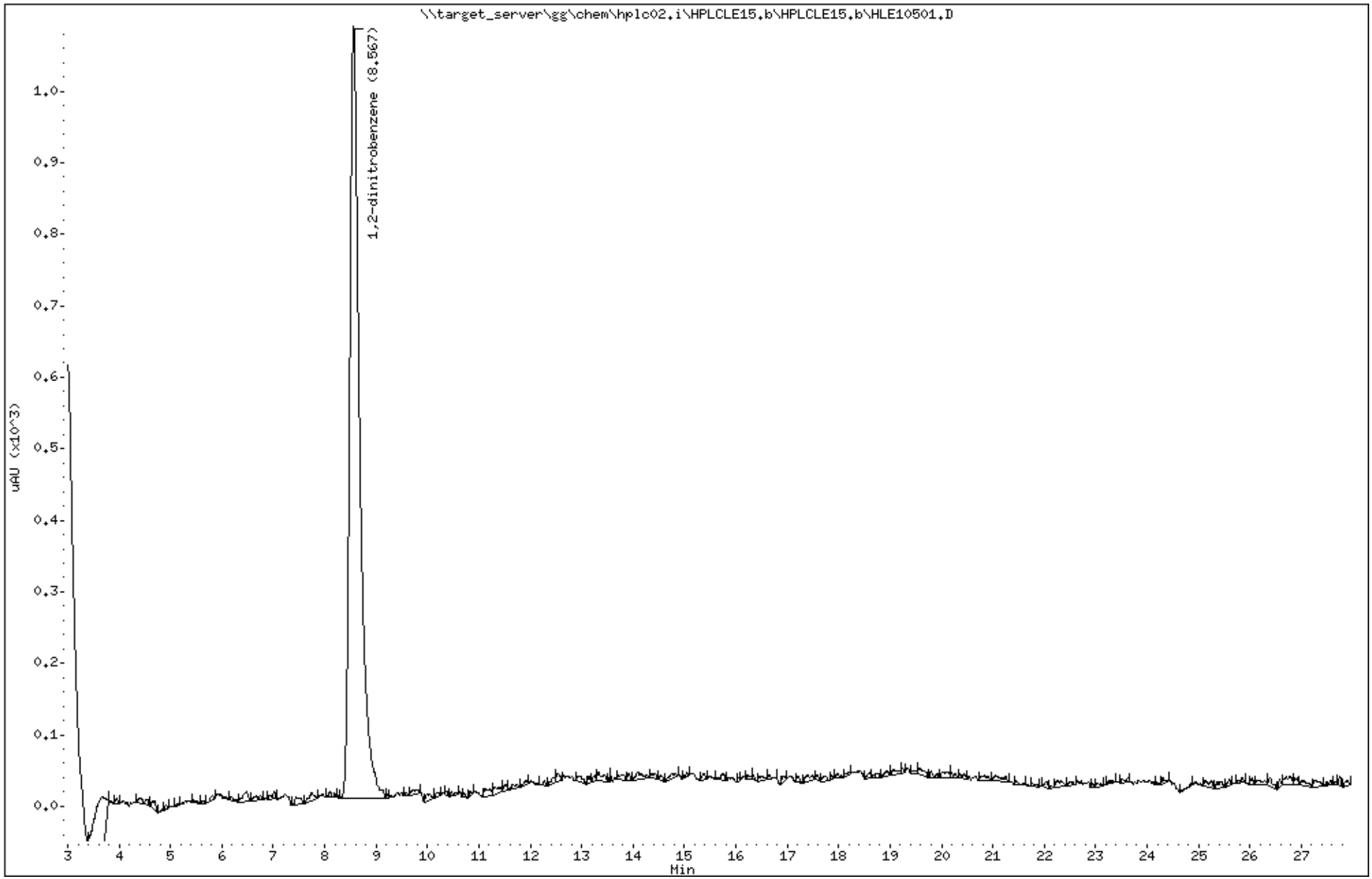
Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01110	Weight of Sample (Kg)
M	18.108	% Moisture
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	REVIEW CODE
$ 2 1,2-dinitrobenzene	8.566	8.538	0.028	1080	0.23339	514	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HPLCLE15.b\HLE10501.D
Date : 16-MAY-2018 12:35
Client ID: CHAAP-BKRD-SB05
Sample Info: SL3995-12

Instrument: hplc02.i

Operator: AAB
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 3000070

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL3995-13
Client ID: CHAAP-BKRD-SB105
Project: Cornhusker Army Ammunition Plant
SDG: SL3995
Lab File ID: HLE10502.D

Sample Date: 08-MAY-18
Received Date: 09-MAY-18
Extract Date: 14-MAY-18
Extracted By: DP/AC
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228106

Analysis Date: 16-MAY-18
Analyst: AAB
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 80.
Report Date: 24-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	52	ug/Kgdrywt	1	100	100	9.0	52.
RDX	U	52	ug/Kgdrywt	1	100	100	7.1	52.
1,3,5-Trinitrobenzene	U	52	ug/Kgdrywt	1	100	100	7.0	52.
1,3-Dinitrobenzene	U	52	ug/Kgdrywt	1	100	100	6.5	52.
Tetryl	U	52	ug/Kgdrywt	1	100	100	5.6	52.
Nitrobenzene	U	52	ug/Kgdrywt	1	100	100	23.	52.
2,4,6-Trinitrotoluene	U	52	ug/Kgdrywt	1	100	100	7.0	52.
2-Am-DNT	U	52	ug/Kgdrywt	1	100	100	22.	52.
4-Am-DNT	U	52	ug/Kgdrywt	1	100	100	18.	52.
2,6-Dinitrotoluene	U	52	ug/Kgdrywt	1	100	100	28.	52.
2,4-Dinitrotoluene	U	52	ug/Kgdrywt	1	100	100	16.	52.
2-Nitrotoluene	U	52	ug/Kgdrywt	1	100	100	12.	52.
3-Nitrotoluene	U	52	ug/Kgdrywt	1	100	100	8.3	52.
4-Nitrotoluene	U	52	ug/Kgdrywt	1	100	100	28.	52.
Nitroglycerin	U	420	ug/Kgdrywt	1	800	840	130	420
PETN	U	420	ug/Kgdrywt	1	800	840	110	420
1,2-Dinitrobenzene		95.0	%					

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HLE10502.D
Report Date: 24-May-2018 09:29

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HLE10502.D
Lab Smp Id: SL3995-13 Client Smp ID: CHAAP-BKRD-SB105
Inj Date : 16-MAY-2018 13:06
Operator : AAB Inst ID: hplc02.i
Smp Info : SL3995-13
Misc Info : WG228756,WG228106,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE15.b\EXPB05A.m
Meth Date : 21-May-2018 08:50 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 21
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

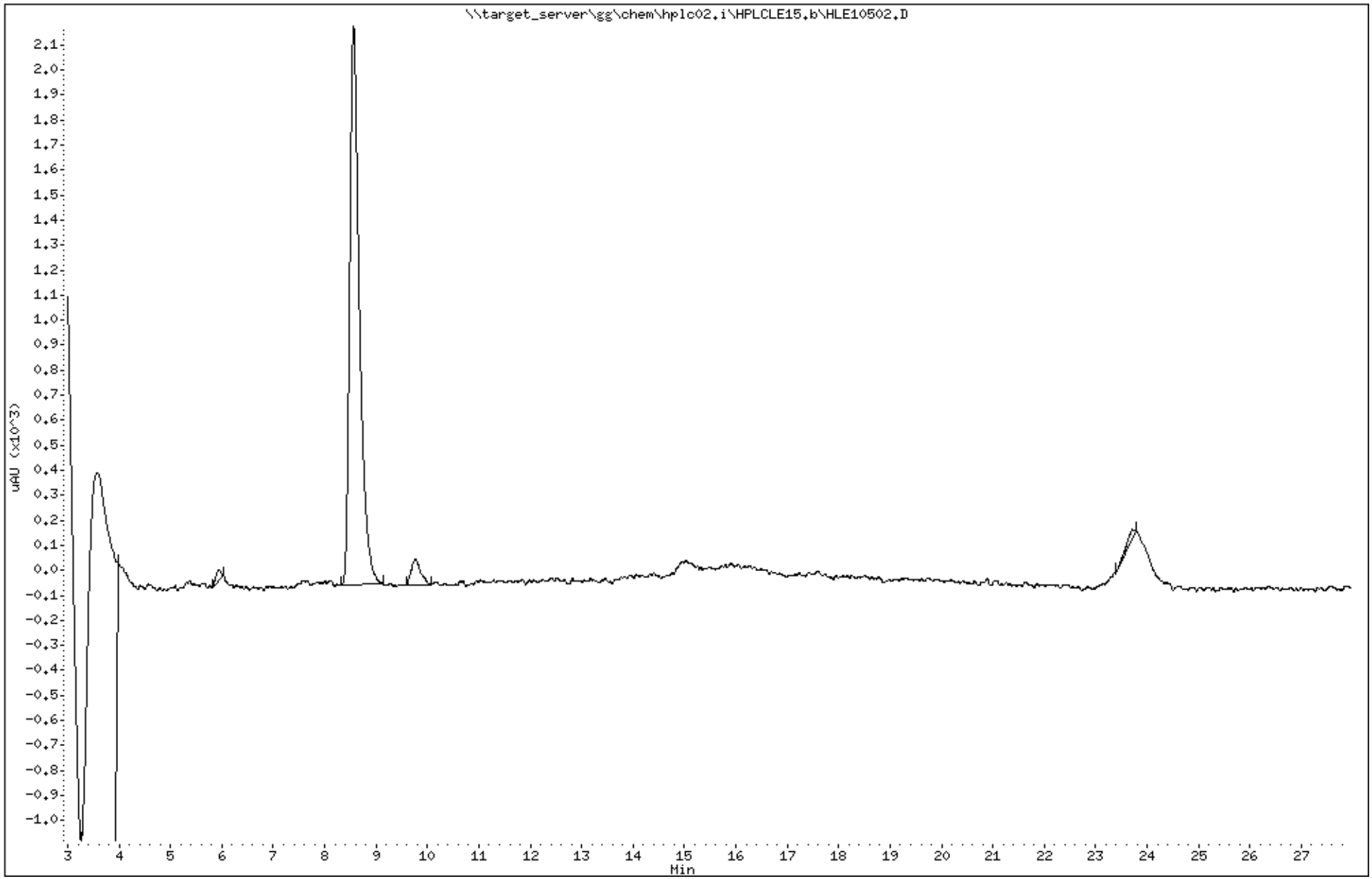
Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01200	Weight of Sample (Kg)
M	20.300	% Moisture
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HLE10502.D
Date : 16-MAY-2018 13:06
Client ID: CHAAP-BKRD-SB105
Sample Info: SL3995-13

Instrument: hplc02.i

Operator: AAB
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 3000073

Data File: HLE10502.D
Report Date: 24-May-2018 09:32

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HPLCLE15.b\HLE10502.D
Lab Smp Id: SL3995-13 Client Smp ID: CHAAP-BKRD-SB105
Inj Date : 16-MAY-2018 13:06
Operator : AAB Inst ID: hplc02.i
Smp Info : SL3995-13
Misc Info : WG228756,WG228106,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE15.b\EXPB05A.m\EXPB05A.m
Meth Date : 21-May-2018 08:35 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 21
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

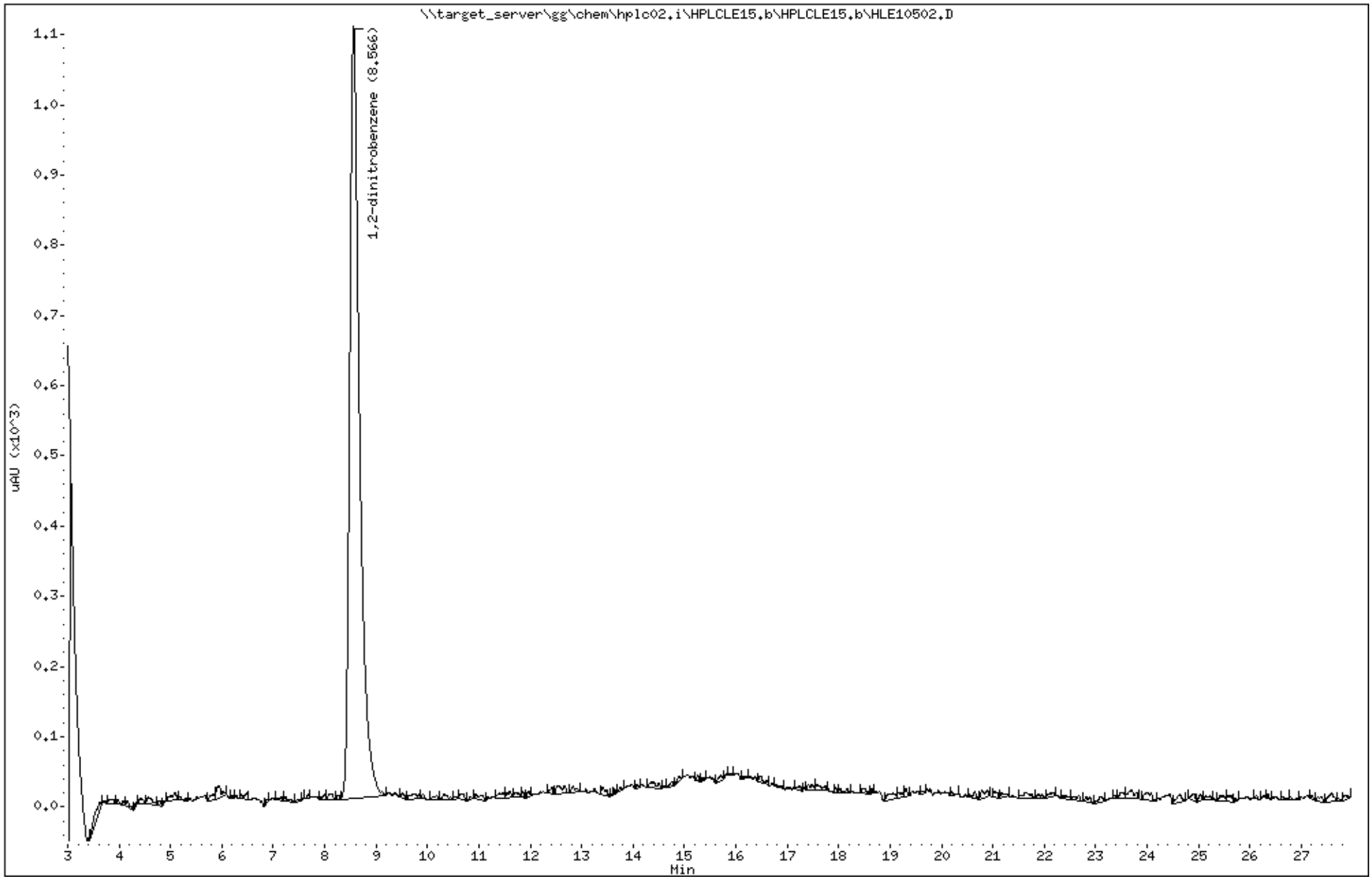
Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01200	Weight of Sample (Kg)
M	20.300	% Moisture
Cpnd Variable		Local Compound Variable

						CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	
Compounds	RT	EXP RT	DLT RT	RESPONSE				REVIEW CODE
$ 2 1,2-dinitrobenzene	8.565	8.538	0.027	1100		0.23771	497	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HPLCLE15.b\HLE10502.D
Date : 16-MAY-2018 13:06
Client ID: CHAAP-BKRD-SB105
Sample Info: SL3995-13

Instrument: hplc02.i

Operator: AAB
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 3000075

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL3995-14
Client ID: CHAAP-BKRD-SB06
Project: Cornhusker Army Ammunition Plant
SDG: SL3995
Lab File ID: HLE10503.D

Sample Date: 08-MAY-18
Received Date: 09-MAY-18
Extract Date: 14-MAY-18
Extracted By: DP/AC
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228106

Analysis Date: 16-MAY-18
Analyst: AAB
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 78.
Report Date: 24-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	58	ug/Kgdrywt	1	100	120	10.	58.
RDX	U	58	ug/Kgdrywt	1	100	120	7.9	58.
1,3,5-Trinitrobenzene	U	58	ug/Kgdrywt	1	100	120	7.8	58.
1,3-Dinitrobenzene	U	58	ug/Kgdrywt	1	100	120	7.2	58.
Tetryl	U	58	ug/Kgdrywt	1	100	120	6.3	58.
Nitrobenzene	U	58	ug/Kgdrywt	1	100	120	26.	58.
2,4,6-Trinitrotoluene	U	58	ug/Kgdrywt	1	100	120	7.8	58.
2-Am-DNT	U	58	ug/Kgdrywt	1	100	120	24.	58.
4-Am-DNT	U	58	ug/Kgdrywt	1	100	120	20.	58.
2,6-Dinitrotoluene	U	58	ug/Kgdrywt	1	100	120	32.	58.
2,4-Dinitrotoluene	U	58	ug/Kgdrywt	1	100	120	18.	58.
2-Nitrotoluene	U	58	ug/Kgdrywt	1	100	120	14.	58.
3-Nitrotoluene	U	58	ug/Kgdrywt	1	100	120	9.2	58.
4-Nitrotoluene	U	58	ug/Kgdrywt	1	100	120	32.	58.
Nitroglycerin	U	470	ug/Kgdrywt	1	800	940	140	470
PETN	U	470	ug/Kgdrywt	1	800	940	130	470
1,2-Dinitrobenzene		89.7	%					

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HLE10503.D
Report Date: 24-May-2018 09:29

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HLE10503.D
Lab Smp Id: SL3995-14 Client Smp ID: CHAAP-BKRD-SB06
Inj Date : 16-MAY-2018 13:37
Operator : AAB Inst ID: hplc02.i
Smp Info : SL3995-14
Misc Info : WG228756,WG228106,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE15.b\EXPB05A.m
Meth Date : 21-May-2018 08:50 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 22
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01090	Weight of Sample (Kg)
M	21.506	% Moisture
Cpnd Variable		Local Compound Variable

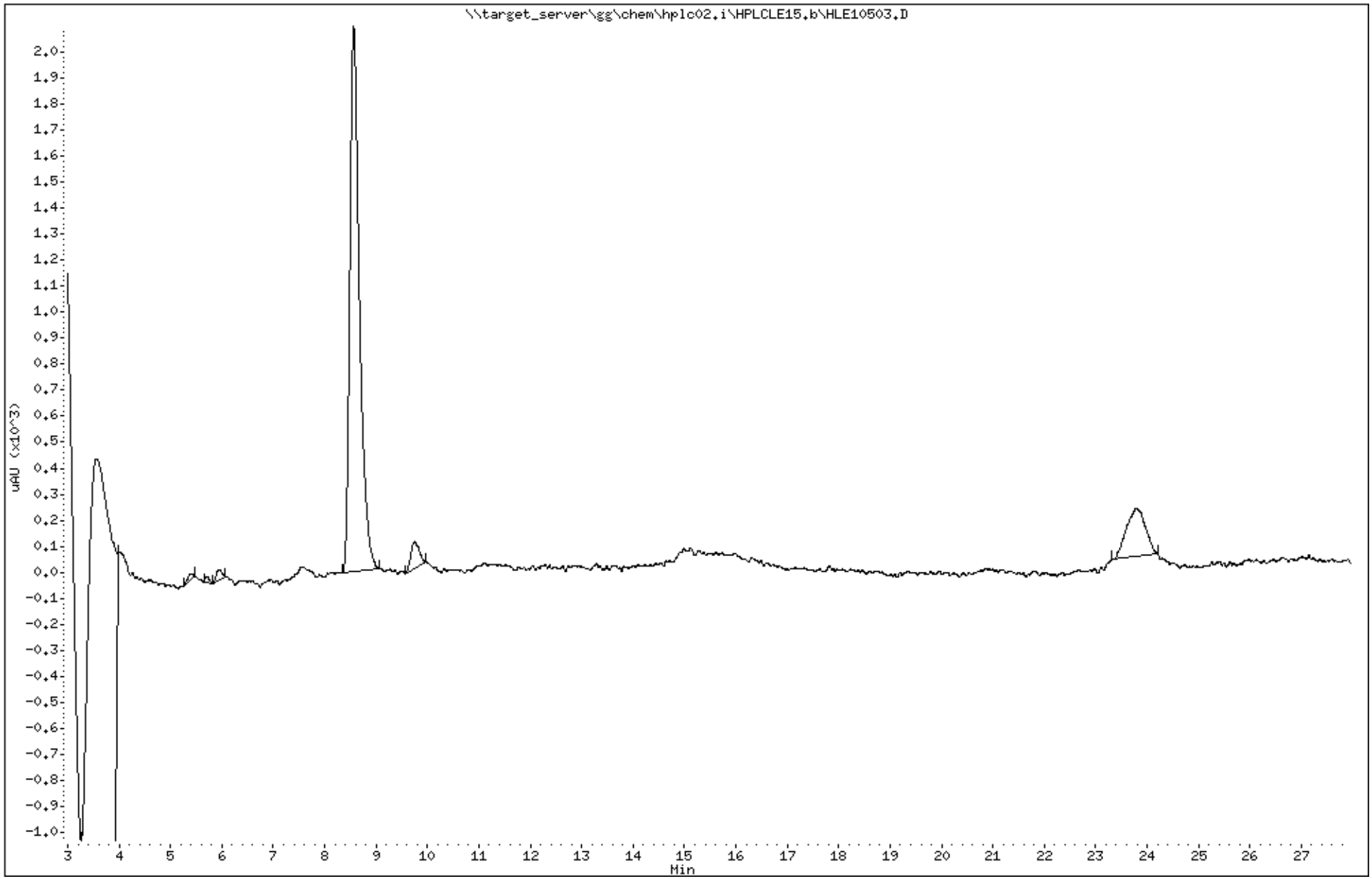
Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HLE10503.D
Date : 16-MAY-2018 13:37
Client ID: CHAAP-BKRD-SB06
Sample Info: SL3995-14

Instrument: hplc02.i

Operator: AAB
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 3000078

Data File: HLE10503.D
Report Date: 24-May-2018 09:32

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HPLCLE15.b\HLE10503.D
Lab Smp Id: SL3995-14 Client Smp ID: CHAAP-BKRD-SB06
Inj Date : 16-MAY-2018 13:37
Operator : AAB Inst ID: hplc02.i
Smp Info : SL3995-14
Misc Info : WG228756,WG228106,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE15.b\EXPB05A.m\EXPB05A.m
Meth Date : 21-May-2018 08:35 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 22
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01090	Weight of Sample (Kg)
M	21.506	% Moisture
Cpnd Variable		Local Compound Variable

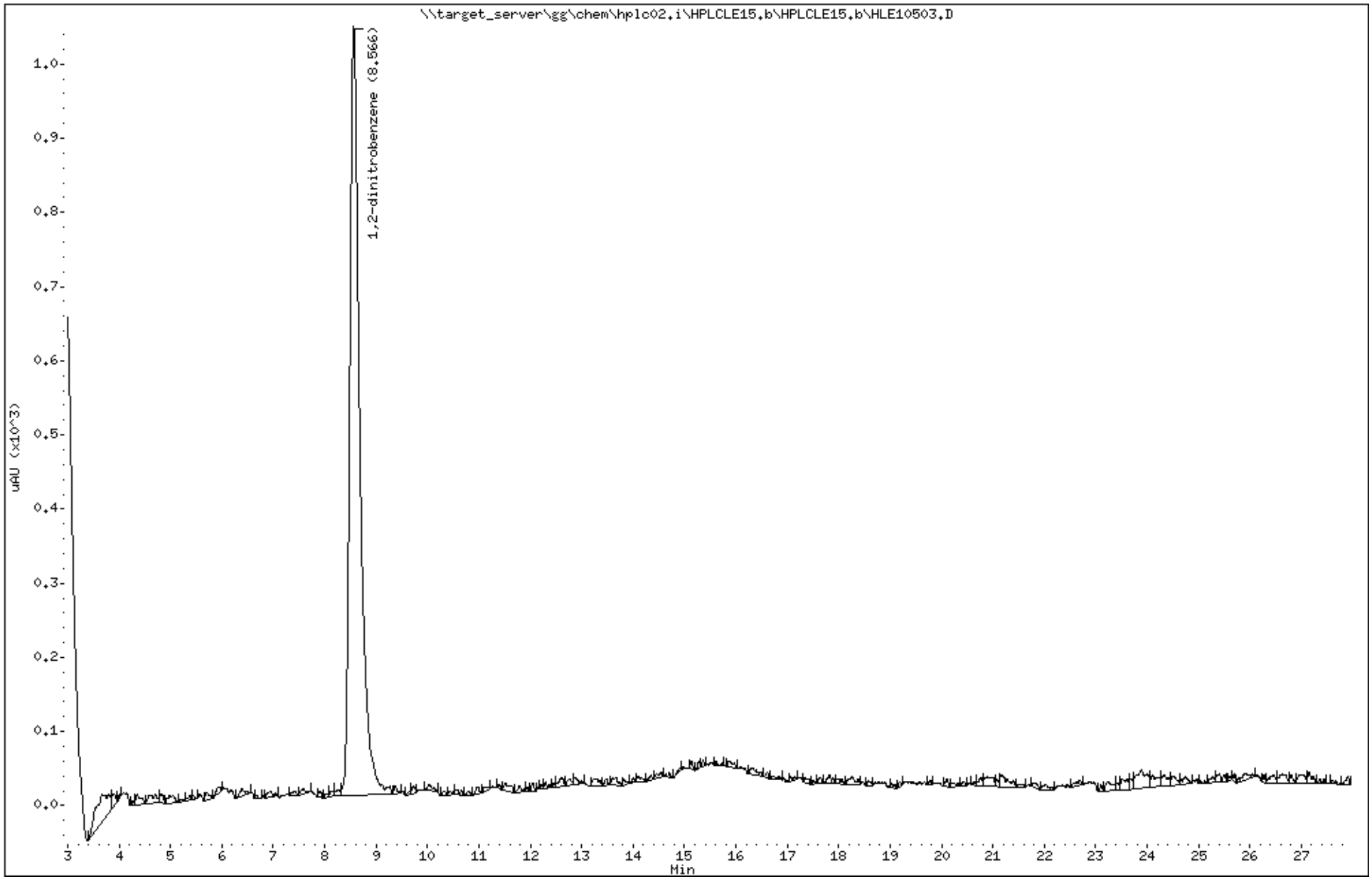
						CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	
Compounds	RT	EXP RT	DLT RT	RESPONSE				REVIEW CODE
$ 2 1,2-dinitrobenzene	8.565	8.538	0.027	1038		0.22431	524	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HPLCLE15.b\HLE10503.D
Date : 16-MAY-2018 13:37
Client ID: CHAAP-BKRD-SB06
Sample Info: SL3995-14

Instrument: hplc02.i

Operator: AAB
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 3000080

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL3995-15
Client ID: CHAAP-EB-050818-HA
Project: Cornhusker Army Ammunition Plant
SDG: SL3995
Lab File ID: HLE10316.D

Sample Date: 08-MAY-18
Received Date: 09-MAY-18
Extract Date: 10-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330
Lab Prep Batch: WG228021

Analysis Date: 11-MAY-18
Analyst: AAB
Analysis Method: SW846 8330B
Matrix: AQ
% Solids: NA
Report Date: 24-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	0.12	ug/L	1	.25	0.25	0.043	0.12
RDX	U	0.12	ug/L	1	.25	0.25	0.046	0.12
1,3,5-Trinitrobenzene	U	0.12	ug/L	1	.25	0.25	0.040	0.12
1,3-Dinitrobenzene	U	0.12	ug/L	1	.25	0.25	0.045	0.12
Tetryl	U	0.12	ug/L	1	.25	0.25	0.060	0.12
Nitrobenzene	U	0.12	ug/L	1	.25	0.25	0.071	0.12
2,4,6-Trinitrotoluene	U	0.12	ug/L	1	.25	0.25	0.064	0.12
4-Am-DNT	U	0.12	ug/L	1	.25	0.25	0.053	0.12
2-Am-DNT	U	0.12	ug/L	1	.25	0.25	0.038	0.12
2,6-Dinitrotoluene	U	0.12	ug/L	1	.25	0.25	0.056	0.12
2,4-Dinitrotoluene	U	0.12	ug/L	1	.25	0.25	0.052	0.12
2-Nitrotoluene	U	0.12	ug/L	1	.25	0.25	0.071	0.12
4-Nitrotoluene	U	0.12	ug/L	1	.25	0.25	0.060	0.12
3-Nitrotoluene	U	0.12	ug/L	1	.25	0.25	0.063	0.12
Nitroglycerin	U	2.0	ug/L	1	4	4.0	0.67	2.0
PETN	U	2.0	ug/L	1	4	4.0	0.58	2.0
1,2-Dinitrobenzene		94.4	%					

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE10.b\HLE10316.D
Report Date: 24-May-2018 09:24

Katahdin Analytical Services

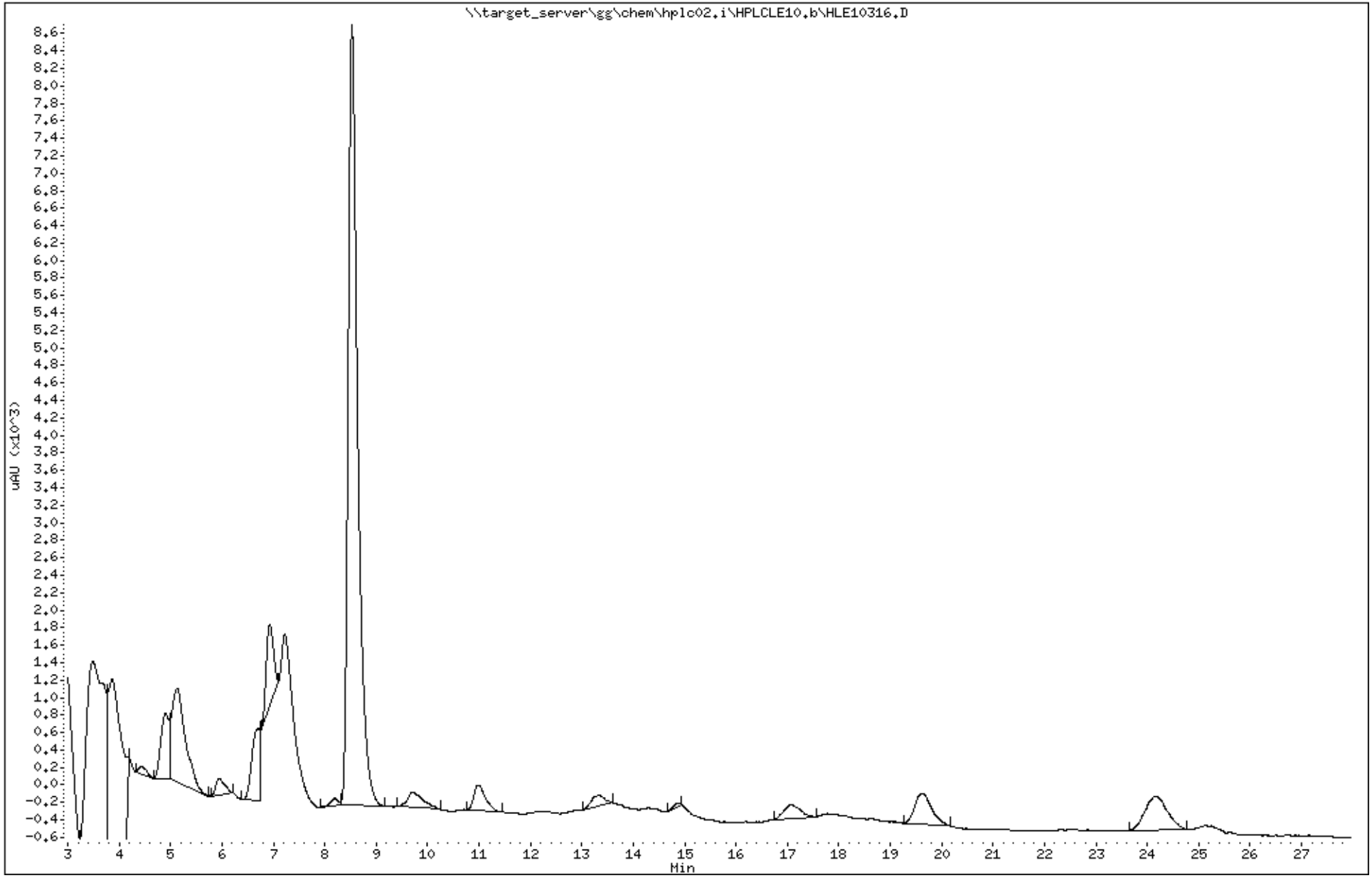
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE10.b\HLE10316.D
Lab Smp Id: SL3995-15 Client Smp ID: CHAAP-EB-050818-HA
Inj Date : 11-MAY-2018 01:42
Operator : AAB Inst ID: hplc02.i
Smp Info : SL3995-15
Misc Info : WG227995,WG228021,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE10.b\EXPB05A.m
Meth Date : 15-May-2018 14:39 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 35
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*(Vt/Vo) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00500	Final Volume (L)
Vo	0.50000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/L)

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE10.b\HLE10316.D
Date : 11-MAY-2018 01:42
Client ID: CHAAP-EB-050818-HA
Instrument: hplc02.i
Sample Info: SL3995-15
Purge Volume: 0.5
Operator: AAB
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 3000083

Data File: HLE10316.D
Report Date: 24-May-2018 09:25

Katahdin Analytical Services

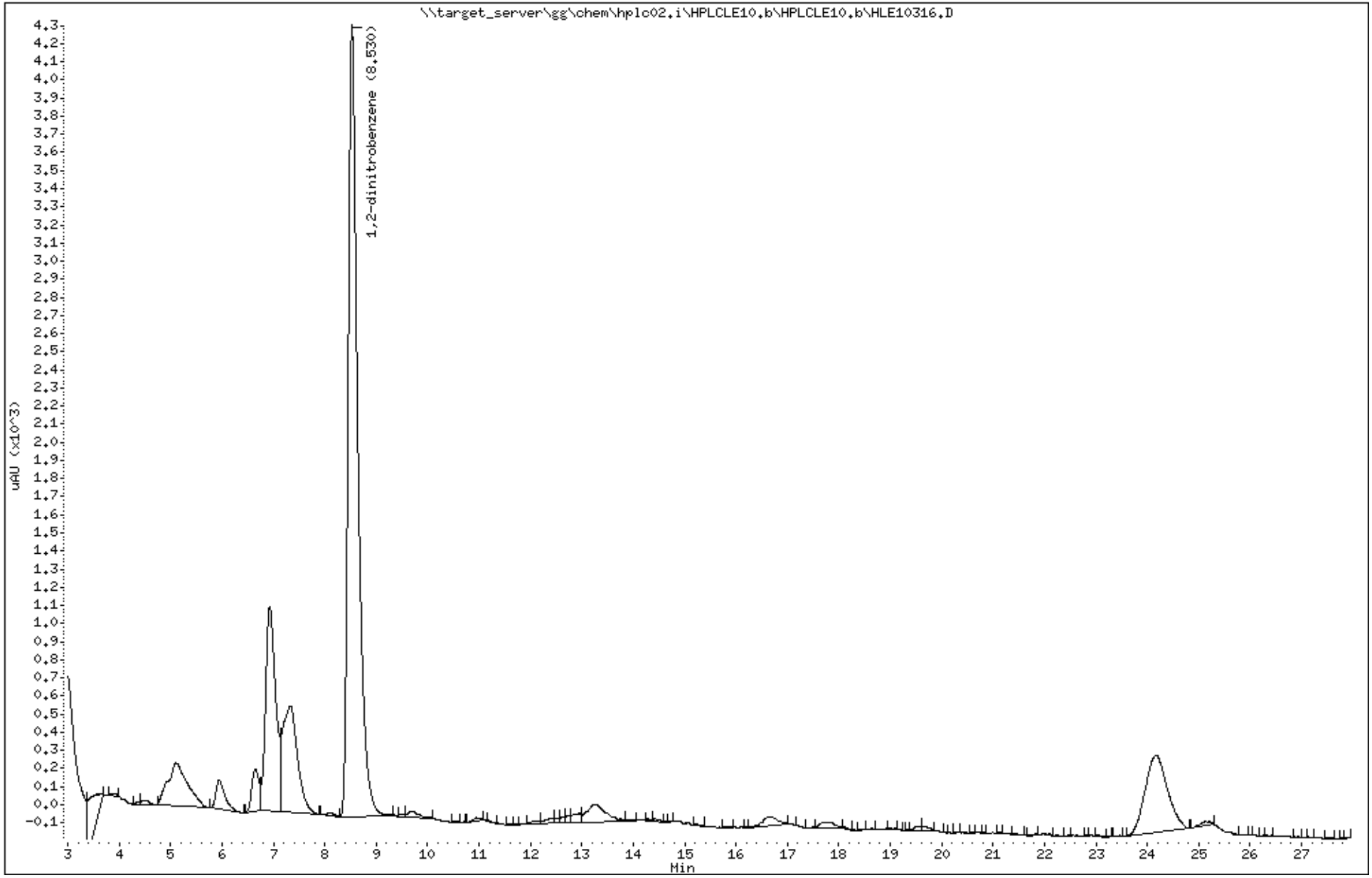
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE10.b\HPLCLE10.b\HLE10316.D
Lab Smp Id: SL3995-15 Client Smp ID: CHAAP-EB-050818-HA
Inj Date : 11-MAY-2018 01:42
Operator : AAB Inst ID: hplc02.i
Smp Info : SL3995-15
Misc Info : WG227995,WG228021,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE10.b\EXPB05A.m\EXPB05A.m
Meth Date : 15-May-2018 14:26 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 35
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*(Vt/Vo) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00500	Final Volume (L)
Vo	0.50000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

					CONCENTRATIONS		
					ON-COLUMN	FINAL	
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/mL)	(ug/L)	REVIEW CODE
$ 2 1,2-dinitrobenzene	8.530	8.540	-0.010	4370	0.94437	9.44	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE10.b\HPLCLE10.b\HLE10316.D
Date : 11-MAY-2018 01:42
Client ID: CHAAP-EB-050818-HA
Instrument: hplc02.i
Sample Info: SL3995-15
Purge Volume: 0.5
Operator: AAB
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 3000085

Standards Data Section

Katahdin
ANALYTICAL SERVICES

Form 6
Initial Calibration Summary

Lab Name : Katahdin Analytical Services
SDG: SL3995
Project : Cornhusker Army Ammunition Plant
Instrument ID: HPLC02
Lab File IDs : HLC10037.D,HLC10036.D,HLC10035.D,HLC10034.D,HLC10033.D,HLC10032.D,HLC10031.D
Calibration Date(s): 20-MAR-18 14:54, 20-MAR-18 18:05

	0.025000(Level 1	0.050000(Level 2	0.100000(Level 3	0.250000(Level 4	0.500000(Level 5	1.0000 Level 6	2.0000 Level 7		New Crv	b	m1	%RSD	Max %RSD	
NITROGLYCERIN	5440	5685	5280	5392	5454	5917	5425		AVG		5513	3.90686	20.00000	O
PETN	3020	2970	2465	3064	2834	3010	2768		AVG		2876	7.31282	15.00000	O

Legend: O = Kept Original Curve
Y = Failed Minimum RF
W = Failed %RSD Value

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http://katahdinlab.com
sales@katahdinlab.com

Data File: \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HLC10038.D
Report Date: 26-Mar-2018 14:36

Katahdin Analytical Services

RECOVERY REPORT

Client Name: Client SDG: SDGa00508
Sample Matrix: LIQUID Fraction: Explosives
Lab Smp Id: WG225143-8
Level: LOW Operator: AC
Data Type: LC DATA SampleType: LCS
SpikeList File: IND.spk Quant Type: ESTD
Sublist File: ngpetnedgn.sub
Method File: \\target_server\gg\chem\hplc02.i\HPLCLC20.b\EXPB05A.m
Misc Info: WG225143,WG225143,WG225143-5,SL2295-1

SPIKE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
3 Ethylene Glycol Di	20.0	19.5	97.34	30-150
8 NITROGLYCERIN	20.0	18.5	92.69	80-120
18 PETN	20.0	19.6	97.78	80-120

Data File: \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HLC10038.D
Report Date: 26-Mar-2018 14:36

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HLC10038.D
Lab Smp Id: WG225143-8
Inj Date : 20-MAR-2018 18:37
Operator : AC Inst ID: hplc02.i
Smp Info : WG225143-8,SL2295
Misc Info : WG225143,WG225143,WG225143-5,SL2295-1
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLC20.b\EXPB05A.m
Meth Date : 21-Mar-2018 11:31 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 15 QC Sample: LCS
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetnedgn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*(Vt/Vo) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00500	Final Volume (L)
Vo	0.50000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

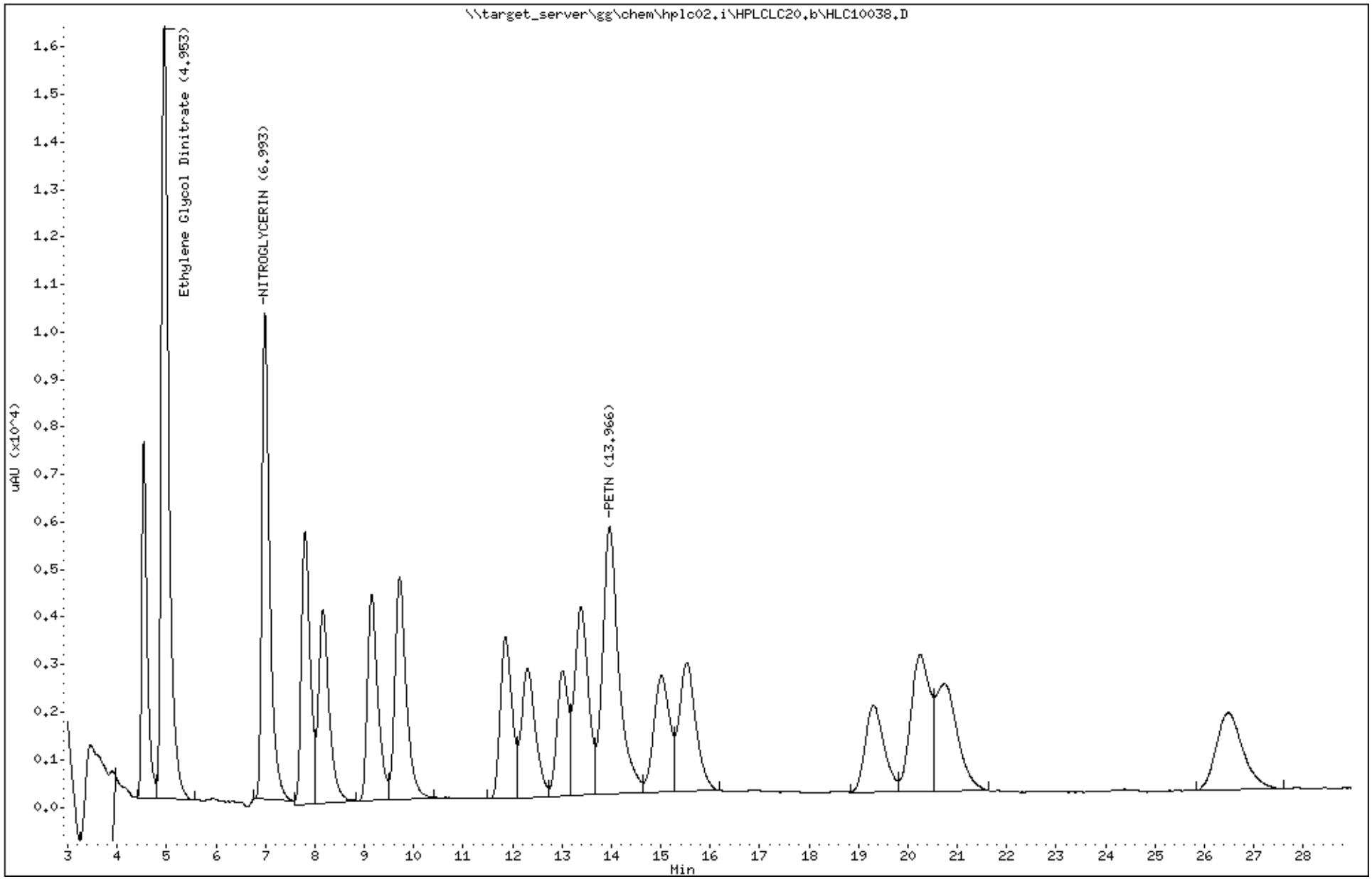
						CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/L)	
Compounds	RT	EXP RT	DLT RT	RESPONSE				
8 NITROGLYCERIN	6.992	6.997	-0.005	10220		1.85373	18.5(M)	M2
18 PETN	13.966	13.963	0.003	5624		1.95560	19.6	
3 Ethylene Glycol Dinitrate	4.952	4.957	-0.005	16261		1.94680	19.5	

QC Flag Legend

M - Compound response manually integrated.

2:37 pm, Mar 26, 2018

Data File: \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HLC10038.D
Date : 20-MAR-2018 18:37
Client ID:
Instrument: hplc02.i
Sample Info: WG225143-8,SL2295
Purge Volume: 0.5
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 3000090

Data File: \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HLC10031.D
Report Date: 26-Mar-2018 13:04

Katahdin Analytical Services

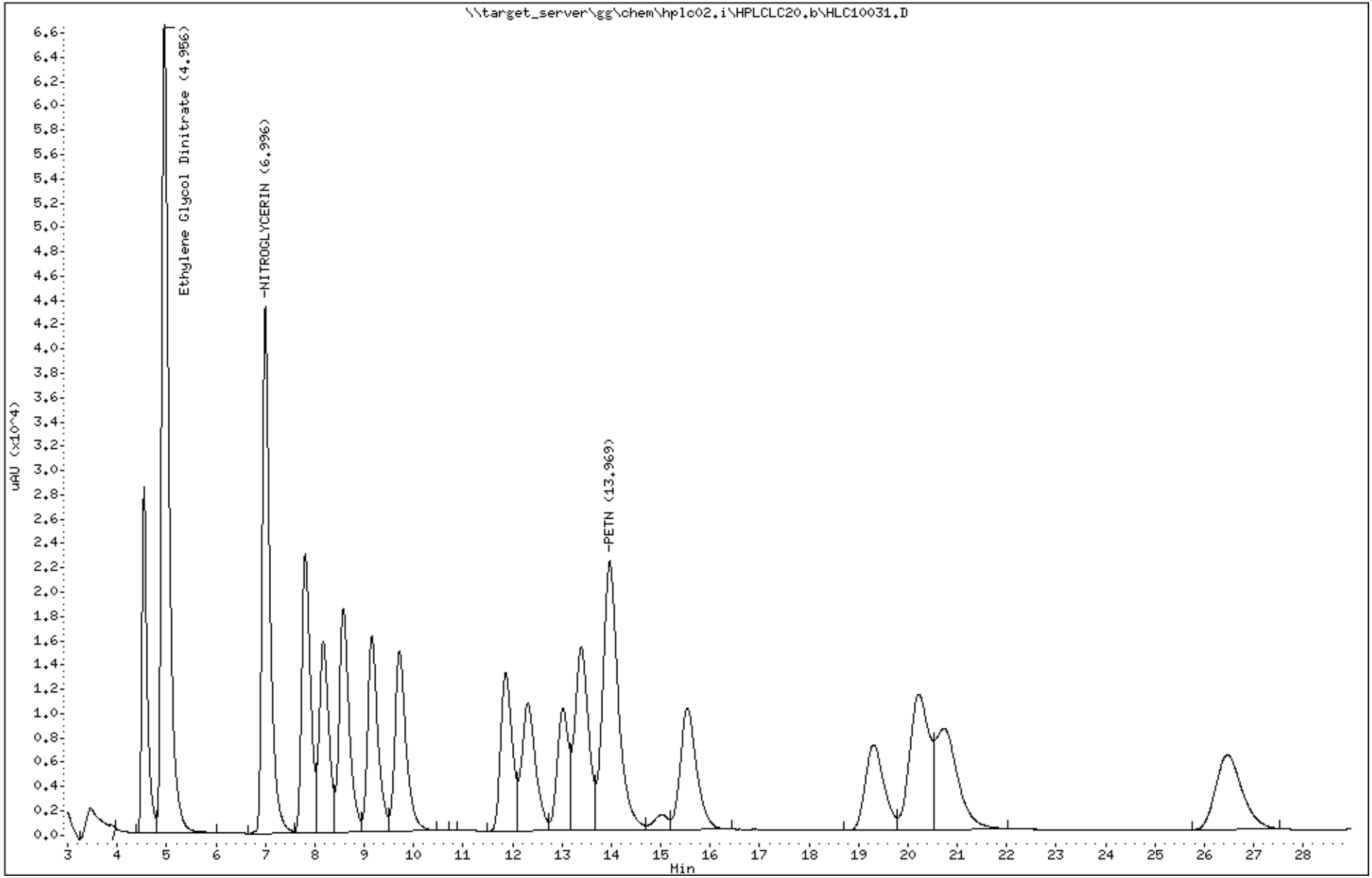
Data file : \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HLC10031.D
Lab Smp Id: WG225143-7
Inj Date : 20-MAR-2018 14:54
Operator : AC   Inst ID: hplc02.i
Smp Info : WG225143-7
Misc Info :
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCLC20.b\EXPB05A.m
Meth Date : 21-Mar-2018 11:31 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 14:54   Cal File: HLC10031.D
Als bottle: 8   Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: ngpetnedgn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*(Vt/Vo) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00500	Final Volume (L)
Vo	0.50000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

					AMOUNTS	
					CAL-AMT	ON-COL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/mL)	(ug/mL)
8 NITROGLYCERIN	6.995	6.997	-0.002	43399	8.00000	7.98
18 PETN	13.969	13.963	0.006	22141	8.00000	7.90
3 Ethylene Glycol Dinitrate	4.955	4.957	-0.002	66513	8.00000	8.00

Data File: \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HLC10031.D
Date : 20-MAR-2018 14:54
Client ID:
Instrument: hplc02.i
Sample Info: WG225143-7
Purge Volume: 0.5
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 3000092

Data File: \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HLC10032.D
Report Date: 26-Mar-2018 13:04

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HLC10032.D
Lab Smp Id: WG225143-6
Inj Date : 20-MAR-2018 15:26
Operator : AC   Inst ID: hplc02.i
Smp Info : WG225143-6
Misc Info :
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCLC20.b\EXPB05A.m
Meth Date : 21-Mar-2018 11:31 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 15:26   Cal File: HLC10032.D
Als bottle: 9   Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: ngpetnedgn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*(Vt/Vo) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00500	Final Volume (L)
Vo	0.50000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

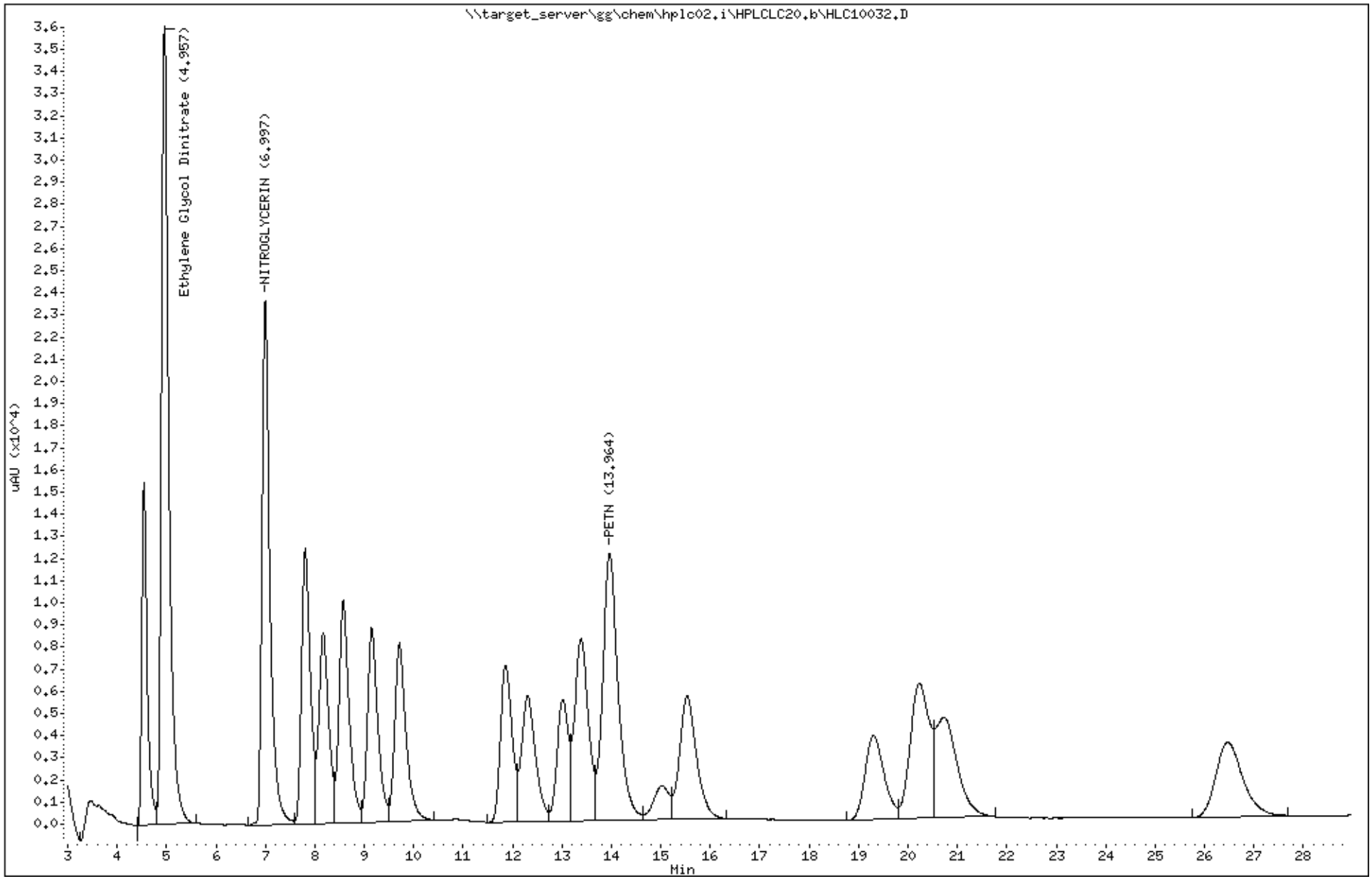
					AMOUNTS		
					CAL-AMT	ON-COL	
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/mL)	(ug/mL)	
8 NITROGLYCERIN	6.997	6.997	0.000	23668	4.00000	4.27	
18 PETN	13.963	13.963	0.000	12041	4.00000	4.43	
3 Ethylene Glycol Dinitrate	4.957	4.957	0.000	36056	4.00000	2.84(M)	M2

QC Flag Legend

M - Compound response manually integrated.

AAB
2:39 pm, Mar 26, 2018

Data File: \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HLC10032.D
Date : 20-MAR-2018 15:26
Client ID:
Instrument: hplc02.i
Sample Info: WG225143-6
Purge Volume: 0.5
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 3000094

Data File: \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HLC10033.D
Report Date: 26-Mar-2018 13:04

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HLC10033.D
Lab Smp Id: WG225143-5
Inj Date : 20-MAR-2018 15:58
Operator : AC   Inst ID: hplc02.i
Smp Info : WG225143-5
Misc Info :
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCLC20.b\EXPB05A.m
Meth Date : 21-Mar-2018 11:31 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 15:58   Cal File: HLC10033.D
Als bottle: 10   Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: ngpetnedgn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*(Vt/Vo) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00500	Final Volume (L)
Vo	0.50000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

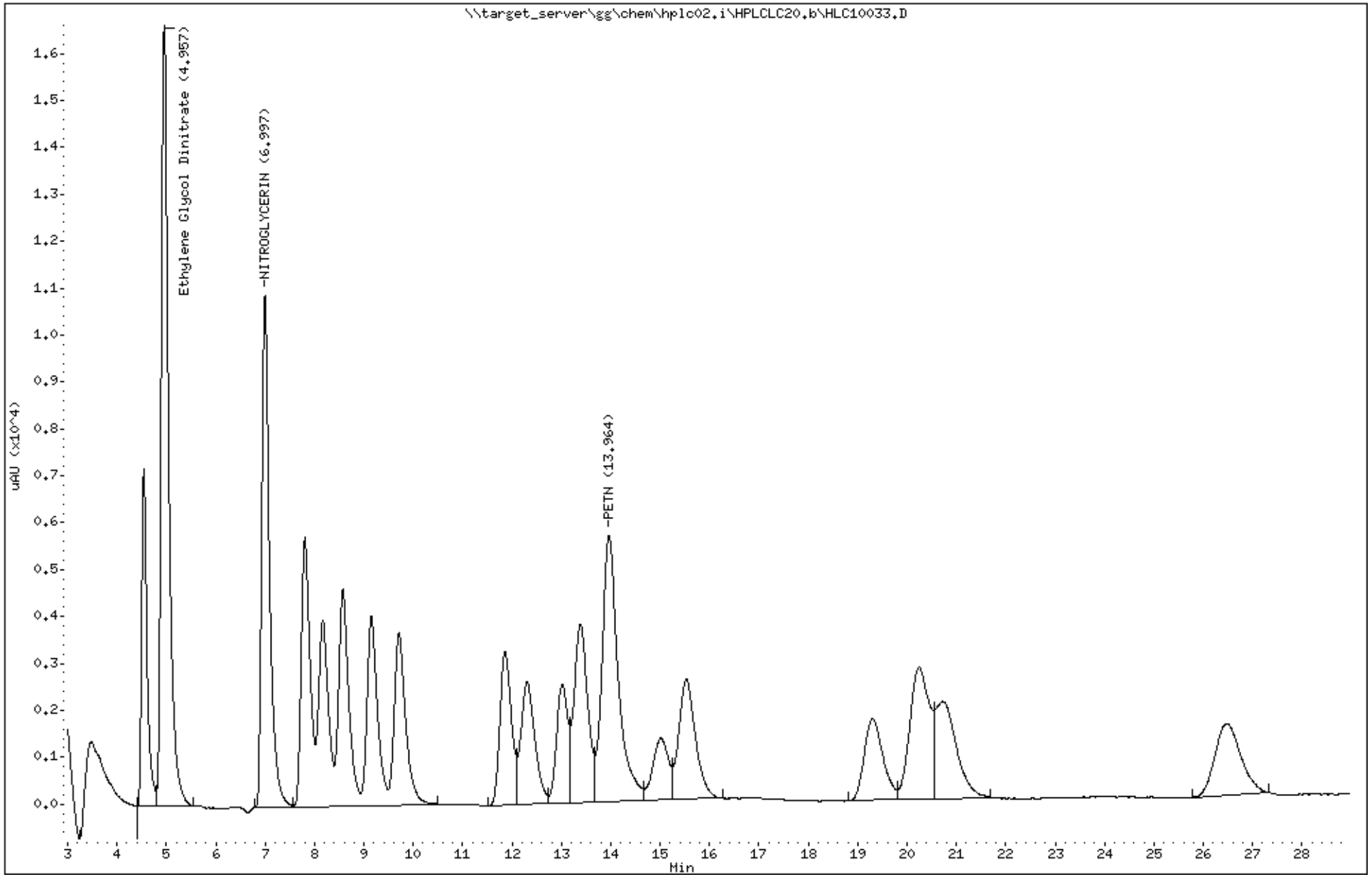
					AMOUNTS		
					CAL-AMT	ON-COL	
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/mL)	(ug/mL)	
8 NITROGLYCERIN	6.997	6.997	0.000	10907	2.00000	2.00(aM)	M2
18 PETN	13.963	13.963	0.000	5668	2.00000	2.00(a)	
3 Ethylene Glycol Dinitrate	4.957	4.957	0.000	16637	2.00000	2.00(aM)	

AB
2:42 pm, Mar 26, 2018

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.

Data File: \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HLC10033.D
Date : 20-MAR-2018 15:58
Client ID:
Instrument: hplc02.i
Sample Info: WG225143-5
Purge Volume: 0.5
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 3000096

Data File: \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HLC10034.D
Report Date: 26-Mar-2018 13:04

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HLC10034.D
Lab Smp Id: WG225143-4
Inj Date : 20-MAR-2018 16:30
Operator : AC   Inst ID: hplc02.i
Smp Info : WG225143-4
Misc Info :
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCLC20.b\EXPB05A.m
Meth Date : 21-Mar-2018 11:31 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 16:30   Cal File: HLC10034.D
Als bottle: 11   Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: ngpetnedgn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*(Vt/Vo) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00500	Final Volume (L)
Vo	0.50000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

						AMOUNTS		
						CAL-AMT	ON-COL	
	Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/mL)	(ug/mL)	
8	NITROGLYCERIN	6.997	6.997	0.000	5392	1.00000	0.974(aM)	M2
18	PETN	13.977	13.963	0.014	3064	1.00000	1.13(a)	
3	Ethylene Glycol Dinitrate	4.950	4.957	-0.007	8157	1.00000	0.705(aM)	

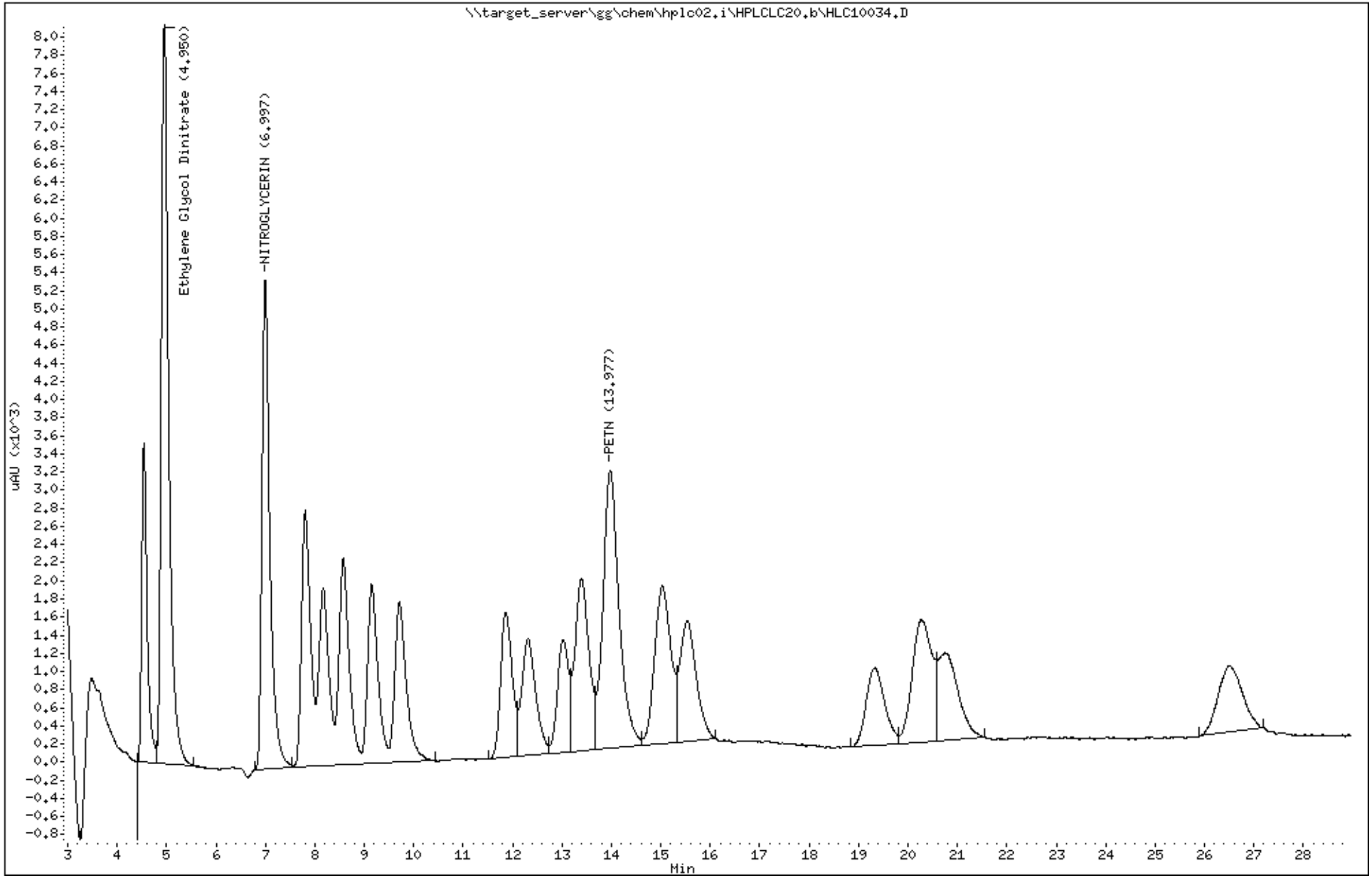


2:42 pm, Mar 26, 2018

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.

Data File: \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HLC10034.D
Date : 20-MAR-2018 16:30
Client ID:
Instrument: hplc02.i
Sample Info: WG225143-4
Purge Volume: 0.5
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 3000098

Data File: \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HLC10035.D
Report Date: 26-Mar-2018 13:04

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HLC10035.D
Lab Smp Id: WG225143-3
Inj Date : 20-MAR-2018 17:01
Operator : AC   Inst ID: hplc02.i
Smp Info : WG225143-3
Misc Info :
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCLC20.b\EXPB05A.m
Meth Date : 21-Mar-2018 11:31 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 17:01   Cal File: HLC10035.D
Als bottle: 12   Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: ngpetnedgn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*(Vt/Vo) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00500	Final Volume (L)
Vo	0.50000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

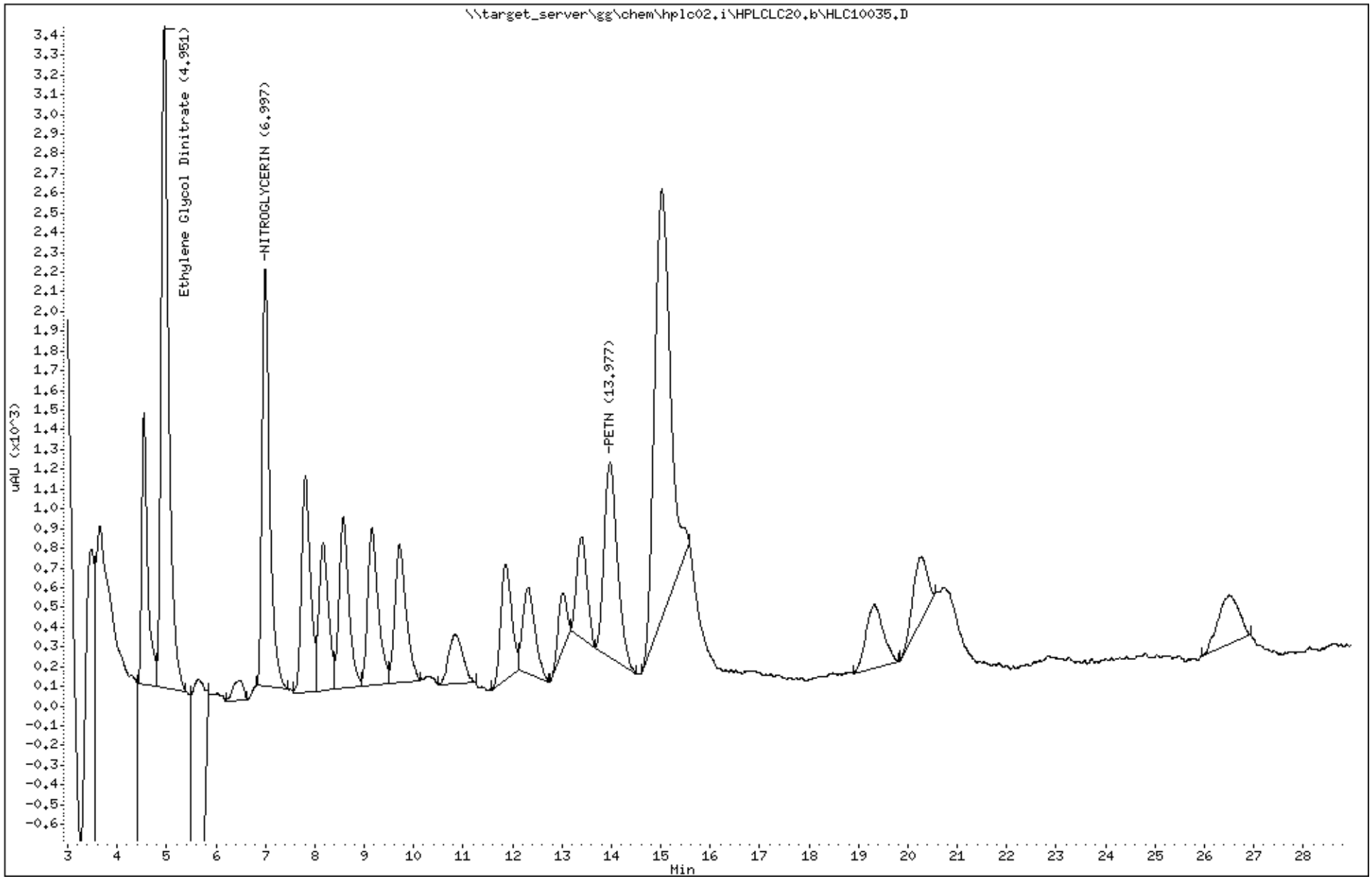
						AMOUNTS		
	Compounds	RT	EXP RT	DLT RT	RESPONSE	CAL-AMT (ug/mL)	ON-COL (ug/mL)	
8	NITROGLYCERIN	6.997	6.997	0.000	2112	0.40000	0.383(aM)	M2
18	PETN	13.977	13.963	0.014	986	0.40000	0.363(a)	
3	Ethylene Glycol Dinitrate	4.950	4.957	-0.007	3354	0.40000	0.402(aM)	

2:42 pm, Mar 26, 2018

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.

Data File: \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HLC10035.D
Date : 20-MAR-2018 17:01
Client ID:
Instrument: hplc02.i
Sample Info: WG225143-3
Purge Volume: 0.5
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 3000100

Data File: \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HLC10036.D
Report Date: 26-Mar-2018 13:04

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HLC10036.D
Lab Smp Id: WG225143-2
Inj Date : 20-MAR-2018 17:33
Operator : AC   Inst ID: hplc02.i
Smp Info : WG225143-2
Misc Info :
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCLC20.b\EXPB05A.m
Meth Date : 21-Mar-2018 11:31 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 17:33   Cal File: HLC10036.D
Als bottle: 13   Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: ngpetnedgn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*(Vt/Vo) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00500	Final Volume (L)
Vo	0.50000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

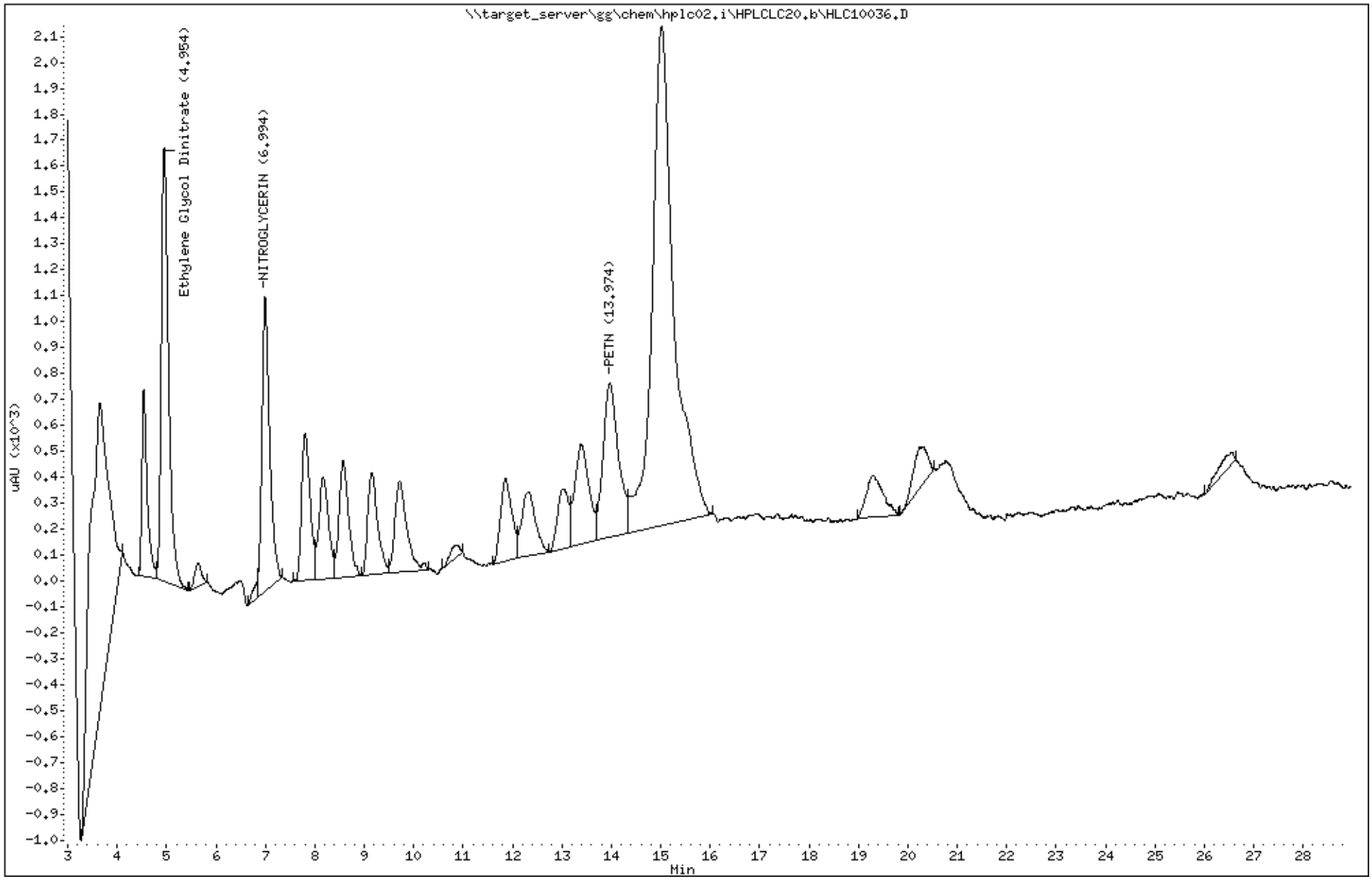
						AMOUNTS		
						CAL-AMT	ON-COL	
	Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/mL)	(ug/mL)	
8	NITROGLYCERIN	6.994	6.997	-0.003	1137	0.20000	0.206(aM)	M2
18	PETN	13.974	13.963	0.011	594	0.20000	0.218(a)	
3	Ethylene Glycol Dinitrate	4.954	4.957	-0.003	1670	0.20000	0.200(a)	

2:42 pm, Mar 26, 2018

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.

Data File: \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HLC10036.D
Date : 20-MAR-2018 17:33
Client ID:
Instrument: hplc02.i
Sample Info: WG225143-2
Purge Volume: 0.5
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 3000102

Data File: \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HLC10037.D
Report Date: 26-Mar-2018 13:04

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HLC10037.D
Lab Smp Id: WG225143-1
Inj Date : 20-MAR-2018 18:05
Operator : AC   Inst ID: hplc02.i
Smp Info : WG225143-1
Misc Info :
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCLC20.b\EXPB05A.m
Meth Date : 21-Mar-2018 11:31 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05   Cal File: HLC10037.D
Als bottle: 14   Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: ngpetnedgn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*(Vt/Vo) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00500	Final Volume (L)
Vo	0.50000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

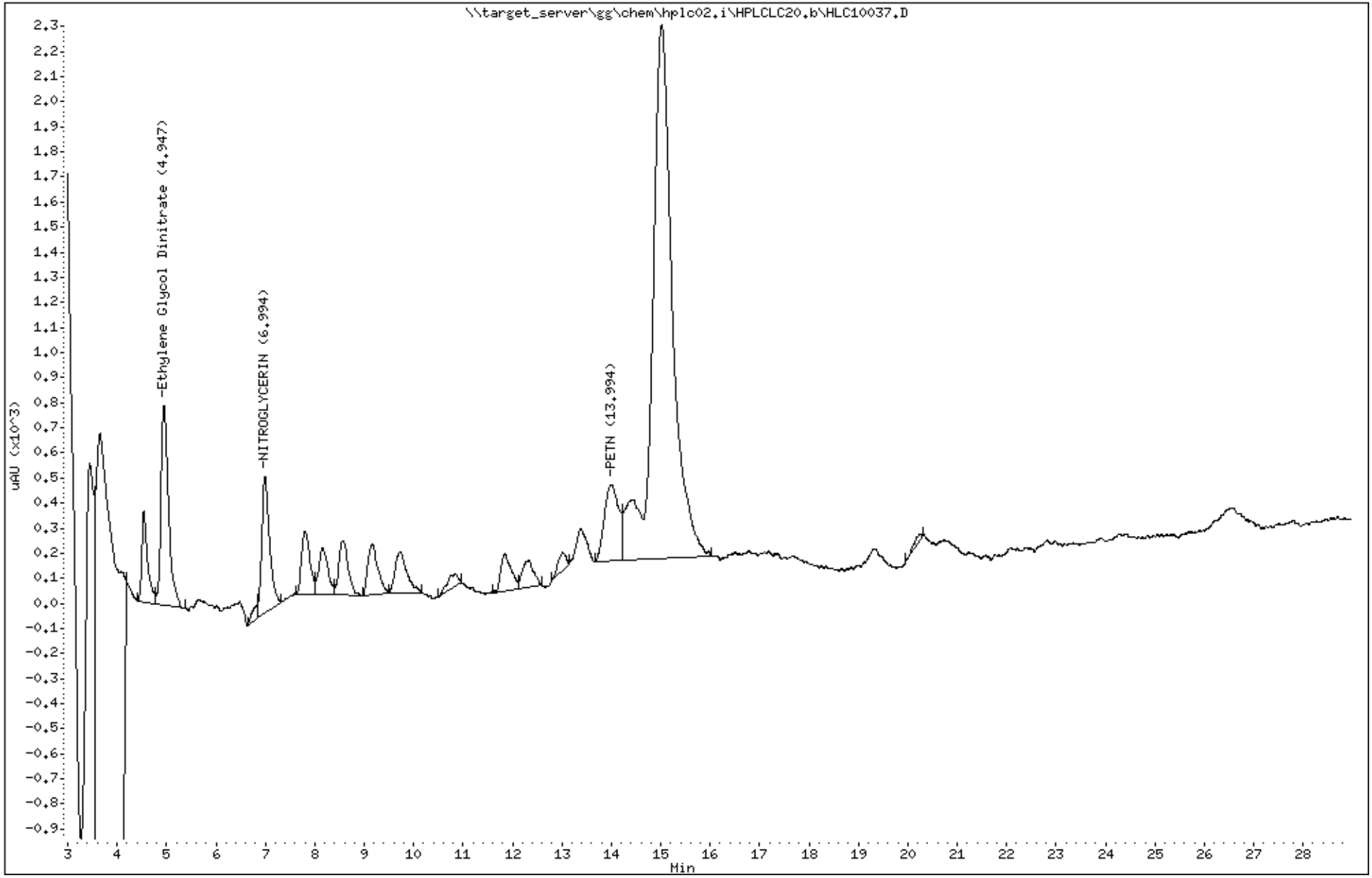
					AMOUNTS		
					CAL-AMT	ON-COL	
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/mL)	(ug/mL)	
8 NITROGLYCERIN	6.993	6.997	-0.004	544	0.10000	0.0987(aM)	M3
18 PETN	13.993	13.963	0.030	302	0.10000	0.105(aM)	
3 Ethylene Glycol Dinitrate	4.947	4.957	-0.010	793	0.10000	0.0949(a)	

2:43 pm, Mar 26, 2018

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.

Data File: \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HLC10037.D
Date : 20-MAR-2018 18:05
Client ID:
Instrument: hplc02.i
Sample Info: WG225143-1
Purge Volume: 0.5
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 3000104

Katahdin
ANALYTICAL SERVICES

Form 6
Initial Calibration Summary

Lab Name : Katahdin Analytical Services
SDG: SL3995
Project : Cornhusker Army Ammunition Plant
Instrument ID: HPLC02
Lab File IDs : HLC10037.D HLC10036.D HLC10035.D HLC10034.D HLC10033.D HLC10032.D HLC10031.D
Calibration Date(s): 20-MAR-18 14:54 20-MAR-18 18:05

	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 7		Crv				Max	
	0.025000(	0.050000(	0.100000(	0.250000(	0.500000(	1.0000	2.0000		New	b	m1	%RSD	%RSD	
HMX	5320	5440	5140	5296	5378	5810	5351		AVG		5391	3.83807	20.00000	O
RDX	75.00000	225	466	1287	2694	5888	10895		LNR	0.00587	5552	0.99828	0.99000	O
1,3,5-trinitrobenzene	3240	3680	3770	3628	3744	4074	3686		AVG		3689	6.66990	20.00000	O
1,3-dinitrobenzene	6680	7280	7410	7508	7512	8198	7518		AVG		7444	5.99405	20.00000	O
TETRYL	2240	2660	2530	2424	2550	2797	2541		AVG		2535	6.90733	20.00000	O
nitrobenzene	6760	6820	6610	6736	6892	7418	6831		AVG		6867	3.77157	20.00000	O
2,4,6-trinitrotoluene	2600	2520	2510	2460	2478	2672	2445		AVG		2526	3.24744	20.00000	O
4-AM-DNT	4200	4040	4240	4260	4366	4695	4318		AVG		4303	4.68155	20.00000	O
2-AM-DNT	5360	5700	5640	5720	5838	6280	5787		AVG		5761	4.78978	20.00000	O
2,6-dinitrotoluene	101	175	345	733	1390	3147	5661		LNR	-0.01275	2869	0.99714	0.99000	O
2,4-dinitrotoluene	4280	4700	4560	4552	4620	5008	4610		AVG		4619	4.68458	20.00000	O
2-nitrotoluene	2520	2760	2900	2944	2952	3214	2937		AVG		2890	7.31192	20.00000	O
4-nitrotoluene	2280	1980	2350	2484	2298	2635	2370		AVG		2342	8.60342	20.00000	O
3-nitrotoluene	3360	3180	3390	3404	3136	3585	3225		AVG		3326	4.69272	20.00000	O
1,2-dinitrobenzene	4680	4500	4480	4532	4640	4978	4582		AVG		4627	3.69030	20.00000	

Legend: O = Kept Original Curve
Y = Failed Minimum RF
W = Failed %RSD Value

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://katahdinlab.com
sales@katahdinlab.com

Data File: HLC10038.D
Report Date: 26-Mar-2018 14:36

Katahdin Analytical Services

RECOVERY REPORT

Client Name: Client SDG: SDGa00508
Sample Matrix: LIQUID Fraction: Explosives
Lab Smp Id: WG225143-8
Level: LOW Operator: AC
Data Type: LC DATA SampleType: LCS
SpikeList File: IND.spk Quant Type: ESTD
Sublist File: SW8330A.sub
Method File: \\target_server\gg\chem\hplc02.i\HPLCLC20.b\EXPB05A.m\EXPB05A.m
Misc Info: WG225143,WG225143,WG225143-5,SL2295-1

SPIKE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
1 HMX	5.00	5.25	104.96	80-120
4 RDX	5.00	5.14	102.73	80-120
5 1,3,5-trinitrobenz	5.00	5.21	104.21	80-120
6 1,3-dinitrobenzene	5.00	5.16	103.31	80-120
7 nitrobenzene	5.00	5.09	101.80	80-120
9 TETRYL	5.00	5.52	110.47	80-120
10 2,4,6-trinitrotolu	5.00	5.09	101.89	80-120
11 4-AM-DNT	5.00	5.41	108.21	80-120
12 2-AM-DNT	5.00	5.19	103.77	80-120
13 2,6-dinitrotoluene	5.00	4.91	98.26	80-120
14 2,4-dinitrotoluene	5.00	5.23	104.54	80-120
15 2-nitrotoluene	5.00	5.27	105.48	80-120
16 4-nitrotoluene	5.00	5.12	102.37	80-120
17 3-nitrotoluene	5.00	4.93	98.57	80-120
51 3,5-Dinitroaniline	5.00	4.94	98.91	80-120

SURROGATE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
$ 2 1,2-dinitrobenzene	10.0	0.000	*	83-119

Data File: HLC10038.D
Report Date: 26-Mar-2018 14:36

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HPLCLC20.b\HLC10038.D
Lab Smp Id: WG225143-8
Inj Date : 20-MAR-2018 18:37
Operator : AC Inst ID: hplc02.i
Smp Info : WG225143-8,SL2295
Misc Info : WG225143,WG225143,WG225143-5,SL2295-1
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLC20.b\EXPB05A.m\EXPB05A.m
Meth Date : 22-Mar-2018 05:09 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 15 QC Sample: LCS
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12

Concentration Formula: Amt * DF * 1000*(Vt/Vo) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00500	Final Volume (L)
Vo	0.50000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

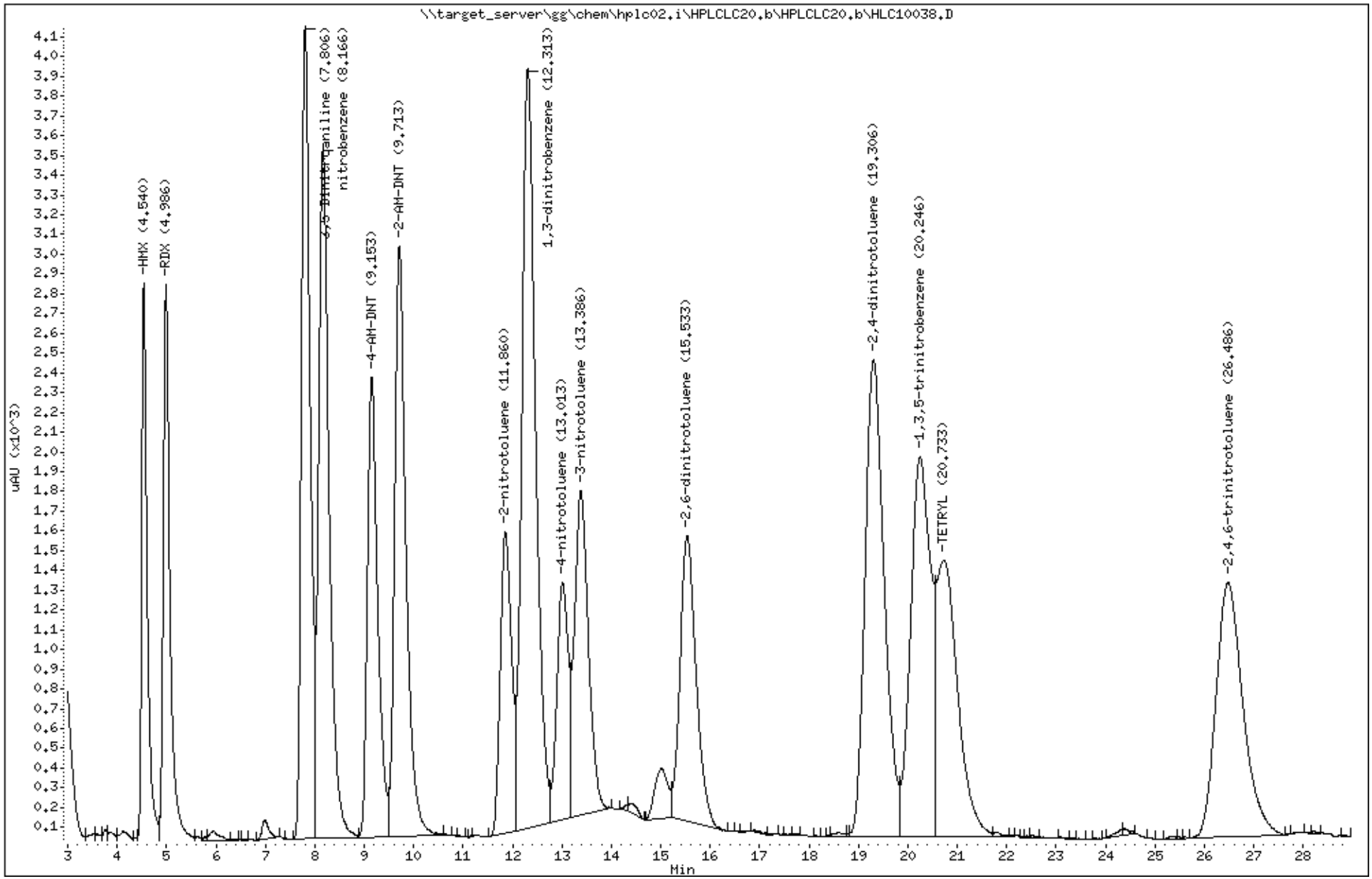
	Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/L)	REVIEW CODE
1	HMX	4.539	4.542	-0.003	2829	0.52480	5.25(M)	M5
4	RDX	4.986	4.989	-0.003	2819	0.51364	5.14(M)	
51	3,5-Dinitroaniline	7.806	7.809	-0.003	4113	0.49457	4.94	
7	nitrobenzene	8.166	8.175	-0.009	3495	0.50898	5.09	
11	4-AM-DNT	9.152	9.155	-0.003	2328	0.54105	5.41	
12	2-AM-DNT	9.712	9.715	-0.003	2989	0.51886	5.19	
15	2-nitrotoluene	11.859	11.862	-0.003	1524	0.52741	5.27	
6	1,3-dinitrobenzene	12.312	12.315	-0.003	3845	0.51654	5.16	
16	4-nitrotoluene	13.012	13.022	-0.010	1199	0.51186	5.12	
17	3-nitrotoluene	13.386	13.389	-0.003	1639	0.49284	4.93	
13	2,6-dinitrotoluene	15.532	15.542	-0.010	1446	0.49132	4.91	
14	2,4-dinitrotoluene	19.306	19.309	-0.003	2414	0.52268	5.23	
5	1,3,5-trinitrobenzene	20.246	20.222	0.024	1922	0.52103	5.21	
9	TETRYL	20.732	20.722	0.010	1400	0.55236	5.52	
10	2,4,6-trinitrotoluene	26.486	26.469	0.017	1287	0.50943	5.09	

AAB
2:37 pm, Mar 26, 2018

QC Flag Legend

M - Compound response manually integrated.

Data File: \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HPLCLC20.b\HLC10038.D
Date : 20-MAR-2018 18:37
Client ID:
Instrument: hplc02.i
Sample Info: WG225143-8,SL2295
Purge Volume: 0.5
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 3000108

Data File: HLC10031.D
Report Date: 26-Mar-2018 13:10

Katahdin Analytical Services

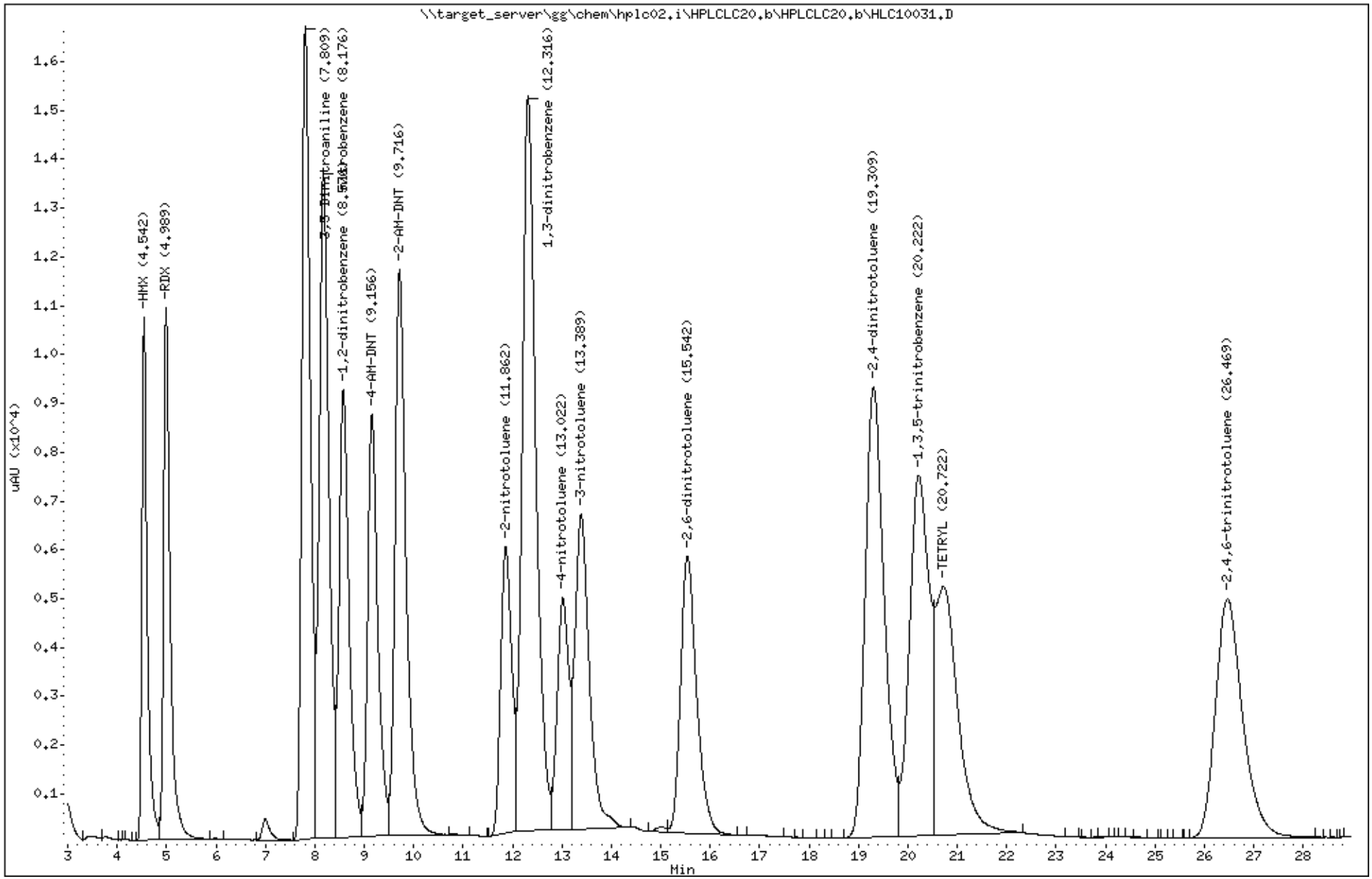
Data file : \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HPLCLC20.b\HLC10031.D
Lab Smp Id: WG225143-7
Inj Date : 20-MAR-2018 14:54
Operator : AC   Inst ID: hplc02.i
Smp Info : WG225143-7
Misc Info :
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCLC20.b\EXPB05A.m\EXPB05A.m
Meth Date : 22-Mar-2018 05:09 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 14:54   Cal File: HLC10031.D
Als bottle: 8   Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: T8-D4700

Concentration Formula: Amt * DF * 1000*(Vt/Vo) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00500	Final Volume (L)
Vo	0.50000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)	REVIEW CODE
1	HMX	4.542	4.542	0.000	10701	2.00000	2.00	
4	RDX	4.989	4.989	0.000	10895	2.00000	2.00	
51	3,5-Dinitroaniline	7.809	7.809	0.000	16640	2.00000	2.00	
7	nitrobenzene	8.175	8.175	0.000	13661	2.00000	2.00	
$ 2	1,2-dinitrobenzene	8.575	8.575	0.000	9164	2.00000	2.00	
11	4-AM-DNT	9.155	9.155	0.000	8636	2.00000	2.00	
12	2-AM-DNT	9.715	9.715	0.000	11574	2.00000	2.00	
15	2-nitrotoluene	11.862	11.862	0.000	5874	2.00000	2.00	
6	1,3-dinitrobenzene	12.315	12.315	0.000	15036	2.00000	2.00	
16	4-nitrotoluene	13.022	13.022	0.000	4740	2.00000	2.00	
17	3-nitrotoluene	13.389	13.389	0.000	6449	2.00000	2.00	
13	2,6-dinitrotoluene	15.542	15.542	0.000	5661	2.00000	2.00	
14	2,4-dinitrotoluene	19.309	19.309	0.000	9219	2.00000	2.00	
5	1,3,5-trinitrobenzene	20.222	20.222	0.000	7372	2.00000	2.00	
9	TETRYL	20.722	20.722	0.000	5082	2.00000	2.00	
10	2,4,6-trinitrotoluene	26.469	26.469	0.000	4889	2.00000	2.00	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HPLCLC20.b\HLC10031.D
Date : 20-MAR-2018 14:54
Client ID:
Instrument: hplc02.i
Sample Info: WG225143-7
Purge Volume: 0.5
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 3000110

Data File: HLC10032.D
Report Date: 26-Mar-2018 13:10

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HPLCLC20.b\HLC10032.D
Lab Smp Id: WG225143-6
Inj Date : 20-MAR-2018 15:26
Operator : AC   Inst ID: hplc02.i
Smp Info : WG225143-6
Misc Info :
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCLC20.b\EXPB05A.m\EXPB05A.m
Meth Date : 22-Mar-2018 05:09 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 15:26   Cal File: HLC10032.D
Als bottle: 9   Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: T8-D4700

Concentration Formula: Amt * DF * 1000*(Vt/Vo) * CpndVariable

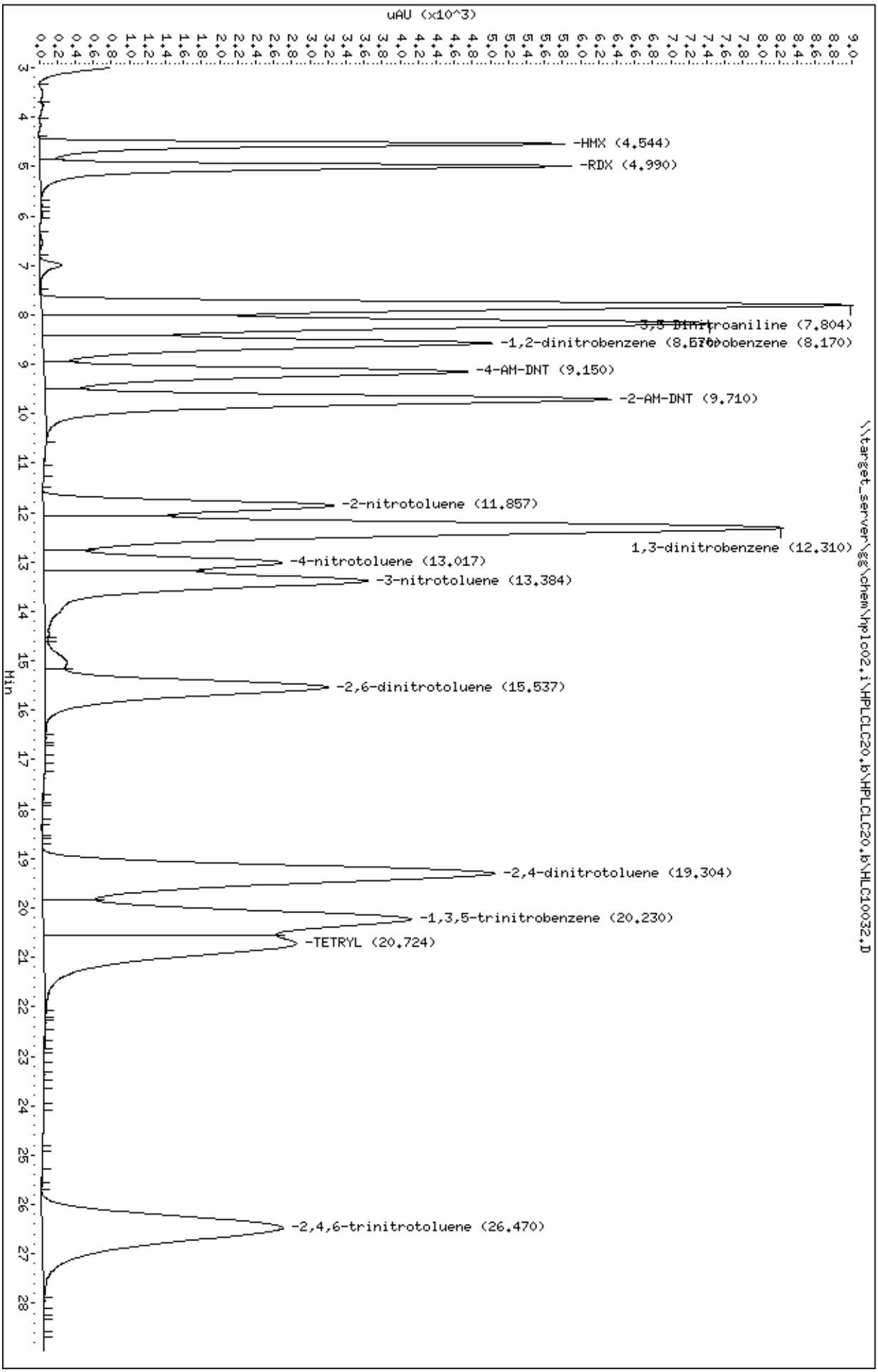
Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00500	Final Volume (L)
Vo	0.50000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)	REVIEW CODE
1	HMX	4.543	4.542	0.001	5810	1.00000	1.08(M)	M5
4	RDX	4.990	4.989	0.001	5888	1.00000	1.21(M)	
51	3,5-Dinitroaniline	7.803	7.809	-0.006	8996	1.00000	1.08	
7	nitrobenzene	8.170	8.175	-0.005	7418	1.00000	1.08	
$ 2	1,2-dinitrobenzene	8.570	8.575	-0.005	4978	1.00000	1.08	
11	4-AM-DNT	9.150	9.155	-0.005	4695	1.00000	1.09	
12	2-AM-DNT	9.710	9.715	-0.005	6280	1.00000	1.09	
15	2-nitrotoluene	11.857	11.862	-0.005	3214	1.00000	1.11	
6	1,3-dinitrobenzene	12.310	12.315	-0.005	8198	1.00000	1.11	
16	4-nitrotoluene	13.017	13.022	-0.005	2635	1.00000	1.19	
17	3-nitrotoluene	13.383	13.389	-0.006	3585	1.00000	1.13	
13	2,6-dinitrotoluene	15.537	15.542	-0.005	3147	1.00000	1.06	
14	2,4-dinitrotoluene	19.303	19.309	-0.006	5008	1.00000	1.09	
5	1,3,5-trinitrobenzene	20.230	20.222	0.008	4074	1.00000	1.35	
9	TETRYL	20.723	20.722	0.001	2797	1.00000	1.42	
10	2,4,6-trinitrotoluene	26.470	26.469	0.001	2672	1.00000	1.17	

2:43 pm, Mar 26, 2018

QC Flag Legend

M - Compound response manually integrated.


Data File: \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HPLCLC20.b\HLC10032.D
Date : 20-MAR-2018 15:26
Client ID:
Sample Info: WG225143-6
Purge Volume: 0.5
Column phase: Acclaim Exp E1
Instrument: hplc02.i
Operator: AC
Column diameter: 4.60
uAU (x10^3)
Min
-HMX (4.544)
-RDX (4.990)
3,5-Dinitroaniline (7.804)
-1,2-dinitrobenzene (8.570)
-Nitrobenzene (8.170)
-4-AM-DNT (9.150)
-2-AM-DNT (9.710)
-2-nitrotoluene (11.857)
1,3-dinitrobenzene (12.310)
-4-nitrotoluene (13.017)
-3-nitrotoluene (13.384)
-2,6-dinitrotoluene (15.537)
-2,4-dinitrotoluene (19.304)
-1,3,5-trinitrobenzene (20.230)
-TETRYL (20.724)
-2,4,6-trinitrotoluene (26.470)
\\target_server\gg\chem\hplc02.i\HPLCLC20.b\HPLCLC20.b\HLC10032.D

Data File: HLC10033.D
Report Date: 26-Mar-2018 13:10

Katahdin Analytical Services

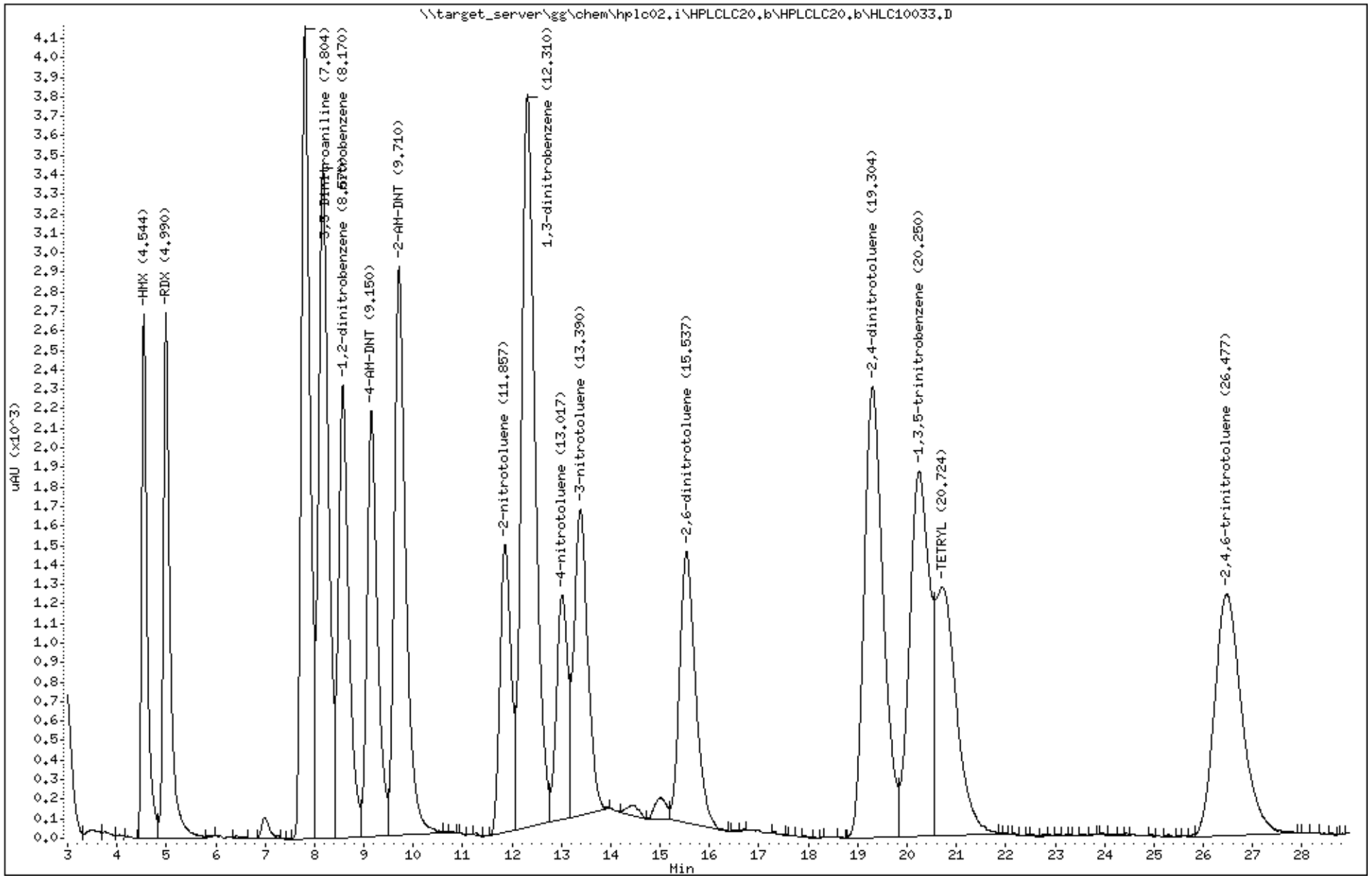
Data file : \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HPLCLC20.b\HLC10033.D
Lab Smp Id: WG225143-5
Inj Date : 20-MAR-2018 15:58
Operator : AC   Inst ID: hplc02.i
Smp Info : WG225143-5
Misc Info :
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCLC20.b\EXPB05A.m\EXPB05A.m
Meth Date : 22-Mar-2018 05:09 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 15:58   Cal File: HLC10033.D
Als bottle: 10   Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: T8-D4700

Concentration Formula: Amt * DF * 1000*(Vt/Vo) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00500	Final Volume (L)
Vo	0.50000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)	REVIEW CODE
1	HMX	4.543	4.542	0.001	2689	0.50000	0.478	
4	RDX	4.990	4.989	0.001	2694	0.50000	0.477	
51	3,5-Dinitroaniline	7.803	7.809	-0.006	4166	0.50000	0.487	
7	nitrobenzene	8.170	8.175	-0.005	3446	0.50000	0.489	
$ 2	1,2-dinitrobenzene	8.570	8.575	-0.005	2320	0.50000	0.490	
11	4-AM-DNT	9.150	9.155	-0.005	2183	0.50000	0.489	
12	2-AM-DNT	9.710	9.715	-0.005	2919	0.50000	0.489	
15	2-nitrotoluene	11.857	11.862	-0.005	1476	0.50000	0.486	
6	1,3-dinitrobenzene	12.310	12.315	-0.005	3756	0.50000	0.485	
16	4-nitrotoluene	13.017	13.022	-0.005	1149	0.50000	0.472	
17	3-nitrotoluene	13.390	13.389	0.001	1568	0.50000	0.473	
13	2,6-dinitrotoluene	15.537	15.542	-0.005	1390	0.50000	0.476	
14	2,4-dinitrotoluene	19.303	19.309	-0.006	2310	0.50000	0.487	
5	1,3,5-trinitrobenzene	20.250	20.222	0.028	1872	0.50000	0.488	
9	TETRYL	20.723	20.722	0.001	1275	0.50000	0.485	
10	2,4,6-trinitrotoluene	26.477	26.469	0.008	1239	0.50000	0.489	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HPLCLC20.b\HLC10033.D
Date : 20-MAR-2018 15:58
Client ID:
Instrument: hplc02.i
Sample Info: WG225143-5
Purge Volume: 0.5
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 3000114

Data File: HLC10034.D
Report Date: 26-Mar-2018 13:10

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HPLCLC20.b\HLC10034.D
Lab Smp Id: WG225143-4
Inj Date : 20-MAR-2018 16:30
Operator : AC   Inst ID: hplc02.i
Smp Info : WG225143-4
Misc Info :
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCLC20.b\EXPB05A.m\EXPB05A.m
Meth Date : 22-Mar-2018 05:09 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 16:30   Cal File: HLC10034.D
Als bottle: 11   Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: T8-D4700

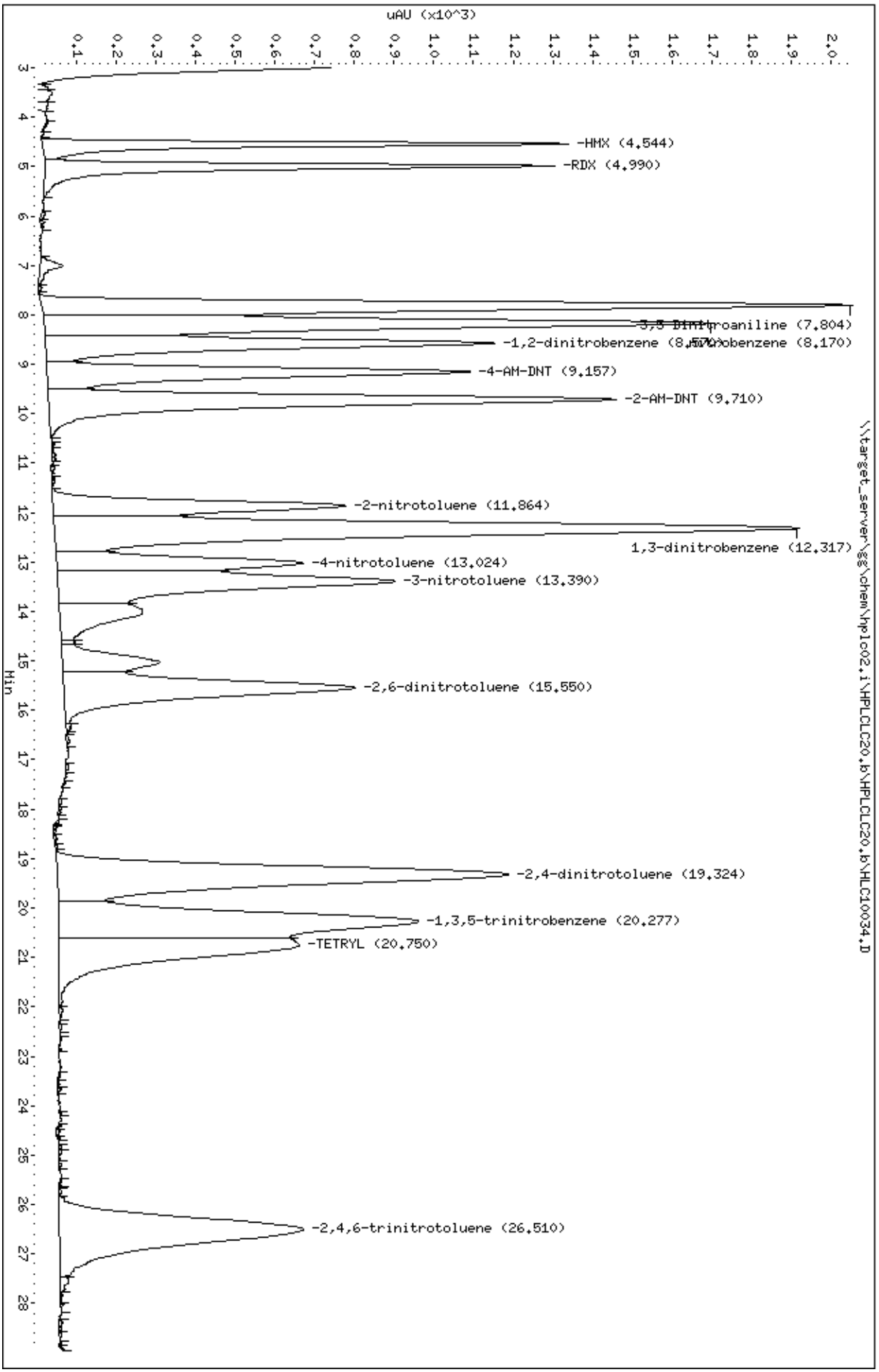
Concentration Formula: Amt * DF * 1000*(Vt/Vo) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00500	Final Volume (L)
Vo	0.50000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)	REVIEW CODE
1	HMX	4.543	4.542	0.001	1324	0.25000	0.239(a)	
4	RDX	4.990	4.989	0.001	1287	0.25000	0.233(a)	
51	3,5-Dinitroaniline	7.803	7.809	-0.006	2044	0.25000	0.242(a)	
7	nitrobenzene	8.170	8.175	-0.005	1684	0.25000	0.242(a)	
$ 2	1,2-dinitrobenzene	8.570	8.575	-0.005	1133	0.25000	0.242(a)	
11	4-AM-DNT	9.157	9.155	0.002	1065	0.25000	0.242(a)	
12	2-AM-DNT	9.710	9.715	-0.005	1430	0.25000	0.242(a)	
15	2-nitrotoluene	11.863	11.862	0.001	736	0.25000	0.244(a)	
6	1,3-dinitrobenzene	12.317	12.315	0.002	1877	0.25000	0.244(a)	
16	4-nitrotoluene	13.023	13.022	0.001	621	0.25000	0.254	
17	3-nitrotoluene	13.390	13.389	0.001	851	0.25000	0.255	
13	2,6-dinitrotoluene	15.550	15.542	0.008	733	0.25000	0.251	
14	2,4-dinitrotoluene	19.323	19.309	0.014	1138	0.25000	0.242(a)	
5	1,3,5-trinitrobenzene	20.277	20.222	0.055	907	0.25000	0.240(a)	
9	TETRYL	20.750	20.722	0.028	606	0.25000	0.235(a)	
10	2,4,6-trinitrotoluene	26.510	26.469	0.041	615	0.25000	0.245(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).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Date : 20-MAR-2018 16:30
Client ID:
Sample Info: WG225143-4
Purge Volume: 0.5
Column phase: Acclaim Exp E1
Instrument: hplc02.i
Operator: AC
Column diameter: 4.60
uAU (x10^3)
Min
-HMX (4.544)
-RDX (4.990)
-1,2-dinitrobenzene (8.170)
-4-AM-DNT (9.157)
-2-AM-DNT (9.710)
-2-nitrotoluene (11.864)
1,3-dinitrobenzene (12.317)
-4-nitrotoluene (13.024)
-3-nitrotoluene (13.390)
-2,6-dinitrotoluene (15.550)
-2,4-dinitrotoluene (19.324)
-1,3,5-trinitrobenzene (20.277)
-TETRYL (20.750)
-2,4,6-trinitrotoluene (26.510)
\\target_server\gg\chem\hplc02.i\HPLCLC20.b\HPLCLC20.b\HLC10034.D

Data File: HLC10035.D
Report Date: 26-Mar-2018 13:10

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HPLCLC20.b\HLC10035.D
Lab Smp Id: WG225143-3
Inj Date : 20-MAR-2018 17:01
Operator : AC   Inst ID: hplc02.i
Smp Info : WG225143-3
Misc Info :
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCLC20.b\EXPB05A.m\EXPB05A.m
Meth Date : 22-Mar-2018 05:09 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 17:01   Cal File: HLC10035.D
Als bottle: 12   Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: T8-D4700

Concentration Formula: Amt * DF * 1000*(Vt/Vo) * CpndVariable

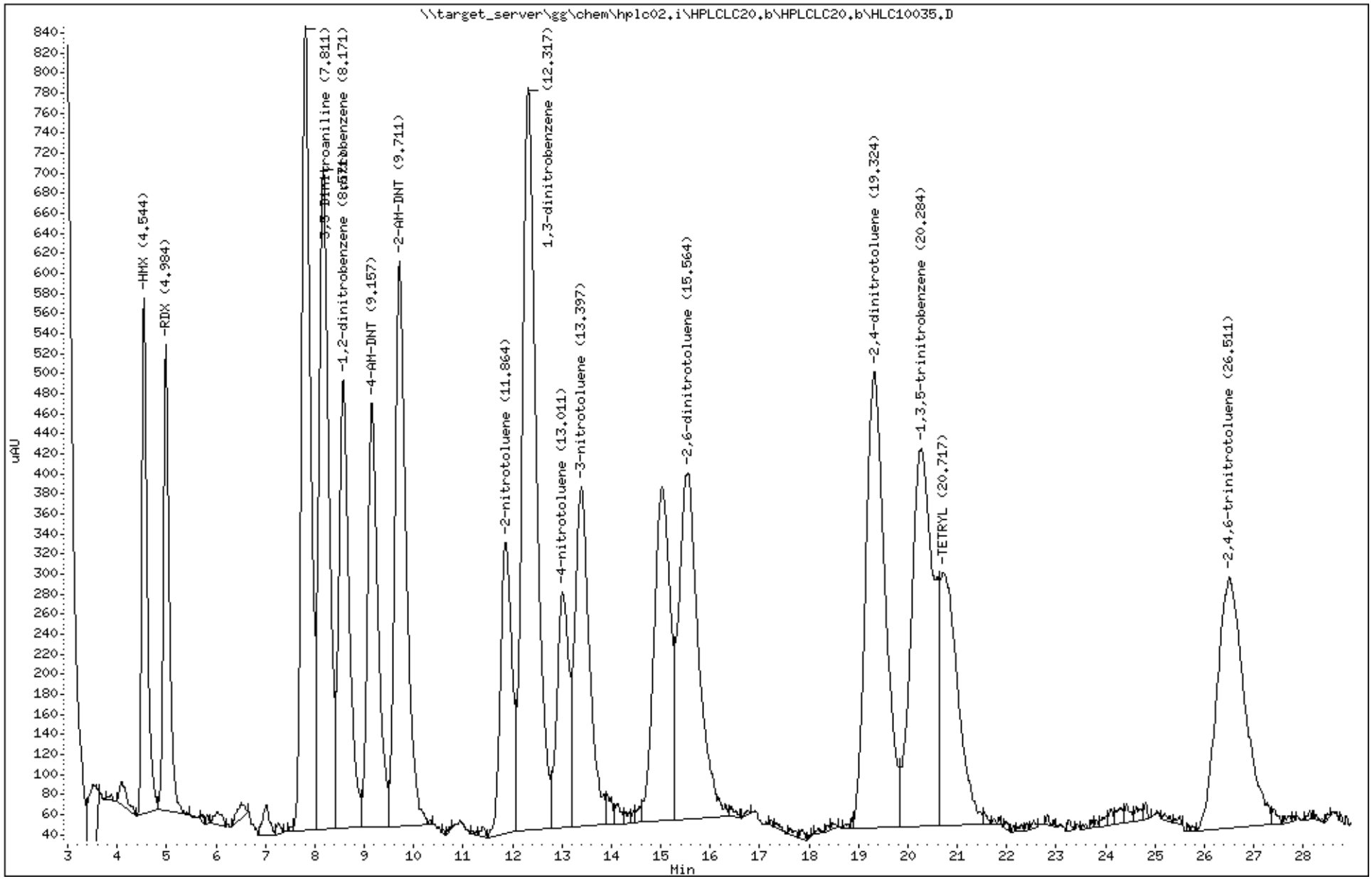
Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00500	Final Volume (L)
Vo	0.50000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)	REVIEW CODE
1	HMX	4.544	4.542	0.002	514	0.10000	0.0940(a)	
4	RDX	4.984	4.989	-0.005	466	0.10000	0.0870(a)	
51	3,5-Dinitroaniline	7.810	7.809	0.001	803	0.10000	0.0959(a)	
7	nitrobenzene	8.170	8.175	-0.005	661	0.10000	0.0958(a)	
$ 2	1,2-dinitrobenzene	8.570	8.575	-0.005	448	0.10000	0.0965(a)	
11	4-AM-DNT	9.157	9.155	0.002	424	0.10000	0.0969(a)	
12	2-AM-DNT	9.710	9.715	-0.005	564	0.10000	0.0964(a)	
15	2-nitrotoluene	11.864	11.862	0.002	290	0.10000	0.0970(a)	
6	1,3-dinitrobenzene	12.317	12.315	0.002	741	0.10000	0.0971(a)	
16	4-nitrotoluene	13.010	13.022	-0.012	235	0.10000	0.0968(a)	
17	3-nitrotoluene	13.397	13.389	0.008	339	0.10000	0.101(a)	
13	2,6-dinitrotoluene	15.564	15.542	0.022	345	0.10000	0.114(a)	
14	2,4-dinitrotoluene	19.324	19.309	0.015	456	0.10000	0.0976(a)	
5	1,3,5-trinitrobenzene	20.284	20.222	0.062	377	0.10000	0.0997(a)	
9	TETRYL	20.717	20.722	-0.005	253	0.10000	0.0985(a)	
10	2,4,6-trinitrotoluene	26.510	26.469	0.041	251	0.10000	0.0999(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).

Data File: \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HPLCLC20.b\HLC10035.D
Date : 20-MAR-2018 17:01
Client ID:
Instrument: hplc02.i
Sample Info: WG225143-3
Purge Volume: 0.5
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 3000118

Data File: HLC10036.D
Report Date: 26-Mar-2018 13:10

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HPLCLC20.b\HLC10036.D
Lab Smp Id: WG225143-2
Inj Date : 20-MAR-2018 17:33
Operator : AC   Inst ID: hplc02.i
Smp Info : WG225143-2
Misc Info :
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCLC20.b\EXPB05A.m\EXPB05A.m
Meth Date : 22-Mar-2018 05:09 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 17:33   Cal File: HLC10036.D
Als bottle: 13   Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: T8-D4700

Concentration Formula: Amt * DF * 1000*(Vt/Vo) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00500	Final Volume (L)
Vo	0.50000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

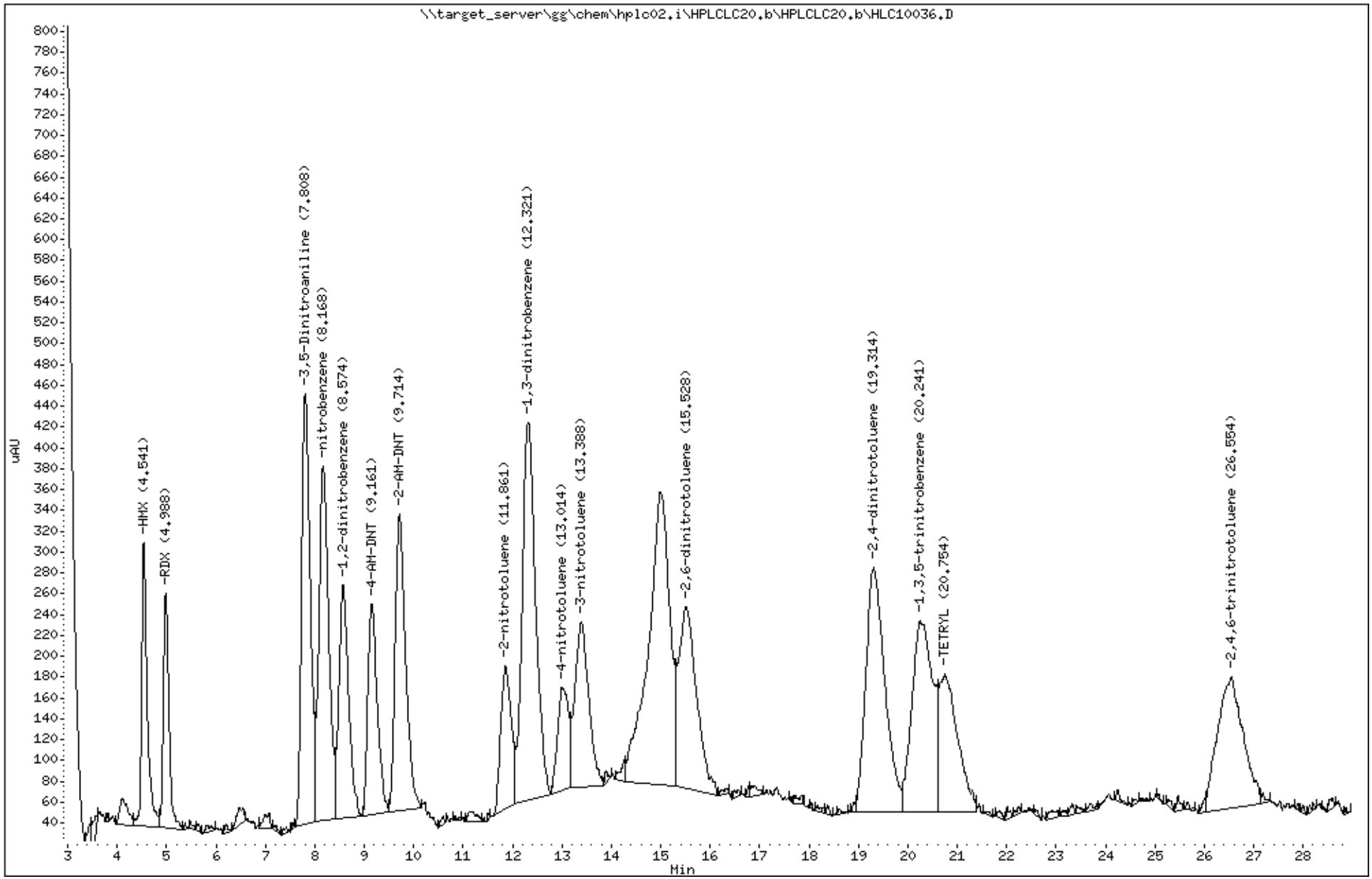
	Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	ON-COL (ug/mL)	REVIEW CODE
1	HMX	4.541	4.542	-0.001	272	0.05000	0.0504(a)	
4	RDX	4.987	4.989	-0.002	225	0.05000	0.0463(a)	
51	3,5-Dinitroaniline	7.807	7.809	-0.002	414	0.05000	0.0498(a)	
7	nitrobenzene	8.167	8.175	-0.008	341	0.05000	0.0497(a)	
$ 2	1,2-dinitrobenzene	8.574	8.575	-0.001	225	0.05000	0.0486(a)	
11	4-AM-DNT	9.161	9.155	0.006	202	0.05000	0.0469(a)	
12	2-AM-DNT	9.714	9.715	-0.001	285	0.05000	0.0495(a)	
15	2-nitrotoluene	11.861	11.862	-0.001	138	0.05000	0.0478(a)	
6	1,3-dinitrobenzene	12.321	12.315	0.006	364	0.05000	0.0492(a)	
16	4-nitrotoluene	13.014	13.022	-0.008	99	0.05000	0.0449(a)	
17	3-nitrotoluene	13.387	13.389	-0.002	159	0.05000	0.0502(a)	
13	2,6-dinitrotoluene	15.527	15.542	-0.015	175	0.05000	0.0588(a)	
14	2,4-dinitrotoluene	19.307	19.309	-0.002	235	0.05000	0.0508(aM)	M9
5	1,3,5-trinitrobenzene	20.241	20.222	0.019	184	0.05000	0.0548(aM)	M9
9	TETRYL	20.754	20.722	0.032	133	0.05000	0.0593(aM)	M9
10	2,4,6-trinitrotoluene	26.554	26.469	0.085	126	0.05000	0.0551(a)	

2:43 pm, Mar 26, 2018

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.

Data File: \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HPLCLC20.b\HLC10036.D
Date : 20-MAR-2018 17:33
Client ID:
Instrument: hplc02.i
Sample Info: WG225143-2
Purge Volume: 0.5
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 3000120

Data File: HLC10037.D
Report Date: 26-Mar-2018 13:11

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HPLCLC20.b\HLC10037.D
Lab Smp Id: WG225143-1
Inj Date : 20-MAR-2018 18:05
Operator : AC   Inst ID: hplc02.i
Smp Info : WG225143-1
Misc Info :
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCLC20.b\EXPB05A.m\EXPB05A.m
Meth Date : 22-Mar-2018 05:09 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05   Cal File: HLC10037.D
Als bottle: 14   Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: T8-D4700

Concentration Formula: Amt * DF * 1000*(Vt/Vo) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00500	Final Volume (L)
Vo	0.50000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

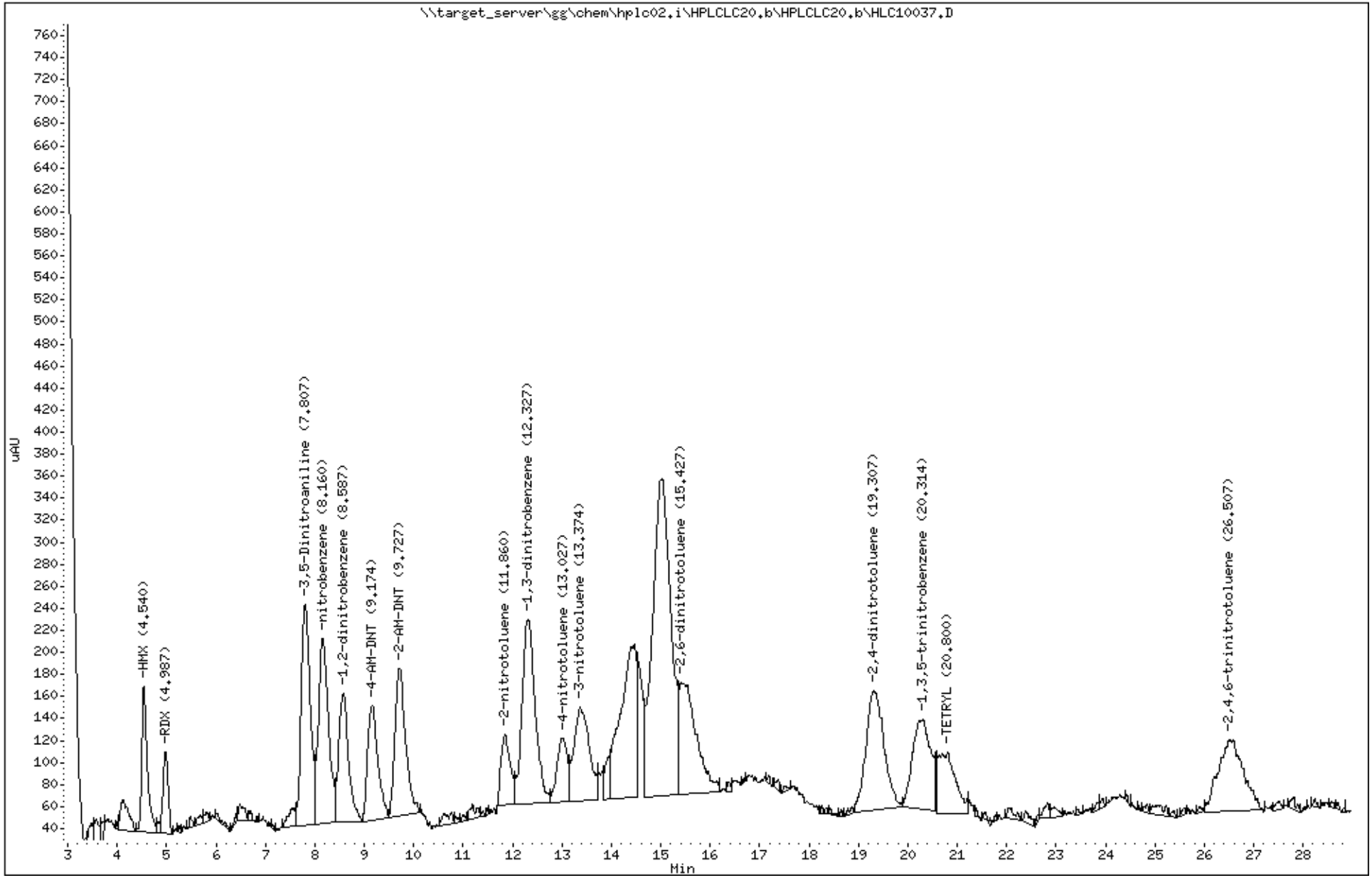
	Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)	REVIEW CODE
1	HMX	4.540	4.542	-0.002	133	0.02500	0.0247(a)	
4	RDX	4.987	4.989	-0.002	75	0.02500	0.0154(a)	
51	3,5-Dinitroaniline	7.807	7.809	-0.002	202	0.02500	0.0243(a)	
7	nitrobenzene	8.160	8.175	-0.015	169	0.02500	0.0246(a)	
$ 2	1,2-dinitrobenzene	8.587	8.575	0.012	117	0.02500	0.0253(a)	
11	4-AM-DNT	9.173	9.155	0.018	105	0.02500	0.0244(a)	
12	2-AM-DNT	9.727	9.715	0.012	134	0.02500	0.0233(a)	
15	2-nitrotoluene	11.847	11.862	-0.015	63	0.02500	0.0218(aM)	M9
6	1,3-dinitrobenzene	12.327	12.315	0.012	167	0.02500	0.0224(aM)	M9
16	4-nitrotoluene	12.993	13.022	-0.029	57	0.02500	0.0243(aM)	M9
17	3-nitrotoluene	13.373	13.389	-0.016	84	0.02500	0.0252(aM)	M9
13	2,6-dinitrotoluene	15.407	15.542	-0.135	101	0.02500	0.0312(aM)	M5
14	2,4-dinitrotoluene	19.307	19.309	-0.002	107	0.02500	0.0232(aM)	M9
5	1,3,5-trinitrobenzene	20.313	20.222	0.091	81	0.02500	0.0220(aM)	M9
9	TETRYL	20.800	20.722	0.078	56	0.02500	0.0221(aM)	M9
10	2,4,6-trinitrotoluene	26.507	26.469	0.038	65	0.02500	0.0257(aM)	M9

2:43 pm, Mar 26, 2018

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.

Data File: \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HPLCLC20.b\HLC10037.D
Date : 20-MAR-2018 18:05
Client ID:
Instrument: hplc02.i
Sample Info: WG225143-1
Purge Volume: 0.5
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 3000122

Katahdin
ANALYTICAL SERVICES

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition F
Lab ID : WG227995-4
Lab File ID : HLE10311.D
Initial Calibration Date(s): 03/20/18 14:54 03/20/18 18:05

SDG: SL3995
Analytical Date: 05/10/18 23:07
Instrument ID: HPLC02
Column ID: A

Compound	RRF/Amount	RF0.250	Min RRF	%D/ %Drift	Max %D/ %Drift	Curve Type
150 NITROGLYCERIN	5513	5249	0.010	-4.79207	20.00000	Averaged
155 PETN	2876	2971	0.010	3.30897	20.00000	Averaged

*** = Compound out of QC criteria**

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE10.b\HLE10311.D
Report Date: 24-May-2018 09:24

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE10.b\HLE10311.D
Lab Smp Id: WG227995-4
Inj Date : 10-MAY-2018 23:07
Operator : AAB   Inst ID: hplc02.i
Smp Info : WG227995-4,SL3995
Misc Info : WG227995,WG228021,WG225143-5,SL3995-15
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCLE10.b\EXPB05A.m
Meth Date : 15-May-2018 14:39 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05   Cal File: HLC10037.D
Als bottle: 30   Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*(Vt/Vo) * CpndVariable

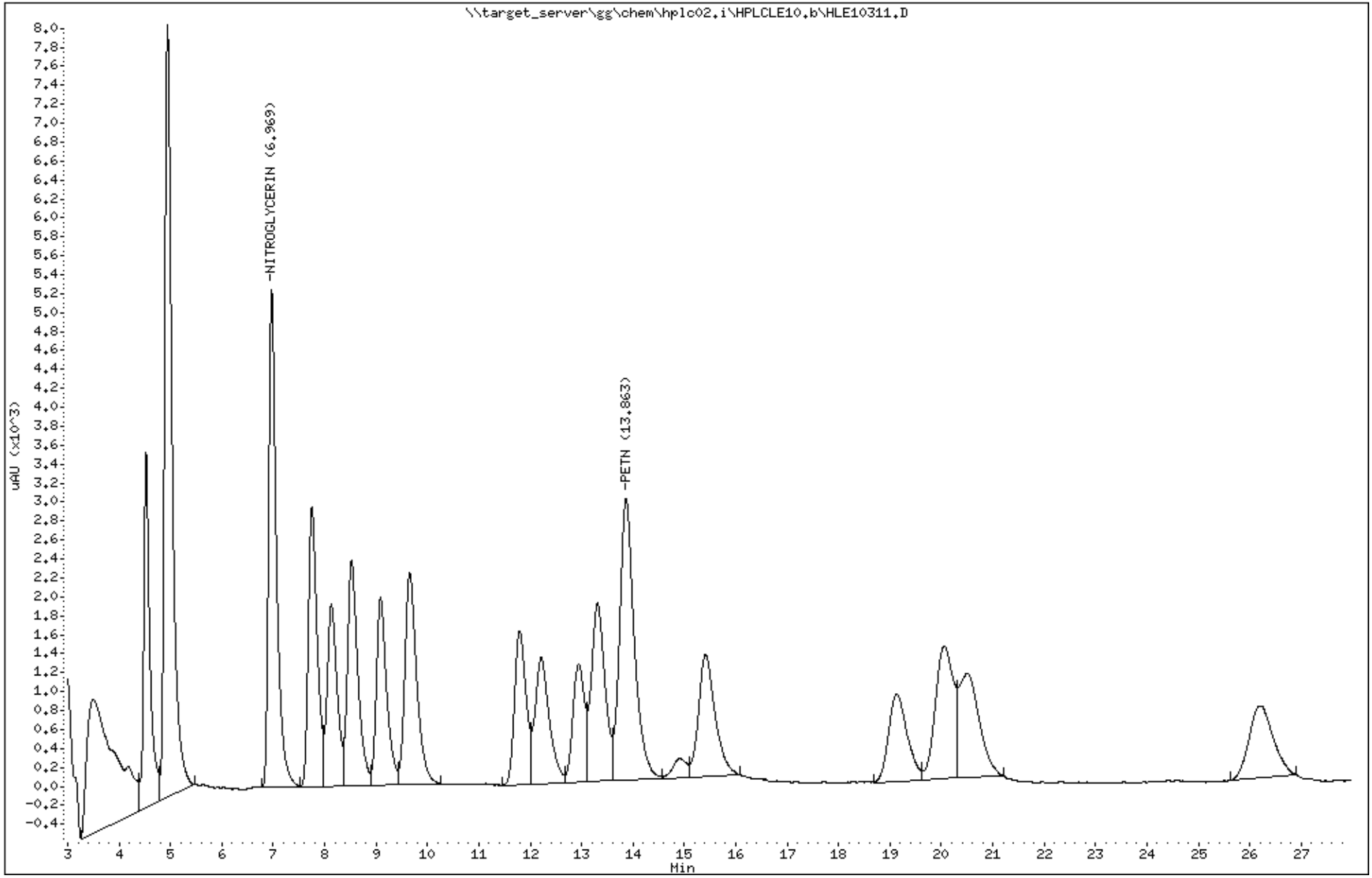
Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00500	Final Volume (L)
Vo	0.50000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

					AMOUNTS	
					CAL-AMT	ON-COL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/mL)	(ug/mL)
8 NITROGLYCERIN	6.969	6.974	-0.005	5249	1.00000	0.952(a)
18 PETN	13.862	13.894	-0.032	2971	1.00000	1.03(a)

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE10.b\HLE10311.D
Date : 10-MAY-2018 23:07
Client ID:
Instrument: hplc02.i
Sample Info: WG227995-4,SL3995
Purge Volume: 0.5
Operator: AAB
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 3000125

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition F
Lab ID : WG227995-5
Lab File ID : HLE10322.D
Initial Calibration Date(s): 03/20/18 14:54 03/20/18 18:05

SDG: SL3995
Analytical Date: 05/11/18 04:48
Instrument ID: HPLC02
Column ID: A

Compound	RRF/Amount	RF0.500	Min RRF	%D/ %Drift	Max %D/ %Drift	Curve Type
150 NITROGLYCERIN	5513	5324	0.010	-3.43170	20.00000	Averaged
155 PETN	2876	3031	0.010	5.37793	20.00000	Averaged

*** = Compound out of QC criteria**

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE10.b\HLE10322.D
Report Date: 24-May-2018 09:24

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE10.b\HLE10322.D
Lab Smp Id: WG227995-5
Inj Date : 11-MAY-2018 04:48
Operator : AAB   Inst ID: hplc02.i
Smp Info : WG227995-5,SL3995
Misc Info : WG227995,WG228021,WG225143-5,SL3995-15
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCLE10.b\EXPB05A.m
Meth Date : 15-May-2018 14:39 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05   Cal File: HLC10037.D
Als bottle: 41   Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*(Vt/Vo) * CpndVariable

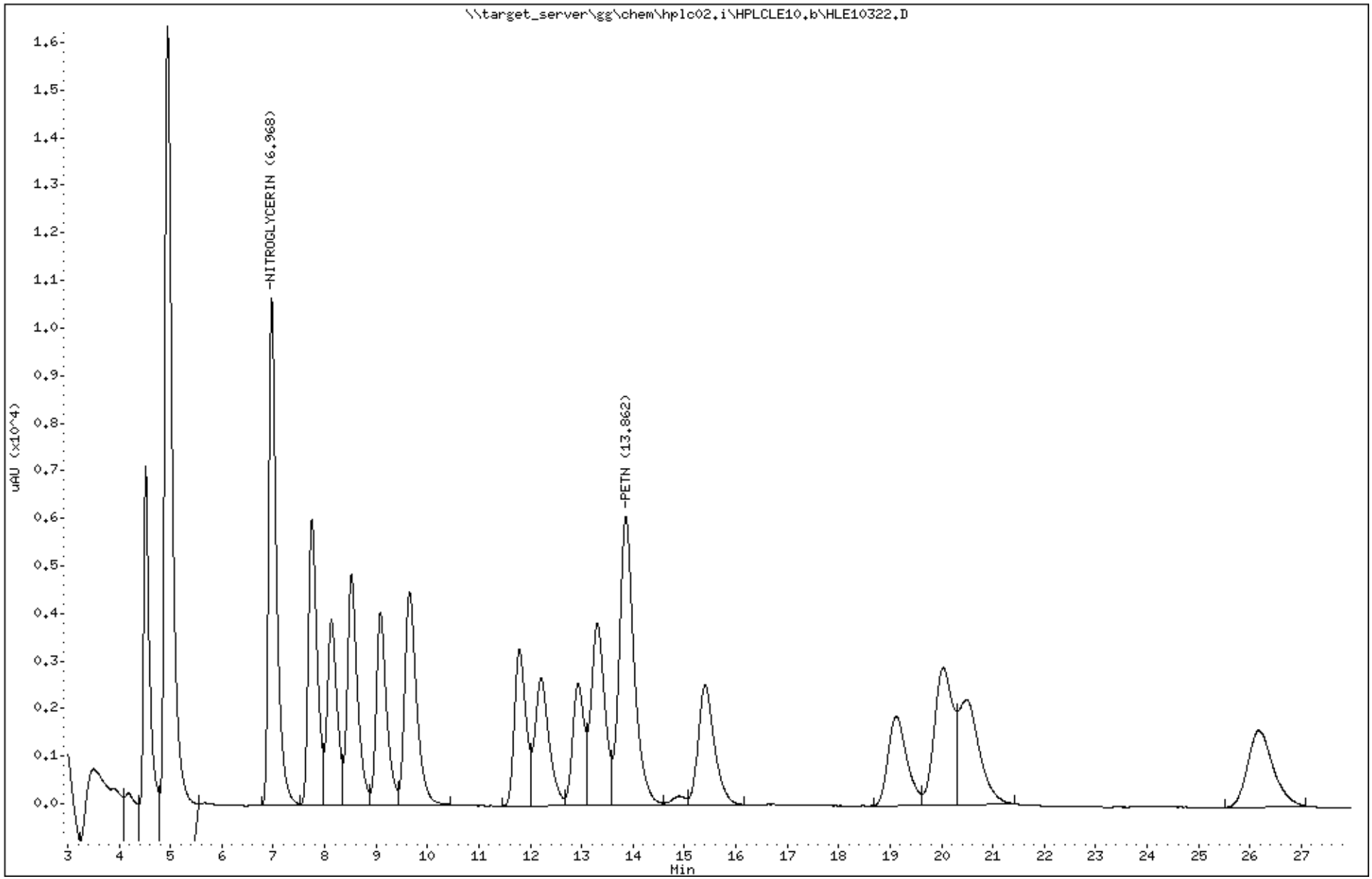
Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00500	Final Volume (L)
Vo	0.50000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

					AMOUNTS	
					CAL-AMT	ON-COL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/mL)	(ug/mL)
8 NITROGLYCERIN	6.968	6.974	-0.006	10648	1.00000	1.93(a)
18 PETN	13.861	13.894	-0.033	6061	1.00000	2.11(a)

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE10.b\HLE10322.D
Date : 11-MAY-2018 04:48
Client ID:
Instrument: hplc02.i
Sample Info: WG227995-5,SL3995
Purge Volume: 0.5
Operator: AAB
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 3000128

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition F
Lab ID : WG228756-4
Lab File ID : HLE10484.D
Initial Calibration Date(s): 03/20/18 14:54 03/20/18 18:05

SDG: SL3995
Analytical Date: 05/16/18 03:48
Instrument ID: HPLC02
Column ID: A

	Compound	RRF/Amount	RF0.250	Min RRF	%D/ %Drift	Max %D/ %Drift	Curve Type
130	NITROGLYCERIN	5513	5209	0.010	-5.51761	20.00000	Averaged
140	PETN	2876	3005	0.010	4.49124	20.00000	Averaged

*** = Compound out of QC criteria**

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HLE10484.D
Report Date: 24-May-2018 09:28

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HLE10484.D
Lab Smp Id: WG228756-4
Inj Date : 16-MAY-2018 03:48
Operator : AAB   Inst ID: hplc02.i
Smp Info : WG228756-4,SL3995
Misc Info : WG228756,WG228106,WG225143-5,SL3995-1
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCLE15.b\EXPB05A.m
Meth Date : 21-May-2018 08:50 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05   Cal File: HLC10037.D
Als bottle: 3   Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

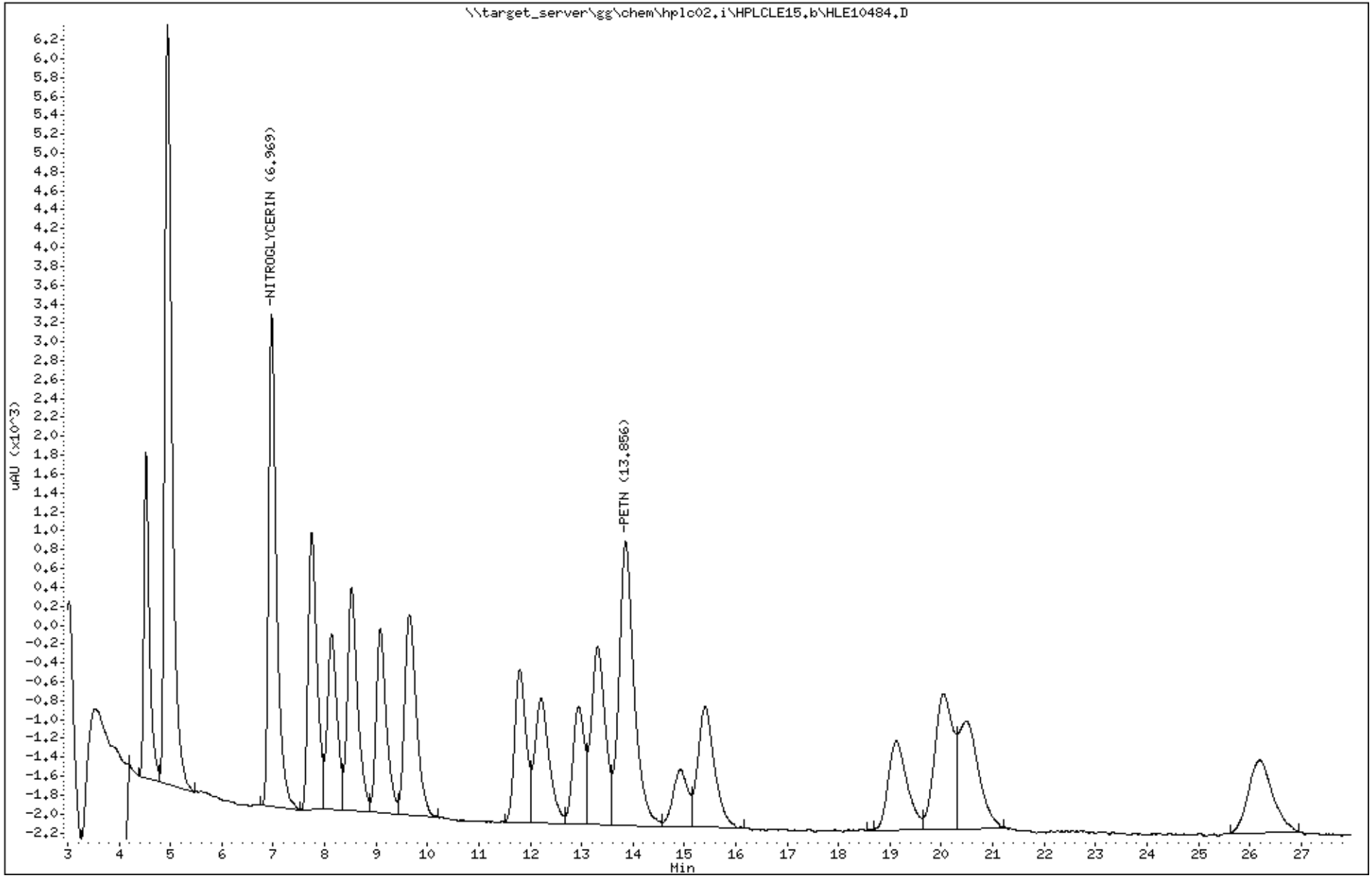
Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01000	Weight of Sample (Kg)
M	0.00000	% Moisture
Cpnd Variable		Local Compound Variable

					AMOUNTS	
					CAL-AMT	ON-COL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/mL)	(ug/mL)
8 NITROGLYCERIN	6.968	6.971	-0.003	5209	1.00000	0.945(a)
18 PETN	13.855	13.865	-0.010	3005	1.00000	1.04(a)

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HLE10484.D
Date : 16-MAY-2018 03:48
Client ID:
Instrument: hplc02.i
Sample Info: WG228756-4,SL3995
Operator: AAB
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 3000131

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition F
Lab ID : WG228756-5
Lab File ID : HLE10495.D
Initial Calibration Date(s): 03/20/18 14:54 03/20/18 18:05

SDG: SL3995
Analytical Date: 05/16/18 09:29
Instrument ID: HPLC02
Column ID: A

	Compound	RRF/Amount	RF0.500	Min RRF	%D/ %Drift	Max %D/ %Drift	Curve Type
130	NITROGLYCERIN	5513	5303	0.010	-3.82167	20.00000	Averaged
140	PETN	2876	3018	0.010	4.92589	20.00000	Averaged

*** = Compound out of QC criteria**

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HLE10495.D
Report Date: 24-May-2018 09:29

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HLE10495.D
Lab Smp Id: WG228756-5
Inj Date : 16-MAY-2018 09:29
Operator : AAB   Inst ID: hplc02.i
Smp Info : WG228756-5,SL3995
Misc Info : WG228756,WG228106,WG225143-5,SL3995-1
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCLE15.b\EXPB05A.m
Meth Date : 21-May-2018 08:50 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05   Cal File: HLC10037.D
Als bottle: 14   Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01000	Weight of Sample (Kg)
M	0.00000	% Moisture
Cpnd Variable		Local Compound Variable

					AMOUNTS	
					CAL-AMT	ON-COL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/mL)	(ug/mL)
8 NITROGLYCERIN	6.979	6.971	0.008	10605	1.00000	1.92(a)
18 PETN	13.892	13.865	0.027	6035	1.00000	2.10(a)

QC Flag Legend

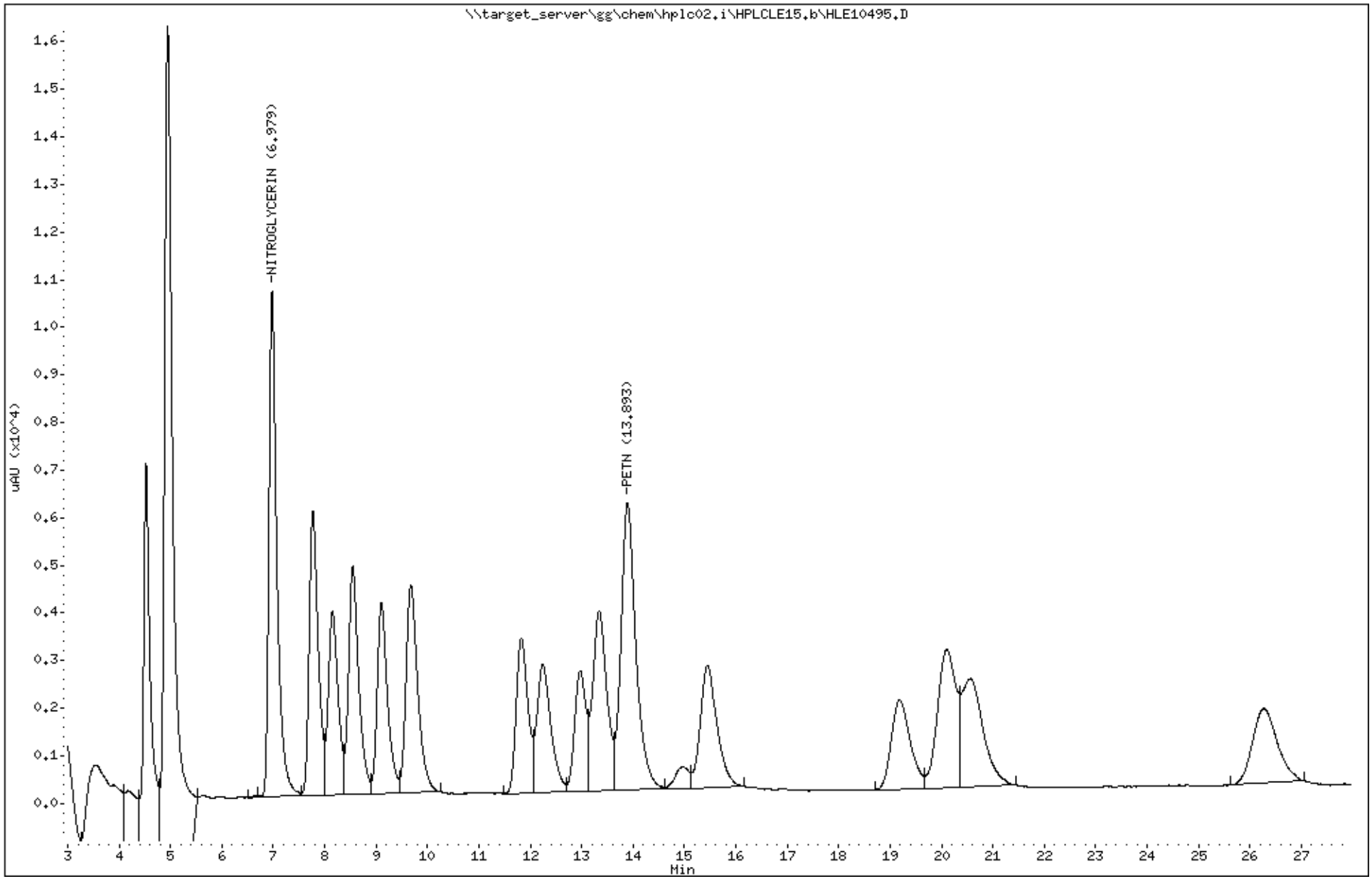
a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HLE10495.D
Date : 16-MAY-2018 09:29
Client ID:
Sample Info: WG228756-5,SL3995

Instrument: hplc02.i

Operator: AAB
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 3000134

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition F
Lab ID : WG228756-6
Lab File ID : HLE10504.D
Initial Calibration Date(s): 03/20/18 14:54 03/20/18 18:05

SDG: SL3995
Analytical Date: 05/16/18 15:34
Instrument ID: HPLC02
Column ID: A

Compound	RRF/Amount	RF0.250	Min RRF	%D/ %Drift	Max %D/ %Drift	Curve Type
130 NITROGLYCERIN	5513	5262	0.010	-4.55628	20.00000	Averaged
140 PETN	2876	2977	0.010	3.51761	20.00000	Averaged

*** = Compound out of QC criteria**

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HLE10504.D
Report Date: 24-May-2018 09:33

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HLE10504.D
Lab Smp Id: WG228756-6
Inj Date : 16-MAY-2018 15:34
Operator : AAB Inst ID: hplc02.i
Smp Info : WG228756-6,SL3995
Misc Info : WG228756,WG228106,WG225143-5,SL3995-1
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\EXPB05A.m
Meth Date : 22-May-2018 05:42 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 23 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetnedgn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01000	Weight of Sample (Kg)
M	0.00000	% Moisture
Cpnd Variable		Local Compound Variable

					AMOUNTS		
					CAL-AMT	ON-COL	
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/mL)	(ug/mL)	
8 NITROGLYCERIN	6.968	6.968	0.000	5262	1.00000	0.954(a)	
18 PETN	13.868	13.868	0.000	2977	1.00000	1.04(a)	
3 Ethylene Glycol Dinitrate	4.942	4.942	0.000	7994	1.00000	0.957(aM)	M2

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.

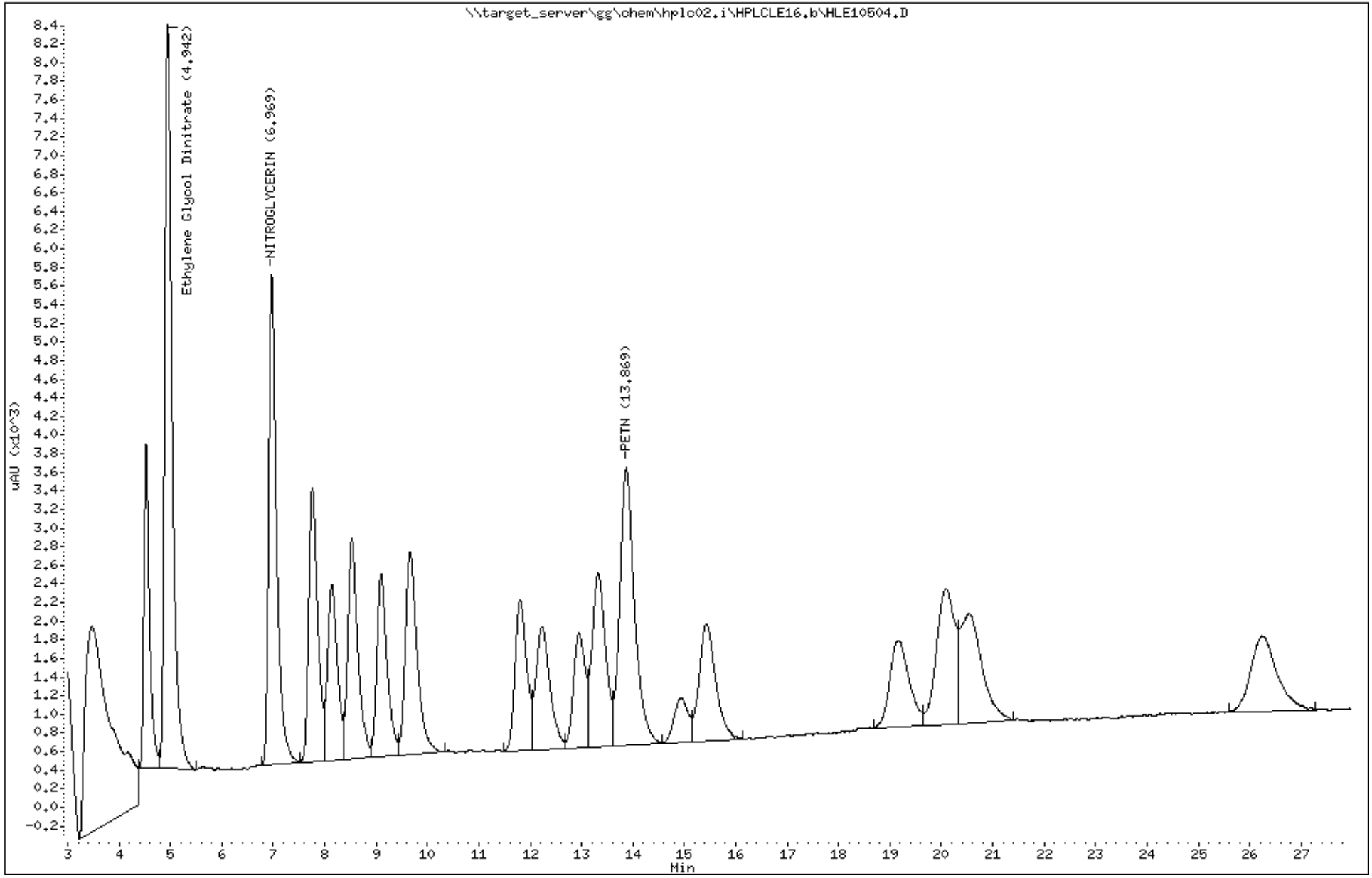
9:55 am, May 24, 2018

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HLE10504.D
Date : 16-MAY-2018 15:34
Client ID:
Sample Info: WG228756-6,SL3995

Column phase: Acclaim Exp E1

Instrument: hplc02.i

Operator: AAB
Column diameter: 4.60



Katahdin Analytical Services 3000137

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
SDG: SL3995
Lab ID : WG227995-4
Analytical Date: 05/10/18 23:07
Lab File ID : HLE10311.D
Instrument ID: HPLC02
Initial Calibration Date(s): 03/20/18 14:54 03/20/18 18:05
Column ID: B

	Compound	$\overline{RRF}$/Amount	RF0.250	CCAL RRF0.250	Min	%D/ %Drift	Max %D/ %Drift	Curve Type
1	HMX	5391	5300	5300	0.010	-1.68149	20.00000	Averaged
4	RDX	0.25000	0.24615	5336	0.010	-1.53810	20.00000	Linear
5	1,3,5-trinitrobenzene	3689	3816	3816	0.010	3.44667	20.00000	Averaged
6	1,3-dinitrobenzene	7444	7536	7536	0.010	1.23978	20.00000	Averaged
7	nitrobenzene	6867	6648	6648	0.010	-3.18413	20.00000	Averaged
9	TETRYL	2535	2824	2824	0.010	11.41923	20.00000	Averaged
10	2,4,6-trinitrotoluene	2526	2476	2476	0.010	-1.99327	20.00000	Averaged
11	4-AM-DNT	4303	4304	4304	0.010	0.02988	20.00000	Averaged
12	2-AM-DNT	5761	5812	5812	0.010	0.89027	20.00000	Averaged
13	2,6-dinitrotoluene	0.25000	0.23894	2888	0.010	-4.42405	20.00000	Linear
14	2,4-dinitrotoluene	4619	4680	4680	0.010	1.33160	20.00000	Averaged
15	2-nitrotoluene	2890	2928	2928	0.010	1.32991	20.00000	Averaged
16	4-nitrotoluene	2342	2344	2344	0.010	0.06709	20.00000	Averaged
17	3-nitrotoluene	3326	3184	3184	0.010	-4.25911	20.00000	Averaged
2	1,2-dinitrobenzene	4627	4764	4764	0.010	2.95135	20.00000	Averaged

*** = Compound out of QC criteria**

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Data File: HLE10311.D
Report Date: 24-May-2018 09:25

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE10.b\HPLCLE10.b\HLE10311.D
Lab Smp Id: WG227995-4
Inj Date : 10-MAY-2018 23:07
Operator : AAB   Inst ID: hplc02.i
Smp Info : WG227995-4,SL3995
Misc Info : WG227995,WG228021,WG225143-5,SL3995-15
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCLE10.b\EXPB05A.m\EXPB05A.m
Meth Date : 15-May-2018 14:26 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05   Cal File: HLC10037.D
Als bottle: 30   Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*(Vt/Vo) * CpndVariable

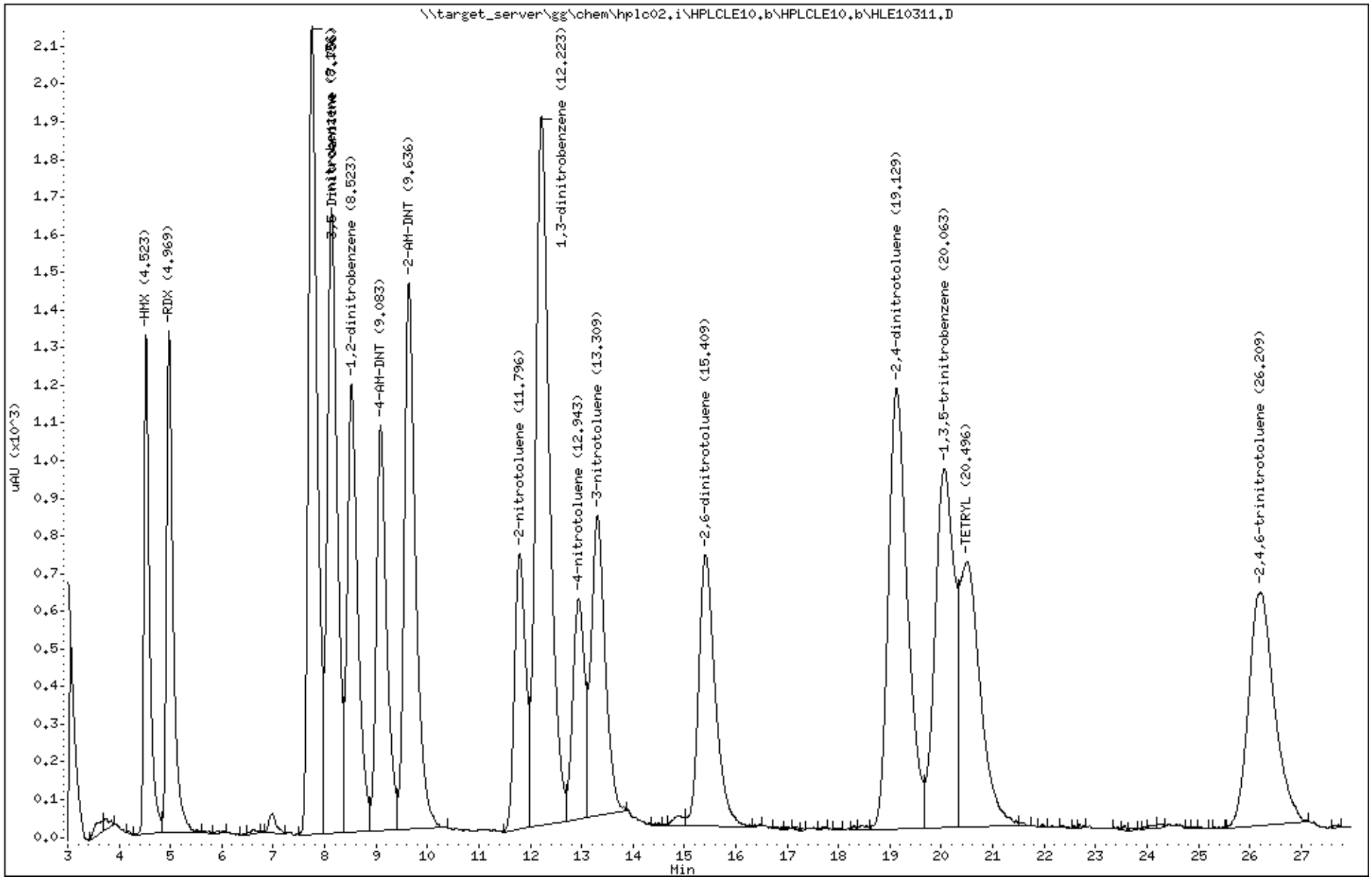
Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00500	Final Volume (L)
Vo	0.50000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)	REVIEW CODE
1	HMX	4.522	4.527	-0.005	1325	0.25000	0.246(a)	
4	RDX	4.969	4.974	-0.005	1334	0.25000	0.246(a)	
51	3,5-Dinitroaniline	7.756	7.774	-0.018	2146	0.25000	0.258	
7	nitrobenzene	8.136	8.147	-0.011	1662	0.25000	0.242(a)	
$ 2	1,2-dinitrobenzene	8.522	8.540	-0.018	1191	0.25000	0.257	
11	4-AM-DNT	9.082	9.107	-0.025	1076	0.25000	0.250	
12	2-AM-DNT	9.636	9.667	-0.031	1453	0.25000	0.252	
15	2-nitrotoluene	11.796	11.820	-0.024	732	0.25000	0.253	
6	1,3-dinitrobenzene	12.222	12.254	-0.032	1884	0.25000	0.253	
16	4-nitrotoluene	12.942	12.967	-0.025	586	0.25000	0.250	
17	3-nitrotoluene	13.309	13.334	-0.025	796	0.25000	0.239(a)	
13	2,6-dinitrotoluene	15.409	15.454	-0.045	722	0.25000	0.239(a)	
14	2,4-dinitrotoluene	19.129	19.194	-0.065	1170	0.25000	0.253	
5	1,3,5-trinitrobenzene	20.062	20.120	-0.058	954	0.25000	0.259	
9	TETRYL	20.496	20.580	-0.084	706	0.25000	0.278	
10	2,4,6-trinitrotoluene	26.209	26.300	-0.091	619	0.25000	0.245(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE10.b\HPLCLE10.b\HLE10311.D
Date : 10-MAY-2018 23:07
Client ID:
Instrument: hplc02.i
Sample Info: WG227995-4,SL3995
Purge Volume: 0.5
Operator: AAB
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 3000140

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
Lab ID : WG227995-5
Lab File ID : HLE10322.D
Initial Calibration Date(s): 03/20/18 14:54 03/20/18 18:05

SDG: SL3995
Analytical Date: 05/11/18 04:48
Instrument ID: HPLC02
Column ID: B

	Compound	$\overline{RRF}$/Amount	RF0.500	CCAL RRF0.500	Min	%D/ %Drift	Max %D/ %Drift	Curve Type
1	HMX	5391	5372	5372	0.010	-0.34584	20.00000	Averaged
4	RDX	0.50000	0.49544	5436	0.010	-0.91136	20.00000	Linear
5	1,3,5-trinitrobenzene	3689	3860	3860	0.010	4.63945	20.00000	Averaged
6	1,3-dinitrobenzene	7444	7686	7686	0.010	3.25490	20.00000	Averaged
7	nitrobenzene	6867	6746	6746	0.010	-1.75694	20.00000	Averaged
9	TETRYL	2535	2736	2736	0.010	7.94724	20.00000	Averaged
10	2,4,6-trinitrotoluene	2526	2562	2562	0.010	1.41084	20.00000	Averaged
11	4-AM-DNT	4303	4384	4384	0.010	1.88917	20.00000	Averaged
12	2-AM-DNT	5761	5906	5906	0.010	2.52201	20.00000	Averaged
13	2,6-dinitrotoluene	0.50000	0.48923	2880	0.010	-2.15387	20.00000	Linear
14	2,4-dinitrotoluene	4619	4750	4750	0.010	2.84724	20.00000	Averaged
15	2-nitrotoluene	2890	2978	2978	0.010	3.06027	20.00000	Averaged
16	4-nitrotoluene	2342	2450	2450	0.010	4.59230	20.00000	Averaged
17	3-nitrotoluene	3326	3336	3336	0.010	0.31143	20.00000	Averaged
2	1,2-dinitrobenzene	4627	4834	4834	0.010	4.46407	20.00000	Averaged

*** = Compound out of QC criteria**

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Data File: HLE10322.D
Report Date: 24-May-2018 09:25

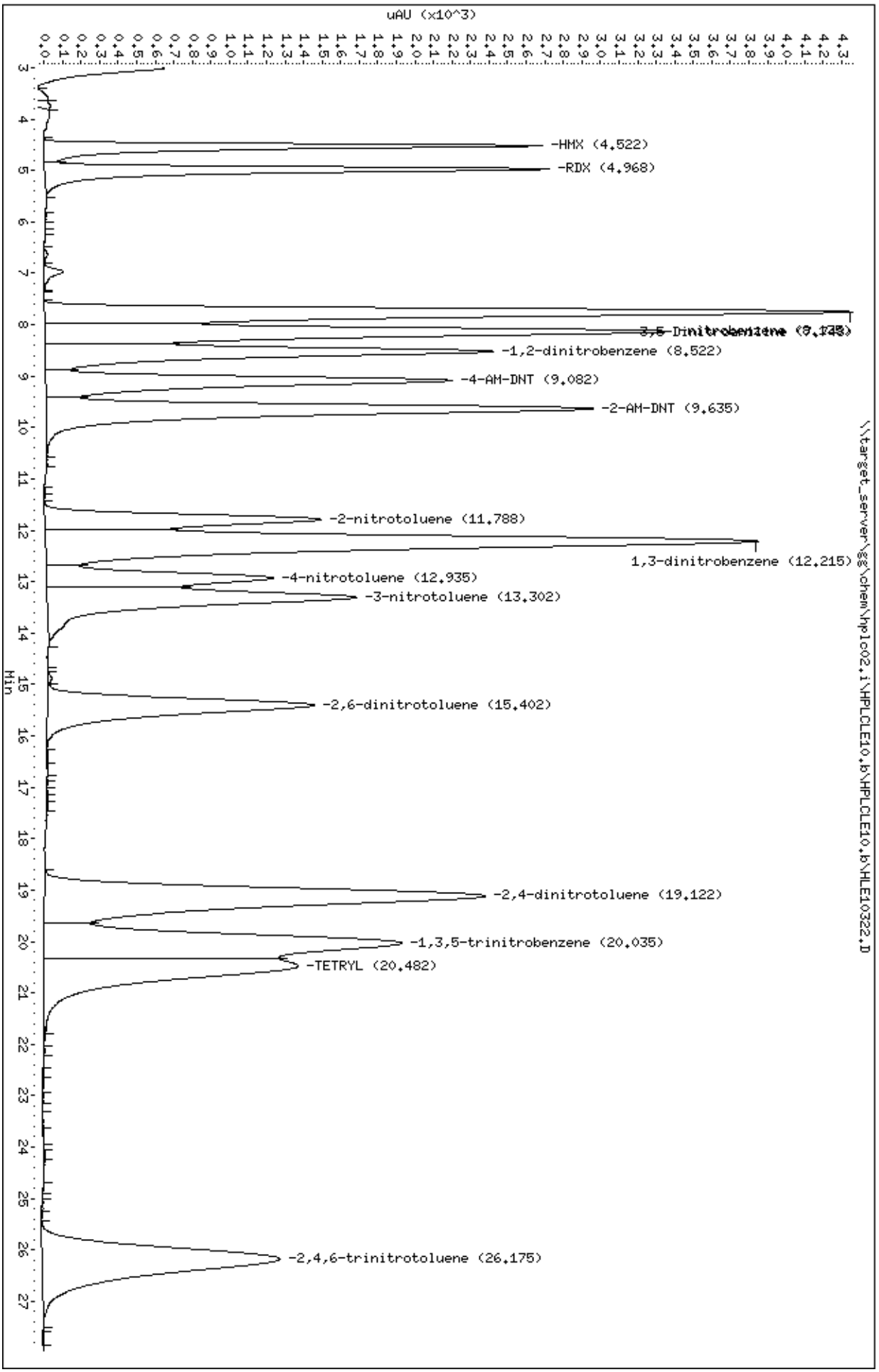
Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE10.b\HPLCLE10.b\HLE10322.D
Lab Smp Id: WG227995-5
Inj Date : 11-MAY-2018 04:48
Operator : AAB   Inst ID: hplc02.i
Smp Info : WG227995-5,SL3995
Misc Info : WG227995,WG228021,WG225143-5,SL3995-15
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCLE10.b\EXPB05A.m\EXPB05A.m
Meth Date : 15-May-2018 14:26 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05   Cal File: HLC10037.D
Als bottle: 41   Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*(Vt/Vo) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00500	Final Volume (L)
Vo	0.50000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)	REVIEW CODE
1	HMX	4.521	4.527	-0.006	2686	0.25000	0.498	
4	RDX	4.968	4.974	-0.006	2718	0.25000	0.495	
51	3,5-Dinitroaniline	7.748	7.774	-0.026	4357	0.25000	0.524	
7	nitrobenzene	8.135	8.147	-0.012	3373	0.25000	0.491	
$ 2	1,2-dinitrobenzene	8.521	8.540	-0.019	2417	0.25000	0.522	
11	4-AM-DNT	9.081	9.107	-0.026	2192	0.25000	0.509	
12	2-AM-DNT	9.635	9.667	-0.032	2953	0.25000	0.513	
15	2-nitrotoluene	11.788	11.820	-0.032	1489	0.25000	0.515	
6	1,3-dinitrobenzene	12.215	12.254	-0.039	3843	0.25000	0.516	
16	4-nitrotoluene	12.935	12.967	-0.032	1225	0.25000	0.523	
17	3-nitrotoluene	13.301	13.334	-0.033	1668	0.25000	0.502	
13	2,6-dinitrotoluene	15.401	15.454	-0.053	1440	0.25000	0.489	
14	2,4-dinitrotoluene	19.121	19.194	-0.073	2375	0.25000	0.514	
5	1,3,5-trinitrobenzene	20.035	20.120	-0.085	1930	0.25000	0.523	
9	TETRYL	20.481	20.580	-0.099	1368	0.25000	0.540	
10	2,4,6-trinitrotoluene	26.175	26.300	-0.125	1281	0.25000	0.507	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Date : 11-MAY-2018 04:48
Client ID:
Sample Info: WG227995-5,SL3995
Purge Volume: 0.5
Column phase: Acclaim Exp E1
Instrument: hplc02.i
Operator: AAB
Column diameter: 4.60
\\target_server\gg\chem\hplc02.i\HPLCLE10.b\HPLCLE10.b\HLE10322.D
uAU (x10^3)
Min
-HMX (4.522)
-RDX (4.968)
3,5-Dinitroaniline (7.745)
-1,2-dinitrobenzene (8.522)
-4-AM-DNT (9.082)
-2-AM-DNT (9.635)
-2-nitrotoluene (11.788)
1,3-dinitrobenzene (12.215)
-4-nitrotoluene (12.935)
-3-nitrotoluene (13.302)
-2,6-dinitrotoluene (15.402)
-2,4-dinitrotoluene (19.122)
-1,3,5-trinitrobenzene (20.035)
-TETRYL (20.482)
-2,4,6-trinitrotoluene (26.175)

Katahdin
ANALYTICAL SERVICES

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
SDG: SL3995
Lab ID : WG228756-4
Analytical Date: 05/16/18 03:48
Lab File ID : HLE10484.D
Instrument ID: HPLC02
Initial Calibration Date(s): 03/20/18 14:54 03/20/18 18:05
Column ID: B

	Compound	$\overline{\text{RRF}}$/Amount	RF0.250	CCAL RRF0.250	Min	%D/ %Drift	Max %D/ %Drift	Curve Type
1	HMX	5391	5192	5192	0.010	-3.68496	20.00000	Averaged
4	RDX	0.25000	0.24363	5280	0.010	-2.54678	20.00000	Linear
5	1,3,5-trinitrobenzene	3689	3852	3852	0.010	4.42259	20.00000	Averaged
6	1,3-dinitrobenzene	7444	7496	7496	0.010	0.70241	20.00000	Averaged
7	nitrobenzene	6867	6580	6580	0.010	-4.17443	20.00000	Averaged
9	TETRYL	2535	2860	2860	0.010	12.83959	20.00000	Averaged
10	2,4,6-trinitrotoluene	2526	2512	2512	0.010	-0.56829	20.00000	Averaged
11	4-AM-DNT	4303	4268	4268	0.010	-0.80680	20.00000	Averaged
12	2-AM-DNT	5761	5728	5728	0.010	-0.56789	20.00000	Averaged
13	2,6-dinitrotoluene	0.25000	0.23545	2848	0.010	-5.81843	20.00000	Linear
14	2,4-dinitrotoluene	4619	4720	4720	0.010	2.19768	20.00000	Averaged
15	2-nitrotoluene	2890	2920	2920	0.010	1.05305	20.00000	Averaged
16	4-nitrotoluene	2342	2348	2348	0.010	0.23785	20.00000	Averaged
17	3-nitrotoluene	3326	3248	3248	0.010	-2.33467	20.00000	Averaged
2	1,2-dinitrobenzene	4627	4768	4768	0.010	3.03779	20.00000	Averaged

*** = Compound out of QC criteria**

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Data File: HLE10484.D
Report Date: 24-May-2018 09:31

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HPLCLE15.b\HLE10484.D
Lab Smp Id: WG228756-4
Inj Date : 16-MAY-2018 03:48
Operator : AAB   Inst ID: hplc02.i
Smp Info : WG228756-4,SL3995
Misc Info : WG228756,WG228106,WG225143-5,SL3995-1
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCLE15.b\EXPB05A.m\EXPB05A.m
Meth Date : 21-May-2018 08:35 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05   Cal File: HLC10037.D
Als bottle: 3   Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

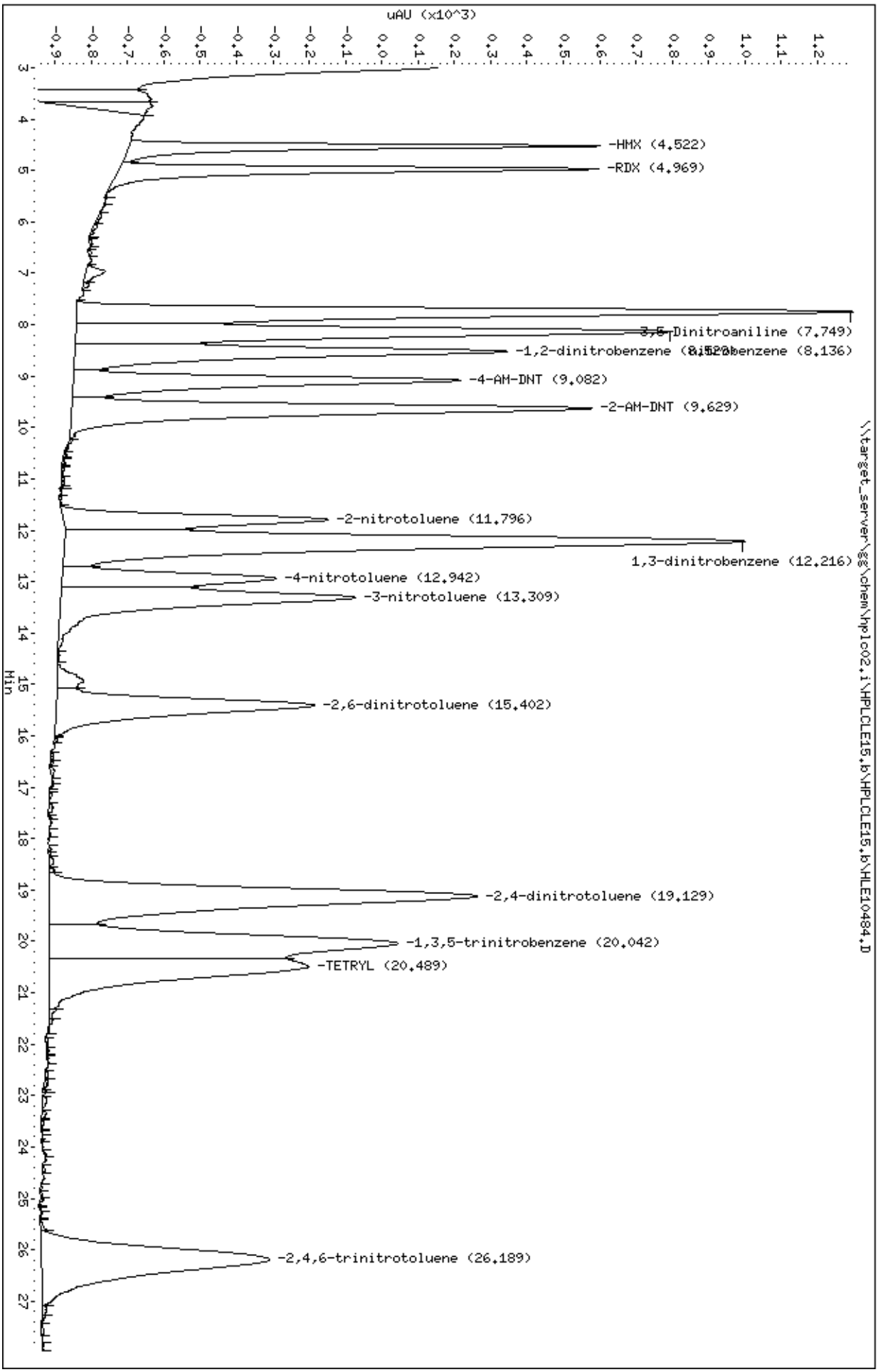
Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01000	Weight of Sample (Kg)
M	0.00000	% Moisture
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)	REVIEW CODE
1	HMX	4.522	4.525	-0.003	1298	0.25000	0.241(a)	
4	RDX	4.968	4.971	-0.003	1320	0.25000	0.244(a)	
51	3,5-Dinitroaniline	7.748	7.758	-0.010	2138	0.25000	0.257	
7	nitrobenzene	8.135	8.145	-0.010	1645	0.25000	0.240(a)	
$ 2	1,2-dinitrobenzene	8.528	8.538	-0.010	1192	0.25000	0.258	
11	4-AM-DNT	9.082	9.098	-0.016	1067	0.25000	0.248(a)	
12	2-AM-DNT	9.628	9.645	-0.017	1432	0.25000	0.248(a)	
15	2-nitrotoluene	11.795	11.805	-0.010	730	0.25000	0.253	
6	1,3-dinitrobenzene	12.215	12.238	-0.023	1874	0.25000	0.252	
16	4-nitrotoluene	12.942	12.958	-0.016	587	0.25000	0.250	
17	3-nitrotoluene	13.308	13.325	-0.017	812	0.25000	0.244(a)	
13	2,6-dinitrotoluene	15.402	15.431	-0.029	712	0.25000	0.235(a)	
14	2,4-dinitrotoluene	19.128	19.158	-0.030	1180	0.25000	0.255	
5	1,3,5-trinitrobenzene	20.042	20.071	-0.029	963	0.25000	0.261	
9	TETRYL	20.488	20.518	-0.030	715	0.25000	0.282	
10	2,4,6-trinitrotoluene	26.188	26.225	-0.037	628	0.25000	0.248(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).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Date : 16-MAY-2018 03:48
Client ID:
Sample Info: WG228756-4,SL3995
Column phase: Acclaim Exp E1
Instrument: hplc02,i
Operator: AAB
Column diameter: 4.60
uAU (x10^3)
Min
\\target_server\gg\chem\hplc02,i\HPLCLE15,b\HPLCLE15,b\HLE10484,D
-HMX (4.522)
-RDX (4.969)
3,5-Dinitroaniline (7.749)
-1,2-dinitrobenzene (8.520)
-1,3-dinitrobenzene (8.136)
-4-AM-DNT (9.082)
-2-AM-DNT (9.629)
-2-nitrotoluene (11.796)
1,3-dinitrobenzene (12.216)
-4-nitrotoluene (12.942)
-3-nitrotoluene (13.309)
-2,6-dinitrotoluene (15.402)
-2,4-dinitrotoluene (19.129)
-1,3,5-trinitrobenzene (20.042)
-TETRYL (20.489)
-2,4,6-trinitrotoluene (26.189)

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
Lab ID : WG228756-5
Lab File ID : HLE10495.D
Initial Calibration Date(s): 03/20/18 14:54 03/20/18 18:05

SDG: SL3995
Analytical Date: 05/16/18 09:29
Instrument ID: HPLC02
Column ID: B

	Compound	$\overline{RRF}$/Amount	RF0.500	CCAL RRF0.500	Min	%D/ %Drift	Max %D/ %Drift	Curve Type
1	HMX	5391	5296	5296	0.010	-1.75569	20.00000	Averaged
4	RDX	0.50000	0.49148	5392	0.010	-1.70389	20.00000	Linear
5	1,3,5-trinitrobenzene	3689	3866	3866	0.010	4.80211	20.00000	Averaged
6	1,3-dinitrobenzene	7444	7658	7658	0.010	2.87875	20.00000	Averaged
7	nitrobenzene	6867	6708	6708	0.010	-2.31034	20.00000	Averaged
9	TETRYL	2535	2814	2814	0.010	11.02469	20.00000	Averaged
10	2,4,6-trinitrotoluene	2526	2552	2552	0.010	1.01501	20.00000	Averaged
11	4-AM-DNT	4303	4346	4346	0.010	1.00601	20.00000	Averaged
12	2-AM-DNT	5761	5840	5840	0.010	1.37632	20.00000	Averaged
13	2,6-dinitrotoluene	0.50000	0.49969	2940	0.010	-0.06230	20.00000	Linear
14	2,4-dinitrotoluene	4619	4728	4728	0.010	2.37090	20.00000	Averaged
15	2-nitrotoluene	2890	2966	2966	0.010	2.64498	20.00000	Averaged
16	4-nitrotoluene	2342	2450	2450	0.010	4.59230	20.00000	Averaged
17	3-nitrotoluene	3326	3314	3314	0.010	-0.35009	20.00000	Averaged
2	1,2-dinitrobenzene	4627	4790	4790	0.010	3.51321	20.00000	Averaged

*** = Compound out of QC criteria**

Data File: HLE10495.D
Report Date: 24-May-2018 09:32

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HPLCLE15.b\HLE10495.D
Lab Smp Id: WG228756-5
Inj Date : 16-MAY-2018 09:29
Operator : AAB   Inst ID: hplc02.i
Smp Info : WG228756-5,SL3995
Misc Info : WG228756,WG228106,WG225143-5,SL3995-1
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCLE15.b\EXPB05A.m\EXPB05A.m
Meth Date : 21-May-2018 08:35 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05   Cal File: HLC10037.D
Als bottle: 14   Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01000	Weight of Sample (Kg)
M	0.00000	% Moisture
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)	REVIEW CODE
1	HMX	4.526	4.525	0.001	2648	0.25000	0.491	
4	RDX	4.972	4.971	0.001	2696	0.25000	0.491	
51	3,5-Dinitroaniline	7.766	7.758	0.008	4324	0.25000	0.520	
7	nitrobenzene	8.152	8.145	0.007	3354	0.25000	0.488	
$ 2	1,2-dinitrobenzene	8.546	8.538	0.008	2395	0.25000	0.518	
11	4-AM-DNT	9.106	9.098	0.008	2173	0.25000	0.505	
12	2-AM-DNT	9.659	9.645	0.014	2920	0.25000	0.507	
15	2-nitrotoluene	11.819	11.805	0.014	1483	0.25000	0.513	
6	1,3-dinitrobenzene	12.246	12.238	0.008	3829	0.25000	0.514	
16	4-nitrotoluene	12.972	12.958	0.014	1225	0.25000	0.523	
17	3-nitrotoluene	13.339	13.325	0.014	1657	0.25000	0.498	
13	2,6-dinitrotoluene	15.452	15.431	0.021	1470	0.25000	0.500	
14	2,4-dinitrotoluene	19.186	19.158	0.028	2364	0.25000	0.512	
5	1,3,5-trinitrobenzene	20.099	20.071	0.028	1933	0.25000	0.524	
9	TETRYL	20.566	20.518	0.048	1407	0.25000	0.555	
10	2,4,6-trinitrotoluene	26.272	26.225	0.047	1276	0.25000	0.505	

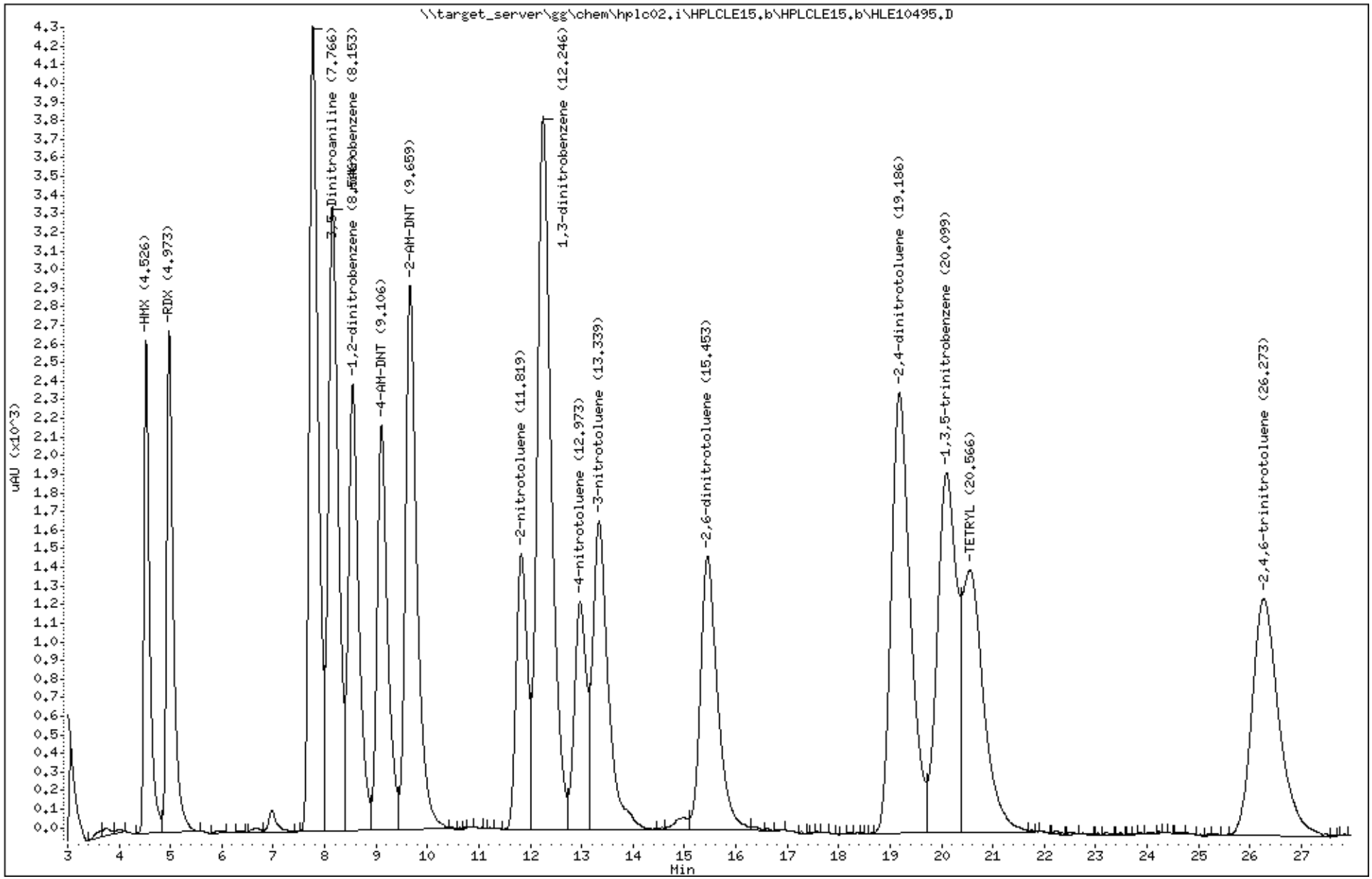
Data File: \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HPLCLE15.b\HLE10495.D
Date : 16-MAY-2018 09:29
Client ID:
Sample Info: WG228756-5,SL3995

Instrument: hplc02.i

Operator: AAB

Column phase: Acclaim Exp E1

Column diameter: 4.60



Katahdin Analytical Services 3000149

Katahdin
ANALYTICAL SERVICES

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
SDG: SL3995
Lab ID : WG228756-6
Analytical Date: 05/16/18 15:34
Lab File ID : HLE10504.D
Instrument ID: HPLC02
Initial Calibration Date(s): 03/20/18 14:54 03/20/18 18:05
Column ID: B

	Compound	$\overline{RRF}$/Amount	RF0.250	CCAL RRF0.250	Min	%D/ %Drift	Max %D/ %Drift	Curve Type
1	HMX	5391	5268	5268	0.010	-2.27511	20.00000	Averaged
4	RDX	0.25000	0.24489	5308	0.010	-2.04244	20.00000	Linear
5	1,3,5-trinitrobenzene	3689	3848	3848	0.010	4.31415	20.00000	Averaged
6	1,3-dinitrobenzene	7444	7552	7552	0.010	1.45473	20.00000	Averaged
7	nitrobenzene	6867	6616	6616	0.010	-3.65015	20.00000	Averaged
9	TETRYL	2535	2876	2876	0.010	13.47086	20.00000	Averaged
10	2,4,6-trinitrotoluene	2526	2552	2552	0.010	1.01501	20.00000	Averaged
11	4-AM-DNT	4303	4288	4288	0.010	-0.34198	20.00000	Averaged
12	2-AM-DNT	5761	5804	5804	0.010	0.75139	20.00000	Averaged
13	2,6-dinitrotoluene	0.25000	0.23301	2820	0.010	-6.79449	20.00000	Linear
14	2,4-dinitrotoluene	4619	4672	4672	0.010	1.15838	20.00000	Averaged
15	2-nitrotoluene	2890	2952	2952	0.010	2.16048	20.00000	Averaged
16	4-nitrotoluene	2342	2384	2384	0.010	1.77471	20.00000	Averaged
17	3-nitrotoluene	3326	3264	3264	0.010	-1.85356	20.00000	Averaged
2	1,2-dinitrobenzene	4627	4764	4764	0.010	2.95135	20.00000	Averaged

*** = Compound out of QC criteria**

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Data File: HLE10504.D
Report Date: 24-May-2018 09:34

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HPLCLE16.b\HLE10504.D
Lab Smp Id: WG228756-6
Inj Date : 16-MAY-2018 15:34
Operator : AAB Inst ID: hplc02.i
Smp Info : WG228756-6,SL3995
Misc Info : WG228756,WG228106,WG225143-5,SL3995-1
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\EXPB05A.m\EXPB05A.m
Meth Date : 22-May-2018 05:33 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 23 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

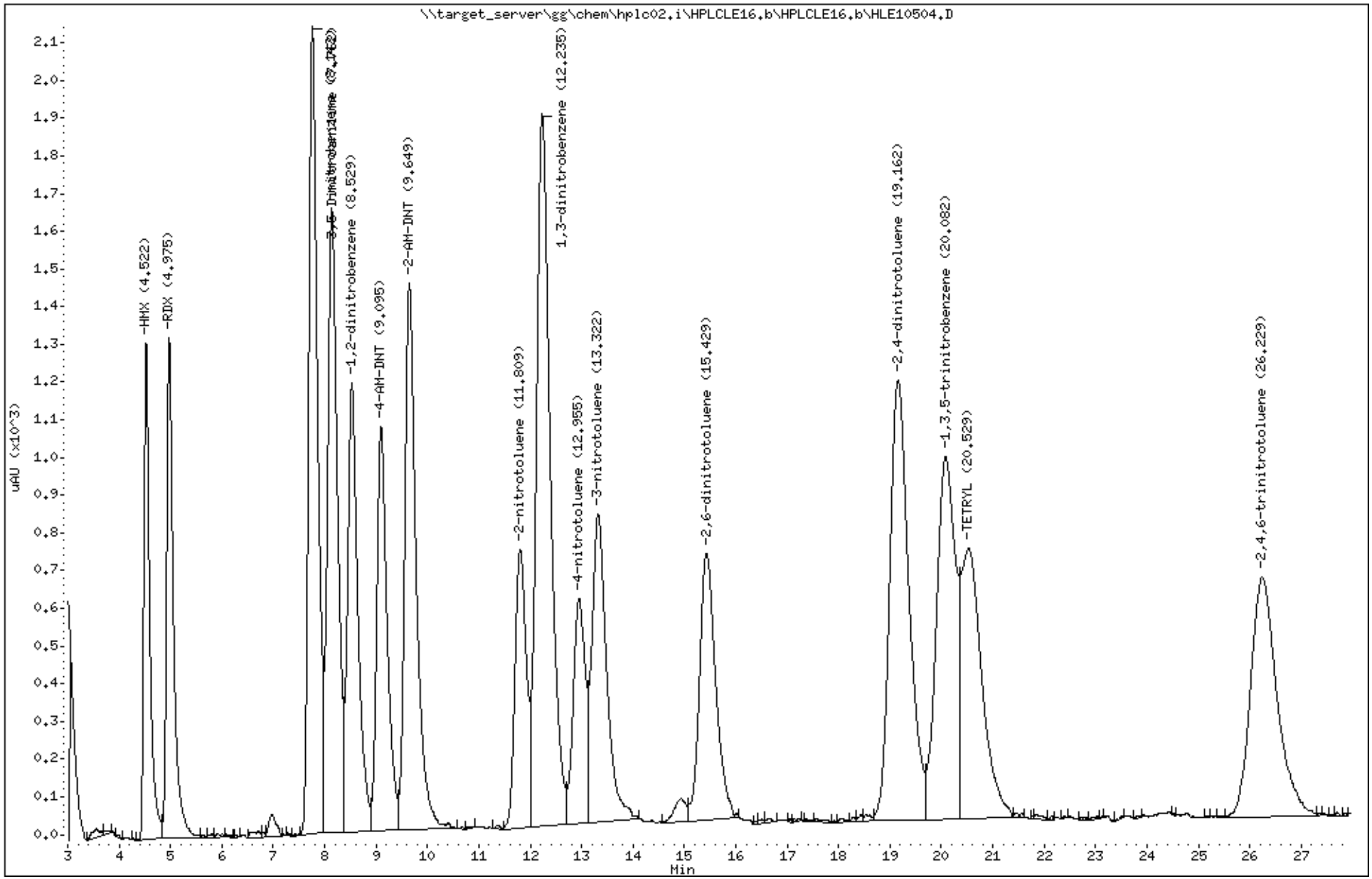
Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01000	Weight of Sample (Kg)
M	0.00000	% Moisture
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)	REVIEW CODE
1	HMX	4.522	4.522	0.000	1317	0.25000	0.244(a)	
4	RDX	4.975	4.975	0.000	1327	0.25000	0.245(a)	
51	3,5-Dinitroaniline	7.762	7.762	0.000	2142	0.25000	0.258	
7	nitrobenzene	8.142	8.142	0.000	1654	0.25000	0.241(a)	
$ 2	1,2-dinitrobenzene	8.528	8.528	0.000	1191	0.25000	0.257	
11	4-AM-DNT	9.095	9.095	0.000	1072	0.25000	0.249(a)	
12	2-AM-DNT	9.648	9.648	0.000	1451	0.25000	0.252	
15	2-nitrotoluene	11.808	11.808	0.000	738	0.25000	0.255	
6	1,3-dinitrobenzene	12.235	12.235	0.000	1888	0.25000	0.254	
16	4-nitrotoluene	12.955	12.955	0.000	596	0.25000	0.254	
17	3-nitrotoluene	13.322	13.322	0.000	816	0.25000	0.245(a)	
13	2,6-dinitrotoluene	15.428	15.428	0.000	705	0.25000	0.233(a)	
14	2,4-dinitrotoluene	19.162	19.162	0.000	1168	0.25000	0.253	
5	1,3,5-trinitrobenzene	20.082	20.082	0.000	962	0.25000	0.261	
9	TETRYL	20.528	20.528	0.000	719	0.25000	0.284	
10	2,4,6-trinitrotoluene	26.228	26.228	0.000	638	0.25000	0.252	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HPLCLE16.b\HLE10504.D
Date : 16-MAY-2018 15:34
Client ID:
Instrument: hplc02.i
Sample Info: WG228756-6,SL3995
Operator: AAB
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 3000152

Raw QC Data Section

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client:
Lab ID: WG228021-1
Client ID: Method Blank Sample
Project:
SDG: SL3995
Lab File ID: HLE10312.D

Sample Date:
Received Date:
Extract Date: 10-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330
Lab Prep Batch: WG228021

Analysis Date: 10-MAY-18
Analyst: AAB
Analysis Method: SW846 8330B
Matrix: AQ
% Solids: NA
Report Date: 24-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	0.12	ug/L	1	.25	0.25	0.043	0.12
RDX	U	0.12	ug/L	1	.25	0.25	0.046	0.12
1,3,5-Trinitrobenzene	U	0.12	ug/L	1	.25	0.25	0.040	0.12
1,3-Dinitrobenzene	U	0.12	ug/L	1	.25	0.25	0.045	0.12
Tetryl	U	0.12	ug/L	1	.25	0.25	0.060	0.12
Nitrobenzene	U	0.12	ug/L	1	.25	0.25	0.071	0.12
2,4,6-Trinitrotoluene	U	0.12	ug/L	1	.25	0.25	0.064	0.12
4-Am-DNT	U	0.12	ug/L	1	.25	0.25	0.053	0.12
2-Am-DNT	U	0.12	ug/L	1	.25	0.25	0.038	0.12
2,6-Dinitrotoluene	U	0.12	ug/L	1	.25	0.25	0.056	0.12
2,4-Dinitrotoluene	U	0.12	ug/L	1	.25	0.25	0.052	0.12
2-Nitrotoluene	U	0.12	ug/L	1	.25	0.25	0.071	0.12
4-Nitrotoluene	U	0.12	ug/L	1	.25	0.25	0.060	0.12
3-Nitrotoluene	U	0.12	ug/L	1	.25	0.25	0.063	0.12
Nitroglycerin	U	2.0	ug/L	1	4	4.0	0.67	2.0
PETN	U	2.0	ug/L	1	4	4.0	0.58	2.0
1,2-Dinitrobenzene		87.4	%					

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE10.b\HLE10312.D
Report Date: 24-May-2018 09:24

Katahdin Analytical Services

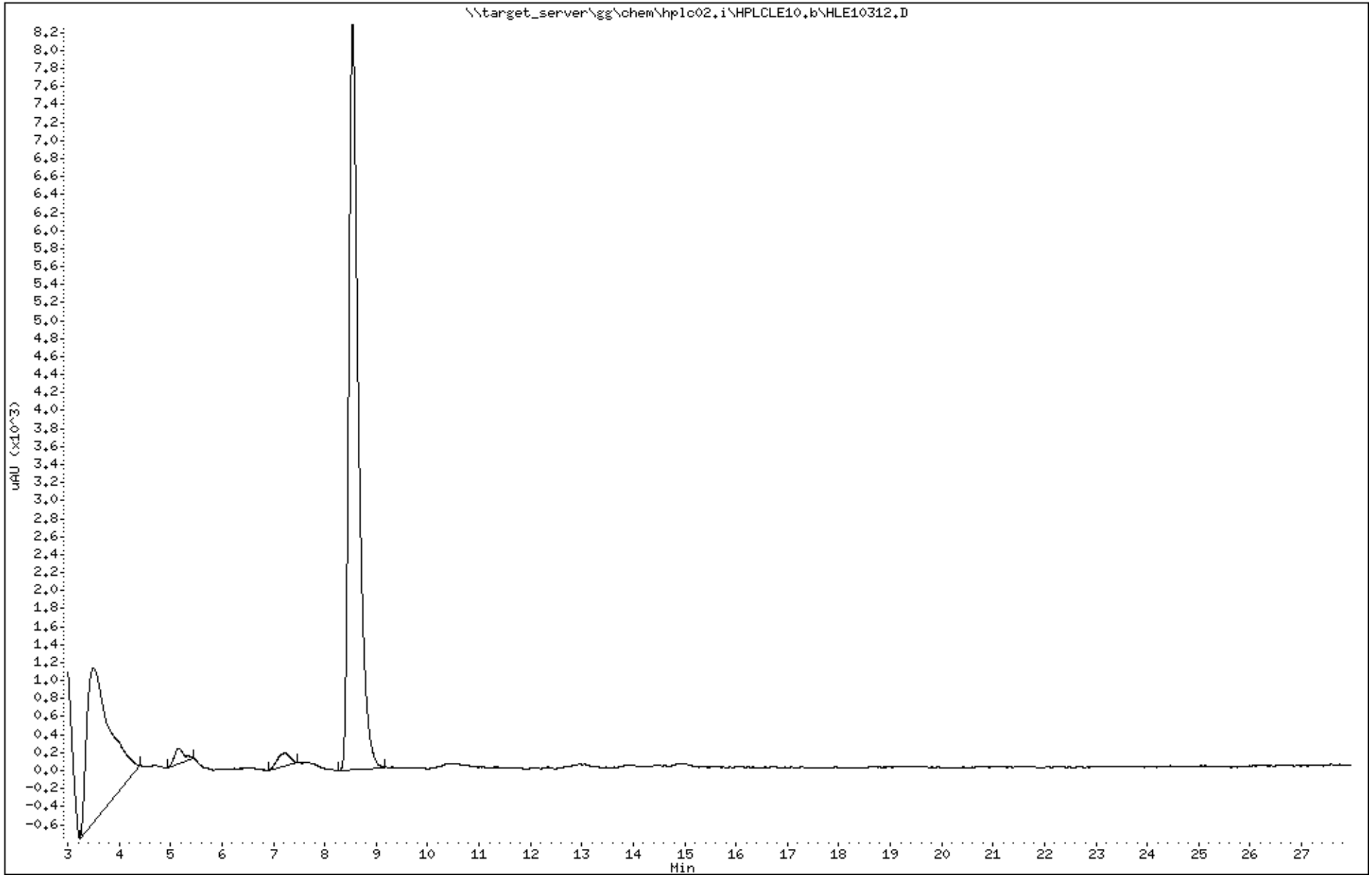
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE10.b\HLE10312.D
Lab Smp Id: WG228021-1 Client Smp ID: WG228021-Blank
Inj Date : 10-MAY-2018 23:38
Operator : AAB Inst ID: hplc02.i
Smp Info : WG228021-1,SL3995
Misc Info : WG227995,WG228021,WG225143-5,SL3995-15
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE10.b\EXPB05A.m
Meth Date : 15-May-2018 14:39 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 31 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*(Vt/Vo) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00500	Final Volume (L)
Vo	0.50000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/L)

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE10.b\HLE10312.D
Date : 10-MAY-2018 23:38
Client ID: WG228021-Blank
Instrument: hplc02.i
Sample Info: WG228021-1,SL3995
Purge Volume: 0.5
Operator: AAB
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 3000156

Data File: HLE10312.D
Report Date: 24-May-2018 09:25

Katahdin Analytical Services

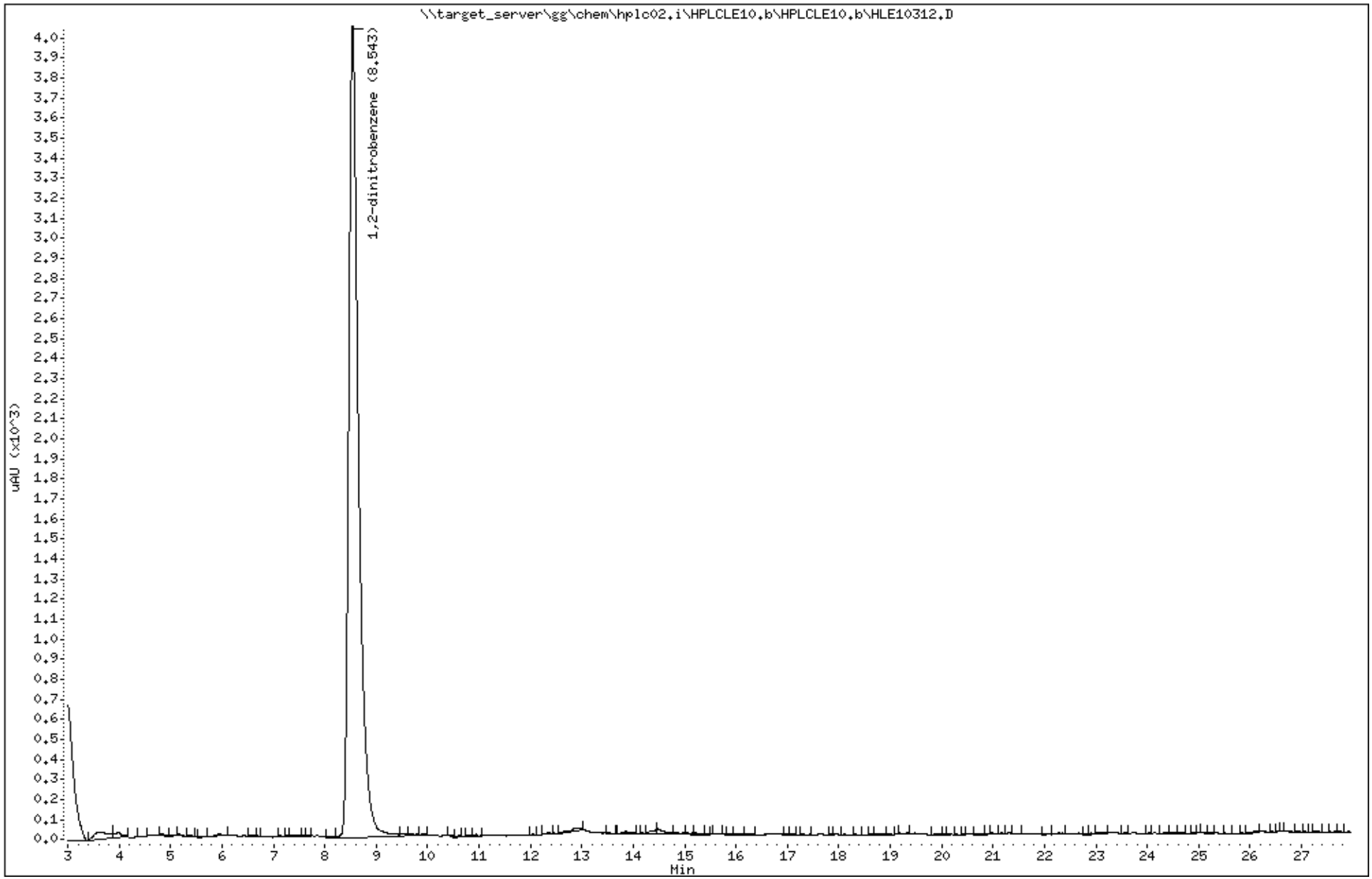
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE10.b\HPLCLE10.b\HLE10312.D
Lab Smp Id: WG228021-1 Client Smp ID: WG228021-Blank
Inj Date : 10-MAY-2018 23:38
Operator : AAB Inst ID: hplc02.i
Smp Info : WG228021-1,SL3995
Misc Info : WG227995,WG228021,WG225143-5,SL3995-15
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE10.b\EXPB05A.m\EXPB05A.m
Meth Date : 15-May-2018 14:26 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 31 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*(Vt/Vo) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00500	Final Volume (L)
Vo	0.50000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

					CONCENTRATIONS		
					ON-COLUMN	FINAL	
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/mL)	(ug/L)	REVIEW CODE
$ 2 1,2-dinitrobenzene	8.543	8.540	0.003	4046	0.87435	8.74	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE10.b\HPLCLE10.b\HLE10312.D
Date : 10-MAY-2018 23:38
Client ID: WG228021-Blank
Instrument: hplc02.i
Sample Info: WG228021-1,SL3995
Purge Volume: 0.5
Operator: AAB
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 3000158

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client:
Lab ID: WG228106-1
Client ID: Method Blank Sample
Project:
SDG: SL3995
Lab File ID: HLE10485.D

Sample Date:
Received Date:
Extract Date: 14-MAY-18
Extracted By: DP/AC
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228106

Analysis Date: 16-MAY-18
Analyst: AAB
Analysis Method: SW846 8330B
Matrix: SL
% Solids: NA
Report Date: 24-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	50	ug/Kgdrywt	1	100	100	8.6	50.
RDX	U	50	ug/Kgdrywt	1	100	100	6.8	50.
1,3,5-Trinitrobenzene	U	50	ug/Kgdrywt	1	100	100	6.7	50.
1,3-Dinitrobenzene	U	50	ug/Kgdrywt	1	100	100	6.2	50.
Tetryl	U	50	ug/Kgdrywt	1	100	100	5.4	50.
Nitrobenzene	U	50	ug/Kgdrywt	1	100	100	22.	50.
2,4,6-Trinitrotoluene	U	50	ug/Kgdrywt	1	100	100	6.7	50.
2-Am-DNT	U	50	ug/Kgdrywt	1	100	100	21.	50.
4-Am-DNT	U	50	ug/Kgdrywt	1	100	100	17.	50.
2,6-Dinitrotoluene	U	50	ug/Kgdrywt	1	100	100	27.	50.
2,4-Dinitrotoluene	U	50	ug/Kgdrywt	1	100	100	15.	50.
2-Nitrotoluene	U	50	ug/Kgdrywt	1	100	100	12.	50.
3-Nitrotoluene	U	50	ug/Kgdrywt	1	100	100	7.9	50.
4-Nitrotoluene	U	50	ug/Kgdrywt	1	100	100	27.	50.
Nitroglycerin	U	400	ug/Kgdrywt	1	800	800	120	400
PETN	U	400	ug/Kgdrywt	1	800	800	110	400
1,2-Dinitrobenzene		94.8	%					

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HLE10485.D
Report Date: 24-May-2018 09:28

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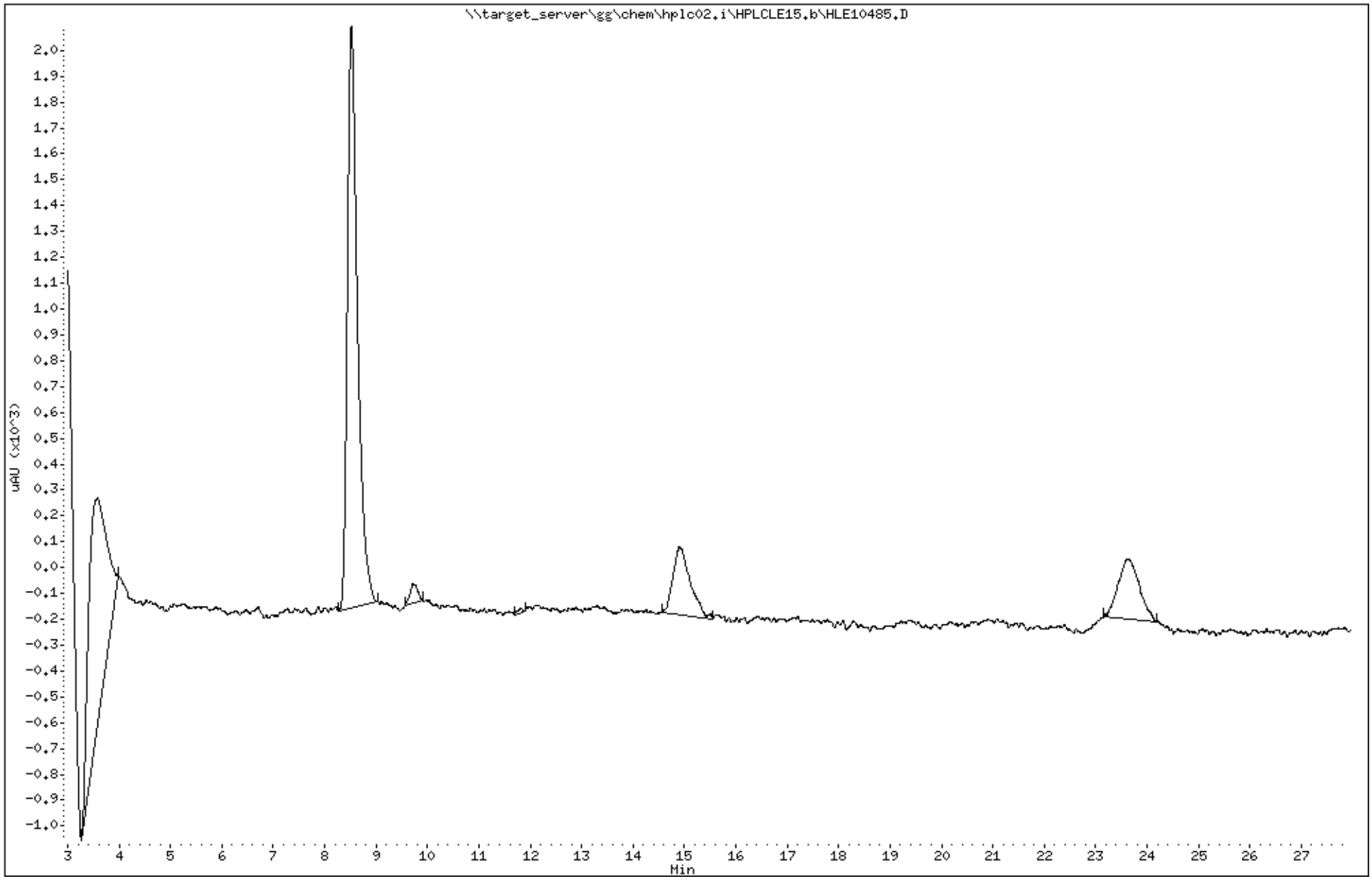
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HLE10485.D
Lab Smp Id: WG228106-1 Client Smp ID: WG228106-Blank
Inj Date : 16-MAY-2018 04:19
Operator : AAB Inst ID: hplc02.i
Smp Info : WG228106-1,SL3995
Misc Info : WG228756,WG228106,WG225143-5,SL3995-1
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE15.b\EXPB05A.m
Meth Date : 21-May-2018 08:50 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 4 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01000	Weight of Sample (Kg)
M	0.00000	% Moisture
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HLE10485.D
Date : 16-MAY-2018 04:19
Client ID: WG228106-Blank
Instrument: hplc02.i
Sample Info: WG228106-1,SL3995
Operator: AAB
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 3000161

Data File: HLE10485.D
Report Date: 24-May-2018 09:31

Katahdin Analytical Services

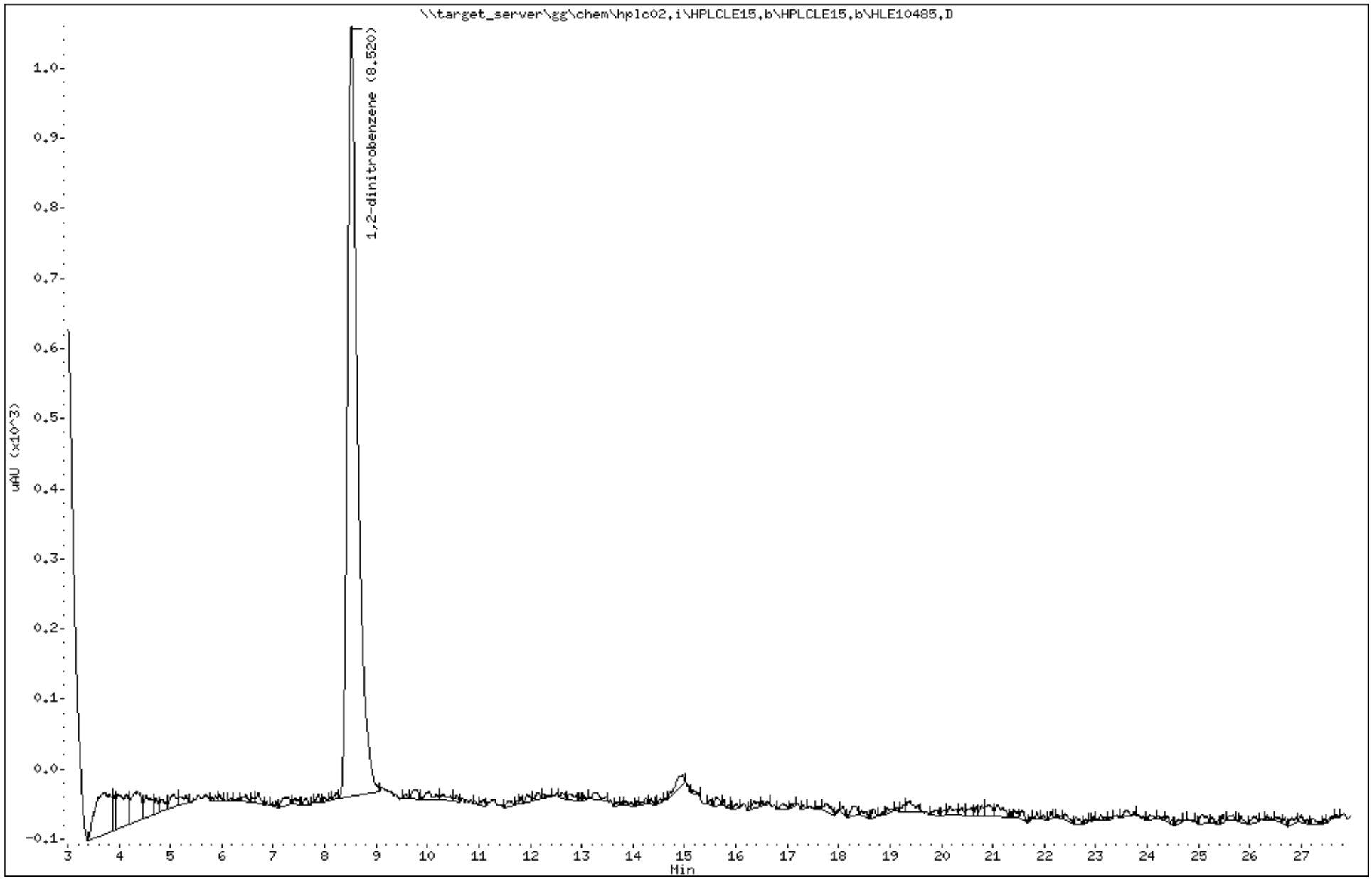
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HPLCLE15.b\HLE10485.D
Lab Smp Id: WG228106-1 Client Smp ID: WG228106-Blank
Inj Date : 16-MAY-2018 04:19
Operator : AAB Inst ID: hplc02.i
Smp Info : WG228106-1,SL3995
Misc Info : WG228756,WG228106,WG225143-5,SL3995-1
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE15.b\EXPB05A.m\EXPB05A.m
Meth Date : 21-May-2018 08:35 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 4 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01000	Weight of Sample (Kg)
M	0.00000	% Moisture
Cpnd Variable		Local Compound Variable

					CONCENTRATIONS		
					ON-COLUMN	FINAL	
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/mL)	(ug/Kgdrywt)	REVIEW CODE
$ 2 1,2-dinitrobenzene	8.520	8.538	-0.018	1097	0.23706	474	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HPLCLE15.b\HLE10485.D
Date : 16-MAY-2018 04:19
Client ID: WG228106-Blank
Instrument: hplc02.i
Sample Info: WG228106-1,SL3995
Operator: AAB
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 3000163

Katahdin
ANALYTICAL SERVICES

LCS Recovery Report

Client:
Lab ID: WG228021-2
Client ID: LCS
Project:
SDG: SL3995
LCS File ID: HLE10313.D

Sample Date:
Received Date:
Extract Date: 10-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330
Lab Prep Batch: WG228021

Analysis Date: 11-MAY-18
Analyst: AAB
Analysis Method: SW846 8330B
Matrix: AQ
% Solids: NA
Report Date: 24-MAY-18

Compound	Recovery (%)	Conc Added	Conc Recovered	Conc Units	Limits
HMX	98.4	5.00	4.92	ug/L	65-135
RDX	100.	5.00	5.01	ug/L	68-130
1,3,5-Trinitrobenzene	101.	5.00	5.04	ug/L	73-125
1,3-Dinitrobenzene	102.	5.00	5.10	ug/L	78-120
Tetryl	115.	5.00	5.77	ug/L	64-128
Nitrobenzene	96.0	5.00	4.80	ug/L	65-134
2,4,6-Trinitrotoluene	103.	5.00	5.14	ug/L	71-123
4-Am-DNT	106.	5.00	5.30	ug/L	76-125
2-Am-DNT	101.	5.00	5.04	ug/L	79-120
2,6-Dinitrotoluene	98.0	5.00	4.90	ug/L	77-127
2,4-Dinitrotoluene	102.	5.00	5.08	ug/L	78-120
2-Nitrotoluene	100.	5.00	5.02	ug/L	70-127
4-Nitrotoluene	103.	5.00	5.16	ug/L	71-127
3-Nitrotoluene	97.0	5.00	4.85	ug/L	73-125
Nitroglycerin	92.0	20.0	18.4	ug/L	74-127
PETN	94.5	20.0	18.9	ug/L	73-127
1,2-Dinitrobenzene	93.8				83-120

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE10.b\HLE10313.D
Report Date: 24-May-2018 09:24

Katahdin Analytical Services

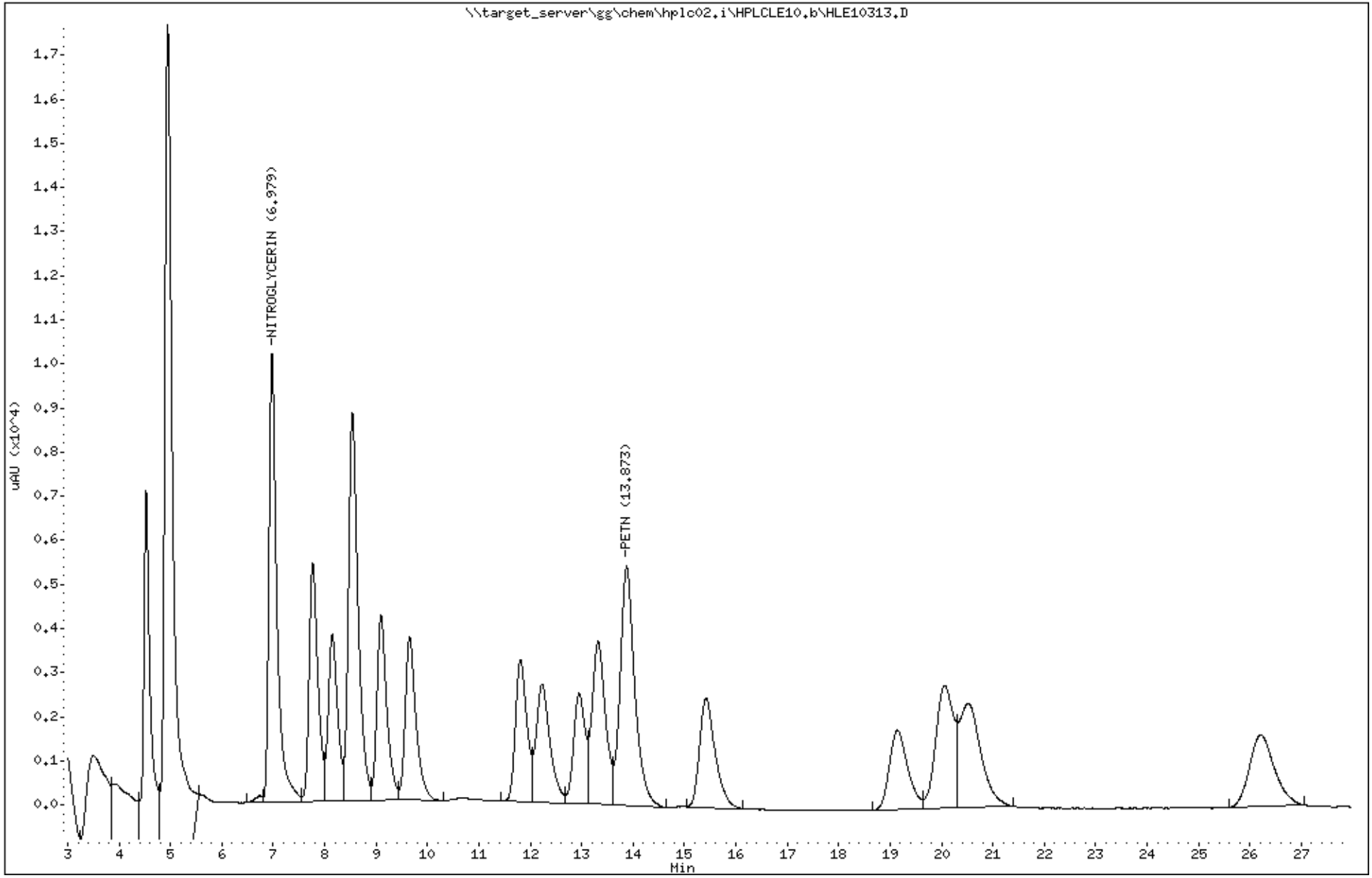
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE10.b\HLE10313.D
Lab Smp Id: WG228021-2 Client Smp ID: WG228021-LCS
Inj Date : 11-MAY-2018 00:09
Operator : AAB Inst ID: hplc02.i
Smp Info : WG228021-2,SL3995
Misc Info : WG227995,WG228021,WG225143-5,SL3995-15
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE10.b\EXPB05A.m
Meth Date : 15-May-2018 14:39 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 32 QC Sample: LCS
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*(Vt/Vo) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00500	Final Volume (L)
Vo	0.50000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/L)
8 NITROGLYCERIN	6.979	6.974	0.005	10149	1.84086	18.4
18 PETN	13.872	13.894	-0.022	5430	1.88814	18.9

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE10.b\HLE10313.D
Date : 11-MAY-2018 00:09
Client ID: WG228021-LCS
Instrument: hplc02.i
Sample Info: WG228021-2,SL3995
Purge Volume: 0.5
Operator: AAB
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 3000166

Data File: HLE10313.D
Report Date: 24-May-2018 09:25

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE10.b\HPLCLE10.b\HLE10313.D
Lab Smp Id: WG228021-2 Client Smp ID: WG228021-LCS
Inj Date : 11-MAY-2018 00:09
Operator : AAB Inst ID: hplc02.i
Smp Info : WG228021-2,SL3995
Misc Info : WG227995,WG228021,WG225143-5,SL3995-15
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE10.b\EXPB05A.m\EXPB05A.m
Meth Date : 15-May-2018 14:26 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 32 QC Sample: LCS
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*(Vt/Vo) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00500	Final Volume (L)
Vo	0.50000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

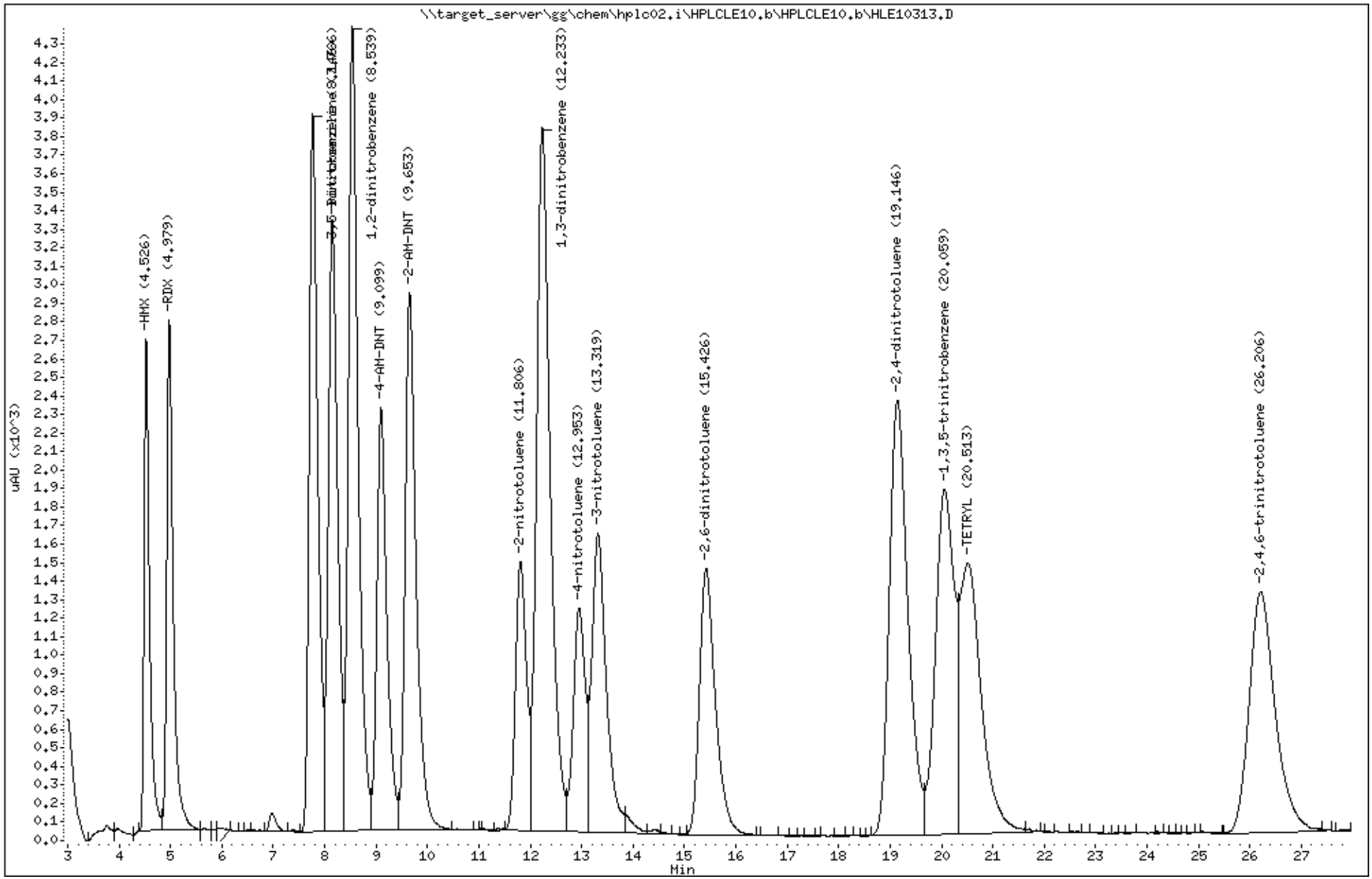
	Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/L)	REVIEW CODE
1	HMX	4.526	4.527	-0.001	2652	0.49196	4.92(M)	M2
4	RDX	4.979	4.974	0.005	2751	0.50139	5.01(M)	M2
51	3,5-Dinitroaniline	7.766	7.774	-0.008	3874	0.46583	4.66	
7	nitrobenzene	8.146	8.147	-0.001	3298	0.48029	4.80	
$ 2	1,2-dinitrobenzene	8.539	8.540	-0.001	4343	0.93853	9.38	
11	4-AM-DNT	9.099	9.107	-0.008	2283	0.53060	5.30	
12	2-AM-DNT	9.652	9.667	-0.015	2904	0.50410	5.04	
15	2-nitrotoluene	11.806	11.820	-0.014	1451	0.50215	5.02	
6	1,3-dinitrobenzene	12.232	12.254	-0.022	3798	0.51023	5.10	
16	4-nitrotoluene	12.952	12.967	-0.015	1210	0.51656	5.16	
17	3-nitrotoluene	13.319	13.334	-0.015	1613	0.48502	4.85(M)	M3
13	2,6-dinitrotoluene	15.426	15.454	-0.028	1441	0.48958	4.90	
14	2,4-dinitrotoluene	19.146	19.194	-0.048	2348	0.50839	5.08	
5	1,3,5-trinitrobenzene	20.059	20.120	-0.061	1861	0.50449	5.04	
9	TETRYL	20.512	20.580	-0.068	1462	0.57682	5.77	
10	2,4,6-trinitrotoluene	26.206	26.300	-0.094	1300	0.51457	5.14	

AAB
9:54 am, May 24, 2018

QC Flag Legend

M - Compound response manually integrated.

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE10.b\HPLCLE10.b\HLE10313.D
Date : 11-MAY-2018 00:09
Client ID: WG228021-LCS
Instrument: hplc02.i
Sample Info: WG228021-2,SL3995
Purge Volume: 0.5
Operator: AAB
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 3000168

Katahdin
ANALYTICAL SERVICES

LCS Recovery Report

Client:
Lab ID: WG228106-2
Client ID: LCS
Project:
SDG: SL3995
LCS File ID: HLE10486.D

Sample Date:
Received Date:
Extract Date: 14-MAY-18
Extracted By: DP/AC
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228106

Analysis Date: 16-MAY-18
Analyst: AAB
Analysis Method: SW846 8330B
Matrix: SL
% Solids: NA
Report Date: 24-MAY-18

Compound	Recovery (%)	Conc Added	Conc Recovered	Conc Units	Limits
HMX	104.	1000	1040	ug/Kgdrywt	74-125
RDX	104.	1000	1040	ug/Kgdrywt	67-129
1,3,5-Trinitrobenzene	112.	1000	1120	ug/Kgdrywt	80-125
1,3-Dinitrobenzene	112.	1000	1120	ug/Kgdrywt	73-125
Tetryl	127.	1000	1270	ug/Kgdrywt	68-135
Nitrobenzene	107.	1000	1070	ug/Kgdrywt	67-129
2,4,6-Trinitrotoluene	112.	1000	1120	ug/Kgdrywt	71-125
2-Am-DNT	109.	1000	1090	ug/Kgdrywt	71-125
4-Am-DNT	114.	1000	1140	ug/Kgdrywt	64-127
2,6-Dinitrotoluene	109.	1000	1090	ug/Kgdrywt	79-125
2,4-Dinitrotoluene	113.	1000	1130	ug/Kgdrywt	75-125
2-Nitrotoluene	114.	1000	1140	ug/Kgdrywt	70-125
3-Nitrotoluene	112.	1000	1120	ug/Kgdrywt	67-129
4-Nitrotoluene	115.	1000	1150	ug/Kgdrywt	71-125
Nitroglycerin	88.8	1000	888.	ug/Kgdrywt	73-125
PETN	103.	1000	1030	ug/Kgdrywt	72-128
1,2-Dinitrobenzene	108.				78-125

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HLE10486.D
Report Date: 24-May-2018 09:28

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HLE10486.D
Lab Smp Id: WG228106-2 Client Smp ID: WG228106-LCS
Inj Date : 16-MAY-2018 04:50
Operator : AAB Inst ID: hplc02.i
Smp Info : WG228106-2,SL3995
Misc Info : WG228756,WG228106,WG225143-5,SL3995-1
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE15.b\EXPB05A.m
Meth Date : 21-May-2018 08:50 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 5 QC Sample: LCS
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01000	Weight of Sample (Kg)
M	0.00000	% Moisture
Cpnd Variable		Local Compound Variable

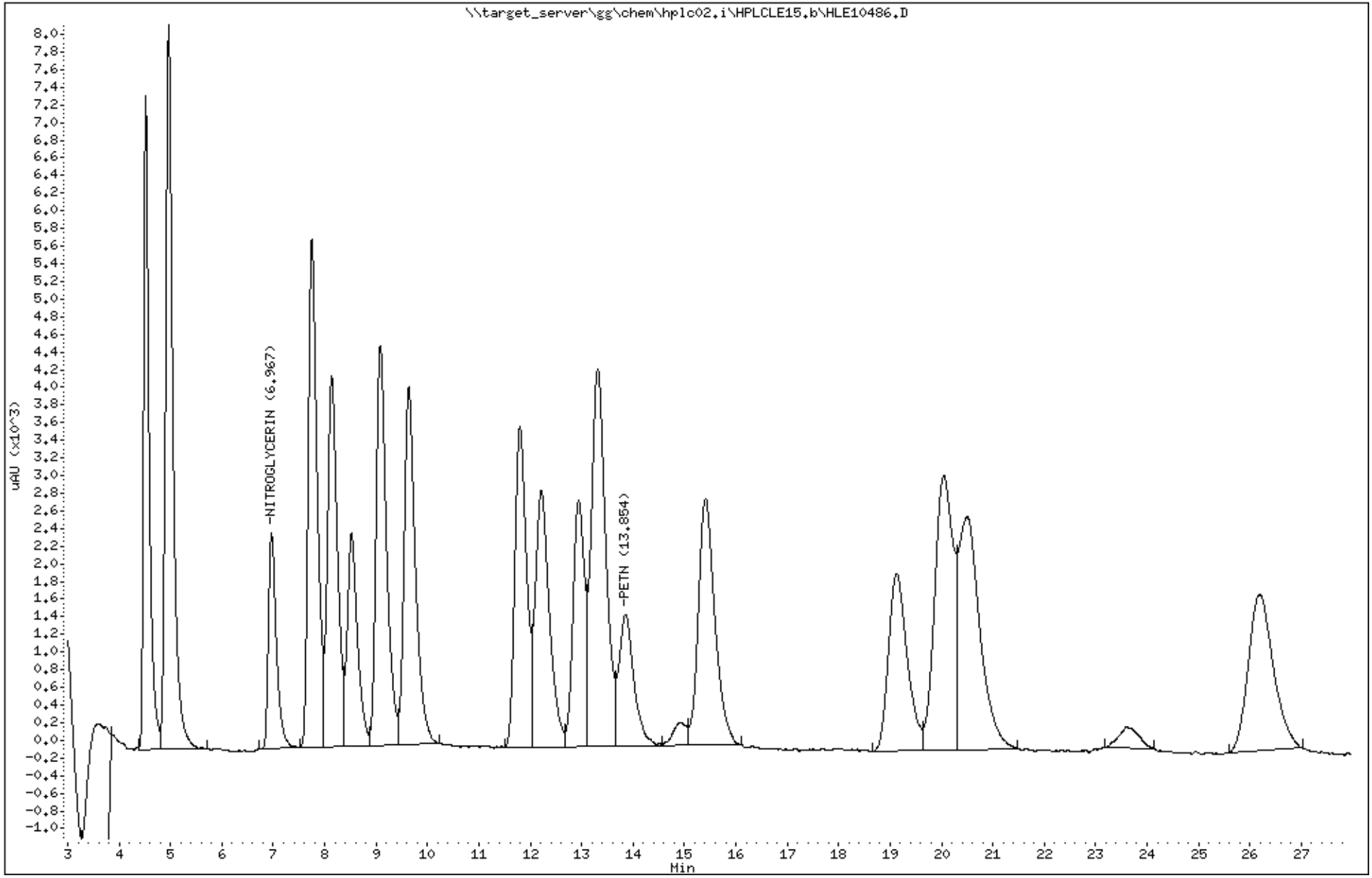
					CONCENTRATIONS	
					ON-COLUMN	FINAL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/mL)	(ug/Kgdrywt)
8 NITROGLYCERIN	6.967	6.971	-0.004	2449	0.44421	888
18 PETN	13.854	13.865	-0.011	1487	0.51707	1030

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HLE10486.D
Date : 16-MAY-2018 04:50
Client ID: WG228106-LCS
Sample Info: WG228106-2,SL3995

Instrument: hplc02.i

Operator: AAB
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 3000171

Data File: HLE10486.D
Report Date: 24-May-2018 09:31

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HPLCLE15.b\HLE10486.D
Lab Smp Id: WG228106-2 Client Smp ID: WG228106-LCS
Inj Date : 16-MAY-2018 04:50
Operator : AAB Inst ID: hplc02.i
Smp Info : WG228106-2,SL3995
Misc Info : WG228756,WG228106,WG225143-5,SL3995-1
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE15.b\EXPB05A.m\EXPB05A.m
Meth Date : 21-May-2018 08:35 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 5 QC Sample: LCS
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01000	Weight of Sample (Kg)
M	0.00000	% Moisture
Cpnd Variable		Local Compound Variable

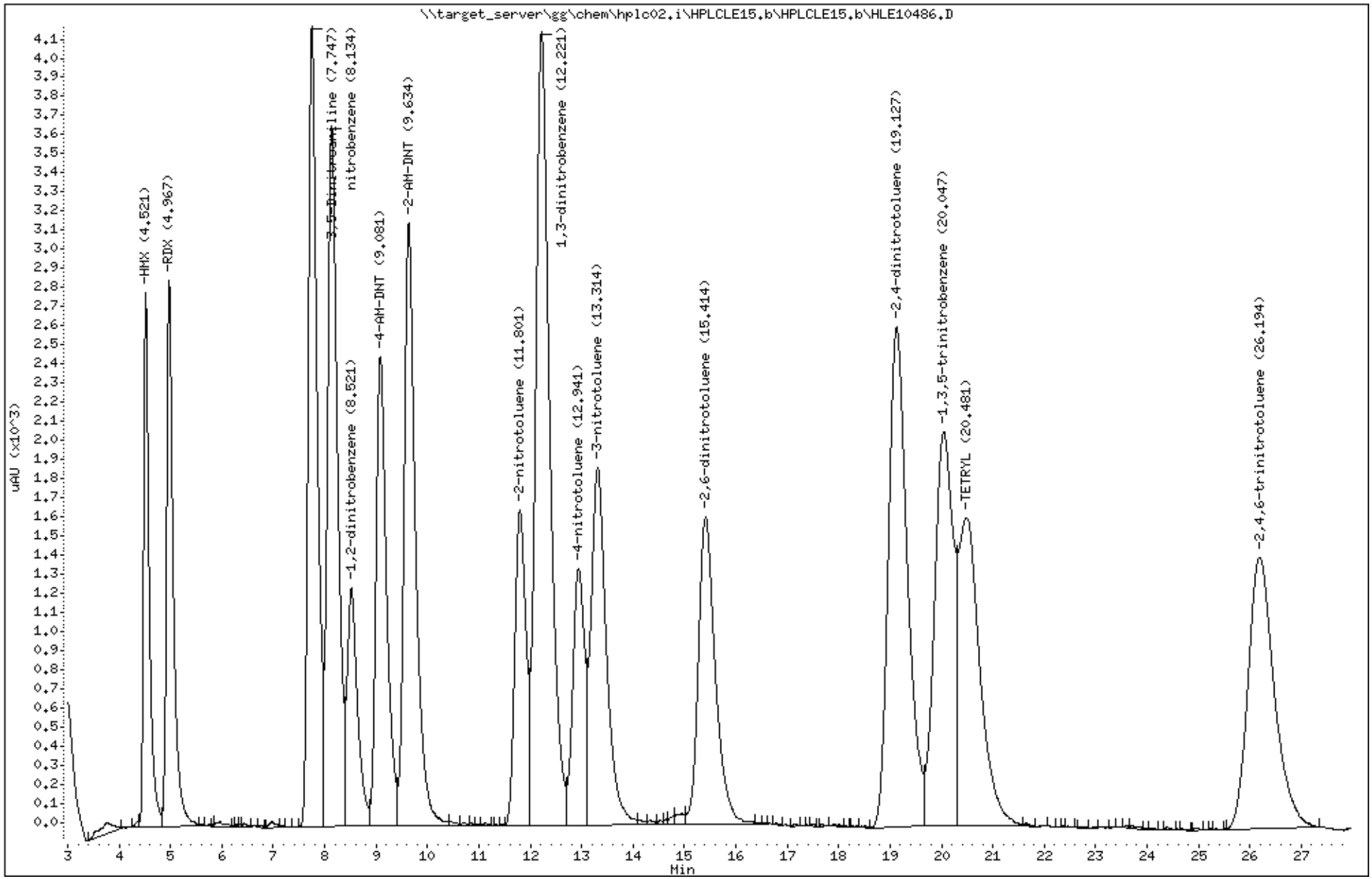
	Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	REVIEW CODE
1	HMX	4.520	4.525	-0.005	2796	0.51868	1040	
4	RDX	4.967	4.971	-0.004	2858	0.52066	1040	
51	3,5-Dinitroaniline	7.747	7.758	-0.011	4186	0.50335	1010	
7	nitrobenzene	8.134	8.145	-0.011	3664	0.53359	1070	
$ 2	1,2-dinitrobenzene	8.520	8.538	-0.018	1245	0.26905	538	
11	4-AM-DNT	9.080	9.098	-0.018	2455	0.57057	1140	
12	2-AM-DNT	9.634	9.645	-0.011	3152	0.54715	1090	
15	2-nitrotoluene	11.800	11.805	-0.005	1652	0.57171	1140	
6	1,3-dinitrobenzene	12.220	12.238	-0.018	4151	0.55765	1120	
16	4-nitrotoluene	12.940	12.958	-0.018	1343	0.57334	1150	
17	3-nitrotoluene	13.314	13.325	-0.011	1868	0.56170	1120	
13	2,6-dinitrotoluene	15.414	15.431	-0.017	1607	0.54745	1090	
14	2,4-dinitrotoluene	19.127	19.158	-0.031	2615	0.56620	1130	
5	1,3,5-trinitrobenzene	20.047	20.071	-0.024	2063	0.55925	1120	
9	TETRYL	20.480	20.518	-0.038	1612	0.63600	1270	
10	2,4,6-trinitrotoluene	26.194	26.225	-0.031	1421	0.56247	1120	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HPLCLE15.b\HLE10486.D
Date : 16-MAY-2018 04:50
Client ID: WG228106-LCS
Sample Info: WG228106-2,SL3995

Instrument: hplc02.i

Operator: AAB
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 3000173

Katahdin
ANALYTICAL SERVICES

MS/MSD Recovery Report

MS ID: WG228106-3
MSD ID: WG228106-4
Sample ID: SL3995-5
Client ID: CHAAP-BKRD-SS04
Project:
SDG: SL3995
MS File ID: HLE10487.D

Received Date:
Extract Date: 14-MAY-18
Extracted By: DP/AC
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228106
Report Date: 24-MAY-18
MSD File ID: HLE10488.D

Analysis Date: 16-MAY-18
Analyst: AAB
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 83.

Compound	MS Spike	MSD Spike	Conc Units	Samp Conc	MS Conc	MSD Conc	MS Rec (%)	MSD Rec (%)	RPD (%)	RPD Limit	Limits
HMX	1140	1190	ug/Kgdrywt	U60	1100	1300	98.7	110.	15	20	74-125
RDX	1140	1190	ug/Kgdrywt	U60	1100	1200	95.2	105.	14	20	67-129
1,3,5-Trinitrobenzene	1140	1190	ug/Kgdrywt	U60	1200	1400	101.	113.	15	20	80-125
1,3-Dinitrobenzene	1140	1190	ug/Kgdrywt	U60	1200	1400	105.	114.	12	20	73-125
Tetryl	1140	1190	ug/Kgdrywt	U60	1300	1400	111.	121.	12	20	68-135
Nitrobenzene	1140	1190	ug/Kgdrywt	U60	1100	1300	98.7	108.	13	20	67-129
2,4,6-Trinitrotoluene	1140	1190	ug/Kgdrywt	U60	1200	1400	106.	118.	14	20	71-125
2-Am-DNT	1140	1190	ug/Kgdrywt	U60	1200	1300	101.	112.	14	20	71-125
4-Am-DNT	1140	1190	ug/Kgdrywt	U60	1200	1400	105.	114.	12	20	64-127
2,6-Dinitrotoluene	1140	1190	ug/Kgdrywt	U60	1200	1300	103.	112.	13	20	79-125
2,4-Dinitrotoluene	1140	1190	ug/Kgdrywt	U60	1200	1400	105.	116.	14	20	75-125
2-Nitrotoluene	1140	1190	ug/Kgdrywt	U60	1200	1400	106.	118.	14	20	70-125
3-Nitrotoluene	1140	1190	ug/Kgdrywt	U60	1200	1400	104.	113.	12	20	67-129
4-Nitrotoluene	1140	1190	ug/Kgdrywt	U60	1200	1400	107.	118.	13	20	71-125
Nitroglycerin	1140	1190	ug/Kgdrywt	U480	990	1300	86.5	106.	24*	20	73-125
PETN	1140	1190	ug/Kgdrywt	U480	1100	1300	96.0	108.	16	20	72-128
1,2-Dinitrobenzene							92.6	108.			78-125

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HLE10487.D
Report Date: 24-May-2018 09:28

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HLE10487.D
Lab Smp Id: WG228106-3 Client Smp ID: CHAAP-BKRD-SS04MS
Inj Date : 16-MAY-2018 05:21
Operator : AAB Inst ID: hplc02.i
Smp Info : WG228106-3,SL3995
Misc Info : WG228756,WG228106,WG225143-5,SL3995-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE15.b\EXPB05A.m
Meth Date : 21-May-2018 08:50 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 6 QC Sample: MS
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01050	Weight of Sample (Kg)
M	16.832	% Moisture
Cpnd Variable		Local Compound Variable

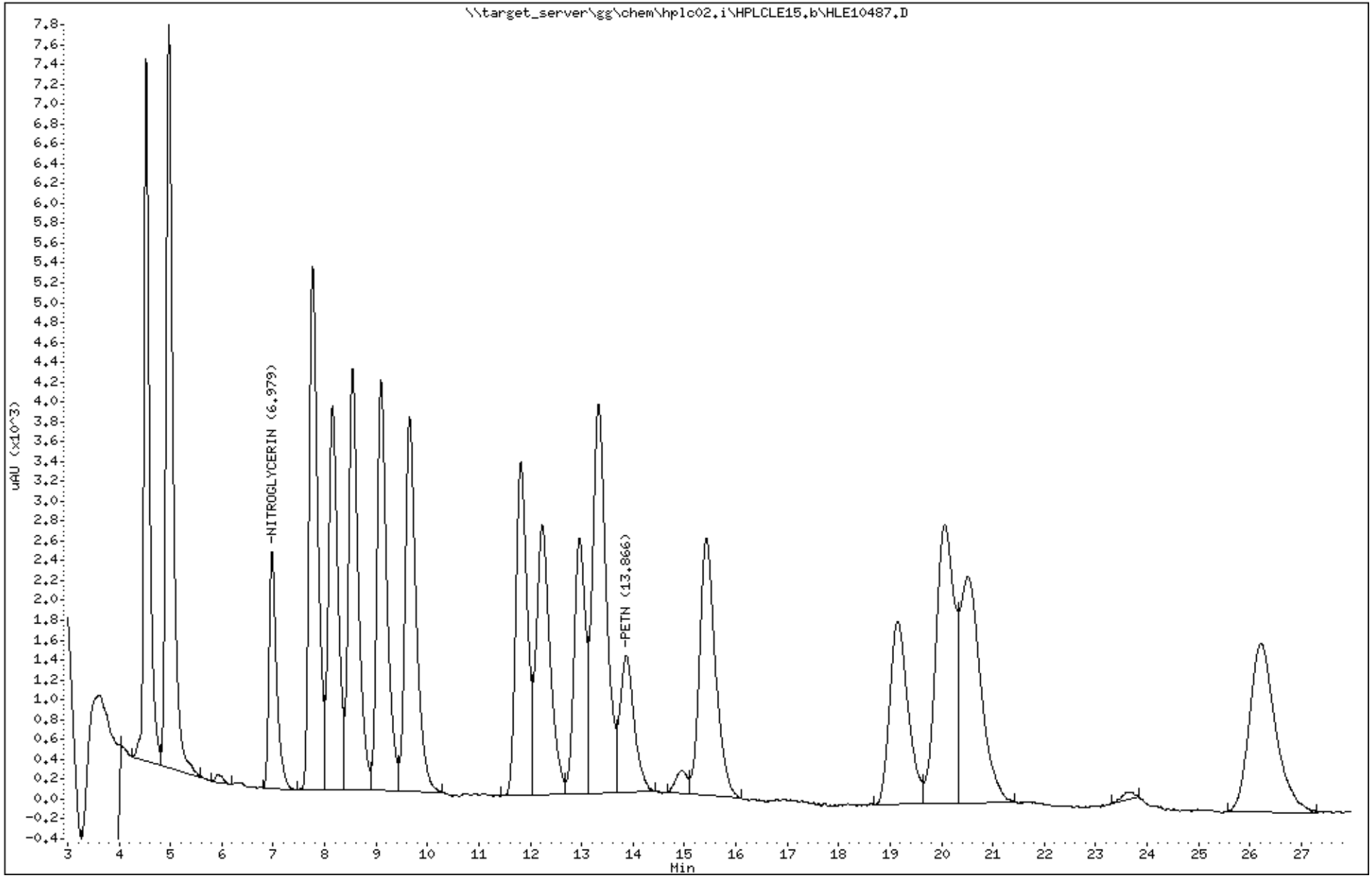
					CONCENTRATIONS	
					ON-COLUMN	FINAL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/mL)	(ug/Kgdrywt)
8 NITROGLYCERIN	6.979	6.971	0.008	2386	0.43278	991
18 PETN	13.865	13.865	0.000	1381	0.48021	1100

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HLE10487.D
Date : 16-MAY-2018 05:21
Client ID: CHAAP-BKRD-SS04MS
Sample Info: WG228106-3,SL3995

Instrument: hplc02.i

Operator: AAB
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 3000176

Data File: HLE10487.D
Report Date: 24-May-2018 09:39

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HPLCLE15.b\HLE10487.D
Lab Smp Id: WG228106-3 Client Smp ID: CHAAP-BKRD-SS04MS
Inj Date : 16-MAY-2018 05:21
Operator : AAB Inst ID: hplc02.i
Smp Info : WG228106-3,SL3995
Misc Info : WG228756,WG228106,WG225143-5,SL3995-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE15.b\EXPB05A.m\EXPB05A.m
Meth Date : 21-May-2018 08:35 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 6 QC Sample: MS
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01050	Weight of Sample (Kg)
M	16.832	% Moisture
Cpnd Variable		Local Compound Variable

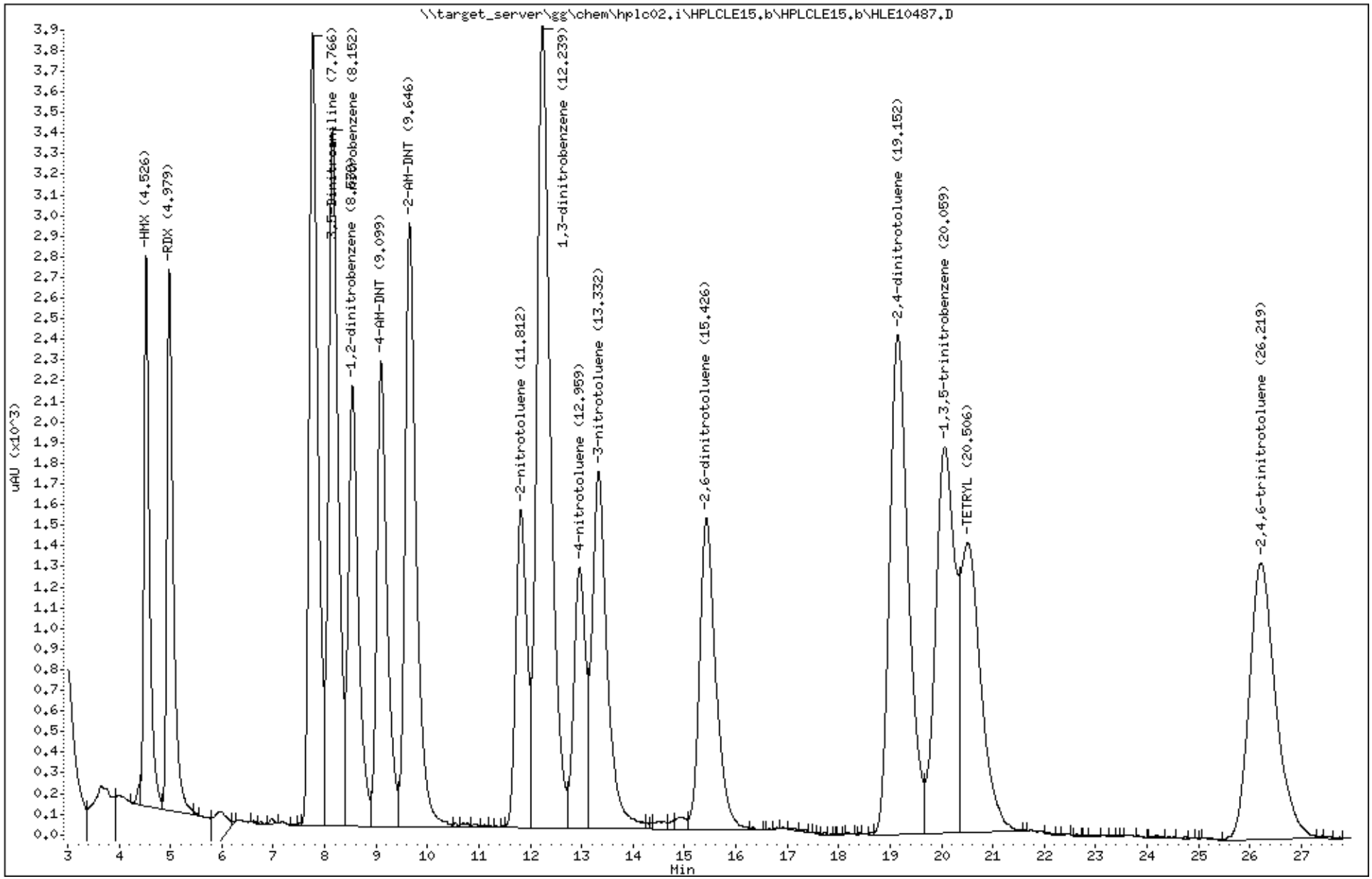
	Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	REVIEW CODE
1	HMX	4.525	4.525	0.000	2667	0.49475	1130(M)	M2
4	RDX	4.979	4.971	0.008	2616	0.47707	1090(M)	M2
51	3,5-Dinitroaniline	7.765	7.758	0.007	3842	0.46199	1060	
7	nitrobenzene	8.152	8.145	0.007	3389	0.49355	1130	
$ 2	1,2-dinitrobenzene	8.539	8.538	0.001	2136	0.46160	1060(RR)	
11	4-AM-DNT	9.099	9.098	0.001	2253	0.52362	1200	
12	2-AM-DNT	9.645	9.645	0.000	2925	0.50775	1160	
15	2-nitrotoluene	11.812	11.805	0.007	1542	0.53364	1220	
6	1,3-dinitrobenzene	12.239	12.238	0.001	3885	0.52192	1200	
16	4-nitrotoluene	12.959	12.958	0.001	1263	0.53918	1230	
17	3-nitrotoluene	13.332	13.325	0.007	1728	0.51960	1190	
13	2,6-dinitrotoluene	15.425	15.431	-0.006	1509	0.51328	1180	
14	2,4-dinitrotoluene	19.152	19.158	-0.006	2419	0.52376	1200	
5	1,3,5-trinitrobenzene	20.059	20.071	-0.012	1871	0.50720	1160	
9	TETRYL	20.505	20.518	-0.013	1402	0.55315	1270	
10	2,4,6-trinitrotoluene	26.219	26.225	-0.006	1337	0.52922	1210	

AAB
9:54 am, May 24, 2018

QC Flag Legend

R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HPLCLE15.b\HLE10487.D
Date : 16-MAY-2018 05:21
Client ID: CHAAP-BKRD-SS04MS
Instrument: hplc02.i
Sample Info: WG228106-3,SL3995
Operator: AAB
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 3000178

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HLE10488.D
Report Date: 24-May-2018 09:28

Katahdin Analytical Services

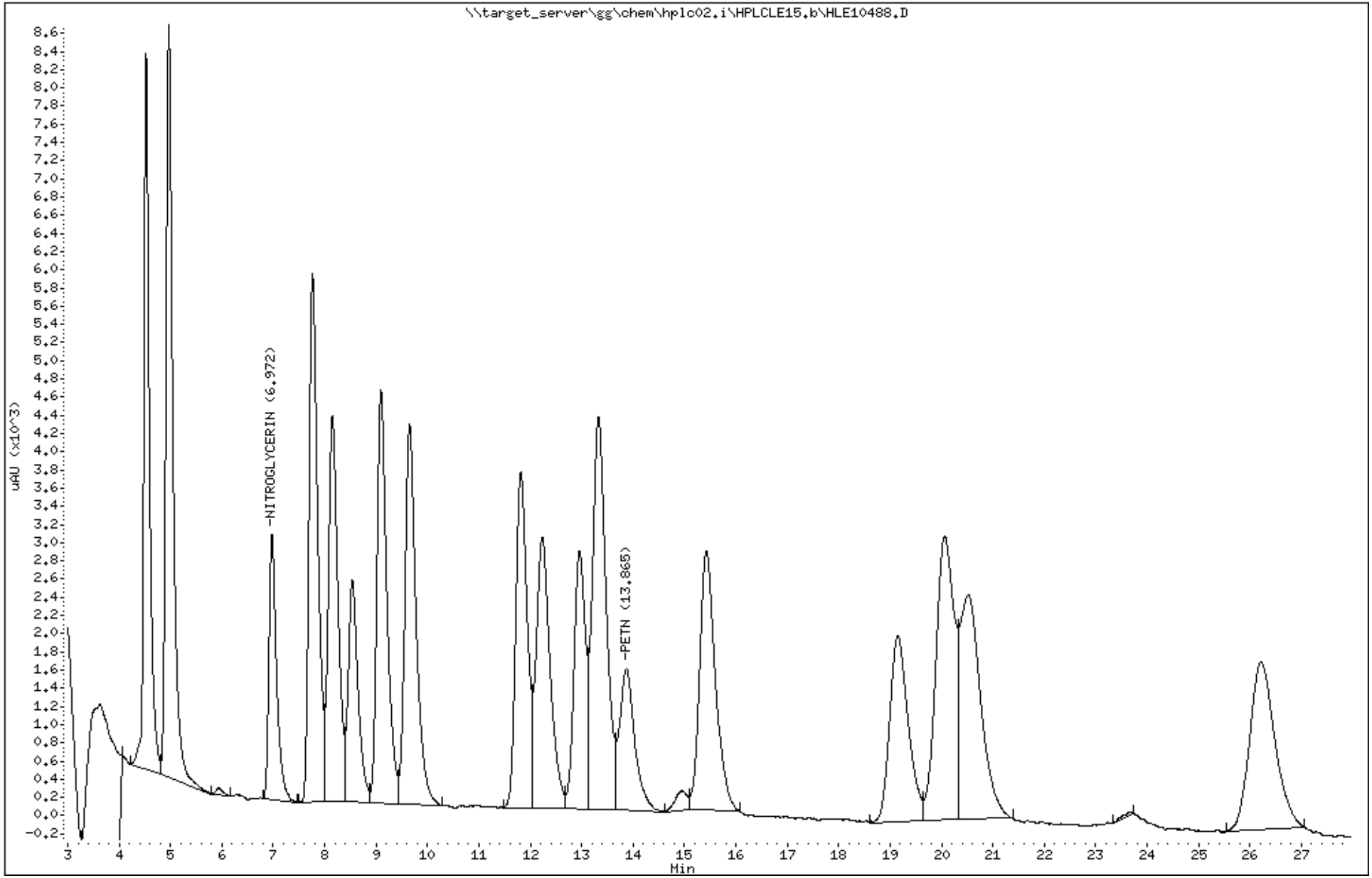
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HLE10488.D
Lab Smp Id: WG228106-4 Client Smp ID: CHAAP-BKRD-SS04MSD
Inj Date : 16-MAY-2018 05:52
Operator : AAB Inst ID: hplc02.i
Smp Info : WG228106-4,SL3995
Misc Info : WG228756,WG228106,WG225143-5,SL3995-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE15.b\EXPB05A.m
Meth Date : 21-May-2018 08:50 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 7 QC Sample: MSD
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01010	Weight of Sample (Kg)
M	16.832	% Moisture
Cpnd Variable		Local Compound Variable

					CONCENTRATIONS	
					ON-COLUMN	FINAL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/mL)	(ug/Kgdrywt)
8 NITROGLYCERIN	6.972	6.971	0.001	2913	0.52837	1260
18 PETN	13.865	13.865	0.000	1554	0.54036	1290

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HLE10488.D
Date : 16-MAY-2018 05:52
Client ID: CHAAP-BKRD-SS04MSD
Instrument: hplc02.i
Sample Info: WG228106-4,SL3995
Operator: AAB
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 3000180

Data File: HLE10488.D
Report Date: 24-May-2018 09:31

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HPLCLE15.b\HLE10488.D
Lab Smp Id: WG228106-4 Client Smp ID: CHAAP-BKRD-SS04MSD
Inj Date : 16-MAY-2018 05:52
Operator : AAB Inst ID: hplc02.i
Smp Info : WG228106-4,SL3995
Misc Info : WG228756,WG228106,WG225143-5,SL3995-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE15.b\EXPB05A.m\EXPB05A.m
Meth Date : 21-May-2018 08:35 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 7 QC Sample: MSD
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01010	Weight of Sample (Kg)
M	16.832	% Moisture
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	REVIEW CODE
1	HMX	4.525	4.525	0.000	2965	0.55003	1310(M)	M2
4	RDX	4.978	4.971	0.007	2892	0.52678	1250(M)	M2
51	3,5-Dinitroaniline	7.758	7.758	0.000	4229	0.50852	1210	
7	nitrobenzene	8.152	8.145	0.007	3714	0.54088	1290	
$ 2	1,2-dinitrobenzene	8.532	8.538	-0.006	1253	0.27078	645	
11	4-AM-DNT	9.098	9.098	0.000	2460	0.57173	1360	
12	2-AM-DNT	9.645	9.645	0.000	3210	0.55722	1330	
15	2-nitrotoluene	11.812	11.805	0.007	1696	0.58694	1400	
6	1,3-dinitrobenzene	12.232	12.238	-0.006	4267	0.57324	1360	
16	4-nitrotoluene	12.958	12.958	0.000	1374	0.58657	1400	
17	3-nitrotoluene	13.325	13.325	0.000	1886	0.56711	1350	
13	2,6-dinitrotoluene	15.432	15.431	0.001	1652	0.56313	1340	
14	2,4-dinitrotoluene	19.152	19.158	-0.006	2679	0.58006	1380	
5	1,3,5-trinitrobenzene	20.058	20.071	-0.013	2092	0.56711	1350	
9	TETRYL	20.518	20.518	0.000	1537	0.60641	1440	
10	2,4,6-trinitrotoluene	26.212	26.225	-0.013	1483	0.58701	1400	

AAB
9:54 am, May 24, 2018

QC Flag Legend

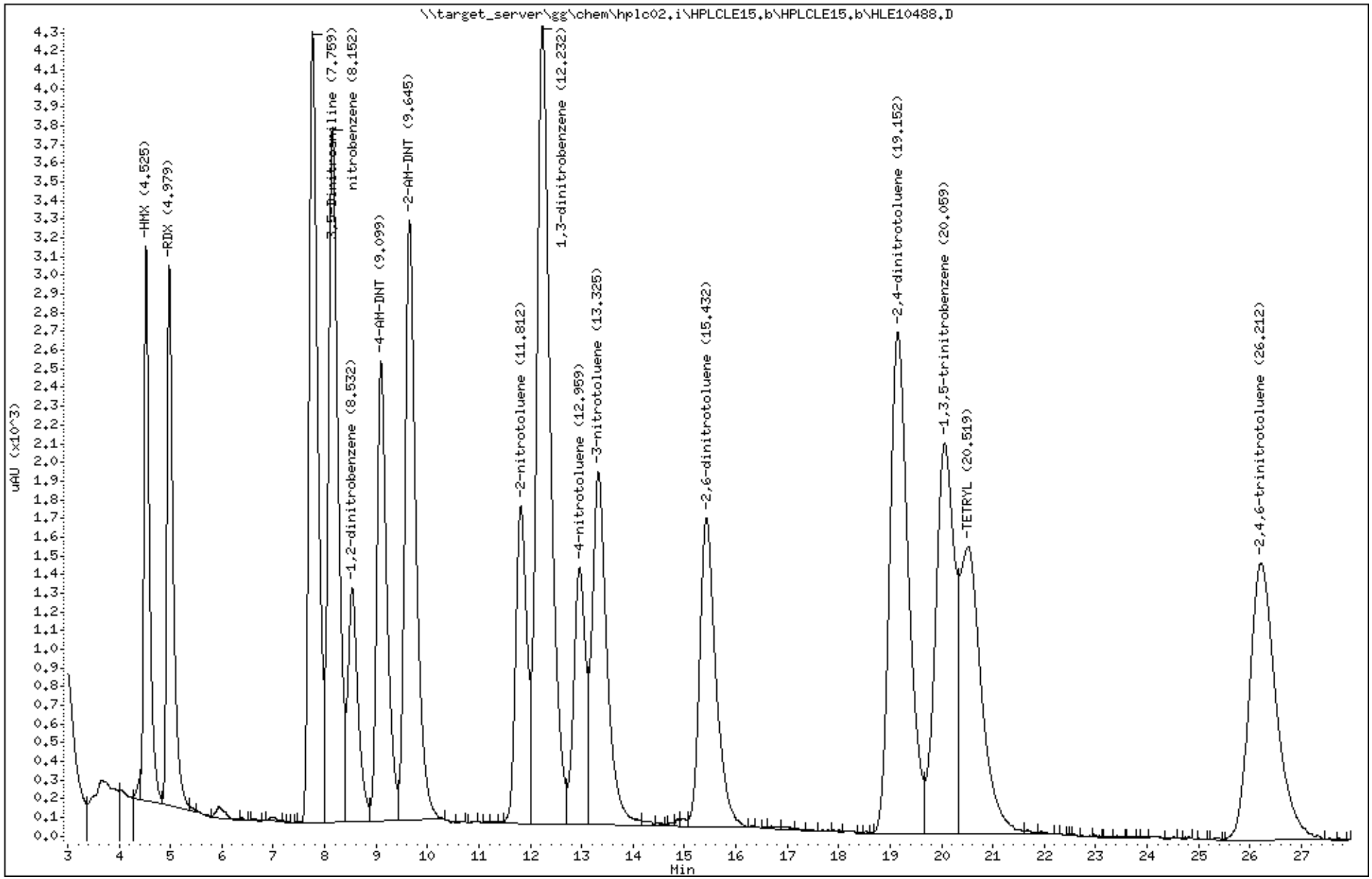
M - Compound response manually integrated.

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HPLCLE15.b\HLE10488.D
Date : 16-MAY-2018 05:52
Client ID: CHAAP-BKRD-SS04MSD
Sample Info: WG228106-4,SL3995

Instrument: hplc02.i

Operator: AAB
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 3000182

Logbooks and Supporting Documents

KATAHDIN ANALYTICAL SERVICES
ORGANIC EXTRACTIONS LOGBOOK - AQUEOUS EXPLOSIVES
METHOD: SW846 8330 B Mod.

Surrogate Lot # P9096
Spike Lot # P9095
Acetonitrile (ACN) Lot # DQ695
Cartidrge Lot # 1102019

Other Lot # NG : STK 5436
Other Lot # PETW: J 5438
EDGN: J 5437
Extraction Start Time: 11:00
Extraction Finish Time: 13:00

Extract Date	Extract Time	Analyst	Sample ID	Bottle ID.	Initial Vol. (500 mL)	Surr.: Add 500 uL of 10 ug/mL Add to all samples	SPIKE: Add 25 uL of 100 ug/mL to MS/D & LCS/D	Elute 15 mL ACN (at gravity flow rate) thru cartridge and discard	Elute 30 mL water thru cartridge and discard	Elute sample through cartidge and discard	Elute 5 mL ACN through cartidge anf collect	Add 10 mL water to ACN extract	Store sample in labeled vial	EXP 238 Tray Location	Comments
5-10-18	11:00	JMS	WG228021-1	Z	✓	✓	NR	✓	✓	✓	✓	✓	✓	E6	R473534
J	J	J	J-2	Z	J		✓	J	J	J	J	J	J	E7	10 [illegible]

QAEX339

000007

HP-001 - Revision 1 - 02/11/2010

Extract Date	Extract Time	Analyst	Sample ID	Bottle ID.	Initial Vol. (500 mL)	Surr.: Add 500 uL of 10 ug/mL Add to all samples	SPIKE: Add 25 uL of 100 ug/mL to MS/D & LCS/D	Elute 15 mL ACN (at gravity flow rate) thru cartridge and discard	Elute 30 mL water thru cartridge and discard	Elute sample through cartidge and discard	Elute 5 mL ACN through cartidge anf collect	Add 10 mL water to ACN extract	Store sample in labeled amber vial	EXP 238 Tray Location	Comments
5-10-18	11:00	JMS	SL3952-2	H	✓	✓	NR	✓	✓	✓	✓	✓	✓	E8	
			-4	H										9	
			-6	H										10	
			-8	I										11	
			-10	F										-12	
			-12	F										F1	
			-16	F										2	
	12:00		-18	H										3	
			-19	G										4	
			-21	G										5	
			SL3993-1	B										6	
			J-2	B										7	
			SL3995-15	G										8	
			3952-23	NOT EXTRACTED										[illegible]	

QAEX339

000007

HP-001 - Revision 1 - 02/11/2010

Katahdin Analytical Services
Organic Extractions Log – Explosives (Soils)

Method SW846 8330B

Surrogate ID: P9096 / P9105	Acetonitrile (ACN) Lot # DQ695	Filter Lot No: T0467171425
Spike ID (15): P9095		Vial Lot No: 00254511
Spike ID (NG): STK 5436		Syringe Lot No: 727887
Spike ID (PETN): STK 5438	Extraction Start Time: 13:00 05-14-18	Balance SN: Mettler PJ400
Spike ID (EGDN): STK 5477	Extraction End Time: 9:30 5-15-18	No. 30 Sieve S/N

Date Extracted	Analyst	Sample Id.	Initial Amount (g)	Surrogate Volume (ml)	Spike Volume (ml)	Final Volume (mL)	Filter 5 ml of Extract	Add 10 ml of Water to ACN Extract	Exp 240 Tray Location	Comments
										R474572
5-14-18	DP/AC	W6228106-1	10.04	0.5mL	NR	20mL	✓	✓	C11	
		-2	10.00		100mL				12	
		-3	10.46						D1	MS SL3995-5 N
		-4	10.08						2	MSD ✓
		-5								

EX-022 – Revision 2 – 03/21/2018

Date Extracted	Analyst	Sample Id.	Initial Amount (g)	Surrogate Volume (ml)	Spike Volume (ml)	Final Volume (mL)	Filter 5 ml of Extract	Add 10 ml of Water to ACN Extract	Exp 240 Tray Location	Comments
5-14-18	DP/AC	SL 3995-1 E	10.33	0.5mL	NR	20mL	✓	✓	D3	
		-2	11.33						4	
		-3	11.30						5	
		-4	11.886						6	
		-5 N	10.04						7	MS10
		-6 E	12.21						8	
		-7	11.75						9	
		-8	11.21						10	
		-9	10.89						11	
		-10	10.82						12	
		-11	10.34						E1	
		-12	11.07						2	
		-13	12.03						3	
		-14	10.87						4	

EX-022 – Revision 2 – 03/21/2018

Katahdin Analytical Services

HPLC Runlog
Instrument: HPLC02

Method (circle): ~~8330B MOD.~~ 8330B

Column: PHENOMENEX	Injection Volume: 100uL	Standard	Standard ID
Flow Rate: 1.0 mL/MIN	Methanol lot #: DS 202	C5	P9009
Detector Wavelengths: 210 nm / 254 nm		C4	P9010

Date	Init.	Result File	Sample ID	Y/N	Analyical Workgroup	Method	Comments
031618	AC	HLC10023	COMBO	N		CANNA81	CANN TESTING
CHANGE TO PHENOMENEX COLUMN							
032018	AC	HLC10024	C5	Y		EXP80dA	
		025	WG225027-1	N			
		026	-2				
		027	-5				
		028	-3				
		029	-4				
		030	IND	N	WG225143	EXP805A	
		031	C7 -7	Y			P9008
		032	C6 -6				↓ 150→300
		033	C5 -5				P9009
		034	C4 -4				P9010
		035	C3 -3				P9009 100→500
		036	C2 -2				↓ 50→500
		037	C1 -1				P9010 50→500
		038	IND -8				P9071
		039	WG225027-1	Y			
		040	-2				
		041	-5				
		042	-3				
		043	-4				SS DOUBLE SPIKE
		044	WG225094-1	Y			
		045	-2				
		046	SL2079-14	Y			C,d
		047	SL2135-20	Y			
		048	SL2295-1	Y			PETN SS ROUNDS IN
032118		049	C5 -9	Y			

Reviewed by/Date: _____

Katahdin Analytical Services

HPLC Runlog
Instrument: HPLC02

Method (circle): 8330B MOD. / 8330B

Column: PHENOMENEX	Injection Volume: 100 µL	Standard	Standard ID
Flow Rate: 1.0mL/min	Methanol lot #: DS 243	C5	P9101
Detector Wavelengths: 210nm / 254nm		C4	P9102

Date	Init.	Result File	Sample ID	Y/N	Analyical Workgroup	Method	Comments
051018	MAB	HLE10299	SL3841-14	Y	WG227995	EXPB05A	R
		300	-16				
		301	-18				
		302	-20				NG
		303	C5 -3	Y			
		304	SL3902-2	Y			
		305	-4				
		306	-6				
		307	-8				
		308	-10				
		309	-12				
		310	-14				
	AC	311	C4 -40 -4	Y	WG227584 WG227995		
		312	WG228021-1	Y	WG227995		
051118		313	-2				
		314	SL3993-1	Y			NG
		315	-2				NG 2Am 3NT
		316	SL3995-15	Y			~~NG~~ MAB 052218 RT
		317	SL3452-23EA	Y	WG227584		H R 4Am 2Am
		318	WG227928-1	Y	WG227995		
		319	-2				
		320	-3				
		321	-4				
		322	C5 -41 -5	Y	WG227584 WG227995		
		323	SL3952-2	Y	WG227995		
		324	-4				
		325	-6				
		326	-8				

Reviewed by/Date: _____

Katahdin Analytical Services

HPLC Runlog
Instrument: HPLC02

Method (circle): (8330B MOD.) (8330B)

Column: PHENOMENEX	Injection Volume: 100 µL	Standard	Standard ID
Flow Rate: 1.0 mL / MIN	Methanol lot #: DS243	C5	P9101
Detector Wavelengths: 210nm / 254 nm		C4	P9102

Date	Init.	Result File	Sample ID	Y/N	Analyical Workgroup	Method	Comments
051518	AC	HLC10465	SL4032-7	Y	WG228756	EXPBOSTA	H 4NT
		466	↓ -8	↓			
		467	WG228836-1	Y			
		468	↓ -2	↓			
		469	SL3952-23 ~~RE~~ AMS 052218	Y			
		470	SL4180-29	Y			
		471	SL4089-1	Y			2AM 3NT ss↓ RE
		472	↓ -2	Y			DNA NB 3NT
		473	C5 -3	Y			
		474	SL4089-3	Y			
		475	-4				2AM
		476	-5				H DNA 2AM 3NT
051618		477	-6				2AM
		478	-7				2AM
		479	-8				
		480	-9				H NB
		481	-10				
		482	-11				3NT
		483	↓ -12	↓			3NT
		484	C4 -4	Y			
		485	WG228106-1	Y			
		486	-2				
		487	-3				DOUBLE SS
		488	-4	↓			
		489	SL3995-1	Y			
		490	-2				
		491	-3				
		492	-4	↓			

Reviewed by/Date: _____

Katahdin Analytical Services

HPLC Runlog
Instrument: HPLC02

Method (circle): (8330B MOD.) (8330B)

Column: PHENOMENEX	Injection Volume: 100µL	Standard	Standard ID
Flow Rate: 1.0mL/MIN	Methanol lot #: DS 2d3	c5	P9101
Detector Wavelengths: 210nm / 254 nm		c4	P9102

Date	Init.	Result File	Sample ID	Y/N	Analyical Workgroup	Method	Comments
AMB 051718 051618	~~AMB~~ AC	HLE10493	SL3995-5	Y	WG228975C	EXP805A	
		494	-6	↓			
		495	C5 -5	Y			
		496	SL3995-7	Y			
		497	-8				
		498	-9				
		499	-10				
		500	-11				
		501	-12				
		502	-13				
		503	-14	↓		↓	
051618	AC	HLE10504	C4 -6	Y		EXP805A	
		505	WG228~~427~~437-1 AMB 052118	Y			
		506	-2				
		507	-3				
		508	-4	↓			
		509	SL4141-1	Y			NB
		510	-2	Y			NB SS ↓ RE
		511	-3	Y			
		512	-4				NB 3NT
		513	-5				NB 3NT
		514	-6	↓			
		515	C5 -7	Y			
		516	SL4141-7	Y			
		517	-8	↓			H
		518	WG228437-1	Y			
		519	-2	↓			
		520	-3	N	↓	↓	NOT NEEDED

Reviewed by/Date:

METALS DATA

Sample Data Section

METALS SAMPLE FLAGGING

FLAG	SPECIFIED MEANING
E	The reported value is estimated because of the presence of interference (as indicated by serial dilution).
N	The pre-digestion spiked sample recovery is not within control limits.
*	The duplicate sample analysis relative percent difference (RPD) is not within control limits.
B	Indicates the analyte was detected in the laboratory method blank analyzed concurrently with the sample.
A	The post-digestion spiked sample recovery is not within control limits.
•	Analytical run QC sample (e.g. ICV, CCV, ICB, CCB, ICSA, ICSAB) not within control limits.
U	The analyte was not detected above the specified level. This level may be the Practical Quantitation Level (PQL) (also called Limit of Quantitation (LOQ)), the Limit of Detection (LOD) or Method Detection Limit (MDL) as required by the client. Note: All results reported as "U" MDL have a 50% rate for false negatives compared to those results reported as "U" PQL, "U" LOQ or "U" LOD, where the rate of false negatives is <1%.
J	Estimated value. The analyte was detected in the sample at a concentration less than the laboratory Practical Quantitation Level (PQL) (also called Limit of Quantitation (LOQ)), but above the Method Detection Limit (MDL).
Q	One or more quality control criteria failed (e.g., LCS recovery, surrogate spike recovery or CCV).

COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Lab Name: Katahdin Analytical Services

SDG Name: SL3995 **SOW No.** SW846

Client Field ID	Lab Sample ID
CHAAP-BKRD-SB01	SL3995-008
CHAAP-BKRD-SB02	SL3995-009
CHAAP-BKRD-SB03	SL3995-010
CHAAP-BKRD-SB04	SL3995-011
CHAAP-BKRD-SB05	SL3995-012
CHAAP-BKRD-SB06	SL3995-014
CHAAP-BKRD-SB105	SL3995-013
CHAAP-BKRD-SS01	SL3995-001
CHAAP-BKRD-SS02	SL3995-002
CHAAP-BKRD-SS03	SL3995-004
CHAAP-BKRD-SS04	SL3995-005
CHAAP-BKRD-SS04	SL3995-005P
CHAAP-BKRD-SS04	SL3995-005S
CHAAP-BKRD-SS05	SL3995-006
CHAAP-BKRD-SS06	SL3995-007
CHAAP-BKRD-SS102	SL3995-003
CHAAP-EB-050818-HA	SL3995-015

Were ICP interelement corrections applied ?	Yes
Were ICP background corrections applied ?	Yes
If yes - were raw data generated before application of background corrections ?	No

Comments:

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the case narrative. Release of the data contained in this hardcopy data package and in the computer-readable data submitted has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: _____ Name: Jason Stuart

Date: 5/18/18 Title: Analyst

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** CHAAP-BKRD-SS01

Matrix: SOIL **SDG Name:** SL3995

Percent Solids: 85.1 **Lab Sample ID:** SL3995-001

Concentration Units : mg/Kg drywt

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED LOQ	ADJUSTED MDL	ADJUSTED LOD
7429-90-5	ALUMINUM, TOTAL	11600			MS	5	7.5	0.37	3.0
7440-36-0	ANTIMONY, TOTAL	0.12			MS	5	0.075	0.015	0.037
7440-38-2	ARSENIC, TOTAL	2.58			MS	5	0.37	0.11	0.30
7440-39-3	BARIUM, TOTAL	153			MS	5	0.15	0.027	0.075
7440-41-7	BERYLLIUM, TOTAL	0.569			MS	5	0.075	0.0030	0.015
7440-43-9	CADMIUM, TOTAL	0.116			MS	5	0.075	0.0056	0.015
7440-70-2	CALCIUM, TOTAL	2210			MS	5	7.5	2.8	6.0
7440-47-3	CHROMIUM, TOTAL	11.1			MS	5	0.37	0.037	0.30
7440-48-4	COBALT, TOTAL	5.38			MS	5	0.075	0.0041	0.022
7440-50-8	COPPER, TOTAL	7.45			MS	5	0.22	0.052	0.15
7439-89-6	IRON, TOTAL	9480			MS	5	7.5	1.8	4.5
7439-92-1	LEAD, TOTAL	10.2			MS	5	0.075	0.0052	0.037
7439-95-4	MAGNESIUM, TOTAL	2890			MS	5	7.5	1.0	6.0
7439-96-5	MANGANESE, TOTAL	293			MS	5	0.15	0.031	0.075
7439-97-6	MERCURY, TOTAL	0.015	J		CV	1	0.031	0.0048	0.016
7440-02-0	NICKEL, TOTAL	8.25			MS	5	0.15	0.020	0.090
7440-09-7	POTASSIUM, TOTAL	3020			MS	5	75	3.4	30
7782-49-2	SELENIUM, TOTAL	0.393			MS	5	0.37	0.029	0.22
7440-22-4	SILVER, TOTAL	0.0573	J		MS	5	0.075	0.0049	0.030
7440-23-5	SODIUM, TOTAL	454			MS	5	75	1.9	30
7440-28-0	THALLIUM, TOTAL	0.205			MS	5	0.075	0.0071	0.030
7440-62-2	VANADIUM, TOTAL	21.6			MS	5	0.37	0.082	0.30
7440-66-6	ZINC, TOTAL	29.6			MS	5	0.75	0.097	0.60

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** CHAAP-BKRD-SS02

Matrix: SOIL **SDG Name:** SL3995

Percent Solids: 83.7 **Lab Sample ID:** SL3995-002

Concentration Units : mg/Kg drywt

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED LOQ	ADJUSTED MDL	ADJUSTED LOD
7429-90-5	ALUMINUM, TOTAL	10900			MS	5	7.2	0.36	2.9
7440-36-0	ANTIMONY, TOTAL	0.11			MS	5	0.072	0.014	0.036
7440-38-2	ARSENIC, TOTAL	2.67			MS	5	0.36	0.11	0.29
7440-39-3	BARIUM, TOTAL	137			MS	5	0.14	0.026	0.072
7440-41-7	BERYLLIUM, TOTAL	0.584			MS	5	0.072	0.0029	0.014
7440-43-9	CADMIUM, TOTAL	0.101			MS	5	0.072	0.0054	0.014
7440-70-2	CALCIUM, TOTAL	1870			MS	5	7.2	2.8	5.8
7440-47-3	CHROMIUM, TOTAL	11.0			MS	5	0.36	0.035	0.29
7440-48-4	COBALT, TOTAL	5.21			MS	5	0.072	0.0040	0.022
7440-50-8	COPPER, TOTAL	6.81			MS	5	0.22	0.051	0.14
7439-89-6	IRON, TOTAL	9200			MS	5	7.2	1.7	4.3
7439-92-1	LEAD, TOTAL	9.90			MS	5	0.072	0.0051	0.036
7439-95-4	MAGNESIUM, TOTAL	2680			MS	5	7.2	0.98	5.8
7439-96-5	MANGANESE, TOTAL	267			MS	5	0.14	0.030	0.072
7439-97-6	MERCURY, TOTAL	0.018	J		CV	1	0.038	0.0060	0.020
7440-02-0	NICKEL, TOTAL	8.29			MS	5	0.14	0.019	0.087
7440-09-7	POTASSIUM, TOTAL	2650			MS	5	72	3.3	29
7782-49-2	SELENIUM, TOTAL	0.532			MS	5	0.36	0.028	0.22
7440-22-4	SILVER, TOTAL	0.0512	J		MS	5	0.072	0.0047	0.029
7440-23-5	SODIUM, TOTAL	322			MS	5	72	1.8	29
7440-28-0	THALLIUM, TOTAL	0.209			MS	5	0.072	0.0069	0.029
7440-62-2	VANADIUM, TOTAL	21.8			MS	5	0.36	0.080	0.29
7440-66-6	ZINC, TOTAL	27.5			MS	5	0.72	0.094	0.58

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** CHAAP-BKRD-SS102

Matrix: SOIL **SDG Name:** SL3995

Percent Solids: 83.1 **Lab Sample ID:** SL3995-003

Concentration Units : mg/Kg drywt

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED LOQ	ADJUSTED MDL	ADJUSTED LOD
7429-90-5	ALUMINUM, TOTAL	11200			MS	5	7.3	0.37	2.9
7440-36-0	ANTIMONY, TOTAL	0.11			MS	5	0.073	0.015	0.037
7440-38-2	ARSENIC, TOTAL	2.65			MS	5	0.37	0.11	0.29
7440-39-3	BARIUM, TOTAL	128			MS	5	0.15	0.027	0.073
7440-41-7	BERYLLIUM, TOTAL	0.590			MS	5	0.073	0.0030	0.015
7440-43-9	CADMIUM, TOTAL	0.131			MS	5	0.073	0.0055	0.015
7440-70-2	CALCIUM, TOTAL	1850			MS	5	7.3	2.8	5.9
7440-47-3	CHROMIUM, TOTAL	11.0			MS	5	0.37	0.036	0.29
7440-48-4	COBALT, TOTAL	5.29			MS	5	0.073	0.0040	0.022
7440-50-8	COPPER, TOTAL	7.01			MS	5	0.22	0.051	0.15
7439-89-6	IRON, TOTAL	9400			MS	5	7.3	1.8	4.4
7439-92-1	LEAD, TOTAL	10.3			MS	5	0.073	0.0051	0.037
7439-95-4	MAGNESIUM, TOTAL	2660			MS	5	7.3	0.99	5.9
7439-96-5	MANGANESE, TOTAL	287			MS	5	0.15	0.031	0.073
7439-97-6	MERCURY, TOTAL	0.020	J		CV	1	0.034	0.0053	0.017
7440-02-0	NICKEL, TOTAL	8.06			MS	5	0.15	0.019	0.088
7440-09-7	POTASSIUM, TOTAL	2610			MS	5	73	3.3	29
7782-49-2	SELENIUM, TOTAL	0.535			MS	5	0.37	0.029	0.22
7440-22-4	SILVER, TOTAL	0.0480	J		MS	5	0.073	0.0048	0.029
7440-23-5	SODIUM, TOTAL	255			MS	5	73	1.9	29
7440-28-0	THALLIUM, TOTAL	0.216			MS	5	0.073	0.0070	0.029
7440-62-2	VANADIUM, TOTAL	21.9			MS	5	0.37	0.081	0.29
7440-66-6	ZINC, TOTAL	28.3			MS	5	0.73	0.095	0.59

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** CHAAP-BKRD-SS03

Matrix: SOIL **SDG Name:** SL3995

Percent Solids: 83.4 **Lab Sample ID:** SL3995-004

Concentration Units : mg/Kg drywt

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED LOQ	MDL	LOD
7429-90-5	ALUMINUM, TOTAL	10400			MS	5	8.3	0.42	3.3
7440-36-0	ANTIMONY, TOTAL	0.11			MS	5	0.083	0.017	0.042
7440-38-2	ARSENIC, TOTAL	2.59			MS	5	0.42	0.12	0.33
7440-39-3	BARIUM, TOTAL	124			MS	5	0.17	0.030	0.083
7440-41-7	BERYLLIUM, TOTAL	0.522			MS	5	0.083	0.0034	0.017
7440-43-9	CADMIUM, TOTAL	0.157			MS	5	0.083	0.0062	0.017
7440-70-2	CALCIUM, TOTAL	1660			MS	5	8.3	3.2	6.6
7440-47-3	CHROMIUM, TOTAL	10.3			MS	5	0.42	0.041	0.33
7440-48-4	COBALT, TOTAL	5.02			MS	5	0.083	0.0046	0.025
7440-50-8	COPPER, TOTAL	7.45			MS	5	0.25	0.058	0.17
7439-89-6	IRON, TOTAL	9090			MS	5	8.3	2.0	5.0
7439-92-1	LEAD, TOTAL	11.8			MS	5	0.083	0.0058	0.042
7439-95-4	MAGNESIUM, TOTAL	2360			MS	5	8.3	1.1	6.6
7439-96-5	MANGANESE, TOTAL	294			MS	5	0.17	0.035	0.083
7439-97-6	MERCURY, TOTAL	0.017	J		CV	1	0.035	0.0055	0.018
7440-02-0	NICKEL, TOTAL	7.20			MS	5	0.17	0.022	0.10
7440-09-7	POTASSIUM, TOTAL	2650			MS	5	83	3.8	33
7782-49-2	SELENIUM, TOTAL	0.459			MS	5	0.42	0.032	0.25
7440-22-4	SILVER, TOTAL	0.045	J		MS	5	0.083	0.0054	0.033
7440-23-5	SODIUM, TOTAL	168			MS	5	83	2.1	33
7440-28-0	THALLIUM, TOTAL	0.205			MS	5	0.083	0.0079	0.033
7440-62-2	VANADIUM, TOTAL	20.2			MS	5	0.42	0.092	0.33
7440-66-6	ZINC, TOTAL	30.1			MS	5	0.83	0.11	0.66

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** CHAAP-BKRD-SS04

Matrix: SOIL **SDG Name:** SL3995

Percent Solids: 83.2 **Lab Sample ID:** SL3995-005

Concentration Units : mg/Kg drywt

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED LOQ	ADJUSTED MDL	ADJUSTED LOD
7429-90-5	ALUMINUM, TOTAL	9520		NA	MS	5	8.2	0.41	3.3
7440-36-0	ANTIMONY, TOTAL	0.11		N	MS	5	0.082	0.016	0.041
7440-38-2	ARSENIC, TOTAL	2.52		N	MS	5	0.41	0.12	0.33
7440-39-3	BARIUM, TOTAL	126		A	MS	5	0.16	0.030	0.082
7440-41-7	BERYLLIUM, TOTAL	0.473		N	MS	5	0.082	0.0033	0.016
7440-43-9	CADMIUM, TOTAL	0.153		N	MS	5	0.082	0.0061	0.016
7440-70-2	CALCIUM, TOTAL	1860		NA	MS	5	8.2	3.1	6.5
7440-47-3	CHROMIUM, TOTAL	9.86		N	MS	5	0.41	0.040	0.33
7440-48-4	COBALT, TOTAL	4.90			MS	5	0.082	0.0045	0.024
7440-50-8	COPPER, TOTAL	7.31		N	MS	5	0.24	0.057	0.16
7439-89-6	IRON, TOTAL	8240		NEA	MS	5	8.2	2.0	4.9
7439-92-1	LEAD, TOTAL	10.7		NA	MS	5	0.082	0.0057	0.041
7439-95-4	MAGNESIUM, TOTAL	2320		NA	MS	5	8.2	1.1	6.5
7439-96-5	MANGANESE, TOTAL	288		NA	MS	5	0.16	0.034	0.082
7439-97-6	MERCURY, TOTAL	0.018	J	A	CV	1	0.032	0.0050	0.016
7440-02-0	NICKEL, TOTAL	7.38		N	MS	5	0.16	0.022	0.098
7440-09-7	POTASSIUM, TOTAL	3040		N	MS	5	82	3.7	33
7782-49-2	SELENIUM, TOTAL	0.455		N	MS	5	0.41	0.032	0.24
7440-22-4	SILVER, TOTAL	0.049	J	N	MS	5	0.082	0.0053	0.033
7440-23-5	SODIUM, TOTAL	293			MS	5	82	2.1	33
7440-28-0	THALLIUM, TOTAL	0.177			MS	5	0.082	0.0078	0.033
7440-62-2	VANADIUM, TOTAL	19.5			MS	5	0.41	0.090	0.33
7440-66-6	ZINC, TOTAL	27.7		N	MS	5	0.82	0.11	0.65

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** CHAAP-BKRD-SS05

Matrix: SOIL **SDG Name:** SL3995

Percent Solids: 78.8 **Lab Sample ID:** SL3995-006

Concentration Units : mg/Kg drywt

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED LOQ	ADJUSTED MDL	ADJUSTED LOD
7429-90-5	ALUMINUM, TOTAL	17300			MS	5	12	0.61	4.9
7440-36-0	ANTIMONY, TOTAL	0.15			MS	5	0.12	0.024	0.061
7440-38-2	ARSENIC, TOTAL	3.50			MS	5	0.61	0.18	0.49
7440-39-3	BARIUM, TOTAL	188			MS	5	0.24	0.045	0.12
7440-41-7	BERYLLIUM, TOTAL	0.808			MS	5	0.12	0.0049	0.024
7440-43-9	CADMIUM, TOTAL	0.234			MS	5	0.12	0.0092	0.024
7440-70-2	CALCIUM, TOTAL	3730			MS	5	12	4.6	9.8
7440-47-3	CHROMIUM, TOTAL	15.6			MS	5	0.61	0.060	0.49
7440-48-4	COBALT, TOTAL	6.83			MS	5	0.12	0.0067	0.037
7440-50-8	COPPER, TOTAL	11.7			MS	5	0.37	0.085	0.24
7439-89-6	IRON, TOTAL	13700			MS	5	12	2.9	7.3
7439-92-1	LEAD, TOTAL	14.7			MS	5	0.12	0.0085	0.061
7439-95-4	MAGNESIUM, TOTAL	4120			MS	5	12	1.6	9.8
7439-96-5	MANGANESE, TOTAL	484			MS	5	0.24	0.051	0.12
7439-97-6	MERCURY, TOTAL	0.020	J		CV	1	0.038	0.0059	0.019
7440-02-0	NICKEL, TOTAL	11.7			MS	5	0.24	0.032	0.15
7440-09-7	POTASSIUM, TOTAL	5030			MS	5	120	5.6	49
7782-49-2	SELENIUM, TOTAL	0.681			MS	5	0.61	0.048	0.37
7440-22-4	SILVER, TOTAL	0.071	J		MS	5	0.12	0.0079	0.049
7440-23-5	SODIUM, TOTAL	150			MS	5	120	3.1	49
7440-28-0	THALLIUM, TOTAL	0.288			MS	5	0.12	0.012	0.049
7440-62-2	VANADIUM, TOTAL	30.0			MS	5	0.61	0.13	0.49
7440-66-6	ZINC, TOTAL	50.0			MS	5	1.2	0.16	0.98

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** CHAAP-BKRD-SS06

Matrix: SOIL **SDG Name:** SL3995

Percent Solids: 79.4 **Lab Sample ID:** SL3995-007

Concentration Units : mg/Kg drywt

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED LOQ	ADJUSTED MDL	ADJUSTED LOD
7429-90-5	ALUMINUM, TOTAL	26400			MS	5	11	0.55	4.4
7440-36-0	ANTIMONY, TOTAL	0.246			MS	5	0.11	0.022	0.055
7440-38-2	ARSENIC, TOTAL	5.09			MS	5	0.55	0.17	0.44
7440-39-3	BARIUM, TOTAL	295			MS	5	0.22	0.040	0.11
7440-41-7	BERYLLIUM, TOTAL	1.14			MS	5	0.11	0.0045	0.022
7440-43-9	CADMIUM, TOTAL	0.118			MS	5	0.11	0.0083	0.022
7440-70-2	CALCIUM, TOTAL	3040			MS	5	11	4.2	8.8
7440-47-3	CHROMIUM, TOTAL	21.3			MS	5	0.55	0.054	0.44
7440-48-4	COBALT, TOTAL	7.68			MS	5	0.11	0.0061	0.033
7440-50-8	COPPER, TOTAL	12.8			MS	5	0.33	0.077	0.22
7439-89-6	IRON, TOTAL	19100			MS	5	11	2.7	6.6
7439-92-1	LEAD, TOTAL	13.4			MS	5	0.11	0.0077	0.055
7439-95-4	MAGNESIUM, TOTAL	6590			MS	5	11	1.5	8.8
7439-96-5	MANGANESE, TOTAL	357			MS	5	0.22	0.046	0.11
7439-97-6	MERCURY, TOTAL	0.020	J		CV	1	0.031	0.0048	0.016
7440-02-0	NICKEL, TOTAL	17.2			MS	5	0.22	0.029	0.13
7440-09-7	POTASSIUM, TOTAL	8160			MS	5	110	5.0	44
7782-49-2	SELENIUM, TOTAL	0.42	J		MS	5	0.55	0.043	0.33
7440-22-4	SILVER, TOTAL	0.102	J		MS	5	0.11	0.0072	0.044
7440-23-5	SODIUM, TOTAL	245			MS	5	110	2.8	44
7440-28-0	THALLIUM, TOTAL	0.350			MS	5	0.11	0.010	0.044
7440-62-2	VANADIUM, TOTAL	37.4			MS	5	0.55	0.12	0.44
7440-66-6	ZINC, TOTAL	57.0			MS	5	1.1	0.14	0.88

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** CHAAP-BKRD-SB01

Matrix: SOIL **SDG Name:** SL3995

Percent Solids: 81.0 **Lab Sample ID:** SL3995-008

Concentration Units : mg/Kg drywt

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED LOQ	ADJUSTED MDL	ADJUSTED LOD
7429-90-5	ALUMINUM, TOTAL	20300			MS	5	11	0.57	4.5
7440-36-0	ANTIMONY, TOTAL	0.250			MS	5	0.11	0.023	0.057
7440-38-2	ARSENIC, TOTAL	6.29			MS	5	0.57	0.17	0.45
7440-39-3	BARIUM, TOTAL	138			MS	5	0.23	0.041	0.11
7440-41-7	BERYLLIUM, TOTAL	0.875			MS	5	0.11	0.0046	0.023
7440-43-9	CADMIUM, TOTAL	0.032	J		MS	5	0.11	0.0085	0.023
7440-70-2	CALCIUM, TOTAL	29000			MS	5	11	4.3	9.0
7440-47-3	CHROMIUM, TOTAL	18.6			MS	5	0.57	0.055	0.45
7440-48-4	COBALT, TOTAL	7.26			MS	5	0.11	0.0062	0.034
7440-50-8	COPPER, TOTAL	14.3			MS	5	0.34	0.079	0.23
7439-89-6	IRON, TOTAL	16100			MS	5	11	2.7	6.8
7439-92-1	LEAD, TOTAL	11.2			MS	5	0.11	0.0079	0.057
7439-95-4	MAGNESIUM, TOTAL	6340			MS	5	11	1.5	9.0
7439-96-5	MANGANESE, TOTAL	139			MS	5	0.23	0.048	0.11
7439-97-6	MERCURY, TOTAL	0.022	J		CV	1	0.035	0.0055	0.018
7440-02-0	NICKEL, TOTAL	15.1			MS	5	0.23	0.030	0.14
7440-09-7	POTASSIUM, TOTAL	5110			MS	5	110	5.2	45
7782-49-2	SELENIUM, TOTAL	0.502	J		MS	5	0.57	0.044	0.34
7440-22-4	SILVER, TOTAL	0.0820	J		MS	5	0.11	0.0074	0.045
7440-23-5	SODIUM, TOTAL	2340			MS	5	110	2.9	45
7440-28-0	THALLIUM, TOTAL	0.283			MS	5	0.11	0.011	0.045
7440-62-2	VANADIUM, TOTAL	40.0			MS	5	0.57	0.12	0.45
7440-66-6	ZINC, TOTAL	46.9			MS	5	1.1	0.15	0.90

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** CHAAP-BKRD-SB02

Matrix: SOIL **SDG Name:** SL3995

Percent Solids: 81.3 **Lab Sample ID:** SL3995-009

Concentration Units : mg/Kg drywt

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED LOQ	MDL	LOD
7429-90-5	ALUMINUM, TOTAL	19900			MS	5	8.3	0.42	3.3
7440-36-0	ANTIMONY, TOTAL	0.223			MS	5	0.083	0.017	0.042
7440-38-2	ARSENIC, TOTAL	7.83			MS	5	0.42	0.12	0.33
7440-39-3	BARIUM, TOTAL	184			MS	5	0.17	0.030	0.083
7440-41-7	BERYLLIUM, TOTAL	0.873			MS	5	0.083	0.0034	0.017
7440-43-9	CADMIUM, TOTAL	0.109			MS	5	0.083	0.0062	0.017
7440-70-2	CALCIUM, TOTAL	42000			MS	5	8.3	3.2	6.6
7440-47-3	CHROMIUM, TOTAL	19.1			MS	5	0.42	0.041	0.33
7440-48-4	COBALT, TOTAL	5.16			MS	5	0.083	0.0046	0.025
7440-50-8	COPPER, TOTAL	13.4			MS	5	0.25	0.058	0.17
7439-89-6	IRON, TOTAL	17600			MS	5	8.3	2.0	5.0
7439-92-1	LEAD, TOTAL	12.0			MS	5	0.083	0.0058	0.042
7439-95-4	MAGNESIUM, TOTAL	7020			MS	5	8.3	1.1	6.6
7439-96-5	MANGANESE, TOTAL	234			MS	5	0.17	0.035	0.083
7439-97-6	MERCURY, TOTAL	0.019	J		CV	1	0.040	0.0063	0.020
7440-02-0	NICKEL, TOTAL	15.5			MS	5	0.17	0.022	0.10
7440-09-7	POTASSIUM, TOTAL	4910			MS	5	83	3.8	33
7782-49-2	SELENIUM, TOTAL	0.408	J		MS	5	0.42	0.032	0.25
7440-22-4	SILVER, TOTAL	0.0654	J		MS	5	0.083	0.0054	0.033
7440-23-5	SODIUM, TOTAL	1780			MS	5	83	2.1	33
7440-28-0	THALLIUM, TOTAL	0.279			MS	5	0.083	0.0079	0.033
7440-62-2	VANADIUM, TOTAL	45.9			MS	5	0.42	0.091	0.33
7440-66-6	ZINC, TOTAL	47.1			MS	5	0.83	0.11	0.66

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** CHAAP-BKRD-SB03

Matrix: SOIL **SDG Name:** SL3995

Percent Solids: 80.4 **Lab Sample ID:** SL3995-010

Concentration Units : mg/Kg drywt

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED LOQ	ADJUSTED MDL	ADJUSTED LOD
7429-90-5	ALUMINUM, TOTAL	18900			MS	5	7.3	0.37	2.9
7440-36-0	ANTIMONY, TOTAL	0.303			MS	5	0.073	0.015	0.036
7440-38-2	ARSENIC, TOTAL	8.20			MS	5	0.36	0.11	0.29
7440-39-3	BARIUM, TOTAL	294			MS	5	0.15	0.027	0.073
7440-41-7	BERYLLIUM, TOTAL	0.873			MS	5	0.073	0.0030	0.015
7440-43-9	CADMIUM, TOTAL	0.124			MS	5	0.073	0.0055	0.015
7440-70-2	CALCIUM, TOTAL	33400			MS	5	7.3	2.8	5.8
7440-47-3	CHROMIUM, TOTAL	17.6			MS	5	0.36	0.036	0.29
7440-48-4	COBALT, TOTAL	11.2			MS	5	0.073	0.0040	0.022
7440-50-8	COPPER, TOTAL	14.6			MS	5	0.22	0.051	0.15
7439-89-6	IRON, TOTAL	16800			MS	5	7.3	1.8	4.4
7439-92-1	LEAD, TOTAL	13.9			MS	5	0.073	0.0051	0.036
7439-95-4	MAGNESIUM, TOTAL	8020			MS	5	7.3	0.99	5.8
7439-96-5	MANGANESE, TOTAL	542			MS	5	0.15	0.031	0.073
7439-97-6	MERCURY, TOTAL	0.019	J		CV	1	0.036	0.0056	0.018
7440-02-0	NICKEL, TOTAL	26.8			MS	5	0.15	0.019	0.088
7440-09-7	POTASSIUM, TOTAL	4610			MS	5	73	3.3	29
7782-49-2	SELENIUM, TOTAL	0.434			MS	5	0.36	0.029	0.22
7440-22-4	SILVER, TOTAL	0.0648	J		MS	5	0.073	0.0048	0.029
7440-23-5	SODIUM, TOTAL	1900			MS	5	73	1.9	29
7440-28-0	THALLIUM, TOTAL	0.333			MS	5	0.073	0.0069	0.029
7440-62-2	VANADIUM, TOTAL	43.7			MS	5	0.36	0.080	0.29
7440-66-6	ZINC, TOTAL	44.8			MS	5	0.73	0.095	0.58

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** CHAAP-BKRD-SB04

Matrix: SOIL **SDG Name:** SL3995

Percent Solids: 81.0 **Lab Sample ID:** SL3995-011

Concentration Units : mg/Kg drywt

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED LOQ	ADJUSTED MDL	ADJUSTED LOD
7429-90-5	ALUMINUM, TOTAL	19000			MS	5	12	0.61	4.8
7440-36-0	ANTIMONY, TOTAL	0.21			MS	5	0.12	0.024	0.060
7440-38-2	ARSENIC, TOTAL	5.00			MS	5	0.60	0.18	0.48
7440-39-3	BARIUM, TOTAL	233			MS	5	0.24	0.044	0.12
7440-41-7	BERYLLIUM, TOTAL	0.830			MS	5	0.12	0.0049	0.024
7440-43-9	CADMIUM, TOTAL	0.055	J		MS	5	0.12	0.0091	0.024
7440-70-2	CALCIUM, TOTAL	14500			MS	5	12	4.6	9.7
7440-47-3	CHROMIUM, TOTAL	18.3			MS	5	0.60	0.059	0.48
7440-48-4	COBALT, TOTAL	7.46			MS	5	0.12	0.0067	0.036
7440-50-8	COPPER, TOTAL	12.1			MS	5	0.36	0.085	0.24
7439-89-6	IRON, TOTAL	17200			MS	5	12	2.9	7.3
7439-92-1	LEAD, TOTAL	10.8			MS	5	0.12	0.0085	0.060
7439-95-4	MAGNESIUM, TOTAL	7850			MS	5	12	1.6	9.7
7439-96-5	MANGANESE, TOTAL	487			MS	5	0.24	0.051	0.12
7439-97-6	MERCURY, TOTAL	0.018	J		CV	1	0.031	0.0048	0.016
7440-02-0	NICKEL, TOTAL	15.7			MS	5	0.24	0.032	0.14
7440-09-7	POTASSIUM, TOTAL	4620			MS	5	120	5.5	48
7782-49-2	SELENIUM, TOTAL	0.24	J		MS	5	0.60	0.047	0.36
7440-22-4	SILVER, TOTAL	0.074	J		MS	5	0.12	0.0079	0.048
7440-23-5	SODIUM, TOTAL	1620			MS	5	120	3.1	48
7440-28-0	THALLIUM, TOTAL	0.286			MS	5	0.12	0.011	0.048
7440-62-2	VANADIUM, TOTAL	35.8			MS	5	0.60	0.13	0.48
7440-66-6	ZINC, TOTAL	44.7			MS	5	1.2	0.16	0.97

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** CHAAP-BKRD-SB05

Matrix: SOIL **SDG Name:** SL3995

Percent Solids: 81.9 **Lab Sample ID:** SL3995-012

Concentration Units : mg/Kg drywt

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED LOQ	ADJUSTED MDL	ADJUSTED LOD
7429-90-5	ALUMINUM, TOTAL	18400			MS	5	7.1	0.35	2.8
7440-36-0	ANTIMONY, TOTAL	0.160			MS	5	0.071	0.014	0.035
7440-38-2	ARSENIC, TOTAL	3.39			MS	5	0.35	0.11	0.28
7440-39-3	BARIUM, TOTAL	358			MS	5	0.14	0.026	0.071
7440-41-7	BERYLLIUM, TOTAL	0.794			MS	5	0.071	0.0029	0.014
7440-43-9	CADMIUM, TOTAL	0.014	U		MS	5	0.071	0.0053	0.014
7440-70-2	CALCIUM, TOTAL	33000			MS	5	7.1	2.7	5.7
7440-47-3	CHROMIUM, TOTAL	17.2			MS	5	0.35	0.035	0.28
7440-48-4	COBALT, TOTAL	4.87			MS	5	0.071	0.0039	0.021
7440-50-8	COPPER, TOTAL	10.8			MS	5	0.21	0.050	0.14
7439-89-6	IRON, TOTAL	15800			MS	5	7.1	1.7	4.2
7439-92-1	LEAD, TOTAL	9.88			MS	5	0.071	0.0050	0.035
7439-95-4	MAGNESIUM, TOTAL	8680			MS	5	7.1	0.96	5.7
7439-96-5	MANGANESE, TOTAL	200			MS	5	0.14	0.030	0.071
7439-97-6	MERCURY, TOTAL	0.017	J		CV	1	0.034	0.0053	0.018
7440-02-0	NICKEL, TOTAL	10.9			MS	5	0.14	0.019	0.085
7440-09-7	POTASSIUM, TOTAL	4550			MS	5	71	3.2	28
7782-49-2	SELENIUM, TOTAL	0.23	J		MS	5	0.35	0.028	0.21
7440-22-4	SILVER, TOTAL	0.0716			MS	5	0.071	0.0046	0.028
7440-23-5	SODIUM, TOTAL	254			MS	5	71	1.8	28
7440-28-0	THALLIUM, TOTAL	0.251			MS	5	0.071	0.0067	0.028
7440-62-2	VANADIUM, TOTAL	35.0			MS	5	0.35	0.078	0.28
7440-66-6	ZINC, TOTAL	41.7			MS	5	0.71	0.092	0.57

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** CHAAP-BKRD-SB105

Matrix: SOIL **SDG Name:** SL3995

Percent Solids: 79.7 **Lab Sample ID:** SL3995-013

Concentration Units : mg/Kg drywt

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED LOQ	ADJUSTED MDL	ADJUSTED LOD
7429-90-5	ALUMINUM, TOTAL	19800			MS	5	8.8	0.44	3.5
7440-36-0	ANTIMONY, TOTAL	0.16			MS	5	0.088	0.018	0.044
7440-38-2	ARSENIC, TOTAL	3.49			MS	5	0.44	0.13	0.35
7440-39-3	BARIUM, TOTAL	375			MS	5	0.18	0.032	0.088
7440-41-7	BERYLLIUM, TOTAL	0.813			MS	5	0.088	0.0036	0.018
7440-43-9	CADMIUM, TOTAL	0.0749	J		MS	5	0.088	0.0066	0.018
7440-70-2	CALCIUM, TOTAL	39900			MS	5	8.8	3.4	7.1
7440-47-3	CHROMIUM, TOTAL	17.9			MS	5	0.44	0.043	0.35
7440-48-4	COBALT, TOTAL	5.96			MS	5	0.088	0.0049	0.026
7440-50-8	COPPER, TOTAL	11.2			MS	5	0.26	0.062	0.18
7439-89-6	IRON, TOTAL	15200			MS	5	8.8	2.1	5.3
7439-92-1	LEAD, TOTAL	10.2			MS	5	0.088	0.0062	0.044
7439-95-4	MAGNESIUM, TOTAL	9320			MS	5	8.8	1.2	7.1
7439-96-5	MANGANESE, TOTAL	275			MS	5	0.18	0.037	0.088
7439-97-6	MERCURY, TOTAL	0.019	J		CV	1	0.039	0.0060	0.020
7440-02-0	NICKEL, TOTAL	13.0			MS	5	0.18	0.023	0.11
7440-09-7	POTASSIUM, TOTAL	4720			MS	5	88	4.0	35
7782-49-2	SELENIUM, TOTAL	0.25	J		MS	5	0.44	0.034	0.26
7440-22-4	SILVER, TOTAL	0.0806	J		MS	5	0.088	0.0057	0.035
7440-23-5	SODIUM, TOTAL	277			MS	5	88	2.3	35
7440-28-0	THALLIUM, TOTAL	0.278			MS	5	0.088	0.0084	0.035
7440-62-2	VANADIUM, TOTAL	36.0			MS	5	0.44	0.097	0.35
7440-66-6	ZINC, TOTAL	43.2			MS	5	0.88	0.11	0.71

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** CHAAP-BKRD-SB06

Matrix: SOIL **SDG Name:** SL3995

Percent Solids: 78.5 **Lab Sample ID:** SL3995-014

Concentration Units : mg/Kg drywt

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED LOQ	MDL	LOD
7429-90-5	ALUMINUM, TOTAL	18400			MS	5	9.6	0.48	3.9
7440-36-0	ANTIMONY, TOTAL	0.230			MS	5	0.096	0.019	0.048
7440-38-2	ARSENIC, TOTAL	11.4			MS	5	0.48	0.14	0.39
7440-39-3	BARIUM, TOTAL	223			MS	5	0.19	0.035	0.096
7440-41-7	BERYLLIUM, TOTAL	0.800			MS	5	0.096	0.0039	0.019
7440-43-9	CADMIUM, TOTAL	0.104			MS	5	0.096	0.0072	0.019
7440-70-2	CALCIUM, TOTAL	30100			MS	5	9.6	3.7	7.7
7440-47-3	CHROMIUM, TOTAL	17.1			MS	5	0.48	0.047	0.39
7440-48-4	COBALT, TOTAL	6.01			MS	5	0.096	0.0053	0.029
7440-50-8	COPPER, TOTAL	12.0			MS	5	0.29	0.068	0.19
7439-89-6	IRON, TOTAL	17600			MS	5	9.6	2.3	5.8
7439-92-1	LEAD, TOTAL	10.9			MS	5	0.096	0.0068	0.048
7439-95-4	MAGNESIUM, TOTAL	9030			MS	5	9.6	1.3	7.7
7439-96-5	MANGANESE, TOTAL	265			MS	5	0.19	0.041	0.096
7439-97-6	MERCURY, TOTAL	0.019	J		CV	1	0.031	0.0049	0.016
7440-02-0	NICKEL, TOTAL	13.2			MS	5	0.19	0.026	0.12
7440-09-7	POTASSIUM, TOTAL	4890			MS	5	96	4.4	39
7782-49-2	SELENIUM, TOTAL	0.35	J		MS	5	0.48	0.038	0.29
7440-22-4	SILVER, TOTAL	0.0724	J		MS	5	0.096	0.0063	0.039
7440-23-5	SODIUM, TOTAL	475			MS	5	96	2.5	39
7440-28-0	THALLIUM, TOTAL	0.282			MS	5	0.096	0.0092	0.039
7440-62-2	VANADIUM, TOTAL	41.7			MS	5	0.48	0.11	0.39
7440-66-6	ZINC, TOTAL	46.8			MS	5	0.96	0.13	0.77

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** CHAAP-EB-050818-HA

Matrix: WATER **SDG Name:** SL3995

Percent Solids: 0.00 **Lab Sample ID:** SL3995-015

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED LOQ	ADJUSTED MDL	ADJUSTED LOD
7429-90-5	ALUMINUM, TOTAL	24	J		MS	5	100	4.4	40
7440-36-0	ANTIMONY, TOTAL	0.50	U		MS	5	1.0	0.055	0.50
7440-38-2	ARSENIC, TOTAL	4.0	U		MS	5	5.0	2.3	4.0
7440-39-3	BARIUM, TOTAL	0.31	J		MS	5	2.0	0.27	1.0
7440-41-7	BERYLLIUM, TOTAL	0.20	U		MS	5	1.0	0.034	0.20
7440-43-9	CADMIUM, TOTAL	0.20	U		MS	5	1.0	0.029	0.20
7440-70-2	CALCIUM, TOTAL	44	J		MS	5	100	21	80
7440-47-3	CHROMIUM, TOTAL	0.68	J		MS	5	5.0	0.22	4.0
7440-48-4	COBALT, TOTAL	0.30	U		MS	5	1.0	0.060	0.30
7440-50-8	COPPER, TOTAL	0.51	J		MS	5	3.0	0.19	2.0
7439-89-6	IRON, TOTAL	37	J		MS	5	100	13	60
7439-92-1	LEAD, TOTAL	0.50	U		MS	5	1.0	0.075	0.50
7439-95-4	MAGNESIUM, TOTAL	20	J		MS	5	100	8.0	80
7439-96-5	MANGANESE, TOTAL	0.37	J		MS	5	2.0	0.35	1.0
7439-97-6	MERCURY, TOTAL	0.10	U		CV	1	0.20	0.013	0.10
7440-02-0	NICKEL, TOTAL	1.2	U		MS	5	2.0	0.15	1.2
7440-09-7	POTASSIUM, TOTAL	400	U		MS	5	1000	31	400
7782-49-2	SELENIUM, TOTAL	3.0	U		MS	5	5.0	0.19	3.0
7440-22-4	SILVER, TOTAL	0.40	U		MS	5	1.0	0.050	0.40
7440-23-5	SODIUM, TOTAL	100	J		MS	5	1000	19	400
7440-28-0	THALLIUM, TOTAL	0.40	U		MS	5	1.0	0.060	0.40
7440-62-2	VANADIUM, TOTAL	4.0	U		MS	5	5.0	0.50	4.0
7440-66-6	ZINC, TOTAL	8.0	U		MS	5	10	3.9	8.0

Comments:

QC Summary Section

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Katahdin Analytical Services **SDG Name:** SL3995

Concentration Units: ug/L

SAMPLE: ICV

File: HLE11A May 11, 2018 10:26

Analyte	True	Found	%R (1)
MERCURY	6.0	6.37	106.2

SAMPLE: CCV

File: HLE11A May 11, 2018 10:32

Analyte	True	Found	%R (1)
MERCURY	5.0	5.03	100.6

(1) Control Limits: Mercury 80-120; Other Metals 90-110

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Katahdin Analytical Services **SDG Name:** SL3995

Concentration Units: ug/L

SAMPLE: CCV

File: HLE11A May 11, 2018 11:10

Analyte	True	Found	%R (1)
MERCURY	5.0	5.07	101.4

SAMPLE: CCV

File: HLE11A May 11, 2018 11:35

Analyte	True	Found	%R (1)
MERCURY	5.0	5.16	103.2

(1) Control Limits: Mercury 80-120; Other Metals 90-110

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Katahdin Analytical Services **SDG Name:** SL3995

Concentration Units: ug/L

SAMPLE: CCV

File: HLE11A May 11, 2018 12:03

Analyte	True	Found	%R (1)
MERCURY	5.0	5.15	103.0

SAMPLE: CCV

File: HLE11A May 11, 2018 12:29

Analyte	True	Found	%R (1)
MERCURY	5.0	5.38	107.6

(1) Control Limits: Mercury 80-120; Other Metals 90-110

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Katahdin Analytical Services **SDG Name:** SL3995

Concentration Units: ug/L

SAMPLE: CCV

File: HLE11A May 11, 2018 12:53

Analyte	True	Found	%R (1)
MERCURY	5.0	5.25	105.0

SAMPLE: CCV

File: HLE11A May 11, 2018 13:19

Analyte	True	Found	%R (1)
MERCURY	5.0	5.14	102.8

(1) Control Limits: Mercury 80-120; Other Metals 90-110

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Katahdin Analytical Services **SDG Name:** SL3995

Concentration Units: ug/L

SAMPLE: CCV

File: HLE11A May 11, 2018 13:45

Analyte	True	Found	%R (1)
MERCURY	5.0	5.06	101.2

(1) Control Limits: Mercury 80-120; Other Metals 90-110

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Katahdin Analytical Services **SDG Name:** SL3995

Concentration Units: ug/L

SAMPLE: ICV

File: HLE14A May 14, 2018 10:55

Analyte	True	Found	%R (1)
MERCURY	6.0	6.09	101.5

SAMPLE: CCV

File: HLE14A May 14, 2018 11:02

Analyte	True	Found	%R (1)
MERCURY	5.0	5.08	101.6

(1) Control Limits: Mercury 80-120; Other Metals 90-110

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Katahdin Analytical Services **SDG Name:** SL3995

Concentration Units: ug/L

SAMPLE: CCV

File: HLE14A May 14, 2018 11:25

Analyte	True	Found	%R (1)
MERCURY	5.0	5.17	103.4

SAMPLE: CCV

File: HLE14A May 14, 2018 11:51

Analyte	True	Found	%R (1)
MERCURY	5.0	4.90	98.0

(1) Control Limits: Mercury 80-120; Other Metals 90-110

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Katahdin Analytical Services **SDG Name:** SL3995

Concentration Units: ug/L

SAMPLE: CCV

File: HLE14A May 14, 2018 12:30

Analyte	True	Found	%R (1)
MERCURY	5.0	4.96	99.2

(1) Control Limits: Mercury 80-120; Other Metals 90-110

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Katahdin Analytical Services **SDG Name:** SL3995

Concentration Units: ug/L

SAMPLE: ICV

File: JLE16B May 16, 2018 19:07

Analyte	True	Found	%R (1)
ALUMINUM	400.0	402.70	100.7
ANTIMONY	20.0	20.09	100.4
ARSENIC	20.0	19.70	98.5
BARIUM	20.0	20.05	100.3
BERYLLIUM	20.0	19.54	97.7
CADMIUM	20.0	19.95	99.8
CALCIUM	4000.0	4007.00	100.2
CHROMIUM	20.0	19.38	96.9
COBALT	20.0	19.79	98.9
COPPER	20.0	19.76	98.8
IRON	4000.0	3994.00	99.9
LEAD	20.0	19.58	97.9
MAGNESIUM	4000.0	3975.00	99.4
MANGANESE	20.0	19.70	98.5
MOLYBDENUM	40.0	38.65	96.6
NICKEL	20.0	19.62	98.1
POTASSIUM	4000.0	3916.00	97.9
SELENIUM	20.0	19.94	99.7
SILVER	20.0	19.97	99.8
SODIUM	4000.0	3953.00	98.8
THALLIUM	20.0	20.05	100.3
VANADIUM	20.0	19.73	98.7
ZINC	20.0	20.32	101.6

SAMPLE: CCV

File: JLE16B May 16, 2018 19:51

Analyte	True	Found	%R (1)
ALUMINUM	500.0	496.60	99.3
ANTIMONY	25.0	25.31	101.2
ARSENIC	25.0	24.60	98.4
BARIUM	25.0	25.06	100.2
BERYLLIUM	25.0	25.14	100.6
CADMIUM	25.0	24.63	98.5
CALCIUM	5000.0	5004.00	100.1
CHROMIUM	25.0	24.38	97.5
COBALT	25.0	24.46	97.8
COPPER	25.0	24.85	99.4
IRON	5000.0	4934.00	98.7
LEAD	25.0	24.59	98.4
MAGNESIUM	5000.0	5005.00	100.1
MANGANESE	25.0	24.81	99.2
MOLYBDENUM	25.0	24.57	98.3
NICKEL	25.0	24.53	98.1
POTASSIUM	5000.0	4992.00	99.8
SELENIUM	25.0	24.50	98.0
SILVER	25.0	24.69	98.8
SODIUM	5000.0	4933.00	98.7
THALLIUM	25.0	24.65	98.6
VANADIUM	25.0	24.59	98.4
ZINC	25.0	25.43	101.7

(1) Control Limits: Mercury 80-120; Other Metals 90-110

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Katahdin Analytical Services **SDG Name:** SL3995

Concentration Units: ug/L

SAMPLE: CCV

File: JLE16B May 16, 2018 20:39

Analyte	True	Found	%R (1)
ALUMINUM	500.0	492.40	98.5
ANTIMONY	25.0	25.03	100.1
ARSENIC	25.0	24.54	98.2
BARIUM	25.0	25.12	100.5
BERYLLIUM	25.0	24.79	99.2
CADMIUM	25.0	24.81	99.2
CALCIUM	5000.0	4923.00	98.5
CHROMIUM	25.0	24.43	97.7
COBALT	25.0	24.61	98.4
COPPER	25.0	24.76	99.0
IRON	5000.0	4908.00	98.2
LEAD	25.0	24.44	97.8
MAGNESIUM	5000.0	5026.00	100.5
MANGANESE	25.0	24.54	98.2
MOLYBDENUM	25.0	24.50	98.0
NICKEL	25.0	24.86	99.4
POTASSIUM	5000.0	4892.00	97.8
SELENIUM	25.0	24.67	98.7
SILVER	25.0	24.59	98.4
SODIUM	5000.0	4925.00	98.5
THALLIUM	25.0	24.49	98.0
VANADIUM	25.0	24.37	97.5
ZINC	25.0	25.15	100.6

SAMPLE: CCV

File: JLE16B May 16, 2018 21:29

Analyte	True	Found	%R (1)
ALUMINUM	500.0	496.80	99.4
ANTIMONY	25.0	25.21	100.8
ARSENIC	25.0	24.85	99.4
BARIUM	25.0	25.12	100.5
BERYLLIUM	25.0	24.90	99.6
CADMIUM	25.0	24.95	99.8
CALCIUM	5000.0	4981.00	99.6
CHROMIUM	25.0	24.63	98.5
COBALT	25.0	24.49	98.0
COPPER	25.0	24.77	99.1
IRON	5000.0	4984.00	99.7
LEAD	25.0	24.42	97.7
MAGNESIUM	5000.0	5046.00	100.9
MANGANESE	25.0	24.83	99.3
MOLYBDENUM	25.0	24.74	99.0
NICKEL	25.0	24.75	99.0
POTASSIUM	5000.0	4976.00	99.5
SELENIUM	25.0	24.81	99.2
SILVER	25.0	24.70	98.8
SODIUM	5000.0	5007.00	100.1
THALLIUM	25.0	24.66	98.6
VANADIUM	25.0	24.77	99.1
ZINC	25.0	25.07	100.3

(1) Control Limits: Mercury 80-120; Other Metals 90-110

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Katahdin Analytical Services **SDG Name:** SL3995

Concentration Units: ug/L

SAMPLE: CCV

File: JLE16B May 16, 2018 22:19

Analyte	True	Found	%R (1)
ALUMINUM	500.0	492.30	98.5
ANTIMONY	25.0	25.09	100.4
ARSENIC	25.0	24.55	98.2
BARIUM	25.0	25.31	101.2
BERYLLIUM	25.0	24.19	96.8
CADMIUM	25.0	24.43	97.7
CALCIUM	5000.0	5003.00	100.1
CHROMIUM	25.0	24.53	98.1
COBALT	25.0	24.60	98.4
COPPER	25.0	24.69	98.8
IRON	5000.0	4916.00	98.3
LEAD	25.0	24.23	96.9
MAGNESIUM	5000.0	5021.00	100.4
MANGANESE	25.0	24.66	98.6
MOLYBDENUM	25.0	24.19	96.8
NICKEL	25.0	24.81	99.2
POTASSIUM	5000.0	4969.00	99.4
SELENIUM	25.0	24.60	98.4
SILVER	25.0	24.49	98.0
SODIUM	5000.0	4987.00	99.7
THALLIUM	25.0	24.26	97.0
VANADIUM	25.0	24.54	98.2
ZINC	25.0	24.96	99.8

SAMPLE: CCV

File: JLE16B May 16, 2018 23:10

Analyte	True	Found	%R (1)
ALUMINUM	500.0	493.00	98.6
ANTIMONY	25.0	25.38	101.5
ARSENIC	25.0	24.51	98.0
BARIUM	25.0	25.99	104.0
BERYLLIUM	25.0	24.64	98.6
CADMIUM	25.0	24.17	96.7
CALCIUM	5000.0	4942.00	98.8
CHROMIUM	25.0	24.34	97.4
COBALT	25.0	24.65	98.6
COPPER	25.0	24.59	98.4
IRON	5000.0	4911.00	98.2
LEAD	25.0	24.55	98.2
MAGNESIUM	5000.0	5036.00	100.7
MANGANESE	25.0	24.56	98.2
MOLYBDENUM	25.0	24.02	96.1
NICKEL	25.0	24.59	98.4
POTASSIUM	5000.0	5037.00	100.7
SELENIUM	25.0	24.40	97.6
SILVER	25.0	24.12	96.5
SODIUM	5000.0	5034.00	100.7
THALLIUM	25.0	24.58	98.3
VANADIUM	25.0	24.32	97.3
ZINC	25.0	24.97	99.9

(1) Control Limits: Mercury 80-120; Other Metals 90-110

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Katahdin Analytical Services **SDG Name:** SL3995

Concentration Units: ug/L

SAMPLE: CCV

File: JLE16B May 17, 2018 0:01

Analyte	True	Found	%R (1)
ALUMINUM	500.0	498.90	99.8
ANTIMONY	25.0	25.36	101.4
ARSENIC	25.0	24.65	98.6
BARIUM	25.0	25.12	100.5
BERYLLIUM	25.0	24.85	99.4
CADMIUM	25.0	23.95	95.8
CALCIUM	5000.0	4987.00	99.7
CHROMIUM	25.0	24.31	97.2
COBALT	25.0	24.40	97.6
COPPER	25.0	24.94	99.8
IRON	5000.0	4907.00	98.1
LEAD	25.0	24.23	96.9
MAGNESIUM	5000.0	5078.00	101.6
MANGANESE	25.0	24.58	98.3
MOLYBDENUM	25.0	23.44	93.8
NICKEL	25.0	24.46	97.8
POTASSIUM	5000.0	5071.00	101.4
SELENIUM	25.0	24.67	98.7
SILVER	25.0	23.87	95.5
SODIUM	5000.0	5101.00	102.0
THALLIUM	25.0	24.33	97.3
VANADIUM	25.0	24.34	97.4
ZINC	25.0	24.42	97.7

SAMPLE: CCV

File: JLE16B May 17, 2018 0:52

Analyte	True	Found	%R (1)
ALUMINUM	500.0	508.50	101.7
ANTIMONY	25.0	25.67	102.7
ARSENIC	25.0	24.78	99.1
BARIUM	25.0	25.99	104.0
BERYLLIUM	25.0	25.81	103.2
CADMIUM	25.0	23.19	92.8
CALCIUM	5000.0	5009.00	100.2
CHROMIUM	25.0	24.07	96.3
COBALT	25.0	24.31	97.2
COPPER	25.0	24.63	98.5
IRON	5000.0	4812.00	96.2
LEAD	25.0	24.14	96.6
MAGNESIUM	5000.0	5123.00	102.5
MANGANESE	25.0	24.32	97.3
MOLYBDENUM	25.0	22.81	91.2
NICKEL	25.0	24.55	98.2
POTASSIUM	5000.0	5035.00	100.7
SELENIUM	25.0	24.12	96.5
SILVER	25.0	23.26	93.0
SODIUM	5000.0	5186.00	103.7
THALLIUM	25.0	24.08	96.3
VANADIUM	25.0	24.56	98.2
ZINC	25.0	24.59	98.4

(1) Control Limits: Mercury 80-120; Other Metals 90-110

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Katahdin Analytical Services **SDG Name:** SL3995

Concentration Units: ug/L

SAMPLE: CCV

File: JLE16B May 17, 2018 1:30

Analyte	True	Found	%R (1)
ALUMINUM	500.0	510.30	102.1
ANTIMONY	25.0	25.15	100.6
ARSENIC	25.0	24.62	98.5
BARIUM	25.0	25.10	100.4
BERYLLIUM	25.0	24.42	97.7
CADMIUM	25.0	23.55	94.2
CALCIUM	5000.0	5008.00	100.2
CHROMIUM	25.0	24.35	97.4
COBALT	25.0	24.50	98.0
COPPER	25.0	24.80	99.2
IRON	5000.0	4958.00	99.2
LEAD	25.0	24.14	96.6
MAGNESIUM	5000.0	5289.00	105.8
MANGANESE	25.0	24.44	97.8
MOLYBDENUM	25.0	23.22	92.9
NICKEL	25.0	24.41	97.6
POTASSIUM	5000.0	5150.00	103.0
SELENIUM	25.0	23.92	95.7
SILVER	25.0	23.58	94.3
SODIUM	5000.0	5368.00	107.4
THALLIUM	25.0	24.11	96.4
VANADIUM	25.0	24.49	98.0
ZINC	25.0	24.66	98.6

SAMPLE: CCV

File: JLE16B May 17, 2018 2:21

Analyte	True	Found	%R (1)
ALUMINUM	500.0	503.40	100.7
ANTIMONY	25.0	25.25	101.0
ARSENIC	25.0	24.59	98.4
BARIUM	25.0	25.52	102.1
BERYLLIUM	25.0	23.93	95.7
CADMIUM	25.0	23.59	94.4
CALCIUM	5000.0	5009.00	100.2
CHROMIUM	25.0	24.26	97.0
COBALT	25.0	24.51	98.0
COPPER	25.0	24.75	99.0
IRON	5000.0	4932.00	98.6
LEAD	25.0	23.97	95.9
MAGNESIUM	5000.0	5150.00	103.0
MANGANESE	25.0	24.47	97.9
MOLYBDENUM	25.0	23.32	93.3
NICKEL	25.0	24.63	98.5
POTASSIUM	5000.0	5008.00	100.2
SELENIUM	25.0	24.21	96.8
SILVER	25.0	23.57	94.3
SODIUM	5000.0	5170.00	103.4
THALLIUM	25.0	23.96	95.8
VANADIUM	25.0	24.33	97.3
ZINC	25.0	24.94	99.8

(1) Control Limits: Mercury 80-120; Other Metals 90-110

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Katahdin Analytical Services **SDG Name:** SL3995

Concentration Units: ug/L

SAMPLE: CCV

File: JLE16B May 17, 2018 3:14

Analyte	True	Found	%R (1)
ALUMINUM	500.0	505.30	101.1
ANTIMONY	25.0	24.91	99.6
ARSENIC	25.0	24.36	97.4
BARIUM	25.0	25.00	100.0
BERYLLIUM	25.0	23.61	94.4
CADMIUM	25.0	23.59	94.4
CALCIUM	5000.0	4933.00	98.7
CHROMIUM	25.0	24.06	96.2
COBALT	25.0	24.45	97.8
COPPER	25.0	24.30	97.2
IRON	5000.0	4918.00	98.4
LEAD	25.0	23.86	95.4
MAGNESIUM	5000.0	5212.00	104.2
MANGANESE	25.0	24.26	97.0
MOLYBDENUM	25.0	23.22	92.9
NICKEL	25.0	24.42	97.7
POTASSIUM	5000.0	5037.00	100.7
SELENIUM	25.0	24.03	96.1
SILVER	25.0	23.51	94.0
SODIUM	5000.0	5234.00	104.7
THALLIUM	25.0	23.90	95.6
VANADIUM	25.0	24.38	97.5
ZINC	25.0	24.29	97.2

(1) Control Limits: Mercury 80-120; Other Metals 90-110

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Katahdin Analytical Services **SDG Name:** SL3995

Concentration Units: ug/L

SAMPLE: ICV

File: JLE17B May 17, 2018 17:09

Analyte	True	Found	%R (1)
ALUMINUM	400.0	401.10	100.3
CALCIUM	4000.0	3944.00	98.6
IRON	4000.0	3950.00	98.8
LEAD	20.0	19.39	97.0
MAGNESIUM	4000.0	3948.00	98.7
MOLYBDENUM	40.0	37.78	94.5
POTASSIUM	4000.0	3938.00	98.5
SODIUM	4000.0	3901.00	97.5

SAMPLE: CCV

File: JLE17B May 17, 2018 17:51

Analyte	True	Found	%R (1)
ALUMINUM	500.0	499.90	100.0
CALCIUM	5000.0	5057.00	101.1
IRON	5000.0	5038.00	100.8
LEAD	25.0	25.34	101.4
MAGNESIUM	5000.0	5079.00	101.6
MOLYBDENUM	25.0	24.48	97.9
POTASSIUM	5000.0	4953.00	99.1
SODIUM	5000.0	5084.00	101.7

(1) Control Limits: Mercury 80-120; Other Metals 90-110

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Katahdin Analytical Services **SDG Name:** SL3995

Concentration Units: ug/L

SAMPLE: CCV

File: JLE17B May 17, 2018 18:39

Analyte	True	Found	%R (1)
ALUMINUM	500.0	508.60	101.7
CALCIUM	5000.0	5008.00	100.2
IRON	5000.0	5037.00	100.7
LEAD	25.0	25.18	100.7
MAGNESIUM	5000.0	5136.00	102.7
MOLYBDENUM	25.0	24.79	99.2
POTASSIUM	5000.0	4996.00	99.9
SODIUM	5000.0	5008.00	100.2

SAMPLE: CCV

File: JLE17B May 17, 2018 19:28

Analyte	True	Found	%R (1)
ALUMINUM	500.0	509.40	101.9
CALCIUM	5000.0	5082.00	101.6
IRON	5000.0	5056.00	101.1
LEAD	25.0	25.07	100.3
MAGNESIUM	5000.0	5168.00	103.4
MOLYBDENUM	25.0	24.90	99.6
POTASSIUM	5000.0	5026.00	100.5
SODIUM	5000.0	5135.00	102.7

(1) Control Limits: Mercury 80-120; Other Metals 90-110

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Katahdin Analytical Services **SDG Name:** SL3995

Concentration Units: ug/L

SAMPLE: CCV

File: JLE17B May 17, 2018 20:17

Analyte	True	Found	%R (1)
ALUMINUM	500.0	505.30	101.1
CALCIUM	5000.0	5047.00	100.9
IRON	5000.0	5025.00	100.5
LEAD	25.0	25.35	101.4
MAGNESIUM	5000.0	5137.00	102.7
MOLYBDENUM	25.0	24.99	100.0
POTASSIUM	5000.0	4978.00	99.6
SODIUM	5000.0	5055.00	101.1

SAMPLE: CCV

File: JLE17B May 17, 2018 21:07

Analyte	True	Found	%R (1)
ALUMINUM	500.0	513.60	102.7
CALCIUM	5000.0	5035.00	100.7
IRON	5000.0	5091.00	101.8
LEAD	25.0	25.36	101.4
MAGNESIUM	5000.0	5111.00	102.2
MOLYBDENUM	25.0	25.45	101.8
POTASSIUM	5000.0	5039.00	100.8
SODIUM	5000.0	4989.00	99.8

(1) Control Limits: Mercury 80-120; Other Metals 90-110

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Katahdin Analytical Services **SDG Name:** SL3995

Concentration Units: ug/L

SAMPLE: CCV

File: JLE17B May 17, 2018 21:57

Analyte	True	Found	%R (1)
ALUMINUM	500.0	513.40	102.7
CALCIUM	5000.0	5085.00	101.7
IRON	5000.0	5033.00	100.7
LEAD	25.0	24.99	100.0
MAGNESIUM	5000.0	5203.00	104.1
MOLYBDENUM	25.0	24.59	98.4
POTASSIUM	5000.0	5094.00	101.9
SODIUM	5000.0	5185.00	103.7

SAMPLE: CCV

File: JLE17B May 17, 2018 22:47

Analyte	True	Found	%R (1)
ALUMINUM	500.0	521.50	104.3
CALCIUM	5000.0	5043.00	100.9
IRON	5000.0	5047.00	100.9
LEAD	25.0	25.08	100.3
MAGNESIUM	5000.0	5314.00	106.3
MOLYBDENUM	25.0	24.30	97.2
POTASSIUM	5000.0	5139.00	102.8
SODIUM	5000.0	5271.00	105.4

(1) Control Limits: Mercury 80-120; Other Metals 90-110

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Katahdin Analytical Services **SDG Name:** SL3995

Concentration Units: ug/L

SAMPLE: CCV

File: JLE17B May 17, 2018 23:37

Analyte	True	Found	%R (1)
ALUMINUM	500.0	517.30	103.5
CALCIUM	5000.0	5057.00	101.1
IRON	5000.0	5008.00	100.2
LEAD	25.0	24.85	99.4
MAGNESIUM	5000.0	5151.00	103.0
MOLYBDENUM	25.0	24.90	99.6
POTASSIUM	5000.0	5064.00	101.3
SODIUM	5000.0	5003.00	100.1

(1) Control Limits: Mercury 80-120; Other Metals 90-110

2C

PQL STANDARD FOR AA AND ICP

Lab Name: Katahdin Analytical Services **SDG Name:** SL3995

Concentration Units: ug/L

SAMPLE: PQL

File: HLE11A May 11, 2018 10:30

Analyte	TRUE	FOUND	% R
MERCURY	0.2	0.18	90.0

PQL STANDARD FOR AA AND ICP

Lab Name: Katahdin Analytical Services **SDG Name:** SL3995

Concentration Units: ug/L

SAMPLE: PQL

File: HLE14A May 14, 2018 11:00

Analyte	TRUE	FOUND	% R
MERCURY	0.2	0.20	100.0

PQL STANDARD FOR AA AND ICP

Lab Name: Katahdin Analytical Services **SDG Name:** SL3995

Concentration Units: ug/L

SAMPLE: PQL

File: JLE16B May 16, 2018 19:15

Analyte	TRUE	FOUND	% R
ALUMINUM	20.0	19.46	97.3
ANTIMONY	0.2	0.20	100.0
ARSENIC	1.0	0.84	84.0
BARIUM	0.4	0.42	105.0
BERYLLIUM	0.2	0.20	100.0
CADMIUM	0.2	0.21	105.0
CALCIUM	20.0	19.64	98.2
CHROMIUM	1.0	0.93	93.0
COBALT	0.2	0.19	95.0
COPPER	0.6	0.60	100.0
IRON	20.0	21.01	105.1
LEAD	0.2	0.15	75.0•
MAGNESIUM	20.0	19.55	97.8
MANGANESE	0.4	0.41	102.5
MOLYBDENUM	1.0	0.96	96.0
NICKEL	0.4	0.40	100.0
POTASSIUM	200.0	200.30	100.2
SELENIUM	1.0	1.02	102.0
SILVER	0.2	0.19	95.0
SODIUM	200.0	207.90	104.0
THALLIUM	0.2	0.18	90.0
VANADIUM	1.0	0.98	98.0
ZINC	2.0	2.08	104.0

2C

PQL STANDARD FOR AA AND ICP

Lab Name: Katahdin Analytical Services **SDG Name:** SL3995

Concentration Units: ug/L

SAMPLE: PQL

File: JLE17B May 17, 2018 17:16

Analyte	TRUE	FOUND	% R
ALUMINUM	20.0	20.29	101.4
CALCIUM	20.0	19.44	97.2
IRON	20.0	19.37	96.9
LEAD	0.2	0.22	110.0
MAGNESIUM	20.0	20.31	101.5
MOLYBDENUM	1.0	0.96	96.0
POTASSIUM	200.0	198.20	99.1
SODIUM	200.0	210.30	105.2

3A

INITIAL AND CONTINUING CALIBRATION BLANKS

Lab Name: Katahdin Analytical Services **SDG Name:** SL3995

Concentration Units: ug/L

SAMPLE: ICB

File: HLE11A May 11, 2018 10:28

Analyte	Result	C
MERCURY	0.025	U

SAMPLE: CCB

File: HLE11A May 11, 2018 10:34

Analyte	Result	C
MERCURY	0.025	U

SAMPLE: CCB

File: HLE11A May 11, 2018 11:12

Analyte	Result	C
MERCURY	0.025	U

INITIAL AND CONTINUING CALIBRATION BLANKS

Lab Name: Katahdin Analytical Services **SDG Name:** SL3995

Concentration Units: ug/L

SAMPLE: CCB
File: HLE11A May 11, 2018 11:38

Analyte	Result	C
MERCURY	0.025	U

SAMPLE: CCB
File: HLE11A May 11, 2018 12:05

Analyte	Result	C
MERCURY	-0.025	U

SAMPLE: CCB
File: HLE11A May 11, 2018 12:31

Analyte	Result	C
MERCURY	-0.025	U

INITIAL AND CONTINUING CALIBRATION BLANKS

Lab Name: Katahdin Analytical Services **SDG Name:** SL3995

Concentration Units: ug/L

SAMPLE: CCB
File: HLE11A May 11, 2018 12:55

Analyte	Result	C
MERCURY	0.025	U

SAMPLE: CCB
File: HLE11A May 11, 2018 13:21

Analyte	Result	C
MERCURY	0.025	U

SAMPLE: CCB
File: HLE11A May 11, 2018 13:47

Analyte	Result	C
MERCURY	0.025	U

INITIAL AND CONTINUING CALIBRATION BLANKS

Lab Name: Katahdin Analytical Services **SDG Name:** SL3995

Concentration Units: ug/L

SAMPLE: ICB

File: HLE14A May 14, 2018 10:57

Analyte	Result	C
MERCURY	0.025	U

SAMPLE: CCB

File: HLE14A May 14, 2018 11:04

Analyte	Result	C
MERCURY	0.025	U

SAMPLE: CCB

File: HLE14A May 14, 2018 11:27

Analyte	Result	C
MERCURY	0.025	U

INITIAL AND CONTINUING CALIBRATION BLANKS

Lab Name: Katahdin Analytical Services **SDG Name:** SL3995

Concentration Units: ug/L

SAMPLE: CCB

File: HLE14A May 14, 2018 11:53

Analyte	Result	C
MERCURY	0.025	U

SAMPLE: CCB

File: HLE14A May 14, 2018 12:32

Analyte	Result	C
MERCURY	0.025	U

INITIAL AND CONTINUING CALIBRATION BLANKS

Lab Name: Katahdin Analytical Services **SDG Name:** SL3995

Concentration Units: ug/L

SAMPLE: ICB
File: JLE16B May 16, 2018 19:11

Analyte	Result	C
ALUMINUM	1.900	U
ANTIMONY	0.010	J
ARSENIC	0.180	U
BARIUM	0.075	U
BERYLLIUM	0.004	U
CADMIUM	0.007	U
CALCIUM	5.300	U
CHROMIUM	-0.098	U
COBALT	0.006	U
COPPER	0.030	U
IRON	4.300	U
LEAD	-0.045	U
MAGNESIUM	1.300	U
MANGANESE	0.021	U
MOLYBDENUM	0.063	J
NICKEL	0.018	U
POTASSIUM	7.900	U
SELENIUM	0.470	U
SILVER	0.004	J
SODIUM	4.400	U
THALLIUM	0.008	U
VANADIUM	0.063	U
ZINC	0.270	U

SAMPLE: CCB
File: JLE16B May 16, 2018 19:55

Analyte	Result	C
ALUMINUM	1.900	U
ANTIMONY	0.014	J
ARSENIC	0.180	U
BARIUM	0.075	U
BERYLLIUM	0.004	U
CADMIUM	0.007	U
CALCIUM	5.300	U
CHROMIUM	0.062	U
COBALT	0.006	U
COPPER	0.030	U
IRON	4.300	U
LEAD	-0.061	U
MAGNESIUM	1.300	U
MANGANESE	0.021	U
MOLYBDENUM	0.048	J
NICKEL	0.018	U
POTASSIUM	7.900	U
SELENIUM	0.470	U
SILVER	0.003	U
SODIUM	4.400	U
THALLIUM	0.008	U
VANADIUM	0.063	U
ZINC	0.270	U

SAMPLE: CCB
File: JLE16B May 16, 2018 20:43

Analyte	Result	C
ALUMINUM	1.900	U
ANTIMONY	0.011	J
ARSENIC	0.180	U
BARIUM	0.075	U
BERYLLIUM	0.005	J
CADMIUM	0.007	U
CALCIUM	5.300	U
CHROMIUM	0.062	U
COBALT	0.006	U
COPPER	0.047	J
IRON	4.300	U
LEAD	-0.044	U
MAGNESIUM	1.300	U
MANGANESE	0.028	J
MOLYBDENUM	0.034	U
NICKEL	0.018	U
POTASSIUM	8.437	J
SELENIUM	0.470	U
SILVER	0.003	U
SODIUM	5.113	J
THALLIUM	-0.010	U
VANADIUM	-0.070	U
ZINC	0.270	U

INITIAL AND CONTINUING CALIBRATION BLANKS

Lab Name: Katahdin Analytical Services **SDG Name:** SL3995

Concentration Units: ug/L

SAMPLE: CCB
File: JLE16B May 16, 2018 21:33

Analyte	Result	C
ALUMINUM	1.900	U
ANTIMONY	0.010	J
ARSENIC	0.180	U
BARIUM	0.075	U
BERYLLIUM	0.005	J
CADMIUM	0.007	U
CALCIUM	5.300	U
CHROMIUM	0.062	U
COBALT	0.006	U
COPPER	0.070	J
IRON	5.150	J
LEAD	-0.042	U
MAGNESIUM	1.300	U
MANGANESE	0.021	U
MOLYBDENUM	0.034	U
NICKEL	0.018	U
POTASSIUM	8.499	J
SELENIUM	0.470	U
SILVER	0.003	J
SODIUM	4.400	U
THALLIUM	-0.016	U
VANADIUM	0.063	U
ZINC	0.270	U

SAMPLE: CCB
File: JLE16B May 16, 2018 22:23

Analyte	Result	C
ALUMINUM	1.900	U
ANTIMONY	0.008	J
ARSENIC	0.180	U
BARIUM	0.075	U
BERYLLIUM	0.004	U
CADMIUM	0.007	U
CALCIUM	5.300	U
CHROMIUM	0.062	U
COBALT	0.006	U
COPPER	0.030	U
IRON	6.181	J
LEAD	-0.061	U
MAGNESIUM	1.300	U
MANGANESE	0.021	U
MOLYBDENUM	0.034	U
NICKEL	0.018	U
POTASSIUM	7.900	U
SELENIUM	0.470	U
SILVER	0.003	U
SODIUM	4.400	U
THALLIUM	-0.012	U
VANADIUM	0.063	U
ZINC	0.270	U

SAMPLE: CCB
File: JLE16B May 16, 2018 23:14

Analyte	Result	C
ALUMINUM	1.900	U
ANTIMONY	0.013	J
ARSENIC	0.180	U
BARIUM	0.075	U
BERYLLIUM	0.004	J
CADMIUM	0.007	U
CALCIUM	5.300	U
CHROMIUM	-0.119	U
COBALT	0.006	U
COPPER	0.030	U
IRON	4.300	U
LEAD	-0.105	B
MAGNESIUM	1.300	U
MANGANESE	0.021	U
MOLYBDENUM	0.034	U
NICKEL	0.018	U
POTASSIUM	-8.317	U
SELENIUM	0.470	U
SILVER	0.003	U
SODIUM	4.400	U
THALLIUM	-0.028	U
VANADIUM	-0.160	U
ZINC	0.270	U

INITIAL AND CONTINUING CALIBRATION BLANKS

Lab Name: Katahdin Analytical Services **SDG Name:** SL3995

Concentration Units: ug/L

SAMPLE: CCB
File: JLE16B May 17, 2018 0:05

Analyte	Result	C
ALUMINUM	1.900	U
ANTIMONY	0.013	J
ARSENIC	0.180	U
BARIUM	0.075	U
BERYLLIUM	0.004	U
CADMIUM	0.007	U
CALCIUM	5.300	U
CHROMIUM	-0.102	U
COBALT	0.006	U
COPPER	0.030	U
IRON	4.300	U
LEAD	-0.102	B
MAGNESIUM	1.300	U
MANGANESE	0.021	U
MOLYBDENUM	0.034	U
NICKEL	0.018	U
POTASSIUM	7.900	U
SELENIUM	0.470	U
SILVER	0.003	U
SODIUM	4.400	U
THALLIUM	-0.032	U
VANADIUM	0.063	U
ZINC	0.270	U

SAMPLE: CCB
File: JLE16B May 17, 2018 0:56

Analyte	Result	C
ALUMINUM	1.900	U
ANTIMONY	0.006	U
ARSENIC	0.180	U
BARIUM	0.075	U
BERYLLIUM	0.007	J
CADMIUM	0.007	U
CALCIUM	5.300	U
CHROMIUM	-0.102	U
COBALT	0.006	U
COPPER	0.030	U
IRON	4.300	U
LEAD	-0.098	U
MAGNESIUM	2.482	J
MANGANESE	0.021	U
MOLYBDENUM	0.034	U
NICKEL	0.018	U
POTASSIUM	7.900	U
SELENIUM	0.470	U
SILVER	0.003	U
SODIUM	27.010	J
THALLIUM	-0.022	U
VANADIUM	0.063	U
ZINC	0.270	U

SAMPLE: CCB
File: JLE16B May 17, 2018 1:34

Analyte	Result	C
ALUMINUM	1.900	U
ANTIMONY	0.009	J
ARSENIC	0.180	U
BARIUM	0.075	U
BERYLLIUM	0.004	U
CADMIUM	0.007	U
CALCIUM	5.300	U
CHROMIUM	-0.135	U
COBALT	0.006	U
COPPER	0.030	U
IRON	4.300	U
LEAD	-0.101	B
MAGNESIUM	1.300	U
MANGANESE	0.021	U
MOLYBDENUM	0.034	U
NICKEL	0.018	U
POTASSIUM	7.900	U
SELENIUM	0.470	U
SILVER	0.003	U
SODIUM	4.400	U
THALLIUM	-0.036	U
VANADIUM	-0.065	U
ZINC	0.270	U

INITIAL AND CONTINUING CALIBRATION BLANKS

Lab Name: Katahdin Analytical Services **SDG Name:** SL3995

Concentration Units: ug/L

SAMPLE: CCB

File: JLE16B May 17, 2018 2:25

Analyte	Result	C
ALUMINUM	1.900	U
ANTIMONY	0.007	J
ARSENIC	0.180	U
BARIUM	0.075	U
BERYLLIUM	0.004	U
CADMIUM	0.007	U
CALCIUM	5.300	U
CHROMIUM	-0.121	U
COBALT	0.006	U
COPPER	0.030	U
IRON	4.300	U
LEAD	-0.099	U
MAGNESIUM	1.300	U
MANGANESE	0.021	U
MOLYBDENUM	0.034	U
NICKEL	0.018	U
POTASSIUM	7.900	U
SELENIUM	0.470	U
SILVER	0.003	U
SODIUM	4.400	U
THALLIUM	-0.019	U
VANADIUM	-0.097	U
ZINC	0.270	U

SAMPLE: CCB

File: JLE16B May 17, 2018 3:18

Analyte	Result	C
ALUMINUM	1.900	U
ANTIMONY	0.008	J
ARSENIC	0.180	U
BARIUM	0.075	U
BERYLLIUM	0.004	U
CADMIUM	0.007	U
CALCIUM	5.300	U
CHROMIUM	-0.156	U
COBALT	0.006	U
COPPER	0.030	U
IRON	4.300	U
LEAD	-0.096	U
MAGNESIUM	1.300	U
MANGANESE	0.021	U
MOLYBDENUM	0.034	U
NICKEL	0.018	U
POTASSIUM	-11.550	U
SELENIUM	0.470	U
SILVER	0.003	U
SODIUM	4.400	U
THALLIUM	-0.032	U
VANADIUM	-0.069	U
ZINC	0.270	U

INITIAL AND CONTINUING CALIBRATION BLANKS

Lab Name: Katahdin Analytical Services **SDG Name:** SL3995

Concentration Units: ug/L

SAMPLE: ICB

File: JLE17B May 17, 2018 17:12

Analyte	Result	C
ALUMINUM	1.900	U
CALCIUM	5.300	U
IRON	4.300	U
LEAD	0.021	J
MAGNESIUM	1.300	U
MOLYBDENUM	0.056	J
POTASSIUM	7.900	U
SODIUM	4.400	U

SAMPLE: CCB

File: JLE17B May 17, 2018 17:55

Analyte	Result	C
ALUMINUM	1.900	U
CALCIUM	5.300	U
IRON	4.300	U
LEAD	0.014	J
MAGNESIUM	1.300	U
MOLYBDENUM	0.043	J
POTASSIUM	7.900	U
SODIUM	4.400	U

SAMPLE: CCB

File: JLE17B May 17, 2018 18:43

Analyte	Result	C
ALUMINUM	1.900	U
CALCIUM	5.300	U
IRON	4.300	U
LEAD	0.010	U
MAGNESIUM	1.300	U
MOLYBDENUM	0.034	U
POTASSIUM	7.900	U
SODIUM	4.400	U

INITIAL AND CONTINUING CALIBRATION BLANKS

Lab Name: Katahdin Analytical Services **SDG Name:** SL3995

Concentration Units: ug/L

SAMPLE: CCB
File: JLE17B May 17, 2018 19:32

Analyte	Result	C
ALUMINUM	1.900	U
CALCIUM	5.300	U
IRON	4.300	U
LEAD	0.010	U
MAGNESIUM	1.300	U
MOLYBDENUM	0.034	U
POTASSIUM	7.900	U
SODIUM	4.552	J

SAMPLE: CCB
File: JLE17B May 17, 2018 20:21

Analyte	Result	C
ALUMINUM	1.900	U
CALCIUM	5.300	U
IRON	5.519	J
LEAD	0.026	J
MAGNESIUM	1.300	U
MOLYBDENUM	0.034	U
POTASSIUM	15.920	J
SODIUM	4.550	J

SAMPLE: CCB
File: JLE17B May 17, 2018 21:11

Analyte	Result	C
ALUMINUM	1.900	U
CALCIUM	5.300	U
IRON	5.521	J
LEAD	0.010	U
MAGNESIUM	1.300	U
MOLYBDENUM	0.034	U
POTASSIUM	10.320	J
SODIUM	4.748	J

INITIAL AND CONTINUING CALIBRATION BLANKS

Lab Name: Katahdin Analytical Services **SDG Name:** SL3995

Concentration Units: ug/L

SAMPLE: CCB
File: JLE17B May 17, 2018 22:01

Analyte	Result	C
ALUMINUM	1.900	U
CALCIUM	5.300	U
IRON	4.300	U
LEAD	0.010	U
MAGNESIUM	1.300	U
MOLYBDENUM	0.034	U
POTASSIUM	7.900	U
SODIUM	4.400	U

SAMPLE: CCB
File: JLE17B May 17, 2018 22:52

Analyte	Result	C
ALUMINUM	1.900	U
CALCIUM	5.300	U
IRON	4.300	U
LEAD	0.010	U
MAGNESIUM	1.300	U
MOLYBDENUM	0.034	U
POTASSIUM	7.900	U
SODIUM	5.317	J

SAMPLE: CCB
File: JLE17B May 17, 2018 23:42

Analyte	Result	C
ALUMINUM	1.900	U
CALCIUM	5.300	U
IRON	4.300	U
LEAD	0.015	J
MAGNESIUM	1.300	U
MOLYBDENUM	0.034	U
POTASSIUM	7.900	U
SODIUM	4.400	U

3P

PREPARATION BLANKS

Lab Name: Katahdin Analytical Services **Sample ID:** PBSLE11HGS1

Matrix: SOIL **SDG Name:** SL3995

QC Batch ID: LE11HGS1

Concentration Units : mg/Kg drywt

Analyte	RESULT	C
MERCURY	0.017	U

PREPARATION BLANKS

Lab Name: Katahdin Analytical Services **Sample ID:** PBSLE11IMS1

Matrix: SOIL **SDG Name:** SL3995

QC Batch ID: LE11IMS1

Concentration Units : mg/Kg drywt

Analyte	RESULT	C
ALUMINUM	0.83	J
ANTIMONY	0.050	U
ARSENIC	0.40	U
BARIUM	0.10	U
BERYLLIUM	0.020	U
CADMIUM	0.020	U
CALCIUM	8.0	U
CHROMIUM	0.13	J
COBALT	0.030	U
COPPER	0.12	J
IRON	6.0	U
LEAD	0.050	U
MAGNESIUM	2.1	J
MANGANESE	0.10	U
NICKEL	0.028	J
POTASSIUM	40	U
SELENIUM	0.30	U
SILVER	0.040	U
SODIUM	4.8	J
THALLIUM	0.040	U
VANADIUM	0.40	U
ZINC	0.80	U

PREPARATION BLANKS

Lab Name: Katahdin Analytical Services **Sample ID:** PBWLE10IMW2

Matrix: WATER **SDG Name:** SL3995

QC Batch ID: LE10IMW2

Concentration Units : ug/L

Analyte	RESULT	C
ALUMINUM	7.0	J
ANTIMONY	0.50	U
ARSENIC	4.0	U
BARIUM	1.0	U
BERYLLIUM	0.20	U
CADMIUM	0.20	U
CALCIUM	80	U
CHROMIUM	4.0	U
COBALT	0.30	U
COPPER	2.0	U
IRON	60	U
LEAD	0.50	U
MAGNESIUM	9.8	J
MANGANESE	1.0	U
NICKEL	1.2	U
POTASSIUM	400	U
SELENIUM	3.0	U
SILVER	0.40	U
SODIUM	31	J
THALLIUM	0.40	U
VANADIUM	4.0	U
ZINC	8.0	U

3P

PREPARATION BLANKS

Lab Name: Katahdin Analytical Services **Sample ID:** PBWLE11HGW1

Matrix: WATER **SDG Name:** SL3995

QC Batch ID: LE11HGW1

Concentration Units : ug/L

Analyte	RESULT	C
MERCURY	0.10	U

ICP INTERFERENCE CHECK SAMPLE

Lab Name: Katahdin Analytical Services **SDG Name:** SL3995

Concentration Units: ug/L

SAMPLE: ICSA

File: JLE16B May 16, 2018 19:23

Analyte	TRUE	FOUND	% R
ALUMINUM	100000.00	92650.00	92.7
ANTIMONY	0	0.05	
ARSENIC	0	-0.10	
BARIUM	0	0.10	
BERYLLIUM	0	0.00	
CADMIUM	0	0.02	
CALCIUM	100000.00	93910.00	93.9
CHROMIUM	0	0.76	
COBALT	0	0.07	
COPPER	0	0.88	
IRON	100000.00	89580.00	89.6
LEAD	0	-0.02	
MAGNESIUM	100000.00	91230.00	91.2
MANGANESE	0	0.39	
MOLYBDENUM	2000.00	1903.00	95.2
NICKEL	0	-0.32	
POTASSIUM	100000.00	95730.00	95.7
SELENIUM	0	-0.04	
SILVER	0	0.02	
SODIUM	100000.00	92480.00	92.5
THALLIUM	0	-0.01	
VANADIUM	0	0.13	
ZINC	0	2.08	

SAMPLE: ICSAB

File: JLE16B May 16, 2018 19:27

Analyte	TRUE	FOUND	% R
ALUMINUM	100000.00	93460.00	93.5
ANTIMONY	20.00	20.42	100.0
ARSENIC	20.00	19.80	100.0
BARIUM	21.00	20.48	95.2
BERYLLIUM	20.00	20.30	100.0
CADMIUM	20.00	18.40	90.0
CALCIUM	100000.00	93740.00	93.7
CHROMIUM	20.00	19.86	100.0
COBALT	20.00	18.82	95.0
COPPER	20.00	19.10	95.0
IRON	100000.00	90900.00	90.9
LEAD	20.00	20.43	100.0
MAGNESIUM	100000.00	92770.00	92.8
MANGANESE	20.00	19.54	100.0
MOLYBDENUM	2000.00	1920.00	96.0
NICKEL	20.00	18.27	90.0
POTASSIUM	100000.00	95520.00	95.5
SELENIUM	20.00	19.27	95.0
SILVER	20.00	18.16	90.0
SODIUM	100000.00	93190.00	93.2
THALLIUM	20.00	20.64	105.0
VANADIUM	20.00	19.75	100.0
ZINC	20.00	20.27	100.0

ICP INTERFERENCE CHECK SAMPLE

Lab Name: Katahdin Analytical Services **SDG Name:** SL3995

Concentration Units: ug/L

SAMPLE: ICSA

File: JLE17B May 17, 2018 17:24

Analyte	TRUE	FOUND	% R
ALUMINUM	100000.00	92940.00	92.9
CALCIUM	100000.00	93360.00	93.4
IRON	100000.00	90840.00	90.8
LEAD	0	0.07	
MAGNESIUM	100000.00	92720.00	92.7
MOLYBDENUM	2000.00	1870.00	93.5
POTASSIUM	100000.00	96370.00	96.4
SODIUM	100000.00	94480.00	94.5

SAMPLE: ICSAB

File: JLE17B May 17, 2018 17:28

Analyte	TRUE	FOUND	% R
ALUMINUM	100000.00	96030.00	96.0
CALCIUM	100000.00	96330.00	96.3
IRON	100000.00	93130.00	93.1
LEAD	20.00	21.31	105.0
MAGNESIUM	100000.00	97020.00	97.0
MOLYBDENUM	2000.00	1922.00	96.1
POTASSIUM	100000.00	98580.00	98.6
SODIUM	100000.00	97960.00	98.0

5A

SPIKE SAMPLE RECOVERY

Lab Name: Katahdin Analytical Services **Client Field ID:** CHAAP-BKRD-SS04S

Matrix: SOIL **SDG Name:** SL3995

Percent Solids: 83.2 **Lab Sample ID:** SL3995-005P

Concentration Units : mg/Kg drywt

Analyte	Spiked Sample Result	C	Sample Result	C	Spike Added	%R	Q	Control Limits (%R) Low	High	M
ALUMINUM, TOTAL	10400		9520		162.48	526.0	N	78	124	MS
ANTIMONY, TOTAL	2.24		0.11		8.12	26.2	N	72	124	MS
ARSENIC, TOTAL	9.06		2.52		8.12	80.6	N	82	118	MS
BARIUM, TOTAL	268		126		162.48	87.5		86	116	MS
BERYLLIUM, TOTAL	3.72		0.473		4.06	79.9	N	80	120	MS
CADMIUM, TOTAL	16.4		0.153		20.31	80.0	N	84	116	MS
CALCIUM, TOTAL	1990		1860		203.11	65.0	N	86	118	MS
CHROMIUM, TOTAL	23.3		9.86		16.25	82.9	N	83	119	MS
COBALT, TOTAL	39.3		4.90		40.62	84.8		84	115	MS
COPPER, TOTAL	23.5		7.31		20.31	79.9	N	84	119	MS
IRON, TOTAL	8060		8240		81.24	-227.5	N	81	124	MS
LEAD, TOTAL	16.8		10.7		8.12	74.6	N	84	118	MS
MAGNESIUM, TOTAL	2620		2320		406.21	75.2	N	80	123	MS
MANGANESE, TOTAL	291		288		40.62	6.4	N	85	116	MS
MERCURY, TOTAL	0.168		0.018	J	0.16	93.4		80	124	CV
NICKEL, TOTAL	40.4		7.38		40.62	81.2	N	84	119	MS
POTASSIUM, TOTAL	3660		3040		812.42	77.0	N	85	119	MS
SELENIUM, TOTAL	6.72		0.455		8.12	77.2	N	80	119	MS
SILVER, TOTAL	3.35		0.049	J	4.06	81.2	N	83	118	MS
SODIUM, TOTAL	856		293		609.32	92.4		79	125	MS
THALLIUM, TOTAL	7.14		0.177		8.12	85.8		83	118	MS
VANADIUM, TOTAL	55.7		19.5		40.62	89.1		82	116	MS
ZINC, TOTAL	59.2		27.7		40.62	77.5	N	82	119	MS

Comments:

5A

SPIKE SAMPLE RECOVERY

Lab Name: Katahdin Analytical Services **Client Field ID:** CHAAP-BKRD-SS04S

Matrix: SOIL **SDG Name:** SL3995

Percent Solids: 83.2 **Lab Sample ID:** SL3995-005S

Concentration Units : mg/Kg drywt

Analyte	Spiked Sample Result	C	Sample Result	C	Spike Added	%R	Q	Control Limits (%R) Low	High	M
ALUMINUM, TOTAL	11000		9520		160.32	894.3	N	78	124	MS
ANTIMONY, TOTAL	2.34		0.11		8.02	27.8	N	72	124	MS
ARSENIC, TOTAL	9.49		2.52		8.02	86.9		82	118	MS
BARIUM, TOTAL	286		126		160.32	99.6		86	116	MS
BERYLLIUM, TOTAL	4.03		0.473		4.01	88.7		80	120	MS
CADMIUM, TOTAL	17.5		0.153		20.04	86.6		84	116	MS
CALCIUM, TOTAL	2200		1860		200.4	168.8	N	86	118	MS
CHROMIUM, TOTAL	24.6		9.86		16.03	92.3		83	119	MS
COBALT, TOTAL	42.1		4.90		40.08	92.8		84	115	MS
COPPER, TOTAL	25.0		7.31		20.04	88.1		84	119	MS
IRON, TOTAL	8090		8240		80.16	-184.6	N	81	124	MS
LEAD, TOTAL	17.7		10.7		8.02	87.0		84	118	MS
MAGNESIUM, TOTAL	2740		2320		400.8	105.8		80	123	MS
MANGANESE, TOTAL	284		288		40.08	-9.1	N	85	116	MS
MERCURY, TOTAL	0.165		0.018	J	0.16	92.1		80	124	CV
NICKEL, TOTAL	42.4		7.38		40.08	87.3		84	119	MS
POTASSIUM, TOTAL	3980		3040		801.59	118.0		85	119	MS
SELENIUM, TOTAL	7.37		0.455		8.02	86.2		80	119	MS
SILVER, TOTAL	3.51		0.049	J	4.01	86.4		83	118	MS
SODIUM, TOTAL	906		293		601.19	102.1		79	125	MS
THALLIUM, TOTAL	7.75		0.177		8.02	94.4		83	118	MS
VANADIUM, TOTAL	58.9		19.5		40.08	98.2		82	116	MS
ZINC, TOTAL	62.0		27.7		40.08	85.7		82	119	MS

Comments:

5B

POST DIGEST SPIKE SAMPLE RECOVERY

Lab Name: Katahdin Analytical Services **Client Field ID:** CHAAP-BKRD-SS04S

Matrix: SOIL **SDG Name:** SL3995

Percent Solids: 83.2 **Lab Sample ID:** SL3995-005A

Concentration Units : ug/L

Analyte	Spiked Sample Result	C	Sample Result	C	Spike Added	%R	Q	Control Limits (%R) Low	High	M
ALUMINUM, TOTAL	24100		23300		200	400.0	A	80	120	MS
ANTIMONY, TOTAL	2.33		0.28		2	102.7		80	120	MS
ARSENIC, TOTAL	16.3		6.17		10	101.1		80	120	MS
BARIUM, TOTAL	322		309		4	332.5	A	80	120	MS
BERYLLIUM, TOTAL	3.18		1.16		2	101.2		80	120	MS
CADMIUM, TOTAL	2.31		0.374		2	97.0		80	120	MS
CALCIUM, TOTAL	4820		4540		200	138.5	A	80	120	MS
CHROMIUM, TOTAL	34.6		24.1		10	104.6		80	120	MS
COBALT, TOTAL	14.3		12.0		2	116.5		80	120	MS
COPPER, TOTAL	24.1		17.9		6	102.8		80	120	MS
IRON, TOTAL	20900		20200		200	360.0	A	80	120	MS
LEAD, TOTAL	28.8		26.1		2	133.0	A	80	120	MS
MAGNESIUM, TOTAL	6040		5680		200	181.0	A	80	120	MS
MANGANESE, TOTAL	719		704		4	382.5	A	80	120	MS
MERCURY, TOTAL	0.740		0.11	J	1	63.0	A	80	120	CV
NICKEL, TOTAL	22.4		18.0		4	110.3		80	120	MS
POTASSIUM, TOTAL	9570		7420		2000	107.3		80	120	MS
SELENIUM, TOTAL	10.4		1.11		10	92.7		80	120	MS
SILVER, TOTAL	2.05		0.12	J	2	96.5		80	120	MS
SODIUM, TOTAL	2810		718		2000	104.7		80	120	MS
THALLIUM, TOTAL	2.45		0.433		2	100.8		80	120	MS
VANADIUM, TOTAL	58.7		47.7		10	109.7		80	120	MS
ZINC, TOTAL	88.7		67.6		20	105.4		80	120	MS

Comments:

5D

SPIKE DUPLICATES

Lab Name: Katahdin Analytical Services **Client Field ID:** CHAAP-BKRD-SS04

Matrix: SOIL **SDG Name:** SL3995

Percent Solids: 83.2 **Lab Sample ID:** SL3995-005

Concentration Units : mg/Kg drywt

Analyte	Control Limits	Spike Result	C	Spike Dup. Result	C	RPD	Q	M
ALUMINUM, TOTAL		11000		10400		5.4		MS
ANTIMONY, TOTAL		2.34		2.24		4.5		MS
ARSENIC, TOTAL		9.49		9.06		4.6		MS
BARIUM, TOTAL		286		268		6.3		MS
BERYLLIUM, TOTAL		4.03		3.72		8.0		MS
CADMIUM, TOTAL		17.5		16.4		6.5		MS
CALCIUM, TOTAL		2200		1990		9.8		MS
CHROMIUM, TOTAL		24.6		23.3		5.6		MS
COBALT, TOTAL		42.1		39.3		6.7		MS
COPPER, TOTAL		25.0		23.5		5.9		MS
IRON, TOTAL		8090		8060		0.5		MS
LEAD, TOTAL		17.7		16.8		5.3		MS
MAGNESIUM, TOTAL		2740		2620		4.4		MS
MANGANESE, TOTAL		284		291		2.2		MS
MERCURY, TOTAL		0.165		0.168		1.3		CV
NICKEL, TOTAL		42.4		40.4		4.8		MS
POTASSIUM, TOTAL		3980		3660		8.4		MS
SELENIUM, TOTAL		7.37		6.72		9.1		MS
SILVER, TOTAL		3.51		3.35		4.9		MS
SODIUM, TOTAL		906		856		5.7		MS
THALLIUM, TOTAL		7.75		7.14		8.1		MS
VANADIUM, TOTAL		58.9		55.7		5.6		MS
ZINC, TOTAL		62.0		59.2		4.7		MS

Comments:

LABORATORY CONTROL SAMPLES

Lab Name: Katahdin Analytical Services **Sample ID:** LC2OLE11HGS1

Matrix: SOIL **SDG Name:** SL3995

QC Batch ID: LE11HGS1

Concentration Units : mg/Kg drywt

Analyte	TRUE	FOUND	% R	LIMITS (%)	
MERCURY	0.833	0.817	98.8	80	124

LABORATORY CONTROL SAMPLES

Lab Name: Katahdin Analytical Services **Sample ID:** LCSOLE11HGS1

Matrix: SOIL **SDG Name:** SL3995

QC Batch ID: LE11HGS1

Concentration Units : mg/Kg drywt

Analyte	TRUE	FOUND	% R	LIMITS (%)	
MERCURY	0.833	0.818	98.8	80	124

LABORATORY CONTROL SAMPLES

Lab Name: Katahdin Analytical Services **Sample ID:** LCSOLE11IMS1

Matrix: SOIL **SDG Name:** SL3995

QC Batch ID: LE11IMS1

Concentration Units : mg/Kg drywt

Analyte	TRUE	FOUND	% R	LIMITS (%)	
ALUMINUM	200	204	102.3	78	124
ANTIMONY	10.0	9.80	98.0	72	124
ARSENIC	10.0	9.65	96.5	82	118
BARIUM	200	197	98.4	86	116
BERYLLIUM	5.00	4.68	93.8	80	120
CADMIUM	25.0	22.8	91.3	84	116
CALCIUM	250	239	95.5	86	118
CHROMIUM	20.0	18.6	93.0	83	119
COBALT	50.0	48.5	97.0	84	115
COPPER	25.0	23.8	95.1	84	119
IRON	100	91.8	91.8	81	124
LEAD	10.0	9.72	97.2	84	118
MAGNESIUM	500	503	100.6	80	123
MANGANESE	50.0	48.0	96.1	85	116
NICKEL	50.0	47.8	95.6	84	119
POTASSIUM	1000	1010	100.6	85	119
SELENIUM	10.0	9.16	91.6	80	119
SILVER	5.00	4.55	91.0	83	118
SODIUM	750	792	105.7	79	125
THALLIUM	10.0	9.81	98.1	83	118
VANADIUM	50.0	48.7	97.3	82	116
ZINC	50.0	46.4	92.8	82	119

LABORATORY CONTROL SAMPLES

Lab Name: Katahdin Analytical Services **Sample ID:** LCSWLE10IMW2

Matrix: WATER **SDG Name:** SL3995

QC Batch ID: LE10IMW2

Concentration Units : ug/L

Analyte	TRUE	FOUND	% R	LIMITS (%)	
ALUMINUM	2000	2200	110.0	84	117
ANTIMONY	100	108	108.0	85	117
ARSENIC	100	106	106.2	84	116
BARIUM	2000	2160	108.2	86	114
BERYLLIUM	50.0	50.4	100.9	83	121
CADMIUM	250	253	101.2	87	115
CALCIUM	2500	2610	104.4	87	118
CHROMIUM	200	205	102.6	85	116
COBALT	500	540	108.1	86	115
COPPER	250	260	104.1	85	118
IRON	1000	1020	102.4	87	118
LEAD	100	113	112.7	88	115
MAGNESIUM	5000	5350	107.0	83	118
MANGANESE	500	530	106.1	87	115
NICKEL	500	523	104.7	85	117
POTASSIUM	10000	10800	108.0	87	115
SELENIUM	100	103	102.7	80	120
SILVER	50.0	50.8	101.7	85	116
SODIUM	7500	8430	112.4	85	117
THALLIUM	100	105	105.0	82	116
VANADIUM	500	534	106.8	86	115
ZINC	500	517	103.4	83	119

LABORATORY CONTROL SAMPLES

Lab Name: Katahdin Analytical Services **Sample ID:** LCSWLE11HGW1

Matrix: WATER **SDG Name:** SL3995

QC Batch ID: LE11HGW1

Concentration Units : ug/L

Analyte	TRUE	FOUND	% R	LIMITS (%)	
MERCURY	5.00	5.07	101.4	82	119

7D

LABORATORY CONTROL SAMPLE DUPLICATES

Lab Name: Katahdin Analytical Services

Matrix: SOIL **SDG Name:** SL3995

QC Batch ID: LE11HGS1 **Lab Sample ID:** LCSOLE11HGS1

Concentration Units: mg/Kg drywt

Analyte	Control Limit (%)	LCS Result	LCS Dup. Result	RPD(%)	Q
MERCURY	20.0	0.818	0.817	0.2	

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ICP SERIAL DILUTION

Lab Name: Katahdin Analytical Services **Client Field ID:** CHAAP-BKRD-SS04L

Matrix: SOIL **SDG Name:** SL3995

Lab Sample ID: SL3995-005L

Concentration Units: ug/L

Analyte	Sample Result	C	Dilution Result	C	% Difference	Q	M
ALUMINUM, TOTAL	23300		25100		7.7		MS
ANTIMONY, TOTAL	0.28		0.33	J	17.9		MS
ARSENIC, TOTAL	6.17		7.2		16.7		MS
BARIUM, TOTAL	309		327		5.8		MS
BERYLLIUM, TOTAL	1.16		1.30		12.1		MS
CADMIUM, TOTAL	0.374		0.48	J	28.3		MS
CALCIUM, TOTAL	4540		4720		4.0		MS
CHROMIUM, TOTAL	24.1		25.0		3.7		MS
COBALT, TOTAL	12.0		12.7		5.8		MS
COPPER, TOTAL	17.9		19.5		8.9		MS
IRON, TOTAL	20200		22300		10.4	E	MS
LEAD, TOTAL	26.1		26.6		1.9		MS
MAGNESIUM, TOTAL	5680		6000		5.6		MS
MANGANESE, TOTAL	704		772		9.7		MS
MERCURY, TOTAL	0.11	J	0.16	U	100.0		CV
NICKEL, TOTAL	18.0		19.3		7.2		MS
POTASSIUM, TOTAL	7420		7680		3.5		MS
SELENIUM, TOTAL	1.11		0.60	J	45.9		MS
SILVER, TOTAL	0.12	J	0.12	J	0.0		MS
SODIUM, TOTAL	718		794	J	10.6		MS
THALLIUM, TOTAL	0.433		0.32	J	26.1		MS
VANADIUM, TOTAL	47.7		50.4		5.7		MS
ZINC, TOTAL	67.6		75.2		11.2		MS

INSTRUMENT DETECTION LIMITS

Lab Name: Katahdin Analytical Services **Instrument Code:** H

Instrument Name: CETAC M6100 **Date:** 4/6/2018

Concentration Units: ug/L

Analyte	PQL/LOQ	IDL	M
MERCURY	0.20	0.025	CV

INSTRUMENT DETECTION LIMITS

Lab Name: Katahdin Analytical Services **Instrument Code:** J

Instrument Name: AGILENT 7500 ICP-MS **Date:** 1/15/2018

Concentration Units: ug/L

Analyte	PQL/LOQ	IDL	M
ALUMINUM	20	1.9	MS
ANTIMONY	0.20	0.0056	MS
ARSENIC	1.0	0.18	MS
BARIUM	0.40	0.075	MS
BERYLLIUM	0.20	0.0037	MS
CADMIUM	0.20	0.0069	MS
CALCIUM	20	5.3	MS
CHROMIUM	1.0	0.062	MS
COBALT	0.20	0.0062	MS
COPPER	0.60	0.030	MS
IRON	20	4.3	MS
LEAD	0.20	0.010	MS
MAGNESIUM	20	1.3	MS
MANGANESE	0.40	0.021	MS
MOLYBDENUM	1.0	0.034	MS
NICKEL	0.40	0.018	MS
POTASSIUM	200	7.9	MS
SELENIUM	1.0	0.47	MS
SILVER	0.20	0.0030	MS
SODIUM	200	4.4	MS
THALLIUM	0.20	0.0084	MS
VANADIUM	1.0	0.063	MS
ZINC	2.0	0.27	MS

LIMITS of DETECTION

Lab Name: Katahdin Analytical Services **Instrument Code:** H

Instrument Name: CETAC M6100 **Date:** 1/7/2011

Analyte	LOD	Units	M	EPA Prep./Anal. Method
MERCURY	0.017	mg/Kg	CV	SW846 7471B / SW846 7471B

LIMITS of DETECTION

Lab Name: Katahdin Analytical Services **Instrument Code:** H

Instrument Name: CETAC M6100 **Date:** 2/9/2011

Analyte	LOD	Units	M	EPA Prep./Anal. Method
MERCURY	0.10	ug/L	CV	SW846 7470A / SW846 7470A

LIMITS of DETECTION

Lab Name: Katahdin Analytical Services **Instrument Code:** J

Instrument Name: AGILENT 7500 ICP-MS **Date:** 1/25/2011

Analyte	LOD	Units	M	EPA Prep./Anal. Method
ALUMINUM	8.0	ug/L	MS	SW846 3010A / SW846 6020A
ANTIMONY	0.10	ug/L	MS	SW846 3010A / SW846 6020A
ARSENIC	0.80	ug/L	MS	SW846 3010A / SW846 6020A
BARIUM	0.20	ug/L	MS	SW846 3010A / SW846 6020A
BERYLLIUM	0.040	ug/L	MS	SW846 3010A / SW846 6020A
CADMIUM	0.040	ug/L	MS	SW846 3010A / SW846 6020A
CALCIUM	16	ug/L	MS	SW846 3010A / SW846 6020A
CHROMIUM	0.80	ug/L	MS	SW846 3010A / SW846 6020A
COBALT	0.060	ug/L	MS	SW846 3010A / SW846 6020A
COPPER	0.40	ug/L	MS	SW846 3010A / SW846 6020A
IRON	12	ug/L	MS	SW846 3010A / SW846 6020A
LEAD	0.10	ug/L	MS	SW846 3010A / SW846 6020A
MAGNESIUM	16	ug/L	MS	SW846 3010A / SW846 6020A
MANGANESE	0.20	ug/L	MS	SW846 3010A / SW846 6020A
NICKEL	0.24	ug/L	MS	SW846 3010A / SW846 6020A
POTASSIUM	80	ug/L	MS	SW846 3010A / SW846 6020A
SELENIUM	0.60	ug/L	MS	SW846 3010A / SW846 6020A
SILVER	0.080	ug/L	MS	SW846 3010A / SW846 6020A
SODIUM	80	ug/L	MS	SW846 3010A / SW846 6020A
THALLIUM	0.080	ug/L	MS	SW846 3010A / SW846 6020A
VANADIUM	0.80	ug/L	MS	SW846 3010A / SW846 6020A
ZINC	1.6	ug/L	MS	SW846 3010A / SW846 6020A

LIMITS of DETECTION

Lab Name: Katahdin Analytical Services **Instrument Code:** J

Instrument Name: AGILENT 7500 ICP-MS **Date:** 1/26/2011

Analyte	LOD	Units	M	EPA Prep./Anal. Method
ALUMINUM	0.80	mg/kg	MS	SW846 3050B / SW846 6020A
ANTIMONY	0.010	mg/kg	MS	SW846 3050B / SW846 6020A
ARSENIC	0.080	mg/kg	MS	SW846 3050B / SW846 6020A
BARIUM	0.020	mg/kg	MS	SW846 3050B / SW846 6020A
BERYLLIUM	0.0040	mg/Kg	MS	SW846 3050B / SW846 6020A
CADMIUM	0.0040	mg/kg	MS	SW846 3050B / SW846 6020A
CALCIUM	1.6	mg/kg	MS	SW846 3050B / SW846 6020A
CHROMIUM	0.080	mg/kg	MS	SW846 3050B / SW846 6020A
COBALT	0.0060	mg/kg	MS	SW846 3050B / SW846 6020A
COPPER	0.040	mg/kg	MS	SW846 3050B / SW846 6020A
IRON	1.2	mg/kg	MS	SW846 3050B / SW846 6020A
LEAD	0.010	mg/Kg	MS	SW846 3050B / SW846 6020A
MAGNESIUM	1.6	mg/kg	MS	SW846 3050B / SW846 6020A
MANGANESE	0.020	mg/kg	MS	SW846 3050B / SW846 6020A
NICKEL	0.024	mg/kg	MS	SW846 3050B / SW846 6020A
POTASSIUM	8.0	mg/Kg	MS	SW846 3050B / SW846 6020A
SELENIUM	0.060	mg/kg	MS	SW846 3050B / SW846 6020A
SILVER	0.0080	mg/kg	MS	SW846 3050B / SW846 6020A
SODIUM	8.0	mg/kg	MS	SW846 3050B / SW846 6020A
THALLIUM	0.0080	mg/kg	MS	SW846 3050B / SW846 6020A
VANADIUM	0.080	mg/Kg	MS	SW846 3050B / SW846 6020A
ZINC	0.16	mg/kg	MS	SW846 3050B / SW846 6020A

METHOD DETECTION LIMITS

Lab Name: Katahdin Analytical Services **Instrument Code:** H

Instrument Name: CETAC M6100 **Date:** 1/7/2011

Analyte	MDL	Units	M	EPA Prep./Anal. Method
MERCURY	0.0052	mg/Kg	CV	SW846 7471B / SW846 7471B

METHOD DETECTION LIMITS

Lab Name: Katahdin Analytical Services **Instrument Code:** H

Instrument Name: CETAC M6100 **Date:** 2/9/2011

Analyte	MDL	Units	M	EPA Prep./Anal. Method
MERCURY	0.013	ug/L	CV	SW846 7470A / SW846 7470A

METHOD DETECTION LIMITS

Lab Name: Katahdin Analytical Services **Instrument Code:** J

Instrument Name: AGILENT 7500 ICP-MS **Date:** 1/25/2011

Analyte	MDL	Units	M	EPA Prep./Anal. Method
ALUMINUM	0.88	ug/L	MS	SW846 3010A / SW846 6020A
ANTIMONY	0.011	ug/L	MS	SW846 3010A / SW846 6020A
ARSENIC	0.45	ug/L	MS	SW846 3010A / SW846 6020A
BARIUM	0.054	ug/L	MS	SW846 3010A / SW846 6020A
BERYLLIUM	0.0067	ug/L	MS	SW846 3010A / SW846 6020A
CADMIUM	0.0059	ug/L	MS	SW846 3010A / SW846 6020A
CALCIUM	4.1	ug/L	MS	SW846 3010A / SW846 6020A
CHROMIUM	0.044	ug/L	MS	SW846 3010A / SW846 6020A
COBALT	0.012	ug/L	MS	SW846 3010A / SW846 6020A
COPPER	0.037	ug/L	MS	SW846 3010A / SW846 6020A
IRON	2.6	ug/L	MS	SW846 3010A / SW846 6020A
LEAD	0.015	ug/L	MS	SW846 3010A / SW846 6020A
MAGNESIUM	1.6	ug/L	MS	SW846 3010A / SW846 6020A
MANGANESE	0.070	ug/L	MS	SW846 3010A / SW846 6020A
NICKEL	0.030	ug/L	MS	SW846 3010A / SW846 6020A
POTASSIUM	6.1	ug/L	MS	SW846 3010A / SW846 6020A
SELENIUM	0.037	ug/L	MS	SW846 3010A / SW846 6020A
SILVER	0.010	ug/L	MS	SW846 3010A / SW846 6020A
SODIUM	3.7	ug/L	MS	SW846 3010A / SW846 6020A
THALLIUM	0.012	ug/L	MS	SW846 3010A / SW846 6020A
VANADIUM	0.10	ug/L	MS	SW846 3010A / SW846 6020A
ZINC	0.78	ug/L	MS	SW846 3010A / SW846 6020A

METHOD DETECTION LIMITS

Lab Name: Katahdin Analytical Services **Instrument Code:** J

Instrument Name: AGILENT 7500 ICP-MS **Date:** 1/26/2011

Analyte	MDL	Units	M	EPA Prep./Anal. Method
ALUMINUM	0.10	mg/kg	MS	SW846 3050B / SW846 6020A
ANTIMONY	0.0040	mg/kg	MS	SW846 3050B / SW846 6020A
ARSENIC	0.029	mg/kg	MS	SW846 3050B / SW846 6020A
BARIUM	0.0073	mg/kg	MS	SW846 3050B / SW846 6020A
BERYLLIUM	0.00081	mg/kg	MS	SW846 3050B / SW846 6020A
CADMIUM	0.0015	mg/kg	MS	SW846 3050B / SW846 6020A
CALCIUM	0.77	mg/kg	MS	SW846 3050B / SW846 6020A
CHROMIUM	0.0098	mg/kg	MS	SW846 3050B / SW846 6020A
COBALT	0.0011	mg/kg	MS	SW846 3050B / SW846 6020A
COPPER	0.014	mg/kg	MS	SW846 3050B / SW846 6020A
IRON	0.48	mg/kg	MS	SW846 3050B / SW846 6020A
LEAD	0.0014	mg/kg	MS	SW846 3050B / SW846 6020A
MAGNESIUM	0.27	mg/kg	MS	SW846 3050B / SW846 6020A
MANGANESE	0.0084	mg/kg	MS	SW846 3050B / SW846 6020A
NICKEL	0.0053	mg/kg	MS	SW846 3050B / SW846 6020A
POTASSIUM	0.91	mg/kg	MS	SW846 3050B / SW846 6020A
SELENIUM	0.0078	mg/kg	MS	SW846 3050B / SW846 6020A
SILVER	0.0013	mg/kg	MS	SW846 3050B / SW846 6020A
SODIUM	0.51	mg/kg	MS	SW846 3050B / SW846 6020A
THALLIUM	0.0019	mg/kg	MS	SW846 3050B / SW846 6020A
VANADIUM	0.022	mg/kg	MS	SW846 3050B / SW846 6020A
ZINC	0.026	mg/kg	MS	SW846 3050B / SW846 6020A

ICP LINEAR RANGES

Lab Name: Katahdin Analytical Services **Instrument Code:** J

Instrument Name: AGILENT 7500 ICP-MS **Date:** 1/31/2018

Concentration Units: ug/L

Analyte	Integration Time (sec)	Linear Range	M
ALUMINUM	0.01	200000	MS
ANTIMONY	0.10	1000	MS
ARSENIC	0.30	1000	MS
BARIUM	0.10	2000	MS
BERYLLIUM	0.30	100	MS
CADMIUM	0.10	1000	MS
CALCIUM	0.03	200000	MS
CHROMIUM	0.10	2000	MS
COBALT	0.10	1000	MS
COPPER	0.10	2000	MS
IRON	0.03	100000	MS
LEAD	0.10	2000	MS
MAGNESIUM	0.05	200000	MS
MANGANESE	0.10	2000	MS
MOLYBDENUM	0.10	1000	MS
NICKEL	0.10	1000	MS
POTASSIUM	0.01	200000	MS
SELENIUM	0.30	1000	MS
SILVER	0.10	100	MS
SODIUM	0.01	200000	MS
THALLIUM	0.10	1000	MS
VANADIUM	0.10	1000	MS
ZINC	0.10	2000	MS

PREPARATION LOG

Lab Name: Katahdin Analytical Services **QC Batch ID:** LE10IMW2

Matrix: WATER **SDG Name:** SL3995

Method: MS **Prep Date:** 05/10/2018

Client ID	Lab Sample ID	Initial (L)	Final (L)	Bottle ID
LCSWLE10IMW2	LCSWLE10IMW2	0.05	0.05	
PBWLE10IMW2	PBWLE10IMW2	0.05	0.05	
CHAAP-EB-050818-HA	SL3995-015	0.05	0.05	A

PREPARATION LOG

Lab Name: Katahdin Analytical Services **QC Batch ID:** LE11HGS1

Matrix: SOIL **SDG Name:** SL3995

Method: CV **Prep Date:** 05/11/2018

Client ID	Lab Sample ID	Initial (g)	Final (L)	Bottle ID
LC2OLE11HGS1	LC2OLE11HGS1	0.6	0.1	
LCSOLE11HGS1	LCSOLE11HGS1	0.6	0.1	
PBSLE11HGS1	PBSLE11HGS1	0.6	0.1	
CHAAP-BKRD-SS01	SL3995-001	0.76	0.1	E
CHAAP-BKRD-SS02	SL3995-002	0.62	0.1	E
CHAAP-BKRD-SS102	SL3995-003	0.71	0.1	E
CHAAP-BKRD-SS03	SL3995-004	0.68	0.1	E
CHAAP-BKRD-SS04	SL3995-005	0.75	0.1	N
CHAAP-BKRD-SS04P	SL3995-005P	0.76	0.1	N
CHAAP-BKRD-SS04S	SL3995-005S	0.76	0.1	N
CHAAP-BKRD-SS05	SL3995-006	0.67	0.1	E
CHAAP-BKRD-SS06	SL3995-007	0.81	0.1	E
CHAAP-BKRD-SB01	SL3995-008	0.7	0.1	E
CHAAP-BKRD-SB02	SL3995-009	0.61	0.1	E
CHAAP-BKRD-SB03	SL3995-010	0.69	0.1	E
CHAAP-BKRD-SB04	SL3995-011	0.79	0.1	E
CHAAP-BKRD-SB05	SL3995-012	0.71	0.1	E
CHAAP-BKRD-SB105	SL3995-013	0.65	0.1	E
CHAAP-BKRD-SB06	SL3995-014	0.81	0.1	E

PREPARATION LOG

Lab Name: Katahdin Analytical Services **QC Batch ID:** LE11HGW1

Matrix: WATER **SDG Name:** SL3995

Method: CV **Prep Date:** 05/11/2018

Client ID	Lab Sample ID	Initial (L)	Final (L)	Bottle ID
LCSWLE11HGW1	LCSWLE11HGW1	0.025	0.025	
PBWLE11HGW1	PBWLE11HGW1	0.025	0.025	
CHAAP-EB-050818-HA	SL3995-015	0.025	0.025	A

PREPARATION LOG

Lab Name: Katahdin Analytical Services **QC Batch ID:** LE11IMS1

Matrix: SOIL **SDG Name:** SL3995

Method: MS **Prep Date:** 05/11/2018

Client ID	Lab Sample ID	Initial (g)	Final (L)	Bottle ID
LCSOLE11IMS1	LCSOLE11IMS1	1	0.1	
PBSLE11IMS1	PBSLE11IMS1	1	0.1	
CHAAP-BKRD-SS01	SL3995-001	1.57	0.1	E
CHAAP-BKRD-SS02	SL3995-002	1.65	0.1	E
CHAAP-BKRD-SS102	SL3995-003	1.64	0.1	E
CHAAP-BKRD-SS03	SL3995-004	1.44	0.1	E
CHAAP-BKRD-SS04	SL3995-005	1.47	0.1	N
CHAAP-BKRD-SS04P	SL3995-005P	1.48	0.1	N
CHAAP-BKRD-SS04S	SL3995-005S	1.5	0.1	N
CHAAP-BKRD-SS05	SL3995-006	1.04	0.1	E
CHAAP-BKRD-SS06	SL3995-007	1.14	0.1	E
CHAAP-BKRD-SB01	SL3995-008	1.09	0.1	E
CHAAP-BKRD-SB02	SL3995-009	1.48	0.1	E
CHAAP-BKRD-SB03	SL3995-010	1.7	0.1	E
CHAAP-BKRD-SB04	SL3995-011	1.02	0.1	E
CHAAP-BKRD-SB05	SL3995-012	1.72	0.1	E
CHAAP-BKRD-SB105	SL3995-013	1.42	0.1	E
CHAAP-BKRD-SB06	SL3995-014	1.32	0.1	E

ANALYSIS RUN LOG

Lab Name: Katahdin Analytical Services **SDG Name:** SL3995

Instrument ID: CETAC M6100 **File Name:** HLE11A

Date: 5/11/2018 **Method:** CV

Lab Sample ID	Client ID	D.F.	Time	Elements
Calibration Blank		1	10:13	Hg
Standard #1 (0.2 ppb		1	10:15	Hg
Standard #2 (0.5 ppb		1	10:17	Hg
Standard #3 (1.0 ppb		1	10:20	Hg
Standard #4 (5.0 ppb		1	10:22	Hg
Standard #5 (10.0 pp		1	10:24	Hg
ICV		1	10:26	HG
ICB		1	10:28	HG
PQL		1	10:30	HG
CCV		1	10:32	HG
CCB		1	10:34	HG
ZZZZZZ		1	10:37	
ZZZZZZ		1	10:50	
ZZZZZZ		1	10:52	
ZZZZZZ		1	10:55	
ZZZZZZ		1	10:57	
ZZZZZZ		5	10:59	
ZZZZZZ		1	11:01	
ZZZZZZ		1	11:03	
ZZZZZZ		1	11:05	
ZZZZZZ		1	11:07	
CCV		1	11:10	HG
CCB		1	11:12	HG
ZZZZZZ		1	11:14	
ZZZZZZ		5	11:16	
ZZZZZZ		1	11:18	
ZZZZZZ		1	11:20	

ANALYSIS RUN LOG

Lab Name: Katahdin Analytical Services **SDG Name:** SL3995

Instrument ID: CETAC M6100 **File Name:** HLE11A

Date: 5/11/2018 **Method:** CV

Lab Sample ID	Client ID	D.F.	Time	Elements
ZZZZZZ		1	11:22	
ZZZZZZ		1	11:24	
ZZZZZZ		1	11:27	
ZZZZZZ		1	11:29	
ZZZZZZ		1	11:31	
ZZZZZZ		1	11:33	
CCV		1	11:35	HG
CCB		1	11:38	HG
ZZZZZZ		1	11:40	
ZZZZZZ		1	11:42	
ZZZZZZ		1	11:44	
ZZZZZZ		1	11:46	
ZZZZZZ		1	11:48	
ZZZZZZ		1	11:52	
ZZZZZZ		1	11:55	
ZZZZZZ		1	11:57	
ZZZZZZ		1	11:59	
ZZZZZZ		1	12:01	
CCV		1	12:03	HG
CCB		1	12:05	HG
ZZZZZZ		1	12:07	
ZZZZZZ		1	12:10	
ZZZZZZ		1	12:12	
ZZZZZZ		1	12:14	
ZZZZZZ		1	12:16	
ZZZZZZ		1	12:18	
ZZZZZZ		1	12:20	

ANALYSIS RUN LOG

Lab Name: Katahdin Analytical Services **SDG Name:** SL3995

Instrument ID: CETAC M6100 **File Name:** HLE11A

Date: 5/11/2018 **Method:** CV

Lab Sample ID	Client ID	D.F.	Time	Elements
ZZZZZZ		1	12:23	
ZZZZZZ		1	12:25	
ZZZZZZ		1	12:27	
CCV		1	12:29	HG
CCB		1	12:31	HG
ZZZZZZ		5	12:33	
ZZZZZZ		1	12:35	
ZZZZZZ		1	12:38	
ZZZZZZ		1	12:40	
ZZZZZZ		1	12:42	
ZZZZZZ		1	12:44	
PBWLE11HGW1		1	12:46	HG
LCSWLE11HGW1		1	12:49	HG
ZZZZZZ		1	12:51	
CCV		1	12:53	HG
CCB		1	12:55	HG
ZZZZZZ		1	12:57	
ZZZZZZ		1	12:59	
ZZZZZZ		1	13:02	
ZZZZZZ		5	13:04	
ZZZZZZ		1	13:06	
ZZZZZZ		1	13:08	
ZZZZZZ		1	13:10	
ZZZZZZ		1	13:12	
ZZZZZZ		1	13:15	
ZZZZZZ		1	13:17	
CCV		1	13:19	HG

ANALYSIS RUN LOG

Lab Name: Katahdin Analytical Services **SDG Name:** SL3995

Instrument ID: CETAC M6100 **File Name:** HLE11A

Date: 5/11/2018 **Method:** CV

Lab Sample ID	Client ID	D.F.	Time	Elements
CCB		1	13:21	HG
ZZZZZZ		1	13:23	
ZZZZZZ		1	13:25	
ZZZZZZ		1	13:28	
ZZZZZZ		1	13:30	
ZZZZZZ		1	13:32	
ZZZZZZ		1	13:34	
ZZZZZZ		1	13:36	
SL3995-015	CHAAP-EB-050818-HA	1	13:38	HG
ZZZZZZ		1	13:40	
ZZZZZZ		5	13:42	
CCV		1	13:45	HG
CCB		1	13:47	HG

ANALYSIS RUN LOG

Lab Name: Katahdin Analytical Services **SDG Name:** SL3995

Instrument ID: CETAC M6100 **File Name:** HLE14A

Date: 5/14/2018 **Method:** CV

Lab Sample ID	Client ID	D.F.	Time	Elements
Calibration Blank		1	10:42	Hg
Standard #1 (0.2 ppb		1	10:44	Hg
Standard #2 (0.5 ppb		1	10:46	Hg
Standard #3 (1.0 ppb		1	10:48	Hg
Standard #4 (5.0 ppb		1	10:50	Hg
Standard #5 (10.0 pp		1	10:52	Hg
ICV		1	10:55	HG
ICB		1	10:57	HG
PQL		1	11:00	HG
CCV		1	11:02	HG
CCB		1	11:04	HG
PBSLE11HGS1		1	11:06	HG
LCSOLE11HGS1		1	11:08	HG
LC2OLE11HGS1		1	11:10	HG
SL3995-001	CHAAP-BKRD-SS01	1	11:12	HG
SL3995-002	CHAAP-BKRD-SS02	1	11:14	HG
SL3995-003	CHAAP-BKRD-SS102	1	11:17	HG
SL3995-004	CHAAP-BKRD-SS03	1	11:19	HG
SL3995-005	CHAAP-BKRD-SS04	1	11:21	HG
SL3995-005L	CHAAP-BKRD-SS04L	5	11:23	HG
CCV		1	11:25	HG
CCB		1	11:27	HG
SL3995-005A	CHAAP-BKRD-SS04A	1	11:29	HG
SL3995-005S	CHAAP-BKRD-SS04S	1	11:32	HG
SL3995-005P	CHAAP-BKRD-SS04P	1	11:34	HG
SL3995-006	CHAAP-BKRD-SS05	1	11:36	HG
SL3995-007	CHAAP-BKRD-SS06	1	11:38	HG

ANALYSIS RUN LOG

Lab Name: Katahdin Analytical Services **SDG Name:** SL3995

Instrument ID: CETAC M6100 **File Name:** HLE14A

Date: 5/14/2018 **Method:** CV

Lab Sample ID	Client ID	D.F.	Time	Elements
SL3995-008	CHAAP-BKRD-SB01	1	11:40	HG
SL3995-009	CHAAP-BKRD-SB02	1	11:42	HG
SL3995-010	CHAAP-BKRD-SB03	1	11:44	HG
SL3995-011	CHAAP-BKRD-SB04	1	11:47	HG
SL3995-012	CHAAP-BKRD-SB05	1	11:49	HG
CCV		1	11:51	HG
CCB		1	11:53	HG
SL3995-014	CHAAP-BKRD-SB06	1	11:55	HG
ZZZZZZ		1	11:57	
ZZZZZZ		1	11:59	
ZZZZZZ		1	12:02	
ZZZZZZ		1	12:06	
ZZZZZZ		1	12:19	
SL3995-013	CHAAP-BKRD-SB105	1	12:21	HG
ZZZZZZ		1	12:23	
ZZZZZZ		1	12:25	
ZZZZZZ		1	12:28	
CCV		1	12:30	HG
CCB		1	12:32	HG

ANALYSIS RUN LOG

Lab Name: Katahdin Analytical Services **SDG Name:** SL3995

Instrument ID: AGILENT 7500 ICP-MS **File Name:** JLE16B

Date: 5/16/2018 **Method:** MS

Lab Sample ID	Client ID	D.F.	Time	Elements
6020 TUNE		1	16:29	
200.8 TUNE		1	16:31	
Cal Blank		1	19:00	Al Sb As Ba Be Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag Na Tl V Zn
Cal Std		1	19:03	Al Sb As Ba Be Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag Na Tl V Zn
ICV		1	19:07	Al Sb As Ba Be Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag Na Tl V Zn
ICB		1	19:11	Al Sb As Ba Be Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag Na Tl V Zn
PQL		1	19:15	Al Sb As Ba Be Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag Na Tl V Zn
ZZZZZZ		1	19:19	
ICSA		1	19:23	Al Sb As Ba Be Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag Na Tl V Zn
ICSAB		1	19:27	Al Sb As Ba Be Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag Na Tl V Zn
ZZZZZZ		1	19:31	
ZZZZZZ		1	19:35	
ZZZZZZ		1	19:39	
ZZZZZZ		1	19:43	
ZZZZZZ		1	19:47	
CCV		1	19:51	Al Sb As Ba Be Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag Na Tl V Zn
CCB		1	19:55	Al Sb As Ba Be Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag Na Tl V Zn
ZZZZZZ		5	19:59	
ZZZZZZ		5	20:03	
ZZZZZZ		5	20:07	
ZZZZZZ		5	20:11	
ZZZZZZ		5	20:15	
ZZZZZZ		5	20:19	
ZZZZZZ		5	20:23	
ZZZZZZ		5	20:27	
ZZZZZZ		5	20:31	
ZZZZZZ		1	20:35	

ANALYSIS RUN LOG

Lab Name: Katahdin Analytical Services **SDG Name:** SL3995

Instrument ID: AGILENT 7500 ICP-MS **File Name:** JLE16B

Date: 5/16/2018 **Method:** MS

Lab Sample ID	Client ID	D.F.	Time	Elements
CCV		1	20:39	Al Sb As Ba Be Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag Na Tl V Zn
CCB		1	20:43	Al Sb As Ba Be Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag Na Tl V Zn
ZZZZZZ		5	20:47	
ZZZZZZ		5	20:51	
ZZZZZZ		5	20:56	
ZZZZZZ		5	21:00	
ZZZZZZ		25	21:04	
ZZZZZZ		5	21:08	
ZZZZZZ		5	21:12	
ZZZZZZ		5	21:16	
ZZZZZZ		5	21:20	
ZZZZZZ		1	21:25	
CCV		1	21:29	Al Sb As Ba Be Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag Na Tl V Zn
CCB		1	21:33	Al Sb As Ba Be Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag Na Tl V Zn
ZZZZZZ		25	21:37	
ZZZZZZ		5	21:41	
ZZZZZZ		5	21:46	
ZZZZZZ		5	21:50	
ZZZZZZ		5	21:54	
ZZZZZZ		1	21:58	
ZZZZZZ		5	22:02	
ZZZZZZ		5	22:07	
ZZZZZZ		5	22:11	
ZZZZZZ		1	22:15	
CCV		1	22:19	Al Sb As Ba Be Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag Na Tl V Zn
CCB		1	22:23	Al Sb As Ba Be Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag Na Tl V Zn
ZZZZZZ		5	22:28	

ANALYSIS RUN LOG

Lab Name: Katahdin Analytical Services **SDG Name:** SL3995

Instrument ID: AGILENT 7500 ICP-MS **File Name:** JLE16B

Date: 5/16/2018 **Method:** MS

Lab Sample ID	Client ID	D.F.	Time	Elements
ZZZZZZ		5	22:32	
ZZZZZZ		5	22:36	
ZZZZZZ		5	22:40	
ZZZZZZ		5	22:45	
ZZZZZZ		5	22:49	
ZZZZZZ		5	22:53	
ZZZZZZ		5	22:58	
ZZZZZZ		5	23:02	
ZZZZZZ		5	23:06	
CCV		1	23:10	Al Sb As Ba Be Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag Na Tl V Zn
CCB		1	23:14	Al Sb As Ba Be Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag Na Tl V Zn
ZZZZZZ		25	23:19	
ZZZZZZ		5	23:23	
ZZZZZZ		5	23:27	
ZZZZZZ		5	23:31	
ZZZZZZ		5	23:36	
ZZZZZZ		5	23:40	
PBWLE10IMW2		5	23:44	Al Sb As Ba Be Cd Ca Cr Co Cu Fe Mg Mn Ni K Se Ag Na Tl V Zn
LCSWLE10IMW2		5	23:48	Al Sb As Ba Be Cd Ca Cr Co Cu Fe Mg Mn Ni K Se Ag Na Tl V Zn
ZZZZZZ		5	23:52	
ZZZZZZ		1	23:57	
CCV		1	0:01	Al Sb As Ba Be Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag Na Tl V Zn
CCB		1	0:05	Al Sb As Ba Be Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag Na Tl V Zn
ZZZZZZ		5	0:09	
ZZZZZZ		5	0:13	
ZZZZZZ		5	0:18	
ZZZZZZ		5	0:22	

ANALYSIS RUN LOG

Lab Name: Katahdin Analytical Services **SDG Name:** SL3995

Instrument ID: AGILENT 7500 ICP-MS **File Name:** JLE16B

Date: 5/17/2018 **Method:** MS

Lab Sample ID	Client ID	D.F.	Time	Elements
ZZZZZZ		5	0:26	
ZZZZZZ		5	0:31	
ZZZZZZ		5	0:35	
ZZZZZZ		5	0:39	
ZZZZZZ		5	0:43	
ZZZZZZ		1	0:48	
CCV		1	0:52	Al Sb As Ba Be Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag Na Tl V Zn
CCB		1	0:56	Al Sb As Ba Be Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag Na Tl V Zn
ZZZZZZ		5	1:00	
ZZZZZZ		5	1:04	
SL3995-015	CHAAP-EB-050818-HA	5	1:09	Al Sb As Ba Be Cd Ca Cr Co Cu Fe Mg Mn Ni K Se Ag Na Tl V Zn
ZZZZZZ		5	1:13	
ZZZZZZ		5	1:17	
PBSLE11IMS1		5	1:21	Al Sb As Ba Be Cd Ca Cr Co Cu Fe Pb Mg Mn Ni K Se Ag Na Tl V Zn
LCSOLE11IMS1		5	1:26	Al Sb As Ba Be Cd Ca Cr Co Cu Fe Pb Mg Mn Ni K Se Ag Na Tl V Zn
CCV		1	1:30	Al Sb As Ba Be Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag Na Tl V Zn
CCB		1	1:34	Al Sb As Ba Be Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag Na Tl V Zn
SL3995-001	CHAAP-BKRD-SS01	5	1:38	Al Sb As Ba Be Cd Ca Cr Co Cu Fe Pb Mg Mn Ni K Se Ag Na Tl V Zn
SL3995-002	CHAAP-BKRD-SS02	5	1:43	Al Sb As Ba Be Cd Ca Cr Co Cu Fe Pb Mg Mn Ni K Se Ag Na Tl V Zn
SL3995-003	CHAAP-BKRD-SS102	5	1:47	Al Sb As Ba Be Cd Ca Cr Co Cu Fe Pb Mg Mn Ni K Se Ag Na Tl V Zn
SL3995-004	CHAAP-BKRD-SS03	5	1:51	Al Sb As Ba Be Cd Ca Cr Co Cu Fe Pb Mg Mn Ni K Se Ag Na Tl V Zn
SL3995-005	CHAAP-BKRD-SS04	5	1:55	Al Sb As Ba Be Cd Ca Cr Co Cu Fe Pb Mg Mn Ni K Se Ag Na Tl V Zn
SL3995-005L	CHAAP-BKRD-SS04L	25	2:00	Al Sb As Ba Be Cd Ca Cr Co Cu Fe Pb Mg Mn Ni K Se Ag Na Tl V Zn
SL3995-005A	CHAAP-BKRD-SS04A	5	2:04	Al Sb As Ba Be Cd Ca Cr Co Cu Fe Pb Mg Mn Ni K Se Ag Na Tl V Zn
SL3995-005S	CHAAP-BKRD-SS04S	5	2:08	Al Sb As Ba Be Cd Ca Cr Co Cu Fe Pb Mg Mn Ni K Se Ag Na Tl V Zn
SL3995-005P	CHAAP-BKRD-SS04P	5	2:13	Al Sb As Ba Be Cd Ca Cr Co Cu Fe Pb Mg Mn Ni K Se Ag Na Tl V Zn
ZZZZZZ		1	2:17	

ANALYSIS RUN LOG

Lab Name: Katahdin Analytical Services **SDG Name:** SL3995

Instrument ID: AGILENT 7500 ICP-MS **File Name:** JLE16B

Date: 5/17/2018 **Method:** MS

Lab Sample ID	Client ID	D.F.	Time	Elements
CCV		1	2:21	Al Sb As Ba Be Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag Na Tl V Zn
CCB		1	2:25	Al Sb As Ba Be Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag Na Tl V Zn
SL3995-006	CHAAP-BKRD-SS05	5	2:30	Al Sb As Ba Be Cd Ca Cr Co Cu Fe Pb Mg Mn Ni K Se Ag Na Tl V Zn
SL3995-007	CHAAP-BKRD-SS06	5	2:34	Al Sb As Ba Be Cd Ca Cr Co Cu Fe Pb Mg Mn Ni K Se Ag Na Tl V Zn
SL3995-008	CHAAP-BKRD-SB01	5	2:38	Al Sb As Ba Be Cd Ca Cr Co Cu Fe Pb Mg Mn Ni K Se Ag Na Tl V Zn
SL3995-009	CHAAP-BKRD-SB02	5	2:43	Al Sb As Ba Be Cd Ca Cr Co Cu Fe Pb Mg Mn Ni K Se Ag Na Tl V Zn
SL3995-010	CHAAP-BKRD-SB03	5	2:47	Al Sb As Ba Be Cd Ca Cr Co Cu Fe Pb Mg Mn Ni K Se Ag Na Tl V Zn
SL3995-011	CHAAP-BKRD-SB04	5	2:52	Al Sb As Ba Be Cd Ca Cr Co Cu Fe Pb Mg Mn Ni K Se Ag Na Tl V Zn
SL3995-012	CHAAP-BKRD-SB05	5	2:56	Al Sb As Ba Be Cd Ca Cr Co Cu Fe Pb Mg Mn Ni K Se Ag Na Tl V Zn
SL3995-013	CHAAP-BKRD-SB105	5	3:00	Al Sb As Ba Be Cd Ca Cr Co Cu Fe Pb Mg Mn Ni K Se Ag Na Tl V Zn
SL3995-014	CHAAP-BKRD-SB06	5	3:05	Al Sb As Ba Be Cd Ca Cr Co Cu Fe Pb Mg Mn Ni K Se Ag Na Tl V Zn
ZZZZZZ		1	3:09	
CCV		1	3:14	Al Sb As Ba Be Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag Na Tl V Zn
CCB		1	3:18	Al Sb As Ba Be Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag Na Tl V Zn

ANALYSIS RUN LOG

Lab Name: Katahdin Analytical Services **SDG Name:** SL3995

Instrument ID: AGILENT 7500 ICP-MS **File Name:** JLE17B

Date: 5/17/2018 **Method:** MS

Lab Sample ID	Client ID	D.F.	Time	Elements						
6020 TUNE		1	14:58							
200.8 TUNE		1	15:01							
Cal Blank		1	17:01	Al	Ca	Fe Pb	Mg	Mo	K	Na
Cal Std		1	17:05	Al	Ca	Fe Pb	Mg	Mo	K	Na
ICV		1	17:09	Al	Ca	Fe Pb	Mg	Mo	K	Na
ICB		1	17:12	Al	Ca	Fe Pb	Mg	Mo	K	Na
PQL		1	17:16	Al	Ca	Fe Pb	Mg	Mo	K	Na
ZZZZZZ		1	17:20							
ICSA		1	17:24	Al	Ca	Fe Pb	Mg	Mo	K	Na
ICSAB		1	17:28	Al	Ca	Fe Pb	Mg	Mo	K	Na
ZZZZZZ		1	17:32							
ZZZZZZ		1	17:36							
ZZZZZZ		1	17:39							
ZZZZZZ		1	17:43							
ZZZZZZ		1	17:47							
CCV		1	17:51	Al	Ca	Fe Pb	Mg	Mo	K	Na
CCB		1	17:55	Al	Ca	Fe Pb	Mg	Mo	K	Na
ZZZZZZ		5	17:59							
ZZZZZZ		5	18:03							
ZZZZZZ		5	18:07							
ZZZZZZ		5	18:11							
ZZZZZZ		5	18:15							
ZZZZZZ		5	18:19							
ZZZZZZ		5	18:23							
ZZZZZZ		5	18:27							
ZZZZZZ		5	18:31							
ZZZZZZ		1	18:35							

ANALYSIS RUN LOG

Lab Name: Katahdin Analytical Services **SDG Name:** SL3995

Instrument ID: AGILENT 7500 ICP-MS **File Name:** JLE17B

Date: 5/17/2018 **Method:** MS

Lab Sample ID	Client ID	D.F.	Time	Elements						
CCV		1	18:39	Al	Ca	Fe Pb	Mg	Mo	K	Na
CCB		1	18:43	Al	Ca	Fe Pb	Mg	Mo	K	Na
ZZZZZZ		5	18:47							
ZZZZZZ		5	18:51							
ZZZZZZ		5	18:55							
ZZZZZZ		5	18:59							
ZZZZZZ		25	19:03							
ZZZZZZ		5	19:07							
ZZZZZZ		5	19:11							
ZZZZZZ		5	19:15							
ZZZZZZ		5	19:19							
ZZZZZZ		1	19:24							
CCV		1	19:28	Al	Ca	Fe Pb	Mg	Mo	K	Na
CCB		1	19:32	Al	Ca	Fe Pb	Mg	Mo	K	Na
ZZZZZZ		25	19:36							
ZZZZZZ		5	19:40							
ZZZZZZ		5	19:44							
ZZZZZZ		5	19:48							
ZZZZZZ		5	19:52							
ZZZZZZ		1	19:56							
ZZZZZZ		5	20:01							
ZZZZZZ		5	20:05							
ZZZZZZ		5	20:09							
ZZZZZZ		1	20:13							
CCV		1	20:17	Al	Ca	Fe Pb	Mg	Mo	K	Na
CCB		1	20:21	Al	Ca	Fe Pb	Mg	Mo	K	Na
ZZZZZZ		5	20:25							

ANALYSIS RUN LOG

Lab Name: Katahdin Analytical Services **SDG Name:** SL3995

Instrument ID: AGILENT 7500 ICP-MS **File Name:** JLE17B

Date: 5/17/2018 **Method:** MS

Lab Sample ID	Client ID	D.F.	Time	Elements						
ZZZZZZ		5	20:30							
ZZZZZZ		5	20:34							
ZZZZZZ		5	20:38							
ZZZZZZ		5	20:42							
ZZZZZZ		5	20:46							
ZZZZZZ		5	20:51							
ZZZZZZ		5	20:55							
ZZZZZZ		5	20:59							
ZZZZZZ		1	21:03							
CCV		1	21:07	Al	Ca	Fe Pb	Mg	Mo	K	Na
CCB		1	21:11	Al	Ca	Fe Pb	Mg	Mo	K	Na
ZZZZZZ		25	21:16							
ZZZZZZ		5	21:20							
ZZZZZZ		5	21:24							
ZZZZZZ		5	21:28							
ZZZZZZ		5	21:32							
ZZZZZZ		1	21:37							
PBWLE10IMW2		5	21:41			Pb				
LCSWLE10IMW2		5	21:45			Pb				
ZZZZZZ		5	21:49							
ZZZZZZ		1	21:53							
CCV		1	21:57	Al	Ca	Fe Pb	Mg	Mo	K	Na
CCB		1	22:01	Al	Ca	Fe Pb	Mg	Mo	K	Na
ZZZZZZ		5	22:05							
ZZZZZZ		5	22:10							
ZZZZZZ		5	22:14							
ZZZZZZ		5	22:18							

ANALYSIS RUN LOG

Lab Name: Katahdin Analytical Services **SDG Name:** SL3995

Instrument ID: AGILENT 7500 ICP-MS **File Name:** JLE17B

Date: 5/17/2018 **Method:** MS

Lab Sample ID	Client ID	D.F.	Time	Elements							
ZZZZZZ		5	22:22								
ZZZZZZ		5	22:26								
ZZZZZZ		5	22:31								
ZZZZZZ		5	22:35								
ZZZZZZ		5	22:39								
ZZZZZZ		1	22:43								
CCV		1	22:47	Al	Ca	Fe	Pb	Mg	Mo	K	Na
CCB		1	22:52	Al	Ca	Fe	Pb	Mg	Mo	K	Na
SL3995-015	CHAAP-EB-050818-HA	5	22:56				Pb				
ZZZZZZ		1	23:00								
ZZZZZZ		1	23:04								
ZZZZZZ		1	23:08								
ZZZZZZ		1	23:12								
ZZZZZZ		1	23:17								
ZZZZZZ		1	23:21								
ZZZZZZ		5	23:25								
ZZZZZZ		5	23:29								
ZZZZZZ		5	23:33								
CCV		1	23:37	Al	Ca	Fe	Pb	Mg	Mo	K	Na
CCB		1	23:42	Al	Ca	Fe	Pb	Mg	Mo	K	Na

Raw Data Section

KATAHDIN ANALYTICAL SERVICES, LLC
METALS ANALYSIS RUN INFORMATION SHEET

INSTR. ID: Cetac M6100 (H) **ANALYST**: AMJ **ANALYSIS DATE**: 05/11/2018

FILE NAME: HLE11A **METHOD: CVAA**

☐ 245.1
☑ 7470
☐ 7471
☑ DoD
☐ _____

REVIEWED
JS 5.14.18
KATAHDIN ANALYTICAL
METALS SECTION

Analyte : Mercury

$SnCl_2$ Lot : MR2013

STANDARDS USED:

Standard Name	Prep. Date	Expiration Date	Standard Conc.
Cal. Blank / ICB / CCB	05/11/2018	06/01/2018	0.00 ug/L
Standard #1 / PQL	05/11/2018	06/01/2018	0.20 ug/L
Standard #2	05/11/2018	06/01/2018	0.50 ug/L
Standard #3	05/11/2018	06/01/2018	1.00 ug/L
Standard #4	05/11/2018	06/01/2018	5.00 ug/L
Standard #5	05/11/2018	06/01/2018	10.00 ug/L
ICV	05/11/2018	06/01/2018	6.00 ug/L

Additional Comments and Notes:

JS 5.14.18

Post Spike (245.1/7470): 0.005 mL MW17721 (pipet M17) into 8.0mL (pipet M12) of sample

Post Spike (7471): 0.008 mL MW17721 (pipet M17) into 8.0mL (pipet M12) of sample

5x Dilution: 1.6mL (pipet M13) of sample + 6.4mL (pipet M13) of Cal. Blank

O flag: Sample concentration over calibration, re-analyzed at dilution

Q flag: Analytical run QC outside laboratory limits

INSTRUMENT RUNLOG

Instrument: CETAC M6100

SAMPLE ID	DF	FILE	DATE	TIME	ANALYST
Calibration Blank	1.0000	HLE11A	5/11/2018	10:13	AMJ
Standard #1 (0.2 ppb)	1.0000	HLE11A	5/11/2018	10:15	AMJ
Standard #2 (0.5 ppb)	1.0000	HLE11A	5/11/2018	10:17	AMJ
Standard #3 (1.0 ppb)	1.0000	HLE11A	5/11/2018	10:20	AMJ
Standard #4 (5.0 ppb)	1.0000	HLE11A	5/11/2018	10:22	AMJ
Standard #5 (10.0 ppb)	1.0000	HLE11A	5/11/2018	10:24	AMJ
ICV	1.0000	HLE11A	5/11/2018	10:26	AMJ
ICB	1.0000	HLE11A	5/11/2018	10:28	AMJ
PQL	1.0000	HLE11A	5/11/2018	10:30	AMJ
CCV	1.0000	HLE11A	5/11/2018	10:32	AMJ
CCB	1.0000	HLE11A	5/11/2018	10:34	AMJ
PBWLE09HGW2	1.0000	HLE11A	5/11/2018	10:37	AMJ
LCSWLE09HGW2	1.0000	HLE11A	5/11/2018	10:50	AMJ
SL3448-008S	1.0000	HLE11A	5/11/2018	10:52	AMJ
SL3558-001	1.0000	HLE11A	5/11/2018	10:55	AMJ
SL3558-002	1.0000	HLE11A	5/11/2018	10:57	AMJ
SL3558-002L	5.0000	HLE11A	5/11/2018	10:59	AMJ
SL3558-002A	1.0000	HLE11A	5/11/2018	11:01	AMJ
SL3558-002S	1.0000	HLE11A	5/11/2018	11:03	AMJ
SL3558-005	1.0000	HLE11A	5/11/2018	11:05	AMJ
SL3804-008	1.0000	HLE11A	5/11/2018	11:07	AMJ
CCV	1.0000	HLE11A	5/11/2018	11:10	AMJ
CCB	1.0000	HLE11A	5/11/2018	11:12	AMJ
SL3558-006	1.0000	HLE11A	5/11/2018	11:14	AMJ
SL3558-006L	5.0000	HLE11A	5/11/2018	11:16	AMJ
SL3558-006A	1.0000	HLE11A	5/11/2018	11:18	AMJ
SL3558-006S	1.0000	HLE11A	5/11/2018	11:20	AMJ
SL3558-009	1.0000	HLE11A	5/11/2018	11:22	AMJ
SL3804-001	1.0000	HLE11A	5/11/2018	11:24	AMJ
SL3804-002	1.0000	HLE11A	5/11/2018	11:27	AMJ
SL3804-003	1.0000	HLE11A	5/11/2018	11:29	AMJ
SL3804-004	1.0000	HLE11A	5/11/2018	11:31	AMJ
SL3804-005	1.0000	HLE11A	5/11/2018	11:33	AMJ
CCV	1.0000	HLE11A	5/11/2018	11:35	AMJ
CCB	1.0000	HLE11A	5/11/2018	11:38	AMJ
SL3804-006	1.0000	HLE11A	5/11/2018	11:40	AMJ
SL3804-007	1.0000	HLE11A	5/11/2018	11:42	AMJ
SL3804-009	1.0000	HLE11A	5/11/2018	11:44	AMJ
PBWLE10HGW1	1.0000	HLE11A	5/11/2018	11:46	AMJ
LCSWLE10HGW1	1.0000	HLE11A	5/11/2018	11:48	AMJ
SL3920-001	1.0000	HLE11A	5/11/2018	11:52	AMJ
SL3952-002	1.0000	HLE11A	5/11/2018	11:55	AMJ
SL3952-003	1.0000	HLE11A	5/11/2018	11:57	AMJ
SL3952-004	1.0000	HLE11A	5/11/2018	11:59	AMJ

SAMPLE ID	DF	FILE	DATE	TIME	ANALYST
SL3952-005	1.0000	HLE11A	5/11/2018	12:01	AMJ
CCV	1.0000	HLE11A	5/11/2018	12:03	AMJ
CCB	1.0000	HLE11A	5/11/2018	12:05	AMJ
SL3952-006	1.0000	HLE11A	5/11/2018	12:07	AMJ
SL3952-007	1.0000	HLE11A	5/11/2018	12:10	AMJ
SL3952-008	1.0000	HLE11A	5/11/2018	12:12	AMJ
SL3952-009	1.0000	HLE11A	5/11/2018	12:14	AMJ
SL3952-010	1.0000	HLE11A	5/11/2018	12:16	AMJ
SL3952-011	1.0000	HLE11A	5/11/2018	12:18	AMJ
SL3952-012	1.0000	HLE11A	5/11/2018	12:20	AMJ
SL3952-013	1.0000	HLE11A	5/11/2018	12:23	AMJ
SL3952-016	1.0000	HLE11A	5/11/2018	12:25	AMJ
SL3952-017	1.0000	HLE11A	5/11/2018	12:27	AMJ
CCV	1.0000	HLE11A	5/11/2018	12:29	AMJ
CCB	1.0000	HLE11A	5/11/2018	12:31	AMJ
SL3952-017L	5.0000	HLE11A	5/11/2018	12:33	AMJ
SL3952-017A	1.0000	HLE11A	5/11/2018	12:35	AMJ
SL3952-017S	1.0000	HLE11A	5/11/2018	12:38	AMJ
SL3952-017P	1.0000	HLE11A	5/11/2018	12:40	AMJ
SL3952-018	1.0000	HLE11A	5/11/2018	12:42	AMJ
SL3952-019	1.0000	HLE11A	5/11/2018	12:44	AMJ
PBWLE11HGW1	1.0000	HLE11A	5/11/2018	12:46	AMJ
LCSWLE11HGW1	1.0000	HLE11A	5/11/2018	12:49	AMJ
PBT1452A	1.0000	HLE11A	5/11/2018	12:51	AMJ
CCV	1.0000	HLE11A	5/11/2018	12:53	AMJ
CCB	1.0000	HLE11A	5/11/2018	12:55	AMJ
PBT1453A	1.0000	HLE11A	5/11/2018	12:57	AMJ
SL3912-001	1.0000	HLE11A	5/11/2018	12:59	AMJ
SL3918-001	1.0000	HLE11A	5/11/2018	13:02	AMJ
SL3918-001L	5.0000	HLE11A	5/11/2018	13:04	AMJ
SL3918-001A	1.0000	HLE11A	5/11/2018	13:06	AMJ
SL3918-001S	1.0000	HLE11A	5/11/2018	13:08	AMJ
SL3918-001P	1.0000	HLE11A	5/11/2018	13:10	AMJ
SL3920-002	1.0000	HLE11A	5/11/2018	13:12	AMJ
SL3920-003	1.0000	HLE11A	5/11/2018	13:15	AMJ
SL3920-004	1.0000	HLE11A	5/11/2018	13:17	AMJ
CCV	1.0000	HLE11A	5/11/2018	13:19	AMJ
CCB	1.0000	HLE11A	5/11/2018	13:21	AMJ
SL3952-020	1.0000	HLE11A	5/11/2018	13:23	AMJ
SL3952-021	1.0000	HLE11A	5/11/2018	13:25	AMJ
SL3952-022	1.0000	HLE11A	5/11/2018	13:28	AMJ
SL3952-023	1.0000	HLE11A	5/11/2018	13:30	AMJ
SL3952-024	1.0000	HLE11A	5/11/2018	13:32	AMJ
SL3963-001	1.0000	HLE11A	5/11/2018	13:34	AMJ
SL3964-001	1.0000	HLE11A	5/11/2018	13:36	AMJ
SL3995-015	1.0000	HLE11A	5/11/2018	13:38	AMJ
SL4019-001	1.0000	HLE11A	5/11/2018	13:40	AMJ

SAMPLE ID	DF	FILE	DATE	TIME	ANALYST
SL4019-001L	5.0000	HLE11A	5/11/2018	13:42	AMJ
CCV	1.0000	HLE11A	5/11/2018	13:45	AMJ
CCB	1.0000	HLE11A	5/11/2018	13:47	AMJ
SL4019-001A	1.0000	HLE11A	5/11/2018	13:49	AMJ
SL4019-001S	1.0000	HLE11A	5/11/2018	13:51	AMJ
SL4019-001P	1.0000	HLE11A	5/11/2018	13:53	AMJ
SL4019-002	1.0000	HLE11A	5/11/2018	13:55	AMJ
SL4008-001	1.0000	HLE11A	5/11/2018	13:57	AMJ
CCV	1.0000	HLE11A	5/11/2018	14:00	AMJ
CCB	1.0000	HLE11A	5/11/2018	14:02	AMJ

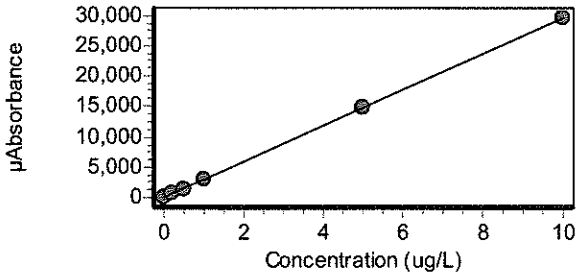
Report Generated By CETAC QuickTrace
Analyst: kasgc
Worksheet file: C:\Program Files\QuickTrace\Worksheets\HLE11A.wsz
Date Started: 5/11/2018 10:02:17 AM
Comment:

Results

Sample Name					Type	Date/Time	Conc (ug/L)	µAbs	%RSD	Flags	DF
Calibration Blank					STD	05/11/18 10:13:44 am	0.000	22	52.17		1.00
Replicates	19.4	14.7	15.9	39.7							
Standard #1 (0.2 ppb)					STD	05/11/18 10:15:50 am	0.200	576	5.29		1.00
Replicates	612.2	562.2	587.2	541.9							
Standard #2 (0.5 ppb)					STD	05/11/18 10:17:57 am	0.500	1497	1.56		1.00
Replicates	1495.2	1467.2	1502.2	1523.7							
Standard #3 (1.0 ppb)					STD	05/11/18 10:20:05 am	1.000	3005	0.60		1.00
Replicates	3001.3	2995.9	3031.5	2991.7							
Standard #4 (5.0 ppb)					STD	05/11/18 10:22:13 am	5.000	14948	0.20		1.00
Replicates	14908.0	14980.9	14955.0	14949.4							
Standard #5 (10.0 ppb)					STD	05/11/18 10:24:21 am	10.000	29582	0.19		1.00
Replicates	29654.7	29558.1	29523.9	29590.1							

Calibration

Equation: A = 31.113 + 2960.708C
R2: 0.99997
SEE: 68.5836
Flags:



ICV					ICV	05/11/18 10:26:31 am	6.366	18878	0.43		1.00
Replicates	18988.8	18861.5	18793.5	18869.5							
% Recovery	106.10										
ICB					ICB	05/11/18 10:28:37 am	-0.009	6	330.94		1.00
Replicates	3.8	-10.1	32.0	-3.3							

Sample Name					Type	Date/Time	Conc (ug/L)	µAbs	%RSD	Flags	DF
PQL					CRDL	05/11/18 10:30:43 am	0.180	564	6.15		1.00
	Replicates	534.9	554.3	553.0	614.5						
	% Recovery	90.02									
CCV					CCV	05/11/18 10:32:52 am	5.029	14920	0.41		1.00
	Replicates	15008.4	14908.6	14895.1	14869.8						
	% Recovery	100.58									
CCB					CCB	05/11/18 10:34:58 am	-0.024	-41	43.47		1.00
	Replicates	-30.1	-58.3	-21.8	-54.0						
PBWLE09HGW2					PBK	05/11/18 10:37:05 am	-0.002	24	86.59		1.00
	Replicates	43.3	21.4	-4.1	36.1						
LCSWLE09HGW2					LCS	05/11/18 10:50:46 am	5.009	14861	0.56		1.00
	Replicates	14979.2	14853.0	14828.6	14785.0						
	% Recovery	100.18									
SL3448-008S					UNK	05/11/18 10:52:53 am	0.969	2899	0.41		1.00
	Replicates	2892.4	2916.2	2897.0	2890.0						
SL3558-001					UNK	05/11/18 10:55:01 am	-0.007	10	161.45		1.00
	Replicates	32.4	13.0	-2.5	-2.1						
SL3558-002					UNK	05/11/18 10:57:10 am	-0.010	1	77.20		1.00
	Replicates	2.0	1.9	0.8	0.1						
SL3558-002L					UNK	05/11/18 10:59:17 am	-0.024	17	94.61		5.00
	Replicates	25.2	32.8	11.3	-2.8						
SL3558-002A					UNK	05/11/18 11:01:25 am	0.856	2566	1.32		1.00
	Replicates	2525.7	2580.6	2603.4	2552.3						
SL3558-002S					UNK	05/11/18 11:03:33 am	0.803	2407	0.68		1.00
	Replicates	2411.9	2402.9	2387.9	2427.0						
SL3558-005					UNK	05/11/18 11:05:41 am	-0.004	19	138.10		1.00
	Replicates	46.7	-2.9	-3.4	33.8						

Sample Name				Type	Date/Time	Conc (ug/L)	µAbs	%RSD	Flags	DF
SL3804-008				UNK	05/11/18 11:07:52 am	-0.008	9	334.77		1.00
Replicates	47.8	7.7	0.5	-21.5						
CCV				CCV	05/11/18 11:10:00 am	5.069	15040	0.27		1.00
Replicates	15096.3	15035.1	15001.9	15028.2						
% Recovery	101.39									
CCB				CCB	05/11/18 11:12:06 am	-0.008	6	250.88		1.00
Replicates	28.8	-1.6	-6.1	3.7						
SL3558-006				UNK	05/11/18 11:14:15 am	-0.008	7	330.83		1.00
Replicates	32.9	-24.8	8.9	11.9						
SL3558-006L				UNK	05/11/18 11:16:23 am	0.002	32	49.64		5.00
Replicates	11.4	50.7	33.9	33.9						
SL3558-006A				UNK	05/11/18 11:18:31 am	0.825	2473	0.76		1.00
Replicates	2477.6	2468.1	2495.2	2450.2						
SL3558-006S				UNK	05/11/18 11:20:39 am	0.833	2497	0.33		1.00
Replicates	2486.9	2499.5	2506.5	2495.5						
SL3558-009				UNK	05/11/18 11:22:48 am	-0.005	18	195.48		1.00
Replicates	-27.7	55.7	22.6	19.6						
SL3804-001				UNK	05/11/18 11:24:57 am	0.013	70	23.92		1.00
Replicates	92.9	68.6	54.1	62.6						
SL3804-002				UNK	05/11/18 11:27:05 am	0.004	44	55.89		1.00
Replicates	44.8	53.1	67.1	9.8						
SL3804-003				UNK	05/11/18 11:29:14 am	0.011	64	62.61		1.00
Replicates	66.1	9.1	76.0	104.6						
SL3804-004				UNK	05/11/18 11:31:22 am	0.004	43	70.11		1.00
Replicates	-1.0	66.8	50.5	55.7						

Sample Name				Type	Date/Time	Conc (ug/L)	µAbs	%RSD	Flags	DF
SL3804-005				UNK	05/11/18 11:33:32 am	0.004	42	63.13		1.00
Replicates	38.5	5.9	62.7	61.6						
CCV				CCV	05/11/18 11:35:40 am	5.160	15308	0.26		1.00
Replicates	15356.4	15322.7	15265.2	15288.4						
% Recovery	103.20									
CCB				CCB	05/11/18 11:38:07 am	-0.019	-24	68.09		1.00
Replicates	-40.1	-9.0	-10.8	-35.5						
SL3804-006				UNK	05/11/18 11:40:16 am	0.011	64	42.01		1.00
Replicates	85.7	87.8	35.0	47.2						
SL3804-007				UNK	05/11/18 11:42:25 am	-0.007	9	384.03		1.00
Replicates	-25.0	44.0	32.3	-15.5						
SL3804-009				UNK	05/11/18 11:44:33 am	0.004	43	96.45		1.00
Replicates	58.4	26.9	-5.1	90.7						
PBWLE10HGW1				PBK	05/11/18 11:46:43 am	0.002	36	48.53		1.00
Replicates	14.8	51.8	49.5	29.0						
LCSWLE10HGW1				LCS	05/11/18 11:48:52 am	4.959	14714	0.40		1.00
Replicates	14650.4	14682.8	14780.6	14742.0						
% Recovery	99.18									
SL3920-001				UNK	05/11/18 11:52:52 am	0.045	166	6.58		1.00
Replicates	161.9	152.8	177.9	170.8						
SL3952-002				UNK	05/11/18 11:55:01 am	0.001	34	105.94		1.00
Replicates	57.3	64.5	-14.4	27.8						
SL3952-003				UNK	05/11/18 11:57:10 am	-0.017	-20	58.41		1.00
Replicates	-9.1	-27.7	-32.4	-11.0						
SL3952-004				UNK	05/11/18 11:59:19 am	-0.011	-2	073.47		1.00
Replicates	9.8	2.9	15.0	-36.5						

Sample Name				Type	Date/Time	Conc (ug/L)	µAbs	%RSD	Flags	DF
SL3952-005				UNK	05/11/18 12:01:29 pm	-0.018	-22	100.69		1.00
Replicates	-49.4	-32.3	-2.8	-4.9						
CCV				CCV	05/11/18 12:03:37 pm	5.149	15277	0.38		1.00
Replicates	15356.5	15274.0	15254.1	15222.3						
% Recovery	102.99									
CCB				CCB	05/11/18 12:05:43 pm	-0.025	-44	55.87		1.00
Replicates	-64.9	-17.4	-29.1	-65.8						
SL3952-006				UNK	05/11/18 12:07:54 pm	-0.006	12	95.42		1.00
Replicates	12.2	2.5	28.1	5.3						
SL3952-007				UNK	05/11/18 12:10:03 pm	-0.022	-35	86.85		1.00
Replicates	-22.5	-24.2	-79.0	-12.7						
SL3952-008				UNK	05/11/18 12:12:12 pm	0.076	257	8.19		1.00
Replicates	234.1	284.6	260.2	250.7						
SL3952-009				UNK	05/11/18 12:14:22 pm	-0.023	-36	34.89		1.00
Replicates	-54.9	-29.6	-33.4	-27.3						
SL3952-010				UNK	05/11/18 12:16:32 pm	-0.014	-10	191.69		1.00
Replicates	-21.5	12.3	-30.1	-0.9						
SL3952-011				UNK	05/11/18 12:18:43 pm	-0.014	-12	207.18		1.00
Replicates	8.3	-32.0	10.3	-33.5						
SL3952-012				UNK	05/11/18 12:20:52 pm	-0.007	11	267.07		1.00
Replicates	25.0	-31.3	13.4	38.0						
SL3952-013				UNK	05/11/18 12:23:02 pm	-0.011	-3	446.33		1.00
Replicates	9.1	-1.1	0.9	-19.8						
SL3952-016				UNK	05/11/18 12:25:12 pm	-0.017	-18	91.69		1.00
Replicates	-5.0	-8.9	-42.3	-16.8						

Sample Name				Type	Date/Time	Conc (ug/L)	µAbs	%RSD	Flags	DF
SL3952-017				UNK	05/11/18 12:27:22 pm	-0.009	4	359.69		1.00
Replicates	-13.6	-1.4	20.1	11.1						
CCV				CCV	05/11/18 12:29:31 pm	5.380	15960	2.08		1.00
Replicates	16350.2	16086.0	15821.5	15582.3						
% Recovery	107.60									
CCB				CCB	05/11/18 12:31:37 pm	-0.025	-42	54.78		1.00
Replicates	-41.4	-10.2	-53.4	-63.4						
SL3952-017L				UNK	05/11/18 12:33:48 pm	-0.010	25	69.53		5.00
Replicates	27.2	2.7	24.9	45.0						
SL3952-017A				UNK	05/11/18 12:35:57 pm	0.991	2966	0.27		1.00
Replicates	2956.8	2962.4	2975.9	2967.7						
SL3952-017S				UNK	05/11/18 12:38:08 pm	1.064	3181	1.06		1.00
Replicates	3226.3	3144.8	3178.3	3173.8						
SL3952-017P				UNK	05/11/18 12:40:18 pm	1.020	3052	0.35		1.00
Replicates	3057.0	3043.2	3044.0	3065.0						
SL3952-018				UNK	05/11/18 12:42:29 pm	-0.002	25	40.47		1.00
Replicates	16.4	32.7	34.5	16.0						
SL3952-019				UNK	05/11/18 12:44:40 pm	0.009	59	37.51		1.00
Replicates	48.3	88.0	63.2	36.7						
PBWLE11HGW1				PBK	05/11/18 12:46:50 pm	-0.006	15	129.81		1.00
Replicates	43.2	1.7	4.4	9.9						
LCSWLE11HGW1				LCS	05/11/18 12:49:01 pm	5.067	15032	0.41		1.00
Replicates	15107.0	15036.8	14957.0	15026.0						
% Recovery	101.33									
PBT1452A				UNK	05/11/18 12:51:12 pm	-0.012	-6	382.32		1.00
Replicates	-24.3	-22.2	0.5	22.8						

Sample Name				Type	Date/Time	Conc (ug/L)	µAbs	%RSD	Flags	DF
CCV				CCV	05/11/18 12:53:21 pm	5.246	15564	0.25		1.00
Replicates	15590.9	15586.2	15507.9	15570.7						
% Recovery	104.93									
CCB				CCB	05/11/18 12:55:27 pm	-0.017	-20	105.87		1.00
Replicates	-6.5	-10.7	-50.5	-10.5						
PBT1453A				UNK	05/11/18 12:57:38 pm	-0.010	1	829.64		1.00
Replicates	33.0	33.5	-21.4	-39.7						
SL3912-001				UNK	05/11/18 12:59:49 pm	-0.010	0	586.00		1.00
Replicates	5.4	10.6	1.1	-15.4						
SL3918-001				UNK	05/11/18 01:02:00 pm	-0.011	-1	796.60		1.00
Replicates	13.6	-6.5	-10.4	-2.0						
SL3918-001L				UNK	05/11/18 01:04:11 pm	-0.074	-13	145.54		5.00
Replicates	2.9	-3.9	-38.6	-10.4						
SL3918-001A				UNK	05/11/18 01:06:22 pm	1.244	3714	0.54		1.00
Replicates	3694.2	3701.0	3722.2	3737.8						
SL3918-001S				UNK	05/11/18 01:08:34 pm	1.811	5392	0.35		1.00
Replicates	5408.0	5382.2	5370.7	5407.5						
SL3918-001P				UNK	05/11/18 01:10:45 pm	1.969	5860	0.70		1.00
Replicates	5879.4	5799.9	5870.1	5891.9						
SL3920-002				UNK	05/11/18 01:12:56 pm	0.073	248	13.92		1.00
Replicates	288.1	210.2	262.4	230.0						
SL3920-003				UNK	05/11/18 01:15:08 pm	0.056	196	12.38		1.00
Replicates	159.6	209.3	209.2	205.5						
SL3920-004				UNK	05/11/18 01:17:19 pm	0.024	102	16.12		1.00
Replicates	91.2	124.7	104.7	88.7						

Sample Name					Type	Date/Time	Conc (ug/L)	µAbs	%RSD	Flags	DF
CCV					CCV	05/11/18 01:19:28 pm	5.138	15243	0.44		1.00
	Replicates	15319.5	15228.2	15262.5	15160.5						
	% Recovery	102.76									
CCB					CCB	05/11/18 01:21:34 pm	-0.003	21	159.85		1.00
	Replicates	-27.1	22.8	40.3	49.6						
SL3952-020					UNK	05/11/18 01:23:46 pm	-0.018	-23	109.47		1.00
	Replicates	-29.0	-56.0	-12.7	4.1						
SL3952-021					UNK	05/11/18 01:25:53 pm	-0.013	-7	252.77		1.00
	Replicates	-27.2	5.5	10.2	-16.7						
SL3952-022					UNK	05/11/18 01:28:01 pm	-0.008	8	325.41		1.00
	Replicates	-11.4	12.9	41.9	-12.0						
SL3952-023					UNK	05/11/18 01:30:08 pm	-0.018	-21	89.91		1.00
	Replicates	-22.6	-22.6	-43.9	3.2						
SL3952-024					UNK	05/11/18 01:32:16 pm	-0.033	-66	33.46		1.00
	Replicates	-92.7	-68.4	-62.5	-39.2						
SL3963-001					UNK	05/11/18 01:34:25 pm	-0.014	-11	343.15		1.00
	Replicates	-44.3	-39.4	35.8	3.6						
SL3964-001					UNK	05/11/18 01:36:32 pm	0.018	84	37.68		1.00
	Replicates	54.1	109.9	59.6	113.4						
SL3995-015					UNK	05/11/18 01:38:40 pm	-0.027	-48	39.03		1.00
	Replicates	-57.1	-31.8	-33.5	-70.5						
SL4019-001					UNK	05/11/18 01:40:48 pm	-0.015	-12	211.76		1.00
	Replicates	2.0	16.8	-36.2	-30.9						
SL4019-001L					UNK	05/11/18 01:42:57 pm	-0.101	-29	40.31		5.00
	Replicates	-34.3	-39.7	-29.2	-12.7						

Sample Name					Type	Date/Time	Conc (ug/L)	µAbs	%RSD	Flags	DF
CCV					CCV	05/11/18 01:45:05 pm	5.063	15020	3.04		1.00
	Replicates	14570.1	14710.6	15259.6	15540.4						
	% Recovery	101.25									
CCB					CCB	05/11/18 01:47:11 pm	-0.020	-27	62.34		1.00
	Replicates	-33.3	-19.1	-8.3	-46.8						
SL4019-001A					UNK	05/11/18 01:49:20 pm	1.134	3389	0.72		1.00
	Replicates	3378.9	3365.7	3387.9	3422.7						
SL4019-001S					UNK	05/11/18 01:51:28 pm	2.012	5989	0.54		1.00
	Replicates	5952.4	5983.8	5987.1	6031.1						
SL4019-001P					UNK	05/11/18 01:53:36 pm	2.102	6256	0.77		1.00
	Replicates	6201.3	6229.3	6294.6	6298.1						
SL4019-002					UNK	05/11/18 01:55:44 pm	0.028	115	4.89		1.00
	Replicates	115.3	112.3	109.0	122.1						
SL4008-001					UNK	05/11/18 01:57:53 pm	-0.005	15	145.08		1.00
	Replicates	37.0	-10.1	31.3	3.6						
CCV					CCV	05/11/18 02:00:01 pm	5.266	15622	0.25		1.00
	Replicates	15654.3	15642.0	15565.9	15625.2						
	% Recovery	105.32									
CCB					CCB	05/11/18 02:02:08 pm	-0.032	-62	40.27		1.00
	Replicates	-90.4	-47.3	-76.1	-36.0						

KATAHDIN ANALYTICAL SERVICES, LLC
METALS ANALYSIS RUN INFORMATION SHEET

INSTR. ID: Cetac M6100 (H) **ANALYST**: AMJ **ANALYSIS DATE**: 05/14/2018

FILE NAME: HLE14A **METHOD**: **CVAA**

☐ 245.1
☐ 7470
☑ 7471
☑ DoD
☐ _____

REVIEWED
MD 5/16/18
KATAHDIN ANALYTICAL
METALS SECTION

Analyte : Mercury

$SnCl_2$ Lot : MR2013

STANDARDS USED:

Standard Name	Prep. Date	Expiration Date	Standard Conc.
Cal. Blank / ICB / CCB	05/14/2018	06/01/2018	0.00 ug/L
Standard #1 / PQL	05/14/2018	06/01/2018	0.20 ug/L
Standard #2	05/14/2018	06/01/2018	0.50 ug/L
Standard #3	05/14/2018	06/01/2018	1.00 ug/L
Standard #4	05/14/2018	06/01/2018	5.00 ug/L
Standard #5	05/14/2018	06/01/2018	10.00 ug/L
ICV	05/14/2018	06/01/2018	6.00 ug/L

Additional Comments and Notes:

MD 5/16/18

Post Spike (245.1/7470): 0.005 mL MW17721 (pipet M17) into 8.0mL (pipet M12) of sample

Post Spike (7471): 0.008 mL MW17721 (pipet M17) into 8.0mL (pipet M12) of sample

5x Dilution: 1.6mL (pipet M13) of sample + 6.4mL (pipet M13) of Cal. Blank

10X Dilution: 1mL (pipet M5) of sample + 9mL (pipet M12) of Cal.Blank

O flag: Sample concentration over calibration, re-analyzed at dilution

Q flag: Analytical run QC outside laboratory limits

INSTRUMENT RUNLOG

Instrument: CETAC M6100

SAMPLE ID	DF	FILE	DATE	TIME	ANALYST
Calibration Blank	1.0000	HLE14A	5/14/2018	10:42	AMJ
Standard #1 (0.2 ppb)	1.0000	HLE14A	5/14/2018	10:44	AMJ
Standard #2 (0.5 ppb)	1.0000	HLE14A	5/14/2018	10:46	AMJ
Standard #3 (1.0 ppb)	1.0000	HLE14A	5/14/2018	10:48	AMJ
Standard #4 (5.0 ppb)	1.0000	HLE14A	5/14/2018	10:50	AMJ
Standard #5 (10.0 ppb)	1.0000	HLE14A	5/14/2018	10:52	AMJ
ICV	1.0000	HLE14A	5/14/2018	10:55	AMJ
ICB	1.0000	HLE14A	5/14/2018	10:57	AMJ
PQL	1.0000	HLE14A	5/14/2018	11:00	AMJ
CCV	1.0000	HLE14A	5/14/2018	11:02	AMJ
CCB	1.0000	HLE14A	5/14/2018	11:04	AMJ
PBSLE11HGS1	1.0000	HLE14A	5/14/2018	11:06	AMJ
LCSOLE11HGS1	1.0000	HLE14A	5/14/2018	11:08	AMJ
LC2OLE11HGS1	1.0000	HLE14A	5/14/2018	11:10	AMJ
SL3995-001	1.0000	HLE14A	5/14/2018	11:12	AMJ
SL3995-002	1.0000	HLE14A	5/14/2018	11:14	AMJ
SL3995-003	1.0000	HLE14A	5/14/2018	11:17	AMJ
SL3995-004	1.0000	HLE14A	5/14/2018	11:19	AMJ
SL3995-005	1.0000	HLE14A	5/14/2018	11:21	AMJ
SL3995-005L	5.0000	HLE14A	5/14/2018	11:23	AMJ
CCV	1.0000	HLE14A	5/14/2018	11:25	AMJ
CCB	1.0000	HLE14A	5/14/2018	11:27	AMJ
SL3995-005A	1.0000	HLE14A	5/14/2018	11:29	AMJ
SL3995-005S	1.0000	HLE14A	5/14/2018	11:32	AMJ
SL3995-005P	1.0000	HLE14A	5/14/2018	11:34	AMJ
SL3995-006	1.0000	HLE14A	5/14/2018	11:36	AMJ
SL3995-007	1.0000	HLE14A	5/14/2018	11:38	AMJ
SL3995-008	1.0000	HLE14A	5/14/2018	11:40	AMJ
SL3995-009	1.0000	HLE14A	5/14/2018	11:42	AMJ
SL3995-010	1.0000	HLE14A	5/14/2018	11:44	AMJ
SL3995-011	1.0000	HLE14A	5/14/2018	11:47	AMJ
SL3995-012	1.0000	HLE14A	5/14/2018	11:49	AMJ
CCV	1.0000	HLE14A	5/14/2018	11:51	AMJ
CCB	1.0000	HLE14A	5/14/2018	11:53	AMJ
SL3995-014	1.0000	HLE14A	5/14/2018	11:55	AMJ
SL4090-001	1.0000	HLE14A	5/14/2018	11:57	AMJ
SL4091-001	1.0000	HLE14A	5/14/2018	11:59	AMJ
SL4092-001	1.0000	HLE14A	5/14/2018	12:02	AMJ
SL4092-002	1.0000	HLE14A	5/14/2018	12:06	AMJ
SL4092-003	1.0000	HLE14A	5/14/2018	12:19	AMJ
SL3995-013	1.0000	HLE14A	5/14/2018	12:21	AMJ
PBSLE11HGS2	1.0000	HLE14A	5/14/2018	12:23	AMJ
LCSOLE11HGS2	1.0000	HLE14A	5/14/2018	12:25	AMJ
SL3755-001	1.0000	HLE14A	5/14/2018	12:28	AMJ

SAMPLE ID	DF	FILE	DATE	TIME	ANALYST
CCV	1.0000	HLE14A	5/14/2018	12:30	AMJ
CCB	1.0000	HLE14A	5/14/2018	12:32	AMJ
SL3756-001	1.0000	HLE14A	5/14/2018	12:34	AMJ
SL3756-003	1.0000	HLE14A	5/14/2018	12:36	AMJ
SL3756-004	1.0000	HLE14A	5/14/2018	12:38	AMJ
SL3756-005	1.0000	HLE14A	5/14/2018	12:41	AMJ
SL3756-006	1.0000	HLE14A	5/14/2018	12:43	AMJ
SL3756-007	1.0000	HLE14A	5/14/2018	12:45	AMJ
SL3756-008	1.0000	HLE14A	5/14/2018	12:47	AMJ
SL3756-009	1.0000	HLE14A	5/14/2018	12:49	AMJ
SL3756-010	1.0000	HLE14A	5/14/2018	12:51	AMJ
SL3756-011	1.0000	HLE14A	5/14/2018	12:54	AMJ
CCV	1.0000	HLE14A	5/14/2018	12:56	AMJ
CCB	1.0000	HLE14A	5/14/2018	12:58	AMJ
SL3756-012	1.0000	HLE14A	5/14/2018	13:00	AMJ
SL3756-013	1.0000	HLE14A	5/14/2018	13:02	AMJ
SL3756-014	1.0000	HLE14A	5/14/2018	13:04	AMJ
SL3917-001	1.0000	HLE14A	5/14/2018	13:07	AMJ
SL3917-001L	5.0000	HLE14A	5/14/2018	13:09	AMJ
SL3917-001A	1.0000	HLE14A	5/14/2018	13:11	AMJ
SL3917-001S	1.0000	HLE14A	5/14/2018	13:13	AMJ
SL3917-001P	1.0000	HLE14A	5/14/2018	13:15	AMJ
SL3946-001	1.0000	HLE14A	5/14/2018	13:17	AMJ
SL4035-001	1.0000	HLE14A	5/14/2018	13:20	AMJ
CCV	1.0000	HLE14A	5/14/2018	13:22	AMJ
CCB	1.0000	HLE14A	5/14/2018	13:24	AMJ
PBSLE14HGS1	1.0000	HLE14A	5/14/2018	13:26	AMJ
LCSOLE14HGS1	1.0000	HLE14A	5/14/2018	13:28	AMJ
SL4087-001	1.0000	HLE14A	5/14/2018	13:30	AMJ
PBSLE14HGS2	1.0000	HLE14A	5/14/2018	13:33	AMJ
LCSOLE14HGS2	1.0000	HLE14A	5/14/2018	13:35	AMJ
SL3756-029	1.0000	HLE14A	5/14/2018	13:37	AMJ
SL3756-030	1.0000	HLE14A	5/14/2018	13:42	AMJ
SL3947-001	1.0000	HLE14A	5/14/2018	13:44	AMJ
SL3964-002	1.0000	HLE14A	5/14/2018	13:47	AMJ
SL4004-001	1.0000	HLE14A	5/14/2018	13:49	AMJ
CCV	1.0000	HLE14A	5/14/2018	13:51	AMJ
CCB	1.0000	HLE14A	5/14/2018	13:53	AMJ
SL4067-001	1.0000	HLE14A	5/14/2018	13:55	AMJ
SL4067-001L	5.0000	HLE14A	5/14/2018	13:57	AMJ
SL4067-001A	1.0000	HLE14A	5/14/2018	13:59	AMJ
SL4067-001S	1.0000	HLE14A	5/14/2018	14:02	AMJ
SL4067-001P	1.0000	HLE14A	5/14/2018	14:04	AMJ
SL4068-001	1.0000	HLE14A	5/14/2018	14:06	AMJ
SL4092-001	10.0000	HLE14A	5/14/2018	14:08	AMJ
CCV	1.0000	HLE14A	5/14/2018	14:10	AMJ
CCB	1.0000	HLE14A	5/14/2018	14:12	AMJ

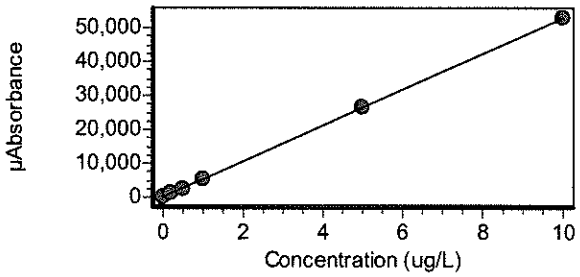
Report Generated By CETAC QuickTrace
Analyst: kasgc
Worksheet file: C:\Program Files\QuickTrace\Worksheets\HLE14A.wsz
Date Started: 5/14/2018 9:54:12 AM
Comment:

Results

Sample Name				Type	Date/Time	Conc (ug/L)	µAbs	%RSD	Flags	DF
Calibration Blank				STD	05/14/18 10:42:00 am	0.000	1	374.53		1.00
Replicates	19.0	-9.4	0.8	-6.7						
Standard #1 (0.2 ppb)				STD	05/14/18 10:44:07 am	0.200	1041	2.66		1.00
Replicates	1081.1	1038.2	1020.5	1024.8						
Standard #2 (0.5 ppb)				STD	05/14/18 10:46:14 am	0.500	2635	0.38		1.00
Replicates	2631.7	2627.3	2649.5	2631.1						
Standard #3 (1.0 ppb)				STD	05/14/18 10:48:21 am	1.000	5299	0.76		1.00
Replicates	5261.1	5267.1	5337.1	5329.0						
Standard #4 (5.0 ppb)				STD	05/14/18 10:50:30 am	5.000	26742	0.69		1.00
Replicates	26644.0	26582.6	26736.9	27002.7						
Standard #5 (10.0 ppb)				STD	05/14/18 10:52:38 am	10.000	52924	1.03		1.00
Replicates	52671.2	52347.8	53056.6	53620.3						

Calibration

Equation: A = 19.409 + 5300.877C
R2: 0.99997
SEE: 124.2908
Flags:



ICV				ICV	05/14/18 10:55:51 am	6.094	32324	1.07		1.00
Replicates	32711.0	32076.7	31991.9	32516.4						
% Recovery	101.57									
ICB				ICB	05/14/18 10:57:57 am	-0.014	-55	15.25		1.00
Replicates	-59.2	-42.2	-58.4	-59.0						

Katahdin Analytical Services 4000120

Sample Name					Type	Date/Time	Conc (ug/L)	µAbs	%RSD	Flags	DF
PQL					CRDL	05/14/18 11:00:04 am	0.200	1080	2.91		1.00
	Replicates	1080.4	1036.7	1089.7	1111.4						
	% Recovery	99.99									
CCV					CCV	05/14/18 11:02:12 am	5.076	26926	0.86		1.00
	Replicates	26750.6	26752.4	26963.9	27237.5						
	% Recovery	101.52									
CCB					CCB	05/14/18 11:04:19 am	-0.006	-13	257.23		1.00
	Replicates	32.7	-13.1	-42.8	-27.4						
PBSLE11HGS1					PBK	05/14/18 11:06:26 am	-0.002	8	405.58		1.00
	Replicates	-25.0	14.2	-6.8	49.0						
LCSOLE11HGS1					LCS	05/14/18 11:08:33 am	4.911	26053	0.77		1.00
	Replicates	25936.7	25868.8	26083.6	26323.1						
	% Recovery	98.22									
LC2OLE11HGS1					LCS	05/14/18 11:10:41 am	4.900	25995	0.67		1.00
	Replicates	25968.9	25830.2	25942.0	26240.7						
	% Recovery	98.01									
SL3995-001					UNK	05/14/18 11:12:49 am	0.099	544	0.81		1.00
	Replicates	546.0	546.2	537.8	547.5						
SL3995-002					UNK	05/14/18 11:14:58 am	0.095	525	6.75		1.00
	Replicates	510.1	488.0	532.6	571.1						
SL3995-003					UNK	05/14/18 11:17:06 am	0.118	647	2.82		1.00
	Replicates	622.6	664.1	644.1	656.8						
SL3995-004					UNK	05/14/18 11:19:14 am	0.099	547	3.23		1.00
	Replicates	522.1	559.5	545.2	559.5						
SL3995-005					UNK	05/14/18 11:21:22 am	0.113	617	4.46		1.00
	Replicates	622.2	636.2	631.9	576.4						
SL3995-005L					UNK	05/14/18 11:23:30 am	0.033	54	23.99		5.00
	Replicates	62.7	64.3	52.8	36.1						

Sample Name				Type	Date/Time	Conc (ug/L)	µAbs	%RSD	Flags	DF
CCV				CCV	05/14/18 11:25:39 am	5.168	27416	0.87		1.00
Replicates	27084.3	27414.5	27636.0	27528.8						
% Recovery	103.37									
CCB				CCB	05/14/18 11:27:45 am	-0.009	-26	40.96		1.00
Replicates	-29.4	-29.8	-34.6	-10.5						
SL3995-005A				UNK	05/14/18 11:29:54 am	0.740	3944	0.85		1.00
Replicates	3986.2	3941.6	3904.4	3942.3						
SL3995-005S				UNK	05/14/18 11:32:02 am	1.045	5557	1.46		1.00
Replicates	5667.7	5559.5	5520.7	5479.2						
SL3995-005P				UNK	05/14/18 11:34:10 am	1.059	5633	0.98		1.00
Replicates	5711.9	5627.7	5594.0	5597.2						
SL3995-006				UNK	05/14/18 11:36:19 am	0.107	586	4.04		1.00
Replicates	602.5	605.5	580.3	554.5						
SL3995-007				UNK	05/14/18 11:38:28 am	0.127	694	4.27		1.00
Replicates	731.8	704.5	667.9	673.7						
SL3995-008				UNK	05/14/18 11:40:37 am	0.124	677	3.20		1.00
Replicates	695.3	690.2	673.7	647.2						
SL3995-009				UNK	05/14/18 11:42:45 am	0.093	513	5.26		1.00
Replicates	510.0	500.9	489.4	551.4						
SL3995-010				UNK	05/14/18 11:44:54 am	0.107	588	2.48		1.00
Replicates	576.1	590.5	578.0	607.7						
SL3995-011				UNK	05/14/18 11:47:03 am	0.118	643	3.57		1.00
Replicates	616.4	653.5	668.4	632.0						
SL3995-012				UNK	05/14/18 11:49:12 am	0.100	551	2.75		1.00
Replicates	553.8	564.3	529.3	557.0						

Sample Name				Type	Date/Time	Conc (ug/L)	µAbs	%RSD	Flags	DF
CCV				CCV	05/14/18 11:51:20 am	4.896	25971	0.39		1.00
Replicates	26031.8	25845.3	25934.1	26071.4						
% Recovery	97.91									
CCB				CCB	05/14/18 11:53:26 am	0.004	42	32.31		1.00
Replicates	37.2	25.5	48.3	56.7						
SL3995-014				UNK	05/14/18 11:55:36 am	0.121	659	3.49		1.00
Replicates	637.0	659.8	690.8	649.4						
SL4090-001				UNK	05/14/18 11:57:44 am	0.442	2362	2.00		1.00
Replicates	2429.0	2317.0	2350.0	2353.8						
SL4091-001				UNK	05/14/18 11:59:53 am	0.650	3467	0.73		1.00
Replicates	3498.3	3438.2	3457.4	3472.2						
SL4092-001				UNK	05/14/18 12:02:02 pm	57.820	306500	1.22	O	1.00
Replicates	311956.4	305085.2	303498.2	305458.8						
SL4092-002				UNK	05/14/18 12:06:42 pm	0.088	487	5.26		1.00
Replicates	461.2	521.1	475.9	491.7						
SL4092-003				UNK	05/14/18 12:19:31 pm	0.180	973	1.85		1.00
Replicates	971.5	997.0	969.6	953.5						
SL3995-013				UNK	05/14/18 12:21:40 pm	0.101	555	3.76		1.00
Replicates	567.4	557.2	525.0	570.7						
PBSLE11HGS2				PBK	05/14/18 12:23:49 pm	-0.007	-20	124.95		1.00
Replicates	-10.9	-56.2	-0.9	-11.2						
LCSOLE11HGS2				LCS	05/14/18 12:25:59 pm	4.595	24379	0.81		1.00
Replicates	24650.4	24388.0	24192.2	24286.0						
% Recovery	91.91									
SL3755-001				UNK	05/14/18 12:28:09 pm	0.855	4554	4.30		1.00
Replicates	4342.3	4461.1	4616.2	4794.7						

Sample Name				Type	Date/Time	Conc (ug/L)	µAbs	%RSD	Flags	DF
CCV				CCV	05/14/18 12:30:17 pm	4.956	26288	0.47		1.00
Replicates	26333.0	26202.5	26176.0	26442.0						
% Recovery	99.11									
CCB				CCB	05/14/18 12:32:23 pm	-0.001	15	199.07		1.00
Replicates	32.1	-8.0	50.0	-12.6						
SL3756-001				UNK	05/14/18 12:34:34 pm	0.850	4525	2.32		1.00
Replicates	4445.0	4436.3	4562.1	4657.1						
SL3756-003				UNK	05/14/18 12:36:43 pm	0.564	3007	1.20		1.00
Replicates	3058.1	2974.2	2992.0	3004.7						
SL3756-004				UNK	05/14/18 12:38:53 pm	0.442	2361	2.46		1.00
Replicates	2302.0	2334.7	2371.9	2437.2						
SL3756-005				UNK	05/14/18 12:41:02 pm	0.976	5191	1.09		1.00
Replicates	5124.1	5162.6	5239.1	5236.4						
SL3756-006				UNK	05/14/18 12:43:13 pm	0.823	4381	0.41		1.00
Replicates	4361.8	4377.6	4405.0	4378.1						
SL3756-007				UNK	05/14/18 12:45:23 pm	0.567	3025	0.99		1.00
Replicates	2990.1	3011.7	3057.9	3039.9						
SL3756-008				UNK	05/14/18 12:47:33 pm	0.395	2110	0.76		1.00
Replicates	2104.2	2100.0	2103.3	2134.3						
SL3756-009				UNK	05/14/18 12:49:43 pm	0.740	3944	2.27		1.00
Replicates	3856.2	3883.1	3992.6	4045.0						
SL3756-010				UNK	05/14/18 12:51:53 pm	0.850	4527	1.33		1.00
Replicates	4473.7	4486.1	4542.1	4605.3						
SL3756-011				UNK	05/14/18 12:54:03 pm	1.036	5512	0.73		1.00
Replicates	5466.7	5504.0	5512.4	5563.9						

KATAHDIN ANALYTICAL SERVICES, LLC
METALS ANALYSIS RUN INFORMATION SHEET

INSTR. ID: J (Agilent 7500)

ANALYST: JS

ANALYSIS DATE: 05/16/2018

REVIEWED
MD 5/17/18
KATAHDIN ANALYTICAL
METALS SECTION

FILE NAME: JLE16B

METHOD: ICP-MS

- ☐ 200.8
- ☑ 6020
- ☑ DOD

The pHs of all samples that were tested by direct analysis in this analytical run were checked just prior to analysis and confirmed
to be <2. The time of preservation of these samples was checked in the "Measured Turbidity and Preservation of Incoming Samples" logbook to verify that they had been preserved at least 16 hours prior to analysis. These verifications were performed by
_____(initals) on _____(date).

STANDARDS USED:

Standard Name	Standard ID	Prep Date	Expiration Date	Standard Conc.
Cal. Blk/ICB/CCB	MW17761	05/14/2018	05/14/2019	0 ug/L
Standard 1	MW17738	05/11/2018	06/21/2018	Varies by Element
ICV	MW17701	04/24/2018	07/24/2018	Varies by Element
PQL	MW17773	05/16/2018	07/13/2018	Varies by Element
LRS1	MW17735	05/04/2018	08/04/2018	Varies by Element
LRS2	MW17776	05/16/2018	08/16/2018	Varies by Element
ICSA	MW17763	05/14/2018	05/20/2018	Varies by Element
ICSAB	MW17764	05/14/2018	05/20/2018	Varies by Element
CCV	MW17774	05/16/2018	06/21/2018	Varies by Element
Internal Standard	MW17762	05/14/2018	08/14/2018	0.4 mg/L (Li,Sc,Ge/Y,Tb,Bi)

Additional Comments and Notes:

Pb failed low in initial PQL for DoD51. Accepted Pb results for samples w/Pb conc >10x the PQL true value.

MD 5/17/18

Dilutions: Some samples were diluted based on history or due to interfering element concentrations. Dilution preparations are as follows:

25x serial diln.: 1.6mL of 5x diln. of sample(pipet M18) + 6.4mL of MW17761 (pipet M18)

5x diln.: 1.6mL of sample(pipet M18) + 6.4mL of MW17761 (pipet M18)

Post Spike: 0.08mL of MW17698 (pipet M16) into 5x diln. of sample (pipet M18)

(Unless otherwise specified)

INSTRUMENT RUNLOG

Instrument: AGILENT 7500

SAMPLE ID	DF	FILE	DATE	TIME	ANALYST
6020 TUNE	1	JLE16B	5/16/2018	7:00:00 16:29	JS
200.8 TUNE	1	JLE16B	5/16/2018	7:00:00 16:31	JS
Cal Blank	1	JLE16B	5/16/2018	7:00:00 19:00	JS
Cal Std	1	JLE16B	5/16/2018	7:03:00 19:03	JS
ICV	1	JLE16B	5/16/2018	7:07:00 19:07	JS
ICB	1	JLE16B	5/16/2018	7:11:00 19:11	JS
PQL	1	JLE16B	5/16/2018	7:15:00 19:15	JS
RINSE	1	JLE16B	5/16/2018	7:19:00 19:19	JS
ICSA	1	JLE16B	5/16/2018	7:23:00 19:23	JS
ICSAB	1	JLE16B	5/16/2018	7:27:00 19:27	JS
RINSE	1	JLE16B	5/16/2018	7:31:00 19:31	JS
LRS1	1	JLE16B	5/16/2018	7:35:00 19:35	JS
LRS2	1	JLE16B	5/16/2018	7:39:00 19:39	JS
RINSE	1	JLE16B	5/16/2018	7:43:00 19:43	JS
RINSE	1	JLE16B	5/16/2018	7:47:00 19:47	JS
CCV	1	JLE16B	5/16/2018	7:51:00 19:51	JS
CCB	1	JLE16B	5/16/2018	7:55:00 19:55	JS
PBWLE08IMW1	5	JLE16B	5/16/2018	7:59:00 19:59	JS
LCSWLE08IMW1	5	JLE16B	5/16/2018	8:03:00 20:03	JS
SL3902-002	5	JLE16B	5/16/2018	8:07:00 20:07	JS
SL3902-003	5	JLE16B	5/16/2018	8:11:00 20:11	JS
SL3902-004	5	JLE16B	5/16/2018	8:15:00 20:15	JS
SL3902-005	5	JLE16B	5/16/2018	8:19:00 20:19	JS
SL3902-006	5	JLE16B	5/16/2018	8:23:00 20:23	JS
SL3902-007	5	JLE16B	5/16/2018	8:27:00 20:27	JS
SL3902-008	5	JLE16B	5/16/2018	8:31:00 20:31	JS
RINSE	1	JLE16B	5/16/2018	8:35:00 20:35	JS
CCV	1	JLE16B	5/16/2018	8:39:00 20:39	JS
CCB	1	JLE16B	5/16/2018	8:43:00 20:43	JS
SL3902-009	5	JLE16B	5/16/2018	8:47:00 20:47	JS
SL3902-010	5	JLE16B	5/16/2018	8:51:00 20:51	JS
SL3902-011	5	JLE16B	5/16/2018	8:56:00 20:56	JS
SL3902-012	5	JLE16B	5/16/2018	9:00:00 21:00	JS
SL3902-012L	25	JLE16B	5/16/2018	9:04:00 21:04	JS
SL3902-012A	5	JLE16B	5/16/2018	9:08:00 21:08	JS
SL3902-012S	5	JLE16B	5/16/2018	9:12:00 21:12	JS
SL3902-012P	5	JLE16B	5/16/2018	9:16:00 21:16	JS
SL3902-013	5	JLE16B	5/16/2018	9:20:00 21:20	JS
RINSE	1	JLE16B	5/16/2018	9:25:00 21:25	JS
CCV	1	JLE16B	5/16/2018	9:29:00 21:29	JS
CCB	1	JLE16B	5/16/2018	9:33:00 21:33	JS
SL3902-013L	25	JLE16B	5/16/2018	9:37:00 21:37	JS
SL3902-013A	5	JLE16B	5/16/2018	9:41:00 21:41	JS
SL3902-013S	5	JLE16B	5/16/2018	9:46:00 21:46	JS

SAMPLE ID	DF	FILE	DATE	TIME	ANALYST
SL3902-013P	5	JLE16B	5/16/2018	9:50:00 21:50	JS
SL3902-014	5	JLE16B	5/16/2018	9:54:00 21:54	JS
RINSE	1	JLE16B	5/16/2018	9:58:00 21:58	JS
PBWLE10IMW1	5	JLE16B	5/16/2018	10:02:0 22:02	JS
LCSWLE10IMW1	5	JLE16B	5/16/2018	10:07:0 22:07	JS
SL3952-002	5	JLE16B	5/16/2018	10:11:0 22:11	JS
RINSE	1	JLE16B	5/16/2018	10:15:0 22:15	JS
CCV	1	JLE16B	5/16/2018	10:19:0 22:19	JS
CCB	1	JLE16B	5/16/2018	10:23:0 22:23	JS
SL3952-003	5	JLE16B	5/16/2018	10:28:0 22:28	JS
SL3952-004	5	JLE16B	5/16/2018	10:32:0 22:32	JS
SL3952-005	5	JLE16B	5/16/2018	10:36:0 22:36	JS
SL3952-006	5	JLE16B	5/16/2018	10:40:0 22:40	JS
EMPTY	5	JLE16B	5/16/2018	10:45:0 22:45	JS
SL3952-008	5	JLE16B	5/16/2018	10:49:0 22:49	JS
SL3952-009	5	JLE16B	5/16/2018	10:53:0 22:53	JS
SL3952-010	5	JLE16B	5/16/2018	10:58:0 22:58	JS
SL3952-011	5	JLE16B	5/16/2018	11:02:0 23:02	JS
RINSE	5	JLE16B	5/16/2018	11:06:0 23:06	JS
CCV	1	JLE16B	5/16/2018	11:10:0 23:10	JS
CCB	1	JLE16B	5/16/2018	11:14:0 23:14	JS
SL3952-011L	25	JLE16B	5/16/2018	11:19:0 23:19	JS
SL3952-011A	5	JLE16B	5/16/2018	11:23:0 23:23	JS
SL3952-011S	5	JLE16B	5/16/2018	11:27:0 23:27	JS
SL3952-011P	5	JLE16B	5/16/2018	11:31:0 23:31	JS
SL3952-012	5	JLE16B	5/16/2018	11:36:0 23:36	JS
RINSE	5	JLE16B	5/16/2018	11:40:0 23:40	JS
PBWLE10IMW2	5	JLE16B	5/16/2018	11:44:0 23:44	JS
LCSWLE10IMW2	5	JLE16B	5/16/2018	11:48:0 23:48	JS
SL3952-013	5	JLE16B	5/16/2018	11:52:0 23:52	JS
RINSE	1	JLE16B	5/16/2018	11:57:0 23:57	JS
CCV	1	JLE16B	5/17/2018	12:01:0 0:01	JS
CCB	1	JLE16B	5/17/2018	12:05:0 0:05	JS
SL3952-016	5	JLE16B	5/17/2018	12:09:0 0:09	JS
SL3952-017	5	JLE16B	5/17/2018	12:13:0 0:13	JS
SL3952-018	5	JLE16B	5/17/2018	12:18:0 0:18	JS
SL3952-019	5	JLE16B	5/17/2018	12:22:0 0:22	JS
SL3952-020	5	JLE16B	5/17/2018	12:26:0 0:26	JS
SL3952-021	5	JLE16B	5/17/2018	12:31:0 0:31	JS
SL3952-022	5	JLE16B	5/17/2018	12:35:0 0:35	JS
SL3952-023	5	JLE16B	5/17/2018	12:39:0 0:39	JS
SL3993-001	5	JLE16B	5/17/2018	12:43:0 0:43	JS
RINSE	1	JLE16B	5/17/2018	12:48:0 0:48	JS
CCV	1	JLE16B	5/17/2018	12:52:0 0:52	JS
CCB	1	JLE16B	5/17/2018	12:56:0 0:56	JS
SL3952-024	5	JLE16B	5/17/2018	1:00:00 1:00	JS
SL3993-002	5	JLE16B	5/17/2018	1:04:00 1:04	JS

SAMPLE ID	DF	FILE	DATE	TIME	ANALYST
SL3995-015	5	JLE16B	5/17/2018	1:09:00	JS
RINSE	5	JLE16B	5/17/2018	1:13:00	JS
RINSE	5	JLE16B	5/17/2018	1:17:00	JS
PBSLE11IMS1	5	JLE16B	5/17/2018	1:21:00	JS
LCSOLE11IMS1	5	JLE16B	5/17/2018	1:26:00	JS
CCV	1	JLE16B	5/17/2018	1:30:00	JS
CCB	1	JLE16B	5/17/2018	1:34:00	JS
SL3995-001	5	JLE16B	5/17/2018	1:38:00	JS
SL3995-002	5	JLE16B	5/17/2018	1:43:00	JS
SL3995-003	5	JLE16B	5/17/2018	1:47:00	JS
SL3995-004	5	JLE16B	5/17/2018	1:51:00	JS
SL3995-005	5	JLE16B	5/17/2018	1:55:00	JS
SL3995-005L	25	JLE16B	5/17/2018	2:00:00	JS
SL3995-005A	5	JLE16B	5/17/2018	2:04:00	JS
SL3995-005S	5	JLE16B	5/17/2018	2:08:00	JS
SL3995-005P	5	JLE16B	5/17/2018	2:13:00	JS
RINSE	1	JLE16B	5/17/2018	2:17:00	JS
CCV	1	JLE16B	5/17/2018	2:21:00	JS
CCB	1	JLE16B	5/17/2018	2:25:00	JS
SL3995-006	5	JLE16B	5/17/2018	2:30:00	JS
SL3995-007	5	JLE16B	5/17/2018	2:34:00	JS
SL3995-008	5	JLE16B	5/17/2018	2:38:00	JS
SL3995-009	5	JLE16B	5/17/2018	2:43:00	JS
SL3995-010	5	JLE16B	5/17/2018	2:47:00	JS
SL3995-011	5	JLE16B	5/17/2018	2:52:00	JS
SL3995-012	5	JLE16B	5/17/2018	2:56:00	JS
SL3995-013	5	JLE16B	5/17/2018	3:00:00	JS
SL3995-014	5	JLE16B	5/17/2018	3:05:00	JS
RINSE	1	JLE16B	5/17/2018	3:09:00	JS
CCV	1	JLE16B	5/17/2018	3:14:00	JS
CCB	1	JLE16B	5/17/2018	3:18:00	JS
PBWLE08IMW2	5	JLE16B	5/17/2018	3:22:00	JS
LCSWLE08IMW2	5	JLE16B	5/17/2018	3:26:00	JS
SL3804-001	5	JLE16B	5/17/2018	3:31:00	JS
SL3804-002	5	JLE16B	5/17/2018	3:35:00	JS
SL3804-003	5	JLE16B	5/17/2018	3:39:00	JS
SL3804-004	5	JLE16B	5/17/2018	3:44:00	JS
SL3804-005	5	JLE16B	5/17/2018	3:48:00	JS
SL3804-006	5	JLE16B	5/17/2018	3:52:00	JS
SL3804-007	5	JLE16B	5/17/2018	3:56:00	JS
SL3804-008	5	JLE16B	5/17/2018	4:01:00	JS
CCV	1	JLE16B	5/17/2018	4:05:00	JS
CCB	1	JLE16B	5/17/2018	4:09:00	JS
SL3804-009	5	JLE16B	5/17/2018	4:13:00	JS
CCV	1	JLE16B	5/17/2018	4:18:00	JS
CCB	1	JLE16B	5/17/2018	4:22:00	JS
PQL	1	JLE16B	5/17/2018	4:26:00	JS

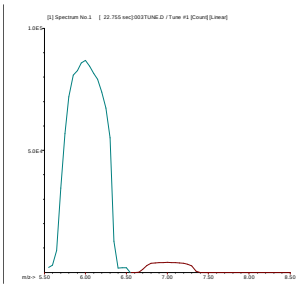
SAMPLE ID	DF	FILE	DATE	TIME	ANALYST
CCV	1	JLE16B	5/17/2018 4:31:00	4:31	JS
CCB	1	JLE16B	5/17/2018 4:35:00	4:35	JS

6020 QC Tune Report

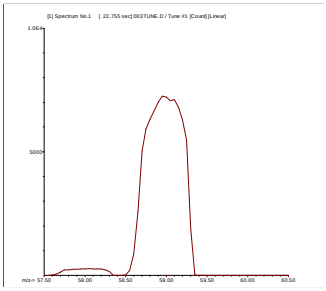
Data File: C:\ICPCHEM\1\DATA\JLE16A.B\003TUNE.D
Date Acquired: May 16 2018 04:29 pm
Acq. Method: TN6020E.M
Operator: JS
Sample Name: 6020 TUNE
Misc Info:
Vial Number: 1107
Current Method: C:\ICPCHEM\1\METHODS\TN6020E.M

RSD (%)

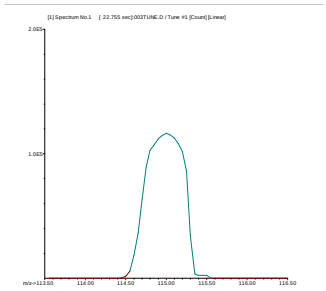
Element	Actual	Required	Flag
7 Li	1.17	5.00	
59 Co	1.51	5.00	
115 In	1.31	5.00	
205 Tl	1.14	5.00	



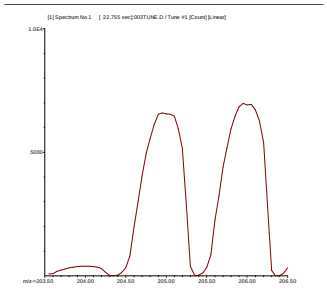
7 Li
Mass Calib.
Actual: 7.00
Required: 6.90 - 7.10
Flag:
Peak Width
Actual: 0.65
Required: 0.90
Flag:



59 Co
Mass Calib.
Actual: 59.00
Required: 58.90 - 59.10
Flag:
Peak Width
Actual: 0.70
Required: 0.90
Flag:



115 In
Mass Calib.
Actual: 115.00
Required: 114.90 - 115.10
Flag:
Peak Width
Actual: 0.70
Required: 0.90
Flag:



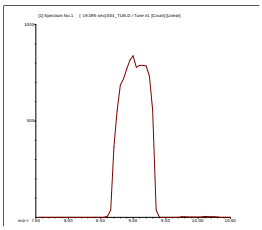
205 Tl
Mass Calib.
Actual: 205.00
Required: 204.90 - 205.10
Flag:
Peak Width
Actual: 0.65
Required: 0.90
Flag:

200.8 QC Tune Report

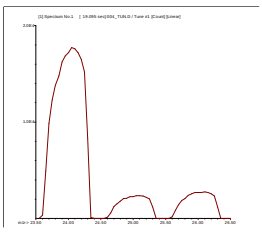
Data File: C:\ICPCHEM\1\DATA\JLE16A.B\004_TUN.D
Date Acquired: May 16 2018 04:31 pm
Acq. Method: TN200_8E.M
Operator: JS
Sample Name: 200.8 TUNE
Misc Info:
Vial Number: 1107
Current Method: C:\ICPCHEM\1\METHODS\TN200_8E.M

RSD (%)

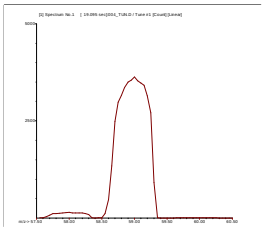
Element	Actual	Required	Flag
9 Be	1.82	5.00	
24 Mg	1.95	5.00	
59 Co	1.61	5.00	
115 In	0.53	5.00	
208 Pb	1.01	5.00	



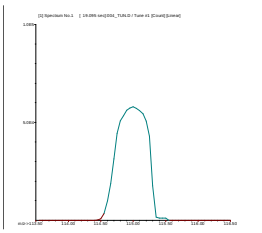
9 Be
Mass Calib.
Actual: 9.05
Required: 8.90 - 9.10
Flag:
Peak Width
Actual: 0.60
Required: 1.00
Flag:



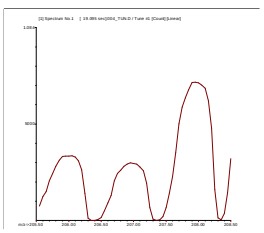
24 Mg
Mass Calib.
Actual: 24.05
Required: 23.90 - 24.10
Flag:
Peak Width
Actual: 0.65
Required: 1.00
Flag:



59 Co
Mass Calib.
Actual: 59.00
Required: 58.90 - 59.10
Flag:
Peak Width
Actual: 0.70
Required: 1.00
Flag:



115 In
Mass Calib.
Actual: 115.00
Required: 114.90 - 115.10
Flag:
Peak Width
Actual: 0.70
Required: 1.00
Flag:



208 Pb
Mass Calib.
Actual: 208.00
Required: 207.90 - 208.10
Flag:
Peak Width
Actual: 0.70
Required: 1.00
Flag:

Tune Result: Pass

Katahdin Analytical Services 4000131

Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.I
Date Acquired: May 16 2018 07:00 pm
Operator: JS
Sample Name: Cal Blank
Misc Info:
Vial Number: 1203
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal Update: May 16 2018 07:02 pm
Sample Type: CalBlk
Total Dil Factor: 1.00

QC&ISTD Elements

Element		CPS Mean		SD	RSD(%)
6	Li	2422126.00	A	18060.00	0.75
9	Be	7.78	P	4.44	57.14
11	B	204.45	P	21.43	10.48
23	Na	29325.03	P	408.90	1.39
25	Mg	186.68	P	11.55	6.19
27	Al	2245.35	P	309.80	13.80
28	Si	2994452.00	A	62850.00	2.10
29	Si	169615.91	P	963.00	0.57
39	K	981960.31	A	4546.00	0.46
43	Ca	155.57	P	48.44	31.14
44	Ca	4704.32	P	325.40	6.92
45	Sc	2037841.00	A	10930.00	0.54
51	V	2203.36	P	592.10	26.87
52	Cr	6581.65	P	92.49	1.41
53	Cr	9083.01	P	184.50	2.03
55	Mn	1395.67	P	50.05	3.59
56	Fe	1205377.00	A	12690.00	1.05
57	Fe	11330.53	P	444.00	3.92
59	Co	157.79	P	53.48	33.89
60	Ni	63.94	P	13.50	21.12
63	Cu	774.49	P	34.70	4.48
65	Cu	360.01	P	46.67	12.96
66	Zn	674.48	P	28.35	4.20
68	Zn	1294.54	P	38.35	2.96
72	Ge	440652.41	P	4746.00	1.08
75	As	132.95	P	132.40	99.59
82	Se	4.23	P	13.30	314.50
88	Sr	92.60	P	27.97	30.20
89	Y	3014497.00	A	31570.00	1.05
98	Mo	28.08	P	1.25	4.44
107	Ag	31.11	P	16.44	52.84
109	Ag	16.67	P	5.77	34.64
111	Cd	581.53	P	10.51	1.81
114	Cd	-10.18	P	0.73	7.17
115	In	3050875.00	A	9757.00	0.32
118	Sn	370.02	P	17.32	4.68
120	Sn	568.93	P	34.71	6.10
121	Sb	24.45	P	12.62	51.63
123	Sb	30.00	P	11.55	38.50
135	Ba	16.67	P	12.02	72.12
137	Ba	23.33	P	3.33	14.28
159	Tb	3649611.00	A	24120.00	0.66
182	W	32.22	P	22.20	68.89
203	Tl	201.12	P	37.91	18.85
205	Tl	475.58	P	42.99	9.04
208	Pb	3053.57	P	240.90	7.89
209	Bi	1931867.00	A	20990.00	1.09
232	Th	13.33	P	6.67	50.00
238	U	13.33	P	6.67	50.00

Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\014CALI.D\014CALI.D#
Date Acquired: May 16 2018 07:03 pm
Operator: JS
Sample Name: Cal Std
Misc Info:
Vial Number: 1101
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal Update: May 16 2018 07:02 pm
Sample Type: CalStd
Total Dil Factor: 1.00

QC&ISTD Elements

Element	CPS Mean		SD	RSD(%)
6 Li	2442806.00	A	83090.00	3.40
9 Be	95721.97	P	2048.00	2.14
11 B	43218.66	P	2109.00	4.88
23 Na	61554808.00	A	1861000.00	3.02
25 Mg	5270384.00	A	105500.00	2.00
27 Al	5116289.00	A	68070.00	1.33
28 Si	5833977.00	A	7101.00	0.12
29 Si	320710.91	P	2112.00	0.66
39 K	68824368.00	A	776100.00	1.13
43 Ca	121378.00	P	1408.00	1.16
44 Ca	1986464.00	A	27180.00	1.37
45 Sc	2118493.00	A	32110.00	1.52
51 V	420681.59	P	1097.00	0.26
52 Cr	366500.81	P	4102.00	1.12
53 Cr	48929.92	P	999.20	2.04
55 Mn	460388.31	P	7625.00	1.66
56 Fe	75823520.00	A	913100.00	1.20
57 Fe	1889318.00	A	5960.00	0.32
59 Co	397596.00	P	2618.00	0.66
60 Ni	88743.23	P	730.30	0.82
63 Cu	211313.50	P	3824.00	1.81
65 Cu	99970.44	P	438.50	0.44
66 Zn	52086.78	P	817.90	1.57
68 Zn	38066.91	P	865.70	2.27
72 Ge	444128.59	P	5272.00	1.19
75 As	52663.02	P	749.70	1.42
82 Se	3460.91	P	9.47	0.27
88 Sr	540367.81	P	7571.00	1.40
89 Y	3160923.00	A	15800.00	0.50
98 Mo	172002.70	P	1673.00	0.97
107 Ag	269645.81	P	3369.00	1.25
109 Ag	258401.00	P	3696.00	1.43
111 Cd	54568.22	P	472.30	0.87
114 Cd	119690.10	P	1154.00	0.96
115 In	3108601.00	A	15580.00	0.50
118 Sn	167004.30	P	1346.00	0.81
120 Sn	230576.20	P	1511.00	0.66
121 Sb	216047.30	P	2122.00	0.98
123 Sb	163332.91	P	2936.00	1.80
135 Ba	49601.17	P	202.30	0.41
137 Ba	85978.44	P	646.80	0.75
159 Tb	3854726.00	A	54380.00	1.41
182 W	174372.70	P	2417.00	1.39
203 Tl	150343.50	P	574.20	0.38
205 Tl	360068.00	P	4522.00	1.26
208 Pb	495972.81	P	4947.00	1.00
209 Bi	1959044.00	A	18950.00	0.97
232 Th	560545.81	P	10700.00	1.91
238 U	556255.50	P	6997.00	1.26

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2442806.50	3.40	2422125.80	100.9	79.5 - 120.4	
45 Sc	2118493.30	1.52	2037841.00	104.0	79.5 - 120.4	
72 Ge	444128.56	1.19	440652.41	100.8	79.5 - 120.4	
159 Tb	3854725.80	1.41	3649611.30	105.6	79.5 - 120.4	
209 Bi	1959044.40	0.97	1931866.90	101.4	79.5 - 120.4	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

--- :Element Failures --- :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000133

ICV QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\015_ICV.D\015_ICV.D#
Date Acquired: May 16 2018 07:07 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: ICV
Misc Info:
Vial Number: 1202
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Dilution Factor: 1.00
QC Range (%): 89.499998 - 110.5

QC Elements

Element	Conc.		RSD(%)	Expected	Rec (%)	Flag
9 Be	19.54	ppb	1.14	20	97.7	
11 B	21.77	ppb	0.88	20	108.85	
23 Na	3,953.	ppb	1.61	4,000	98.825	
25 Mg	3,975.	ppb	2.05	4,000	99.375	
27 Al	402.7	ppb	2.26	400	100.675	
28 Si	389.2	ppb	9.54	400	97.3	
29 Si	383.	ppb	7.25	400	95.75	
39 K	3,916.	ppb	0.62	4,000	97.9	
43 Ca	3,893.	ppb	0.56	4,000	97.325	
44 Ca	4,007.	ppb	3.01	4,000	100.175	
51 V	19.73	ppb	1.24	20	98.65	
52 Cr	19.38	ppb	0.24	20	96.9	
53 Cr	14.66	ppb	2.88	20	73.3	
55 Mn	19.7	ppb	1.14	20	98.5	
56 Fe	3,957.	ppb	1.01	4,000	98.925	
57 Fe	3,994.	ppb	0.87	4,000	99.85	
59 Co	19.79	ppb	0.30	20	98.95	
60 Ni	19.62	ppb	1.30	20	98.1	
63 Cu	20.02	ppb	0.76	20	100.1	
65 Cu	19.76	ppb	0.93	20	98.8	
66 Zn	20.32	ppb	1.64	20	101.6	
68 Zn	20.27	ppb	1.07	20	101.35	
75 As	19.7	ppb	2.05	20	98.5	
82 Se	19.94	ppb	0.14	20	99.7	
88 Sr	19.25	ppb	1.01	20	96.25	
89 Y	--------	---	--------	---	#VALUE!	
98 Mo	38.65	ppb	0.39	40	96.625	
107 Ag	19.97	ppb	0.30	20	99.85	
109 Ag	19.84	ppb	0.51	20	99.2	
111 Cd	19.73	ppb	0.33	20	98.65	
114 Cd	19.95	ppb	0.17	20	99.75	
115 In	--------	---	--------	---	#VALUE!	
118 Sn	19.87	ppb	2.25	20	99.35	
120 Sn	19.83	ppb	2.20	20	99.15	
121 Sb	20.02	ppb	1.83	20	100.1	
123 Sb	20.09	ppb	1.28	20	100.45	
135 Ba	20.05	ppb	4.24	20	100.25	
137 Ba	19.96	ppb	1.87	20	99.8	
182 W	19.59	ppb	1.58	20	97.95	
203 Tl	20.05	ppb	0.94	20	100.25	
205 Tl	19.94	ppb	1.56	20	99.7	
208 Pb	19.58	ppb	2.03	20	97.9	
232 Th	19.57	ppb	2.22	20	97.85	
238 U	19.41	ppb	1.06	20	97.05	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2456905.30	1.30	2422125.80	101.4	80 - 120.4	
45 Sc	2139707.50	1.36	2037841.00	105.0	80 - 120.4	
72 Ge	448037.84	1.01	440652.41	101.7	80 - 120.4	
159 Tb	3760312.50	0.73	3649611.30	103.0	80 - 120.4	
209 Bi	1957710.80	0.43	1931866.90	101.3	80 - 120.4	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000134

ICB QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\016_ICB.D\016_ICB.D#
Date Acquired: May 16 2018 07:11 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: ICB
Misc Info:
Vial Number: 1203
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: 6-ICB
Dilution Factor: 1.00

QC Elements

Element	Conc.		RSD(%)	High Limit	Flag
9 Be	0.0026	ppb	86.20	1.00	
11 B	1.457	ppb	25.95	1.00	
23 Na	0.0143	ppb	1917.40	1.00	
25 Mg	0.0108	ppb	1125.80	1.00	
27 Al	-0.0083	ppb	349.16	1.00	
28 Si	15.8	ppb	121.01	1.00	
29 Si	10.79	ppb	138.55	1.00	
39 K	-0.9967	ppb	308.92	1.00	
43 Ca	1.162	ppb	93.80	1.00	
44 Ca	0.5649	ppb	130.04	1.00	
51 V	-0.0334	ppb	142.24	1.00	
52 Cr	-0.0977	ppb	13.44	1.00	
53 Cr	-4.846	ppb	1.22	1.00	
55 Mn	0.0018	ppb	218.87	1.00	
56 Fe	-2.771	ppb	42.58	1.00	
57 Fe	1.447	ppb	146.72	1.00	
59 Co	-0.0035	ppb	50.20	1.00	
60 Ni	-0.0029	ppb	108.12	1.00	
63 Cu	-0.001	ppb	697.94	1.00	
65 Cu	-0.0032	ppb	260.01	1.00	
66 Zn	-0.0448	ppb	87.80	1.00	
68 Zn	0.0182	ppb	562.47	1.00	
75 As	-0.0868	ppb	108.80	1.00	
82 Se	-0.0794	ppb	399.70	1.00	
88 Sr	-0.003	ppb	22.35	1.00	
89 Y	--------	---	--------	---	
98 Mo	0.0627	ppb	26.89	1.00	
107 Ag	0.004	ppb	15.27	1.00	
109 Ag	0.0011	ppb	221.04	1.00	
111 Cd	0.0174	ppb	56.12	1.00	
114 Cd	0.0031	ppb	35.05	1.00	
115 In	--------	---	--------	---	
118 Sn	0.0331	ppb	43.81	1.00	
120 Sn	0.0107	ppb	16.94	1.00	
121 Sb	0.0044	ppb	52.88	1.00	
123 Sb	0.0098	ppb	17.16	1.00	
135 Ba	0.0001	ppb	9488.10	1.00	
137 Ba	0.0042	ppb	4.87	1.00	
182 W	0.0571	ppb	35.14	1.00	
203 Tl	0.0051	ppb	201.57	1.00	
205 Tl	0.0008	ppb	538.08	1.00	
208 Pb	-0.0445	ppb	15.23	1.00	
232 Th	0.0471	ppb	15.32	1.00	
238 U	0.0027	ppb	6.46	1.00	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2345632.80	3.42	2422125.80	96.8	79.5 - 120	
45 Sc	2053665.80	2.03	2037841.00	100.8	79.5 - 120	
72 Ge	437424.44	1.43	440652.41	99.3	79.5 - 120	
159 Tb	3635124.00	1.09	3649611.30	99.6	79.5 - 120	
209 Bi	1898420.80	0.14	1931866.90	98.3	79.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000135

PQL QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\017_PQL.D\017_PQL.D#
Date Acquired: May 16 2018 07:15 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: PQL
Misc Info:
Vial Number: 1302
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Dilution Factor: 1.00
QC Range (%): 69.599998 - 130.4

QC Elements

Element	Conc.		RSD(%)	Expected	Rec (%)	Flag
9 Be	0.2047	ppb	7.61	0.20	102.35	
11 B	4.652	ppb	3.45	4.00	116.3	
23 Na	207.9	ppb	0.84	200.00	103.95	
25 Mg	19.55	ppb	3.38	20.00	97.75	
27 Al	19.46	ppb	0.66	20.00	97.3	
28 Si	126.1	ppb	8.52	100.00	126.1	
29 Si	121.2	ppb	3.95	100.00	121.2	Fail-DoD
39 K	200.3	ppb	2.39	200.00	100.15	
43 Ca	19.77	ppb	12.05	20.00	98.85	
44 Ca	19.64	ppb	7.15	20.00	98.2	
51 V	0.9831	ppb	3.18	1.00	98.31	
52 Cr	0.9258	ppb	3.69	1.00	92.58	
53 Cr	-2.54	ppb	4.84	---	#VALUE!	
55 Mn	0.4106	ppb	7.40	0.40	102.65	
56 Fe	17.65	ppb	6.57	20.00	88.25	
57 Fe	21.01	ppb	8.26	20.00	105.05	
59 Co	0.1876	ppb	4.90	0.20	93.8	
60 Ni	0.3965	ppb	4.01	0.40	99.125	
63 Cu	0.626	ppb	4.89	0.60	104.333	
65 Cu	0.6009	ppb	13.48	0.60	100.15	
66 Zn	2.076	ppb	2.92	2.00	103.8	
68 Zn	2.164	ppb	5.03	2.00	108.2	
75 As	0.8425	ppb	9.96	1.00	84.25	
82 Se	1.025	ppb	12.71	1.00	102.5	
88 Sr	0.957	ppb	4.50	1.00	95.7	
89 Y	--------	---	--------	---	#VALUE!	
98 Mo	0.9563	ppb	3.99	1.00	95.63	
107 Ag	0.1938	ppb	6.60	0.20	96.9	
109 Ag	0.2067	ppb	9.73	0.20	103.35	
111 Cd	0.2085	ppb	7.73	0.20	104.25	
114 Cd	0.2133	ppb	7.90	0.20	106.65	
115 In	--------	---	--------	---	#VALUE!	
118 Sn	0.9891	ppb	4.18	1.00	98.91	
120 Sn	1.037	ppb	2.86	1.00	103.7	
121 Sb	0.1972	ppb	3.09	0.20	98.6	
123 Sb	0.2013	ppb	5.50	0.20	100.65	
135 Ba	0.42	ppb	1.64	0.40	105	
137 Ba	0.4278	ppb	3.39	0.40	106.95	
182 W	1.001	ppb	5.97	1.00	100.1	
203 Tl	0.1841	ppb	8.89	0.20	92.05	
205 Tl	0.1982	ppb	3.12	0.20	99.1	
208 Pb	0.146	ppb	7.78	0.20	73	Fail-DoD
232 Th	0.2101	ppb	1.96	0.20	105.05	
238 U	0.1897	ppb	1.83	0.20	94.85	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2361491.30	2.85	2422125.80	97.5	80 - 120.4	
45 Sc	2034627.00	1.34	2037841.00	99.8	80 - 120.4	
72 Ge	437199.81	0.62	440652.41	99.2	80 - 120.4	
159 Tb	3612054.00	1.49	3649611.30	99.0	80 - 120.4	
209 Bi	1921956.90	1.08	1931866.90	99.5	80 - 120.4	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

2 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Katahdin Analytical Services 4000136

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\018SMPL.D\018SMPL.D#
Date Acquired: May 16 2018 07:19 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: RINSE
Misc Info:
Vial Number: 1301
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.002	0.002	ppb	95.97	100.	
11 B	0.4859	0.4859	ppb	17.81	1000.	
23 Na	0.5019	0.5019	ppb	3.67	200000.	
25 Mg	0.0115	0.0115	ppb	860.40	200000.	
27 Al	0.3963	0.3963	ppb	4.41	200000.	
28 Si	33.39	33.39	ppb	61.70	#VALUE!	
29 Si	1.003	1.003	ppb	2444.70	10000.	
39 K	-2.301	-2.301	ppb	159.37	200000.	
43 Ca	-0.249	-0.249	ppb	706.83	#VALUE!	
44 Ca	0.4248	0.4248	ppb	201.84	200000.	
51 V	-0.1063	-0.1063	ppb	1.48	1000.	
52 Cr	-0.0436	-0.0436	ppb	30.33	2000.	
53 Cr	-4.397	-4.397	ppb	3.32	#VALUE!	
55 Mn	0.01	0.01	ppb	75.63	2000.	
56 Fe	0.108	0.108	ppb	1197.20	#VALUE!	
57 Fe	4.875	4.875	ppb	53.70	100000.	
59 Co	0.0009	0.0009	ppb	500.44	1000.	
60 Ni	0.0012	0.0012	ppb	261.74	1000.	
63 Cu	0.1962	0.1962	ppb	9.30	#VALUE!	
65 Cu	0.1904	0.1904	ppb	7.07	2000.	
66 Zn	0.	0.	ppb	206210.00	2000.	
68 Zn	0.0506	0.0506	ppb	182.38	#VALUE!	
75 As	-0.0878	-0.0878	ppb	110.76	1000.	
82 Se	-0.0889	-0.0889	ppb	230.14	1000.	
88 Sr	-0.0038	-0.0038	ppb	66.65	2000.	
89 Y	----	--------	---	---	#VALUE!	
98 Mo	0.0092	0.0092	ppb	61.70	1000.	
107 Ag	-0.0004	-0.0004	ppb	201.25	100.	
109 Ag	0.0015	0.0015	ppb	70.78	#VALUE!	
111 Cd	0.0201	0.0201	ppb	44.94	#VALUE!	
114 Cd	0.0011	0.0011	ppb	404.74	1000.	
115 In	----	--------	---	---	#VALUE!	
118 Sn	0.0422	0.0422	ppb	199.50	1000.	
120 Sn	-0.0103	-0.0103	ppb	83.47	#VALUE!	
121 Sb	0.0017	0.0017	ppb	105.69	#VALUE!	
123 Sb	-0.0003	-0.0003	ppb	633.53	1000.	
135 Ba	0.0156	0.0156	ppb	32.04	2000.	
137 Ba	0.0126	0.0126	ppb	77.75	#VALUE!	
182 W	0.013	0.013	ppb	24.44	1000.	
203 Tl	-0.0013	-0.0013	ppb	410.91	1000.	
205 Tl	-0.0029	-0.0029	ppb	210.43	#VALUE!	
208 Pb	0.1042	0.1042	ppb	16.37	2000.	
232 Th	0.008	0.008	ppb	35.86	1000.	
238 U	-0.0005	-0.0005	ppb	90.58	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2303132.50	2.90	2422125.80	95.1	69.5 - 120	
45 Sc	2079501.00	2.73	2037841.00	102.0	69.5 - 120	
72 Ge	440617.25	1.65	440652.41	100.0	69.5 - 120	
159 Tb	3621948.80	1.59	3649611.30	99.2	69.5 - 120	
209 Bi	1918883.30	1.85	1931866.90	99.3	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000137

ICS-A QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\019ICSA.D\019ICSA.D#
Date Acquired: May 16 2018 07:23 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: ICSA
Misc Info:
Vial Number: 1104
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: 6-ICSA
Dilution Factor: 1.00

QC Elements

Element	Conc.		RSD(%)	High Limit	Flag
9 Be	0.0033	ppb	38.81		
11 B	0.693	ppb	9.76		
23 Na	92,480.	ppb	1.55		
25 Mg	91,230.	ppb	0.87		
27 Al	92,650.	ppb	0.64		
28 Si	26.7	ppb	110.04		
29 Si	-21.57	ppb	57.16		
39 K	95,730.	ppb	0.76		
43 Ca	99,920.	ppb	0.96		
44 Ca	93,910.	ppb	0.38		
51 V	0.125	ppb	52.70		
52 Cr	0.7572	ppb	3.25		
53 Cr	-1.956	ppb	17.82		
55 Mn	0.3938	ppb	1.62		
56 Fe	93,570.	ppb	0.88		
57 Fe	89,580.	ppb	0.38		
59 Co	0.0686	ppb	8.65		
60 Ni	-0.3202	ppb	8.40		
63 Cu	3.297	ppb	3.52		
65 Cu	0.8824	ppb	3.89		
66 Zn	2.075	ppb	9.48		
68 Zn	0.3477	ppb	9.64		
75 As	-0.0956	ppb	57.21		
82 Se	-0.0424	ppb	178.50		
88 Sr	0.9114	ppb	1.07		
89 Y	--------	---	--------		
98 Mo	1,903.	ppb	1.19		
107 Ag	0.0205	ppb	13.58		
109 Ag	0.0247	ppb	20.03		
111 Cd	0.0221	ppb	163.95		
114 Cd	0.0207	ppb	90.08		
115 In	--------	---	--------		
118 Sn	0.0547	ppb	27.76		
120 Sn	0.0668	ppb	17.61		
121 Sb	0.0448	ppb	13.95		
123 Sb	0.046	ppb	13.82		
135 Ba	0.0969	ppb	6.90		
137 Ba	0.071	ppb	6.36		
182 W	0.2461	ppb	14.29		
203 Tl	-0.0094	ppb	23.30		
205 Tl	-0.0096	ppb	48.43		
208 Pb	-0.0196	ppb	34.20		
232 Th	0.062	ppb	24.50		
238 U	0.0009	ppb	20.19		

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2180968.30	2.07	2422125.80	90.0	69.5 - 120.4	
45 Sc	2102365.00	1.49	2037841.00	103.2	69.5 - 120.4	
72 Ge	454475.53	1.67	440652.41	103.1	69.5 - 120.4	
159 Tb	3767040.30	0.65	3649611.30	103.2	69.5 - 120.4	
209 Bi	1810624.50	0.60	1931866.90	93.7	69.5 - 120.4	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000138

ICS-AB QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\020ICSB.D\020ICSB.D#
Date Acquired: May 16 2018 07:27 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: ICSAB
Misc Info:
Vial Number: 1105
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: 6-ICSAB
Dilution Factor: 1.00

QC Elements

Element	Conc.		RSD(%)	Expected	QC Range(%)	Flag
9 Be	20.3	ppb	2.30	20.00	79.5 - 120	
11 B	22.57	ppb	1.87	20.00	79.5 - 120	
23 Na	93,190.	ppb	0.81	#########	79.5 - 120	
25 Mg	92,770.	ppb	0.30	#########	79.5 - 120	
27 Al	93,460.	ppb	0.31	#########	79.5 - 120	
28 Si	535.8	ppb	5.14	---	##### - #####	
29 Si	493.6	ppb	1.17	---	##### - #####	
39 K	95,520.	ppb	1.53	#########	79.5 - 120	
43 Ca	99,100.	ppb	1.08	#########	79.5 - 120	
44 Ca	93,740.	ppb	0.68	#########	79.5 - 120	
51 V	19.75	ppb	0.92	20.00	79.5 - 120	
52 Cr	19.86	ppb	1.01	20.00	79.5 - 120	
53 Cr	19.29	ppb	1.68	---	##### - #####	
55 Mn	19.54	ppb	0.72	20.00	79.5 - 120	
56 Fe	94,890.	ppb	0.90	#########	79.5 - 120	
57 Fe	90,900.	ppb	0.96	#########	79.5 - 120	
59 Co	18.82	ppb	0.93	20.00	79.5 - 120	
60 Ni	18.27	ppb	0.66	20.00	79.5 - 120	
63 Cu	21.79	ppb	0.85	20.00	79.5 - 120	
65 Cu	19.1	ppb	0.54	20.00	79.5 - 120	
66 Zn	20.27	ppb	1.02	20.00	79.5 - 120	
68 Zn	19.14	ppb	1.44	20.00	79.5 - 120	
75 As	19.8	ppb	0.71	20.00	79.5 - 120	
82 Se	19.27	ppb	1.64	20.00	79.5 - 120	
88 Sr	20.14	ppb	0.74	20.00	79.5 - 120	
89 Y	--------	---	--------	---	##### - #####	
98 Mo	1,920.	ppb	1.01	2000.00	79.5 - 120	
107 Ag	18.16	ppb	1.00	20.00	79.5 - 120	
109 Ag	18.27	ppb	0.43	20.00	79.5 - 120	
111 Cd	18.35	ppb	0.22	20.00	79.5 - 120	
114 Cd	18.4	ppb	0.47	20.00	79.5 - 120	
115 In	--------	---	--------	---	##### - #####	
118 Sn	20.34	ppb	0.46	20.00	79.5 - 120	
120 Sn	20.13	ppb	1.45	20.00	79.5 - 120	
121 Sb	20.27	ppb	0.57	20.00	79.5 - 120	
123 Sb	20.42	ppb	0.95	20.00	79.5 - 120	
135 Ba	20.48	ppb	1.20	20.00	79.5 - 120	
137 Ba	20.29	ppb	1.81	20.00	79.5 - 120	
182 W	20.39	ppb	0.98	20.00	79.5 - 120	
203 Tl	20.64	ppb	1.53	20.00	79.5 - 120	
205 Tl	20.32	ppb	0.94	20.00	79.5 - 120	
208 Pb	20.43	ppb	1.57	20.00	79.5 - 120	
232 Th	21.57	ppb	1.93	20.00	79.5 - 120	
238 U	21.18	ppb	1.96	20.00	79.5 - 120	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2226444.30	1.28	2422125.80	91.9	69.5 - 120	
45 Sc	2140192.50	1.20	2037841.00	105.0	69.5 - 120	
72 Ge	457484.22	0.39	440652.41	103.8	69.5 - 120	
159 Tb	3757564.50	0.50	3649611.30	103.0	69.5 - 120	
209 Bi	1797400.40	1.65	1931866.90	93.0	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000139

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\021SMPL.D\021SMPL.D#
Date Acquired: May 16 2018 07:31 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: RINSE
Misc Info:
Vial Number: 1303
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0033	0.0033	ppb	116.90	100.	
11 B	0.522	0.522	ppb	10.41	1000.	
23 Na	5.135	5.135	ppb	20.08	200000.	
25 Mg	0.4109	0.4109	ppb	14.40	200000.	
27 Al	0.8256	0.8256	ppb	20.54	200000.	
28 Si	90.49	90.49	ppb	4.14	#VALUE!	
29 Si	23.13	23.13	ppb	33.00	10000.	
39 K	1.153	1.153	ppb	80.29	200000.	
43 Ca	0.2392	0.2392	ppb	1889.20	#VALUE!	
44 Ca	2.947	2.947	ppb	60.43	200000.	
51 V	-0.1512	-0.1512	ppb	26.94	1000.	
52 Cr	-0.0032	-0.0032	ppb	422.69	2000.	
53 Cr	-1.672	-1.672	ppb	12.55	#VALUE!	
55 Mn	-0.0029	-0.0029	ppb	407.07	2000.	
56 Fe	5.923	5.923	ppb	42.58	#VALUE!	
57 Fe	5.726	5.726	ppb	58.00	100000.	
59 Co	-0.0044	-0.0044	ppb	35.80	1000.	
60 Ni	0.0104	0.0104	ppb	85.77	1000.	
63 Cu	0.1939	0.1939	ppb	19.48	#VALUE!	
65 Cu	0.1847	0.1847	ppb	6.55	2000.	
66 Zn	0.0832	0.0832	ppb	29.20	2000.	
68 Zn	0.052	0.052	ppb	214.00	#VALUE!	
75 As	-0.105	-0.105	ppb	76.10	1000.	
82 Se	-0.0275	-0.0275	ppb	657.33	1000.	
88 Sr	-0.0019	-0.0019	ppb	65.43	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	0.8058	0.8058	ppb	43.20	1000.	
107 Ag	0.0035	0.0035	ppb	108.86	100.	
109 Ag	0.008	0.008	ppb	48.90	#VALUE!	
111 Cd	-0.0382	-0.0382	ppb	34.34	#VALUE!	
114 Cd	0.0034	0.0034	ppb	76.22	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	0.0221	0.0221	ppb	97.33	1000.	
120 Sn	0.0104	0.0104	ppb	110.76	#VALUE!	
121 Sb	0.0051	0.0051	ppb	58.28	#VALUE!	
123 Sb	0.0008	0.0008	ppb	522.01	1000.	
135 Ba	0.0306	0.0306	ppb	73.49	2000.	
137 Ba	0.0235	0.0235	ppb	27.45	#VALUE!	
182 W	0.0096	0.0096	ppb	44.64	1000.	
203 Tl	0.004	0.004	ppb	260.12	1000.	
205 Tl	0.0022	0.0022	ppb	149.26	#VALUE!	
208 Pb	0.1312	0.1312	ppb	25.73	2000.	
232 Th	0.011	0.011	ppb	27.40	1000.	
238 U	0.0011	0.0011	ppb	99.64	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2246285.30	1.17	2422125.80	92.7	69.5 - 120	
45 Sc	2005450.40	0.72	2037841.00	98.4	69.5 - 120	
72 Ge	431240.75	0.57	440652.41	97.9	69.5 - 120	
159 Tb	3485721.80	0.23	3649611.30	95.5	69.5 - 120	
209 Bi	1837360.10	0.48	1931866.90	95.1	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000140

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\022SMPL.D\022SMPL.D#
Date Acquired: May 16 2018 07:35 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: LRS1
Misc Info:
Vial Number: 3511
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	100.2	100.2	ppb	3.04	100.	>LDR
11 B	0.3079	0.3079	ppb	19.90	1000.	
23 Na	4.708	4.708	ppb	10.04	200000.	
25 Mg	1.063	1.063	ppb	18.35	200000.	
27 Al	1.695	1.695	ppb	12.82	200000.	
28 Si	-0.0566	-0.0566	ppb	33369.00	#VALUE!	
29 Si	-10.12	-10.12	ppb	225.99	10000.	
39 K	-0.3754	-0.3754	ppb	643.05	200000.	
43 Ca	1,318.	1,318.	ppb	2.62	#VALUE!	
44 Ca	-14.49	-14.49	ppb	32.93	200000.	
51 V	1,004.	1,004.	ppb	1.94	1000.	>LDR
52 Cr	1,987.	1,987.	ppb	1.97	2000.	
53 Cr	2,197.	2,197.	ppb	1.99	#VALUE!	
55 Mn	1,980.	1,980.	ppb	2.04	2000.	
56 Fe	-2.261	-2.261	ppb	75.14	#VALUE!	
57 Fe	-3.113	-3.113	ppb	67.72	100000.	
59 Co	1,008.	1,008.	ppb	1.87	1000.	>LDR
60 Ni	1,030.	1,030.	ppb	1.78	1000.	>LDR
63 Cu	1,982.	1,982.	ppb	1.52	#VALUE!	
65 Cu	1,990.	1,990.	ppb	1.32	2000.	
66 Zn	2,039.	2,039.	ppb	2.63	2000.	>LDR
68 Zn	2,069.	2,069.	ppb	2.55	#VALUE!	
75 As	1,049.	1,049.	ppb	2.05	1000.	>LDR
82 Se	1,053.	1,053.	ppb	1.87	1000.	>LDR
88 Sr	1,903.	1,903.	ppb	1.86	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	1,006.	1,006.	ppb	1.83	1000.	>LDR
107 Ag	105.5	105.5	ppb	1.56	100.	>LDR
109 Ag	105.2	105.2	ppb	1.33	#VALUE!	
111 Cd	1,043.	1,043.	ppb	2.53	#VALUE!	
114 Cd	1,018.	1,018.	ppb	3.05	1000.	>LDR
115 In	----	--------	--- ---		#VALUE!	
118 Sn	1,007.	1,007.	ppb	1.30	1000.	>LDR
120 Sn	992.4	992.4	ppb	1.13	#VALUE!	
121 Sb	1,021.	1,021.	ppb	0.84	#VALUE!	
123 Sb	1,028.	1,028.	ppb	0.86	1000.	>LDR
135 Ba	2,067.	2,067.	ppb	0.37	2000.	>LDR
137 Ba	2,026.	2,026.	ppb	1.28	#VALUE!	
182 W	1,002.	1,002.	ppb	0.83	1000.	>LDR
203 Tl	993.9	993.9	ppb	1.01	1000.	
205 Tl	973.5	973.5	ppb	1.81	#VALUE!	
208 Pb	1,950.	1,950.	ppb	1.50	2000.	
232 Th	985.2	985.2	ppb	1.65	1000.	
238 U	967.2	967.2	ppb	0.87	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2321109.30	1.09	2422125.80	95.8	69.5 - 120	
45 Sc	2019368.80	1.81	2037841.00	99.1	69.5 - 120	
72 Ge	426235.41	2.66	440652.41	96.7	69.5 - 120	
159 Tb	3663008.80	1.36	3649611.30	100.4	69.5 - 120	
209 Bi	1932856.40	1.14	1931866.90	100.1	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

14 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Katahdin Analytical Services 4000141

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\023SMPL.D\023SMPL.D#
Date Acquired: May 16 2018 07:39 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: LRS2
Misc Info:
Vial Number: 3512
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0096	0.0096	ppb	45.19	100.	
11 B	0.7302	0.7302	ppb	7.87	1000.	
23 Na	189,500.	189,500.	ppb	1.09	200000.	
25 Mg	181,900.	181,900.	ppb	1.08	200000.	
27 Al	182,500.	182,500.	ppb	0.37	200000.	
28 Si	10,100.	10,100.	ppb	0.55	#VALUE!	
29 Si	10,770.	10,770.	ppb	1.04	10000.	>LDR
39 K	188,700.	188,700.	ppb	1.06	200000.	
43 Ca	192,600.	192,600.	ppb	0.71	#VALUE!	
44 Ca	185,000.	185,000.	ppb	1.26	200000.	
51 V	0.0586	0.0586	ppb	112.73	1000.	
52 Cr	0.5879	0.5879	ppb	11.74	2000.	
53 Cr	-4.568	-4.568	ppb	6.44	#VALUE!	
55 Mn	7.16	7.16	ppb	1.39	2000.	
56 Fe	93,210.	93,210.	ppb	0.90	#VALUE!	
57 Fe	89,180.	89,180.	ppb	1.24	100000.	
59 Co	0.5199	0.5199	ppb	8.65	1000.	
60 Ni	0.6573	0.6573	ppb	11.99	1000.	
63 Cu	7.152	7.152	ppb	3.88	#VALUE!	
65 Cu	1.552	1.552	ppb	4.43	2000.	
66 Zn	2.902	2.902	ppb	3.89	2000.	
68 Zn	0.9542	0.9542	ppb	16.93	#VALUE!	
75 As	0.3858	0.3858	ppb	45.88	1000.	
82 Se	0.2607	0.2607	ppb	72.88	1000.	
88 Sr	6.339	6.339	ppb	1.93	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	1.042	1.042	ppb	37.54	1000.	
107 Ag	0.3396	0.3396	ppb	4.67	100.	
109 Ag	0.3478	0.3478	ppb	4.39	#VALUE!	
111 Cd	0.0299	0.0299	ppb	49.01	#VALUE!	
114 Cd	0.0058	0.0058	ppb	136.68	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	0.6207	0.6207	ppb	7.01	1000.	
120 Sn	0.6008	0.6008	ppb	13.43	#VALUE!	
121 Sb	0.5825	0.5825	ppb	2.00	#VALUE!	
123 Sb	0.5989	0.5989	ppb	2.02	1000.	
135 Ba	0.2707	0.2707	ppb	10.93	2000.	
137 Ba	0.2545	0.2545	ppb	10.09	#VALUE!	
182 W	1.325	1.325	ppb	39.19	1000.	
203 Tl	0.0496	0.0496	ppb	32.76	1000.	
205 Tl	0.0371	0.0371	ppb	92.67	#VALUE!	
208 Pb	0.4453	0.4453	ppb	3.00	2000.	
232 Th	1.5	1.5	ppb	46.89	1000.	
238 U	0.0948	0.0948	ppb	15.58	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2242236.00	1.92	2422125.80	92.6	69.5 - 120	
45 Sc	2155966.30	1.78	2037841.00	105.8	69.5 - 120	
72 Ge	450565.13	1.73	440652.41	102.2	69.5 - 120	
159 Tb	3428002.30	0.45	3649611.30	93.9	69.5 - 120	
209 Bi	1586236.00	0.80	1931866.90	82.1	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Katahdin Analytical Services 4000142

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\024SMPL.D\024SMPL.D#
Date Acquired: May 16 2018 07:43 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: RINSE
Misc Info:
Vial Number: 1303
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0045	0.0045	ppb	65.51	100.	
11 B	0.1109	0.1109	ppb	35.49	1000.	
23 Na	16.23	16.23	ppb	49.48	200000.	
25 Mg	5.392	5.392	ppb	146.48	200000.	
27 Al	6.754	6.754	ppb	152.65	200000.	
28 Si	116.2	116.2	ppb	14.42	#VALUE!	
29 Si	36.38	36.38	ppb	9.68	10000.	
39 K	8.008	8.008	ppb	77.45	200000.	
43 Ca	5.087	5.087	ppb	230.59	#VALUE!	
44 Ca	6.144	6.144	ppb	111.69	200000.	
51 V	0.0058	0.0058	ppb	666.96	1000.	
52 Cr	0.0737	0.0737	ppb	7.34	2000.	
53 Cr	3.385	3.385	ppb	7.70	#VALUE!	
55 Mn	0.0269	0.0269	ppb	56.26	2000.	
56 Fe	12.82	12.82	ppb	35.37	#VALUE!	
57 Fe	10.8	10.8	ppb	22.33	100000.	
59 Co	0.0073	0.0073	ppb	67.24	1000.	
60 Ni	0.0242	0.0242	ppb	15.50	1000.	
63 Cu	0.2328	0.2328	ppb	21.72	#VALUE!	
65 Cu	0.2285	0.2285	ppb	5.51	2000.	
66 Zn	0.0824	0.0824	ppb	140.95	2000.	
68 Zn	0.1129	0.1129	ppb	87.88	#VALUE!	
75 As	0.1621	0.1621	ppb	34.29	1000.	
82 Se	0.0289	0.0289	ppb	267.95	1000.	
88 Sr	0.0059	0.0059	ppb	335.31	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	0.1456	0.1456	ppb	57.18	1000.	
107 Ag	0.0002	0.0002	ppb	1112.90	100.	
109 Ag	0.0032	0.0032	ppb	72.86	#VALUE!	
111 Cd	-0.0326	-0.0326	ppb	8.67	#VALUE!	
114 Cd	0.0092	0.0092	ppb	65.81	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	0.1108	0.1108	ppb	4.57	1000.	
120 Sn	0.0888	0.0888	ppb	21.12	#VALUE!	
121 Sb	0.0313	0.0313	ppb	48.28	#VALUE!	
123 Sb	0.0457	0.0457	ppb	58.67	1000.	
135 Ba	0.0198	0.0198	ppb	72.67	2000.	
137 Ba	0.0297	0.0297	ppb	27.52	#VALUE!	
182 W	0.201	0.201	ppb	42.50	1000.	
203 Tl	0.0159	0.0159	ppb	39.99	1000.	
205 Tl	0.0076	0.0076	ppb	102.12	#VALUE!	
208 Pb	0.1716	0.1716	ppb	14.40	2000.	
232 Th	0.0475	0.0475	ppb	62.53	1000.	
238 U	0.008	0.008	ppb	80.21	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2359701.00	1.68	2422125.80	97.4	69.5 - 120	
45 Sc	2073552.30	0.21	2037841.00	101.8	69.5 - 120	
72 Ge	442532.56	1.02	440652.41	100.4	69.5 - 120	
159 Tb	3442507.00	1.84	3649611.30	94.3	69.5 - 120	
209 Bi	1790248.90	1.51	1931866.90	92.7	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000143

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\025SMPL.D\025SMPL.D#
Date Acquired: May 16 2018 07:47 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: RINSE
Misc Info:
Vial Number: 1303
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.004	0.004	ppb	66.72	100.	
11 B	0.1548	0.1548	ppb	47.40	1000.	
23 Na	5.97	5.97	ppb	15.13	200000.	
25 Mg	0.7698	0.7698	ppb	4.11	200000.	
27 Al	0.6363	0.6363	ppb	6.56	200000.	
28 Si	116.2	116.2	ppb	11.26	#VALUE!	
29 Si	55.94	55.94	ppb	35.31	10000.	
39 K	4.943	4.943	ppb	70.12	200000.	
43 Ca	2.569	2.569	ppb	154.46	#VALUE!	
44 Ca	3.974	3.974	ppb	10.96	200000.	
51 V	-0.0961	-0.0961	ppb	102.73	1000.	
52 Cr	0.0677	0.0677	ppb	48.40	2000.	
53 Cr	2.368	2.368	ppb	12.94	#VALUE!	
55 Mn	0.0018	0.0018	ppb	336.54	2000.	
56 Fe	10.51	10.51	ppb	10.51	#VALUE!	
57 Fe	6.915	6.915	ppb	11.78	100000.	
59 Co	0.001	0.001	ppb	520.57	1000.	
60 Ni	0.009	0.009	ppb	146.56	1000.	
63 Cu	0.2041	0.2041	ppb	8.25	#VALUE!	
65 Cu	0.2094	0.2094	ppb	20.35	2000.	
66 Zn	0.0868	0.0868	ppb	62.58	2000.	
68 Zn	0.1162	0.1162	ppb	41.58	#VALUE!	
75 As	0.0493	0.0493	ppb	376.93	1000.	
82 Se	-0.0966	-0.0966	ppb	216.23	1000.	
88 Sr	0.0007	0.0007	ppb	178.15	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	0.0701	0.0701	ppb	37.90	1000.	
107 Ag	0.0008	0.0008	ppb	244.00	100.	
109 Ag	0.0006	0.0006	ppb	250.86	#VALUE!	
111 Cd	-0.0283	-0.0283	ppb	70.80	#VALUE!	
114 Cd	0.0016	0.0016	ppb	360.52	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	0.052	0.052	ppb	17.80	1000.	
120 Sn	0.0458	0.0458	ppb	34.34	#VALUE!	
121 Sb	0.0199	0.0199	ppb	19.52	#VALUE!	
123 Sb	0.0157	0.0157	ppb	32.72	1000.	
135 Ba	0.0254	0.0254	ppb	37.41	2000.	
137 Ba	0.0259	0.0259	ppb	13.46	#VALUE!	
182 W	0.0797	0.0797	ppb	25.53	1000.	
203 Tl	0.0114	0.0114	ppb	128.08	1000.	
205 Tl	-0.0007	-0.0007	ppb	611.84	#VALUE!	
208 Pb	0.1392	0.1392	ppb	14.11	2000.	
232 Th	0.035	0.035	ppb	49.50	1000.	
238 U	0.0015	0.0015	ppb	70.05	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2301658.30	2.47	2422125.80	95.0	69.5 - 120	
45 Sc	1993957.00	1.78	2037841.00	97.8	69.5 - 120	
72 Ge	425950.69	0.99	440652.41	96.7	69.5 - 120	
159 Tb	3403334.00	0.44	3649611.30	93.3	69.5 - 120	
209 Bi	1783040.40	0.31	1931866.90	92.3	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000144

CCV QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\026_CCV.D\026_CCV.D#
Date Acquired: May 16 2018 07:51 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: CCV
Misc Info:
Vial Number: 1206
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Dilution Factor: 1.00
QC Range (%): 89.5 - 110.5

QC Elements

Element	Conc.		RSD(%)	Expected	Rec (%)	Flag
9 Be	25.14	ppb	2.19	25	100.56	
11 B	24.79	ppb	3.25	25	99.16	
23 Na	4,933.	ppb	2.25	5,000	98.66	
25 Mg	5,005.	ppb	0.83	5,000	100.1	
27 Al	496.6	ppb	1.02	500	99.32	
28 Si	540.	ppb	2.30	500	108	
29 Si	499.8	ppb	1.12	500	99.96	
39 K	4,992.	ppb	0.28	5,000	99.84	
43 Ca	4,930.	ppb	2.85	5,000	98.6	
44 Ca	5,004.	ppb	0.86	5,000	100.08	
51 V	24.59	ppb	0.40	25	98.36	
52 Cr	24.38	ppb	1.09	25	97.52	
53 Cr	24.54	ppb	7.77	25	98.16	
55 Mn	24.81	ppb	0.75	25	99.24	
56 Fe	4,923.	ppb	0.19	5,000	98.46	
57 Fe	4,934.	ppb	0.48	5,000	98.68	
59 Co	24.46	ppb	1.72	25	97.84	
60 Ni	24.53	ppb	1.73	25	98.12	
63 Cu	25.02	ppb	0.89	25	100.08	
65 Cu	24.85	ppb	1.02	25	99.4	
66 Zn	25.43	ppb	1.51	25	101.72	
68 Zn	25.28	ppb	0.88	25	101.12	
75 As	24.6	ppb	2.09	25	98.4	
82 Se	24.5	ppb	1.36	25	98	
88 Sr	24.1	ppb	1.91	25	96.4	
89 Y	--------	---	--------	---	#VALUE!	
98 Mo	24.57	ppb	0.42	25	98.28	
107 Ag	24.69	ppb	0.73	25	98.76	
109 Ag	24.74	ppb	0.62	25	98.96	
111 Cd	24.6	ppb	1.80	25	98.4	
114 Cd	24.63	ppb	1.71	25	98.52	
115 In	--------	---	--------	---	#VALUE!	
118 Sn	24.9	ppb	1.28	25	99.6	
120 Sn	24.69	ppb	1.80	25	98.76	
121 Sb	25.33	ppb	1.61	25	101.32	
123 Sb	25.31	ppb	2.25	25	101.24	
135 Ba	25.06	ppb	0.33	25	100.24	
137 Ba	25.52	ppb	0.96	25	102.08	
182 W	24.39	ppb	1.94	25	97.56	
203 Tl	24.65	ppb	0.38	25	98.6	
205 Tl	24.52	ppb	0.69	25	98.08	
208 Pb	24.59	ppb	0.84	25	98.36	
232 Th	24.38	ppb	1.88	25	97.52	
238 U	24.47	ppb	1.21	25	97.88	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2338989.00	1.74	2422125.80	96.6	80 - 120.4	
45 Sc	2064547.60	0.25	2037841.00	101.3	80 - 120.4	
72 Ge	437287.75	0.24	440652.41	99.2	80 - 120.4	
159 Tb	3684203.80	1.04	3649611.30	100.9	80 - 120.4	
209 Bi	1902301.60	0.39	1931866.90	98.5	80 - 120.4	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\027_CCB.D\027_CCB.D#
Date Acquired: May 16 2018 07:55 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: CCB
Misc Info:
Vial Number: 1207
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: 6-CCB
Dilution Factor: 1.00

QC Elements

Element	Conc.		RSD(%)	High Limit	Flag
9 Be	0.002	ppb	22.13	1.00	
11 B	1.164	ppb	17.58	1.00	
23 Na	3.106	ppb	7.45	1.00	
25 Mg	0.4327	ppb	18.64	1.00	
27 Al	0.1051	ppb	43.76	1.00	
28 Si	109.5	ppb	25.69	1.00	
29 Si	45.72	ppb	49.87	1.00	
39 K	3.055	ppb	37.64	1.00	
43 Ca	-1.853	ppb	139.29	1.00	
44 Ca	1.303	ppb	201.77	1.00	
51 V	-0.0552	ppb	122.63	1.00	
52 Cr	-0.0327	ppb	25.74	1.00	
53 Cr	-1.264	ppb	26.96	1.00	
55 Mn	0.0128	ppb	90.36	1.00	
56 Fe	4.602	ppb	61.06	1.00	
57 Fe	3.335	ppb	80.93	1.00	
59 Co	-0.0058	ppb	54.19	1.00	
60 Ni	-0.0068	ppb	53.14	1.00	
63 Cu	0.0086	ppb	69.44	1.00	
65 Cu	0.0149	ppb	148.33	1.00	
66 Zn	-0.0319	ppb	126.12	1.00	
68 Zn	0.0006	ppb	4757.00	1.00	
75 As	-0.1212	ppb	140.59	1.00	
82 Se	-0.2717	ppb	7.78	1.00	
88 Sr	-0.0021	ppb	101.91	1.00	
89 Y	--------	---	--------	---	
98 Mo	0.0483	ppb	26.43	1.00	
107 Ag	-0.0006	ppb	198.55	1.00	
109 Ag	0.0029	ppb	22.18	1.00	
111 Cd	-0.0393	ppb	80.01	1.00	
114 Cd	0.0024	ppb	65.25	1.00	
115 In	--------	---	--------	---	
118 Sn	0.0511	ppb	26.86	1.00	
120 Sn	0.0564	ppb	5.23	1.00	
121 Sb	0.0188	ppb	49.46	1.00	
123 Sb	0.0138	ppb	68.80	1.00	
135 Ba	-0.0002	ppb	1402.20	1.00	
137 Ba	0.0051	ppb	143.63	1.00	
182 W	0.0655	ppb	29.79	1.00	
203 Tl	-0.0015	ppb	294.40	1.00	
205 Tl	-0.0072	ppb	65.94	1.00	
208 Pb	-0.0606	ppb	18.50	1.00	
232 Th	0.0714	ppb	15.68	1.00	
238 U	0.0029	ppb	18.25	1.00	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2252916.50	1.52	2422125.80	93.0	79.5 - 120	
45 Sc	1975197.60	1.07	2037841.00	96.9	79.5 - 120	
72 Ge	419264.78	0.94	440652.41	95.1	79.5 - 120	
159 Tb	3449107.30	1.49	3649611.30	94.5	79.5 - 120	
209 Bi	1824713.50	1.09	1931866.90	94.5	79.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000146

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\028SMPL.D\028SMPL.D#
Date Acquired: May 16 2018 07:59 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: PBWLE08IMW1
Misc Info:
Vial Number: 2101
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.028	0.0056	ppb	50.83	100.	
11 B	1.953	0.3906	ppb	30.21	1000.	
23 Na	19.32	3.864	ppb	8.04	200000.	
25 Mg	10.705	2.141	ppb	13.50	200000.	
27 Al	6.515	1.303	ppb	6.22	200000.	
28 Si	517.5	103.5	ppb	11.46	#VALUE!	
29 Si	193.35	38.67	ppb	31.81	10000.	
39 K	8.785	1.757	ppb	67.16	200000.	
43 Ca	11.565	2.313	ppb	46.78	#VALUE!	
44 Ca	18.015	3.603	ppb	58.98	200000.	
51 V	0.128	0.0256	ppb	104.38	1000.	
52 Cr	-0.0577	-0.0115	ppb	296.71	2000.	
53 Cr	-2.7845	-0.5569	ppb	33.49	#VALUE!	
55 Mn	0.1265	0.0253	ppb	39.20	2000.	
56 Fe	0.1055	0.0211	ppb	3727.00	#VALUE!	
57 Fe	1.871	0.3742	ppb	386.69	100000.	
59 Co	0.0065	0.0013	ppb	403.14	1000.	
60 Ni	-0.0104	-0.0021	ppb	112.58	1000.	
63 Cu	0.1821	0.0364	ppb	57.08	#VALUE!	
65 Cu	0.0335	0.0067	ppb	414.32	2000.	
66 Zn	0.3847	0.0769	ppb	40.28	2000.	
68 Zn	0.2672	0.0534	ppb	186.70	#VALUE!	
75 As	0.4098	0.082	ppb	147.65	1000.	
82 Se	-0.3767	-0.0753	ppb	209.45	1000.	
88 Sr	-0.002	-0.0004	ppb	683.77	2000.	
89 Y	----	--------	---	---	#VALUE!	
98 Mo	0.0977	0.0195	ppb	20.46	1000.	
107 Ag	-0.0023	-0.0005	ppb	438.12	100.	
109 Ag	0.0039	0.0008	ppb	148.98	#VALUE!	
111 Cd	-0.0328	-0.0066	ppb	272.17	#VALUE!	
114 Cd	0.0093	0.0019	ppb	126.53	1000.	
115 In	----	--------	---	---	#VALUE!	
118 Sn	0.2025	0.0405	ppb	18.75	1000.	
120 Sn	0.1915	0.0383	ppb	17.54	#VALUE!	
121 Sb	0.0617	0.0123	ppb	47.72	#VALUE!	
123 Sb	0.0411	0.0082	ppb	15.42	1000.	
135 Ba	0.0778	0.0156	ppb	49.29	2000.	
137 Ba	0.0276	0.0055	ppb	85.95	#VALUE!	
182 W	0.152	0.0304	ppb	32.97	1000.	
203 Tl	0.0227	0.0045	ppb	335.75	1000.	
205 Tl	-0.0148	-0.003	ppb	46.11	#VALUE!	
208 Pb	-0.2389	-0.0478	ppb	23.30	2000.	
232 Th	0.1636	0.0327	ppb	42.25	1000.	
238 U	0.003	0.0006	ppb	134.41	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2237208.00	0.95	2422125.80	92.4	69.5 - 120	
45 Sc	1985752.50	0.68	2037841.00	97.4	69.5 - 120	
72 Ge	425900.91	0.33	440652.41	96.7	69.5 - 120	
159 Tb	3510302.00	1.08	3649611.30	96.2	69.5 - 120	
209 Bi	1825964.40	1.30	1931866.90	94.5	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000147

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\029SMPL.D\029SMPL.D#
Date Acquired: May 16 2018 08:03 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: LCSWLE08IMW1
Misc Info:
Vial Number: 2102
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	48.375	9.675	ppb	1.66	100.	
11 B	498.3	99.66	ppb	5.19	1000.	
23 Na	7,700.	1,540.	ppb	0.38	200000.	
25 Mg	5,005.	1,001.	ppb	0.69	200000.	
27 Al	2,115.5	423.1	ppb	1.85	200000.	
28 Si	1,058.	211.6	ppb	5.29	#VALUE!	
29 Si	853.5	170.7	ppb	6.74	10000.	
39 K	10,090.	2,018.	ppb	1.05	200000.	
43 Ca	2,876.	575.2	ppb	3.42	#VALUE!	
44 Ca	2,459.	491.8	ppb	1.33	200000.	
51 V	520.5	104.1	ppb	1.05	1000.	
52 Cr	199.85	39.97	ppb	0.09	2000.	
53 Cr	256.45	51.29	ppb	0.97	#VALUE!	
55 Mn	517.	103.4	ppb	1.47	2000.	
56 Fe	1,039.	207.8	ppb	2.16	#VALUE!	
57 Fe	1,018.5	203.7	ppb	2.12	100000.	
59 Co	525.5	105.1	ppb	1.22	1000.	
60 Ni	509.5	101.9	ppb	0.44	1000.	
63 Cu	253.3	50.66	ppb	0.32	#VALUE!	
65 Cu	251.95	50.39	ppb	0.47	2000.	
66 Zn	504.	100.8	ppb	0.68	2000.	
68 Zn	561.5	112.3	ppb	0.44	#VALUE!	
75 As	103.8	20.76	ppb	1.34	1000.	
82 Se	100.75	20.15	ppb	1.82	1000.	
88 Sr	502.5	100.5	ppb	1.30	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	102.8	20.56	ppb	0.49	1000.	
107 Ag	52.	10.4	ppb	0.45	100.	
109 Ag	51.8	10.36	ppb	0.73	#VALUE!	
111 Cd	257.4	51.48	ppb	0.47	#VALUE!	
114 Cd	255.7	51.14	ppb	0.79	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	507.5	101.5	ppb	1.00	1000.	
120 Sn	508.	101.6	ppb	0.75	#VALUE!	
121 Sb	104.7	20.94	ppb	0.38	#VALUE!	
123 Sb	105.15	21.03	ppb	1.28	1000.	
135 Ba	2,078.5	415.7	ppb	1.56	2000.	
137 Ba	2,076.	415.2	ppb	1.19	#VALUE!	
182 W	103.4	20.68	ppb	0.23	1000.	
203 Tl	102.95	20.59	ppb	2.77	1000.	
205 Tl	102.7	20.54	ppb	1.90	#VALUE!	
208 Pb	103.35	20.67	ppb	2.03	2000.	
232 Th	101.95	20.39	ppb	2.17	1000.	
238 U	101.1	20.22	ppb	1.84	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2369849.80	0.54	2422125.80	97.8	69.5 - 120	
45 Sc	1997506.60	0.95	2037841.00	98.0	69.5 - 120	
72 Ge	425235.59	0.89	440652.41	96.5	69.5 - 120	
159 Tb	3666296.30	1.01	3649611.30	100.5	69.5 - 120	
209 Bi	1912335.00	1.88	1931866.90	99.0	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000148

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\030SMPL.D\030SMPL.D#
Date Acquired: May 16 2018 08:07 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3902-002
Misc Info:
Vial Number: 2103
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.3357	0.0671	ppb	13.88	100.	
11 B	200.5	40.1	ppb	1.65	1000.	
23 Na	278,200.	55,640.	ppb	1.43	200000.	
25 Mg	64,950.	12,990.	ppb	0.94	200000.	
27 Al	7,000.	1,400.	ppb	2.34	200000.	
28 Si	35,615.	7,123.	ppb	2.39	#VALUE!	
29 Si	38,675.	7,735.	ppb	1.81	10000.	
39 K	20,085.	4,017.	ppb	1.68	200000.	
43 Ca	403,650.	80,730.	ppb	2.51	#VALUE!	
44 Ca	378,250.	75,650.	ppb	2.33	200000.	
51 V	17.57	3.514	ppb	1.10	1000.	
52 Cr	38.825	7.765	ppb	3.37	2000.	
53 Cr	71.	14.2	ppb	17.67	#VALUE!	
55 Mn	1,413.5	282.7	ppb	1.07	2000.	
56 Fe	14,325.	2,865.	ppb	1.39	#VALUE!	
57 Fe	14,510.	2,902.	ppb	1.74	100000.	
59 Co	3.948	0.7896	ppb	3.97	1000.	
60 Ni	17.685	3.537	ppb	2.40	1000.	
63 Cu	21.335	4.267	ppb	2.26	#VALUE!	
65 Cu	14.605	2.921	ppb	6.06	2000.	
66 Zn	79.4	15.88	ppb	0.64	2000.	
68 Zn	79.9	15.98	ppb	0.79	#VALUE!	
75 As	10.47	2.094	ppb	4.29	1000.	
82 Se	0.733	0.1466	ppb	176.19	1000.	
88 Sr	1,549.5	309.9	ppb	1.38	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	18.235	3.647	ppb	3.95	1000.	
107 Ag	0.031	0.0062	ppb	51.02	100.	
109 Ag	0.04	0.008	ppb	45.43	#VALUE!	
111 Cd	0.0718	0.0144	ppb	84.68	#VALUE!	
114 Cd	0.0207	0.0041	ppb	160.05	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	2.011	0.4022	ppb	6.76	1000.	
120 Sn	2.004	0.4008	ppb	5.85	#VALUE!	
121 Sb	0.4004	0.0801	ppb	22.19	#VALUE!	
123 Sb	0.3711	0.0742	ppb	18.49	1000.	
135 Ba	136.9	27.38	ppb	0.88	2000.	
137 Ba	137.15	27.43	ppb	0.85	#VALUE!	
182 W	0.621	0.1242	ppb	20.95	1000.	
203 Tl	0.0628	0.0126	ppb	65.93	1000.	
205 Tl	0.0076	0.0015	ppb	283.91	#VALUE!	
208 Pb	10.96	2.192	ppb	1.60	2000.	
232 Th	7.93	1.586	ppb	3.73	1000.	
238 U	1.5375	0.3075	ppb	1.56	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2317020.00	1.95	2422125.80	95.7	69.5 - 120	
45 Sc	2037947.60	1.31	2037841.00	100.0	69.5 - 120	
72 Ge	442125.75	0.73	440652.41	100.3	69.5 - 120	
159 Tb	3776257.50	1.35	3649611.30	103.5	69.5 - 120	
209 Bi	1901255.40	1.23	1931866.90	98.4	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000149

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\031SMPL.D\031SMPL.D#
Date Acquired: May 16 2018 08:11 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3902-003
Misc Info:
Vial Number: 2104
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0149	0.003	ppb	56.16	100.	
11 B	188.9	37.78	ppb	2.79	1000.	
23 Na	274,350.	54,870.	ppb	1.45	200000.	
25 Mg	63,550.	12,710.	ppb	0.66	200000.	
27 Al	9.545	1.909	ppb	2.80	200000.	
28 Si	21,415.	4,283.	ppb	1.73	#VALUE!	
29 Si	23,930.	4,786.	ppb	0.77	10000.	
39 K	18,250.	3,650.	ppb	1.86	200000.	
43 Ca	397,500.	79,500.	ppb	2.46	#VALUE!	
44 Ca	373,750.	74,750.	ppb	1.13	200000.	
51 V	0.7345	0.1469	ppb	74.61	1000.	
52 Cr	2.1295	0.4259	ppb	6.14	2000.	
53 Cr	67.4	13.48	ppb	14.96	#VALUE!	
55 Mn	1,357.5	271.5	ppb	0.86	2000.	
56 Fe	5,955.	1,191.	ppb	0.61	#VALUE!	
57 Fe	6,230.	1,246.	ppb	0.68	100000.	
59 Co	0.4375	0.0875	ppb	6.02	1000.	
60 Ni	1.3075	0.2615	ppb	40.15	1000.	
63 Cu	9.93	1.986	ppb	0.26	#VALUE!	
65 Cu	2.6765	0.5353	ppb	7.34	2000.	
66 Zn	9.33	1.866	ppb	6.37	2000.	
68 Zn	9.685	1.937	ppb	2.93	#VALUE!	
75 As	9.065	1.813	ppb	5.57	1000.	
82 Se	0.583	0.1166	ppb	221.96	1000.	
88 Sr	1,528.	305.6	ppb	0.01	2000.	
89 Y	----	--------	---	---	#VALUE!	
98 Mo	12.61	2.522	ppb	1.60	1000.	
107 Ag	-0.0005	-0.0001	ppb	3104.40	100.	
109 Ag	0.0018	0.0004	ppb	210.17	#VALUE!	
111 Cd	-0.0445	-0.0089	ppb	132.94	#VALUE!	
114 Cd	0.0087	0.0017	ppb	352.21	1000.	
115 In	----	--------	---	---	#VALUE!	
118 Sn	1.563	0.3126	ppb	13.21	1000.	
120 Sn	1.4555	0.2911	ppb	6.64	#VALUE!	
121 Sb	0.1065	0.0213	ppb	13.14	#VALUE!	
123 Sb	0.1095	0.0219	ppb	37.62	1000.	
135 Ba	36.705	7.341	ppb	4.03	2000.	
137 Ba	37.555	7.511	ppb	0.85	#VALUE!	
182 W	0.3068	0.0614	ppb	6.57	1000.	
203 Tl	-0.0673	-0.0135	ppb	94.21	1000.	
205 Tl	-0.0749	-0.015	ppb	9.58	#VALUE!	
208 Pb	-0.8225	-0.1645	ppb	7.43	2000.	
232 Th	0.4562	0.0912	ppb	36.44	1000.	
238 U	0.7095	0.1419	ppb	4.75	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2331187.50	2.43	2422125.80	96.2	69.5 - 120	
45 Sc	2053572.60	0.92	2037841.00	100.8	69.5 - 120	
72 Ge	449401.28	0.50	440652.41	102.0	69.5 - 120	
159 Tb	3815114.50	0.68	3649611.30	104.5	69.5 - 120	
209 Bi	1904263.80	0.94	1931866.90	98.6	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000150

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\032SMPL.D\032SMPL.D#
Date Acquired: May 16 2018 08:15 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3902-004
Misc Info:
Vial Number: 2105
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.2015	0.0403	ppb	12.58	100.	
11 B	241.4	48.28	ppb	5.69	1000.	
23 Na	287,750.	57,550.	ppb	1.67	200000.	
25 Mg	64,650.	12,930.	ppb	0.47	200000.	
27 Al	4,734.5	946.9	ppb	1.31	200000.	
28 Si	30,630.	6,126.	ppb	0.72	#VALUE!	
29 Si	33,985.	6,797.	ppb	1.45	10000.	
39 K	18,540.	3,708.	ppb	1.14	200000.	
43 Ca	374,450.	74,890.	ppb	1.27	#VALUE!	
44 Ca	346,150.	69,230.	ppb	0.66	200000.	
51 V	13.13	2.626	ppb	1.96	1000.	
52 Cr	28.65	5.73	ppb	1.09	2000.	
53 Cr	93.05	18.61	ppb	2.93	#VALUE!	
55 Mn	1,323.	264.6	ppb	1.08	2000.	
56 Fe	11,345.	2,269.	ppb	0.79	#VALUE!	
57 Fe	11,560.	2,312.	ppb	0.37	100000.	
59 Co	2.6855	0.5371	ppb	3.14	1000.	
60 Ni	11.89	2.378	ppb	3.58	1000.	
63 Cu	21.325	4.265	ppb	1.68	#VALUE!	
65 Cu	14.43	2.886	ppb	3.24	2000.	
66 Zn	51.05	10.21	ppb	1.67	2000.	
68 Zn	50.4	10.08	ppb	3.11	#VALUE!	
75 As	12.405	2.481	ppb	11.44	1000.	
82 Se	0.4898	0.098	ppb	201.51	1000.	
88 Sr	1,446.	289.2	ppb	1.13	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	17.43	3.486	ppb	1.87	1000.	
107 Ag	0.0165	0.0033	ppb	35.83	100.	
109 Ag	0.025	0.005	ppb	51.48	#VALUE!	
111 Cd	0.3146	0.0629	ppb	16.34	#VALUE!	
114 Cd	0.0708	0.0142	ppb	33.78	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	1.6965	0.3393	ppb	9.28	1000.	
120 Sn	1.601	0.3202	ppb	5.00	#VALUE!	
121 Sb	0.2998	0.06	ppb	12.78	#VALUE!	
123 Sb	0.2915	0.0583	ppb	12.38	1000.	
135 Ba	104.15	20.83	ppb	2.10	2000.	
137 Ba	103.4	20.68	ppb	0.48	#VALUE!	
182 W	0.4993	0.0999	ppb	15.83	1000.	
203 Tl	-0.0213	-0.0043	ppb	300.94	1000.	
205 Tl	0.0261	0.0052	ppb	124.84	#VALUE!	
208 Pb	7.295	1.459	ppb	3.65	2000.	
232 Th	4.871	0.9742	ppb	1.90	1000.	
238 U	1.597	0.3194	ppb	3.34	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2377782.00	3.44	2422125.80	98.2	69.5 - 120	
45 Sc	2068104.40	1.22	2037841.00	101.5	69.5 - 120	
72 Ge	451206.47	0.46	440652.41	102.4	69.5 - 120	
159 Tb	3814432.80	1.64	3649611.30	104.5	69.5 - 120	
209 Bi	1914987.90	2.11	1931866.90	99.1	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000151

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\033SMPL.D\033SMPL.D#
Date Acquired: May 16 2018 08:19 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3902-005
Misc Info:
Vial Number: 2106
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0305	0.0061	ppb	10.82	100.	
11 B	232.25	46.45	ppb	3.68	1000.	
23 Na	282,850.	56,570.	ppb	1.15	200000.	
25 Mg	62,300.	12,460.	ppb	0.79	200000.	
27 Al	8.92	1.784	ppb	9.06	200000.	
28 Si	19,910.	3,982.	ppb	0.15	#VALUE!	
29 Si	22,335.	4,467.	ppb	1.46	10000.	
39 K	16,715.	3,343.	ppb	0.89	200000.	
43 Ca	360,000.	72,000.	ppb	1.38	#VALUE!	
44 Ca	335,750.	67,150.	ppb	0.17	200000.	
51 V	0.2317	0.0463	ppb	32.29	1000.	
52 Cr	1.5555	0.3111	ppb	6.85	2000.	
53 Cr	66.05	13.21	ppb	11.89	#VALUE!	
55 Mn	1,252.	250.4	ppb	0.76	2000.	
56 Fe	5,090.	1,018.	ppb	1.14	#VALUE!	
57 Fe	5,300.	1,060.	ppb	0.60	100000.	
59 Co	0.3749	0.075	ppb	4.08	1000.	
60 Ni	0.9	0.18	ppb	17.26	1000.	
63 Cu	8.675	1.735	ppb	0.61	#VALUE!	
65 Cu	1.984	0.3968	ppb	15.10	2000.	
66 Zn	10.855	2.171	ppb	6.98	2000.	
68 Zn	10.305	2.061	ppb	9.02	#VALUE!	
75 As	10.96	2.192	ppb	5.13	1000.	
82 Se	0.844	0.1688	ppb	35.98	1000.	
88 Sr	1,402.5	280.5	ppb	1.26	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	13.05	2.61	ppb	1.70	1000.	
107 Ag	0.0066	0.0013	ppb	117.32	100.	
109 Ag	0.0136	0.0027	ppb	118.18	#VALUE!	
111 Cd	0.1545	0.0309	ppb	194.17	#VALUE!	
114 Cd	0.0077	0.0015	ppb	247.45	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	1.4235	0.2847	ppb	5.76	1000.	
120 Sn	1.352	0.2704	ppb	7.67	#VALUE!	
121 Sb	0.0886	0.0177	ppb	18.96	#VALUE!	
123 Sb	0.0618	0.0124	ppb	14.82	1000.	
135 Ba	30.94	6.188	ppb	2.27	2000.	
137 Ba	30.795	6.159	ppb	2.18	#VALUE!	
182 W	0.2602	0.052	ppb	15.84	1000.	
203 Tl	-0.0665	-0.0133	ppb	21.59	1000.	
205 Tl	-0.0837	-0.0167	ppb	24.97	#VALUE!	
208 Pb	-0.7855	-0.1571	ppb	7.37	2000.	
232 Th	0.2064	0.0413	ppb	16.12	1000.	
238 U	0.8965	0.1793	ppb	5.46	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2365994.50	0.69	2422125.80	97.7	69.5 - 120	
45 Sc	2064646.90	0.96	2037841.00	101.3	69.5 - 120	
72 Ge	448553.53	0.87	440652.41	101.8	69.5 - 120	
159 Tb	3800543.80	1.56	3649611.30	104.1	69.5 - 120	
209 Bi	1913801.60	2.97	1931866.90	99.1	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000152

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\034SMPL.D\034SMPL.D#
Date Acquired: May 16 2018 08:23 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3902-006
Misc Info:
Vial Number: 2107
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.3426	0.0685	ppb	7.33	100.	
11 B	262.6	52.52	ppb	4.06	1000.	
23 Na	267,800.	53,560.	ppb	1.20	200000.	
25 Mg	59,950.	11,990.	ppb	0.88	200000.	
27 Al	6,795.	1,359.	ppb	0.76	200000.	
28 Si	31,185.	6,237.	ppb	0.76	#VALUE!	
29 Si	34,670.	6,934.	ppb	1.50	10000.	
39 K	18,570.	3,714.	ppb	0.95	200000.	
43 Ca	350,400.	70,080.	ppb	1.14	#VALUE!	
44 Ca	325,950.	65,190.	ppb	0.30	200000.	
51 V	18.495	3.699	ppb	4.28	1000.	
52 Cr	40.26	8.052	ppb	0.69	2000.	
53 Cr	96.05	19.21	ppb	4.24	#VALUE!	
55 Mn	1,231.5	246.3	ppb	0.66	2000.	
56 Fe	13,175.	2,635.	ppb	0.99	#VALUE!	
57 Fe	13,325.	2,665.	ppb	0.91	100000.	
59 Co	3.588	0.7176	ppb	1.32	1000.	
60 Ni	16.105	3.221	ppb	1.59	1000.	
63 Cu	22.19	4.438	ppb	0.57	#VALUE!	
65 Cu	15.66	3.132	ppb	2.37	2000.	
66 Zn	44.255	8.851	ppb	1.10	2000.	
68 Zn	49.58	9.916	ppb	4.07	#VALUE!	
75 As	13.83	2.766	ppb	12.81	1000.	
82 Se	1.621	0.3242	ppb	20.54	1000.	
88 Sr	1,391.5	278.3	ppb	0.78	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	18.925	3.785	ppb	1.45	1000.	
107 Ag	0.0258	0.0052	ppb	23.48	100.	
109 Ag	0.0219	0.0044	ppb	29.83	#VALUE!	
111 Cd	0.2629	0.0526	ppb	28.62	#VALUE!	
114 Cd	0.0239	0.0048	ppb	14.24	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	1.896	0.3792	ppb	5.60	1000.	
120 Sn	1.7495	0.3499	ppb	10.41	#VALUE!	
121 Sb	0.3455	0.0691	ppb	8.96	#VALUE!	
123 Sb	0.3553	0.0711	ppb	8.89	1000.	
135 Ba	233.95	46.79	ppb	1.61	2000.	
137 Ba	233.8	46.76	ppb	0.20	#VALUE!	
182 W	0.3919	0.0784	ppb	2.79	1000.	
203 Tl	0.0722	0.0144	ppb	36.25	1000.	
205 Tl	0.074	0.0148	ppb	33.49	#VALUE!	
208 Pb	13.19	2.638	ppb	1.22	2000.	
232 Th	5.76	1.152	ppb	1.90	1000.	
238 U	3.855	0.771	ppb	1.18	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2387006.30	1.75	2422125.80	98.6	69.5 - 120	
45 Sc	2071803.10	0.43	2037841.00	101.7	69.5 - 120	
72 Ge	449877.59	0.68	440652.41	102.1	69.5 - 120	
159 Tb	3830955.80	0.98	3649611.30	105.0	69.5 - 120	
209 Bi	1929558.90	0.57	1931866.90	99.9	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000153

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\035SMPL.D\035SMPL.D#
Date Acquired: May 16 2018 08:27 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3902-007
Misc Info:
Vial Number: 2108
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0209	0.0042	ppb	62.33	100.	
11 B	270.5	54.1	ppb	2.93	1000.	
23 Na	270,800.	54,160.	ppb	2.40	200000.	
25 Mg	59,050.	11,810.	ppb	3.01	200000.	
27 Al	8.97	1.794	ppb	2.13	200000.	
28 Si	18,175.	3,635.	ppb	0.30	#VALUE!	
29 Si	18,645.	3,729.	ppb	0.97	10000.	
39 K	17,060.	3,412.	ppb	0.98	200000.	
43 Ca	353,600.	70,720.	ppb	2.09	#VALUE!	
44 Ca	327,400.	65,480.	ppb	0.51	200000.	
51 V	0.3571	0.0714	ppb	160.20	1000.	
52 Cr	2.2235	0.4447	ppb	3.13	2000.	
53 Cr	61.5	12.3	ppb	11.75	#VALUE!	
55 Mn	1,169.	233.8	ppb	0.78	2000.	
56 Fe	4,142.	828.4	ppb	1.24	#VALUE!	
57 Fe	4,399.	879.8	ppb	0.53	100000.	
59 Co	0.4313	0.0863	ppb	9.89	1000.	
60 Ni	1.444	0.2888	ppb	7.37	1000.	
63 Cu	7.72	1.544	ppb	1.35	#VALUE!	
65 Cu	1.2925	0.2585	ppb	12.30	2000.	
66 Zn	6.71	1.342	ppb	4.64	2000.	
68 Zn	5.86	1.172	ppb	5.04	#VALUE!	
75 As	12.735	2.547	ppb	10.92	1000.	
82 Se	0.4063	0.0813	ppb	134.28	1000.	
88 Sr	1,362.5	272.5	ppb	1.15	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	12.68	2.536	ppb	0.70	1000.	
107 Ag	-0.0003	-0.0001	ppb	4603.60	100.	
109 Ag	0.0042	0.0008	ppb	250.96	#VALUE!	
111 Cd	0.0771	0.0154	ppb	71.06	#VALUE!	
114 Cd	0.0197	0.0039	ppb	161.90	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	1.2945	0.2589	ppb	2.25	1000.	
120 Sn	1.265	0.253	ppb	10.06	#VALUE!	
121 Sb	0.0851	0.017	ppb	19.78	#VALUE!	
123 Sb	0.0849	0.017	ppb	32.28	1000.	
135 Ba	28.63	5.726	ppb	6.31	2000.	
137 Ba	28.54	5.708	ppb	0.77	#VALUE!	
182 W	0.2412	0.0482	ppb	11.33	1000.	
203 Tl	-0.0636	-0.0127	ppb	85.46	1000.	
205 Tl	-0.1114	-0.0223	ppb	22.60	#VALUE!	
208 Pb	-0.862	-0.1724	ppb	6.11	2000.	
232 Th	0.1522	0.0304	ppb	15.58	1000.	
238 U	2.6085	0.5217	ppb	1.52	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2336134.00	1.66	2422125.80	96.4	69.5 - 120	
45 Sc	2031670.10	0.58	2037841.00	99.7	69.5 - 120	
72 Ge	444205.97	0.23	440652.41	100.8	69.5 - 120	
159 Tb	3792452.00	2.34	3649611.30	103.9	69.5 - 120	
209 Bi	1899039.80	2.05	1931866.90	98.3	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000154

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\036SMPL.D\036SMPL.D#
Date Acquired: May 16 2018 08:31 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3902-008
Misc Info:
Vial Number: 2109
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.2373	0.0475	ppb	4.13	100.	
11 B	241.25	48.25	ppb	1.71	1000.	
23 Na	296,100.	59,220.	ppb	0.69	200000.	
25 Mg	66,950.	13,390.	ppb	1.43	200000.	
27 Al	4,870.	974.	ppb	1.10	200000.	
28 Si	26,970.	5,394.	ppb	2.17	#VALUE!	
29 Si	30,185.	6,037.	ppb	2.54	10000.	
39 K	18,845.	3,769.	ppb	1.70	200000.	
43 Ca	376,800.	75,360.	ppb	0.56	#VALUE!	
44 Ca	352,300.	70,460.	ppb	1.16	200000.	
51 V	9.145	1.829	ppb	4.00	1000.	
52 Cr	32.14	6.428	ppb	1.25	2000.	
53 Cr	90.45	18.09	ppb	2.26	#VALUE!	
55 Mn	1,455.	291.	ppb	1.82	2000.	
56 Fe	8,870.	1,774.	ppb	1.18	#VALUE!	
57 Fe	9,110.	1,822.	ppb	1.43	100000.	
59 Co	2.0325	0.4065	ppb	2.15	1000.	
60 Ni	10.21	2.042	ppb	2.99	1000.	
63 Cu	19.98	3.996	ppb	2.39	#VALUE!	
65 Cu	12.955	2.591	ppb	4.07	2000.	
66 Zn	61.95	12.39	ppb	0.50	2000.	
68 Zn	62.9	12.58	ppb	1.02	#VALUE!	
75 As	10.985	2.197	ppb	10.36	1000.	
82 Se	0.7545	0.1509	ppb	116.24	1000.	
88 Sr	1,494.	298.8	ppb	1.55	2000.	
89 Y	----	--------	---	---	#VALUE!	
98 Mo	18.335	3.667	ppb	1.84	1000.	
107 Ag	0.009	0.0018	ppb	41.14	100.	
109 Ag	0.0192	0.0038	ppb	33.07	#VALUE!	
111 Cd	0.3107	0.0621	ppb	86.24	#VALUE!	
114 Cd	0.0794	0.0159	ppb	28.82	1000.	
115 In	----	--------	---	---	#VALUE!	
118 Sn	2.19	0.438	ppb	11.36	1000.	
120 Sn	2.0735	0.4147	ppb	6.21	#VALUE!	
121 Sb	0.2409	0.0482	ppb	19.31	#VALUE!	
123 Sb	0.198	0.0396	ppb	23.37	1000.	
135 Ba	132.05	26.41	ppb	1.62	2000.	
137 Ba	131.6	26.32	ppb	0.85	#VALUE!	
182 W	0.2914	0.0583	ppb	21.09	1000.	
203 Tl	-0.0214	-0.0043	ppb	204.63	1000.	
205 Tl	-0.0294	-0.0059	ppb	54.68	#VALUE!	
208 Pb	6.045	1.209	ppb	0.50	2000.	
232 Th	3.383	0.6766	ppb	3.10	1000.	
238 U	3.5125	0.7025	ppb	0.36	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2316183.80	2.06	2422125.80	95.6	69.5 - 120	
45 Sc	2042597.00	0.25	2037841.00	100.2	69.5 - 120	
72 Ge	444283.66	0.40	440652.41	100.8	69.5 - 120	
159 Tb	3751111.30	0.61	3649611.30	102.8	69.5 - 120	
209 Bi	1893528.50	0.35	1931866.90	98.0	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000155

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\037SMPL.D\037SMPL.D#
Date Acquired: May 16 2018 08:35 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: RINSE
Misc Info:
Vial Number: 2110
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0023	0.0023	ppb	143.80	100.	
11 B	2.705	2.705	ppb	12.57	1000.	
23 Na	17.54	17.54	ppb	2.03	200000.	
25 Mg	1.743	1.743	ppb	5.88	200000.	
27 Al	1.984	1.984	ppb	6.78	200000.	
28 Si	42.57	42.57	ppb	13.22	#VALUE!	
29 Si	60.87	60.87	ppb	5.84	10000.	
39 K	8.53	8.53	ppb	16.88	200000.	
43 Ca	14.4	14.4	ppb	13.97	#VALUE!	
44 Ca	14.04	14.04	ppb	4.46	200000.	
51 V	0.0122	0.0122	ppb	447.99	1000.	
52 Cr	0.0355	0.0355	ppb	67.75	2000.	
53 Cr	0.297	0.297	ppb	166.33	#VALUE!	
55 Mn	0.0745	0.0745	ppb	3.29	2000.	
56 Fe	15.1	15.1	ppb	7.66	#VALUE!	
57 Fe	6.473	6.473	ppb	10.53	100000.	
59 Co	0.004	0.004	ppb	89.34	1000.	
60 Ni	0.013	0.013	ppb	103.70	1000.	
63 Cu	0.3021	0.3021	ppb	5.32	#VALUE!	
65 Cu	0.2938	0.2938	ppb	7.90	2000.	
66 Zn	0.3481	0.3481	ppb	11.91	2000.	
68 Zn	0.3054	0.3054	ppb	58.74	#VALUE!	
75 As	-0.1313	-0.1313	ppb	147.60	1000.	
82 Se	-0.0179	-0.0179	ppb	915.78	1000.	
88 Sr	0.0123	0.0123	ppb	22.48	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	0.0097	0.0097	ppb	69.36	1000.	
107 Ag	-0.0012	-0.0012	ppb	33.30	100.	
109 Ag	-0.0004	-0.0004	ppb	574.94	#VALUE!	
111 Cd	0.0766	0.0766	ppb	2.70	#VALUE!	
114 Cd	0.0039	0.0039	ppb	23.13	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	0.052	0.052	ppb	23.66	1000.	
120 Sn	0.0443	0.0443	ppb	41.50	#VALUE!	
121 Sb	0.0018	0.0018	ppb	53.84	#VALUE!	
123 Sb	0.001	0.001	ppb	245.33	1000.	
135 Ba	0.1983	0.1983	ppb	21.20	2000.	
137 Ba	0.1893	0.1893	ppb	9.57	#VALUE!	
182 W	0.0088	0.0088	ppb	52.23	1000.	
203 Tl	0.0027	0.0027	ppb	362.60	1000.	
205 Tl	-0.0135	-0.0135	ppb	59.98	#VALUE!	
208 Pb	0.1139	0.1139	ppb	15.05	2000.	
232 Th	0.0037	0.0037	ppb	34.21	1000.	
238 U	-0.0001	-0.0001	ppb	504.37	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2356117.80	1.50	2422125.80	97.3	69.5 - 120	
45 Sc	2030801.90	0.77	2037841.00	99.7	69.5 - 120	
72 Ge	436042.47	0.93	440652.41	99.0	69.5 - 120	
159 Tb	3562482.50	0.81	3649611.30	97.6	69.5 - 120	
209 Bi	1872253.10	0.34	1931866.90	96.9	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000156

CCV QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\038_CCV.D\038_CCV.D#
Date Acquired: May 16 2018 08:39 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: CCV
Misc Info:
Vial Number: 1206
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Dilution Factor: 1.00
QC Range (%): 89.5 - 110.5

QC Elements

Element	Conc.		RSD(%)	Expected	Rec (%)	Flag
9 Be	24.79	ppb	1.15	25	99.16	
11 B	25.25	ppb	3.90	25	101	
23 Na	4,925.	ppb	1.00	5,000	98.5	
25 Mg	5,026.	ppb	1.10	5,000	100.52	
27 Al	492.4	ppb	0.85	500	98.48	
28 Si	471.2	ppb	2.48	500	94.24	
29 Si	479.7	ppb	2.93	500	95.94	
39 K	4,892.	ppb	0.73	5,000	97.84	
43 Ca	4,943.	ppb	1.27	5,000	98.86	
44 Ca	4,923.	ppb	0.39	5,000	98.46	
51 V	24.37	ppb	1.69	25	97.48	
52 Cr	24.43	ppb	1.58	25	97.72	
53 Cr	24.39	ppb	3.31	25	97.56	
55 Mn	24.54	ppb	2.19	25	98.16	
56 Fe	4,875.	ppb	1.65	5,000	97.5	
57 Fe	4,908.	ppb	2.01	5,000	98.16	
59 Co	24.61	ppb	1.97	25	98.44	
60 Ni	24.86	ppb	2.59	25	99.44	
63 Cu	24.81	ppb	1.65	25	99.24	
65 Cu	24.76	ppb	1.14	25	99.04	
66 Zn	25.15	ppb	0.84	25	100.6	
68 Zn	25.03	ppb	0.42	25	100.12	
75 As	24.54	ppb	1.93	25	98.16	
82 Se	24.67	ppb	2.11	25	98.68	
88 Sr	24.03	ppb	1.97	25	96.12	
89 Y	--------	---	--------	---	#VALUE!	
98 Mo	24.5	ppb	1.36	25	98	
107 Ag	24.59	ppb	1.00	25	98.36	
109 Ag	24.82	ppb	1.11	25	99.28	
111 Cd	24.62	ppb	1.56	25	98.48	
114 Cd	24.81	ppb	1.30	25	99.24	
115 In	--------	---	--------	---	#VALUE!	
118 Sn	24.46	ppb	0.74	25	97.84	
120 Sn	24.5	ppb	0.07	25	98	
121 Sb	25.05	ppb	0.27	25	100.2	
123 Sb	25.03	ppb	0.26	25	100.12	
135 Ba	25.12	ppb	2.21	25	100.48	
137 Ba	24.91	ppb	0.66	25	99.64	
182 W	24.5	ppb	0.69	25	98	
203 Tl	24.49	ppb	0.24	25	97.96	
205 Tl	24.26	ppb	0.60	25	97.04	
208 Pb	24.44	ppb	0.60	25	97.76	
232 Th	23.88	ppb	1.04	25	95.52	
238 U	24.42	ppb	0.54	25	97.68	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2392982.50	0.88	2422125.80	98.8	80 - 120.4	
45 Sc	2086534.50	0.38	2037841.00	102.4	80 - 120.4	
72 Ge	435711.34	1.37	440652.41	98.9	80 - 120.4	
159 Tb	3737555.00	0.49	3649611.30	102.4	80 - 120.4	
209 Bi	1948697.50	0.80	1931866.90	100.9	80 - 120.4	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000157

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\039_CCB.D\039_CCB.D#
Date Acquired: May 16 2018 08:43 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: CCB
Misc Info:
Vial Number: 1207
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: 6-CCB
Dilution Factor: 1.00

QC Elements

Element	Conc.		RSD(%)	High Limit	Flag
9 Be	0.0047	ppb	22.80	1.00	
11 B	1.994	ppb	10.68	1.00	
23 Na	5.113	ppb	66.56	1.00	
25 Mg	0.8155	ppb	148.38	1.00	
27 Al	0.1	ppb	68.02	1.00	
28 Si	60.39	ppb	62.36	1.00	
29 Si	58.76	ppb	62.63	1.00	
39 K	8.437	ppb	26.69	1.00	
43 Ca	2.118	ppb	336.02	1.00	
44 Ca	1.748	ppb	213.96	1.00	
51 V	-0.0702	ppb	70.90	1.00	
52 Cr	-0.0437	ppb	73.79	1.00	
53 Cr	-2.861	ppb	9.54	1.00	
55 Mn	0.0277	ppb	38.20	1.00	
56 Fe	4.275	ppb	105.89	1.00	
57 Fe	2.868	ppb	52.02	1.00	
59 Co	-0.0012	ppb	175.58	1.00	
60 Ni	-0.0041	ppb	215.94	1.00	
63 Cu	0.0678	ppb	35.72	1.00	
65 Cu	0.0472	ppb	38.25	1.00	
66 Zn	-0.0122	ppb	347.94	1.00	
68 Zn	0.0835	ppb	138.77	1.00	
75 As	-0.049	ppb	219.16	1.00	
82 Se	-0.1111	ppb	105.49	1.00	
88 Sr	0.0097	ppb	186.20	1.00	
89 Y	--------	---	--------	---	
98 Mo	0.0239	ppb	30.96	1.00	
107 Ag	0.0012	ppb	349.96	1.00	
109 Ag	0.0051	ppb	96.23	1.00	
111 Cd	0.0212	ppb	75.68	1.00	
114 Cd	0.0038	ppb	149.62	1.00	
115 In	--------	---	--------	---	
118 Sn	0.0336	ppb	14.67	1.00	
120 Sn	0.033	ppb	9.28	1.00	
121 Sb	0.013	ppb	22.76	1.00	
123 Sb	0.0113	ppb	66.35	1.00	
135 Ba	-0.0042	ppb	96.56	1.00	
137 Ba	0.0083	ppb	183.68	1.00	
182 W	0.0505	ppb	27.66	1.00	
203 Tl	-0.0101	ppb	68.13	1.00	
205 Tl	-0.0091	ppb	124.79	1.00	
208 Pb	-0.0436	ppb	45.72	1.00	
232 Th	0.0573	ppb	12.12	1.00	
238 U	0.0021	ppb	91.19	1.00	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2245806.50	2.47	2422125.80	92.7	79.5 - 120	
45 Sc	1953939.80	2.45	2037841.00	95.9	79.5 - 120	
72 Ge	416553.00	2.43	440652.41	94.5	79.5 - 120	
159 Tb	3494222.50	1.84	3649611.30	95.7	79.5 - 120	
209 Bi	1835378.80	1.86	1931866.90	95.0	79.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\040SMPL.D\040SMPL.D#
Date Acquired: May 16 2018 08:47 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3902-009
Misc Info:
Vial Number: 2111
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0319	0.0064	ppb	40.47	100.	
11 B	236.5	47.3	ppb	4.44	1000.	
23 Na	303,200.	60,640.	ppb	1.19	200000.	
25 Mg	68,000.	13,600.	ppb	1.25	200000.	
27 Al	9.035	1.807	ppb	8.89	200000.	
28 Si	17,525.	3,505.	ppb	0.44	#VALUE!	
29 Si	18,525.	3,705.	ppb	5.54	10000.	
39 K	18,135.	3,627.	ppb	0.62	200000.	
43 Ca	386,350.	77,270.	ppb	0.27	#VALUE!	
44 Ca	360,350.	72,070.	ppb	1.03	200000.	
51 V	0.3258	0.0652	ppb	108.53	1000.	
52 Cr	2.1165	0.4233	ppb	5.03	2000.	
53 Cr	53.25	10.65	ppb	32.64	#VALUE!	
55 Mn	1,464.5	292.9	ppb	0.21	2000.	
56 Fe	3,751.5	750.3	ppb	1.31	#VALUE!	
57 Fe	4,056.5	811.3	ppb	0.74	100000.	
59 Co	0.4255	0.0851	ppb	16.60	1000.	
60 Ni	1.4255	0.2851	ppb	16.48	1000.	
63 Cu	8.74	1.748	ppb	3.00	#VALUE!	
65 Cu	1.258	0.2516	ppb	10.93	2000.	
66 Zn	18.15	3.63	ppb	4.71	2000.	
68 Zn	17.775	3.555	ppb	7.03	#VALUE!	
75 As	9.435	1.887	ppb	5.72	1000.	
82 Se	1.5155	0.3031	ppb	45.30	1000.	
88 Sr	1,507.	301.4	ppb	0.30	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	13.9	2.78	ppb	2.14	1000.	
107 Ag	0.0068	0.0014	ppb	247.09	100.	
109 Ag	0.0105	0.0021	ppb	126.39	#VALUE!	
111 Cd	0.2161	0.0432	ppb	45.28	#VALUE!	
114 Cd	0.0361	0.0072	ppb	8.49	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	1.2685	0.2537	ppb	9.16	1000.	
120 Sn	1.2625	0.2525	ppb	8.45	#VALUE!	
121 Sb	0.115	0.023	ppb	13.54	#VALUE!	
123 Sb	0.0833	0.0167	ppb	10.48	1000.	
135 Ba	33.41	6.682	ppb	1.45	2000.	
137 Ba	33.67	6.734	ppb	2.26	#VALUE!	
182 W	0.2723	0.0545	ppb	12.90	1000.	
203 Tl	-0.1019	-0.0204	ppb	28.26	1000.	
205 Tl	-0.0814	-0.0163	ppb	25.08	#VALUE!	
208 Pb	-0.775	-0.155	ppb	14.13	2000.	
232 Th	0.4766	0.0953	ppb	22.97	1000.	
238 U	2.7505	0.5501	ppb	5.11	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2342075.50	1.58	2422125.80	96.7	69.5 - 120	
45 Sc	2052249.50	1.25	2037841.00	100.7	69.5 - 120	
72 Ge	445141.34	0.87	440652.41	101.0	69.5 - 120	
159 Tb	3728692.50	0.41	3649611.30	102.2	69.5 - 120	
209 Bi	1863713.10	0.50	1931866.90	96.5	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000159

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\041SMPL.D\041SMPL.D#
Date Acquired: May 16 2018 08:51 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3902-010
Misc Info:
Vial Number: 2112
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.1953	0.0391	ppb	19.98	100.	
11 B	244.55	48.91	ppb	3.31	1000.	
23 Na	295,850.	59,170.	ppb	1.39	200000.	
25 Mg	67,050.	13,410.	ppb	2.50	200000.	
27 Al	4,156.5	831.3	ppb	2.04	200000.	
28 Si	25,425.	5,085.	ppb	3.21	#VALUE!	
29 Si	28,530.	5,706.	ppb	2.99	10000.	
39 K	19,265.	3,853.	ppb	3.18	200000.	
43 Ca	391,700.	78,340.	ppb	1.77	#VALUE!	
44 Ca	363,000.	72,600.	ppb	1.58	200000.	
51 V	8.16	1.632	ppb	10.57	1000.	
52 Cr	36.925	7.385	ppb	2.05	2000.	
53 Cr	90.55	18.11	ppb	1.40	#VALUE!	
55 Mn	1,478.	295.6	ppb	0.31	2000.	
56 Fe	8,710.	1,742.	ppb	0.18	#VALUE!	
57 Fe	8,960.	1,792.	ppb	0.36	100000.	
59 Co	2.019	0.4038	ppb	3.33	1000.	
60 Ni	12.855	2.571	ppb	2.17	1000.	
63 Cu	19.755	3.951	ppb	1.47	#VALUE!	
65 Cu	12.595	2.519	ppb	3.09	2000.	
66 Zn	64.75	12.95	ppb	1.74	2000.	
68 Zn	66.15	13.23	ppb	2.22	#VALUE!	
75 As	10.085	2.017	ppb	3.50	1000.	
82 Se	0.1302	0.026	ppb	1011.10	1000.	
88 Sr	1,505.	301.	ppb	0.77	2000.	
89 Y	----	--------	---	---	#VALUE!	
98 Mo	18.845	3.769	ppb	2.48	1000.	
107 Ag	0.0062	0.0012	ppb	304.35	100.	
109 Ag	0.0205	0.0041	ppb	39.15	#VALUE!	
111 Cd	0.2472	0.0494	ppb	61.65	#VALUE!	
114 Cd	0.0342	0.0068	ppb	36.53	1000.	
115 In	----	--------	---	---	#VALUE!	
118 Sn	1.964	0.3928	ppb	6.16	1000.	
120 Sn	1.892	0.3784	ppb	6.51	#VALUE!	
121 Sb	0.1814	0.0363	ppb	10.26	#VALUE!	
123 Sb	0.201	0.0402	ppb	3.50	1000.	
135 Ba	118.05	23.61	ppb	1.51	2000.	
137 Ba	117.3	23.46	ppb	0.60	#VALUE!	
182 W	0.3554	0.0711	ppb	8.58	1000.	
203 Tl	-0.0247	-0.0049	ppb	164.34	1000.	
205 Tl	-0.0649	-0.013	ppb	39.46	#VALUE!	
208 Pb	5.895	1.179	ppb	3.69	2000.	
232 Th	3.6285	0.7257	ppb	1.14	1000.	
238 U	3.5435	0.7087	ppb	3.59	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2278144.30	0.81	2422125.80	94.1	69.5 - 120	
45 Sc	2018563.90	2.22	2037841.00	99.1	69.5 - 120	
72 Ge	441286.34	0.43	440652.41	100.1	69.5 - 120	
159 Tb	3705142.50	0.86	3649611.30	101.5	69.5 - 120	
209 Bi	1844485.80	1.15	1931866.90	95.5	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000160

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\042SMPL.D\042SMPL.D#
Date Acquired: May 16 2018 08:56 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3902-011
Misc Info:
Vial Number: 2201
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0185	0.0037	ppb	57.13	100.	
11 B	229.9	45.98	ppb	3.85	1000.	
23 Na	289,950.	57,990.	ppb	1.35	200000.	
25 Mg	64,100.	12,820.	ppb	1.06	200000.	
27 Al	8.63	1.726	ppb	5.52	200000.	
28 Si	16,620.	3,324.	ppb	2.03	#VALUE!	
29 Si	17,130.	3,426.	ppb	1.58	10000.	
39 K	17,410.	3,482.	ppb	1.02	200000.	
43 Ca	370,550.	74,110.	ppb	1.31	#VALUE!	
44 Ca	344,750.	68,950.	ppb	1.19	200000.	
51 V	0.3006	0.0601	ppb	62.57	1000.	
52 Cr	2.028	0.4056	ppb	6.97	2000.	
53 Cr	63.1	12.62	ppb	14.08	#VALUE!	
55 Mn	1,392.	278.4	ppb	1.06	2000.	
56 Fe	3,475.5	695.1	ppb	0.58	#VALUE!	
57 Fe	3,748.5	749.7	ppb	1.16	100000.	
59 Co	0.4009	0.0802	ppb	18.68	1000.	
60 Ni	1.4015	0.2803	ppb	11.33	1000.	
63 Cu	8.345	1.669	ppb	2.26	#VALUE!	
65 Cu	1.3005	0.2601	ppb	6.72	2000.	
66 Zn	17.11	3.422	ppb	0.72	2000.	
68 Zn	15.005	3.001	ppb	4.08	#VALUE!	
75 As	9.19	1.838	ppb	19.08	1000.	
82 Se	1.378	0.2756	ppb	120.07	1000.	
88 Sr	1,439.5	287.9	ppb	1.53	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	12.925	2.585	ppb	2.85	1000.	
107 Ag	-0.0044	-0.0009	ppb	118.79	100.	
109 Ag	0.003	0.0006	ppb	109.85	#VALUE!	
111 Cd	0.1579	0.0316	ppb	10.40	#VALUE!	
114 Cd	0.0096	0.0019	ppb	215.29	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	1.171	0.2342	ppb	4.58	1000.	
120 Sn	1.1855	0.2371	ppb	1.41	#VALUE!	
121 Sb	0.0618	0.0124	ppb	25.24	#VALUE!	
123 Sb	0.0481	0.0096	ppb	83.34	1000.	
135 Ba	31.64	6.328	ppb	4.42	2000.	
137 Ba	30.84	6.168	ppb	1.19	#VALUE!	
182 W	0.1851	0.037	ppb	2.44	1000.	
203 Tl	-0.1247	-0.0249	ppb	36.66	1000.	
205 Tl	-0.1199	-0.024	ppb	15.07	#VALUE!	
208 Pb	-0.845	-0.169	ppb	12.56	2000.	
232 Th	0.1656	0.0331	ppb	34.90	1000.	
238 U	2.607	0.5214	ppb	1.38	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2363820.80	0.73	2422125.80	97.6	69.5 - 120	
45 Sc	2041268.10	0.97	2037841.00	100.2	69.5 - 120	
72 Ge	445027.78	0.65	440652.41	101.0	69.5 - 120	
159 Tb	3727171.30	0.65	3649611.30	102.1	69.5 - 120	
209 Bi	1859692.00	0.50	1931866.90	96.3	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000161

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\043SMPL.D\043SMPL.D#
Date Acquired: May 16 2018 09:00 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3902-012
Misc Info:
Vial Number: 2202
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.3864	0.0773	ppb	11.58	100.	
11 B	239.8	47.96	ppb	2.04	1000.	
23 Na	324,600.	64,920.	ppb	1.85	200000.	
25 Mg	74,900.	14,980.	ppb	1.01	200000.	
27 Al	9,370.	1,874.	ppb	0.99	200000.	
28 Si	34,150.	6,830.	ppb	2.27	#VALUE!	
29 Si	37,230.	7,446.	ppb	3.47	10000.	
39 K	21,145.	4,229.	ppb	1.51	200000.	
43 Ca	400,250.	80,050.	ppb	0.35	#VALUE!	
44 Ca	370,450.	74,090.	ppb	0.69	200000.	
51 V	20.78	4.156	ppb	2.52	1000.	
52 Cr	44.955	8.991	ppb	1.16	2000.	
53 Cr	99.7	19.94	ppb	1.93	#VALUE!	
55 Mn	1,419.	283.8	ppb	0.51	2000.	
56 Fe	13,100.	2,620.	ppb	1.53	#VALUE!	
57 Fe	13,305.	2,661.	ppb	1.19	100000.	
59 Co	3.769	0.7538	ppb	2.52	1000.	
60 Ni	18.845	3.769	ppb	3.51	1000.	
63 Cu	30.225	6.045	ppb	0.75	#VALUE!	
65 Cu	22.165	4.433	ppb	1.82	2000.	
66 Zn	112.15	22.43	ppb	1.13	2000.	
68 Zn	113.	22.6	ppb	1.74	#VALUE!	
75 As	12.375	2.475	ppb	6.22	1000.	
82 Se	0.4911	0.0982	ppb	46.25	1000.	
88 Sr	1,581.	316.2	ppb	0.90	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	21.585	4.317	ppb	1.93	1000.	
107 Ag	0.0284	0.0057	ppb	86.78	100.	
109 Ag	0.032	0.0064	ppb	27.23	#VALUE!	
111 Cd	0.4748	0.095	ppb	43.63	#VALUE!	
114 Cd	0.2818	0.0564	ppb	10.03	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	2.3895	0.4779	ppb	6.98	1000.	
120 Sn	2.4105	0.4821	ppb	7.26	#VALUE!	
121 Sb	0.3404	0.0681	ppb	12.62	#VALUE!	
123 Sb	0.3471	0.0694	ppb	5.71	1000.	
135 Ba	175.6	35.12	ppb	1.41	2000.	
137 Ba	176.5	35.3	ppb	2.03	#VALUE!	
182 W	0.3915	0.0783	ppb	11.74	1000.	
203 Tl	0.0506	0.0101	ppb	135.77	1000.	
205 Tl	0.0545	0.0109	ppb	58.78	#VALUE!	
208 Pb	12.595	2.519	ppb	0.84	2000.	
232 Th	7.095	1.419	ppb	0.68	1000.	
238 U	3.9255	0.7851	ppb	1.53	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2305480.50	1.18	2422125.80	95.2	69.5 - 120	
45 Sc	2026548.80	1.61	2037841.00	99.4	69.5 - 120	
72 Ge	445026.44	0.51	440652.41	101.0	69.5 - 120	
159 Tb	3777822.80	1.08	3649611.30	103.5	69.5 - 120	
209 Bi	1885928.30	1.01	1931866.90	97.6	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000162

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\044SMPL.D\044SMPL.D#
Date Acquired: May 16 2018 09:04 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3902-012L
Misc Info:
Vial Number: 2203
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: Sample
Dilution Factor: 25.00
Autodil Factor: Undiluted
Final Dil Factor: 25.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.377	0.0151	ppb	26.23	100.	
11 B	287.	11.48	ppb	1.61	1000.	
23 Na	331,250.	13,250.	ppb	2.02	200000.	
25 Mg	77,600.	3,104.	ppb	2.65	200000.	
27 Al	9,660.	386.4	ppb	1.52	200000.	
28 Si	33,925.	1,357.	ppb	1.44	#VALUE!	
29 Si	34,325.	1,373.	ppb	1.00	10000.	
39 K	21,367.5	854.7	ppb	1.55	200000.	
43 Ca	385,250.	15,410.	ppb	2.28	#VALUE!	
44 Ca	379,000.	15,160.	ppb	0.50	200000.	
51 V	18.165	0.7266	ppb	18.13	1000.	
52 Cr	46.65	1.866	ppb	3.84	2000.	
53 Cr	122.475	4.899	ppb	7.38	#VALUE!	
55 Mn	1,520.5	60.82	ppb	1.11	2000.	
56 Fe	13,615.	544.6	ppb	1.70	#VALUE!	
57 Fe	14,047.5	561.9	ppb	0.91	100000.	
59 Co	3.965	0.1586	ppb	10.09	1000.	
60 Ni	19.5675	0.7827	ppb	7.16	1000.	
63 Cu	32.975	1.319	ppb	4.75	#VALUE!	
65 Cu	24.715	0.9886	ppb	6.49	2000.	
66 Zn	122.925	4.917	ppb	3.47	2000.	
68 Zn	119.025	4.761	ppb	4.70	#VALUE!	
75 As	7.165	0.2866	ppb	73.10	1000.	
82 Se	-4.78	-0.1912	ppb	80.70	1000.	
88 Sr	1,680.	67.2	ppb	1.00	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	21.895	0.8758	ppb	2.55	1000.	
107 Ag	0.0308	0.0012	ppb	100.81	100.	
109 Ag	0.0376	0.0015	ppb	63.44	#VALUE!	
111 Cd	1.515	0.0606	ppb	22.20	#VALUE!	
114 Cd	0.2648	0.0106	ppb	44.86	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	2.835	0.1134	ppb	2.64	1000.	
120 Sn	2.465	0.0986	ppb	3.46	#VALUE!	
121 Sb	0.3498	0.014	ppb	8.78	#VALUE!	
123 Sb	0.4178	0.0167	ppb	32.68	1000.	
135 Ba	184.2	7.368	ppb	0.97	2000.	
137 Ba	181.55	7.262	ppb	1.34	#VALUE!	
182 W	0.3993	0.016	ppb	12.76	1000.	
203 Tl	-0.3808	-0.0152	ppb	58.37	1000.	
205 Tl	-0.3203	-0.0128	ppb	37.20	#VALUE!	
208 Pb	10.0675	0.4027	ppb	7.32	2000.	
232 Th	6.0325	0.2413	ppb	0.63	1000.	
238 U	3.9125	0.1565	ppb	6.10	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2358660.00	1.81	2422125.80	97.4	69.5 - 120	
45 Sc	2056746.90	0.49	2037841.00	100.9	69.5 - 120	
72 Ge	440724.66	0.95	440652.41	100.0	69.5 - 120	
159 Tb	3671685.00	0.22	3649611.30	100.6	69.5 - 120	
209 Bi	1929736.30	0.99	1931866.90	99.9	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000163

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\045SMPL.D\045SMPL.D#
Date Acquired: May 16 2018 09:08 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3902-012A
Misc Info:
Vial Number: 2204
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	10.705	2.141	ppb	2.51	100.	
11 B	446.4	89.28	ppb	4.59	1000.	
23 Na	333,500.	66,700.	ppb	2.05	200000.	
25 Mg	73,250.	14,650.	ppb	1.68	200000.	
27 Al	10,005.	2,001.	ppb	1.88	200000.	
28 Si	38,420.	7,684.	ppb	1.42	#VALUE!	
29 Si	42,630.	8,526.	ppb	2.42	10000.	
39 K	30,460.	6,092.	ppb	1.50	200000.	
43 Ca	388,650.	77,730.	ppb	2.49	#VALUE!	
44 Ca	360,350.	72,070.	ppb	1.85	200000.	
51 V	70.95	14.19	ppb	0.45	1000.	
52 Cr	93.85	18.77	ppb	1.56	2000.	
53 Cr	145.4	29.08	ppb	1.60	#VALUE!	
55 Mn	1,457.5	291.5	ppb	1.33	2000.	
56 Fe	14,090.	2,818.	ppb	1.19	#VALUE!	
57 Fe	14,160.	2,832.	ppb	1.89	100000.	
59 Co	13.505	2.701	ppb	1.75	1000.	
60 Ni	36.91	7.382	ppb	1.46	1000.	
63 Cu	59.7	11.94	ppb	1.56	#VALUE!	
65 Cu	50.9	10.18	ppb	0.67	2000.	
66 Zn	209.05	41.81	ppb	2.98	2000.	
68 Zn	206.6	41.32	ppb	1.94	#VALUE!	
75 As	61.9	12.38	ppb	1.79	1000.	
82 Se	50.	10.	ppb	3.88	1000.	
88 Sr	1,620.	324.	ppb	0.99	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	71.6	14.32	ppb	1.10	1000.	
107 Ag	9.72	1.944	ppb	0.38	100.	
109 Ag	9.725	1.945	ppb	2.42	#VALUE!	
111 Cd	10.345	2.069	ppb	2.59	#VALUE!	
114 Cd	10.17	2.034	ppb	4.00	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	52.55	10.51	ppb	1.56	1000.	
120 Sn	52.5	10.5	ppb	0.89	#VALUE!	
121 Sb	10.655	2.131	ppb	1.54	#VALUE!	
123 Sb	10.485	2.097	ppb	1.23	1000.	
135 Ba	197.4	39.48	ppb	1.34	2000.	
137 Ba	193.8	38.76	ppb	0.49	#VALUE!	
182 W	52.35	10.47	ppb	0.67	1000.	
203 Tl	10.12	2.024	ppb	1.48	1000.	
205 Tl	10.365	2.073	ppb	2.75	#VALUE!	
208 Pb	22.435	4.487	ppb	1.13	2000.	
232 Th	17.735	3.547	ppb	1.52	1000.	
238 U	14.505	2.901	ppb	0.75	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2277427.50	1.81	2422125.80	94.0	69.5 - 120	
45 Sc	2023546.90	1.90	2037841.00	99.3	69.5 - 120	
72 Ge	437295.28	1.10	440652.41	99.2	69.5 - 120	
159 Tb	3732322.50	1.09	3649611.30	102.3	69.5 - 120	
209 Bi	1898959.50	1.38	1931866.90	98.3	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000164

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\046SMPL.D\046SMPL.D#
Date Acquired: May 16 2018 09:12 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3902-012S
Misc Info:
Vial Number: 2205
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	48.52	9.704	ppb	2.93	100.	
11 B	721.5	144.3	ppb	3.32	1000.	
23 Na	330,950.	66,190.	ppb	1.87	200000.	
25 Mg	77,400.	15,480.	ppb	1.58	200000.	
27 Al	11,475.	2,295.	ppb	0.60	200000.	
28 Si	35,255.	7,051.	ppb	0.47	#VALUE!	
29 Si	38,985.	7,797.	ppb	0.48	10000.	
39 K	30,180.	6,036.	ppb	1.57	200000.	
43 Ca	391,200.	78,240.	ppb	2.15	#VALUE!	
44 Ca	367,450.	73,490.	ppb	1.39	200000.	
51 V	532.5	106.5	ppb	1.35	1000.	
52 Cr	234.05	46.81	ppb	1.60	2000.	
53 Cr	299.15	59.83	ppb	1.23	#VALUE!	
55 Mn	1,927.	385.4	ppb	0.21	2000.	
56 Fe	14,585.	2,917.	ppb	0.67	#VALUE!	
57 Fe	14,465.	2,893.	ppb	1.37	100000.	
59 Co	485.55	97.11	ppb	0.79	1000.	
60 Ni	497.15	99.43	ppb	1.61	1000.	
63 Cu	267.35	53.47	ppb	1.17	#VALUE!	
65 Cu	256.95	51.39	ppb	0.95	2000.	
66 Zn	585.	117.	ppb	1.64	2000.	
68 Zn	641.	128.2	ppb	1.46	#VALUE!	
75 As	111.35	22.27	ppb	0.47	1000.	
82 Se	98.6	19.72	ppb	0.54	1000.	
88 Sr	2,073.	414.6	ppb	0.30	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	124.	24.8	ppb	0.72	1000.	
107 Ag	48.55	9.71	ppb	0.46	100.	
109 Ag	47.81	9.562	ppb	1.56	#VALUE!	
111 Cd	238.4	47.68	ppb	0.85	#VALUE!	
114 Cd	238.9	47.78	ppb	0.95	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	481.8	96.36	ppb	3.07	1000.	
120 Sn	479.4	95.88	ppb	2.86	#VALUE!	
121 Sb	88.65	17.73	ppb	2.76	#VALUE!	
123 Sb	90.15	18.03	ppb	2.75	1000.	
135 Ba	2,186.	437.2	ppb	2.97	2000.	
137 Ba	2,170.5	434.1	ppb	2.46	#VALUE!	
182 W	98.8	19.76	ppb	3.66	1000.	
203 Tl	101.4	20.28	ppb	2.33	1000.	
205 Tl	100.75	20.15	ppb	1.84	#VALUE!	
208 Pb	114.15	22.83	ppb	1.21	2000.	
232 Th	111.95	22.39	ppb	2.60	1000.	
238 U	107.95	21.59	ppb	2.81	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2320670.30	1.21	2422125.80	95.8	69.5 - 120	
45 Sc	1998688.50	0.98	2037841.00	98.1	69.5 - 120	
72 Ge	427511.63	0.68	440652.41	97.0	69.5 - 120	
159 Tb	3718396.30	2.58	3649611.30	101.9	69.5 - 120	
209 Bi	1868963.30	1.65	1931866.90	96.7	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000165

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\047SMPL.D\047SMPL.D#
Date Acquired: May 16 2018 09:16 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3902-012P
Misc Info:
Vial Number: 2206
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	48.725	9.745	ppb	3.00	100.	
11 B	749.	149.8	ppb	3.39	1000.	
23 Na	335,250.	67,050.	ppb	0.88	200000.	
25 Mg	78,500.	15,700.	ppb	1.08	200000.	
27 Al	12,090.	2,418.	ppb	1.48	200000.	
28 Si	37,775.	7,555.	ppb	1.15	#VALUE!	
29 Si	41,410.	8,282.	ppb	1.54	10000.	
39 K	30,955.	6,191.	ppb	0.80	200000.	
43 Ca	395,250.	79,050.	ppb	1.10	#VALUE!	
44 Ca	368,100.	73,620.	ppb	0.29	200000.	
51 V	530.5	106.1	ppb	0.73	1000.	
52 Cr	233.8	46.76	ppb	0.47	2000.	
53 Cr	296.45	59.29	ppb	0.79	#VALUE!	
55 Mn	1,933.5	386.7	ppb	0.30	2000.	
56 Fe	14,450.	2,890.	ppb	0.30	#VALUE!	
57 Fe	14,325.	2,865.	ppb	0.31	100000.	
59 Co	497.2	99.44	ppb	1.45	1000.	
60 Ni	494.1	98.82	ppb	0.68	1000.	
63 Cu	268.1	53.62	ppb	0.43	#VALUE!	
65 Cu	259.1	51.82	ppb	0.75	2000.	
66 Zn	582.	116.4	ppb	0.71	2000.	
68 Zn	643.5	128.7	ppb	1.32	#VALUE!	
75 As	110.5	22.1	ppb	0.59	1000.	
82 Se	96.4	19.28	ppb	1.44	1000.	
88 Sr	2,089.	417.8	ppb	0.71	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	122.55	24.51	ppb	0.69	1000.	
107 Ag	47.945	9.589	ppb	0.42	100.	
109 Ag	48.09	9.618	ppb	0.24	#VALUE!	
111 Cd	240.3	48.06	ppb	0.57	#VALUE!	
114 Cd	241.05	48.21	ppb	0.22	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	477.7	95.54	ppb	0.19	1000.	
120 Sn	480.05	96.01	ppb	0.36	#VALUE!	
121 Sb	91.15	18.23	ppb	0.50	#VALUE!	
123 Sb	91.5	18.3	ppb	0.30	1000.	
135 Ba	2,161.	432.2	ppb	0.34	2000.	
137 Ba	2,164.	432.8	ppb	0.17	#VALUE!	
182 W	97.6	19.52	ppb	1.62	1000.	
203 Tl	101.55	20.31	ppb	1.53	1000.	
205 Tl	101.	20.2	ppb	0.78	#VALUE!	
208 Pb	114.1	22.82	ppb	0.55	2000.	
232 Th	112.3	22.46	ppb	0.50	1000.	
238 U	107.75	21.55	ppb	0.96	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2348844.00	3.12	2422125.80	97.0	69.5 - 120	
45 Sc	2006378.90	1.03	2037841.00	98.5	69.5 - 120	
72 Ge	429189.03	0.07	440652.41	97.4	69.5 - 120	
159 Tb	3749949.50	0.47	3649611.30	102.7	69.5 - 120	
209 Bi	1879216.40	0.60	1931866.90	97.3	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000166

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\048SMPL.D\048SMPL.D#
Date Acquired: May 16 2018 09:20 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3902-013
Misc Info:
Vial Number: 2207
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0172	0.0034	ppb	74.99	100.	
11 B	245.8	49.16	ppb	1.02	1000.	
23 Na	311,650.	62,330.	ppb	0.78	200000.	
25 Mg	68,800.	13,760.	ppb	1.66	200000.	
27 Al	9.74	1.948	ppb	10.12	200000.	
28 Si	14,265.	2,853.	ppb	2.21	#VALUE!	
29 Si	14,565.	2,913.	ppb	2.38	10000.	
39 K	18,090.	3,618.	ppb	1.53	200000.	
43 Ca	377,000.	75,400.	ppb	1.87	#VALUE!	
44 Ca	351,450.	70,290.	ppb	1.34	200000.	
51 V	0.8345	0.1669	ppb	76.69	1000.	
52 Cr	2.104	0.4208	ppb	6.92	2000.	
53 Cr	61.6	12.32	ppb	16.02	#VALUE!	
55 Mn	1,313.5	262.7	ppb	1.89	2000.	
56 Fe	3,058.5	611.7	ppb	2.04	#VALUE!	
57 Fe	3,341.	668.2	ppb	1.64	100000.	
59 Co	0.5195	0.1039	ppb	13.94	1000.	
60 Ni	1.954	0.3908	ppb	19.14	1000.	
63 Cu	9.46	1.892	ppb	0.69	#VALUE!	
65 Cu	1.5495	0.3099	ppb	17.55	2000.	
66 Zn	14.65	2.93	ppb	4.97	2000.	
68 Zn	13.51	2.702	ppb	4.24	#VALUE!	
75 As	8.99	1.798	ppb	1.89	1000.	
82 Se	0.2916	0.0583	ppb	166.59	1000.	
88 Sr	1,493.	298.6	ppb	2.42	2000.	
89 Y	----	--------	---	---	#VALUE!	
98 Mo	12.935	2.587	ppb	3.22	1000.	
107 Ag	0.0006	0.0001	ppb	737.80	100.	
109 Ag	0.0062	0.0012	ppb	88.33	#VALUE!	
111 Cd	0.1229	0.0246	ppb	22.53	#VALUE!	
114 Cd	0.0139	0.0028	ppb	104.61	1000.	
115 In	----	--------	---	---	#VALUE!	
118 Sn	1.47	0.294	ppb	7.08	1000.	
120 Sn	1.3025	0.2605	ppb	8.50	#VALUE!	
121 Sb	0.0972	0.0194	ppb	30.46	#VALUE!	
123 Sb	0.1177	0.0235	ppb	14.92	1000.	
135 Ba	30.37	6.074	ppb	3.66	2000.	
137 Ba	29.395	5.879	ppb	1.15	#VALUE!	
182 W	0.2969	0.0594	ppb	14.85	1000.	
203 Tl	-0.0754	-0.0151	ppb	34.45	1000.	
205 Tl	-0.1086	-0.0217	ppb	23.84	#VALUE!	
208 Pb	-0.792	-0.1584	ppb	7.44	2000.	
232 Th	0.5815	0.1163	ppb	24.90	1000.	
238 U	2.3745	0.4749	ppb	4.57	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2325118.80	1.16	2422125.80	96.0	69.5 - 120	
45 Sc	2051723.80	1.20	2037841.00	100.7	69.5 - 120	
72 Ge	446118.31	0.59	440652.41	101.2	69.5 - 120	
159 Tb	3747907.80	0.74	3649611.30	102.7	69.5 - 120	
209 Bi	1868098.10	0.78	1931866.90	96.7	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000167

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\049SMPL.D\049SMPL.D#
Date Acquired: May 16 2018 09:25 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: RINSE
Misc Info:
Vial Number: 2208
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0017	0.0017	ppb	149.76	100.	
11 B	4.291	4.291	ppb	13.02	1000.	
23 Na	28.93	28.93	ppb	3.45	200000.	
25 Mg	2.936	2.936	ppb	1.27	200000.	
27 Al	2.734	2.734	ppb	5.03	200000.	
28 Si	101.8	101.8	ppb	7.84	#VALUE!	
29 Si	80.21	80.21	ppb	25.31	10000.	
39 K	18.07	18.07	ppb	14.98	200000.	
43 Ca	9.027	9.027	ppb	21.48	#VALUE!	
44 Ca	12.25	12.25	ppb	16.61	200000.	
51 V	-0.0054	-0.0054	ppb	1787.30	1000.	
52 Cr	0.0631	0.0631	ppb	73.70	2000.	
53 Cr	0.4415	0.4415	ppb	160.27	#VALUE!	
55 Mn	0.0969	0.0969	ppb	4.58	2000.	
56 Fe	14.85	14.85	ppb	9.43	#VALUE!	
57 Fe	7.67	7.67	ppb	7.66	100000.	
59 Co	0.0043	0.0043	ppb	118.74	1000.	
60 Ni	0.0144	0.0144	ppb	131.64	1000.	
63 Cu	0.3516	0.3516	ppb	4.87	#VALUE!	
65 Cu	0.3496	0.3496	ppb	12.18	2000.	
66 Zn	0.9705	0.9705	ppb	2.46	2000.	
68 Zn	0.7678	0.7678	ppb	3.33	#VALUE!	
75 As	0.0178	0.0178	ppb	536.82	1000.	
82 Se	-0.1642	-0.1642	ppb	121.92	1000.	
88 Sr	0.0161	0.0161	ppb	35.00	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	0.0102	0.0102	ppb	59.97	1000.	
107 Ag	0.0037	0.0037	ppb	89.97	100.	
109 Ag	0.0091	0.0091	ppb	30.08	#VALUE!	
111 Cd	0.0661	0.0661	ppb	41.83	#VALUE!	
114 Cd	0.0051	0.0051	ppb	27.63	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	0.0406	0.0406	ppb	16.01	1000.	
120 Sn	0.0454	0.0454	ppb	33.49	#VALUE!	
121 Sb	0.0147	0.0147	ppb	13.99	#VALUE!	
123 Sb	0.0113	0.0113	ppb	44.57	1000.	
135 Ba	0.2038	0.2038	ppb	14.71	2000.	
137 Ba	0.2117	0.2117	ppb	4.42	#VALUE!	
182 W	0.012	0.012	ppb	15.03	1000.	
203 Tl	-0.0131	-0.0131	ppb	43.12	1000.	
205 Tl	-0.0141	-0.0141	ppb	18.07	#VALUE!	
208 Pb	0.1225	0.1225	ppb	16.71	2000.	
232 Th	0.0079	0.0079	ppb	52.29	1000.	
238 U	0.0005	0.0005	ppb	164.10	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2214486.80	2.51	2422125.80	91.4	69.5 - 120	
45 Sc	1970313.90	2.04	2037841.00	96.7	69.5 - 120	
72 Ge	424760.38	0.56	440652.41	96.4	69.5 - 120	
159 Tb	3493133.50	0.98	3649611.30	95.7	69.5 - 120	
209 Bi	1826407.60	1.44	1931866.90	94.5	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000168

CCV QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\050_CCV.D\050_CCV.D#
Date Acquired: May 16 2018 09:29 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: CCV
Misc Info:
Vial Number: 1206
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Dilution Factor: 1.00
QC Range (%): 89.5 - 110.5

QC Elements

Element	Conc.		RSD(%)	Expected	Rec (%)	Flag
9 Be	24.9	ppb	2.56	25	99.6	
11 B	26.84	ppb	4.31	25	107.36	
23 Na	5,007.	ppb	1.81	5,000	100.14	
25 Mg	5,046.	ppb	2.13	5,000	100.92	
27 Al	496.8	ppb	0.42	500	99.36	
28 Si	536.6	ppb	2.01	500	107.32	
29 Si	519.4	ppb	1.88	500	103.88	
39 K	4,976.	ppb	1.01	5,000	99.52	
43 Ca	4,868.	ppb	2.08	5,000	97.36	
44 Ca	4,981.	ppb	0.99	5,000	99.62	
51 V	24.77	ppb	1.04	25	99.08	
52 Cr	24.63	ppb	0.93	25	98.52	
53 Cr	24.37	ppb	5.73	25	97.48	
55 Mn	24.83	ppb	0.65	25	99.32	
56 Fe	4,909.	ppb	1.63	5,000	98.18	
57 Fe	4,984.	ppb	1.68	5,000	99.68	
59 Co	24.49	ppb	0.89	25	97.96	
60 Ni	24.75	ppb	1.15	25	99	
63 Cu	25.14	ppb	0.89	25	100.56	
65 Cu	24.77	ppb	2.03	25	99.08	
66 Zn	25.07	ppb	1.54	25	100.28	
68 Zn	25.46	ppb	3.53	25	101.84	
75 As	24.85	ppb	0.71	25	99.4	
82 Se	24.81	ppb	1.81	25	99.24	
88 Sr	24.15	ppb	1.87	25	96.6	
89 Y	--------	---	--------	---	#VALUE!	
98 Mo	24.74	ppb	0.52	25	98.96	
107 Ag	24.7	ppb	0.38	25	98.8	
109 Ag	24.72	ppb	0.15	25	98.88	
111 Cd	24.8	ppb	0.80	25	99.2	
114 Cd	24.95	ppb	0.95	25	99.8	
115 In	--------	---	--------	---	#VALUE!	
118 Sn	24.59	ppb	1.69	25	98.36	
120 Sn	24.57	ppb	0.85	25	98.28	
121 Sb	25.04	ppb	0.96	25	100.16	
123 Sb	25.21	ppb	1.17	25	100.84	
135 Ba	25.12	ppb	1.24	25	100.48	
137 Ba	25.17	ppb	0.98	25	100.68	
182 W	24.18	ppb	1.48	25	96.72	
203 Tl	24.66	ppb	1.67	25	98.64	
205 Tl	24.36	ppb	1.17	25	97.44	
208 Pb	24.42	ppb	1.34	25	97.68	
232 Th	24.09	ppb	2.58	25	96.36	
238 U	24.26	ppb	2.65	25	97.04	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2284386.00	3.45	2422125.80	94.3	80 - 120.4	
45 Sc	2014063.30	0.31	2037841.00	98.8	80 - 120.4	
72 Ge	423266.50	1.07	440652.41	96.1	80 - 120.4	
159 Tb	3628772.80	0.70	3649611.30	99.4	80 - 120.4	
209 Bi	1887457.30	1.16	1931866.90	97.7	80 - 120.4	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000169

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\051_CCB.D\051_CCB.D#
Date Acquired: May 16 2018 09:33 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: CCB
Misc Info:
Vial Number: 1207
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: 6-CCB
Dilution Factor: 1.00

QC Elements

Element	Conc.		RSD(%)	High Limit	Flag
9 Be	0.0047	ppb	58.52	1.00	
11 B	2.539	ppb	9.88	1.00	
23 Na	3.815	ppb	14.99	1.00	
25 Mg	0.2125	ppb	102.54	1.00	
27 Al	0.1589	ppb	89.11	1.00	
28 Si	88.12	ppb	28.76	1.00	
29 Si	61.59	ppb	35.22	1.00	
39 K	8.499	ppb	6.05	1.00	
43 Ca	-0.6557	ppb	439.38	1.00	
44 Ca	2.048	ppb	66.90	1.00	
51 V	-0.0519	ppb	140.71	1.00	
52 Cr	-0.0382	ppb	47.96	1.00	
53 Cr	-2.82	ppb	13.61	1.00	
55 Mn	0.0146	ppb	44.27	1.00	
56 Fe	4.131	ppb	70.03	1.00	
57 Fe	5.15	ppb	25.15	1.00	
59 Co	0.001	ppb	151.06	1.00	
60 Ni	0.0088	ppb	182.24	1.00	
63 Cu	0.0489	ppb	10.68	1.00	
65 Cu	0.0697	ppb	35.18	1.00	
66 Zn	-0.0335	ppb	107.50	1.00	
68 Zn	0.0784	ppb	51.25	1.00	
75 As	-0.1516	ppb	125.79	1.00	
82 Se	-0.2797	ppb	50.95	1.00	
88 Sr	0.0005	ppb	508.73	1.00	
89 Y	--------	---	--------	---	
98 Mo	0.0262	ppb	35.74	1.00	
107 Ag	0.0032	ppb	164.17	1.00	
109 Ag	0.0027	ppb	126.76	1.00	
111 Cd	0.0365	ppb	58.79	1.00	
114 Cd	0.0041	ppb	145.09	1.00	
115 In	--------	---	--------	---	
118 Sn	0.0419	ppb	21.86	1.00	
120 Sn	0.0369	ppb	9.68	1.00	
121 Sb	0.009	ppb	52.28	1.00	
123 Sb	0.0101	ppb	53.83	1.00	
135 Ba	0.0098	ppb	170.58	1.00	
137 Ba	0.0045	ppb	157.44	1.00	
182 W	0.0418	ppb	36.30	1.00	
203 Tl	-0.0158	ppb	40.05	1.00	
205 Tl	-0.0152	ppb	27.32	1.00	
208 Pb	-0.0418	ppb	23.21	1.00	
232 Th	0.0547	ppb	13.10	1.00	
238 U	0.0029	ppb	33.88	1.00	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2254988.30	0.79	2422125.80	93.1	79.5 - 120	
45 Sc	1939251.30	0.31	2037841.00	95.2	79.5 - 120	
72 Ge	415060.81	0.51	440652.41	94.2	79.5 - 120	
159 Tb	3439536.50	1.45	3649611.30	94.2	79.5 - 120	
209 Bi	1825932.50	0.73	1931866.90	94.5	79.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000170

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\052SMPL.D\052SMPL.D#
Date Acquired: May 16 2018 09:37 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3902-013L
Misc Info:
Vial Number: 2209
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: Sample
Dilution Factor: 25.00
Autodil Factor: Undiluted
Final Dil Factor: 25.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.1092	0.0044	ppb	39.20	100.	
11 B	249.625	9.985	ppb	4.19	1000.	
23 Na	321,500.	12,860.	ppb	0.73	200000.	
25 Mg	75,025.	3,001.	ppb	0.76	200000.	
27 Al	18.7175	0.7487	ppb	19.79	200000.	
28 Si	14,935.	597.4	ppb	3.77	#VALUE!	
29 Si	14,372.5	574.9	ppb	3.70	10000.	
39 K	18,247.5	729.9	ppb	1.89	200000.	
43 Ca	372,750.	14,910.	ppb	1.37	#VALUE!	
44 Ca	364,250.	14,570.	ppb	0.73	200000.	
51 V	-1.5498	-0.062	ppb	175.83	1000.	
52 Cr	1.2655	0.0506	ppb	33.35	2000.	
53 Cr	-12.7175	-0.5087	ppb	224.69	#VALUE!	
55 Mn	1,391.75	55.67	ppb	0.57	2000.	
56 Fe	3,220.	128.8	ppb	1.13	#VALUE!	
57 Fe	3,500.	140.	ppb	2.78	100000.	
59 Co	0.4113	0.0165	ppb	36.63	1000.	
60 Ni	2.5825	0.1033	ppb	21.99	1000.	
63 Cu	9.8425	0.3937	ppb	8.04	#VALUE!	
65 Cu	1.249	0.05	ppb	20.46	2000.	
66 Zn	16.305	0.6522	ppb	1.60	2000.	
68 Zn	11.6575	0.4663	ppb	12.57	#VALUE!	
75 As	4.755	0.1902	ppb	92.59	1000.	
82 Se	-0.826	-0.033	ppb	264.32	1000.	
88 Sr	1,600.	64.	ppb	0.29	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	12.7125	0.5085	ppb	4.54	1000.	
107 Ag	-0.0103	-0.0004	ppb	180.69	100.	
109 Ag	0.0543	0.0022	ppb	91.71	#VALUE!	
111 Cd	0.3148	0.0126	ppb	237.01	#VALUE!	
114 Cd	0.154	0.0062	ppb	74.09	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	1.3433	0.0537	ppb	4.97	1000.	
120 Sn	1.1608	0.0464	ppb	17.50	#VALUE!	
121 Sb	0.2089	0.0084	ppb	71.32	#VALUE!	
123 Sb	0.2235	0.0089	ppb	33.45	1000.	
135 Ba	30.5	1.22	ppb	2.04	2000.	
137 Ba	31.15	1.246	ppb	1.12	#VALUE!	
182 W	0.369	0.0148	ppb	5.33	1000.	
203 Tl	-0.5255	-0.021	ppb	18.54	1000.	
205 Tl	-0.737	-0.0295	ppb	30.40	#VALUE!	
208 Pb	-2.7975	-0.1119	ppb	12.18	2000.	
232 Th	1.1725	0.0469	ppb	23.45	1000.	
238 U	2.2388	0.0896	ppb	4.58	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2350229.30	1.45	2422125.80	97.0	69.5 - 120	
45 Sc	2051315.40	0.58	2037841.00	100.7	69.5 - 120	
72 Ge	439975.84	0.40	440652.41	99.8	69.5 - 120	
159 Tb	3653272.80	1.06	3649611.30	100.1	69.5 - 120	
209 Bi	1888816.90	0.72	1931866.90	97.8	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000171

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\053SMPL.D\053SMPL.D#
Date Acquired: May 16 2018 09:41 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3902-013A
Misc Info:
Vial Number: 2210
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.028	0.0056	ppb	16.67	100.	
11 B	220.45	44.09	ppb	3.03	1000.	
23 Na	325,250.	65,050.	ppb	0.62	200000.	
25 Mg	74,350.	14,870.	ppb	0.64	200000.	
27 Al	13.46	2.692	ppb	6.89	200000.	
28 Si	15,555.	3,111.	ppb	1.93	#VALUE!	
29 Si	15,700.	3,140.	ppb	1.50	10000.	
39 K	18,765.	3,753.	ppb	0.88	200000.	
43 Ca	390,850.	78,170.	ppb	0.91	#VALUE!	
44 Ca	363,800.	72,760.	ppb	0.54	200000.	
51 V	0.7395	0.1479	ppb	87.36	1000.	
52 Cr	2.4135	0.4827	ppb	4.69	2000.	
53 Cr	56.85	11.37	ppb	22.66	#VALUE!	
55 Mn	1,358.5	271.7	ppb	1.24	2000.	
56 Fe	5,285.	1,057.	ppb	1.40	#VALUE!	
57 Fe	5,505.	1,101.	ppb	0.66	100000.	
59 Co	1.1385	0.2277	ppb	4.31	1000.	
60 Ni	10.215	2.043	ppb	1.98	1000.	
63 Cu	9.615	1.923	ppb	3.25	#VALUE!	
65 Cu	1.329	0.2658	ppb	13.78	2000.	
66 Zn	50.85	10.17	ppb	1.80	2000.	
68 Zn	48.045	9.609	ppb	3.31	#VALUE!	
75 As	11.58	2.316	ppb	3.42	1000.	
82 Se	0.1288	0.0258	ppb	1143.60	1000.	
88 Sr	1,561.5	312.3	ppb	1.77	2000.	
89 Y	----	--------	---	---	#VALUE!	
98 Mo	19.32	3.864	ppb	3.20	1000.	
107 Ag	0.0052	0.001	ppb	104.65	100.	
109 Ag	0.0021	0.0004	ppb	316.84	#VALUE!	
111 Cd	0.1675	0.0335	ppb	37.55	#VALUE!	
114 Cd	0.0067	0.0013	ppb	530.71	1000.	
115 In	----	--------	---	---	#VALUE!	
118 Sn	0.9035	0.1807	ppb	18.81	1000.	
120 Sn	0.873	0.1746	ppb	8.30	#VALUE!	
121 Sb	0.1366	0.0273	ppb	11.21	#VALUE!	
123 Sb	0.1587	0.0317	ppb	28.84	1000.	
135 Ba	40.95	8.19	ppb	1.82	2000.	
137 Ba	41.005	8.201	ppb	1.25	#VALUE!	
182 W	0.2715	0.0543	ppb	17.62	1000.	
203 Tl	-0.1336	-0.0267	ppb	19.27	1000.	
205 Tl	-0.1122	-0.0224	ppb	35.50	#VALUE!	
208 Pb	-0.789	-0.1578	ppb	9.53	2000.	
232 Th	0.3167	0.0633	ppb	24.39	1000.	
238 U	1.768	0.3536	ppb	7.58	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2293014.80	0.16	2422125.80	94.7	69.5 - 120	
45 Sc	2046443.90	0.56	2037841.00	100.4	69.5 - 120	
72 Ge	440618.47	0.44	440652.41	100.0	69.5 - 120	
159 Tb	3662737.80	1.27	3649611.30	100.4	69.5 - 120	
209 Bi	1817453.10	0.79	1931866.90	94.1	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000172

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\054SMPL.D\054SMPL.D#
Date Acquired: May 16 2018 09:46 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3902-013S
Misc Info:
Vial Number: 2211
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	48.295	9.659	ppb	0.70	100.	
11 B	726.	145.2	ppb	4.79	1000.	
23 Na	330,200.	66,040.	ppb	2.01	200000.	
25 Mg	77,250.	15,450.	ppb	1.44	200000.	
27 Al	2,013.	402.6	ppb	0.75	200000.	
28 Si	16,215.	3,243.	ppb	0.63	#VALUE!	
29 Si	16,270.	3,254.	ppb	0.32	10000.	
39 K	28,645.	5,729.	ppb	0.84	200000.	
43 Ca	395,000.	79,000.	ppb	0.26	#VALUE!	
44 Ca	369,050.	73,810.	ppb	0.66	200000.	
51 V	508.5	101.7	ppb	1.93	1000.	
52 Cr	191.15	38.23	ppb	1.03	2000.	
53 Cr	264.75	52.95	ppb	2.26	#VALUE!	
55 Mn	1,848.5	369.7	ppb	0.80	2000.	
56 Fe	4,262.	852.4	ppb	1.59	#VALUE!	
57 Fe	4,436.5	887.3	ppb	2.07	100000.	
59 Co	489.85	97.97	ppb	1.50	1000.	
60 Ni	473.9	94.78	ppb	1.32	1000.	
63 Cu	245.	49.	ppb	0.94	#VALUE!	
65 Cu	236.6	47.32	ppb	0.83	2000.	
66 Zn	479.55	95.91	ppb	0.74	2000.	
68 Zn	535.	107.	ppb	2.16	#VALUE!	
75 As	109.55	21.91	ppb	2.07	1000.	
82 Se	96.25	19.25	ppb	1.12	1000.	
88 Sr	2,020.5	404.1	ppb	1.24	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	112.65	22.53	ppb	1.50	1000.	
107 Ag	46.805	9.361	ppb	0.96	100.	
109 Ag	46.605	9.321	ppb	0.84	#VALUE!	
111 Cd	234.45	46.89	ppb	1.65	#VALUE!	
114 Cd	234.3	46.86	ppb	0.88	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	495.95	99.19	ppb	2.26	1000.	
120 Sn	495.7	99.14	ppb	2.21	#VALUE!	
121 Sb	101.35	20.27	ppb	2.31	#VALUE!	
123 Sb	101.45	20.29	ppb	2.00	1000.	
135 Ba	2,037.	407.4	ppb	2.18	2000.	
137 Ba	2,036.	407.2	ppb	1.59	#VALUE!	
182 W	101.5	20.3	ppb	2.24	1000.	
203 Tl	100.2	20.04	ppb	1.54	1000.	
205 Tl	99.85	19.97	ppb	1.17	#VALUE!	
208 Pb	99.85	19.97	ppb	0.79	2000.	
232 Th	103.	20.6	ppb	2.78	1000.	
238 U	105.	21.	ppb	0.65	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2342449.00	0.33	2422125.80	96.7	69.5 - 120	
45 Sc	2041757.60	0.52	2037841.00	100.2	69.5 - 120	
72 Ge	437199.34	1.24	440652.41	99.2	69.5 - 120	
159 Tb	3667555.00	1.80	3649611.30	100.5	69.5 - 120	
209 Bi	1815941.30	1.23	1931866.90	94.0	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000173

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\055SMPL.D\055SMPL.D#
Date Acquired: May 16 2018 09:50 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3902-013P
Misc Info:
Vial Number: 2212
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	47.33	9.466	ppb	0.78	100.	
11 B	725.	145.	ppb	3.11	1000.	
23 Na	343,650.	68,730.	ppb	2.14	200000.	
25 Mg	78,850.	15,770.	ppb	0.50	200000.	
27 Al	2,005.	401.	ppb	1.55	200000.	
28 Si	16,600.	3,320.	ppb	2.30	#VALUE!	
29 Si	16,560.	3,312.	ppb	2.08	10000.	
39 K	28,850.	5,770.	ppb	0.78	200000.	
43 Ca	402,700.	80,540.	ppb	0.44	#VALUE!	
44 Ca	375,250.	75,050.	ppb	0.18	200000.	
51 V	514.	102.8	ppb	0.47	1000.	
52 Cr	192.45	38.49	ppb	0.18	2000.	
53 Cr	266.9	53.38	ppb	2.51	#VALUE!	
55 Mn	1,887.	377.4	ppb	2.06	2000.	
56 Fe	4,299.5	859.9	ppb	2.04	#VALUE!	
57 Fe	4,533.	906.6	ppb	1.48	100000.	
59 Co	491.65	98.33	ppb	0.99	1000.	
60 Ni	476.45	95.29	ppb	0.44	1000.	
63 Cu	245.9	49.18	ppb	1.48	#VALUE!	
65 Cu	239.45	47.89	ppb	1.00	2000.	
66 Zn	481.5	96.3	ppb	1.24	2000.	
68 Zn	537.5	107.5	ppb	1.83	#VALUE!	
75 As	109.9	21.98	ppb	2.22	1000.	
82 Se	95.4	19.08	ppb	2.54	1000.	
88 Sr	2,049.5	409.9	ppb	1.97	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	112.6	22.52	ppb	1.32	1000.	
107 Ag	47.155	9.431	ppb	1.27	100.	
109 Ag	46.315	9.263	ppb	2.26	#VALUE!	
111 Cd	235.45	47.09	ppb	1.56	#VALUE!	
114 Cd	234.75	46.95	ppb	1.02	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	500.5	100.1	ppb	1.02	1000.	
120 Sn	498.6	99.72	ppb	0.43	#VALUE!	
121 Sb	103.55	20.71	ppb	0.84	#VALUE!	
123 Sb	102.45	20.49	ppb	1.19	1000.	
135 Ba	2,057.	411.4	ppb	0.95	2000.	
137 Ba	2,055.5	411.1	ppb	0.84	#VALUE!	
182 W	101.85	20.37	ppb	0.69	1000.	
203 Tl	100.65	20.13	ppb	1.45	1000.	
205 Tl	100.65	20.13	ppb	0.47	#VALUE!	
208 Pb	99.65	19.93	ppb	0.97	2000.	
232 Th	102.6	20.52	ppb	1.38	1000.	
238 U	104.65	20.93	ppb	0.93	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2444100.50	0.81	2422125.80	100.9	69.5 - 120	
45 Sc	2061719.50	0.40	2037841.00	101.2	69.5 - 120	
72 Ge	441776.09	1.29	440652.41	100.3	69.5 - 120	
159 Tb	3674685.00	1.35	3649611.30	100.7	69.5 - 120	
209 Bi	1839305.40	1.66	1931866.90	95.2	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000174

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\056SMPL.D\056SMPL.D#
Date Acquired: May 16 2018 09:54 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3902-014
Misc Info:
Vial Number: 2301
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0128	0.0026	ppb	116.66	100.	
11 B	37.645	7.529	ppb	19.56	1000.	
23 Na	91.55	18.31	ppb	55.87	200000.	
25 Mg	24.505	4.901	ppb	54.56	200000.	
27 Al	11.9	2.38	ppb	10.72	200000.	
28 Si	526.5	105.3	ppb	25.72	#VALUE!	
29 Si	455.55	91.11	ppb	27.37	10000.	
39 K	70.9	14.18	ppb	19.64	200000.	
43 Ca	123.5	24.7	ppb	88.54	#VALUE!	
44 Ca	137.85	27.57	ppb	39.86	200000.	
51 V	-0.0664	-0.0133	ppb	1085.20	1000.	
52 Cr	1.3995	0.2799	ppb	11.98	2000.	
53 Cr	65.8	13.16	ppb	8.34	#VALUE!	
55 Mn	0.8135	0.1627	ppb	31.47	2000.	
56 Fe	121.85	24.37	ppb	4.83	#VALUE!	
57 Fe	58.55	11.71	ppb	6.05	100000.	
59 Co	0.0507	0.0101	ppb	98.55	1000.	
60 Ni	0.0509	0.0102	ppb	104.72	1000.	
63 Cu	0.792	0.1584	ppb	13.13	#VALUE!	
65 Cu	0.8955	0.1791	ppb	21.09	2000.	
66 Zn	1.245	0.249	ppb	82.89	2000.	
68 Zn	0.9	0.18	ppb	32.21	#VALUE!	
75 As	2.012	0.4024	ppb	20.08	1000.	
82 Se	0.123	0.0246	ppb	96.30	1000.	
88 Sr	0.589	0.1178	ppb	40.83	2000.	
89 Y	----	--------	---	---	#VALUE!	
98 Mo	0.4524	0.0905	ppb	11.19	1000.	
107 Ag	0.0032	0.0006	ppb	349.92	100.	
109 Ag	0.0074	0.0015	ppb	140.24	#VALUE!	
111 Cd	0.3011	0.0602	ppb	72.70	#VALUE!	
114 Cd	0.0025	0.0005	ppb	2655.60	1000.	
115 In	----	--------	---	---	#VALUE!	
118 Sn	1.5365	0.3073	ppb	11.30	1000.	
120 Sn	1.4655	0.2931	ppb	2.00	#VALUE!	
121 Sb	0.0764	0.0153	ppb	42.78	#VALUE!	
123 Sb	0.0999	0.02	ppb	23.28	1000.	
135 Ba	0.5645	0.1129	ppb	32.38	2000.	
137 Ba	0.4952	0.099	ppb	45.42	#VALUE!	
182 W	0.1349	0.027	ppb	37.58	1000.	
203 Tl	-0.0517	-0.0103	ppb	118.28	1000.	
205 Tl	-0.1107	-0.0221	ppb	19.50	#VALUE!	
208 Pb	-0.7785	-0.1557	ppb	13.12	2000.	
232 Th	0.621	0.1242	ppb	14.98	1000.	
238 U	0.0145	0.0029	ppb	117.37	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2280385.00	0.51	2422125.80	94.1	69.5 - 120	
45 Sc	1942340.60	1.73	2037841.00	95.3	69.5 - 120	
72 Ge	424986.66	1.07	440652.41	96.4	69.5 - 120	
159 Tb	3403706.50	0.98	3649611.30	93.3	69.5 - 120	
209 Bi	1763482.60	1.59	1931866.90	91.3	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000175

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\057SMPL.D\057SMPL.D#
Date Acquired: May 16 2018 09:58 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: RINSE
Misc Info:
Vial Number: 2302
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0039	0.0039	ppb	53.46	100.	
11 B	2.882	2.882	ppb	4.76	1000.	
23 Na	14.04	14.04	ppb	4.36	200000.	
25 Mg	1.476	1.476	ppb	17.08	200000.	
27 Al	18.84	18.84	ppb	1.07	200000.	
28 Si	120.9	120.9	ppb	15.24	#VALUE!	
29 Si	105.3	105.3	ppb	17.40	10000.	
39 K	29.81	29.81	ppb	6.58	200000.	
43 Ca	16.08	16.08	ppb	46.27	#VALUE!	
44 Ca	9.508	9.508	ppb	8.55	200000.	
51 V	0.0307	0.0307	ppb	88.66	1000.	
52 Cr	0.06	0.06	ppb	64.49	2000.	
53 Cr	-0.2341	-0.2341	ppb	111.53	#VALUE!	
55 Mn	0.0735	0.0735	ppb	16.92	2000.	
56 Fe	14.66	14.66	ppb	25.45	#VALUE!	
57 Fe	8.214	8.214	ppb	19.30	100000.	
59 Co	0.0047	0.0047	ppb	82.07	1000.	
60 Ni	0.0225	0.0225	ppb	61.26	1000.	
63 Cu	0.2299	0.2299	ppb	12.14	#VALUE!	
65 Cu	0.2324	0.2324	ppb	6.67	2000.	
66 Zn	2.39	2.39	ppb	7.46	2000.	
68 Zn	2.201	2.201	ppb	9.25	#VALUE!	
75 As	0.1237	0.1237	ppb	103.96	1000.	
82 Se	0.0472	0.0472	ppb	11.75	1000.	
88 Sr	0.0117	0.0117	ppb	17.00	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	0.0055	0.0055	ppb	13.72	1000.	
107 Ag	0.0006	0.0006	ppb	93.76	100.	
109 Ag	0.0001	0.0001	ppb	682.47	#VALUE!	
111 Cd	0.0499	0.0499	ppb	31.22	#VALUE!	
114 Cd	0.0022	0.0022	ppb	81.32	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	0.0428	0.0428	ppb	26.14	1000.	
120 Sn	0.0158	0.0158	ppb	50.86	#VALUE!	
121 Sb	0.0027	0.0027	ppb	114.39	#VALUE!	
123 Sb	-0.0001	-0.0001	ppb	4545.40	1000.	
135 Ba	0.0894	0.0894	ppb	34.54	2000.	
137 Ba	0.0848	0.0848	ppb	14.03	#VALUE!	
182 W	0.0035	0.0035	ppb	171.45	1000.	
203 Tl	-0.0113	-0.0113	ppb	39.05	1000.	
205 Tl	-0.0154	-0.0154	ppb	57.63	#VALUE!	
208 Pb	0.0995	0.0995	ppb	31.91	2000.	
232 Th	0.0074	0.0074	ppb	42.29	1000.	
238 U	0.0004	0.0004	ppb	77.82	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2238497.80	2.08	2422125.80	92.4	69.5 - 120	
45 Sc	1981412.60	0.83	2037841.00	97.2	69.5 - 120	
72 Ge	427041.13	1.22	440652.41	96.9	69.5 - 120	
159 Tb	3421336.50	1.11	3649611.30	93.7	69.5 - 120	
209 Bi	1794570.60	0.47	1931866.90	92.9	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000176

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\058SMPL.D\058SMPL.D#
Date Acquired: May 16 2018 10:02 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: PBWLE10IMW1
Misc Info:
Vial Number: 2303
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0162	0.0032	ppb	68.68	100.	
11 B	9.37	1.874	ppb	7.61	1000.	
23 Na	29.29	5.858	ppb	10.90	200000.	
25 Mg	9.77	1.954	ppb	6.69	200000.	
27 Al	8.24	1.648	ppb	5.68	200000.	
28 Si	370.95	74.19	ppb	10.44	#VALUE!	
29 Si	356.85	71.37	ppb	7.46	10000.	
39 K	44.48	8.896	ppb	35.83	200000.	
43 Ca	9.21	1.842	ppb	47.38	#VALUE!	
44 Ca	10.845	2.169	ppb	110.51	200000.	
51 V	0.028	0.0056	ppb	272.40	1000.	
52 Cr	0.078	0.0156	ppb	236.37	2000.	
53 Cr	3.914	0.7828	ppb	52.17	#VALUE!	
55 Mn	0.2217	0.0443	ppb	26.10	2000.	
56 Fe	44.375	8.875	ppb	12.69	#VALUE!	
57 Fe	20.345	4.069	ppb	36.84	100000.	
59 Co	-0.004	-0.0008	ppb	271.21	1000.	
60 Ni	-0.0103	-0.0021	ppb	409.09	1000.	
63 Cu	0.2508	0.0502	ppb	3.60	#VALUE!	
65 Cu	0.1622	0.0324	ppb	50.23	2000.	
66 Zn	1.053	0.2106	ppb	14.12	2000.	
68 Zn	1.0895	0.2179	ppb	61.54	#VALUE!	
75 As	0.2584	0.0517	ppb	98.39	1000.	
82 Se	-0.4053	-0.0811	ppb	210.58	1000.	
88 Sr	0.0007	0.0001	ppb	1079.00	2000.	
89 Y	----	--------	---	---	#VALUE!	
98 Mo	0.0197	0.0039	ppb	102.56	1000.	
107 Ag	-0.008	-0.0016	ppb	60.31	100.	
109 Ag	0.0013	0.0003	ppb	628.07	#VALUE!	
111 Cd	0.3037	0.0607	ppb	59.45	#VALUE!	
114 Cd	0.0082	0.0016	ppb	43.87	1000.	
115 In	----	--------	---	---	#VALUE!	
118 Sn	0.1982	0.0396	ppb	35.85	1000.	
120 Sn	0.1533	0.0307	ppb	25.26	#VALUE!	
121 Sb	0.0058	0.0012	ppb	106.24	#VALUE!	
123 Sb	0.0083	0.0017	ppb	245.32	1000.	
135 Ba	0.1548	0.031	ppb	41.16	2000.	
137 Ba	0.1401	0.028	ppb	46.02	#VALUE!	
182 W	-0.0028	-0.0006	ppb	538.32	1000.	
203 Tl	-0.1212	-0.0242	ppb	21.05	1000.	
205 Tl	-0.1034	-0.0207	ppb	37.66	#VALUE!	
208 Pb	-0.2616	-0.0523	ppb	23.65	2000.	
232 Th	0.0464	0.0093	ppb	41.15	1000.	
238 U	-0.0001	0.	ppb	1712.90	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2381472.00	1.00	2422125.80	98.3	69.5 - 120	
45 Sc	2046506.40	1.47	2037841.00	100.4	69.5 - 120	
72 Ge	433818.38	0.06	440652.41	98.4	69.5 - 120	
159 Tb	3459867.80	2.26	3649611.30	94.8	69.5 - 120	
209 Bi	1811466.60	0.92	1931866.90	93.8	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000177

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\059SMPL.D\059SMPL.D#
Date Acquired: May 16 2018 10:07 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: LCSWLE10IMW1
Misc Info:
Vial Number: 2304
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	49.45	9.89	ppb	2.02	100.	
11 B	514.5	102.9	ppb	5.00	1000.	
23 Na	7,855.	1,571.	ppb	1.90	200000.	
25 Mg	5,130.	1,026.	ppb	1.56	200000.	
27 Al	2,135.	427.	ppb	2.24	200000.	
28 Si	1,220.5	244.1	ppb	1.56	#VALUE!	
29 Si	1,225.	245.	ppb	10.23	10000.	
39 K	10,545.	2,109.	ppb	1.41	200000.	
43 Ca	3,018.5	603.7	ppb	2.18	#VALUE!	
44 Ca	2,487.	497.4	ppb	0.65	200000.	
51 V	515.	103.	ppb	1.13	1000.	
52 Cr	198.5	39.7	ppb	0.87	2000.	
53 Cr	254.75	50.95	ppb	1.74	#VALUE!	
55 Mn	515.	103.	ppb	0.60	2000.	
56 Fe	1,068.	213.6	ppb	2.01	#VALUE!	
57 Fe	1,010.5	202.1	ppb	4.77	100000.	
59 Co	517.	103.4	ppb	1.72	1000.	
60 Ni	507.5	101.5	ppb	1.03	1000.	
63 Cu	252.35	50.47	ppb	0.86	#VALUE!	
65 Cu	253.95	50.79	ppb	1.44	2000.	
66 Zn	503.	100.6	ppb	0.70	2000.	
68 Zn	558.	111.6	ppb	1.58	#VALUE!	
75 As	101.	20.2	ppb	1.54	1000.	
82 Se	97.15	19.43	ppb	2.35	1000.	
88 Sr	495.45	99.09	ppb	1.22	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	100.45	20.09	ppb	0.86	1000.	
107 Ag	50.65	10.13	ppb	0.76	100.	
109 Ag	50.8	10.16	ppb	1.03	#VALUE!	
111 Cd	251.1	50.22	ppb	1.29	#VALUE!	
114 Cd	249.45	49.89	ppb	1.05	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	516.5	103.3	ppb	2.73	1000.	
120 Sn	514.5	102.9	ppb	2.44	#VALUE!	
121 Sb	106.7	21.34	ppb	2.37	#VALUE!	
123 Sb	107.15	21.43	ppb	2.03	1000.	
135 Ba	2,112.	422.4	ppb	1.74	2000.	
137 Ba	2,089.5	417.9	ppb	2.01	#VALUE!	
182 W	103.	20.6	ppb	1.03	1000.	
203 Tl	102.7	20.54	ppb	1.13	1000.	
205 Tl	102.75	20.55	ppb	1.21	#VALUE!	
208 Pb	102.85	20.57	ppb	1.49	2000.	
232 Th	100.55	20.11	ppb	1.64	1000.	
238 U	101.2	20.24	ppb	2.03	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2394219.50	1.55	2422125.80	98.8	69.5 - 120	
45 Sc	1986221.60	0.66	2037841.00	97.5	69.5 - 120	
72 Ge	429862.38	0.80	440652.41	97.6	69.5 - 120	
159 Tb	3561166.50	1.96	3649611.30	97.6	69.5 - 120	
209 Bi	1856657.00	1.48	1931866.90	96.1	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000178

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\060SMPL.D\060SMPL.D#
Date Acquired: May 16 2018 10:11 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3952-002
Misc Info:
Vial Number: 2305
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.602	0.1204	ppb	13.79	100.	
11 B	375.55	75.11	ppb	4.38	1000.	
23 Na	248,850.	49,770.	ppb	0.89	200000.	
25 Mg	61,000.	12,200.	ppb	0.97	200000.	
27 Al	10,435.	2,087.	ppb	0.73	200000.	
28 Si	34,480.	6,896.	ppb	0.44	#VALUE!	
29 Si	37,885.	7,577.	ppb	1.44	10000.	
39 K	21,345.	4,269.	ppb	1.06	200000.	
43 Ca	337,250.	67,450.	ppb	0.24	#VALUE!	
44 Ca	317,150.	63,430.	ppb	0.38	200000.	
51 V	31.72	6.344	ppb	1.17	1000.	
52 Cr	46.53	9.306	ppb	0.53	2000.	
53 Cr	81.2	16.24	ppb	3.17	#VALUE!	
55 Mn	1,451.5	290.3	ppb	0.96	2000.	
56 Fe	15,920.	3,184.	ppb	0.86	#VALUE!	
57 Fe	15,965.	3,193.	ppb	0.35	100000.	
59 Co	4.3775	0.8755	ppb	5.04	1000.	
60 Ni	23.645	4.729	ppb	0.68	1000.	
63 Cu	28.735	5.747	ppb	0.90	#VALUE!	
65 Cu	23.175	4.635	ppb	3.59	2000.	
66 Zn	250.85	50.17	ppb	0.79	2000.	
68 Zn	243.	48.6	ppb	1.76	#VALUE!	
75 As	6.595	1.319	ppb	23.01	1000.	
82 Se	1.522	0.3044	ppb	27.46	1000.	
88 Sr	1,373.5	274.7	ppb	1.37	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	26.465	5.293	ppb	1.38	1000.	
107 Ag	0.0572	0.0114	ppb	33.06	100.	
109 Ag	0.0358	0.0072	ppb	41.52	#VALUE!	
111 Cd	0.226	0.0452	ppb	71.41	#VALUE!	
114 Cd	0.0457	0.0091	ppb	39.58	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	2.1945	0.4389	ppb	6.89	1000.	
120 Sn	2.1275	0.4255	ppb	6.85	#VALUE!	
121 Sb	0.602	0.1204	ppb	15.48	#VALUE!	
123 Sb	0.6835	0.1367	ppb	16.36	1000.	
135 Ba	225.8	45.16	ppb	1.23	2000.	
137 Ba	225.1	45.02	ppb	0.57	#VALUE!	
182 W	0.4177	0.0835	ppb	19.86	1000.	
203 Tl	0.0415	0.0083	ppb	43.90	1000.	
205 Tl	-0.0029	-0.0006	ppb	894.75	#VALUE!	
208 Pb	7.215	1.443	ppb	3.53	2000.	
232 Th	7.69	1.538	ppb	3.01	1000.	
238 U	10.635	2.127	ppb	1.45	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2372650.00	2.54	2422125.80	98.0	69.5 - 120	
45 Sc	2074912.60	0.12	2037841.00	101.8	69.5 - 120	
72 Ge	440090.88	0.30	440652.41	99.9	69.5 - 120	
159 Tb	3668442.50	1.41	3649611.30	100.5	69.5 - 120	
209 Bi	1847998.50	1.64	1931866.90	95.7	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000179

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\061SMPL.D\061SMPL.D#
Date Acquired: May 16 2018 10:15 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: RINSE
Misc Info:
Vial Number: 2306
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.005	0.005	ppb	41.69	100.	
11 B	4.277	4.277	ppb	20.62	1000.	
23 Na	27.69	27.69	ppb	4.30	200000.	
25 Mg	2.354	2.354	ppb	15.38	200000.	
27 Al	4.187	4.187	ppb	8.76	200000.	
28 Si	79.26	79.26	ppb	13.16	#VALUE!	
29 Si	53.15	53.15	ppb	36.44	10000.	
39 K	9.502	9.502	ppb	17.06	200000.	
43 Ca	88.31	88.31	ppb	12.74	#VALUE!	
44 Ca	87.61	87.61	ppb	1.97	200000.	
51 V	-0.0032	-0.0032	ppb	1308.70	1000.	
52 Cr	0.0182	0.0182	ppb	53.06	2000.	
53 Cr	-2.142	-2.142	ppb	13.52	#VALUE!	
55 Mn	0.2749	0.2749	ppb	1.09	2000.	
56 Fe	18.85	18.85	ppb	11.25	#VALUE!	
57 Fe	10.95	10.95	ppb	11.39	100000.	
59 Co	0.009	0.009	ppb	14.74	1000.	
60 Ni	0.0605	0.0605	ppb	18.29	1000.	
63 Cu	0.3647	0.3647	ppb	5.84	#VALUE!	
65 Cu	0.3825	0.3825	ppb	3.52	2000.	
66 Zn	0.2584	0.2584	ppb	27.22	2000.	
68 Zn	0.2754	0.2754	ppb	50.40	#VALUE!	
75 As	-0.1679	-0.1679	ppb	72.37	1000.	
82 Se	-0.343	-0.343	ppb	21.86	1000.	
88 Sr	0.0973	0.0973	ppb	8.11	2000.	
89 Y	----	--------	---	---	#VALUE!	
98 Mo	0.0085	0.0085	ppb	77.88	1000.	
107 Ag	-0.0015	-0.0015	ppb	191.35	100.	
109 Ag	0.0012	0.0012	ppb	63.88	#VALUE!	
111 Cd	0.0311	0.0311	ppb	39.73	#VALUE!	
114 Cd	-0.0013	-0.0013	ppb	76.27	1000.	
115 In	----	--------	---	---	#VALUE!	
118 Sn	0.0455	0.0455	ppb	1.37	1000.	
120 Sn	0.0346	0.0346	ppb	31.24	#VALUE!	
121 Sb	0.0043	0.0043	ppb	38.88	#VALUE!	
123 Sb	-0.0014	-0.0014	ppb	170.10	1000.	
135 Ba	0.2145	0.2145	ppb	3.87	2000.	
137 Ba	0.201	0.201	ppb	6.50	#VALUE!	
182 W	0.008	0.008	ppb	42.72	1000.	
203 Tl	-0.0116	-0.0116	ppb	38.29	1000.	
205 Tl	-0.0176	-0.0176	ppb	17.23	#VALUE!	
208 Pb	0.1089	0.1089	ppb	15.40	2000.	
232 Th	0.011	0.011	ppb	55.98	1000.	
238 U	0.0004	0.0004	ppb	162.27	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2272266.30	1.72	2422125.80	93.8	69.5 - 120	
45 Sc	2016723.90	1.45	2037841.00	99.0	69.5 - 120	
72 Ge	428508.72	0.11	440652.41	97.2	69.5 - 120	
159 Tb	3459399.80	0.38	3649611.30	94.8	69.5 - 120	
209 Bi	1818022.00	1.23	1931866.90	94.1	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000180

CCV QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\062_CCV.D\062_CCV.D#
Date Acquired: May 16 2018 10:19 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: CCV
Misc Info:
Vial Number: 1206
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Dilution Factor: 1.00
QC Range (%): 89.5 - 110.5

QC Elements

Element	Conc.		RSD(%)	Expected	Rec (%)	Flag
9 Be	24.19	ppb	2.67	25	96.76	
11 B	25.74	ppb	2.91	25	102.96	
23 Na	4,987.	ppb	2.12	5,000	99.74	
25 Mg	5,021.	ppb	1.35	5,000	100.42	
27 Al	492.3	ppb	1.49	500	98.46	
28 Si	506.9	ppb	4.82	500	101.38	
29 Si	493.2	ppb	6.63	500	98.64	
39 K	4,969.	ppb	2.43	5,000	99.38	
43 Ca	4,917.	ppb	2.45	5,000	98.34	
44 Ca	5,003.	ppb	1.44	5,000	100.06	
51 V	24.54	ppb	2.25	25	98.16	
52 Cr	24.53	ppb	1.01	25	98.12	
53 Cr	23.46	ppb	3.57	25	93.84	
55 Mn	24.66	ppb	0.75	25	98.64	
56 Fe	4,875.	ppb	0.05	5,000	97.5	
57 Fe	4,916.	ppb	0.49	5,000	98.32	
59 Co	24.6	ppb	0.81	25	98.4	
60 Ni	24.81	ppb	1.10	25	99.24	
63 Cu	25.01	ppb	1.10	25	100.04	
65 Cu	24.69	ppb	0.20	25	98.76	
66 Zn	24.96	ppb	1.07	25	99.84	
68 Zn	25.26	ppb	0.68	25	101.04	
75 As	24.55	ppb	1.61	25	98.2	
82 Se	24.6	ppb	2.54	25	98.4	
88 Sr	23.85	ppb	0.22	25	95.4	
89 Y	--------	---	--------	---	#VALUE!	
98 Mo	24.19	ppb	1.40	25	96.76	
107 Ag	24.49	ppb	0.57	25	97.96	
109 Ag	24.53	ppb	0.66	25	98.12	
111 Cd	24.32	ppb	1.08	25	97.28	
114 Cd	24.43	ppb	1.00	25	97.72	
115 In	--------	---	--------	---	#VALUE!	
118 Sn	24.55	ppb	3.12	25	98.2	
120 Sn	24.59	ppb	3.21	25	98.36	
121 Sb	25.02	ppb	2.70	25	100.08	
123 Sb	25.09	ppb	3.30	25	100.36	
135 Ba	25.31	ppb	1.30	25	101.24	
137 Ba	25.35	ppb	2.87	25	101.4	
182 W	24.28	ppb	2.60	25	97.12	
203 Tl	24.26	ppb	2.28	25	97.04	
205 Tl	24.13	ppb	2.34	25	96.52	
208 Pb	24.23	ppb	2.21	25	96.92	
232 Th	23.86	ppb	2.72	25	95.44	
238 U	24.19	ppb	0.86	25	96.76	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2417230.30	1.41	2422125.80	99.8	80 - 120.4	
45 Sc	2084784.10	1.61	2037841.00	102.3	80 - 120.4	
72 Ge	435448.28	0.31	440652.41	98.8	80 - 120.4	
159 Tb	3656651.50	1.80	3649611.30	100.2	80 - 120.4	
209 Bi	1894033.50	1.10	1931866.90	98.0	80 - 120.4	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000181

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\063_CCB.D\063_CCB.D#
Date Acquired: May 16 2018 10:23 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: CCB
Misc Info:
Vial Number: 1207
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: 6-CCB
Dilution Factor: 1.00

QC Elements

Element	Conc.		RSD(%)	High Limit	Flag
9 Be	0.0033	ppb	68.57	1.00	
11 B	2.49	ppb	16.55	1.00	
23 Na	2.419	ppb	22.97	1.00	
25 Mg	0.1907	ppb	214.47	1.00	
27 Al	0.0782	ppb	37.00	1.00	
28 Si	75.24	ppb	33.56	1.00	
29 Si	38.87	ppb	48.91	1.00	
39 K	6.498	ppb	15.74	1.00	
43 Ca	-1.936	ppb	158.26	1.00	
44 Ca	0.474	ppb	49.30	1.00	
51 V	-0.037	ppb	211.54	1.00	
52 Cr	-0.0596	ppb	39.14	1.00	
53 Cr	-3.41	ppb	3.60	1.00	
55 Mn	0.0039	ppb	103.08	1.00	
56 Fe	1.482	ppb	227.87	1.00	
57 Fe	6.181	ppb	29.04	1.00	
59 Co	0.0021	ppb	217.79	1.00	
60 Ni	-0.0058	ppb	169.24	1.00	
63 Cu	0.0064	ppb	114.41	1.00	
65 Cu	0.0017	ppb	104.01	1.00	
66 Zn	-0.0155	ppb	138.25	1.00	
68 Zn	-0.0757	ppb	113.77	1.00	
75 As	0.0002	ppb	72449.00	1.00	
82 Se	-0.2124	ppb	114.03	1.00	
88 Sr	-0.0004	ppb	595.67	1.00	
89 Y	--------	---	--------	---	
98 Mo	0.027	ppb	36.60	1.00	
107 Ag	0.002	ppb	82.72	1.00	
109 Ag	0.0017	ppb	124.37	1.00	
111 Cd	0.0628	ppb	43.65	1.00	
114 Cd	0.0055	ppb	86.69	1.00	
115 In	--------	---	--------	---	
118 Sn	0.0291	ppb	70.10	1.00	
120 Sn	0.0316	ppb	37.80	1.00	
121 Sb	0.0069	ppb	31.50	1.00	
123 Sb	0.0078	ppb	54.53	1.00	
135 Ba	0.0086	ppb	75.13	1.00	
137 Ba	0.0109	ppb	81.51	1.00	
182 W	0.0506	ppb	31.68	1.00	
203 Tl	-0.0118	ppb	29.28	1.00	
205 Tl	-0.0217	ppb	21.91	1.00	
208 Pb	-0.0612	ppb	20.98	1.00	
232 Th	0.0573	ppb	12.11	1.00	
238 U	0.0022	ppb	28.25	1.00	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2312923.50	2.45	2422125.80	95.5	79.5 - 120	
45 Sc	1989615.40	0.86	2037841.00	97.6	79.5 - 120	
72 Ge	422913.50	1.16	440652.41	96.0	79.5 - 120	
159 Tb	3449187.30	1.60	3649611.30	94.5	79.5 - 120	
209 Bi	1811395.00	1.35	1931866.90	93.8	79.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000182

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\064SMPL.D\064SMPL.D#
Date Acquired: May 16 2018 10:28 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3952-003
Misc Info:
Vial Number: 2307
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0172	0.0034	ppb	99.30	100.	
11 B	343.35	68.67	ppb	4.79	1000.	
23 Na	239,000.	47,800.	ppb	1.11	200000.	
25 Mg	55,650.	11,130.	ppb	1.56	200000.	
27 Al	8.76	1.752	ppb	7.64	200000.	
28 Si	8,790.	1,758.	ppb	2.74	#VALUE!	
29 Si	8,910.	1,782.	ppb	3.42	10000.	
39 K	18,275.	3,655.	ppb	1.41	200000.	
43 Ca	320,500.	64,100.	ppb	0.78	#VALUE!	
44 Ca	296,300.	59,260.	ppb	0.06	200000.	
51 V	0.1733	0.0347	ppb	178.56	1000.	
52 Cr	1.29	0.258	ppb	10.23	2000.	
53 Cr	45.505	9.101	ppb	40.67	#VALUE!	
55 Mn	1,253.	250.6	ppb	1.66	2000.	
56 Fe	1,583.	316.6	ppb	1.69	#VALUE!	
57 Fe	1,831.	366.2	ppb	0.62	100000.	
59 Co	0.5045	0.1009	ppb	10.35	1000.	
60 Ni	3.591	0.7182	ppb	4.18	1000.	
63 Cu	7.425	1.485	ppb	1.49	#VALUE!	
65 Cu	1.4175	0.2835	ppb	5.49	2000.	
66 Zn	36.115	7.223	ppb	2.17	2000.	
68 Zn	35.77	7.154	ppb	2.24	#VALUE!	
75 As	1.9585	0.3917	ppb	41.18	1000.	
82 Se	0.1389	0.0278	ppb	602.59	1000.	
88 Sr	1,258.5	251.7	ppb	1.50	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	16.235	3.247	ppb	1.17	1000.	
107 Ag	0.0078	0.0016	ppb	72.73	100.	
109 Ag	0.0136	0.0027	ppb	82.51	#VALUE!	
111 Cd	0.1605	0.0321	ppb	17.71	#VALUE!	
114 Cd	0.0411	0.0082	ppb	63.69	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	0.9555	0.1911	ppb	2.22	1000.	
120 Sn	0.935	0.187	ppb	10.92	#VALUE!	
121 Sb	0.3146	0.0629	ppb	16.98	#VALUE!	
123 Sb	0.3392	0.0678	ppb	11.93	1000.	
135 Ba	36.045	7.209	ppb	0.68	2000.	
137 Ba	35.84	7.168	ppb	1.56	#VALUE!	
182 W	0.1268	0.0254	ppb	15.57	1000.	
203 Tl	-0.1253	-0.0251	ppb	22.06	1000.	
205 Tl	-0.127	-0.0254	ppb	16.40	#VALUE!	
208 Pb	-0.7615	-0.1523	ppb	6.42	2000.	
232 Th	0.526	0.1052	ppb	13.28	1000.	
238 U	8.73	1.746	ppb	2.45	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2327250.00	0.77	2422125.80	96.1	69.5 - 120	
45 Sc	2052904.80	1.62	2037841.00	100.7	69.5 - 120	
72 Ge	446974.16	1.06	440652.41	101.4	69.5 - 120	
159 Tb	3638337.00	1.13	3649611.30	99.7	69.5 - 120	
209 Bi	1829395.00	1.64	1931866.90	94.7	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000183

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\065SMPL.D\065SMPL.D#
Date Acquired: May 16 2018 10:32 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3952-004
Misc Info:
Vial Number: 2308
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.2782	0.0556	ppb	16.93	100.	
11 B	229.6	45.92	ppb	2.40	1000.	
23 Na	337,350.	67,470.	ppb	1.73	200000.	
25 Mg	81,550.	16,310.	ppb	1.94	200000.	
27 Al	5,880.	1,176.	ppb	1.05	200000.	
28 Si	30,610.	6,122.	ppb	0.61	#VALUE!	
29 Si	33,795.	6,759.	ppb	1.62	10000.	
39 K	20,645.	4,129.	ppb	2.55	200000.	
43 Ca	401,700.	80,340.	ppb	1.36	#VALUE!	
44 Ca	374,250.	74,850.	ppb	0.78	200000.	
51 V	16.7	3.34	ppb	0.31	1000.	
52 Cr	31.685	6.337	ppb	1.56	2000.	
53 Cr	83.8	16.76	ppb	1.96	#VALUE!	
55 Mn	1,537.	307.4	ppb	0.18	2000.	
56 Fe	10,100.	2,020.	ppb	0.59	#VALUE!	
57 Fe	10,285.	2,057.	ppb	1.85	100000.	
59 Co	3.787	0.7574	ppb	1.72	1000.	
60 Ni	14.845	2.969	ppb	0.73	1000.	
63 Cu	21.48	4.296	ppb	2.60	#VALUE!	
65 Cu	12.6	2.52	ppb	0.80	2000.	
66 Zn	51.95	10.39	ppb	1.16	2000.	
68 Zn	53.4	10.68	ppb	3.50	#VALUE!	
75 As	17.61	3.522	ppb	5.10	1000.	
82 Se	1.629	0.3258	ppb	62.55	1000.	
88 Sr	1,640.5	328.1	ppb	0.61	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	14.425	2.885	ppb	0.51	1000.	
107 Ag	0.0156	0.0031	ppb	65.28	100.	
109 Ag	0.0281	0.0056	ppb	16.66	#VALUE!	
111 Cd	0.1046	0.0209	ppb	129.25	#VALUE!	
114 Cd	0.021	0.0042	ppb	65.89	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	1.3535	0.2707	ppb	3.05	1000.	
120 Sn	1.3055	0.2611	ppb	10.59	#VALUE!	
121 Sb	0.3911	0.0782	ppb	10.39	#VALUE!	
123 Sb	0.3445	0.0689	ppb	2.20	1000.	
135 Ba	122.7	24.54	ppb	1.37	2000.	
137 Ba	124.8	24.96	ppb	0.45	#VALUE!	
182 W	0.4536	0.0907	ppb	10.19	1000.	
203 Tl	-0.0677	-0.0135	ppb	96.60	1000.	
205 Tl	-0.0223	-0.0045	ppb	42.41	#VALUE!	
208 Pb	6.165	1.233	ppb	3.02	2000.	
232 Th	5.65	1.13	ppb	1.47	1000.	
238 U	2.5395	0.5079	ppb	1.49	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2312647.50	1.42	2422125.80	95.5	69.5 - 120	
45 Sc	2037044.40	1.71	2037841.00	100.0	69.5 - 120	
72 Ge	440474.91	0.95	440652.41	100.0	69.5 - 120	
159 Tb	3670005.00	1.50	3649611.30	100.6	69.5 - 120	
209 Bi	1811942.90	1.34	1931866.90	93.8	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000184

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\066SMPL.D\066SMPL.D#
Date Acquired: May 16 2018 10:36 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3952-005
Misc Info:
Vial Number: 2309
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0134	0.0027	ppb	34.38	100.	
11 B	229.9	45.98	ppb	5.17	1000.	
23 Na	344,150.	68,830.	ppb	2.50	200000.	
25 Mg	82,200.	16,440.	ppb	1.70	200000.	
27 Al	14.25	2.85	ppb	8.49	200000.	
28 Si	16,600.	3,320.	ppb	2.02	#VALUE!	
29 Si	16,745.	3,349.	ppb	1.95	10000.	
39 K	19,160.	3,832.	ppb	2.92	200000.	
43 Ca	402,650.	80,530.	ppb	2.10	#VALUE!	
44 Ca	376,450.	75,290.	ppb	2.50	200000.	
51 V	0.5535	0.1107	ppb	100.72	1000.	
52 Cr	1.9325	0.3865	ppb	8.20	2000.	
53 Cr	66.65	13.33	ppb	16.90	#VALUE!	
55 Mn	1,507.	301.4	ppb	1.39	2000.	
56 Fe	2,422.	484.4	ppb	1.93	#VALUE!	
57 Fe	2,701.5	540.3	ppb	3.83	100000.	
59 Co	1.026	0.2052	ppb	13.39	1000.	
60 Ni	2.6395	0.5279	ppb	11.17	1000.	
63 Cu	10.02	2.004	ppb	2.08	#VALUE!	
65 Cu	1.4315	0.2863	ppb	2.28	2000.	
66 Zn	17.075	3.415	ppb	0.96	2000.	
68 Zn	15.365	3.073	ppb	3.09	#VALUE!	
75 As	17.125	3.425	ppb	3.69	1000.	
82 Se	1.8475	0.3695	ppb	44.01	1000.	
88 Sr	1,625.	325.	ppb	2.06	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	11.155	2.231	ppb	1.43	1000.	
107 Ag	-0.0068	-0.0014	ppb	91.73	100.	
109 Ag	-0.0014	-0.0003	ppb	470.69	#VALUE!	
111 Cd	0.1104	0.0221	ppb	56.11	#VALUE!	
114 Cd	-0.0831	-0.0166	ppb	146.57	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	3.456	0.6912	ppb	119.37	1000.	
120 Sn	1.0625	0.2125	ppb	41.62	#VALUE!	
121 Sb	0.2652	0.053	ppb	12.42	#VALUE!	
123 Sb	0.2042	0.0408	ppb	13.72	1000.	
135 Ba	29.535	5.907	ppb	1.83	2000.	
137 Ba	28.93	5.786	ppb	3.00	#VALUE!	
182 W	0.2349	0.047	ppb	13.56	1000.	
203 Tl	-0.1252	-0.025	ppb	20.38	1000.	
205 Tl	-0.1386	-0.0277	ppb	12.48	#VALUE!	
208 Pb	-0.816	-0.1632	ppb	6.15	2000.	
232 Th	0.2407	0.0481	ppb	24.31	1000.	
238 U	1.868	0.3736	ppb	1.18	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2373967.00	0.80	2422125.80	98.0	69.5 - 120	
45 Sc	2096444.10	2.19	2037841.00	102.9	69.5 - 120	
72 Ge	450143.56	1.23	440652.41	102.2	69.5 - 120	
159 Tb	3661285.30	1.59	3649611.30	100.3	69.5 - 120	
209 Bi	1829272.50	0.20	1931866.90	94.7	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000185

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\067SMPL.D\067SMPL.D#
Date Acquired: May 16 2018 10:40 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3952-006
Misc Info:
Vial Number: 2310
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	2.2385	0.4477	ppb	3.47	100.	
11 B	235.6	47.12	ppb	3.38	1000.	
23 Na	337,500.	67,500.	ppb	1.34	200000.	
25 Mg	83,600.	16,720.	ppb	1.51	200000.	
27 Al	52,400.	10,480.	ppb	2.12	200000.	
28 Si	65,200.	13,040.	ppb	3.67	#VALUE!	
29 Si	69,250.	13,850.	ppb	2.32	10000.	>LDR
39 K	32,230.	6,446.	ppb	3.31	200000.	
43 Ca	422,250.	84,450.	ppb	1.35	#VALUE!	
44 Ca	392,550.	78,510.	ppb	2.06	200000.	
51 V	118.35	23.67	ppb	1.09	1000.	
52 Cr	502.5	100.5	ppb	0.36	2000.	
53 Cr	551.	110.2	ppb	0.90	#VALUE!	
55 Mn	2,131.	426.2	ppb	0.37	2000.	
56 Fe	107,950.	21,590.	ppb	0.46	#VALUE!	
57 Fe	104,550.	20,910.	ppb	0.92	100000.	
59 Co	23.55	4.71	ppb	2.57	1000.	
60 Ni	181.6	36.32	ppb	1.08	1000.	
63 Cu	167.45	33.49	ppb	0.34	#VALUE!	
65 Cu	159.75	31.95	ppb	1.05	2000.	
66 Zn	1,261.	252.2	ppb	0.61	2000.	
68 Zn	1,244.5	248.9	ppb	0.81	#VALUE!	
75 As	22.825	4.565	ppb	7.47	1000.	
82 Se	2.154	0.4308	ppb	30.62	1000.	
88 Sr	1,776.	355.2	ppb	0.65	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	137.7	27.54	ppb	0.43	1000.	
107 Ag	0.2176	0.0435	ppb	7.21	100.	
109 Ag	0.2486	0.0497	ppb	6.87	#VALUE!	
111 Cd	0.9385	0.1877	ppb	15.06	#VALUE!	
114 Cd	0.3077	0.0615	ppb	7.84	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	7.165	1.433	ppb	2.95	1000.	
120 Sn	7.4	1.48	ppb	3.53	#VALUE!	
121 Sb	0.8825	0.1765	ppb	2.39	#VALUE!	
123 Sb	0.9175	0.1835	ppb	12.91	1000.	
135 Ba	1,004.	200.8	ppb	0.32	2000.	
137 Ba	1,000.	200.	ppb	0.74	#VALUE!	
182 W	1.1095	0.2219	ppb	9.59	1000.	
203 Tl	0.6825	0.1365	ppb	18.52	1000.	
205 Tl	0.6965	0.1393	ppb	5.65	#VALUE!	
208 Pb	56.	11.2	ppb	0.72	2000.	
232 Th	42.445	8.489	ppb	1.22	1000.	
238 U	8.55	1.71	ppb	1.52	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2392141.00	1.95	2422125.80	98.8	69.5 - 120	
45 Sc	2129787.30	0.93	2037841.00	104.5	69.5 - 120	
72 Ge	450492.78	1.43	440652.41	102.2	69.5 - 120	
159 Tb	3798782.50	1.02	3649611.30	104.1	69.5 - 120	
209 Bi	1886543.80	0.69	1931866.90	97.7	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Katahdin Analytical Services 4000186

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\068SMPL.D\068SMPL.D#
Date Acquired: May 16 2018 10:45 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3952-007
Misc Info:
Vial Number: 2311
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	-0.0051	-0.001	ppb	127.72	100.	
11 B	12.31	2.462	ppb	63.77	1000.	
23 Na	12,595.	2,519.	ppb	116.44	200000.	
25 Mg	2,962.	592.4	ppb	112.39	200000.	
27 Al	3.0345	0.6069	ppb	115.04	200000.	
28 Si	-2,112.5	-422.5	ppb	48.33	#VALUE!	
29 Si	-2,907.	-581.4	ppb	54.76	10000.	LOW
39 K	220.3	44.06	ppb	382.66	200000.	
43 Ca	16,405.	3,281.	ppb	116.31	#VALUE!	
44 Ca	13,440.	2,688.	ppb	107.07	200000.	
51 V	-0.605	-0.121	ppb	76.65	1000.	
52 Cr	-2.147	-0.4294	ppb	32.35	2000.	
53 Cr	-47.32	-9.464	ppb	2.45	#VALUE!	
55 Mn	54.95	10.99	ppb	108.01	2000.	
56 Fe	-238.05	-47.61	ppb	127.07	#VALUE!	
57 Fe	3.9925	0.7985	ppb	5842.20	100000.	
59 Co	0.0576	0.0115	ppb	125.89	1000.	
60 Ni	0.262	0.0524	ppb	113.13	1000.	
63 Cu	-0.0217	-0.0043	ppb	2541.50	#VALUE!	
65 Cu	-0.4498	-0.09	ppb	19.19	2000.	
66 Zn	1.1175	0.2235	ppb	128.77	2000.	
68 Zn	-0.4829	-0.0966	ppb	500.41	#VALUE!	
75 As	-0.6455	-0.1291	ppb	86.83	1000.	
82 Se	-0.7665	-0.1533	ppb	125.51	1000.	
88 Sr	64.6	12.92	ppb	101.01	2000.	
89 Y	----	--------	---	---	#VALUE!	
98 Mo	0.798	0.1596	ppb	93.80	1000.	
107 Ag	-0.0022	-0.0004	ppb	287.81	100.	
109 Ag	-0.0054	-0.0011	ppb	50.37	#VALUE!	
111 Cd	-0.3829	-0.0766	ppb	48.49	#VALUE!	
114 Cd	-0.0036	-0.0007	ppb	473.03	1000.	
115 In	----	--------	---	---	#VALUE!	
118 Sn	0.551	0.1102	ppb	68.90	1000.	
120 Sn	0.3173	0.0635	ppb	85.39	#VALUE!	
121 Sb	0.0258	0.0052	ppb	120.69	#VALUE!	
123 Sb	0.0009	0.0002	ppb	3243.70	1000.	
135 Ba	1.444	0.2888	ppb	95.05	2000.	
137 Ba	1.4265	0.2853	ppb	100.21	#VALUE!	
182 W	0.0681	0.0136	ppb	67.53	1000.	
203 Tl	0.1505	0.0301	ppb	143.44	1000.	
205 Tl	0.1505	0.0301	ppb	159.49	#VALUE!	
208 Pb	0.8735	0.1747	ppb	196.79	2000.	
232 Th	0.172	0.0344	ppb	38.01	1000.	
238 U	0.0684	0.0137	ppb	107.38	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2940448.80	19.91	2422125.80	121.4	69.5 - 120	IS Fai
45 Sc	2665220.80	31.05	2037841.00	130.8	69.5 - 120	IS Fai
72 Ge	585160.69	34.03	440652.41	132.8	69.5 - 120	IS Fai
159 Tb	6237642.50	41.47	3649611.30	170.9	69.5 - 120	IS Fai
209 Bi	3287107.50	42.29	1931866.90	170.2	69.5 - 120	IS Fai

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
5 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Fail

Katahdin Analytical Services 4000187

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\069SMPL.D\069SMPL.D#
Date Acquired: May 16 2018 10:49 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3952-008
Misc Info:
Vial Number: 2312
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	16.73	3.346	ppb	3.74	100.	
11 B	238.05	47.61	ppb	2.49	1000.	
23 Na	92,650.	18,530.	ppb	1.27	200000.	
25 Mg	194,100.	38,820.	ppb	1.29	200000.	
27 Al	244,400.	48,880.	ppb	1.59	200000.	
28 Si	90,050.	18,010.	ppb	1.33	#VALUE!	
29 Si	92,750.	18,550.	ppb	1.42	10000.	>LDR
39 K	73,150.	14,630.	ppb	1.61	200000.	
43 Ca	531,500.	106,300.	ppb	0.29	#VALUE!	
44 Ca	495,150.	99,030.	ppb	0.49	200000.	
51 V	506.	101.2	ppb	0.49	1000.	
52 Cr	398.85	79.77	ppb	0.58	2000.	
53 Cr	431.85	86.37	ppb	0.54	#VALUE!	
55 Mn	4,904.5	980.9	ppb	1.11	2000.	
56 Fe	261,900.	52,380.	ppb	0.66	#VALUE!	
57 Fe	251,100.	50,220.	ppb	1.14	100000.	
59 Co	114.7	22.94	ppb	1.32	1000.	
60 Ni	332.9	66.58	ppb	0.37	1000.	
63 Cu	269.5	53.9	ppb	0.60	#VALUE!	
65 Cu	269.35	53.87	ppb	1.29	2000.	
66 Zn	1,269.	253.8	ppb	1.07	2000.	
68 Zn	1,328.	265.6	ppb	0.27	#VALUE!	
75 As	73.5	14.7	ppb	1.90	1000.	
82 Se	18.6	3.72	ppb	4.23	1000.	
88 Sr	2,022.	404.4	ppb	1.49	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	31.385	6.277	ppb	1.21	1000.	
107 Ag	1.33	0.266	ppb	5.72	100.	
109 Ag	1.27	0.254	ppb	8.60	#VALUE!	
111 Cd	5.745	1.149	ppb	4.23	#VALUE!	
114 Cd	3.9595	0.7919	ppb	4.76	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	15.54	3.108	ppb	0.61	1000.	
120 Sn	15.215	3.043	ppb	1.59	#VALUE!	
121 Sb	1.616	0.3232	ppb	4.73	#VALUE!	
123 Sb	1.7815	0.3563	ppb	8.07	1000.	
135 Ba	2,594.	518.8	ppb	0.67	2000.	
137 Ba	2,607.5	521.5	ppb	1.44	#VALUE!	
182 W	0.581	0.1162	ppb	6.55	1000.	
203 Tl	4.635	0.927	ppb	3.50	1000.	
205 Tl	4.432	0.8864	ppb	3.49	#VALUE!	
208 Pb	219.	43.8	ppb	1.68	2000.	
232 Th	146.05	29.21	ppb	1.20	1000.	
238 U	45.855	9.171	ppb	1.90	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2510841.50	2.46	2422125.80	103.7	69.5 - 120	
45 Sc	2234675.50	1.13	2037841.00	109.7	69.5 - 120	
72 Ge	452886.44	0.71	440652.41	102.8	69.5 - 120	
159 Tb	3939813.30	1.01	3649611.30	108.0	69.5 - 120	
209 Bi	1893476.00	1.46	1931866.90	98.0	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Katahdin Analytical Services 4000188

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\070SMPL.D\070SMPL.D#
Date Acquired: May 16 2018 10:53 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3952-009
Misc Info:
Vial Number: 2401
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0138	0.0028	ppb	58.17	100.	
11 B	156.65	31.33	ppb	1.36	1000.	
23 Na	93,750.	18,750.	ppb	0.98	200000.	
25 Mg	37,115.	7,423.	ppb	0.96	200000.	
27 Al	13.92	2.784	ppb	1.99	200000.	
28 Si	23,470.	4,694.	ppb	2.60	#VALUE!	
29 Si	25,995.	5,199.	ppb	3.94	10000.	
39 K	15,800.	3,160.	ppb	1.76	200000.	
43 Ca	221,000.	44,200.	ppb	0.62	#VALUE!	
44 Ca	214,400.	42,880.	ppb	0.80	200000.	
51 V	-0.0162	-0.0032	ppb	2245.00	1000.	
52 Cr	0.7605	0.1521	ppb	29.47	2000.	
53 Cr	27.58	5.516	ppb	53.72	#VALUE!	
55 Mn	914.5	182.9	ppb	0.52	2000.	
56 Fe	1,035.5	207.1	ppb	2.83	#VALUE!	
57 Fe	1,231.5	246.3	ppb	2.02	100000.	
59 Co	0.2951	0.059	ppb	12.66	1000.	
60 Ni	1.862	0.3724	ppb	5.60	1000.	
63 Cu	5.37	1.074	ppb	3.46	#VALUE!	
65 Cu	3.1495	0.6299	ppb	5.17	2000.	
66 Zn	10.42	2.084	ppb	6.88	2000.	
68 Zn	11.585	2.317	ppb	6.25	#VALUE!	
75 As	2.6065	0.5213	ppb	24.67	1000.	
82 Se	0.141	0.0282	ppb	249.15	1000.	
88 Sr	973.5	194.7	ppb	1.67	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	8.31	1.662	ppb	1.19	1000.	
107 Ag	0.0033	0.0007	ppb	383.75	100.	
109 Ag	0.0042	0.0008	ppb	233.36	#VALUE!	
111 Cd	-0.0897	-0.0179	ppb	144.28	#VALUE!	
114 Cd	0.0202	0.004	ppb	7.82	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	0.884	0.1768	ppb	6.83	1000.	
120 Sn	0.9465	0.1893	ppb	7.33	#VALUE!	
121 Sb	0.136	0.0272	ppb	8.02	#VALUE!	
123 Sb	0.1711	0.0342	ppb	20.98	1000.	
135 Ba	61.2	12.24	ppb	1.29	2000.	
137 Ba	60.1	12.02	ppb	0.99	#VALUE!	
182 W	0.2019	0.0404	ppb	22.84	1000.	
203 Tl	-0.1596	-0.0319	ppb	16.66	1000.	
205 Tl	-0.168	-0.0336	ppb	10.99	#VALUE!	
208 Pb	-0.7475	-0.1495	ppb	6.50	2000.	
232 Th	0.3838	0.0768	ppb	20.34	1000.	
238 U	1.401	0.2802	ppb	1.33	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2490287.50	1.79	2422125.80	102.8	69.5 - 120	
45 Sc	2150708.00	1.11	2037841.00	105.5	69.5 - 120	
72 Ge	465175.75	0.48	440652.41	105.6	69.5 - 120	
159 Tb	3942324.00	0.66	3649611.30	108.0	69.5 - 120	
209 Bi	1978919.50	0.39	1931866.90	102.4	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000189

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\071SMPL.D\071SMPL.D#
Date Acquired: May 16 2018 10:58 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3952-010
Misc Info:
Vial Number: 2402
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.1782	0.0356	ppb	8.98	100.	
11 B	225.6	45.12	ppb	4.16	1000.	
23 Na	366,500.	73,300.	ppb	2.11	200000.	
25 Mg	85,750.	17,150.	ppb	2.07	200000.	
27 Al	3,501.	700.2	ppb	2.05	200000.	
28 Si	27,860.	5,572.	ppb	1.54	#VALUE!	
29 Si	30,930.	6,186.	ppb	0.87	10000.	
39 K	21,745.	4,349.	ppb	0.09	200000.	
43 Ca	417,800.	83,560.	ppb	1.05	#VALUE!	
44 Ca	387,850.	77,570.	ppb	1.01	200000.	
51 V	8.975	1.795	ppb	3.25	1000.	
52 Cr	34.61	6.922	ppb	0.50	2000.	
53 Cr	86.8	17.36	ppb	7.99	#VALUE!	
55 Mn	1,454.	290.8	ppb	1.24	2000.	
56 Fe	13,315.	2,663.	ppb	1.36	#VALUE!	
57 Fe	13,555.	2,711.	ppb	1.30	100000.	
59 Co	2.039	0.4078	ppb	4.72	1000.	
60 Ni	14.09	2.818	ppb	2.60	1000.	
63 Cu	25.66	5.132	ppb	1.06	#VALUE!	
65 Cu	15.755	3.151	ppb	0.90	2000.	
66 Zn	151.9	30.38	ppb	0.28	2000.	
68 Zn	147.05	29.41	ppb	0.66	#VALUE!	
75 As	12.1	2.42	ppb	15.87	1000.	
82 Se	1.273	0.2546	ppb	27.64	1000.	
88 Sr	1,681.5	336.3	ppb	0.53	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	20.03	4.006	ppb	0.94	1000.	
107 Ag	0.0196	0.0039	ppb	49.03	100.	
109 Ag	0.0224	0.0045	ppb	32.30	#VALUE!	
111 Cd	0.2053	0.0411	ppb	16.91	#VALUE!	
114 Cd	0.0236	0.0047	ppb	138.48	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	2.638	0.5276	ppb	6.81	1000.	
120 Sn	2.3325	0.4665	ppb	6.44	#VALUE!	
121 Sb	0.2378	0.0476	ppb	10.76	#VALUE!	
123 Sb	0.2127	0.0425	ppb	1.86	1000.	
135 Ba	93.95	18.79	ppb	2.12	2000.	
137 Ba	93.2	18.64	ppb	0.99	#VALUE!	
182 W	0.2828	0.0566	ppb	14.42	1000.	
203 Tl	-0.0715	-0.0143	ppb	53.62	1000.	
205 Tl	-0.0969	-0.0194	ppb	15.08	#VALUE!	
208 Pb	3.7595	0.7519	ppb	2.10	2000.	
232 Th	2.8375	0.5675	ppb	1.04	1000.	
238 U	1.7495	0.3499	ppb	1.06	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2568870.30	1.12	2422125.80	106.1	69.5 - 120	
45 Sc	2186845.80	0.57	2037841.00	107.3	69.5 - 120	
72 Ge	469921.19	0.53	440652.41	106.6	69.5 - 120	
159 Tb	3890481.30	1.70	3649611.30	106.6	69.5 - 120	
209 Bi	1908499.50	1.17	1931866.90	98.8	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000190

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\072SMPL.D\072SMPL.D#
Date Acquired: May 16 2018 11:02 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3952-011
Misc Info:
Vial Number: 2403
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.015	0.003	ppb	70.24	100.	
11 B	224.65	44.93	ppb	2.64	1000.	
23 Na	364,650.	72,930.	ppb	1.84	200000.	
25 Mg	83,650.	16,730.	ppb	1.49	200000.	
27 Al	11.99	2.398	ppb	6.51	200000.	
28 Si	19,600.	3,920.	ppb	1.46	#VALUE!	
29 Si	22,200.	4,440.	ppb	1.05	10000.	
39 K	21,035.	4,207.	ppb	0.46	200000.	
43 Ca	416,200.	83,240.	ppb	1.33	#VALUE!	
44 Ca	383,950.	76,790.	ppb	1.72	200000.	
51 V	0.0262	0.0052	ppb	2504.30	1000.	
52 Cr	1.535	0.307	ppb	3.30	2000.	
53 Cr	71.85	14.37	ppb	12.58	#VALUE!	
55 Mn	1,371.5	274.3	ppb	0.67	2000.	
56 Fe	6,330.	1,266.	ppb	1.77	#VALUE!	
57 Fe	6,610.	1,322.	ppb	1.92	100000.	
59 Co	0.515	0.103	ppb	6.37	1000.	
60 Ni	2.7855	0.5571	ppb	0.35	1000.	
63 Cu	10.965	2.193	ppb	3.44	#VALUE!	
65 Cu	1.4705	0.2941	ppb	8.99	2000.	
66 Zn	28.775	5.755	ppb	1.64	2000.	
68 Zn	26.65	5.33	ppb	2.33	#VALUE!	
75 As	9.46	1.892	ppb	17.83	1000.	
82 Se	0.798	0.1596	ppb	29.38	1000.	
88 Sr	1,650.	330.	ppb	0.26	2000.	
89 Y	----	--------	---	---	#VALUE!	
98 Mo	12.535	2.507	ppb	1.86	1000.	
107 Ag	-0.0001	0.	ppb	17070.00	100.	
109 Ag	-0.002	-0.0004	ppb	239.38	#VALUE!	
111 Cd	0.147	0.0294	ppb	121.39	#VALUE!	
114 Cd	0.0134	0.0027	ppb	69.50	1000.	
115 In	----	--------	---	---	#VALUE!	
118 Sn	0.921	0.1842	ppb	6.40	1000.	
120 Sn	0.8425	0.1685	ppb	8.45	#VALUE!	
121 Sb	0.0698	0.014	ppb	33.74	#VALUE!	
123 Sb	0.0524	0.0105	ppb	34.89	1000.	
135 Ba	31.255	6.251	ppb	4.33	2000.	
137 Ba	31.455	6.291	ppb	1.65	#VALUE!	
182 W	0.2235	0.0447	ppb	18.55	1000.	
203 Tl	-0.1415	-0.0283	ppb	21.43	1000.	
205 Tl	-0.1525	-0.0305	ppb	11.19	#VALUE!	
208 Pb	-0.9445	-0.1889	ppb	3.15	2000.	
232 Th	0.1222	0.0244	ppb	38.76	1000.	
238 U	1.3745	0.2749	ppb	3.27	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2529824.00	0.80	2422125.80	104.4	69.5 - 120	
45 Sc	2160542.50	1.60	2037841.00	106.0	69.5 - 120	
72 Ge	470764.94	1.88	440652.41	106.8	69.5 - 120	
159 Tb	3841219.50	2.25	3649611.30	105.3	69.5 - 120	
209 Bi	1886444.40	1.91	1931866.90	97.6	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000191

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\073SMPL.D\073SMPL.D#
Date Acquired: May 16 2018 11:06 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: RINSE
Misc Info:
Vial Number: 2404
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0147	0.0029	ppb	106.08	100.	
11 B	12.44	2.488	ppb	18.04	1000.	
23 Na	70.	14.	ppb	3.07	200000.	
25 Mg	2.3945	0.4789	ppb	11.39	200000.	
27 Al	9.5	1.9	ppb	8.07	200000.	
28 Si	-255.8	-51.16	ppb	53.17	#VALUE!	
29 Si	-325.8	-65.16	ppb	51.92	10000.	
39 K	-36.12	-7.224	ppb	55.54	200000.	
43 Ca	-8.38	-1.676	ppb	276.67	#VALUE!	
44 Ca	-4.6955	-0.9391	ppb	193.80	200000.	
51 V	-0.0673	-0.0135	ppb	90.41	1000.	
52 Cr	-0.2411	-0.0482	ppb	61.41	2000.	
53 Cr	1.7705	0.3541	ppb	155.04	#VALUE!	
55 Mn	0.1653	0.0331	ppb	3.38	2000.	
56 Fe	32.58	6.516	ppb	47.87	#VALUE!	
57 Fe	25.005	5.001	ppb	78.72	100000.	
59 Co	0.0116	0.0023	ppb	33.05	1000.	
60 Ni	0.184	0.0368	ppb	3.93	1000.	
63 Cu	7.065	1.413	ppb	4.45	#VALUE!	
65 Cu	6.9	1.38	ppb	3.27	2000.	
66 Zn	1.0605	0.2121	ppb	11.73	2000.	
68 Zn	0.2272	0.0454	ppb	183.98	#VALUE!	
75 As	0.0809	0.0162	ppb	199.63	1000.	
82 Se	-0.02	-0.004	ppb	1561.80	1000.	
88 Sr	0.0178	0.0036	ppb	80.39	2000.	
89 Y	----	--------	---	---	#VALUE!	
98 Mo	0.0347	0.0069	ppb	115.61	1000.	
107 Ag	-0.0008	-0.0002	ppb	2614.30	100.	
109 Ag	0.0102	0.002	ppb	145.25	#VALUE!	
111 Cd	0.4056	0.0811	ppb	17.35	#VALUE!	
114 Cd	0.0043	0.0009	ppb	391.16	1000.	
115 In	----	--------	---	---	#VALUE!	
118 Sn	0.0906	0.0181	ppb	93.15	1000.	
120 Sn	0.0328	0.0066	ppb	425.80	#VALUE!	
121 Sb	-0.0034	-0.0007	ppb	268.72	#VALUE!	
123 Sb	-0.0171	-0.0034	ppb	5.27	1000.	
135 Ba	0.3308	0.0662	ppb	24.89	2000.	
137 Ba	0.313	0.0626	ppb	10.22	#VALUE!	
182 W	-0.0181	-0.0036	ppb	118.16	1000.	
203 Tl	-0.1492	-0.0298	ppb	17.64	1000.	
205 Tl	-0.1219	-0.0244	ppb	21.92	#VALUE!	
208 Pb	0.2698	0.054	ppb	40.33	2000.	
232 Th	0.0137	0.0027	ppb	49.73	1000.	
238 U	0.001	0.0002	ppb	83.48	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2633863.00	1.77	2422125.80	108.7	69.5 - 120	
45 Sc	2266863.50	2.22	2037841.00	111.2	69.5 - 120	
72 Ge	473391.31	2.29	440652.41	107.4	69.5 - 120	
159 Tb	3756020.00	2.87	3649611.30	102.9	69.5 - 120	
209 Bi	1925592.30	1.97	1931866.90	99.7	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000192

CCV QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\074_CCV.D\074_CCV.D#
Date Acquired: May 16 2018 11:10 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: CCV
Misc Info:
Vial Number: 1206
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Dilution Factor: 1.00
QC Range (%): 89.5 - 110.5

QC Elements

Element	Conc.		RSD(%)	Expected	Rec (%)	Flag
9 Be	24.64	ppb	0.95	25	98.56	
11 B	24.48	ppb	3.82	25	97.92	
23 Na	5,034.	ppb	0.65	5,000	100.68	
25 Mg	5,036.	ppb	0.66	5,000	100.72	
27 Al	493.	ppb	0.55	500	98.6	
28 Si	430.7	ppb	3.25	500	86.14	
29 Si	403.8	ppb	2.29	500	80.76	Fail
39 K	5,037.	ppb	1.51	5,000	100.74	
43 Ca	4,910.	ppb	0.57	5,000	98.2	
44 Ca	4,942.	ppb	0.70	5,000	98.84	
51 V	24.32	ppb	0.99	25	97.28	
52 Cr	24.34	ppb	1.36	25	97.36	
53 Cr	23.28	ppb	5.97	25	93.12	
55 Mn	24.56	ppb	0.69	25	98.24	
56 Fe	4,866.	ppb	1.35	5,000	97.32	
57 Fe	4,911.	ppb	1.34	5,000	98.22	
59 Co	24.65	ppb	0.57	25	98.6	
60 Ni	24.59	ppb	0.79	25	98.36	
63 Cu	24.79	ppb	0.93	25	99.16	
65 Cu	24.59	ppb	1.45	25	98.36	
66 Zn	24.97	ppb	1.12	25	99.88	
68 Zn	24.75	ppb	3.39	25	99	
75 As	24.51	ppb	1.31	25	98.04	
82 Se	24.4	ppb	0.80	25	97.6	
88 Sr	23.58	ppb	0.43	25	94.32	
89 Y	--------	---	--------	---	#VALUE!	
98 Mo	24.02	ppb	0.15	25	96.08	
107 Ag	24.12	ppb	0.25	25	96.48	
109 Ag	24.12	ppb	1.14	25	96.48	
111 Cd	24.18	ppb	0.51	25	96.72	
114 Cd	24.17	ppb	0.25	25	96.68	
115 In	--------	---	--------	---	#VALUE!	
118 Sn	24.95	ppb	1.75	25	99.8	
120 Sn	24.94	ppb	1.14	25	99.76	
121 Sb	25.08	ppb	1.52	25	100.32	
123 Sb	25.38	ppb	1.54	25	101.52	
135 Ba	25.99	ppb	1.69	25	103.96	
137 Ba	25.3	ppb	2.90	25	101.2	
182 W	23.98	ppb	0.93	25	95.92	
203 Tl	24.58	ppb	1.31	25	98.32	
205 Tl	24.34	ppb	1.81	25	97.36	
208 Pb	24.55	ppb	1.66	25	98.2	
232 Th	24.15	ppb	1.44	25	96.6	
238 U	24.46	ppb	1.70	25	97.84	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2627843.50	0.53	2422125.80	108.5	80 - 120.4	
45 Sc	2236837.00	0.25	2037841.00	109.8	80 - 120.4	
72 Ge	462567.66	0.28	440652.41	105.0	80 - 120.4	
159 Tb	3798971.50	0.73	3649611.30	104.1	80 - 120.4	
209 Bi	1940521.30	0.96	1931866.90	100.4	80 - 120.4	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Katahdin Analytical Services 4000193

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\075_CCB.D\075_CCB.D#
Date Acquired: May 16 2018 11:14 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: CCB
Misc Info:
Vial Number: 1207
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: 6-CCB
Dilution Factor: 1.00

QC Elements

Element	Conc.		RSD(%)	High Limit	Flag
9 Be	0.0038	ppb	53.91	1.00	
11 B	1.749	ppb	7.82	1.00	
23 Na	2.717	ppb	5.96	1.00	
25 Mg	-0.0853	ppb	23.05	1.00	
27 Al	0.1147	ppb	41.78	1.00	
28 Si	-60.25	ppb	18.95	1.00	
29 Si	-82.96	ppb	9.52	1.00	
39 K	-8.317	ppb	15.91	1.00	
43 Ca	-2.206	ppb	48.60	1.00	
44 Ca	-1.034	ppb	51.83	1.00	
51 V	-0.1599	ppb	54.33	1.00	
52 Cr	-0.1193	ppb	9.57	1.00	
53 Cr	-3.956	ppb	4.51	1.00	
55 Mn	0.0035	ppb	196.39	1.00	
56 Fe	-6.517	ppb	26.84	1.00	
57 Fe	-0.2978	ppb	528.21	1.00	
59 Co	-0.0025	ppb	168.67	1.00	
60 Ni	-0.003	ppb	241.28	1.00	
63 Cu	0.0073	ppb	52.15	1.00	
65 Cu	0.0017	ppb	1584.10	1.00	
66 Zn	-0.0286	ppb	111.67	1.00	
68 Zn	-0.0333	ppb	177.49	1.00	
75 As	-0.1321	ppb	125.13	1.00	
82 Se	-0.2452	ppb	78.39	1.00	
88 Sr	-0.002	ppb	318.44	1.00	
89 Y	--------	---	--------	---	
98 Mo	0.0207	ppb	65.54	1.00	
107 Ag	0.0029	ppb	84.78	1.00	
109 Ag	0.0011	ppb	102.78	1.00	
111 Cd	0.0449	ppb	25.97	1.00	
114 Cd	0.0041	ppb	41.72	1.00	
115 In	--------	---	--------	---	
118 Sn	0.0388	ppb	32.67	1.00	
120 Sn	0.0141	ppb	108.94	1.00	
121 Sb	0.0082	ppb	47.68	1.00	
123 Sb	0.0134	ppb	65.96	1.00	
135 Ba	0.0185	ppb	57.87	1.00	
137 Ba	0.0072	ppb	60.67	1.00	
182 W	0.0427	ppb	21.09	1.00	
203 Tl	-0.0279	ppb	23.62	1.00	
205 Tl	-0.0306	ppb	15.93	1.00	
208 Pb	-0.1054	ppb	2.40	1.00	
232 Th	0.0514	ppb	11.09	1.00	
238 U	0.0015	ppb	73.52	1.00	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2684729.80	1.63	2422125.80	110.8	79.5 - 120	
45 Sc	2210234.30	0.55	2037841.00	108.5	79.5 - 120	
72 Ge	462887.53	0.99	440652.41	105.0	79.5 - 120	
159 Tb	3700299.50	0.80	3649611.30	101.4	79.5 - 120	
209 Bi	1922756.30	1.08	1931866.90	99.5	79.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\076SMPL.D\076SMPL.D#
Date Acquired: May 16 2018 11:19 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3952-011L
Misc Info:
Vial Number: 2405
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: Sample
Dilution Factor: 25.00
Autodil Factor: Undiluted
Final Dil Factor: 25.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0739	0.003	ppb	85.45	100.	
11 B	224.875	8.995	ppb	2.10	1000.	
23 Na	369,750.	14,790.	ppb	3.09	200000.	
25 Mg	88,025.	3,521.	ppb	1.51	200000.	
27 Al	20.4125	0.8165	ppb	13.78	200000.	
28 Si	17,225.	689.	ppb	2.80	#VALUE!	
29 Si	16,907.5	676.3	ppb	2.14	10000.	
39 K	20,220.	808.8	ppb	1.74	200000.	
43 Ca	396,500.	15,860.	ppb	2.10	#VALUE!	
44 Ca	384,250.	15,370.	ppb	1.02	200000.	
51 V	-0.1371	-0.0055	ppb	1158.60	1000.	
52 Cr	-1.0365	-0.0415	ppb	15.49	2000.	
53 Cr	-33.975	-1.359	ppb	98.97	#VALUE!	
55 Mn	1,416.	56.64	ppb	1.30	2000.	
56 Fe	6,347.5	253.9	ppb	2.99	#VALUE!	
57 Fe	6,872.5	274.9	ppb	0.70	100000.	
59 Co	0.541	0.0216	ppb	17.36	1000.	
60 Ni	2.2403	0.0896	ppb	17.07	1000.	
63 Cu	10.38	0.4152	ppb	4.31	#VALUE!	
65 Cu	1.0335	0.0413	ppb	48.67	2000.	
66 Zn	29.7	1.188	ppb	3.30	2000.	
68 Zn	24.335	0.9734	ppb	2.51	#VALUE!	
75 As	8.4125	0.3365	ppb	60.95	1000.	
82 Se	-0.5268	-0.0211	ppb	734.69	1000.	
88 Sr	1,705.	68.2	ppb	0.74	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	11.63	0.4652	ppb	8.11	1000.	
107 Ag	0.0461	0.0018	ppb	60.21	100.	
109 Ag	0.0161	0.0006	ppb	198.75	#VALUE!	
111 Cd	0.9548	0.0382	ppb	28.12	#VALUE!	
114 Cd	0.0799	0.0032	ppb	73.34	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	0.79	0.0316	ppb	42.09	1000.	
120 Sn	0.3003	0.012	ppb	160.45	#VALUE!	
121 Sb	0.1685	0.0067	ppb	32.19	#VALUE!	
123 Sb	0.0198	0.0008	ppb	253.51	1000.	
135 Ba	31.575	1.263	ppb	9.98	2000.	
137 Ba	31.55	1.262	ppb	4.71	#VALUE!	
182 W	0.4213	0.0169	ppb	36.69	1000.	
203 Tl	-0.754	-0.0302	ppb	5.46	1000.	
205 Tl	-0.827	-0.0331	ppb	26.75	#VALUE!	
208 Pb	-3.4425	-0.1377	ppb	8.45	2000.	
232 Th	0.889	0.0356	ppb	23.57	1000.	
238 U	1.3145	0.0526	ppb	6.36	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2635913.50	3.33	2422125.80	108.8	69.5 - 120	
45 Sc	2209972.80	0.93	2037841.00	108.4	69.5 - 120	
72 Ge	465299.47	0.96	440652.41	105.6	69.5 - 120	
159 Tb	3740705.00	1.02	3649611.30	102.5	69.5 - 120	
209 Bi	1924787.90	1.06	1931866.90	99.6	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000195

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\077SMPL.D\077SMPL.D#
Date Acquired: May 16 2018 11:23 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3952-011A
Misc Info:
Vial Number: 2406
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	9.91	1.982	ppb	2.97	100.	
11 B	421.7	84.34	ppb	6.90	1000.	
23 Na	370,300.	74,060.	ppb	1.05	200000.	
25 Mg	84,550.	16,910.	ppb	0.99	200000.	
27 Al	1,050.5	210.1	ppb	1.02	200000.	
28 Si	24,355.	4,871.	ppb	1.47	#VALUE!	
29 Si	27,345.	5,469.	ppb	1.66	10000.	
39 K	30,725.	6,145.	ppb	1.37	200000.	
43 Ca	409,300.	81,860.	ppb	0.87	#VALUE!	
44 Ca	377,850.	75,570.	ppb	0.97	200000.	
51 V	50.85	10.17	ppb	1.65	1000.	
52 Cr	50.3	10.06	ppb	1.02	2000.	
53 Cr	113.35	22.67	ppb	9.00	#VALUE!	
55 Mn	1,376.5	275.3	ppb	1.35	2000.	
56 Fe	7,240.	1,448.	ppb	1.80	#VALUE!	
57 Fe	7,495.	1,499.	ppb	0.82	100000.	
59 Co	10.56	2.112	ppb	3.89	1000.	
60 Ni	21.81	4.362	ppb	0.63	1000.	
63 Cu	39.87	7.974	ppb	1.68	#VALUE!	
65 Cu	30.495	6.099	ppb	1.81	2000.	
66 Zn	123.75	24.75	ppb	2.67	2000.	
68 Zn	120.05	24.01	ppb	2.28	#VALUE!	
75 As	61.3	12.26	ppb	3.06	1000.	
82 Se	50.	10.	ppb	1.00	1000.	
88 Sr	1,659.	331.8	ppb	1.94	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	60.6	12.12	ppb	0.88	1000.	
107 Ag	9.335	1.867	ppb	2.82	100.	
109 Ag	9.485	1.897	ppb	1.72	#VALUE!	
111 Cd	10.015	2.003	ppb	0.62	#VALUE!	
114 Cd	9.52	1.904	ppb	2.56	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	52.25	10.45	ppb	0.75	1000.	
120 Sn	51.7	10.34	ppb	1.32	#VALUE!	
121 Sb	10.44	2.088	ppb	2.68	#VALUE!	
123 Sb	10.35	2.07	ppb	1.94	1000.	
135 Ba	52.75	10.55	ppb	1.52	2000.	
137 Ba	53.1	10.62	ppb	0.25	#VALUE!	
182 W	51.65	10.33	ppb	1.22	1000.	
203 Tl	10.245	2.049	ppb	1.83	1000.	
205 Tl	10.155	2.031	ppb	0.40	#VALUE!	
208 Pb	9.435	1.887	ppb	1.37	2000.	
232 Th	11.15	2.23	ppb	0.73	1000.	
238 U	12.115	2.423	ppb	2.25	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2600094.80	3.59	2422125.80	107.3	69.5 - 120	
45 Sc	2191805.00	0.75	2037841.00	107.6	69.5 - 120	
72 Ge	465470.34	0.87	440652.41	105.6	69.5 - 120	
159 Tb	3756395.80	0.49	3649611.30	102.9	69.5 - 120	
209 Bi	1843230.40	0.63	1931866.90	95.4	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000196

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\078SMPL.D\078SMPL.D#
Date Acquired: May 16 2018 11:27 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3952-011S
Misc Info:
Vial Number: 2407
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	47.635	9.527	ppb	4.05	100.	
11 B	689.5	137.9	ppb	2.39	1000.	
23 Na	353,350.	70,670.	ppb	2.09	200000.	
25 Mg	84,150.	16,830.	ppb	0.26	200000.	
27 Al	2,002.5	400.5	ppb	0.68	200000.	
28 Si	19,155.	3,831.	ppb	1.59	#VALUE!	
29 Si	21,590.	4,318.	ppb	3.14	10000.	
39 K	28,855.	5,771.	ppb	1.65	200000.	
43 Ca	386,250.	77,250.	ppb	0.47	#VALUE!	
44 Ca	355,550.	71,110.	ppb	0.55	200000.	
51 V	497.55	99.51	ppb	1.50	1000.	
52 Cr	184.45	36.89	ppb	1.10	2000.	
53 Cr	260.45	52.09	ppb	3.30	#VALUE!	
55 Mn	1,739.	347.8	ppb	1.21	2000.	
56 Fe	6,915.	1,383.	ppb	0.61	#VALUE!	
57 Fe	7,150.	1,430.	ppb	0.46	100000.	
59 Co	481.85	96.37	ppb	0.36	1000.	
60 Ni	461.8	92.36	ppb	1.82	1000.	
63 Cu	239.8	47.96	ppb	0.87	#VALUE!	
65 Cu	231.95	46.39	ppb	1.01	2000.	
66 Zn	482.5	96.5	ppb	1.23	2000.	
68 Zn	537.	107.4	ppb	0.86	#VALUE!	
75 As	107.95	21.59	ppb	1.39	1000.	
82 Se	92.1	18.42	ppb	1.98	1000.	
88 Sr	1,952.5	390.5	ppb	0.08	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	105.15	21.03	ppb	0.28	1000.	
107 Ag	44.1	8.82	ppb	0.28	100.	
109 Ag	44.005	8.801	ppb	0.19	#VALUE!	
111 Cd	223.5	44.7	ppb	0.37	#VALUE!	
114 Cd	223.75	44.75	ppb	0.86	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	488.6	97.72	ppb	2.15	1000.	
120 Sn	487.45	97.49	ppb	1.31	#VALUE!	
121 Sb	99.45	19.89	ppb	1.45	#VALUE!	
123 Sb	100.05	20.01	ppb	2.87	1000.	
135 Ba	2,003.5	400.7	ppb	1.58	2000.	
137 Ba	1,998.5	399.7	ppb	2.30	#VALUE!	
182 W	98.	19.6	ppb	1.28	1000.	
203 Tl	99.2	19.84	ppb	1.56	1000.	
205 Tl	97.85	19.57	ppb	1.98	#VALUE!	
208 Pb	97.6	19.52	ppb	1.56	2000.	
232 Th	101.5	20.3	ppb	3.00	1000.	
238 U	103.1	20.62	ppb	2.24	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2660703.80	1.87	2422125.80	109.8	69.5 - 120	
45 Sc	2207132.30	1.79	2037841.00	108.3	69.5 - 120	
72 Ge	463135.09	0.72	440652.41	105.1	69.5 - 120	
159 Tb	3753707.00	0.84	3649611.30	102.9	69.5 - 120	
209 Bi	1831848.90	1.31	1931866.90	94.8	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000197

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\079SMPL.D\079SMPL.D#
Date Acquired: May 16 2018 11:31 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3952-011P
Misc Info:
Vial Number: 2408
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	48.895	9.779	ppb	2.96	100.	
11 B	735.	147.	ppb	4.71	1000.	
23 Na	375,400.	75,080.	ppb	2.05	200000.	
25 Mg	90,200.	18,040.	ppb	2.28	200000.	
27 Al	2,074.5	414.9	ppb	2.41	200000.	
28 Si	20,955.	4,191.	ppb	2.39	#VALUE!	
29 Si	23,485.	4,697.	ppb	1.23	10000.	
39 K	30,800.	6,160.	ppb	1.63	200000.	
43 Ca	414,250.	82,850.	ppb	2.80	#VALUE!	
44 Ca	385,650.	77,130.	ppb	2.02	200000.	
51 V	520.5	104.1	ppb	0.90	1000.	
52 Cr	192.65	38.53	ppb	0.78	2000.	
53 Cr	270.8	54.16	ppb	2.09	#VALUE!	
55 Mn	1,864.5	372.9	ppb	1.90	2000.	
56 Fe	7,465.	1,493.	ppb	1.48	#VALUE!	
57 Fe	7,635.	1,527.	ppb	0.75	100000.	
59 Co	503.	100.6	ppb	1.70	1000.	
60 Ni	484.05	96.81	ppb	0.81	1000.	
63 Cu	250.25	50.05	ppb	1.22	#VALUE!	
65 Cu	242.	48.4	ppb	0.24	2000.	
66 Zn	502.	100.4	ppb	0.90	2000.	
68 Zn	560.	112.	ppb	1.78	#VALUE!	
75 As	113.3	22.66	ppb	1.90	1000.	
82 Se	96.85	19.37	ppb	2.32	1000.	
88 Sr	2,126.5	425.3	ppb	0.50	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	111.65	22.33	ppb	1.27	1000.	
107 Ag	46.885	9.377	ppb	0.04	100.	
109 Ag	46.695	9.339	ppb	1.34	#VALUE!	
111 Cd	235.75	47.15	ppb	0.91	#VALUE!	
114 Cd	235.65	47.13	ppb	1.18	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	507.	101.4	ppb	1.63	1000.	
120 Sn	508.5	101.7	ppb	1.51	#VALUE!	
121 Sb	104.45	20.89	ppb	1.64	#VALUE!	
123 Sb	104.5	20.9	ppb	1.39	1000.	
135 Ba	2,103.5	420.7	ppb	0.94	2000.	
137 Ba	2,091.	418.2	ppb	1.55	#VALUE!	
182 W	102.65	20.53	ppb	2.33	1000.	
203 Tl	101.9	20.38	ppb	2.93	1000.	
205 Tl	100.85	20.17	ppb	2.02	#VALUE!	
208 Pb	100.6	20.12	ppb	2.52	2000.	
232 Th	105.2	21.04	ppb	2.95	1000.	
238 U	105.55	21.11	ppb	2.09	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2538083.80	2.35	2422125.80	104.8	69.5 - 120	
45 Sc	2124349.30	0.55	2037841.00	104.2	69.5 - 120	
72 Ge	446734.22	0.43	440652.41	101.4	69.5 - 120	
159 Tb	3683741.30	1.15	3649611.30	100.9	69.5 - 120	
209 Bi	1835147.50	2.03	1931866.90	95.0	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000198

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\080SMPL.D\080SMPL.D#
Date Acquired: May 16 2018 11:36 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3952-012
Misc Info:
Vial Number: 2409
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.2402	0.048	ppb	16.62	100.	
11 B	235.05	47.01	ppb	3.90	1000.	
23 Na	377,450.	75,490.	ppb	0.98	200000.	
25 Mg	91,500.	18,300.	ppb	1.69	200000.	
27 Al	4,504.	900.8	ppb	1.27	200000.	
28 Si	28,870.	5,774.	ppb	1.41	#VALUE!	
29 Si	31,805.	6,361.	ppb	1.87	10000.	
39 K	22,405.	4,481.	ppb	0.50	200000.	
43 Ca	408,650.	81,730.	ppb	1.42	#VALUE!	
44 Ca	381,650.	76,330.	ppb	1.09	200000.	
51 V	16.795	3.359	ppb	4.51	1000.	
52 Cr	33.605	6.721	ppb	0.70	2000.	
53 Cr	88.5	17.7	ppb	0.39	#VALUE!	
55 Mn	1,377.	275.4	ppb	1.30	2000.	
56 Fe	13,060.	2,612.	ppb	1.49	#VALUE!	
57 Fe	13,320.	2,664.	ppb	1.62	100000.	
59 Co	2.4735	0.4947	ppb	5.61	1000.	
60 Ni	12.73	2.546	ppb	1.04	1000.	
63 Cu	20.905	4.181	ppb	0.92	#VALUE!	
65 Cu	11.785	2.357	ppb	1.99	2000.	
66 Zn	49.44	9.888	ppb	2.67	2000.	
68 Zn	48.93	9.786	ppb	5.06	#VALUE!	
75 As	11.455	2.291	ppb	5.88	1000.	
82 Se	1.111	0.2222	ppb	121.20	1000.	
88 Sr	1,668.	333.6	ppb	0.66	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	14.985	2.997	ppb	2.62	1000.	
107 Ag	0.0352	0.007	ppb	37.11	100.	
109 Ag	0.0323	0.0065	ppb	20.57	#VALUE!	
111 Cd	0.5015	0.1003	ppb	5.78	#VALUE!	
114 Cd	0.1798	0.036	ppb	21.81	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	1.747	0.3494	ppb	4.40	1000.	
120 Sn	1.567	0.3134	ppb	5.18	#VALUE!	
121 Sb	0.2426	0.0485	ppb	4.42	#VALUE!	
123 Sb	0.2803	0.0561	ppb	17.61	1000.	
135 Ba	98.95	19.79	ppb	1.80	2000.	
137 Ba	97.8	19.56	ppb	3.42	#VALUE!	
182 W	0.4777	0.0955	ppb	14.14	1000.	
203 Tl	-0.1031	-0.0206	ppb	19.19	1000.	
205 Tl	-0.0442	-0.0088	ppb	126.87	#VALUE!	
208 Pb	5.29	1.058	ppb	3.12	2000.	
232 Th	5.06	1.012	ppb	1.18	1000.	
238 U	1.53	0.306	ppb	4.29	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2548816.80	1.63	2422125.80	105.2	69.5 - 120	
45 Sc	2163768.80	1.11	2037841.00	106.2	69.5 - 120	
72 Ge	462058.16	0.61	440652.41	104.9	69.5 - 120	
159 Tb	3746775.30	2.24	3649611.30	102.7	69.5 - 120	
209 Bi	1859673.10	2.12	1931866.90	96.3	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000199

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\081SMPL.D\081SMPL.D#
Date Acquired: May 16 2018 11:40 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: RINSE
Misc Info:
Vial Number: 2410
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0185	0.0037	ppb	74.66	100.	
11 B	18.605	3.721	ppb	12.81	1000.	
23 Na	113.45	22.69	ppb	0.96	200000.	
25 Mg	9.79	1.958	ppb	6.15	200000.	
27 Al	8.31	1.662	ppb	1.85	200000.	
28 Si	-36.58	-7.316	ppb	670.31	#VALUE!	
29 Si	-124.25	-24.85	ppb	218.19	10000.	
39 K	6.4	1.28	ppb	332.03	200000.	
43 Ca	27.97	5.594	ppb	175.26	#VALUE!	
44 Ca	49.065	9.813	ppb	11.13	200000.	
51 V	-0.3476	-0.0695	ppb	90.98	1000.	
52 Cr	-0.1165	-0.0233	ppb	177.29	2000.	
53 Cr	-6.21	-1.242	ppb	16.26	#VALUE!	
55 Mn	0.2233	0.0447	ppb	2.56	2000.	
56 Fe	47.13	9.426	ppb	32.69	#VALUE!	
57 Fe	21.975	4.395	ppb	29.26	100000.	
59 Co	0.0041	0.0008	ppb	391.74	1000.	
60 Ni	0.0532	0.0106	ppb	85.20	1000.	
63 Cu	1.0655	0.2131	ppb	7.76	#VALUE!	
65 Cu	0.939	0.1878	ppb	7.53	2000.	
66 Zn	1.661	0.3322	ppb	14.15	2000.	
68 Zn	1.69	0.338	ppb	27.15	#VALUE!	
75 As	-0.0989	-0.0198	ppb	1069.30	1000.	
82 Se	-0.0208	-0.0042	ppb	1202.60	1000.	
88 Sr	0.0767	0.0153	ppb	61.81	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	0.0359	0.0072	ppb	33.06	1000.	
107 Ag	0.0047	0.0009	ppb	126.48	100.	
109 Ag	0.0025	0.0005	ppb	141.85	#VALUE!	
111 Cd	0.4608	0.0922	ppb	35.50	#VALUE!	
114 Cd	0.0126	0.0025	ppb	201.03	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	0.236	0.0472	ppb	11.57	1000.	
120 Sn	0.1223	0.0245	ppb	83.15	#VALUE!	
121 Sb	0.0297	0.0059	ppb	94.22	#VALUE!	
123 Sb	0.038	0.0076	ppb	24.60	1000.	
135 Ba	0.803	0.1606	ppb	15.31	2000.	
137 Ba	0.7095	0.1419	ppb	20.02	#VALUE!	
182 W	0.0253	0.0051	ppb	37.39	1000.	
203 Tl	-0.0962	-0.0192	ppb	46.27	1000.	
205 Tl	-0.145	-0.029	ppb	8.48	#VALUE!	
208 Pb	0.376	0.0752	ppb	33.74	2000.	
232 Th	0.0549	0.011	ppb	44.28	1000.	
238 U	-0.0008	-0.0002	ppb	105.58	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2623067.50	5.77	2422125.80	108.3	69.5 - 120	
45 Sc	2201428.50	3.52	2037841.00	108.0	69.5 - 120	
72 Ge	459495.28	3.18	440652.41	104.3	69.5 - 120	
159 Tb	3563286.30	2.03	3649611.30	97.6	69.5 - 120	
209 Bi	1832978.10	2.78	1931866.90	94.9	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000200

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\082SMPL.D\082SMPL.D#
Date Acquired: May 16 2018 11:44 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: PBWLE10IMW2
Misc Info:
Vial Number: 2411
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0039	0.0008	ppb	88.15	100.	
11 B	9.63	1.926	ppb	8.10	1000.	
23 Na	30.71	6.142	ppb	3.71	200000.	
25 Mg	9.77	1.954	ppb	11.20	200000.	
27 Al	7.03	1.406	ppb	2.52	200000.	
28 Si	-207.	-41.4	ppb	31.33	#VALUE!	
29 Si	-224.5	-44.9	ppb	25.84	10000.	
39 K	-15.6	-3.12	ppb	85.10	200000.	
43 Ca	-1.3415	-0.2683	ppb	2868.80	#VALUE!	
44 Ca	2.04	0.408	ppb	101.99	200000.	
51 V	0.0964	0.0193	ppb	387.96	1000.	
52 Cr	-0.2512	-0.0502	ppb	13.58	2000.	
53 Cr	-2.916	-0.5832	ppb	52.56	#VALUE!	
55 Mn	0.1387	0.0277	ppb	4.17	2000.	
56 Fe	-0.0989	-0.0198	ppb	5877.60	#VALUE!	
57 Fe	11.1	2.22	ppb	130.18	100000.	
59 Co	-0.0246	-0.0049	ppb	70.50	1000.	
60 Ni	0.009	0.0018	ppb	207.84	1000.	
63 Cu	0.0242	0.0048	ppb	161.11	#VALUE!	
65 Cu	0.1032	0.0206	ppb	143.00	2000.	
66 Zn	0.5175	0.1035	ppb	37.02	2000.	
68 Zn	0.3001	0.06	ppb	44.21	#VALUE!	
75 As	-0.1134	-0.0227	ppb	234.30	1000.	
82 Se	-1.1165	-0.2233	ppb	44.67	1000.	
88 Sr	0.0217	0.0043	ppb	13.18	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	0.0064	0.0013	ppb	487.23	1000.	
107 Ag	0.003	0.0006	ppb	289.66	100.	
109 Ag	0.003	0.0006	ppb	117.49	#VALUE!	
111 Cd	0.442	0.0884	ppb	6.09	#VALUE!	
114 Cd	0.0243	0.0049	ppb	34.01	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	0.1611	0.0322	ppb	37.06	1000.	
120 Sn	0.1128	0.0226	ppb	20.94	#VALUE!	
121 Sb	0.0198	0.004	ppb	43.59	#VALUE!	
123 Sb	0.01	0.002	ppb	135.91	1000.	
135 Ba	0.0578	0.0116	ppb	45.85	2000.	
137 Ba	0.1107	0.0221	ppb	24.42	#VALUE!	
182 W	0.0094	0.0019	ppb	167.13	1000.	
203 Tl	-0.1208	-0.0242	ppb	12.67	1000.	
205 Tl	-0.1427	-0.0285	ppb	11.09	#VALUE!	
208 Pb	-0.449	-0.0898	ppb	7.75	2000.	
232 Th	0.057	0.0114	ppb	47.39	1000.	
238 U	0.0022	0.0004	ppb	106.90	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2721980.30	2.05	2422125.80	112.4	69.5 - 120	
45 Sc	2236046.30	1.42	2037841.00	109.7	69.5 - 120	
72 Ge	470050.38	0.16	440652.41	106.7	69.5 - 120	
159 Tb	3688732.80	0.81	3649611.30	101.1	69.5 - 120	
209 Bi	1892201.40	0.98	1931866.90	97.9	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000201

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\083SMPL.D\083SMPL.D#
Date Acquired: May 16 2018 11:48 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: LCSWLE10IMW2
Misc Info:
Vial Number: 2412
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	50.45	10.09	ppb	1.48	100.	
11 B	520.	104.	ppb	2.70	1000.	
23 Na	8,430.	1,686.	ppb	2.32	200000.	
25 Mg	5,350.	1,070.	ppb	2.98	200000.	
27 Al	2,200.5	440.1	ppb	2.89	200000.	
28 Si	644.	128.8	ppb	23.67	#VALUE!	
29 Si	679.5	135.9	ppb	29.35	10000.	
39 K	10,800.	2,160.	ppb	1.94	200000.	
43 Ca	3,146.5	629.3	ppb	5.59	#VALUE!	
44 Ca	2,609.5	521.9	ppb	2.01	200000.	
51 V	534.	106.8	ppb	2.15	1000.	
52 Cr	205.2	41.04	ppb	1.97	2000.	
53 Cr	256.7	51.34	ppb	2.50	#VALUE!	
55 Mn	530.5	106.1	ppb	1.33	2000.	
56 Fe	1,071.5	214.3	ppb	2.72	#VALUE!	
57 Fe	1,024.	204.8	ppb	2.40	100000.	
59 Co	540.5	108.1	ppb	1.16	1000.	
60 Ni	523.5	104.7	ppb	1.48	1000.	
63 Cu	260.15	52.03	ppb	2.20	#VALUE!	
65 Cu	260.15	52.03	ppb	1.97	2000.	
66 Zn	517.	103.4	ppb	1.76	2000.	
68 Zn	577.	115.4	ppb	2.11	#VALUE!	
75 As	106.15	21.23	ppb	2.17	1000.	
82 Se	102.7	20.54	ppb	1.59	1000.	
88 Sr	500.5	100.1	ppb	1.95	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	100.8	20.16	ppb	2.43	1000.	
107 Ag	50.85	10.17	ppb	1.76	100.	
109 Ag	51.1	10.22	ppb	1.55	#VALUE!	
111 Cd	253.6	50.72	ppb	1.91	#VALUE!	
114 Cd	253.05	50.61	ppb	1.59	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	524.	104.8	ppb	3.29	1000.	
120 Sn	522.	104.4	ppb	3.17	#VALUE!	
121 Sb	107.3	21.46	ppb	3.52	#VALUE!	
123 Sb	107.95	21.59	ppb	3.99	1000.	
135 Ba	2,163.5	432.7	ppb	2.89	2000.	
137 Ba	2,136.	427.2	ppb	3.24	#VALUE!	
182 W	102.3	20.46	ppb	3.48	1000.	
203 Tl	104.95	20.99	ppb	3.07	1000.	
205 Tl	104.65	20.93	ppb	2.75	#VALUE!	
208 Pb	104.75	20.95	ppb	3.21	2000.	
232 Th	103.65	20.73	ppb	3.76	1000.	
238 U	103.95	20.79	ppb	2.96	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2740213.50	1.01	2422125.80	113.1	69.5 - 120	
45 Sc	2181449.80	2.82	2037841.00	107.0	69.5 - 120	
72 Ge	456899.22	2.01	440652.41	103.7	69.5 - 120	
159 Tb	3766116.30	3.30	3649611.30	103.2	69.5 - 120	
209 Bi	1918609.10	3.03	1931866.90	99.3	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000202

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\084SMPL.D\084SMPL.D#
Date Acquired: May 16 2018 11:52 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3952-013
Misc Info:
Vial Number: 2501
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0153	0.0031	ppb	88.47	100.	
11 B	229.05	45.81	ppb	0.39	1000.	
23 Na	379,900.	75,980.	ppb	0.32	200000.	
25 Mg	91,800.	18,360.	ppb	0.78	200000.	
27 Al	10.065	2.013	ppb	4.44	200000.	
28 Si	19,775.	3,955.	ppb	1.63	#VALUE!	
29 Si	22,525.	4,505.	ppb	0.13	10000.	
39 K	21,730.	4,346.	ppb	2.36	200000.	
43 Ca	419,100.	83,820.	ppb	1.12	#VALUE!	
44 Ca	386,350.	77,270.	ppb	1.09	200000.	
51 V	0.2602	0.052	ppb	101.36	1000.	
52 Cr	1.458	0.2916	ppb	2.80	2000.	
53 Cr	55.4	11.08	ppb	23.95	#VALUE!	
55 Mn	1,335.5	267.1	ppb	0.71	2000.	
56 Fe	6,650.	1,330.	ppb	2.01	#VALUE!	
57 Fe	6,980.	1,396.	ppb	0.42	100000.	
59 Co	0.4404	0.0881	ppb	10.16	1000.	
60 Ni	0.573	0.1146	ppb	22.57	1000.	
63 Cu	11.09	2.218	ppb	2.20	#VALUE!	
65 Cu	2.0285	0.4057	ppb	3.96	2000.	
66 Zn	13.33	2.666	ppb	3.23	2000.	
68 Zn	12.24	2.448	ppb	6.82	#VALUE!	
75 As	10.28	2.056	ppb	11.11	1000.	
82 Se	0.9345	0.1869	ppb	80.52	1000.	
88 Sr	1,680.5	336.1	ppb	1.44	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	10.96	2.192	ppb	0.40	1000.	
107 Ag	-0.0014	-0.0003	ppb	622.88	100.	
109 Ag	0.0013	0.0003	ppb	720.65	#VALUE!	
111 Cd	0.2546	0.0509	ppb	61.27	#VALUE!	
114 Cd	0.0144	0.0029	ppb	110.77	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	1.561	0.3122	ppb	7.51	1000.	
120 Sn	1.487	0.2974	ppb	0.27	#VALUE!	
121 Sb	0.086	0.0172	ppb	16.14	#VALUE!	
123 Sb	0.1587	0.0317	ppb	47.76	1000.	
135 Ba	30.96	6.192	ppb	3.11	2000.	
137 Ba	30.535	6.107	ppb	2.56	#VALUE!	
182 W	0.3413	0.0683	ppb	19.63	1000.	
203 Tl	-0.1534	-0.0307	ppb	29.16	1000.	
205 Tl	-0.1947	-0.0389	ppb	1.69	#VALUE!	
208 Pb	-0.8665	-0.1733	ppb	4.12	2000.	
232 Th	0.7445	0.1489	ppb	13.70	1000.	
238 U	0.9555	0.1911	ppb	0.48	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2516425.30	0.75	2422125.80	103.9	69.5 - 120	
45 Sc	2146241.80	0.96	2037841.00	105.3	69.5 - 120	
72 Ge	460994.41	1.10	440652.41	104.6	69.5 - 120	
159 Tb	3719939.50	1.49	3649611.30	101.9	69.5 - 120	
209 Bi	1816843.80	1.54	1931866.90	94.0	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000203

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\085SMPL.D\085SMPL.D#
Date Acquired: May 16 2018 11:57 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: RINSE
Misc Info:
Vial Number: 2502
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0018	0.0018	ppb	94.97	100.	
11 B	3.294	3.294	ppb	12.16	1000.	
23 Na	36.53	36.53	ppb	0.11	200000.	
25 Mg	2.445	2.445	ppb	8.45	200000.	
27 Al	9.31	9.31	ppb	2.99	200000.	
28 Si	-11.98	-11.98	ppb	151.50	#VALUE!	
29 Si	-32.97	-32.97	ppb	73.28	10000.	
39 K	-0.0122	-0.0122	ppb	19145.00	200000.	
43 Ca	14.91	14.91	ppb	19.87	#VALUE!	
44 Ca	17.26	17.26	ppb	5.78	200000.	
51 V	-0.0129	-0.0129	ppb	556.69	1000.	
52 Cr	0.0281	0.0281	ppb	88.91	2000.	
53 Cr	-1.303	-1.303	ppb	37.93	#VALUE!	
55 Mn	0.1989	0.1989	ppb	6.21	2000.	
56 Fe	10.7	10.7	ppb	13.57	#VALUE!	
57 Fe	7.093	7.093	ppb	38.25	100000.	
59 Co	0.0082	0.0082	ppb	14.27	1000.	
60 Ni	0.048	0.048	ppb	30.80	1000.	
63 Cu	0.294	0.294	ppb	9.09	#VALUE!	
65 Cu	0.3027	0.3027	ppb	3.15	2000.	
66 Zn	1.97	1.97	ppb	4.57	2000.	
68 Zn	1.729	1.729	ppb	1.93	#VALUE!	
75 As	-0.0897	-0.0897	ppb	267.45	1000.	
82 Se	-0.0888	-0.0888	ppb	42.10	1000.	
88 Sr	0.0425	0.0425	ppb	19.45	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	0.0091	0.0091	ppb	13.67	1000.	
107 Ag	-0.0003	-0.0003	ppb	1107.60	100.	
109 Ag	0.0013	0.0013	ppb	75.08	#VALUE!	
111 Cd	0.1016	0.1016	ppb	15.58	#VALUE!	
114 Cd	0.0094	0.0094	ppb	43.73	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	0.0872	0.0872	ppb	17.01	1000.	
120 Sn	0.0912	0.0912	ppb	10.81	#VALUE!	
121 Sb	0.0044	0.0044	ppb	63.05	#VALUE!	
123 Sb	0.0034	0.0034	ppb	82.93	1000.	
135 Ba	0.6048	0.6048	ppb	5.73	2000.	
137 Ba	0.6283	0.6283	ppb	11.59	#VALUE!	
182 W	0.0049	0.0049	ppb	121.24	1000.	
203 Tl	-0.0286	-0.0286	ppb	5.78	1000.	
205 Tl	-0.0301	-0.0301	ppb	15.03	#VALUE!	
208 Pb	0.0814	0.0814	ppb	4.95	2000.	
232 Th	0.0076	0.0076	ppb	53.45	1000.	
238 U	0.001	0.001	ppb	115.36	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2667760.50	2.78	2422125.80	110.1	69.5 - 120	
45 Sc	2220499.30	1.58	2037841.00	109.0	69.5 - 120	
72 Ge	462235.25	0.78	440652.41	104.9	69.5 - 120	
159 Tb	3608083.80	0.98	3649611.30	98.9	69.5 - 120	
209 Bi	1866014.50	0.97	1931866.90	96.6	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000204

CCV QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\086_CCV.D\086_CCV.D#
Date Acquired: May 17 2018 12:01 am
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: CCV
Misc Info:
Vial Number: 1306
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Dilution Factor: 1.00
QC Range (%): 89.5 - 110.5

QC Elements

Element	Conc.		RSD(%)	Expected	Rec (%)	Flag
9 Be	24.85	ppb	0.61	25	99.4	
11 B	25.96	ppb	4.40	25	103.84	
23 Na	5,101.	ppb	1.26	5,000	102.02	
25 Mg	5,078.	ppb	0.92	5,000	101.56	
27 Al	498.9	ppb	0.42	500	99.78	
28 Si	452.3	ppb	2.50	500	90.46	
29 Si	445.	ppb	5.83	500	89	Fail
39 K	5,071.	ppb	0.74	5,000	101.42	
43 Ca	4,970.	ppb	2.88	5,000	99.4	
44 Ca	4,987.	ppb	0.74	5,000	99.74	
51 V	24.34	ppb	0.57	25	97.36	
52 Cr	24.31	ppb	0.21	25	97.24	
53 Cr	23.58	ppb	3.37	25	94.32	
55 Mn	24.58	ppb	0.32	25	98.32	
56 Fe	4,888.	ppb	0.46	5,000	97.76	
57 Fe	4,907.	ppb	1.02	5,000	98.14	
59 Co	24.4	ppb	0.75	25	97.6	
60 Ni	24.46	ppb	1.24	25	97.84	
63 Cu	24.59	ppb	0.29	25	98.36	
65 Cu	24.94	ppb	0.99	25	99.76	
66 Zn	24.42	ppb	2.46	25	97.68	
68 Zn	24.41	ppb	1.92	25	97.64	
75 As	24.65	ppb	0.51	25	98.6	
82 Se	24.67	ppb	1.90	25	98.68	
88 Sr	23.5	ppb	0.70	25	94	
89 Y	--------	---	--------	---	#VALUE!	
98 Mo	23.44	ppb	0.61	25	93.76	
107 Ag	23.87	ppb	0.63	25	95.48	
109 Ag	23.87	ppb	0.36	25	95.48	
111 Cd	23.89	ppb	0.05	25	95.56	
114 Cd	23.95	ppb	0.31	25	95.8	
115 In	--------	---	--------	---	#VALUE!	
118 Sn	24.67	ppb	1.20	25	98.68	
120 Sn	24.67	ppb	0.74	25	98.68	
121 Sb	25.07	ppb	0.85	25	100.28	
123 Sb	25.36	ppb	1.91	25	101.44	
135 Ba	25.12	ppb	2.28	25	100.48	
137 Ba	25.21	ppb	2.08	25	100.84	
182 W	23.8	ppb	0.79	25	95.2	
203 Tl	24.33	ppb	1.29	25	97.32	
205 Tl	24.07	ppb	0.62	25	96.28	
208 Pb	24.23	ppb	1.34	25	96.92	
232 Th	24.15	ppb	1.54	25	96.6	
238 U	24.25	ppb	1.31	25	97	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2586852.00	0.29	2422125.80	106.8	80 - 120.4	
45 Sc	2188390.50	0.92	2037841.00	107.4	80 - 120.4	
72 Ge	450000.09	0.56	440652.41	102.1	80 - 120.4	
159 Tb	3681511.50	0.78	3649611.30	100.9	80 - 120.4	
209 Bi	1874919.10	0.89	1931866.90	97.1	80 - 120.4	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Katahdin Analytical Services 4000205

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\087_CCB.D\087_CCB.D#
Date Acquired: May 17 2018 12:05 am
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: CCB
Misc Info:
Vial Number: 1207
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: 6-CCB
Dilution Factor: 1.00

QC Elements

Element	Conc.		RSD(%)	High Limit	Flag
9 Be	0.0028	ppb	73.56	1.00	
11 B	2.188	ppb	11.86	1.00	
23 Na	2.759	ppb	14.90	1.00	
25 Mg	0.0416	ppb	415.82	1.00	
27 Al	0.0577	ppb	89.10	1.00	
28 Si	-5.471	ppb	418.75	1.00	
29 Si	-32.84	ppb	40.01	1.00	
39 K	-1.491	ppb	82.50	1.00	
43 Ca	-1.1	ppb	383.00	1.00	
44 Ca	-1.91	ppb	17.30	1.00	
51 V	-0.0487	ppb	155.06	1.00	
52 Cr	-0.1019	ppb	18.57	1.00	
53 Cr	-3.718	ppb	7.94	1.00	
55 Mn	0.0114	ppb	78.78	1.00	
56 Fe	-5.294	ppb	19.23	1.00	
57 Fe	2.157	ppb	119.75	1.00	
59 Co	-0.0049	ppb	54.99	1.00	
60 Ni	-0.0021	ppb	620.56	1.00	
63 Cu	0.0114	ppb	217.24	1.00	
65 Cu	0.0019	ppb	738.71	1.00	
66 Zn	0.0735	ppb	148.22	1.00	
68 Zn	-0.0817	ppb	164.52	1.00	
75 As	-0.0415	ppb	448.89	1.00	
82 Se	-0.2213	ppb	29.53	1.00	
88 Sr	0.0048	ppb	35.47	1.00	
89 Y	--------	---	--------	---	
98 Mo	0.0159	ppb	11.74	1.00	
107 Ag	-0.0009	ppb	133.10	1.00	
109 Ag	0.0004	ppb	573.64	1.00	
111 Cd	0.075	ppb	1.66	1.00	
114 Cd	0.006	ppb	63.60	1.00	
115 In	--------	---	--------	---	
118 Sn	0.0573	ppb	34.42	1.00	
120 Sn	0.0347	ppb	24.46	1.00	
121 Sb	0.0152	ppb	22.23	1.00	
123 Sb	0.0135	ppb	41.30	1.00	
135 Ba	0.0017	ppb	326.78	1.00	
137 Ba	-0.0025	ppb	252.30	1.00	
182 W	0.0427	ppb	29.56	1.00	
203 Tl	-0.0324	ppb	18.92	1.00	
205 Tl	-0.0236	ppb	25.37	1.00	
208 Pb	-0.1022	ppb	6.59	1.00	
232 Th	0.0531	ppb	6.60	1.00	
238 U	0.0036	ppb	63.29	1.00	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2541153.80	2.38	2422125.80	104.9	79.5 - 120	
45 Sc	2114211.00	0.34	2037841.00	103.7	79.5 - 120	
72 Ge	443688.47	1.35	440652.41	100.7	79.5 - 120	
159 Tb	3559232.80	1.12	3649611.30	97.5	79.5 - 120	
209 Bi	1862987.90	1.55	1931866.90	96.4	79.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\088SMPL.D\088SMPL.D#
Date Acquired: May 17 2018 12:09 am
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3952-016
Misc Info:
Vial Number: 2503
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.1973	0.0395	ppb	16.66	100.	
11 B	210.7	42.14	ppb	5.21	1000.	
23 Na	373,800.	74,760.	ppb	2.27	200000.	
25 Mg	91,400.	18,280.	ppb	1.31	200000.	
27 Al	4,018.5	803.7	ppb	1.78	200000.	
28 Si	29,200.	5,840.	ppb	1.48	#VALUE!	
29 Si	32,170.	6,434.	ppb	2.26	10000.	
39 K	22,220.	4,444.	ppb	1.21	200000.	
43 Ca	399,500.	79,900.	ppb	1.37	#VALUE!	
44 Ca	368,700.	73,740.	ppb	1.10	200000.	
51 V	11.105	2.221	ppb	4.17	1000.	
52 Cr	17.74	3.548	ppb	3.31	2000.	
53 Cr	55.35	11.07	ppb	18.75	#VALUE!	
55 Mn	1,335.5	267.1	ppb	1.96	2000.	
56 Fe	11,825.	2,365.	ppb	2.25	#VALUE!	
57 Fe	12,005.	2,401.	ppb	1.51	100000.	
59 Co	1.7585	0.3517	ppb	3.77	1000.	
60 Ni	6.91	1.382	ppb	4.96	1000.	
63 Cu	16.24	3.248	ppb	2.01	#VALUE!	
65 Cu	7.79	1.558	ppb	7.74	2000.	
66 Zn	31.38	6.276	ppb	1.00	2000.	
68 Zn	35.23	7.046	ppb	1.73	#VALUE!	
75 As	8.88	1.776	ppb	19.35	1000.	
82 Se	1.058	0.2116	ppb	41.96	1000.	
88 Sr	1,631.	326.2	ppb	1.80	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	11.9	2.38	ppb	3.41	1000.	
107 Ag	0.0229	0.0046	ppb	55.23	100.	
109 Ag	0.021	0.0042	ppb	33.33	#VALUE!	
111 Cd	0.2545	0.0509	ppb	71.70	#VALUE!	
114 Cd	0.0042	0.0008	ppb	349.14	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	1.075	0.215	ppb	4.96	1000.	
120 Sn	1.0065	0.2013	ppb	19.52	#VALUE!	
121 Sb	0.1303	0.0261	ppb	22.71	#VALUE!	
123 Sb	0.1651	0.033	ppb	11.63	1000.	
135 Ba	163.1	32.62	ppb	1.52	2000.	
137 Ba	163.6	32.72	ppb	1.06	#VALUE!	
182 W	0.3448	0.069	ppb	23.23	1000.	
203 Tl	-0.0603	-0.0121	ppb	2.52	1000.	
205 Tl	-0.0976	-0.0195	ppb	28.40	#VALUE!	
208 Pb	2.5435	0.5087	ppb	5.47	2000.	
232 Th	3.962	0.7924	ppb	2.06	1000.	
238 U	1.548	0.3096	ppb	5.51	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2538051.80	1.13	2422125.80	104.8	69.5 - 120	
45 Sc	2106112.30	1.16	2037841.00	103.4	69.5 - 120	
72 Ge	449020.06	0.88	440652.41	101.9	69.5 - 120	
159 Tb	3652074.50	0.33	3649611.30	100.1	69.5 - 120	
209 Bi	1793807.90	2.33	1931866.90	92.9	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000207

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\089SMPL.D\089SMPL.D#
Date Acquired: May 17 2018 12:13 am
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3952-017
Misc Info:
Vial Number: 2504
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0177	0.0035	ppb	22.97	100.	
11 B	216.2	43.24	ppb	1.67	1000.	
23 Na	373,150.	74,630.	ppb	0.84	200000.	
25 Mg	90,850.	18,170.	ppb	1.41	200000.	
27 Al	10.03	2.006	ppb	2.67	200000.	
28 Si	19,385.	3,877.	ppb	1.30	#VALUE!	
29 Si	21,975.	4,395.	ppb	1.10	10000.	
39 K	21,360.	4,272.	ppb	1.52	200000.	
43 Ca	397,000.	79,400.	ppb	1.67	#VALUE!	
44 Ca	370,750.	74,150.	ppb	1.23	200000.	
51 V	0.1298	0.026	ppb	256.84	1000.	
52 Cr	1.532	0.3064	ppb	7.92	2000.	
53 Cr	61.6	12.32	ppb	16.59	#VALUE!	
55 Mn	1,287.	257.4	ppb	0.49	2000.	
56 Fe	5,935.	1,187.	ppb	0.58	#VALUE!	
57 Fe	6,310.	1,262.	ppb	0.61	100000.	
59 Co	0.4335	0.0867	ppb	5.70	1000.	
60 Ni	0.5995	0.1199	ppb	37.38	1000.	
63 Cu	10.91	2.182	ppb	0.50	#VALUE!	
65 Cu	1.483	0.2966	ppb	8.95	2000.	
66 Zn	10.02	2.004	ppb	3.73	2000.	
68 Zn	8.13	1.626	ppb	9.34	#VALUE!	
75 As	10.175	2.035	ppb	3.46	1000.	
82 Se	0.882	0.1764	ppb	77.55	1000.	
88 Sr	1,613.	322.6	ppb	0.79	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	9.995	1.999	ppb	4.63	1000.	
107 Ag	0.0039	0.0008	ppb	79.00	100.	
109 Ag	-0.0027	-0.0005	ppb	183.20	#VALUE!	
111 Cd	0.2189	0.0438	ppb	34.38	#VALUE!	
114 Cd	0.0182	0.0036	ppb	144.85	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	0.8085	0.1617	ppb	10.93	1000.	
120 Sn	0.7275	0.1455	ppb	12.87	#VALUE!	
121 Sb	0.0711	0.0142	ppb	46.47	#VALUE!	
123 Sb	0.0687	0.0137	ppb	46.48	1000.	
135 Ba	29.435	5.887	ppb	4.15	2000.	
137 Ba	29.145	5.829	ppb	0.96	#VALUE!	
182 W	0.1985	0.0397	ppb	11.50	1000.	
203 Tl	-0.139	-0.0278	ppb	36.58	1000.	
205 Tl	-0.1812	-0.0362	ppb	14.42	#VALUE!	
208 Pb	-0.8625	-0.1725	ppb	7.59	2000.	
232 Th	0.2868	0.0574	ppb	20.77	1000.	
238 U	1.135	0.227	ppb	3.40	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2540494.30	2.15	2422125.80	104.9	69.5 - 120	
45 Sc	2141671.50	2.25	2037841.00	105.1	69.5 - 120	
72 Ge	457671.63	1.38	440652.41	103.9	69.5 - 120	
159 Tb	3645925.30	1.66	3649611.30	99.9	69.5 - 120	
209 Bi	1796814.40	1.39	1931866.90	93.0	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000208

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\090SMPL.D\090SMPL.D#
Date Acquired: May 17 2018 12:18 am
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3952-018
Misc Info:
Vial Number: 2505
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0071	0.0014	ppb	85.16	100.	
11 B	13.025	2.605	ppb	12.46	1000.	
23 Na	67.9	13.58	ppb	61.39	200000.	
25 Mg	20.335	4.067	ppb	47.41	200000.	
27 Al	10.68	2.136	ppb	3.11	200000.	
28 Si	-323.8	-64.76	ppb	22.10	#VALUE!	
29 Si	-234.3	-46.86	ppb	13.06	10000.	
39 K	-2.7565	-0.5513	ppb	216.76	200000.	
43 Ca	56.15	11.23	ppb	99.56	#VALUE!	
44 Ca	54.45	10.89	ppb	90.14	200000.	
51 V	-0.3098	-0.062	ppb	149.08	1000.	
52 Cr	0.7675	0.1535	ppb	9.54	2000.	
53 Cr	55.6	11.12	ppb	3.01	#VALUE!	
55 Mn	0.4182	0.0836	ppb	40.16	2000.	
56 Fe	34.32	6.864	ppb	29.59	#VALUE!	
57 Fe	21.045	4.209	ppb	75.48	100000.	
59 Co	-0.0096	-0.0019	ppb	341.62	1000.	
60 Ni	0.0003	0.0001	ppb	19407.00	1000.	
63 Cu	0.527	0.1054	ppb	5.45	#VALUE!	
65 Cu	0.6425	0.1285	ppb	17.25	2000.	
66 Zn	0.5295	0.1059	ppb	67.00	2000.	
68 Zn	0.0987	0.0197	ppb	240.37	#VALUE!	
75 As	1.171	0.2342	ppb	101.96	1000.	
82 Se	-0.853	-0.1706	ppb	54.64	1000.	
88 Sr	0.2402	0.048	ppb	76.18	2000.	
89 Y	----	--------	---	---	#VALUE!	
98 Mo	0.0765	0.0153	ppb	37.31	1000.	
107 Ag	-0.0017	-0.0003	ppb	657.16	100.	
109 Ag	0.0041	0.0008	ppb	260.22	#VALUE!	
111 Cd	0.454	0.0908	ppb	32.44	#VALUE!	
114 Cd	0.0203	0.0041	ppb	94.61	1000.	
115 In	----	--------	---	---	#VALUE!	
118 Sn	0.825	0.165	ppb	16.51	1000.	
120 Sn	0.8135	0.1627	ppb	15.67	#VALUE!	
121 Sb	0.041	0.0082	ppb	48.80	#VALUE!	
123 Sb	-0.0016	-0.0003	ppb	379.06	1000.	
135 Ba	0.1315	0.0263	ppb	41.83	2000.	
137 Ba	0.0963	0.0193	ppb	49.35	#VALUE!	
182 W	0.0204	0.0041	ppb	38.52	1000.	
203 Tl	-0.1533	-0.0307	ppb	16.94	1000.	
205 Tl	-0.173	-0.0346	ppb	7.08	#VALUE!	
208 Pb	-0.8465	-0.1693	ppb	7.69	2000.	
232 Th	0.0974	0.0195	ppb	52.75	1000.	
238 U	0.0002	0.	ppb	1478.80	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2742441.00	0.65	2422125.80	113.2	69.5 - 120	
45 Sc	2190933.00	0.65	2037841.00	107.5	69.5 - 120	
72 Ge	467858.94	0.36	440652.41	106.2	69.5 - 120	
159 Tb	3633504.50	0.27	3649611.30	99.6	69.5 - 120	
209 Bi	1854265.60	1.24	1931866.90	96.0	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000209

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\091SMPL.D\091SMPL.D#
Date Acquired: May 17 2018 12:22 am
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3952-019
Misc Info:
Vial Number: 2506
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.806	0.1612	ppb	6.77	100.	
11 B	284.95	56.99	ppb	4.81	1000.	
23 Na	330,650.	66,130.	ppb	2.45	200000.	
25 Mg	77,750.	15,550.	ppb	0.43	200000.	
27 Al	17,340.	3,468.	ppb	0.81	200000.	
28 Si	53,600.	10,720.	ppb	1.98	#VALUE!	
29 Si	57,400.	11,480.	ppb	3.75	10000.	>LDR
39 K	23,410.	4,682.	ppb	0.74	200000.	
43 Ca	408,600.	81,720.	ppb	0.51	#VALUE!	
44 Ca	376,250.	75,250.	ppb	0.27	200000.	
51 V	47.78	9.556	ppb	2.52	1000.	
52 Cr	47.96	9.592	ppb	0.93	2000.	
53 Cr	79.8	15.96	ppb	2.55	#VALUE!	
55 Mn	1,370.5	274.1	ppb	1.27	2000.	
56 Fe	22,820.	4,564.	ppb	0.65	#VALUE!	
57 Fe	23,345.	4,669.	ppb	0.81	100000.	
59 Co	5.73	1.146	ppb	1.35	1000.	
60 Ni	19.785	3.957	ppb	2.31	1000.	
63 Cu	39.15	7.83	ppb	0.92	#VALUE!	
65 Cu	31.6	6.32	ppb	1.48	2000.	
66 Zn	70.7	14.14	ppb	2.56	2000.	
68 Zn	78.55	15.71	ppb	1.04	#VALUE!	
75 As	15.21	3.042	ppb	4.29	1000.	
82 Se	0.9585	0.1917	ppb	22.07	1000.	
88 Sr	1,549.	309.8	ppb	0.77	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	17.105	3.421	ppb	1.98	1000.	
107 Ag	0.0729	0.0146	ppb	25.90	100.	
109 Ag	0.0818	0.0164	ppb	13.55	#VALUE!	
111 Cd	0.3937	0.0787	ppb	38.61	#VALUE!	
114 Cd	0.1581	0.0316	ppb	20.01	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	1.698	0.3396	ppb	11.36	1000.	
120 Sn	1.7045	0.3409	ppb	3.06	#VALUE!	
121 Sb	0.7465	0.1493	ppb	2.56	#VALUE!	
123 Sb	0.7185	0.1437	ppb	11.07	1000.	
135 Ba	320.95	64.19	ppb	1.89	2000.	
137 Ba	319.05	63.81	ppb	1.97	#VALUE!	
182 W	0.2996	0.0599	ppb	6.74	1000.	
203 Tl	0.1472	0.0294	ppb	15.02	1000.	
205 Tl	0.0648	0.013	ppb	81.08	#VALUE!	
208 Pb	24.675	4.935	ppb	2.19	2000.	
232 Th	13.695	2.739	ppb	0.90	1000.	
238 U	2.8535	0.5707	ppb	4.78	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2615532.80	0.81	2422125.80	108.0	69.5 - 120	
45 Sc	2126079.80	0.83	2037841.00	104.3	69.5 - 120	
72 Ge	452897.53	0.86	440652.41	102.8	69.5 - 120	
159 Tb	3683915.30	2.20	3649611.30	100.9	69.5 - 120	
209 Bi	1817581.40	2.00	1931866.90	94.1	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Katahdin Analytical Services 4000210

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\092SMPL.D\092SMPL.D#
Date Acquired: May 17 2018 12:26 am
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3952-020
Misc Info:
Vial Number: 2507
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0093	0.0019	ppb	79.77	100.	
11 B	269.9	53.98	ppb	2.56	1000.	
23 Na	312,200.	62,440.	ppb	2.22	200000.	
25 Mg	69,650.	13,930.	ppb	1.98	200000.	
27 Al	11.8	2.36	ppb	5.90	200000.	
28 Si	16,815.	3,363.	ppb	3.73	#VALUE!	
29 Si	17,095.	3,419.	ppb	4.26	10000.	
39 K	18,010.	3,602.	ppb	4.54	200000.	
43 Ca	372,400.	74,480.	ppb	4.79	#VALUE!	
44 Ca	345,600.	69,120.	ppb	3.65	200000.	
51 V	-0.2973	-0.0595	ppb	97.68	1000.	
52 Cr	1.573	0.3146	ppb	11.40	2000.	
53 Cr	47.89	9.578	ppb	14.92	#VALUE!	
55 Mn	1,168.	233.6	ppb	0.85	2000.	
56 Fe	4,625.5	925.1	ppb	2.55	#VALUE!	
57 Fe	4,960.5	992.1	ppb	2.37	100000.	
59 Co	0.4455	0.0891	ppb	18.43	1000.	
60 Ni	1.0875	0.2175	ppb	22.26	1000.	
63 Cu	8.975	1.795	ppb	1.72	#VALUE!	
65 Cu	1.376	0.2752	ppb	7.70	2000.	
66 Zn	6.88	1.376	ppb	12.49	2000.	
68 Zn	6.015	1.203	ppb	3.35	#VALUE!	
75 As	9.68	1.936	ppb	3.93	1000.	
82 Se	0.841	0.1682	ppb	71.76	1000.	
88 Sr	1,459.	291.8	ppb	2.97	2000.	
89 Y	----	--------	---	---	#VALUE!	
98 Mo	11.43	2.286	ppb	3.19	1000.	
107 Ag	-0.0178	-0.0036	ppb	35.98	100.	
109 Ag	-0.0004	-0.0001	ppb	3138.50	#VALUE!	
111 Cd	0.1571	0.0314	ppb	83.32	#VALUE!	
114 Cd	0.0002	0.	ppb	9827.50	1000.	
115 In	----	--------	---	---	#VALUE!	
118 Sn	0.904	0.1808	ppb	18.01	1000.	
120 Sn	0.7645	0.1529	ppb	22.35	#VALUE!	
121 Sb	0.0778	0.0156	ppb	17.51	#VALUE!	
123 Sb	0.0476	0.0095	ppb	40.05	1000.	
135 Ba	36.685	7.337	ppb	1.50	2000.	
137 Ba	36.025	7.205	ppb	3.99	#VALUE!	
182 W	0.2339	0.0468	ppb	12.26	1000.	
203 Tl	-0.1727	-0.0345	ppb	25.15	1000.	
205 Tl	-0.1637	-0.0327	ppb	12.38	#VALUE!	
208 Pb	-0.9215	-0.1843	ppb	4.35	2000.	
232 Th	0.1782	0.0356	ppb	13.25	1000.	
238 U	0.8985	0.1797	ppb	5.67	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2474489.00	2.74	2422125.80	102.2	69.5 - 120	
45 Sc	2080522.00	4.07	2037841.00	102.1	69.5 - 120	
72 Ge	446365.22	2.80	440652.41	101.3	69.5 - 120	
159 Tb	3687120.00	1.74	3649611.30	101.0	69.5 - 120	
209 Bi	1832145.00	1.61	1931866.90	94.8	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000211

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\093SMPL.D\093SMPL.D#
Date Acquired: May 17 2018 12:31 am
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3952-021
Misc Info:
Vial Number: 2508
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.5815	0.1163	ppb	8.94	100.	
11 B	216.55	43.31	ppb	3.38	1000.	
23 Na	365,000.	73,000.	ppb	0.45	200000.	
25 Mg	88,000.	17,600.	ppb	1.90	200000.	
27 Al	10,960.	2,192.	ppb	2.80	200000.	
28 Si	45,030.	9,006.	ppb	3.02	#VALUE!	
29 Si	48,930.	9,786.	ppb	1.71	10000.	
39 K	22,885.	4,577.	ppb	1.53	200000.	
43 Ca	428,950.	85,790.	ppb	2.34	#VALUE!	
44 Ca	395,700.	79,140.	ppb	2.29	200000.	
51 V	32.88	6.576	ppb	1.81	1000.	
52 Cr	54.	10.8	ppb	1.59	2000.	
53 Cr	91.65	18.33	ppb	0.58	#VALUE!	
55 Mn	1,541.	308.2	ppb	1.41	2000.	
56 Fe	22,310.	4,462.	ppb	1.67	#VALUE!	
57 Fe	22,705.	4,541.	ppb	1.52	100000.	
59 Co	5.235	1.047	ppb	0.66	1000.	
60 Ni	28.12	5.624	ppb	2.30	1000.	
63 Cu	32.18	6.436	ppb	2.84	#VALUE!	
65 Cu	23.3	4.66	ppb	2.71	2000.	
66 Zn	157.95	31.59	ppb	2.10	2000.	
68 Zn	162.7	32.54	ppb	0.15	#VALUE!	
75 As	13.755	2.751	ppb	2.38	1000.	
82 Se	1.2875	0.2575	ppb	30.94	1000.	
88 Sr	1,724.5	344.9	ppb	1.65	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	18.9	3.78	ppb	4.15	1000.	
107 Ag	0.036	0.0072	ppb	24.73	100.	
109 Ag	0.0411	0.0082	ppb	31.76	#VALUE!	
111 Cd	0.405	0.081	ppb	29.47	#VALUE!	
114 Cd	0.1156	0.0231	ppb	26.51	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	1.463	0.2926	ppb	6.47	1000.	
120 Sn	1.524	0.3048	ppb	5.98	#VALUE!	
121 Sb	0.3464	0.0693	ppb	2.88	#VALUE!	
123 Sb	0.3355	0.0671	ppb	16.13	1000.	
135 Ba	251.5	50.3	ppb	0.49	2000.	
137 Ba	246.05	49.21	ppb	0.98	#VALUE!	
182 W	0.419	0.0838	ppb	6.63	1000.	
203 Tl	-0.0059	-0.0012	ppb	867.12	1000.	
205 Tl	-0.0089	-0.0018	ppb	148.99	#VALUE!	
208 Pb	13.71	2.742	ppb	0.29	2000.	
232 Th	8.47	1.694	ppb	1.23	1000.	
238 U	2.1235	0.4247	ppb	3.20	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2535985.50	1.32	2422125.80	104.7	69.5 - 120	
45 Sc	2123547.30	0.74	2037841.00	104.2	69.5 - 120	
72 Ge	449661.81	0.54	440652.41	102.0	69.5 - 120	
159 Tb	3740010.80	0.72	3649611.30	102.5	69.5 - 120	
209 Bi	1848744.80	0.10	1931866.90	95.7	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000212

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\094SMPL.D\094SMPL.D#
Date Acquired: May 17 2018 12:35 am
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3952-022
Misc Info:
Vial Number: 2509
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0206	0.0041	ppb	80.46	100.	
11 B	208.35	41.67	ppb	2.98	1000.	
23 Na	352,250.	70,450.	ppb	3.95	200000.	
25 Mg	85,500.	17,100.	ppb	4.04	200000.	
27 Al	20.305	4.061	ppb	8.96	200000.	
28 Si	19,945.	3,989.	ppb	3.84	#VALUE!	
29 Si	22,445.	4,489.	ppb	3.76	10000.	
39 K	19,965.	3,993.	ppb	2.38	200000.	
43 Ca	414,550.	82,910.	ppb	2.72	#VALUE!	
44 Ca	386,350.	77,270.	ppb	3.09	200000.	
51 V	-0.0316	-0.0063	ppb	1639.00	1000.	
52 Cr	1.331	0.2662	ppb	11.50	2000.	
53 Cr	44.705	8.941	ppb	24.17	#VALUE!	
55 Mn	1,417.	283.4	ppb	2.89	2000.	
56 Fe	7,605.	1,521.	ppb	3.13	#VALUE!	
57 Fe	7,910.	1,582.	ppb	2.35	100000.	
59 Co	0.509	0.1018	ppb	4.83	1000.	
60 Ni	2.9815	0.5963	ppb	8.45	1000.	
63 Cu	10.305	2.061	ppb	2.21	#VALUE!	
65 Cu	1.7535	0.3507	ppb	7.30	2000.	
66 Zn	30.075	6.015	ppb	0.92	2000.	
68 Zn	27.335	5.467	ppb	1.80	#VALUE!	
75 As	9.955	1.991	ppb	4.41	1000.	
82 Se	1.366	0.2732	ppb	21.68	1000.	
88 Sr	1,671.5	334.3	ppb	2.46	2000.	
89 Y	----	--------	---	---	#VALUE!	
98 Mo	11.83	2.366	ppb	3.42	1000.	
107 Ag	-0.0074	-0.0015	ppb	71.24	100.	
109 Ag	0.0021	0.0004	ppb	445.74	#VALUE!	
111 Cd	0.2498	0.05	ppb	39.95	#VALUE!	
114 Cd	0.0082	0.0016	ppb	222.02	1000.	
115 In	----	--------	---	---	#VALUE!	
118 Sn	0.6905	0.1381	ppb	9.96	1000.	
120 Sn	0.644	0.1288	ppb	17.55	#VALUE!	
121 Sb	0.053	0.0106	ppb	9.65	#VALUE!	
123 Sb	0.0681	0.0136	ppb	39.46	1000.	
135 Ba	34.73	6.946	ppb	7.23	2000.	
137 Ba	34.485	6.897	ppb	2.65	#VALUE!	
182 W	0.2051	0.041	ppb	10.51	1000.	
203 Tl	-0.171	-0.0342	ppb	5.71	1000.	
205 Tl	-0.1567	-0.0313	ppb	5.61	#VALUE!	
208 Pb	-0.876	-0.1752	ppb	4.16	2000.	
232 Th	0.1123	0.0225	ppb	30.43	1000.	
238 U	0.87	0.174	ppb	3.02	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2460783.00	1.94	2422125.80	101.6	69.5 - 120	
45 Sc	2089484.50	0.48	2037841.00	102.5	69.5 - 120	
72 Ge	441658.50	0.79	440652.41	100.2	69.5 - 120	
159 Tb	3702870.30	1.79	3649611.30	101.5	69.5 - 120	
209 Bi	1810078.90	1.58	1931866.90	93.7	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000213

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\095SMPL.D\095SMPL.D#
Date Acquired: May 17 2018 12:39 am
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3952-023
Misc Info:
Vial Number: 2510
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.3429	0.0686	ppb	2.38	100.	
11 B	259.1	51.82	ppb	5.46	1000.	
23 Na	281,500.	56,300.	ppb	0.98	200000.	
25 Mg	74,700.	14,940.	ppb	0.78	200000.	
27 Al	5,445.	1,089.	ppb	1.49	200000.	
28 Si	29,945.	5,989.	ppb	1.43	#VALUE!	
29 Si	33,240.	6,648.	ppb	1.86	10000.	
39 K	20,920.	4,184.	ppb	1.56	200000.	
43 Ca	390,250.	78,050.	ppb	1.57	#VALUE!	
44 Ca	363,250.	72,650.	ppb	0.91	200000.	
51 V	13.37	2.674	ppb	7.04	1000.	
52 Cr	27.79	5.558	ppb	1.94	2000.	
53 Cr	67.55	13.51	ppb	3.08	#VALUE!	
55 Mn	1,354.	270.8	ppb	1.33	2000.	
56 Fe	10,540.	2,108.	ppb	1.23	#VALUE!	
57 Fe	10,835.	2,167.	ppb	0.09	100000.	
59 Co	2.6045	0.5209	ppb	5.52	1000.	
60 Ni	12.675	2.535	ppb	3.99	1000.	
63 Cu	23.205	4.641	ppb	2.08	#VALUE!	
65 Cu	16.475	3.295	ppb	1.59	2000.	
66 Zn	32.51	6.502	ppb	1.08	2000.	
68 Zn	36.87	7.374	ppb	1.38	#VALUE!	
75 As	13.825	2.765	ppb	4.75	1000.	
82 Se	1.0785	0.2157	ppb	87.81	1000.	
88 Sr	1,512.5	302.5	ppb	1.51	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	12.89	2.578	ppb	0.95	1000.	
107 Ag	0.0209	0.0042	ppb	28.05	100.	
109 Ag	0.0172	0.0034	ppb	55.89	#VALUE!	
111 Cd	0.5395	0.1079	ppb	17.90	#VALUE!	
114 Cd	0.3983	0.0797	ppb	11.56	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	1.222	0.2444	ppb	12.16	1000.	
120 Sn	1.095	0.219	ppb	15.67	#VALUE!	
121 Sb	0.3471	0.0694	ppb	8.42	#VALUE!	
123 Sb	0.367	0.0734	ppb	21.12	1000.	
135 Ba	190.55	38.11	ppb	1.85	2000.	
137 Ba	189.2	37.84	ppb	1.33	#VALUE!	
182 W	0.2999	0.06	ppb	13.99	1000.	
203 Tl	-0.0355	-0.0071	ppb	134.69	1000.	
205 Tl	-0.0585	-0.0117	ppb	27.88	#VALUE!	
208 Pb	11.22	2.244	ppb	1.00	2000.	
232 Th	4.502	0.9004	ppb	1.58	1000.	
238 U	4.0735	0.8147	ppb	1.26	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2605700.80	1.17	2422125.80	107.6	69.5 - 120	
45 Sc	2145760.50	1.04	2037841.00	105.3	69.5 - 120	
72 Ge	457133.19	0.84	440652.41	103.7	69.5 - 120	
159 Tb	3746460.00	1.53	3649611.30	102.7	69.5 - 120	
209 Bi	1852479.10	1.45	1931866.90	95.9	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000214

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\096SMPL.D\096SMPL.D#
Date Acquired: May 17 2018 12:43 am
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3993-001
Misc Info:
Vial Number: 2511
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0215	0.0043	ppb	56.23	100.	
11 B	2,172.5	434.5	ppb	3.42	1000.	
23 Na	----	--------	ppb	--------	200000.	>LDR
25 Mg	559,000.	111,800.	ppb	3.31	200000.	
27 Al	26.765	5.353	ppb	4.72	200000.	
28 Si	8,875.	1,775.	ppb	3.34	#VALUE!	
29 Si	8,730.	1,746.	ppb	4.08	10000.	
39 K	170,500.	34,100.	ppb	1.49	200000.	
43 Ca	230,200.	46,040.	ppb	2.46	#VALUE!	
44 Ca	222,250.	44,450.	ppb	2.49	200000.	
51 V	3.276	0.6552	ppb	11.80	1000.	
52 Cr	3.9185	0.7837	ppb	4.57	2000.	
53 Cr	89.3	17.86	ppb	10.55	#VALUE!	
55 Mn	315.	63.	ppb	2.66	2000.	
56 Fe	13,990.	2,798.	ppb	2.13	#VALUE!	
57 Fe	14,055.	2,811.	ppb	2.35	100000.	
59 Co	1.785	0.357	ppb	7.66	1000.	
60 Ni	3.443	0.6886	ppb	2.94	1000.	
63 Cu	156.75	31.35	ppb	2.26	#VALUE!	
65 Cu	2.421	0.4842	ppb	14.83	2000.	
66 Zn	8.25	1.65	ppb	2.06	2000.	
68 Zn	6.83	1.366	ppb	5.00	#VALUE!	
75 As	112.6	22.52	ppb	2.66	1000.	
82 Se	2.555	0.511	ppb	55.66	1000.	
88 Sr	3,425.5	685.1	ppb	2.63	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	1.8345	0.3669	ppb	7.37	1000.	
107 Ag	0.0025	0.0005	ppb	809.00	100.	
109 Ag	0.0033	0.0007	ppb	25.62	#VALUE!	
111 Cd	0.4282	0.0856	ppb	17.55	#VALUE!	
114 Cd	0.0127	0.0025	ppb	482.84	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	1.176	0.2352	ppb	3.49	1000.	
120 Sn	0.9775	0.1955	ppb	3.44	#VALUE!	
121 Sb	0.0804	0.0161	ppb	13.86	#VALUE!	
123 Sb	0.122	0.0244	ppb	25.97	1000.	
135 Ba	182.35	36.47	ppb	2.20	2000.	
137 Ba	181.75	36.35	ppb	2.64	#VALUE!	
182 W	0.0511	0.0102	ppb	14.91	1000.	
203 Tl	-0.161	-0.0322	ppb	34.35	1000.	
205 Tl	-0.1879	-0.0376	ppb	15.94	#VALUE!	
208 Pb	-0.9545	-0.1909	ppb	11.16	2000.	
232 Th	0.1074	0.0215	ppb	36.66	1000.	
238 U	0.987	0.1974	ppb	1.55	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2353267.80	2.96	2422125.80	97.2	69.5 - 120	
45 Sc	2150597.80	5.57	2037841.00	105.5	69.5 - 120	
72 Ge	440392.31	4.19	440652.41	99.9	69.5 - 120	
159 Tb	3194422.30	1.27	3649611.30	87.5	69.5 - 120	
209 Bi	1464676.10	1.81	1931866.90	75.8	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Katahdin Analytical Services 4000215

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\097SMPL.D\097SMPL.D#
Date Acquired: May 17 2018 12:48 am
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: RINSE
Misc Info:
Vial Number: 2512
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0007	0.0007	ppb	160.93	100.	
11 B	9.742	9.742	ppb	21.05	1000.	
23 Na	186.9	186.9	ppb	48.86	200000.	
25 Mg	11.15	11.15	ppb	76.45	200000.	
27 Al	5.103	5.103	ppb	4.71	200000.	
28 Si	-1.962	-1.962	ppb	3221.70	#VALUE!	
29 Si	-43.07	-43.07	ppb	128.86	10000.	
39 K	1.477	1.477	ppb	528.10	200000.	
43 Ca	68.52	68.52	ppb	17.06	#VALUE!	
44 Ca	71.41	71.41	ppb	9.17	200000.	
51 V	0.0919	0.0919	ppb	118.63	1000.	
52 Cr	0.1074	0.1074	ppb	37.24	2000.	
53 Cr	8.18	8.18	ppb	2.22	#VALUE!	
55 Mn	0.1805	0.1805	ppb	7.25	2000.	
56 Fe	18.04	18.04	ppb	31.01	#VALUE!	
57 Fe	9.191	9.191	ppb	24.44	100000.	
59 Co	0.0157	0.0157	ppb	31.36	1000.	
60 Ni	0.0633	0.0633	ppb	23.52	1000.	
63 Cu	0.3592	0.3592	ppb	3.05	#VALUE!	
65 Cu	0.3526	0.3526	ppb	8.09	2000.	
66 Zn	0.9488	0.9488	ppb	3.30	2000.	
68 Zn	1.305	1.305	ppb	9.06	#VALUE!	
75 As	0.0245	0.0245	ppb	378.79	1000.	
82 Se	-0.0708	-0.0708	ppb	151.61	1000.	
88 Sr	0.2092	0.2092	ppb	28.33	2000.	
89 Y	----	--------	---	---	#VALUE!	
98 Mo	0.011	0.011	ppb	50.97	1000.	
107 Ag	0.0021	0.0021	ppb	96.38	100.	
109 Ag	0.0008	0.0008	ppb	382.39	#VALUE!	
111 Cd	0.042	0.042	ppb	68.58	#VALUE!	
114 Cd	0.0012	0.0012	ppb	314.66	1000.	
115 In	----	--------	---	---	#VALUE!	
118 Sn	0.1057	0.1057	ppb	8.20	1000.	
120 Sn	0.0898	0.0898	ppb	9.19	#VALUE!	
121 Sb	0.0043	0.0043	ppb	139.55	#VALUE!	
123 Sb	0.0032	0.0032	ppb	228.64	1000.	
135 Ba	9.779	9.779	ppb	3.69	2000.	
137 Ba	9.729	9.729	ppb	0.65	#VALUE!	
182 W	-0.0031	-0.0031	ppb	34.02	1000.	
203 Tl	-0.0238	-0.0238	ppb	21.46	1000.	
205 Tl	-0.0244	-0.0244	ppb	24.32	#VALUE!	
208 Pb	0.1577	0.1577	ppb	18.88	2000.	
232 Th	0.0016	0.0016	ppb	52.51	1000.	
238 U	-0.0001	-0.0001	ppb	142.61	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2776612.80	2.77	2422125.80	114.6	69.5 - 120	
45 Sc	2302167.80	4.53	2037841.00	113.0	69.5 - 120	
72 Ge	474064.94	4.16	440652.41	107.6	69.5 - 120	
159 Tb	3485968.00	2.69	3649611.30	95.5	69.5 - 120	
209 Bi	1796398.80	2.88	1931866.90	93.0	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000216

CCV QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\098_CCV.D\098_CCV.D#
Date Acquired: May 17 2018 12:52 am
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: CCV
Misc Info:
Vial Number: 1306
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Dilution Factor: 1.00
QC Range (%): 89.5 - 110.5

QC Elements

Element	Conc.		RSD(%)	Expected	Rec (%)	Flag
9 Be	25.81	ppb	2.05	25	103.24	
11 B	27.77	ppb	3.47	25	111.08	Fail
23 Na	5,186.	ppb	1.86	5,000	103.72	
25 Mg	5,123.	ppb	0.36	5,000	102.46	
27 Al	508.5	ppb	1.13	500	101.7	
28 Si	463.7	ppb	1.54	500	92.74	
29 Si	424.2	ppb	0.14	500	84.84	Fail
39 K	5,035.	ppb	1.47	5,000	100.7	
43 Ca	4,873.	ppb	2.78	5,000	97.46	
44 Ca	5,009.	ppb	0.81	5,000	100.18	
51 V	24.56	ppb	0.95	25	98.24	
52 Cr	24.07	ppb	0.47	25	96.28	
53 Cr	23.84	ppb	7.91	25	95.36	
55 Mn	24.32	ppb	0.26	25	97.28	
56 Fe	4,811.	ppb	1.18	5,000	96.22	
57 Fe	4,812.	ppb	0.24	5,000	96.24	
59 Co	24.31	ppb	1.32	25	97.24	
60 Ni	24.55	ppb	0.46	25	98.2	
63 Cu	24.71	ppb	0.77	25	98.84	
65 Cu	24.63	ppb	1.11	25	98.52	
66 Zn	24.59	ppb	0.89	25	98.36	
68 Zn	24.54	ppb	1.38	25	98.16	
75 As	24.78	ppb	0.35	25	99.12	
82 Se	24.12	ppb	1.85	25	96.48	
88 Sr	22.99	ppb	0.40	25	91.96	
89 Y	--------	---	--------	---	#VALUE!	
98 Mo	22.81	ppb	0.54	25	91.24	
107 Ag	23.26	ppb	0.66	25	93.04	
109 Ag	23.2	ppb	0.13	25	92.8	
111 Cd	23.19	ppb	0.71	25	92.76	
114 Cd	23.19	ppb	0.39	25	92.76	
115 In	--------	---	--------	---	#VALUE!	
118 Sn	25.14	ppb	1.35	25	100.56	
120 Sn	25.24	ppb	2.40	25	100.96	
121 Sb	25.6	ppb	1.54	25	102.4	
123 Sb	25.67	ppb	2.04	25	102.68	
135 Ba	25.99	ppb	1.83	25	103.96	
137 Ba	25.62	ppb	1.82	25	102.48	
182 W	23.62	ppb	2.26	25	94.48	
203 Tl	24.08	ppb	0.46	25	96.32	
205 Tl	24.13	ppb	0.56	25	96.52	
208 Pb	24.14	ppb	0.77	25	96.56	
232 Th	23.98	ppb	1.79	25	95.92	
238 U	24.41	ppb	0.92	25	97.64	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2585029.00	3.33	2422125.80	106.7	80 - 120.4	
45 Sc	2227478.00	0.51	2037841.00	109.3	80 - 120.4	
72 Ge	452318.28	1.49	440652.41	102.6	80 - 120.4	
159 Tb	3544764.00	1.15	3649611.30	97.1	80 - 120.4	
209 Bi	1805222.30	0.93	1931866.90	93.4	80 - 120.4	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

2 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Katahdin Analytical Services 4000217

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\099_CCB.D\099_CCB.D#
Date Acquired: May 17 2018 12:56 am
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: CCB
Misc Info:
Vial Number: 1307
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: 6-CCB
Dilution Factor: 1.00

QC Elements

Element	Conc.		RSD(%)	High Limit	Flag
9 Be	0.0075	ppb	36.65	1.00	
11 B	2.725	ppb	14.36	1.00	
23 Na	27.01	ppb	92.30	1.00	
25 Mg	2.482	ppb	146.37	1.00	
27 Al	0.1259	ppb	32.68	1.00	
28 Si	15.87	ppb	206.68	1.00	
29 Si	-34.98	ppb	103.66	1.00	
39 K	0.2928	ppb	1582.70	1.00	
43 Ca	1.496	ppb	469.65	1.00	
44 Ca	0.5787	ppb	568.52	1.00	
51 V	-0.0239	ppb	254.39	1.00	
52 Cr	-0.1025	ppb	4.22	1.00	
53 Cr	-3.311	ppb	2.99	1.00	
55 Mn	0.0106	ppb	106.61	1.00	
56 Fe	-1.158	ppb	321.42	1.00	
57 Fe	3.724	ppb	51.13	1.00	
59 Co	0.0023	ppb	187.45	1.00	
60 Ni	-0.0095	ppb	54.03	1.00	
63 Cu	0.0276	ppb	44.76	1.00	
65 Cu	0.011	ppb	103.29	1.00	
66 Zn	-0.017	ppb	340.06	1.00	
68 Zn	-0.1419	ppb	102.89	1.00	
75 As	-0.1135	ppb	183.52	1.00	
82 Se	-0.1343	ppb	116.46	1.00	
88 Sr	0.009	ppb	240.28	1.00	
89 Y	--------	---	--------	---	
98 Mo	0.0198	ppb	51.26	1.00	
107 Ag	0.0006	ppb	196.75	1.00	
109 Ag	0.0033	ppb	92.67	1.00	
111 Cd	0.0401	ppb	61.50	1.00	
114 Cd	0.0028	ppb	35.15	1.00	
115 In	--------	---	--------	---	
118 Sn	0.0493	ppb	30.25	1.00	
120 Sn	0.0057	ppb	290.80	1.00	
121 Sb	0.0111	ppb	48.20	1.00	
123 Sb	0.0039	ppb	126.93	1.00	
135 Ba	0.0185	ppb	54.84	1.00	
137 Ba	0.0048	ppb	118.10	1.00	
182 W	0.0354	ppb	29.45	1.00	
203 Tl	-0.0221	ppb	39.10	1.00	
205 Tl	-0.0258	ppb	30.21	1.00	
208 Pb	-0.0977	ppb	7.59	1.00	
232 Th	0.0552	ppb	15.03	1.00	
238 U	0.0037	ppb	40.48	1.00	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2622179.80	5.10	2422125.80	108.3	79.5 - 120	
45 Sc	2110117.50	4.44	2037841.00	103.5	79.5 - 120	
72 Ge	438896.28	2.85	440652.41	99.6	79.5 - 120	
159 Tb	3358496.30	3.54	3649611.30	92.0	79.5 - 120	
209 Bi	1728041.40	1.73	1931866.90	89.4	79.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000218

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\100SMPL.D\100SMPL.D#
Date Acquired: May 17 2018 01:00 am
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3952-024
Misc Info:
Vial Number: 3102
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0199	0.004	ppb	30.01	100.	
11 B	264.35	52.87	ppb	3.44	1000.	
23 Na	292,650.	58,530.	ppb	2.68	200000.	
25 Mg	76,250.	15,250.	ppb	2.08	200000.	
27 Al	15.175	3.035	ppb	2.59	200000.	
28 Si	17,745.	3,549.	ppb	0.15	#VALUE!	
29 Si	18,005.	3,601.	ppb	3.89	10000.	
39 K	20,165.	4,033.	ppb	1.46	200000.	
43 Ca	394,500.	78,900.	ppb	0.86	#VALUE!	
44 Ca	368,500.	73,700.	ppb	0.72	200000.	
51 V	0.1744	0.0349	ppb	301.89	1000.	
52 Cr	2.1335	0.4267	ppb	4.63	2000.	
53 Cr	45.765	9.153	ppb	31.07	#VALUE!	
55 Mn	1,273.	254.6	ppb	1.16	2000.	
56 Fe	4,500.5	900.1	ppb	1.52	#VALUE!	
57 Fe	4,860.	972.	ppb	2.37	100000.	
59 Co	0.568	0.1136	ppb	14.53	1000.	
60 Ni	4.581	0.9162	ppb	3.13	1000.	
63 Cu	8.14	1.628	ppb	1.54	#VALUE!	
65 Cu	1.529	0.3058	ppb	6.14	2000.	
66 Zn	21.63	4.326	ppb	1.88	2000.	
68 Zn	20.785	4.157	ppb	4.47	#VALUE!	
75 As	13.115	2.623	ppb	2.99	1000.	
82 Se	1.223	0.2446	ppb	15.98	1000.	
88 Sr	1,505.5	301.1	ppb	0.58	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	10.58	2.116	ppb	0.18	1000.	
107 Ag	-0.0016	-0.0003	ppb	516.07	100.	
109 Ag	0.0039	0.0008	ppb	204.10	#VALUE!	
111 Cd	0.1899	0.038	ppb	29.73	#VALUE!	
114 Cd	0.0046	0.0009	ppb	258.18	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	0.9035	0.1807	ppb	13.94	1000.	
120 Sn	0.82	0.164	ppb	4.67	#VALUE!	
121 Sb	0.1146	0.0229	ppb	15.33	#VALUE!	
123 Sb	0.1114	0.0223	ppb	41.24	1000.	
135 Ba	48.695	9.739	ppb	3.67	2000.	
137 Ba	48.45	9.69	ppb	2.67	#VALUE!	
182 W	0.2078	0.0416	ppb	20.34	1000.	
203 Tl	-0.1055	-0.0211	ppb	46.18	1000.	
205 Tl	-0.1682	-0.0336	ppb	17.51	#VALUE!	
208 Pb	-0.8785	-0.1757	ppb	6.59	2000.	
232 Th	0.4253	0.0851	ppb	8.05	1000.	
238 U	3.04	0.608	ppb	1.04	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2519275.50	2.29	2422125.80	104.0	69.5 - 120	
45 Sc	2140206.00	0.64	2037841.00	105.0	69.5 - 120	
72 Ge	449246.63	0.69	440652.41	102.0	69.5 - 120	
159 Tb	3533330.30	2.12	3649611.30	96.8	69.5 - 120	
209 Bi	1716008.00	2.47	1931866.90	88.8	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000219

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\101SMPL.D\101SMPL.D#
Date Acquired: May 17 2018 01:04 am
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3993-002
Misc Info:
Vial Number: 3105
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0098	0.002	ppb	108.49	100.	
11 B	280.95	56.19	ppb	4.14	1000.	
23 Na	167,950.	33,590.	ppb	1.11	200000.	
25 Mg	24,670.	4,934.	ppb	1.14	200000.	
27 Al	20.42	4.084	ppb	5.82	200000.	
28 Si	5,745.	1,149.	ppb	2.86	#VALUE!	
29 Si	5,825.	1,165.	ppb	2.14	10000.	
39 K	8,230.	1,646.	ppb	0.60	200000.	
43 Ca	111,150.	22,230.	ppb	2.61	#VALUE!	
44 Ca	107,750.	21,550.	ppb	1.55	200000.	
51 V	0.0436	0.0087	ppb	707.44	1000.	
52 Cr	0.9905	0.1981	ppb	7.52	2000.	
53 Cr	45.355	9.071	ppb	3.63	#VALUE!	
55 Mn	328.9	65.78	ppb	1.59	2000.	
56 Fe	6,290.	1,258.	ppb	0.67	#VALUE!	
57 Fe	6,445.	1,289.	ppb	1.17	100000.	
59 Co	1.509	0.3018	ppb	1.62	1000.	
60 Ni	6.99	1.398	ppb	6.53	1000.	
63 Cu	17.725	3.545	ppb	2.87	#VALUE!	
65 Cu	13.26	2.652	ppb	2.19	2000.	
66 Zn	107.35	21.47	ppb	2.60	2000.	
68 Zn	106.	21.2	ppb	0.31	#VALUE!	
75 As	299.2	59.84	ppb	0.24	1000.	
82 Se	1.1935	0.2387	ppb	42.02	1000.	
88 Sr	831.	166.2	ppb	1.40	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	0.705	0.141	ppb	14.41	1000.	
107 Ag	0.0615	0.0123	ppb	5.54	100.	
109 Ag	0.0394	0.0079	ppb	32.52	#VALUE!	
111 Cd	1.8465	0.3693	ppb	8.26	#VALUE!	
114 Cd	1.581	0.3162	ppb	2.97	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	0.9395	0.1879	ppb	15.79	1000.	
120 Sn	0.9385	0.1877	ppb	2.40	#VALUE!	
121 Sb	1.169	0.2338	ppb	1.44	#VALUE!	
123 Sb	1.2325	0.2465	ppb	6.06	1000.	
135 Ba	72.5	14.5	ppb	1.85	2000.	
137 Ba	71.3	14.26	ppb	0.23	#VALUE!	
182 W	0.4817	0.0963	ppb	1.50	1000.	
203 Tl	-0.1634	-0.0327	ppb	14.17	1000.	
205 Tl	-0.1668	-0.0334	ppb	15.58	#VALUE!	
208 Pb	-0.842	-0.1684	ppb	7.33	2000.	
232 Th	0.1339	0.0268	ppb	49.27	1000.	
238 U	0.4098	0.082	ppb	5.96	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2649001.30	1.18	2422125.80	109.4	69.5 - 120	
45 Sc	2161247.80	0.82	2037841.00	106.1	69.5 - 120	
72 Ge	454551.38	0.43	440652.41	103.2	69.5 - 120	
159 Tb	3589009.50	1.47	3649611.30	98.3	69.5 - 120	
209 Bi	1771366.90	2.48	1931866.90	91.7	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000220

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\102SMPL.D\102SMPL.D#
Date Acquired: May 17 2018 01:09 am
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3995-015
Misc Info:
Vial Number: 3106
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0192	0.0038	ppb	92.17	100.	
11 B	17.055	3.411	ppb	13.77	1000.	
23 Na	105.3	21.06	ppb	6.63	200000.	
25 Mg	20.325	4.065	ppb	8.08	200000.	
27 Al	24.455	4.891	ppb	4.48	200000.	
28 Si	-262.75	-52.55	ppb	36.31	#VALUE!	
29 Si	-217.5	-43.5	ppb	46.12	10000.	
39 K	25.875	5.175	ppb	90.73	200000.	
43 Ca	44.94	8.988	ppb	57.44	#VALUE!	
44 Ca	44.515	8.903	ppb	20.25	200000.	
51 V	-0.5055	-0.1011	ppb	39.73	1000.	
52 Cr	0.681	0.1362	ppb	20.90	2000.	
53 Cr	45.805	9.161	ppb	10.73	#VALUE!	
55 Mn	0.3692	0.0738	ppb	13.15	2000.	
56 Fe	20.99	4.198	ppb	40.21	#VALUE!	
57 Fe	37.405	7.481	ppb	35.32	100000.	
59 Co	-0.0019	-0.0004	ppb	1673.80	1000.	
60 Ni	0.0608	0.0122	ppb	93.83	1000.	
63 Cu	0.3741	0.0748	ppb	23.10	#VALUE!	
65 Cu	0.5145	0.1029	ppb	16.09	2000.	
66 Zn	1.5035	0.3007	ppb	10.29	2000.	
68 Zn	0.4793	0.0959	ppb	42.94	#VALUE!	
75 As	0.137	0.0274	ppb	548.54	1000.	
82 Se	0.051	0.0102	ppb	133.53	1000.	
88 Sr	0.1756	0.0351	ppb	16.22	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	0.0191	0.0038	ppb	20.26	1000.	
107 Ag	0.0036	0.0007	ppb	328.20	100.	
109 Ag	0.004	0.0008	ppb	99.56	#VALUE!	
111 Cd	0.2743	0.0549	ppb	29.26	#VALUE!	
114 Cd	0.0057	0.0011	ppb	213.33	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	0.8085	0.1617	ppb	17.30	1000.	
120 Sn	0.751	0.1502	ppb	11.21	#VALUE!	
121 Sb	0.0338	0.0068	ppb	35.27	#VALUE!	
123 Sb	0.0188	0.0038	ppb	78.12	1000.	
135 Ba	0.3067	0.0613	ppb	32.14	2000.	
137 Ba	0.3799	0.076	ppb	4.98	#VALUE!	
182 W	0.0019	0.0004	ppb	187.55	1000.	
203 Tl	-0.1432	-0.0286	ppb	28.66	1000.	
205 Tl	-0.1749	-0.035	ppb	15.68	#VALUE!	
208 Pb	-0.8985	-0.1797	ppb	5.08	2000.	
232 Th	0.073	0.0146	ppb	41.87	1000.	
238 U	0.0026	0.0005	ppb	130.33	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2685229.00	1.82	2422125.80	110.9	69.5 - 120	
45 Sc	2111440.50	2.15	2037841.00	103.6	69.5 - 120	
72 Ge	448421.13	1.59	440652.41	101.8	69.5 - 120	
159 Tb	3503037.50	1.25	3649611.30	96.0	69.5 - 120	
209 Bi	1791565.10	1.03	1931866.90	92.7	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000221

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\103SMPL.D\103SMPL.D#
Date Acquired: May 17 2018 01:13 am
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: RINSE
Misc Info:
Vial Number: 3107
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.012	0.0024	ppb	31.21	100.	
11 B	8.705	1.741	ppb	5.26	1000.	
23 Na	78.65	15.73	ppb	1.85	200000.	
25 Mg	2.707	0.5414	ppb	21.09	200000.	
27 Al	5.985	1.197	ppb	14.29	200000.	
28 Si	119.3	23.86	ppb	187.97	#VALUE!	
29 Si	100.5	20.1	ppb	220.00	10000.	
39 K	26.04	5.208	ppb	50.58	200000.	
43 Ca	47.09	9.418	ppb	58.82	#VALUE!	
44 Ca	32.8	6.56	ppb	26.80	200000.	
51 V	-0.3091	-0.0618	ppb	109.54	1000.	
52 Cr	-0.2506	-0.0501	ppb	51.49	2000.	
53 Cr	-8.265	-1.653	ppb	9.61	#VALUE!	
55 Mn	0.0995	0.0199	ppb	66.42	2000.	
56 Fe	17.08	3.416	ppb	66.77	#VALUE!	
57 Fe	31.725	6.345	ppb	9.92	100000.	
59 Co	0.0077	0.0015	ppb	126.08	1000.	
60 Ni	0.0546	0.0109	ppb	63.37	1000.	
63 Cu	1.0075	0.2015	ppb	8.84	#VALUE!	
65 Cu	0.964	0.1928	ppb	4.59	2000.	
66 Zn	1.631	0.3262	ppb	11.87	2000.	
68 Zn	1.2585	0.2517	ppb	37.26	#VALUE!	
75 As	-0.2911	-0.0582	ppb	180.18	1000.	
82 Se	0.3272	0.0654	ppb	31.03	1000.	
88 Sr	0.0552	0.011	ppb	28.22	2000.	
89 Y	----	--------	---	---	#VALUE!	
98 Mo	0.0278	0.0056	ppb	43.13	1000.	
107 Ag	-0.0132	-0.0026	ppb	85.70	100.	
109 Ag	0.0082	0.0016	ppb	152.80	#VALUE!	
111 Cd	0.3223	0.0645	ppb	26.96	#VALUE!	
114 Cd	0.0022	0.0004	ppb	577.36	1000.	
115 In	----	--------	---	---	#VALUE!	
118 Sn	0.0251	0.005	ppb	242.49	1000.	
120 Sn	0.0361	0.0072	ppb	346.66	#VALUE!	
121 Sb	0.007	0.0014	ppb	198.35	#VALUE!	
123 Sb	-0.0118	-0.0024	ppb	151.71	1000.	
135 Ba	0.1229	0.0246	ppb	14.32	2000.	
137 Ba	0.1582	0.0316	ppb	31.45	#VALUE!	
182 W	0.0293	0.0059	ppb	23.07	1000.	
203 Tl	-0.1623	-0.0325	ppb	24.45	1000.	
205 Tl	-0.161	-0.0322	ppb	15.15	#VALUE!	
208 Pb	0.3352	0.067	ppb	26.34	2000.	
232 Th	0.0087	0.0017	ppb	89.61	1000.	
238 U	0.0019	0.0004	ppb	231.14	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2475443.50	1.75	2422125.80	102.2	69.5 - 120	
45 Sc	2055355.10	2.25	2037841.00	100.9	69.5 - 120	
72 Ge	427146.97	2.42	440652.41	96.9	69.5 - 120	
159 Tb	3370679.00	2.06	3649611.30	92.4	69.5 - 120	
209 Bi	1723575.90	1.59	1931866.90	89.2	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000222

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\104SMPL.D\104SMPL.D#
Date Acquired: May 17 2018 01:17 am
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: RINSE
Misc Info:
Vial Number: 3108
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0157	0.0031	ppb	35.88	100.	
11 B	7.46	1.492	ppb	7.71	1000.	
23 Na	130.55	26.11	ppb	2.61	200000.	
25 Mg	16.295	3.259	ppb	10.15	200000.	
27 Al	8.585	1.717	ppb	15.74	200000.	
28 Si	373.7	74.74	ppb	16.43	#VALUE!	
29 Si	252.9	50.58	ppb	24.32	10000.	
39 K	46.985	9.397	ppb	17.23	200000.	
43 Ca	27.715	5.543	ppb	57.79	#VALUE!	
44 Ca	29.775	5.955	ppb	28.51	200000.	
51 V	-0.0313	-0.0063	ppb	1536.00	1000.	
52 Cr	-0.0829	-0.0166	ppb	170.79	2000.	
53 Cr	-11.465	-2.293	ppb	29.07	#VALUE!	
55 Mn	0.2272	0.0454	ppb	6.21	2000.	
56 Fe	30.37	6.074	ppb	31.96	#VALUE!	
57 Fe	45.85	9.17	ppb	47.23	100000.	
59 Co	-0.0004	-0.0001	ppb	3305.00	1000.	
60 Ni	0.2791	0.0558	ppb	16.57	1000.	
63 Cu	1.405	0.281	ppb	7.02	#VALUE!	
65 Cu	1.2215	0.2443	ppb	8.01	2000.	
66 Zn	3.6285	0.7257	ppb	7.60	2000.	
68 Zn	3.816	0.7632	ppb	12.54	#VALUE!	
75 As	-0.5175	-0.1035	ppb	128.41	1000.	
82 Se	-0.54	-0.108	ppb	98.70	1000.	
88 Sr	0.0563	0.0113	ppb	13.09	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	0.0197	0.0039	ppb	119.80	1000.	
107 Ag	0.0125	0.0025	ppb	130.55	100.	
109 Ag	0.0119	0.0024	ppb	57.29	#VALUE!	
111 Cd	0.3355	0.0671	ppb	31.70	#VALUE!	
114 Cd	0.0327	0.0065	ppb	69.62	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	0.1679	0.0336	ppb	44.44	1000.	
120 Sn	0.1324	0.0265	ppb	55.16	#VALUE!	
121 Sb	0.0215	0.0043	ppb	67.63	#VALUE!	
123 Sb	0.0094	0.0019	ppb	197.94	1000.	
135 Ba	0.602	0.1204	ppb	11.79	2000.	
137 Ba	0.631	0.1262	ppb	13.24	#VALUE!	
182 W	-0.0172	-0.0034	ppb	47.39	1000.	
203 Tl	-0.088	-0.0176	ppb	49.29	1000.	
205 Tl	-0.1477	-0.0295	ppb	14.30	#VALUE!	
208 Pb	0.3946	0.0789	ppb	8.99	2000.	
232 Th	0.0094	0.0019	ppb	30.08	1000.	
238 U	-0.0015	-0.0003	ppb	174.13	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2356520.30	2.07	2422125.80	97.3	69.5 - 120	
45 Sc	1951598.50	1.45	2037841.00	95.8	69.5 - 120	
72 Ge	405935.84	0.88	440652.41	92.1	69.5 - 120	
159 Tb	3285874.00	2.70	3649611.30	90.0	69.5 - 120	
209 Bi	1691305.80	1.54	1931866.90	87.5	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000223

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\105SMPL.D\105SMPL.D#
Date Acquired: May 17 2018 01:21 am
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: PBSLE11IMS1
Misc Info:
Vial Number: 3109
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0093	0.0019	ppb	100.91	100.	
11 B	6.27	1.254	ppb	9.35	1000.	
23 Na	47.51	9.502	ppb	8.47	200000.	
25 Mg	20.645	4.129	ppb	3.32	200000.	
27 Al	8.275	1.655	ppb	8.15	200000.	
28 Si	-504.	-100.8	ppb	5.20	#VALUE!	
29 Si	-266.	-53.2	ppb	11.19	10000.	
39 K	23.835	4.767	ppb	43.55	200000.	
43 Ca	26.885	5.377	ppb	13.35	#VALUE!	
44 Ca	37.625	7.525	ppb	24.24	200000.	
51 V	0.2637	0.0527	ppb	197.42	1000.	
52 Cr	1.274	0.2548	ppb	24.26	2000.	
53 Cr	37.465	7.493	ppb	8.21	#VALUE!	
55 Mn	0.2242	0.0448	ppb	13.95	2000.	
56 Fe	-14.37	-2.874	ppb	91.86	#VALUE!	
57 Fe	19.395	3.879	ppb	120.68	100000.	
59 Co	0.0102	0.002	ppb	210.37	1000.	
60 Ni	0.2812	0.0562	ppb	15.70	1000.	
63 Cu	1.1265	0.2253	ppb	2.45	#VALUE!	
65 Cu	1.1725	0.2345	ppb	7.25	2000.	
66 Zn	0.2535	0.0507	ppb	117.73	2000.	
68 Zn	-0.4108	-0.0822	ppb	123.92	#VALUE!	
75 As	0.4502	0.09	ppb	190.47	1000.	
82 Se	-0.528	-0.1056	ppb	190.53	1000.	
88 Sr	0.1845	0.0369	ppb	11.73	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	0.0544	0.0109	ppb	10.72	1000.	
107 Ag	0.0084	0.0017	ppb	106.96	100.	
109 Ag	0.0017	0.0003	ppb	114.94	#VALUE!	
111 Cd	0.534	0.1068	ppb	15.57	#VALUE!	
114 Cd	-0.0591	-0.0118	ppb	86.20	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	38.46	7.692	ppb	1.95	1000.	
120 Sn	38.61	7.722	ppb	2.07	#VALUE!	
121 Sb	0.0133	0.0027	ppb	133.36	#VALUE!	
123 Sb	0.0141	0.0028	ppb	93.61	1000.	
135 Ba	0.246	0.0492	ppb	57.23	2000.	
137 Ba	0.1413	0.0283	ppb	31.06	#VALUE!	
182 W	0.0012	0.0002	ppb	1121.70	1000.	
203 Tl	-0.1911	-0.0382	ppb	19.55	1000.	
205 Tl	-0.1773	-0.0355	ppb	9.11	#VALUE!	
208 Pb	-0.8355	-0.1671	ppb	16.75	2000.	
232 Th	0.0529	0.0106	ppb	26.48	1000.	
238 U	0.0047	0.0009	ppb	39.50	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2776620.30	2.05	2422125.80	114.6	69.5 - 120	
45 Sc	2144949.30	1.10	2037841.00	105.3	69.5 - 120	
72 Ge	451714.91	0.69	440652.41	102.5	69.5 - 120	
159 Tb	3561368.80	1.62	3649611.30	97.6	69.5 - 120	
209 Bi	1808666.30	1.04	1931866.90	93.6	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000224

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\106SMPL.D\106SMPL.D#
Date Acquired: May 17 2018 01:26 am
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: LCSOLE11IMS1
Misc Info:
Vial Number: 3110
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	46.85	9.37	ppb	3.57	100.	
11 B	471.1	94.22	ppb	2.94	1000.	
23 Na	7,925.	1,585.	ppb	2.08	200000.	
25 Mg	5,030.	1,006.	ppb	1.02	200000.	
27 Al	2,045.5	409.1	ppb	1.44	200000.	
28 Si	460.85	92.17	ppb	6.75	#VALUE!	
29 Si	615.5	123.1	ppb	8.58	10000.	
39 K	10,065.	2,013.	ppb	1.31	200000.	
43 Ca	2,901.	580.2	ppb	3.54	#VALUE!	
44 Ca	2,388.5	477.7	ppb	2.69	200000.	
51 V	486.75	97.35	ppb	0.45	1000.	
52 Cr	185.95	37.19	ppb	1.15	2000.	
53 Cr	236.75	47.35	ppb	0.69	#VALUE!	
55 Mn	480.35	96.07	ppb	1.14	2000.	
56 Fe	931.	186.2	ppb	1.41	#VALUE!	
57 Fe	918.	183.6	ppb	0.72	100000.	
59 Co	484.85	96.97	ppb	1.67	1000.	
60 Ni	477.9	95.58	ppb	1.14	1000.	
63 Cu	235.3	47.06	ppb	0.92	#VALUE!	
65 Cu	237.7	47.54	ppb	1.52	2000.	
66 Zn	464.1	92.82	ppb	0.78	2000.	
68 Zn	517.	103.4	ppb	0.53	#VALUE!	
75 As	96.55	19.31	ppb	2.47	1000.	
82 Se	91.6	18.32	ppb	2.04	1000.	
88 Sr	451.5	90.3	ppb	0.94	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	89.45	17.89	ppb	1.51	1000.	
107 Ag	45.54	9.108	ppb	0.67	100.	
109 Ag	45.39	9.078	ppb	1.23	#VALUE!	
111 Cd	226.9	45.38	ppb	0.32	#VALUE!	
114 Cd	228.2	45.64	ppb	0.76	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	514.5	102.9	ppb	0.85	1000.	
120 Sn	516.	103.2	ppb	1.71	#VALUE!	
121 Sb	97.9	19.58	ppb	1.94	#VALUE!	
123 Sb	98.	19.6	ppb	0.80	1000.	
135 Ba	1,967.5	393.5	ppb	1.27	2000.	
137 Ba	1,963.	392.6	ppb	1.07	#VALUE!	
182 W	94.5	18.9	ppb	2.17	1000.	
203 Tl	98.15	19.63	ppb	1.53	1000.	
205 Tl	96.45	19.29	ppb	1.01	#VALUE!	
208 Pb	97.15	19.43	ppb	1.20	2000.	
232 Th	96.4	19.28	ppb	1.98	1000.	
238 U	97.75	19.55	ppb	1.44	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2746875.30	3.41	2422125.80	113.4	69.5 - 120	
45 Sc	2121729.30	0.53	2037841.00	104.1	69.5 - 120	
72 Ge	443054.91	0.63	440652.41	100.5	69.5 - 120	
159 Tb	3618848.30	1.34	3649611.30	99.2	69.5 - 120	
209 Bi	1819438.50	1.56	1931866.90	94.2	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000225

CCV QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\107_CCV.D\107_CCV.D#
Date Acquired: May 17 2018 01:30 am
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: CCV
Misc Info:
Vial Number: 1306
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Dilution Factor: 1.00
QC Range (%): 89.5 - 110.5

QC Elements

Element	Conc.		RSD(%)	Expected	Rec (%)	Flag
9 Be	24.42	ppb	1.40	25	97.68	
11 B	26.81	ppb	1.66	25	107.24	
23 Na	5,368.	ppb	2.08	5,000	107.36	
25 Mg	5,289.	ppb	1.15	5,000	105.78	
27 Al	510.3	ppb	0.61	500	102.06	
28 Si	435.9	ppb	9.23	500	87.18	
29 Si	456.9	ppb	4.25	500	91.38	
39 K	5,150.	ppb	1.40	5,000	103	
43 Ca	5,024.	ppb	0.70	5,000	100.48	
44 Ca	5,008.	ppb	1.21	5,000	100.16	
51 V	24.49	ppb	2.16	25	97.96	
52 Cr	24.35	ppb	2.17	25	97.4	
53 Cr	23.01	ppb	4.31	25	92.04	
55 Mn	24.44	ppb	1.12	25	97.76	
56 Fe	4,863.	ppb	1.37	5,000	97.26	
57 Fe	4,958.	ppb	1.79	5,000	99.16	
59 Co	24.5	ppb	1.44	25	98	
60 Ni	24.41	ppb	1.52	25	97.64	
63 Cu	24.63	ppb	1.39	25	98.52	
65 Cu	24.8	ppb	0.61	25	99.2	
66 Zn	24.66	ppb	0.34	25	98.64	
68 Zn	25.01	ppb	2.96	25	100.04	
75 As	24.62	ppb	0.69	25	98.48	
82 Se	23.92	ppb	1.21	25	95.68	
88 Sr	23.02	ppb	0.20	25	92.08	
89 Y	--------	---	--------	---	#VALUE!	
98 Mo	23.22	ppb	1.85	25	92.88	
107 Ag	23.58	ppb	0.68	25	94.32	
109 Ag	23.43	ppb	1.10	25	93.72	
111 Cd	23.43	ppb	1.13	25	93.72	
114 Cd	23.55	ppb	1.39	25	94.2	
115 In	--------	---	--------	---	#VALUE!	
118 Sn	24.61	ppb	1.51	25	98.44	
120 Sn	24.66	ppb	1.66	25	98.64	
121 Sb	24.83	ppb	1.98	25	99.32	
123 Sb	25.15	ppb	0.96	25	100.6	
135 Ba	25.1	ppb	1.59	25	100.4	
137 Ba	25.04	ppb	2.75	25	100.16	
182 W	23.64	ppb	2.18	25	94.56	
203 Tl	24.11	ppb	1.52	25	96.44	
205 Tl	24.01	ppb	1.01	25	96.04	
208 Pb	24.14	ppb	0.91	25	96.56	
232 Th	24.33	ppb	1.89	25	97.32	
238 U	24.47	ppb	1.42	25	97.88	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2699548.00	0.40	2422125.80	111.5	80 - 120.4	
45 Sc	2128999.80	1.08	2037841.00	104.5	80 - 120.4	
72 Ge	433419.00	1.43	440652.41	98.4	80 - 120.4	
159 Tb	3546554.50	0.89	3649611.30	97.2	80 - 120.4	
209 Bi	1804351.90	0.39	1931866.90	93.4	80 - 120.4	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\108_CCB.D\108_CCB.D#
Date Acquired: May 17 2018 01:34 am
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: CCB
Misc Info:
Vial Number: 1307
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: 6-CCB
Dilution Factor: 1.00

QC Elements

Element	Conc.		RSD(%)	High Limit	Flag
9 Be	0.0024	ppb	120.78	1.00	
11 B	2.395	ppb	14.38	1.00	
23 Na	2.962	ppb	9.01	1.00	
25 Mg	0.1007	ppb	20.34	1.00	
27 Al	0.0463	ppb	64.82	1.00	
28 Si	-77.29	ppb	46.84	1.00	
29 Si	-56.91	ppb	61.38	1.00	
39 K	-2.501	ppb	103.16	1.00	
43 Ca	-2.078	ppb	254.81	1.00	
44 Ca	-2.631	ppb	21.90	1.00	
51 V	-0.065	ppb	71.73	1.00	
52 Cr	-0.1355	ppb	14.72	1.00	
53 Cr	-3.891	ppb	7.24	1.00	
55 Mn	-0.0115	ppb	66.70	1.00	
56 Fe	-16.65	ppb	14.05	1.00	
57 Fe	0.7831	ppb	483.21	1.00	
59 Co	-0.0018	ppb	332.37	1.00	
60 Ni	0.0004	ppb	1050.30	1.00	
63 Cu	0.0025	ppb	218.53	1.00	
65 Cu	-0.0248	ppb	49.46	1.00	
66 Zn	0.0133	ppb	265.54	1.00	
68 Zn	-0.1063	ppb	108.94	1.00	
75 As	-0.15	ppb	147.53	1.00	
82 Se	-0.2028	ppb	81.07	1.00	
88 Sr	-0.0025	ppb	143.30	1.00	
89 Y	--------	---	--------	---	
98 Mo	0.0238	ppb	30.99	1.00	
107 Ag	0.0008	ppb	447.11	1.00	
109 Ag	0.0036	ppb	53.06	1.00	
111 Cd	0.0809	ppb	53.28	1.00	
114 Cd	0.001	ppb	411.48	1.00	
115 In	--------	---	--------	---	
118 Sn	0.0446	ppb	26.50	1.00	
120 Sn	0.0252	ppb	25.26	1.00	
121 Sb	0.0103	ppb	18.20	1.00	
123 Sb	0.0088	ppb	35.26	1.00	
135 Ba	0.0216	ppb	56.71	1.00	
137 Ba	0.0068	ppb	30.09	1.00	
182 W	0.0419	ppb	33.84	1.00	
203 Tl	-0.036	ppb	27.61	1.00	
205 Tl	-0.0313	ppb	10.46	1.00	
208 Pb	-0.1011	ppb	13.07	1.00	
232 Th	0.0614	ppb	8.47	1.00	
238 U	0.0024	ppb	31.62	1.00	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2758213.00	0.16	2422125.80	113.9	79.5 - 120	
45 Sc	2133574.30	1.64	2037841.00	104.7	79.5 - 120	
72 Ge	443390.16	0.75	440652.41	100.6	79.5 - 120	
159 Tb	3530828.80	1.50	3649611.30	96.7	79.5 - 120	
209 Bi	1824072.50	1.27	1931866.90	94.4	79.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\109SMPL.D\109SMPL.D#
Date Acquired: May 17 2018 01:38 am
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3995-001
Misc Info:
Vial Number: 3111
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	7.6	1.52	ppb	1.87	100.	
11 B	99.3	19.86	ppb	4.03	1000.	
23 Na	6,060.	1,212.	ppb	1.93	200000.	
25 Mg	38,675.	7,735.	ppb	0.78	200000.	
27 Al	155,250.	31,050.	ppb	1.28	200000.	
28 Si	4,087.	817.4	ppb	3.39	#VALUE!	
29 Si	4,108.	821.6	ppb	3.32	10000.	
39 K	40,365.	8,073.	ppb	1.90	200000.	
43 Ca	29,705.	5,941.	ppb	2.21	#VALUE!	
44 Ca	29,590.	5,918.	ppb	0.61	200000.	
51 V	288.45	57.69	ppb	0.50	1000.	
52 Cr	148.95	29.79	ppb	1.41	2000.	
53 Cr	166.35	33.27	ppb	1.67	#VALUE!	
55 Mn	3,921.	784.2	ppb	0.28	2000.	
56 Fe	132,200.	26,440.	ppb	0.75	#VALUE!	
57 Fe	126,650.	25,330.	ppb	0.20	100000.	
59 Co	71.85	14.37	ppb	2.16	1000.	
60 Ni	110.2	22.04	ppb	0.44	1000.	
63 Cu	99.	19.8	ppb	0.98	#VALUE!	
65 Cu	99.5	19.9	ppb	0.43	2000.	
66 Zn	395.1	79.02	ppb	0.73	2000.	
68 Zn	456.95	91.39	ppb	0.62	#VALUE!	
75 As	34.55	6.91	ppb	1.37	1000.	
82 Se	5.255	1.051	ppb	33.58	1000.	
88 Sr	443.15	88.63	ppb	0.37	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	11.725	2.345	ppb	2.64	1000.	
107 Ag	0.7655	0.1531	ppb	11.42	100.	
109 Ag	0.686	0.1372	ppb	5.69	#VALUE!	
111 Cd	4.339	0.8678	ppb	7.24	#VALUE!	
114 Cd	1.5495	0.3099	ppb	8.78	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	44.23	8.846	ppb	0.69	1000.	
120 Sn	44.035	8.807	ppb	1.44	#VALUE!	
121 Sb	1.7465	0.3493	ppb	1.07	#VALUE!	
123 Sb	1.6095	0.3219	ppb	0.07	1000.	
135 Ba	2,045.	409.	ppb	1.20	2000.	
137 Ba	2,028.5	405.7	ppb	0.82	#VALUE!	
182 W	0.91	0.182	ppb	5.68	1000.	
203 Tl	2.7435	0.5487	ppb	0.41	1000.	
205 Tl	2.7355	0.5471	ppb	2.13	#VALUE!	
208 Pb	136.	27.2	ppb	0.49	2000.	
232 Th	105.55	21.11	ppb	0.61	1000.	
238 U	16.48	3.296	ppb	0.89	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2674928.50	2.12	2422125.80	110.4	69.5 - 120	
45 Sc	2164753.80	1.55	2037841.00	106.2	69.5 - 120	
72 Ge	440311.91	1.08	440652.41	99.9	69.5 - 120	
159 Tb	3693921.30	1.83	3649611.30	101.2	69.5 - 120	
209 Bi	1821084.50	1.08	1931866.90	94.3	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000228

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\110SMPL.D\110SMPL.D#
Date Acquired: May 17 2018 01:43 am
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3995-002
Misc Info:
Vial Number: 3112
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	8.06	1.612	ppb	2.87	100.	
11 B	81.7	16.34	ppb	7.38	1000.	
23 Na	4,444.5	888.9	ppb	1.94	200000.	
25 Mg	37,000.	7,400.	ppb	1.97	200000.	
27 Al	151,150.	30,230.	ppb	2.78	200000.	
28 Si	3,247.5	649.5	ppb	9.86	#VALUE!	
29 Si	3,224.	644.8	ppb	6.15	10000.	
39 K	36,595.	7,319.	ppb	2.39	200000.	
43 Ca	26,155.	5,231.	ppb	3.05	#VALUE!	
44 Ca	25,880.	5,176.	ppb	2.58	200000.	
51 V	301.75	60.35	ppb	2.82	1000.	
52 Cr	151.25	30.25	ppb	3.12	2000.	
53 Cr	172.85	34.57	ppb	3.26	#VALUE!	
55 Mn	3,682.5	736.5	ppb	2.94	2000.	
56 Fe	131,400.	26,280.	ppb	3.16	#VALUE!	
57 Fe	127,000.	25,400.	ppb	3.20	100000.	
59 Co	71.9	14.38	ppb	3.74	1000.	
60 Ni	114.45	22.89	ppb	1.49	1000.	
63 Cu	93.5	18.7	ppb	1.74	#VALUE!	
65 Cu	94.1	18.82	ppb	2.65	2000.	
66 Zn	379.3	75.86	ppb	2.02	2000.	
68 Zn	432.6	86.52	ppb	2.23	#VALUE!	
75 As	36.885	7.377	ppb	5.35	1000.	
82 Se	7.355	1.471	ppb	9.26	1000.	
88 Sr	395.05	79.01	ppb	2.52	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	8.515	1.703	ppb	2.88	1000.	
107 Ag	0.7075	0.1415	ppb	3.43	100.	
109 Ag	0.6205	0.1241	ppb	6.75	#VALUE!	
111 Cd	3.967	0.7934	ppb	6.35	#VALUE!	
114 Cd	1.399	0.2798	ppb	5.40	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	43.065	8.613	ppb	3.07	1000.	
120 Sn	42.845	8.569	ppb	3.10	#VALUE!	
121 Sb	1.4565	0.2913	ppb	4.93	#VALUE!	
123 Sb	1.49	0.298	ppb	5.03	1000.	
135 Ba	1,888.	377.6	ppb	1.83	2000.	
137 Ba	1,876.	375.2	ppb	2.04	#VALUE!	
182 W	0.826	0.1652	ppb	5.06	1000.	
203 Tl	2.887	0.5774	ppb	5.43	1000.	
205 Tl	2.8585	0.5717	ppb	4.42	#VALUE!	
208 Pb	136.8	27.36	ppb	2.61	2000.	
232 Th	109.55	21.91	ppb	2.36	1000.	
238 U	19.32	3.864	ppb	1.46	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2719759.30	4.43	2422125.80	112.3	69.5 - 120	
45 Sc	2175114.30	2.42	2037841.00	106.7	69.5 - 120	
72 Ge	444423.50	2.16	440652.41	100.9	69.5 - 120	
159 Tb	3684204.00	1.66	3649611.30	100.9	69.5 - 120	
209 Bi	1811712.30	1.76	1931866.90	93.8	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000229

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\111SMPL.D\111SMPL.D#
Date Acquired: May 17 2018 01:47 am
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3995-003
Misc Info:
Vial Number: 3201
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	8.035	1.607	ppb	4.25	100.	
11 B	80.65	16.13	ppb	6.47	1000.	
23 Na	3,475.	695.	ppb	0.90	200000.	
25 Mg	36,255.	7,251.	ppb	0.08	200000.	
27 Al	153,100.	30,620.	ppb	1.35	200000.	
28 Si	3,125.5	625.1	ppb	4.74	#VALUE!	
29 Si	2,951.	590.2	ppb	0.77	10000.	
39 K	35,575.	7,115.	ppb	2.04	200000.	
43 Ca	25,875.	5,175.	ppb	1.40	#VALUE!	
44 Ca	25,185.	5,037.	ppb	1.06	200000.	
51 V	298.9	59.78	ppb	2.65	1000.	
52 Cr	149.95	29.99	ppb	1.83	2000.	
53 Cr	169.15	33.83	ppb	1.09	#VALUE!	
55 Mn	3,915.5	783.1	ppb	2.91	2000.	
56 Fe	132,750.	26,550.	ppb	2.66	#VALUE!	
57 Fe	128,050.	25,610.	ppb	2.09	100000.	
59 Co	72.1	14.42	ppb	2.15	1000.	
60 Ni	109.8	21.96	ppb	2.17	1000.	
63 Cu	94.2	18.84	ppb	1.50	#VALUE!	
65 Cu	95.45	19.09	ppb	2.34	2000.	
66 Zn	385.7	77.14	ppb	1.29	2000.	
68 Zn	432.5	86.5	ppb	1.86	#VALUE!	
75 As	36.1	7.22	ppb	2.90	1000.	
82 Se	7.295	1.459	ppb	9.49	1000.	
88 Sr	373.8	74.76	ppb	2.87	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	9.57	1.914	ppb	3.88	1000.	
107 Ag	0.6545	0.1309	ppb	0.63	100.	
109 Ag	0.577	0.1154	ppb	4.36	#VALUE!	
111 Cd	3.759	0.7518	ppb	9.41	#VALUE!	
114 Cd	1.7855	0.3571	ppb	3.86	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	43.32	8.664	ppb	0.18	1000.	
120 Sn	43.315	8.663	ppb	2.18	#VALUE!	
121 Sb	1.461	0.2922	ppb	9.57	#VALUE!	
123 Sb	1.4695	0.2939	ppb	10.95	1000.	
135 Ba	1,747.	349.4	ppb	1.66	2000.	
137 Ba	1,749.5	349.9	ppb	1.58	#VALUE!	
182 W	0.888	0.1776	ppb	5.05	1000.	
203 Tl	2.9425	0.5885	ppb	2.87	1000.	
205 Tl	2.7715	0.5543	ppb	0.90	#VALUE!	
208 Pb	140.95	28.19	ppb	1.04	2000.	
232 Th	103.8	20.76	ppb	1.18	1000.	
238 U	18.07	3.614	ppb	1.67	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2656811.80	2.10	2422125.80	109.7	69.5 - 120	
45 Sc	2160720.30	0.56	2037841.00	106.0	69.5 - 120	
72 Ge	445837.16	0.60	440652.41	101.2	69.5 - 120	
159 Tb	3724003.30	0.44	3649611.30	102.0	69.5 - 120	
209 Bi	1824451.30	1.75	1931866.90	94.4	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000230

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\112SMPL.D\112SMPL.D#
Date Acquired: May 17 2018 01:51 am
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3995-004
Misc Info:
Vial Number: 3202
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6.28	1.256	ppb	1.13	100.	
11 B	63.	12.6	ppb	4.93	1000.	
23 Na	2,015.	403.	ppb	2.08	200000.	
25 Mg	28,350.	5,670.	ppb	0.37	200000.	
27 Al	125,250.	25,050.	ppb	2.08	200000.	
28 Si	3,288.	657.6	ppb	4.14	#VALUE!	
29 Si	3,099.5	619.9	ppb	1.89	10000.	
39 K	31,835.	6,367.	ppb	0.97	200000.	
43 Ca	19,920.	3,984.	ppb	1.74	#VALUE!	
44 Ca	20,015.	4,003.	ppb	0.48	200000.	
51 V	243.35	48.67	ppb	1.19	1000.	
52 Cr	124.15	24.83	ppb	1.26	2000.	
53 Cr	139.55	27.91	ppb	4.00	#VALUE!	
55 Mn	3,537.	707.4	ppb	1.13	2000.	
56 Fe	113,450.	22,690.	ppb	1.06	#VALUE!	
57 Fe	109,300.	21,860.	ppb	1.62	100000.	
59 Co	60.35	12.07	ppb	1.23	1000.	
60 Ni	86.5	17.3	ppb	2.01	1000.	
63 Cu	87.7	17.54	ppb	1.72	#VALUE!	
65 Cu	89.55	17.91	ppb	0.59	2000.	
66 Zn	361.45	72.29	ppb	0.17	2000.	
68 Zn	403.2	80.64	ppb	2.30	#VALUE!	
75 As	31.165	6.233	ppb	2.47	1000.	
82 Se	5.52	1.104	ppb	27.27	1000.	
88 Sr	295.2	59.04	ppb	0.63	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	10.4	2.08	ppb	2.23	1000.	
107 Ag	0.545	0.109	ppb	12.14	100.	
109 Ag	0.4932	0.0986	ppb	4.18	#VALUE!	
111 Cd	3.173	0.6346	ppb	8.60	#VALUE!	
114 Cd	1.8845	0.3769	ppb	3.02	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	41.545	8.309	ppb	0.55	1000.	
120 Sn	41.74	8.348	ppb	1.68	#VALUE!	
121 Sb	1.3185	0.2637	ppb	3.12	#VALUE!	
123 Sb	1.2935	0.2587	ppb	7.01	1000.	
135 Ba	1,496.5	299.3	ppb	1.59	2000.	
137 Ba	1,481.5	296.3	ppb	2.06	#VALUE!	
182 W	0.6735	0.1347	ppb	6.44	1000.	
203 Tl	2.466	0.4932	ppb	2.96	1000.	
205 Tl	2.29	0.458	ppb	2.73	#VALUE!	
208 Pb	141.95	28.39	ppb	1.20	2000.	
232 Th	84.15	16.83	ppb	1.54	1000.	
238 U	13.925	2.785	ppb	0.60	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2691193.50	0.90	2422125.80	111.1	69.5 - 120	
45 Sc	2174468.30	0.30	2037841.00	106.7	69.5 - 120	
72 Ge	448015.88	0.79	440652.41	101.7	69.5 - 120	
159 Tb	3726138.30	1.91	3649611.30	102.1	69.5 - 120	
209 Bi	1832963.50	1.51	1931866.90	94.9	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000231

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\113SMPL.D\113SMPL.D#
Date Acquired: May 17 2018 01:55 am
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3995-005
Misc Info:
Vial Number: 3203
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	5.785	1.157	ppb	3.60	100.	
11 B	75.2	15.04	ppb	2.28	1000.	
23 Na	3,587.5	717.5	ppb	1.30	200000.	
25 Mg	28,385.	5,677.	ppb	2.26	200000.	
27 Al	116,400.	23,280.	ppb	4.07	200000.	
28 Si	3,155.5	631.1	ppb	6.60	#VALUE!	
29 Si	2,799.	559.8	ppb	11.37	10000.	
39 K	37,110.	7,422.	ppb	2.26	200000.	
43 Ca	22,975.	4,595.	ppb	0.79	#VALUE!	
44 Ca	22,690.	4,538.	ppb	2.40	200000.	
51 V	238.7	47.74	ppb	2.00	1000.	
52 Cr	120.5	24.1	ppb	1.39	2000.	
53 Cr	132.9	26.58	ppb	4.18	#VALUE!	
55 Mn	3,518.5	703.7	ppb	2.33	2000.	
56 Fe	104,000.	20,800.	ppb	2.54	#VALUE!	
57 Fe	100,750.	20,150.	ppb	2.65	100000.	
59 Co	59.85	11.97	ppb	0.76	1000.	
60 Ni	90.2	18.04	ppb	2.48	1000.	
63 Cu	88.2	17.64	ppb	1.00	#VALUE!	
65 Cu	89.4	17.88	ppb	2.47	2000.	
66 Zn	338.25	67.65	ppb	2.29	2000.	
68 Zn	384.55	76.91	ppb	1.86	#VALUE!	
75 As	30.835	6.167	ppb	4.99	1000.	
82 Se	5.56	1.112	ppb	11.40	1000.	
88 Sr	313.9	62.78	ppb	1.72	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	14.55	2.91	ppb	3.39	1000.	
107 Ag	0.5945	0.1189	ppb	3.76	100.	
109 Ag	0.531	0.1062	ppb	4.65	#VALUE!	
111 Cd	3.6875	0.7375	ppb	7.85	#VALUE!	
114 Cd	1.8695	0.3739	ppb	4.55	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	40.47	8.094	ppb	1.47	1000.	
120 Sn	40.155	8.031	ppb	1.15	#VALUE!	
121 Sb	1.424	0.2848	ppb	7.61	#VALUE!	
123 Sb	1.385	0.277	ppb	2.39	1000.	
135 Ba	1,546.	309.2	ppb	1.24	2000.	
137 Ba	1,548.5	309.7	ppb	1.21	#VALUE!	
182 W	0.864	0.1728	ppb	8.95	1000.	
203 Tl	2.1635	0.4327	ppb	6.97	1000.	
205 Tl	2.1525	0.4305	ppb	3.09	#VALUE!	
208 Pb	130.45	26.09	ppb	1.68	2000.	
232 Th	83.5	16.7	ppb	1.93	1000.	
238 U	14.415	2.883	ppb	0.96	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2716152.00	1.44	2422125.80	112.1	69.5 - 120	
45 Sc	2177553.00	2.33	2037841.00	106.9	69.5 - 120	
72 Ge	447651.06	1.28	440652.41	101.6	69.5 - 120	
159 Tb	3700503.80	0.91	3649611.30	101.4	69.5 - 120	
209 Bi	1847217.30	1.41	1931866.90	95.6	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000232

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\114SMPL.D\114SMPL.D#
Date Acquired: May 17 2018 02:00 am
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3995-005L
Misc Info:
Vial Number: 3204
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: Sample
Dilution Factor: 25.00
Autodil Factor: Undiluted
Final Dil Factor: 25.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6.5	0.26	ppb	5.91	100.	
11 B	98.	3.92	ppb	2.65	1000.	
23 Na	3,972.5	158.9	ppb	1.41	200000.	
25 Mg	30,000.	1,200.	ppb	4.15	200000.	
27 Al	125,325.	5,013.	ppb	1.88	200000.	
28 Si	1,182.5	47.3	ppb	57.08	#VALUE!	
29 Si	-246.9	-9.876	ppb	243.82	10000.	
39 K	38,400.	1,536.	ppb	1.20	200000.	
43 Ca	24,755.	990.2	ppb	6.23	#VALUE!	
44 Ca	23,617.5	944.7	ppb	2.00	200000.	
51 V	252.	10.08	ppb	0.99	1000.	
52 Cr	124.775	4.991	ppb	1.63	2000.	
53 Cr	44.525	1.781	ppb	27.98	#VALUE!	
55 Mn	3,857.5	154.3	ppb	1.51	2000.	
56 Fe	110,725.	4,429.	ppb	2.00	#VALUE!	
57 Fe	111,650.	4,466.	ppb	2.76	100000.	
59 Co	63.45	2.538	ppb	1.37	1000.	
60 Ni	96.6	3.864	ppb	2.00	1000.	
63 Cu	94.625	3.785	ppb	1.15	#VALUE!	
65 Cu	97.675	3.907	ppb	2.40	2000.	
66 Zn	376.25	15.05	ppb	1.53	2000.	
68 Zn	416.	16.64	ppb	1.11	#VALUE!	
75 As	36.125	1.445	ppb	11.06	1000.	
82 Se	2.99	0.1196	ppb	122.83	1000.	
88 Sr	332.75	13.31	ppb	2.55	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	15.95	0.638	ppb	7.57	1000.	
107 Ag	0.5948	0.0238	ppb	12.60	100.	
109 Ag	0.546	0.0218	ppb	19.65	#VALUE!	
111 Cd	4.3875	0.1755	ppb	9.51	#VALUE!	
114 Cd	2.398	0.0959	ppb	6.98	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	40.9	1.636	ppb	2.20	1000.	
120 Sn	42.7	1.708	ppb	0.80	#VALUE!	
121 Sb	1.6043	0.0642	ppb	16.22	#VALUE!	
123 Sb	1.6485	0.0659	ppb	18.76	1000.	
135 Ba	1,636.	65.44	ppb	0.61	2000.	
137 Ba	1,619.	64.76	ppb	0.44	#VALUE!	
182 W	0.775	0.031	ppb	3.52	1000.	
203 Tl	1.611	0.0644	ppb	18.53	1000.	
205 Tl	1.566	0.0626	ppb	8.95	#VALUE!	
208 Pb	132.775	5.311	ppb	0.79	2000.	
232 Th	82.825	3.313	ppb	2.15	1000.	
238 U	14.63	0.5852	ppb	2.65	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2659467.30	3.30	2422125.80	109.8	69.5 - 120	
45 Sc	2156306.80	1.03	2037841.00	105.8	69.5 - 120	
72 Ge	445418.41	1.23	440652.41	101.1	69.5 - 120	
159 Tb	3674205.30	0.38	3649611.30	100.7	69.5 - 120	
209 Bi	1867053.10	1.44	1931866.90	96.6	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000233

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\115SMPL.D\115SMPL.D#
Date Acquired: May 17 2018 02:04 am
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3995-005A
Misc Info:
Vial Number: 3205
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	15.92	3.184	ppb	1.19	100.	
11 B	264.25	52.85	ppb	2.57	1000.	
23 Na	14,055.	2,811.	ppb	1.92	200000.	
25 Mg	30,210.	6,042.	ppb	0.06	200000.	
27 Al	120,500.	24,100.	ppb	1.28	200000.	
28 Si	8,495.	1,699.	ppb	0.73	#VALUE!	
29 Si	8,215.	1,643.	ppb	1.84	10000.	
39 K	47,835.	9,567.	ppb	0.59	200000.	
43 Ca	23,885.	4,777.	ppb	0.25	#VALUE!	
44 Ca	24,085.	4,817.	ppb	1.66	200000.	
51 V	293.35	58.67	ppb	0.37	1000.	
52 Cr	172.8	34.56	ppb	0.45	2000.	
53 Cr	194.5	38.9	ppb	1.17	#VALUE!	
55 Mn	3,596.5	719.3	ppb	0.94	2000.	
56 Fe	107,600.	21,520.	ppb	0.69	#VALUE!	
57 Fe	104,600.	20,920.	ppb	0.61	100000.	
59 Co	71.65	14.33	ppb	0.69	1000.	
60 Ni	112.05	22.41	ppb	1.57	1000.	
63 Cu	119.75	23.95	ppb	1.19	#VALUE!	
65 Cu	120.35	24.07	ppb	0.92	2000.	
66 Zn	443.4	88.68	ppb	0.54	2000.	
68 Zn	490.4	98.08	ppb	0.36	#VALUE!	
75 As	81.4	16.28	ppb	2.82	1000.	
82 Se	51.9	10.38	ppb	2.69	1000.	
88 Sr	374.2	74.84	ppb	0.86	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	62.4	12.48	ppb	0.57	1000.	
107 Ag	10.245	2.049	ppb	0.74	100.	
109 Ag	10.08	2.016	ppb	2.32	#VALUE!	
111 Cd	13.27	2.654	ppb	0.58	#VALUE!	
114 Cd	11.565	2.313	ppb	1.42	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	89.9	17.98	ppb	0.55	1000.	
120 Sn	90.4	18.08	ppb	0.81	#VALUE!	
121 Sb	11.33	2.266	ppb	1.92	#VALUE!	
123 Sb	11.665	2.333	ppb	1.32	1000.	
135 Ba	1,611.5	322.3	ppb	0.92	2000.	
137 Ba	1,600.5	320.1	ppb	0.74	#VALUE!	
182 W	50.4	10.08	ppb	0.52	1000.	
203 Tl	12.245	2.449	ppb	1.07	1000.	
205 Tl	12.31	2.462	ppb	0.41	#VALUE!	
208 Pb	143.8	28.76	ppb	0.07	2000.	
232 Th	97.15	19.43	ppb	0.50	1000.	
238 U	24.88	4.976	ppb	0.52	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2663809.00	0.43	2422125.80	110.0	69.5 - 120	
45 Sc	2171486.50	0.17	2037841.00	106.6	69.5 - 120	
72 Ge	443419.16	0.48	440652.41	100.6	69.5 - 120	
159 Tb	3678885.00	0.63	3649611.30	100.8	69.5 - 120	
209 Bi	1822942.50	0.12	1931866.90	94.4	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000234

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\116SMPL.D\116SMPL.D#
Date Acquired: May 17 2018 02:08 am
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3995-005S
Misc Info:
Vial Number: 3206
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	50.25	10.05	ppb	1.64	100.	
11 B	523.5	104.7	ppb	3.94	1000.	
23 Na	11,310.	2,262.	ppb	0.08	200000.	
25 Mg	34,235.	6,847.	ppb	1.62	200000.	
27 Al	136,650.	27,330.	ppb	2.07	200000.	
28 Si	3,902.5	780.5	ppb	1.27	#VALUE!	
29 Si	3,601.	720.2	ppb	1.73	10000.	
39 K	49,720.	9,944.	ppb	1.64	200000.	
43 Ca	27,500.	5,500.	ppb	1.50	#VALUE!	
44 Ca	27,425.	5,485.	ppb	0.62	200000.	
51 V	734.5	146.9	ppb	1.25	1000.	
52 Cr	307.6	61.52	ppb	1.12	2000.	
53 Cr	347.75	69.55	ppb	2.15	#VALUE!	
55 Mn	3,547.5	709.5	ppb	1.32	2000.	
56 Fe	104,650.	20,930.	ppb	1.17	#VALUE!	
57 Fe	100,950.	20,190.	ppb	1.91	100000.	
59 Co	525.	105.	ppb	2.15	1000.	
60 Ni	528.5	105.7	ppb	1.82	1000.	
63 Cu	310.8	62.16	ppb	0.69	#VALUE!	
65 Cu	311.4	62.28	ppb	0.93	2000.	
66 Zn	774.	154.8	ppb	0.49	2000.	
68 Zn	884.5	176.9	ppb	0.42	#VALUE!	
75 As	118.35	23.67	ppb	0.65	1000.	
82 Se	91.9	18.38	ppb	1.50	1000.	
88 Sr	813.	162.6	ppb	2.13	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	96.	19.2	ppb	1.30	1000.	
107 Ag	43.835	8.767	ppb	1.65	100.	
109 Ag	43.78	8.756	ppb	1.51	#VALUE!	
111 Cd	220.1	44.02	ppb	1.16	#VALUE!	
114 Cd	218.4	43.68	ppb	0.72	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	481.	96.2	ppb	0.31	1000.	
120 Sn	481.15	96.23	ppb	1.43	#VALUE!	
121 Sb	28.905	5.781	ppb	0.80	#VALUE!	
123 Sb	29.215	5.843	ppb	0.92	1000.	
135 Ba	3,564.	712.8	ppb	1.24	2000.	
137 Ba	3,590.5	718.1	ppb	0.73	#VALUE!	
182 W	47.025	9.405	ppb	1.57	1000.	
203 Tl	96.65	19.33	ppb	2.76	1000.	
205 Tl	95.3	19.06	ppb	1.15	#VALUE!	
208 Pb	220.5	44.1	ppb	1.94	2000.	
232 Th	168.75	33.75	ppb	1.82	1000.	
238 U	108.65	21.73	ppb	1.75	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2748218.50	1.68	2422125.80	113.5	69.5 - 120	
45 Sc	2185181.80	0.78	2037841.00	107.2	69.5 - 120	
72 Ge	448031.81	0.67	440652.41	101.7	69.5 - 120	
159 Tb	3663996.30	0.78	3649611.30	100.4	69.5 - 120	
209 Bi	1801301.90	2.40	1931866.90	93.2	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000235

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\117SMPL.D\117SMPL.D#
Date Acquired: May 17 2018 02:13 am
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3995-005P
Misc Info:
Vial Number: 3207
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	45.77	9.154	ppb	1.60	100.	
11 B	480.4	96.08	ppb	1.15	1000.	
23 Na	10,540.	2,108.	ppb	1.88	200000.	
25 Mg	32,315.	6,463.	ppb	1.96	200000.	
27 Al	127,700.	25,540.	ppb	1.73	200000.	
28 Si	3,542.5	708.5	ppb	2.96	#VALUE!	
29 Si	3,147.5	629.5	ppb	5.76	10000.	
39 K	45,115.	9,023.	ppb	1.68	200000.	
43 Ca	25,015.	5,003.	ppb	1.65	#VALUE!	
44 Ca	24,520.	4,904.	ppb	2.02	200000.	
51 V	685.5	137.1	ppb	2.43	1000.	
52 Cr	287.1	57.42	ppb	0.86	2000.	
53 Cr	315.3	63.06	ppb	0.91	#VALUE!	
55 Mn	3,577.	715.4	ppb	0.56	2000.	
56 Fe	102,200.	20,440.	ppb	1.46	#VALUE!	
57 Fe	99,150.	19,830.	ppb	1.63	100000.	
59 Co	484.2	96.84	ppb	2.21	1000.	
60 Ni	497.05	99.41	ppb	1.59	1000.	
63 Cu	288.85	57.77	ppb	0.59	#VALUE!	
65 Cu	289.75	57.95	ppb	1.53	2000.	
66 Zn	728.5	145.7	ppb	1.54	2000.	
68 Zn	834.5	166.9	ppb	0.82	#VALUE!	
75 As	111.55	22.31	ppb	1.89	1000.	
82 Se	82.75	16.55	ppb	0.88	1000.	
88 Sr	732.	146.4	ppb	0.54	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	88.7	17.74	ppb	0.63	1000.	
107 Ag	41.2	8.24	ppb	2.50	100.	
109 Ag	40.97	8.194	ppb	2.07	#VALUE!	
111 Cd	203.3	40.66	ppb	0.66	#VALUE!	
114 Cd	201.95	40.39	ppb	1.00	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	438.45	87.69	ppb	0.89	1000.	
120 Sn	438.4	87.68	ppb	0.80	#VALUE!	
121 Sb	27.325	5.465	ppb	1.97	#VALUE!	
123 Sb	27.565	5.513	ppb	1.21	1000.	
135 Ba	3,301.	660.2	ppb	1.12	2000.	
137 Ba	3,365.	673.	ppb	0.97	#VALUE!	
182 W	42.405	8.481	ppb	1.13	1000.	
203 Tl	87.95	17.59	ppb	1.10	1000.	
205 Tl	87.1	17.42	ppb	1.09	#VALUE!	
208 Pb	206.25	41.25	ppb	0.91	2000.	
232 Th	159.8	31.96	ppb	1.28	1000.	
238 U	99.1	19.82	ppb	0.83	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2716808.80	2.30	2422125.80	112.2	69.5 - 120	
45 Sc	2183720.00	1.22	2037841.00	107.2	69.5 - 120	
72 Ge	442539.25	0.61	440652.41	100.4	69.5 - 120	
159 Tb	3683247.00	0.44	3649611.30	100.9	69.5 - 120	
209 Bi	1817427.30	0.73	1931866.90	94.1	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000236

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\118SMPL.D\118SMPL.D#
Date Acquired: May 17 2018 02:17 am
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: RINSE
Misc Info:
Vial Number: 3208
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0027	0.0027	ppb	41.88	100.	
11 B	4.534	4.534	ppb	18.62	1000.	
23 Na	31.1	31.1	ppb	4.50	200000.	
25 Mg	3.008	3.008	ppb	4.00	200000.	
27 Al	36.73	36.73	ppb	2.02	200000.	
28 Si	-25.4	-25.4	ppb	103.39	#VALUE!	
29 Si	-111.4	-111.4	ppb	18.70	10000.	LOW
39 K	-3.723	-3.723	ppb	57.45	200000.	
43 Ca	45.16	45.16	ppb	5.27	#VALUE!	
44 Ca	35.96	35.96	ppb	8.06	200000.	
51 V	-0.0605	-0.0605	ppb	54.97	1000.	
52 Cr	-0.0617	-0.0617	ppb	32.80	2000.	
53 Cr	-5.185	-5.185	ppb	0.37	#VALUE!	
55 Mn	0.1292	0.1292	ppb	3.11	2000.	
56 Fe	-9.891	-9.891	ppb	20.38	#VALUE!	
57 Fe	4.034	4.034	ppb	38.25	100000.	
59 Co	0.0042	0.0042	ppb	113.04	1000.	
60 Ni	0.0153	0.0153	ppb	58.93	1000.	
63 Cu	0.285	0.285	ppb	8.25	#VALUE!	
65 Cu	0.3288	0.3288	ppb	10.09	2000.	
66 Zn	0.775	0.775	ppb	11.65	2000.	
68 Zn	0.7215	0.7215	ppb	19.39	#VALUE!	
75 As	-0.0715	-0.0715	ppb	88.02	1000.	
82 Se	0.112	0.112	ppb	263.13	1000.	
88 Sr	0.0734	0.0734	ppb	6.50	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	0.0561	0.0561	ppb	23.03	1000.	
107 Ag	0.0022	0.0022	ppb	71.14	100.	
109 Ag	0.0002	0.0002	ppb	830.74	#VALUE!	
111 Cd	0.0164	0.0164	ppb	126.92	#VALUE!	
114 Cd	0.0043	0.0043	ppb	88.71	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	0.0757	0.0757	ppb	6.08	1000.	
120 Sn	0.0421	0.0421	ppb	34.28	#VALUE!	
121 Sb	0.0035	0.0035	ppb	72.73	#VALUE!	
123 Sb	0.0003	0.0003	ppb	445.80	1000.	
135 Ba	0.1211	0.1211	ppb	10.33	2000.	
137 Ba	0.1254	0.1254	ppb	19.28	#VALUE!	
182 W	0.01	0.01	ppb	100.90	1000.	
203 Tl	-0.0303	-0.0303	ppb	24.84	1000.	
205 Tl	-0.0282	-0.0282	ppb	4.58	#VALUE!	
208 Pb	0.0561	0.0561	ppb	35.50	2000.	
232 Th	0.0367	0.0367	ppb	37.94	1000.	
238 U	0.002	0.002	ppb	17.18	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2627824.80	0.81	2422125.80	108.5	69.5 - 120	
45 Sc	2113154.00	0.88	2037841.00	103.7	69.5 - 120	
72 Ge	441904.88	0.84	440652.41	100.3	69.5 - 120	
159 Tb	3549354.50	1.27	3649611.30	97.3	69.5 - 120	
209 Bi	1818156.30	0.88	1931866.90	94.1	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Katahdin Analytical Services 4000237

CCV QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\119_CCV.D\119_CCV.D#
Date Acquired: May 17 2018 02:21 am
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: CCV
Misc Info:
Vial Number: 1306
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Dilution Factor: 1.00
QC Range (%): 89.5 - 110.5

QC Elements

Element	Conc.		RSD(%)	Expected	Rec (%)	Flag
9 Be	23.93	ppb	2.28	25	95.72	
11 B	24.38	ppb	3.32	25	97.52	
23 Na	5,170.	ppb	0.97	5,000	103.4	
25 Mg	5,150.	ppb	2.12	5,000	103	
27 Al	503.4	ppb	0.84	500	100.68	
28 Si	434.8	ppb	5.26	500	86.96	
29 Si	379.2	ppb	5.88	500	75.84	Fail
39 K	5,008.	ppb	1.07	5,000	100.16	
43 Ca	4,898.	ppb	1.01	5,000	97.96	
44 Ca	5,009.	ppb	1.32	5,000	100.18	
51 V	24.33	ppb	1.37	25	97.32	
52 Cr	24.26	ppb	0.75	25	97.04	
53 Cr	22.8	ppb	2.43	25	91.2	
55 Mn	24.47	ppb	0.37	25	97.88	
56 Fe	4,874.	ppb	1.69	5,000	97.48	
57 Fe	4,932.	ppb	1.97	5,000	98.64	
59 Co	24.51	ppb	1.61	25	98.04	
60 Ni	24.63	ppb	1.77	25	98.52	
63 Cu	24.87	ppb	0.79	25	99.48	
65 Cu	24.75	ppb	1.75	25	99	
66 Zn	24.94	ppb	1.23	25	99.76	
68 Zn	24.57	ppb	0.82	25	98.28	
75 As	24.59	ppb	1.36	25	98.36	
82 Se	24.21	ppb	2.43	25	96.84	
88 Sr	23.27	ppb	0.80	25	93.08	
89 Y	--------	---	--------	---	#VALUE!	
98 Mo	23.32	ppb	1.19	25	93.28	
107 Ag	23.57	ppb	0.97	25	94.28	
109 Ag	23.72	ppb	0.29	25	94.88	
111 Cd	23.65	ppb	1.07	25	94.6	
114 Cd	23.59	ppb	1.39	25	94.36	
115 In	--------	---	--------	---	#VALUE!	
118 Sn	24.57	ppb	1.58	25	98.28	
120 Sn	24.7	ppb	0.56	25	98.8	
121 Sb	25.21	ppb	0.50	25	100.84	
123 Sb	25.25	ppb	0.61	25	101	
135 Ba	25.52	ppb	0.61	25	102.08	
137 Ba	25.47	ppb	0.84	25	101.88	
182 W	23.65	ppb	0.60	25	94.6	
203 Tl	23.96	ppb	1.36	25	95.84	
205 Tl	23.82	ppb	0.94	25	95.28	
208 Pb	23.97	ppb	0.90	25	95.88	
232 Th	24.01	ppb	0.99	25	96.04	
238 U	23.96	ppb	0.44	25	95.84	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2697086.30	1.34	2422125.80	111.4	80 - 120.4	
45 Sc	2177115.80	0.93	2037841.00	106.8	80 - 120.4	
72 Ge	444102.25	1.12	440652.41	100.8	80 - 120.4	
159 Tb	3600632.80	0.30	3649611.30	98.7	80 - 120.4	
209 Bi	1831490.10	0.55	1931866.90	94.8	80 - 120.4	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Katahdin Analytical Services 4000238

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\120_CCB.D\120_CCB.D#
Date Acquired: May 17 2018 02:25 am
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: CCB
Misc Info:
Vial Number: 1307
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: 6-CCB
Dilution Factor: 1.00

QC Elements

Element	Conc.		RSD(%)	High Limit	Flag
9 Be	0.0021	ppb	186.34	1.00	
11 B	2.074	ppb	8.76	1.00	
23 Na	1.197	ppb	91.73	1.00	
25 Mg	0.702	ppb	131.14	1.00	
27 Al	0.8043	ppb	157.16	1.00	
28 Si	-45.5	ppb	104.64	1.00	
29 Si	-112.8	ppb	33.93	1.00	
39 K	-7.689	ppb	65.30	1.00	
43 Ca	0.5288	ppb	868.19	1.00	
44 Ca	-1.833	ppb	46.03	1.00	
51 V	-0.097	ppb	96.52	1.00	
52 Cr	-0.1214	ppb	19.12	1.00	
53 Cr	-3.616	ppb	3.34	1.00	
55 Mn	0.0161	ppb	286.98	1.00	
56 Fe	-10.35	ppb	54.16	1.00	
57 Fe	2.814	ppb	45.13	1.00	
59 Co	0.0019	ppb	558.43	1.00	
60 Ni	0.0044	ppb	173.65	1.00	
63 Cu	-0.0045	ppb	447.22	1.00	
65 Cu	-0.0108	ppb	148.61	1.00	
66 Zn	0.0379	ppb	33.85	1.00	
68 Zn	-0.0149	ppb	328.27	1.00	
75 As	-0.1444	ppb	16.77	1.00	
82 Se	0.1049	ppb	163.20	1.00	
88 Sr	0.0046	ppb	154.72	1.00	
89 Y	--------	---	--------	---	
98 Mo	0.0221	ppb	45.97	1.00	
107 Ag	0.0015	ppb	366.58	1.00	
109 Ag	0.0011	ppb	247.95	1.00	
111 Cd	0.0175	ppb	15.68	1.00	
114 Cd	0.0038	ppb	90.01	1.00	
115 In	--------	---	--------	---	
118 Sn	0.0407	ppb	37.48	1.00	
120 Sn	0.0096	ppb	247.95	1.00	
121 Sb	0.0115	ppb	36.69	1.00	
123 Sb	0.0067	ppb	97.50	1.00	
135 Ba	0.0309	ppb	141.08	1.00	
137 Ba	0.0303	ppb	143.24	1.00	
182 W	0.0535	ppb	36.19	1.00	
203 Tl	-0.0187	ppb	24.75	1.00	
205 Tl	-0.0322	ppb	4.76	1.00	
208 Pb	-0.0991	ppb	10.59	1.00	
232 Th	0.0593	ppb	33.60	1.00	
238 U	0.0045	ppb	82.33	1.00	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2662491.80	0.96	2422125.80	109.9	79.5 - 120	
45 Sc	2148491.80	3.01	2037841.00	105.4	79.5 - 120	
72 Ge	441399.09	2.90	440652.41	100.2	79.5 - 120	
159 Tb	3529124.50	3.12	3649611.30	96.7	79.5 - 120	
209 Bi	1802016.30	3.08	1931866.90	93.3	79.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000239

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\121SMPL.D\121SMPL.D#
Date Acquired: May 17 2018 02:30 am
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3995-006
Misc Info:
Vial Number: 3209
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6.625	1.325	ppb	1.32	100.	
11 B	84.55	16.91	ppb	4.97	1000.	
23 Na	1,231.	246.2	ppb	3.30	200000.	
25 Mg	33,750.	6,750.	ppb	0.41	200000.	
27 Al	142,200.	28,440.	ppb	1.20	200000.	
28 Si	3,098.5	619.7	ppb	4.20	#VALUE!	
29 Si	2,716.5	543.3	ppb	2.19	10000.	
39 K	41,245.	8,249.	ppb	1.32	200000.	
43 Ca	31,070.	6,214.	ppb	2.41	#VALUE!	
44 Ca	30,590.	6,118.	ppb	0.32	200000.	
51 V	245.8	49.16	ppb	0.30	1000.	
52 Cr	128.	25.6	ppb	0.32	2000.	
53 Cr	147.45	29.49	ppb	0.89	#VALUE!	
55 Mn	3,969.	793.8	ppb	1.51	2000.	
56 Fe	116,850.	23,370.	ppb	1.36	#VALUE!	
57 Fe	112,150.	22,430.	ppb	0.96	100000.	
59 Co	55.95	11.19	ppb	1.84	1000.	
60 Ni	96.15	19.23	ppb	0.58	1000.	
63 Cu	94.2	18.84	ppb	0.56	#VALUE!	
65 Cu	96.15	19.23	ppb	0.86	2000.	
66 Zn	410.25	82.05	ppb	0.63	2000.	
68 Zn	451.5	90.3	ppb	0.40	#VALUE!	
75 As	28.73	5.746	ppb	3.04	1000.	
82 Se	5.58	1.116	ppb	22.10	1000.	
88 Sr	340.8	68.16	ppb	3.00	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	8.965	1.793	ppb	3.94	1000.	
107 Ag	0.581	0.1162	ppb	11.39	100.	
109 Ag	0.4817	0.0963	ppb	9.58	#VALUE!	
111 Cd	4.029	0.8058	ppb	9.21	#VALUE!	
114 Cd	1.914	0.3828	ppb	3.04	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	44.435	8.887	ppb	0.67	1000.	
120 Sn	43.825	8.765	ppb	3.15	#VALUE!	
121 Sb	1.284	0.2568	ppb	4.64	#VALUE!	
123 Sb	1.2305	0.2461	ppb	3.03	1000.	
135 Ba	1,540.	308.	ppb	1.51	2000.	
137 Ba	1,528.5	305.7	ppb	0.82	#VALUE!	
182 W	0.8425	0.1685	ppb	8.71	1000.	
203 Tl	2.3585	0.4717	ppb	1.36	1000.	
205 Tl	2.2525	0.4505	ppb	3.74	#VALUE!	
208 Pb	120.3	24.06	ppb	1.15	2000.	
232 Th	78.4	15.68	ppb	1.19	1000.	
238 U	20.465	4.093	ppb	1.47	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2716290.30	2.41	2422125.80	112.1	69.5 - 120	
45 Sc	2187640.30	0.84	2037841.00	107.4	69.5 - 120	
72 Ge	452804.78	0.68	440652.41	102.8	69.5 - 120	
159 Tb	3618852.00	1.31	3649611.30	99.2	69.5 - 120	
209 Bi	1796395.00	0.81	1931866.90	93.0	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000240

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\122SMPL.D\122SMPL.D#
Date Acquired: May 17 2018 02:34 am
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3995-007
Misc Info:
Vial Number: 3210
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	10.37	2.074	ppb	1.10	100.	
11 B	177.85	35.57	ppb	5.60	1000.	
23 Na	2,217.	443.4	ppb	0.62	200000.	
25 Mg	59,700.	11,940.	ppb	0.96	200000.	
27 Al	238,950.	47,790.	ppb	1.07	200000.	
28 Si	2,859.	571.8	ppb	0.60	#VALUE!	
29 Si	2,473.5	494.7	ppb	1.58	10000.	
39 K	73,900.	14,780.	ppb	0.74	200000.	
43 Ca	27,660.	5,532.	ppb	1.18	#VALUE!	
44 Ca	27,530.	5,506.	ppb	0.36	200000.	
51 V	338.75	67.75	ppb	0.55	1000.	
52 Cr	193.1	38.62	ppb	0.40	2000.	
53 Cr	223.2	44.64	ppb	1.28	#VALUE!	
55 Mn	3,233.5	646.7	ppb	0.49	2000.	
56 Fe	181,950.	36,390.	ppb	1.60	#VALUE!	
57 Fe	173,100.	34,620.	ppb	0.78	100000.	
59 Co	69.55	13.91	ppb	1.72	1000.	
60 Ni	155.3	31.06	ppb	0.72	1000.	
63 Cu	113.9	22.78	ppb	0.53	#VALUE!	
65 Cu	115.75	23.15	ppb	0.87	2000.	
66 Zn	516.5	103.3	ppb	1.37	2000.	
68 Zn	597.	119.4	ppb	0.67	#VALUE!	
75 As	46.065	9.213	ppb	0.35	1000.	
82 Se	3.83	0.766	ppb	20.82	1000.	
88 Sr	533.	106.6	ppb	1.89	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	13.635	2.727	ppb	2.51	1000.	
107 Ag	0.9225	0.1845	ppb	0.87	100.	
109 Ag	0.756	0.1512	ppb	4.88	#VALUE!	
111 Cd	3.6595	0.7319	ppb	3.22	#VALUE!	
114 Cd	1.0695	0.2139	ppb	3.98	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	48.055	9.611	ppb	0.91	1000.	
120 Sn	48.055	9.611	ppb	1.55	#VALUE!	
121 Sb	2.204	0.4408	ppb	0.80	#VALUE!	
123 Sb	2.2235	0.4447	ppb	1.97	1000.	
135 Ba	2,670.5	534.1	ppb	1.21	2000.	
137 Ba	2,713.	542.6	ppb	0.34	#VALUE!	
182 W	0.71	0.142	ppb	11.06	1000.	
203 Tl	3.166	0.6332	ppb	5.13	1000.	
205 Tl	3.1625	0.6325	ppb	2.81	#VALUE!	
208 Pb	121.1	24.22	ppb	0.24	2000.	
232 Th	86.8	17.36	ppb	0.50	1000.	
238 U	12.3	2.46	ppb	1.92	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2687977.30	1.89	2422125.80	111.0	69.5 - 120	
45 Sc	2245880.30	0.67	2037841.00	110.2	69.5 - 120	
72 Ge	456242.66	0.74	440652.41	103.5	69.5 - 120	
159 Tb	3647930.30	0.78	3649611.30	100.0	69.5 - 120	
209 Bi	1745553.10	0.06	1931866.90	90.4	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000241

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\123SMPL.D\123SMPL.D#
Date Acquired: May 17 2018 02:38 am
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3995-008
Misc Info:
Vial Number: 3211
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	7.725	1.545	ppb	1.04	100.	
11 B	128.15	25.63	ppb	3.01	1000.	
23 Na	20,625.	4,125.	ppb	1.96	200000.	
25 Mg	55,950.	11,190.	ppb	1.02	200000.	
27 Al	179,450.	35,890.	ppb	0.76	200000.	
28 Si	3,577.5	715.5	ppb	2.80	#VALUE!	
29 Si	3,307.5	661.5	ppb	1.87	10000.	
39 K	45,095.	9,019.	ppb	0.28	200000.	
43 Ca	270,450.	54,090.	ppb	2.97	#VALUE!	
44 Ca	255,750.	51,150.	ppb	0.63	200000.	
51 V	352.85	70.57	ppb	0.74	1000.	
52 Cr	164.7	32.94	ppb	0.37	2000.	
53 Cr	185.55	37.11	ppb	1.02	#VALUE!	
55 Mn	1,224.5	244.9	ppb	1.31	2000.	
56 Fe	147,500.	29,500.	ppb	1.40	#VALUE!	
57 Fe	142,050.	28,410.	ppb	0.55	100000.	
59 Co	64.1	12.82	ppb	0.64	1000.	
60 Ni	133.	26.6	ppb	1.09	1000.	
63 Cu	124.35	24.87	ppb	0.91	#VALUE!	
65 Cu	126.45	25.29	ppb	0.75	2000.	
66 Zn	414.05	82.81	ppb	0.11	2000.	
68 Zn	443.	88.6	ppb	0.87	#VALUE!	
75 As	55.55	11.11	ppb	3.78	1000.	
82 Se	4.432	0.8864	ppb	44.70	1000.	
88 Sr	598.	119.6	ppb	1.04	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	6.555	1.311	ppb	1.61	1000.	
107 Ag	0.7245	0.1449	ppb	6.98	100.	
109 Ag	0.5515	0.1103	ppb	8.05	#VALUE!	
111 Cd	2.869	0.5738	ppb	8.41	#VALUE!	
114 Cd	0.282	0.0564	ppb	51.16	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	46.52	9.304	ppb	0.95	1000.	
120 Sn	46.285	9.257	ppb	2.08	#VALUE!	
121 Sb	2.045	0.409	ppb	2.53	#VALUE!	
123 Sb	2.212	0.4424	ppb	5.07	1000.	
135 Ba	1,220.	244.	ppb	1.54	2000.	
137 Ba	1,211.	242.2	ppb	1.13	#VALUE!	
182 W	0.5755	0.1151	ppb	9.75	1000.	
203 Tl	2.496	0.4992	ppb	6.50	1000.	
205 Tl	2.518	0.5036	ppb	1.63	#VALUE!	
208 Pb	99.05	19.81	ppb	0.90	2000.	
232 Th	72.9	14.58	ppb	0.39	1000.	
238 U	17.66	3.532	ppb	0.92	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2718858.30	1.34	2422125.80	112.3	69.5 - 120	
45 Sc	2191140.00	0.62	2037841.00	107.5	69.5 - 120	
72 Ge	447590.13	0.49	440652.41	101.6	69.5 - 120	
159 Tb	3691565.80	2.13	3649611.30	101.1	69.5 - 120	
209 Bi	1814391.00	1.72	1931866.90	93.9	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000242

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\124SMPL.D\124SMPL.D#
Date Acquired: May 17 2018 02:43 am
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3995-009
Misc Info:
Vial Number: 3212
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	10.505	2.101	ppb	3.38	100.	
11 B	157.65	31.53	ppb	5.39	1000.	
23 Na	21,455.	4,291.	ppb	1.59	200000.	
25 Mg	84,450.	16,890.	ppb	1.84	200000.	
27 Al	239,050.	47,810.	ppb	2.05	200000.	
28 Si	3,706.5	741.3	ppb	3.79	#VALUE!	
29 Si	3,483.	696.6	ppb	3.49	10000.	
39 K	59,050.	11,810.	ppb	0.88	200000.	
43 Ca	538,500.	107,700.	ppb	0.54	#VALUE!	
44 Ca	506,000.	101,200.	ppb	0.62	200000.	
51 V	552.5	110.5	ppb	1.36	1000.	
52 Cr	230.35	46.07	ppb	1.08	2000.	
53 Cr	244.55	48.91	ppb	1.02	#VALUE!	
55 Mn	2,816.5	563.3	ppb	0.55	2000.	
56 Fe	220,900.	44,180.	ppb	0.67	#VALUE!	
57 Fe	212,350.	42,470.	ppb	0.61	100000.	
59 Co	62.15	12.43	ppb	0.80	1000.	
60 Ni	187.05	37.41	ppb	1.36	1000.	
63 Cu	160.95	32.19	ppb	1.09	#VALUE!	
65 Cu	161.1	32.22	ppb	2.06	2000.	
66 Zn	567.	113.4	ppb	1.72	2000.	
68 Zn	618.5	123.7	ppb	2.90	#VALUE!	
75 As	94.2	18.84	ppb	2.33	1000.	
82 Se	4.9065	0.9813	ppb	15.99	1000.	
88 Sr	1,290.	258.	ppb	0.11	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	5.98	1.196	ppb	2.95	1000.	
107 Ag	0.7875	0.1575	ppb	3.42	100.	
109 Ag	0.619	0.1238	ppb	3.52	#VALUE!	
111 Cd	4.725	0.945	ppb	9.20	#VALUE!	
114 Cd	1.312	0.2624	ppb	6.07	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	46.955	9.391	ppb	1.61	1000.	
120 Sn	47.705	9.541	ppb	3.13	#VALUE!	
121 Sb	2.6735	0.5347	ppb	3.01	#VALUE!	
123 Sb	2.6835	0.5367	ppb	4.19	1000.	
135 Ba	2,209.5	441.9	ppb	1.91	2000.	
137 Ba	2,204.5	440.9	ppb	2.69	#VALUE!	
182 W	0.7645	0.1529	ppb	8.50	1000.	
203 Tl	3.3555	0.6711	ppb	2.69	1000.	
205 Tl	3.3155	0.6631	ppb	3.69	#VALUE!	
208 Pb	145.	29.	ppb	1.41	2000.	
232 Th	96.6	19.32	ppb	2.34	1000.	
238 U	19.255	3.851	ppb	0.50	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2614479.30	2.77	2422125.80	107.9	69.5 - 120	
45 Sc	2131967.80	1.11	2037841.00	104.6	69.5 - 120	
72 Ge	433700.56	0.39	440652.41	98.4	69.5 - 120	
159 Tb	3638709.50	2.26	3649611.30	99.7	69.5 - 120	
209 Bi	1786031.40	2.35	1931866.90	92.5	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000243

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\125SMPL.D\125SMPL.D#
Date Acquired: May 17 2018 02:47 am
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3995-010
Misc Info:
Vial Number: 3301
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	11.935	2.387	ppb	2.24	100.	
11 B	151.45	30.29	ppb	4.04	1000.	
23 Na	26,035.	5,207.	ppb	2.36	200000.	
25 Mg	109,700.	21,940.	ppb	1.11	200000.	
27 Al	258,850.	51,770.	ppb	1.58	200000.	
28 Si	3,192.	638.4	ppb	5.04	#VALUE!	
29 Si	2,937.	587.4	ppb	5.75	10000.	
39 K	63,000.	12,600.	ppb	2.13	200000.	
43 Ca	491,150.	98,230.	ppb	1.91	#VALUE!	
44 Ca	456,950.	91,390.	ppb	2.04	200000.	
51 V	598.	119.6	ppb	0.48	1000.	
52 Cr	240.9	48.18	ppb	0.45	2000.	
53 Cr	258.6	51.72	ppb	1.63	#VALUE!	
55 Mn	7,410.	1,482.	ppb	0.56	2000.	
56 Fe	241,500.	48,300.	ppb	1.16	#VALUE!	
57 Fe	230,250.	46,050.	ppb	0.63	100000.	
59 Co	153.95	30.79	ppb	0.33	1000.	
60 Ni	367.	73.4	ppb	0.27	1000.	
63 Cu	199.4	39.88	ppb	0.19	#VALUE!	
65 Cu	200.25	40.05	ppb	0.90	2000.	
66 Zn	613.	122.6	ppb	0.57	2000.	
68 Zn	737.	147.4	ppb	0.44	#VALUE!	
75 As	112.1	22.42	ppb	1.39	1000.	
82 Se	5.93	1.186	ppb	5.99	1000.	
88 Sr	1,040.	208.	ppb	1.00	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	11.61	2.322	ppb	0.50	1000.	
107 Ag	0.8855	0.1771	ppb	6.79	100.	
109 Ag	0.6835	0.1367	ppb	7.10	#VALUE!	
111 Cd	5.235	1.047	ppb	5.03	#VALUE!	
114 Cd	1.6905	0.3381	ppb	4.50	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	47.17	9.434	ppb	0.86	1000.	
120 Sn	48.135	9.627	ppb	1.13	#VALUE!	
121 Sb	3.95	0.79	ppb	3.37	#VALUE!	
123 Sb	4.1475	0.8295	ppb	1.96	1000.	
135 Ba	4,025.5	805.1	ppb	0.45	2000.	
137 Ba	4,043.	808.6	ppb	0.67	#VALUE!	
182 W	1.292	0.2584	ppb	5.73	1000.	
203 Tl	4.556	0.9112	ppb	2.82	1000.	
205 Tl	4.516	0.9032	ppb	1.55	#VALUE!	
208 Pb	190.05	38.01	ppb	0.66	2000.	
232 Th	112.7	22.54	ppb	0.53	1000.	
238 U	19.57	3.914	ppb	1.33	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2618458.50	3.44	2422125.80	108.1	69.5 - 120	
45 Sc	2172166.30	1.30	2037841.00	106.6	69.5 - 120	
72 Ge	435227.53	0.71	440652.41	98.8	69.5 - 120	
159 Tb	3650888.30	0.44	3649611.30	100.0	69.5 - 120	
209 Bi	1767529.40	0.58	1931866.90	91.5	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000244

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\126SMPL.D\126SMPL.D#
Date Acquired: May 17 2018 02:52 am
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3995-011
Misc Info:
Vial Number: 3302
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6.86	1.372	ppb	2.69	100.	
11 B	98.4	19.68	ppb	1.99	1000.	
23 Na	13,370.	2,674.	ppb	1.25	200000.	
25 Mg	64,850.	12,970.	ppb	1.19	200000.	
27 Al	157,150.	31,430.	ppb	0.32	200000.	
28 Si	3,553.	710.6	ppb	0.58	#VALUE!	
29 Si	3,224.5	644.9	ppb	0.67	10000.	
39 K	38,180.	7,636.	ppb	0.48	200000.	
43 Ca	122,950.	24,590.	ppb	1.38	#VALUE!	
44 Ca	120,150.	24,030.	ppb	0.71	200000.	
51 V	295.45	59.09	ppb	1.52	1000.	
52 Cr	151.	30.2	ppb	1.37	2000.	
53 Cr	179.4	35.88	ppb	4.04	#VALUE!	
55 Mn	4,022.5	804.5	ppb	0.67	2000.	
56 Fe	148,250.	29,650.	ppb	1.35	#VALUE!	
57 Fe	141,850.	28,370.	ppb	1.16	100000.	
59 Co	61.65	12.33	ppb	1.85	1000.	
60 Ni	130.	26.	ppb	0.77	1000.	
63 Cu	100.95	20.19	ppb	0.84	#VALUE!	
65 Cu	100.1	20.02	ppb	2.23	2000.	
66 Zn	369.75	73.95	ppb	1.34	2000.	
68 Zn	428.8	85.76	ppb	1.54	#VALUE!	
75 As	41.275	8.255	ppb	1.77	1000.	
82 Se	1.957	0.3914	ppb	26.93	1000.	
88 Sr	442.6	88.52	ppb	1.04	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	5.305	1.061	ppb	2.84	1000.	
107 Ag	0.6135	0.1227	ppb	2.99	100.	
109 Ag	0.519	0.1038	ppb	3.91	#VALUE!	
111 Cd	2.6475	0.5295	ppb	9.55	#VALUE!	
114 Cd	0.4522	0.0904	ppb	18.69	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	44.975	8.995	ppb	0.40	1000.	
120 Sn	45.425	9.085	ppb	0.55	#VALUE!	
121 Sb	1.6725	0.3345	ppb	2.86	#VALUE!	
123 Sb	1.7225	0.3445	ppb	8.05	1000.	
135 Ba	1,926.	385.2	ppb	0.45	2000.	
137 Ba	1,910.5	382.1	ppb	0.47	#VALUE!	
182 W	0.584	0.1168	ppb	6.69	1000.	
203 Tl	2.364	0.4728	ppb	0.34	1000.	
205 Tl	2.386	0.4772	ppb	2.94	#VALUE!	
208 Pb	89.5	17.9	ppb	0.98	2000.	
232 Th	66.5	13.3	ppb	2.04	1000.	
238 U	9.86	1.972	ppb	0.90	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2687102.30	3.20	2422125.80	110.9	69.5 - 120	
45 Sc	2161146.00	0.64	2037841.00	106.1	69.5 - 120	
72 Ge	445107.44	0.84	440652.41	101.0	69.5 - 120	
159 Tb	3640144.00	0.60	3649611.30	99.7	69.5 - 120	
209 Bi	1773968.30	1.36	1931866.90	91.8	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000245

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\127SMPL.D\127SMPL.D#
Date Acquired: May 17 2018 02:56 am
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3995-012
Misc Info:
Vial Number: 3303
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	11.18	2.236	ppb	1.96	100.	
11 B	173.85	34.77	ppb	2.53	1000.	
23 Na	3,576.	715.2	ppb	2.63	200000.	
25 Mg	122,250.	24,450.	ppb	1.90	200000.	
27 Al	259,050.	51,810.	ppb	0.92	200000.	
28 Si	4,171.5	834.3	ppb	6.80	#VALUE!	
29 Si	3,704.5	740.9	ppb	1.73	10000.	
39 K	64,100.	12,820.	ppb	2.32	200000.	
43 Ca	492,800.	98,560.	ppb	0.98	#VALUE!	
44 Ca	464,650.	92,930.	ppb	1.34	200000.	
51 V	492.85	98.57	ppb	0.22	1000.	
52 Cr	242.	48.4	ppb	0.97	2000.	
53 Cr	253.15	50.63	ppb	1.71	#VALUE!	
55 Mn	2,822.5	564.5	ppb	1.50	2000.	
56 Fe	231,500.	46,300.	ppb	1.25	#VALUE!	
57 Fe	221,900.	44,380.	ppb	1.36	100000.	
59 Co	68.55	13.71	ppb	1.45	1000.	
60 Ni	154.	30.8	ppb	0.86	1000.	
63 Cu	148.05	29.61	ppb	0.50	#VALUE!	
65 Cu	151.85	30.37	ppb	0.56	2000.	
66 Zn	588.	117.6	ppb	1.26	2000.	
68 Zn	746.	149.2	ppb	0.79	#VALUE!	
75 As	47.735	9.547	ppb	4.33	1000.	
82 Se	3.2265	0.6453	ppb	28.36	1000.	
88 Sr	1,333.5	266.7	ppb	1.32	2000.	
89 Y	----	--------	---	---	#VALUE!	
98 Mo	5.505	1.101	ppb	3.33	1000.	
107 Ag	1.0085	0.2017	ppb	1.90	100.	
109 Ag	0.7985	0.1597	ppb	2.76	#VALUE!	
111 Cd	3.615	0.723	ppb	2.77	#VALUE!	
114 Cd	-0.0045	-0.0009	ppb	4098.10	1000.	
115 In	----	--------	---	---	#VALUE!	
118 Sn	47.515	9.503	ppb	1.62	1000.	
120 Sn	47.065	9.413	ppb	0.74	#VALUE!	
121 Sb	2.314	0.4628	ppb	5.25	#VALUE!	
123 Sb	2.253	0.4506	ppb	6.37	1000.	
135 Ba	5,040.	1,008.	ppb	1.91	2000.	
137 Ba	4,918.	983.6	ppb	0.63	#VALUE!	
182 W	0.5195	0.1039	ppb	7.63	1000.	
203 Tl	3.5355	0.7071	ppb	3.62	1000.	
205 Tl	3.737	0.7474	ppb	2.53	#VALUE!	
208 Pb	139.15	27.83	ppb	0.59	2000.	
232 Th	111.65	22.33	ppb	0.95	1000.	
238 U	20.61	4.122	ppb	0.34	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2618273.80	0.33	2422125.80	108.1	69.5 - 120	
45 Sc	2125833.00	0.37	2037841.00	104.3	69.5 - 120	
72 Ge	433546.63	0.59	440652.41	98.4	69.5 - 120	
159 Tb	3661037.80	0.96	3649611.30	100.3	69.5 - 120	
209 Bi	1765620.10	1.03	1931866.90	91.4	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000246

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\128SMPL.D\128SMPL.D#
Date Acquired: May 17 2018 03:00 am
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3995-013
Misc Info:
Vial Number: 3304
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	9.205	1.841	ppb	1.52	100.	
11 B	155.3	31.06	ppb	5.61	1000.	
23 Na	3,137.	627.4	ppb	2.24	200000.	
25 Mg	105,500.	21,100.	ppb	1.42	200000.	
27 Al	224,250.	44,850.	ppb	1.27	200000.	
28 Si	4,041.5	808.3	ppb	2.61	#VALUE!	
29 Si	3,694.5	738.9	ppb	2.42	10000.	
39 K	53,400.	10,680.	ppb	1.48	200000.	
43 Ca	485,050.	97,010.	ppb	1.43	#VALUE!	
44 Ca	452,050.	90,410.	ppb	1.75	200000.	
51 V	407.3	81.46	ppb	1.46	1000.	
52 Cr	203.1	40.62	ppb	1.10	2000.	
53 Cr	209.7	41.94	ppb	1.51	#VALUE!	
55 Mn	3,115.5	623.1	ppb	0.94	2000.	
56 Fe	179,900.	35,980.	ppb	0.42	#VALUE!	
57 Fe	171,800.	34,360.	ppb	1.17	100000.	
59 Co	67.4	13.48	ppb	0.79	1000.	
60 Ni	146.85	29.37	ppb	1.68	1000.	
63 Cu	125.8	25.16	ppb	1.26	#VALUE!	
65 Cu	127.25	25.45	ppb	1.40	2000.	
66 Zn	488.7	97.74	ppb	1.38	2000.	
68 Zn	627.	125.4	ppb	0.30	#VALUE!	
75 As	39.51	7.902	ppb	2.49	1000.	
82 Se	2.879	0.5758	ppb	45.02	1000.	
88 Sr	1,399.	279.8	ppb	1.20	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	7.88	1.576	ppb	2.88	1000.	
107 Ag	0.912	0.1824	ppb	1.70	100.	
109 Ag	0.6855	0.1371	ppb	4.87	#VALUE!	
111 Cd	3.901	0.7802	ppb	2.83	#VALUE!	
114 Cd	0.848	0.1696	ppb	29.82	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	45.	9.	ppb	0.41	1000.	
120 Sn	44.985	8.997	ppb	1.88	#VALUE!	
121 Sb	1.834	0.3668	ppb	3.24	#VALUE!	
123 Sb	1.868	0.3736	ppb	7.40	1000.	
135 Ba	4,241.5	848.3	ppb	1.29	2000.	
137 Ba	4,273.	854.6	ppb	0.86	#VALUE!	
182 W	0.6525	0.1305	ppb	12.18	1000.	
203 Tl	3.1415	0.6283	ppb	2.06	1000.	
205 Tl	2.972	0.5944	ppb	3.32	#VALUE!	
208 Pb	115.9	23.18	ppb	1.43	2000.	
232 Th	90.55	18.11	ppb	2.15	1000.	
238 U	18.52	3.704	ppb	2.33	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2715260.00	1.80	2422125.80	112.1	69.5 - 120	
45 Sc	2137365.50	1.36	2037841.00	104.9	69.5 - 120	
72 Ge	434718.16	0.81	440652.41	98.7	69.5 - 120	
159 Tb	3694643.30	1.67	3649611.30	101.2	69.5 - 120	
209 Bi	1781737.60	2.35	1931866.90	92.2	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000247

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\129SMPL.D\129SMPL.D#
Date Acquired: May 17 2018 03:05 am
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3995-014
Misc Info:
Vial Number: 3305
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	8.29	1.658	ppb	0.87	100.	
11 B	129.5	25.9	ppb	3.90	1000.	
23 Na	4,926.	985.2	ppb	0.85	200000.	
25 Mg	93,550.	18,710.	ppb	0.85	200000.	
27 Al	190,400.	38,080.	ppb	0.79	200000.	
28 Si	3,734.5	746.9	ppb	2.61	#VALUE!	
29 Si	3,256.5	651.3	ppb	1.38	10000.	
39 K	50,700.	10,140.	ppb	1.76	200000.	
43 Ca	338,250.	67,650.	ppb	0.62	#VALUE!	
44 Ca	311,950.	62,390.	ppb	0.20	200000.	
51 V	432.4	86.48	ppb	1.03	1000.	
52 Cr	176.95	35.39	ppb	0.78	2000.	
53 Cr	186.8	37.36	ppb	0.71	#VALUE!	
55 Mn	2,748.5	549.7	ppb	0.84	2000.	
56 Fe	190,650.	38,130.	ppb	0.79	#VALUE!	
57 Fe	182,250.	36,450.	ppb	0.21	100000.	
59 Co	62.25	12.45	ppb	0.69	1000.	
60 Ni	136.3	27.26	ppb	1.57	1000.	
63 Cu	123.5	24.7	ppb	0.91	#VALUE!	
65 Cu	124.9	24.98	ppb	3.09	2000.	
66 Zn	484.8	96.96	ppb	0.89	2000.	
68 Zn	557.5	111.5	ppb	1.74	#VALUE!	
75 As	118.	23.6	ppb	0.74	1000.	
82 Se	3.6325	0.7265	ppb	18.79	1000.	
88 Sr	888.5	177.7	ppb	0.53	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	7.675	1.535	ppb	0.45	1000.	
107 Ag	0.75	0.15	ppb	11.43	100.	
109 Ag	0.58	0.116	ppb	7.65	#VALUE!	
111 Cd	3.823	0.7646	ppb	7.93	#VALUE!	
114 Cd	1.0775	0.2155	ppb	11.56	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	46.215	9.243	ppb	2.12	1000.	
120 Sn	46.5	9.3	ppb	1.44	#VALUE!	
121 Sb	2.495	0.499	ppb	9.58	#VALUE!	
123 Sb	2.3835	0.4767	ppb	6.21	1000.	
135 Ba	2,307.5	461.5	ppb	0.67	2000.	
137 Ba	2,289.	457.8	ppb	0.87	#VALUE!	
182 W	0.5965	0.1193	ppb	11.67	1000.	
203 Tl	2.9185	0.5837	ppb	3.14	1000.	
205 Tl	2.9	0.58	ppb	3.37	#VALUE!	
208 Pb	112.95	22.59	ppb	1.64	2000.	
232 Th	83.45	16.69	ppb	1.91	1000.	
238 U	16.445	3.289	ppb	1.79	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2681386.80	1.00	2422125.80	110.7	69.5 - 120	
45 Sc	2121671.00	0.58	2037841.00	104.1	69.5 - 120	
72 Ge	436207.06	0.73	440652.41	99.0	69.5 - 120	
159 Tb	3654186.30	1.18	3649611.30	100.1	69.5 - 120	
209 Bi	1780830.80	1.90	1931866.90	92.2	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000248

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\130SMPL.D\130SMPL.D#
Date Acquired: May 17 2018 03:09 am
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: RINSE
Misc Info:
Vial Number: 3306
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0018	0.0018	ppb	85.24	100.	
11 B	1.782	1.782	ppb	9.62	1000.	
23 Na	6.861	6.861	ppb	8.10	200000.	
25 Mg	0.9369	0.9369	ppb	21.24	200000.	
27 Al	1.947	1.947	ppb	1.51	200000.	
28 Si	-44.11	-44.11	ppb	53.78	#VALUE!	
29 Si	-147.6	-147.6	ppb	13.45	10000.	LOW
39 K	-10.77	-10.77	ppb	10.07	200000.	
43 Ca	7.647	7.647	ppb	65.11	#VALUE!	
44 Ca	6.218	6.218	ppb	16.81	200000.	
51 V	-0.0978	-0.0978	ppb	28.36	1000.	
52 Cr	-0.1493	-0.1493	ppb	2.92	2000.	
53 Cr	-5.981	-5.981	ppb	2.06	#VALUE!	
55 Mn	0.0402	0.0402	ppb	35.53	2000.	
56 Fe	-9.626	-9.626	ppb	30.42	#VALUE!	
57 Fe	2.446	2.446	ppb	49.84	100000.	
59 Co	-0.0011	-0.0011	ppb	326.24	1000.	
60 Ni	0.025	0.025	ppb	48.80	1000.	
63 Cu	0.2586	0.2586	ppb	6.71	#VALUE!	
65 Cu	0.2615	0.2615	ppb	8.30	2000.	
66 Zn	0.178	0.178	ppb	14.96	2000.	
68 Zn	0.1248	0.1248	ppb	28.42	#VALUE!	
75 As	-0.0662	-0.0662	ppb	144.19	1000.	
82 Se	-0.0572	-0.0572	ppb	125.90	1000.	
88 Sr	0.0263	0.0263	ppb	24.18	2000.	
89 Y	----	--------	---	---	#VALUE!	
98 Mo	0.0031	0.0031	ppb	89.26	1000.	
107 Ag	-0.0021	-0.0021	ppb	87.79	100.	
109 Ag	-0.0009	-0.0009	ppb	110.61	#VALUE!	
111 Cd	-0.0101	-0.0101	ppb	89.59	#VALUE!	
114 Cd	0.0023	0.0023	ppb	108.70	1000.	
115 In	----	--------	---	---	#VALUE!	
118 Sn	0.0115	0.0115	ppb	73.41	1000.	
120 Sn	0.0251	0.0251	ppb	148.16	#VALUE!	
121 Sb	0.0018	0.0018	ppb	52.32	#VALUE!	
123 Sb	0.002	0.002	ppb	290.09	1000.	
135 Ba	0.0637	0.0637	ppb	40.69	2000.	
137 Ba	0.0705	0.0705	ppb	7.26	#VALUE!	
182 W	0.0026	0.0026	ppb	35.85	1000.	
203 Tl	-0.0329	-0.0329	ppb	52.63	1000.	
205 Tl	-0.0315	-0.0315	ppb	18.65	#VALUE!	
208 Pb	0.0365	0.0365	ppb	24.16	2000.	
232 Th	0.0092	0.0092	ppb	34.67	1000.	
238 U	0.	0.	ppb	3444.80	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2708307.80	0.76	2422125.80	111.8	69.5 - 120	
45 Sc	2126974.80	0.67	2037841.00	104.4	69.5 - 120	
72 Ge	440973.00	0.95	440652.41	100.1	69.5 - 120	
159 Tb	3555833.80	1.02	3649611.30	97.4	69.5 - 120	
209 Bi	1802551.40	0.27	1931866.90	93.3	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Katahdin Analytical Services 4000249

CCV QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\131_CCV.D\131_CCV.D#
Date Acquired: May 17 2018 03:14 am
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: CCV
Misc Info:
Vial Number: 1306
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Dilution Factor: 1.00
QC Range (%): 89.5 - 110.5

QC Elements

Element	Conc.		RSD(%)	Expected	Rec (%)	Flag
9 Be	23.61	ppb	1.12	25	94.44	
11 B	23.07	ppb	3.31	25	92.28	
23 Na	5,234.	ppb	3.10	5,000	104.68	
25 Mg	5,212.	ppb	2.15	5,000	104.24	
27 Al	505.3	ppb	1.47	500	101.06	
28 Si	433.3	ppb	5.47	500	86.66	
29 Si	358.2	ppb	6.12	500	71.64	Fail
39 K	5,037.	ppb	2.00	5,000	100.74	
43 Ca	4,912.	ppb	2.42	5,000	98.24	
44 Ca	4,933.	ppb	1.69	5,000	98.66	
51 V	24.38	ppb	0.65	25	97.52	
52 Cr	24.06	ppb	0.56	25	96.24	
53 Cr	21.08	ppb	1.99	25	84.32	
55 Mn	24.26	ppb	0.91	25	97.04	
56 Fe	4,846.	ppb	1.84	5,000	96.92	
57 Fe	4,918.	ppb	1.91	5,000	98.36	
59 Co	24.45	ppb	1.16	25	97.8	
60 Ni	24.42	ppb	0.62	25	97.68	
63 Cu	24.75	ppb	0.45	25	99	
65 Cu	24.3	ppb	1.55	25	97.2	
66 Zn	24.29	ppb	0.84	25	97.16	
68 Zn	24.48	ppb	1.50	25	97.92	
75 As	24.36	ppb	0.65	25	97.44	
82 Se	24.03	ppb	1.08	25	96.12	
88 Sr	23.03	ppb	0.59	25	92.12	
89 Y	--------	---	--------	---	#VALUE!	
98 Mo	23.22	ppb	1.04	25	92.88	
107 Ag	23.51	ppb	1.59	25	94.04	
109 Ag	23.37	ppb	1.19	25	93.48	
111 Cd	23.44	ppb	0.96	25	93.76	
114 Cd	23.59	ppb	1.47	25	94.36	
115 In	--------	---	--------	---	#VALUE!	
118 Sn	24.53	ppb	1.60	25	98.12	
120 Sn	24.42	ppb	1.95	25	97.68	
121 Sb	24.85	ppb	1.83	25	99.4	
123 Sb	24.91	ppb	1.84	25	99.64	
135 Ba	25.	ppb	2.44	25	100	
137 Ba	25.15	ppb	1.72	25	100.6	
182 W	23.31	ppb	1.13	25	93.24	
203 Tl	23.9	ppb	3.02	25	95.6	
205 Tl	23.79	ppb	1.69	25	95.16	
208 Pb	23.86	ppb	2.07	25	95.44	
232 Th	23.82	ppb	2.08	25	95.28	
238 U	23.97	ppb	1.85	25	95.88	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2722221.00	2.09	2422125.80	112.4	80 - 120.4	
45 Sc	2160044.30	0.97	2037841.00	106.0	80 - 120.4	
72 Ge	443214.53	0.98	440652.41	100.6	80 - 120.4	
159 Tb	3614405.00	0.36	3649611.30	99.0	80 - 120.4	
209 Bi	1829741.00	0.94	1931866.90	94.7	80 - 120.4	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\JLE16B.B\132_CCB.D\132_CCB.D#
Date Acquired: May 17 2018 03:18 am
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: CCB
Misc Info:
Vial Number: 1307
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 16 2018 07:06 pm
Sample Type: 6-CCB
Dilution Factor: 1.00

QC Elements

Element	Conc.		RSD(%)	High Limit	Flag
9 Be	0.0019	ppb	71.25	1.00	
11 B	1.584	ppb	10.49	1.00	
23 Na	-0.0495	ppb	584.02	1.00	
25 Mg	0.1633	ppb	81.57	1.00	
27 Al	0.132	ppb	21.48	1.00	
28 Si	-66.93	ppb	27.90	1.00	
29 Si	-153.7	ppb	3.88	1.00	
39 K	-11.55	ppb	14.21	1.00	
43 Ca	-0.4089	ppb	708.00	1.00	
44 Ca	-2.333	ppb	43.59	1.00	
51 V	-0.0689	ppb	181.78	1.00	
52 Cr	-0.1557	ppb	9.31	1.00	
53 Cr	-4.906	ppb	4.72	1.00	
55 Mn	-0.0031	ppb	280.59	1.00	
56 Fe	-13.7	ppb	15.50	1.00	
57 Fe	-1.919	ppb	68.16	1.00	
59 Co	-0.0051	ppb	39.41	1.00	
60 Ni	0.0054	ppb	105.70	1.00	
63 Cu	0.0059	ppb	224.78	1.00	
65 Cu	0.014	ppb	88.21	1.00	
66 Zn	0.0259	ppb	90.98	1.00	
68 Zn	0.0152	ppb	290.38	1.00	
75 As	-0.0249	ppb	192.21	1.00	
82 Se	0.0365	ppb	598.52	1.00	
88 Sr	-0.0021	ppb	121.87	1.00	
89 Y	--------	---	--------	---	
98 Mo	0.0199	ppb	48.44	1.00	
107 Ag	0.0006	ppb	266.16	1.00	
109 Ag	0.	ppb	2764.60	1.00	
111 Cd	-0.0152	ppb	106.57	1.00	
114 Cd	0.0035	ppb	76.70	1.00	
115 In	--------	---	--------	---	
118 Sn	0.0279	ppb	47.08	1.00	
120 Sn	0.0185	ppb	60.80	1.00	
121 Sb	0.0071	ppb	26.28	1.00	
123 Sb	0.008	ppb	71.47	1.00	
135 Ba	0.014	ppb	110.34	1.00	
137 Ba	0.0067	ppb	91.34	1.00	
182 W	0.0417	ppb	28.66	1.00	
203 Tl	-0.0318	ppb	27.52	1.00	
205 Tl	-0.0342	ppb	9.01	1.00	
208 Pb	-0.0959	ppb	8.41	1.00	
232 Th	0.0373	ppb	21.44	1.00	
238 U	0.001	ppb	52.01	1.00	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2696472.80	0.37	2422125.80	111.3	79.5 - 120	
45 Sc	2152575.00	0.48	2037841.00	105.6	79.5 - 120	
72 Ge	442883.91	0.85	440652.41	100.5	79.5 - 120	
159 Tb	3551907.50	1.12	3649611.30	97.3	79.5 - 120	
209 Bi	1832058.10	1.37	1931866.90	94.8	79.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE16B.B\013CALB.D\013CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000251

KATAHDIN ANALYTICAL SERVICES, LLC
METALS ANALYSIS RUN INFORMATION SHEET

INSTR. ID: J (Agilent 7500) **ANALYST**: JS **ANALYSIS DATE**: 05/17/2018

FILE NAME: JLE17B

METHOD: ICP-MS
- ☑ 200.8
- ☐ 6020
- ☑ DOD

JSS 18-18
KATAHDIN ANALYTICAL
METALS SECTION

The pHs of all samples that were tested by direct analysis in this analytical run were checked just prior to analysis and confirmed to be <2. The time of preservation of these samples was checked in the "Measured Turbidity and Preservation of Incoming Samples" logbook to verify that they had been preserved at least 16 hours prior to analysis. These verifications were performed by JS (initals) on 5.17.18 (date).

STANDARDS USED:

Standard Name	Standard ID	Prep Date	Expiration Date	Standard Conc.
Cal. Blk/ICB/CCB	MW17761	05/14/2018	05/14/2019	0 ug/L
Standard 1	MW17738	05/11/2018	06/21/2018	Varies by Element
ICV	MW17701	04/24/2018	07/24/2018	Varies by Element
PQL	MW17773	05/16/2018	07/13/2018	Varies by Element
LRS1	MW17735	05/04/2018	08/04/2018	Varies by Element
LRS2	MW17776	05/16/2018	08/16/2018	Varies by Element
ICSA	MW17779	05/17/2018	05/23/2018	Varies by Element
ICSAB	MW17780	05/17/2018	05/23/2018	Varies by Element
CCV	MW17774	05/16/2018	06/21/2018	Varies by Element
Internal Standard	MW17762	05/14/2018	08/14/2018	0.4 mg/L (Li,Sc,Ge/Y,Tb,Bi)

Additional Comments and Notes:

Se spiked high in raised RCL for DoD QSM; accepted Se results for samples w/ Se concentrations >10x RCL result for Se. All other Se results were reported per DoD QSM

JSS 18-18

Dilutions: Some samples were diluted based on history or due to interfering element concentrations. Dilution preparations are as follows:

25x serial diln.: 1.6mL of 5x diln. of sample(pipet M18) + 6.4mL of MW17761 (pipet M18)

5x diln.: 1.6mL of sample(pipet M18) + 6.4mL of MW17761 (pipet M18)

Post Spike: 0.08mL of MW17698 (pipet M16) into 5x diln. of sample (pipet M18)

(Unless otherwise specified)

INSTRUMENT RUNLOG

Instrument: AGILENT 7500

SAMPLE ID	DF	FILE	DATE	TIME	ANALYST
6020 TUNE	1	JLE17B	5/17/2018	5:01:00 14:58	JS
200.8 TUNE	1	JLE17B	5/17/2018	5:01:00 15:01	JS
Cal Blank	1	JLE17B	5/17/2018	5:01:00 17:01	JS
Cal Std	1	JLE17B	5/17/2018	5:05:00 17:05	JS
ICV	1	JLE17B	5/17/2018	5:09:00 17:09	JS
ICB	1	JLE17B	5/17/2018	5:12:00 17:12	JS
PQL	1	JLE17B	5/17/2018	5:16:00 17:16	JS
RINSE	1	JLE17B	5/17/2018	5:20:00 17:20	JS
ICSA	1	JLE17B	5/17/2018	5:24:00 17:24	JS
ICSAB	1	JLE17B	5/17/2018	5:28:00 17:28	JS
RINSE	1	JLE17B	5/17/2018	5:32:00 17:32	JS
LRS1	1	JLE17B	5/17/2018	5:36:00 17:36	JS
LRS2	1	JLE17B	5/17/2018	5:39:00 17:39	JS
RINSE	1	JLE17B	5/17/2018	5:43:00 17:43	JS
RINSE	1	JLE17B	5/17/2018	5:47:00 17:47	JS
CCV	1	JLE17B	5/17/2018	5:51:00 17:51	JS
CCB	1	JLE17B	5/17/2018	5:55:00 17:55	JS
PBWLE08IMW1	5	JLE17B	5/17/2018	5:59:00 17:59	JS
LCSWLE08IMW1	5	JLE17B	5/17/2018	6:03:00 18:03	JS
SL3902-002	5	JLE17B	5/17/2018	6:07:00 18:07	JS
SL3902-003	5	JLE17B	5/17/2018	6:11:00 18:11	JS
SL3902-004	5	JLE17B	5/17/2018	6:15:00 18:15	JS
SL3902-005	5	JLE17B	5/17/2018	6:19:00 18:19	JS
SL3902-006	5	JLE17B	5/17/2018	6:23:00 18:23	JS
SL3902-007	5	JLE17B	5/17/2018	6:27:00 18:27	JS
SL3902-008	5	JLE17B	5/17/2018	6:31:00 18:31	JS
RINSE	1	JLE17B	5/17/2018	6:35:00 18:35	JS
CCV	1	JLE17B	5/17/2018	6:39:00 18:39	JS
CCB	1	JLE17B	5/17/2018	6:43:00 18:43	JS
SL3902-009	5	JLE17B	5/17/2018	6:47:00 18:47	JS
SL3902-010	5	JLE17B	5/17/2018	6:51:00 18:51	JS
SL3902-011	5	JLE17B	5/17/2018	6:55:00 18:55	JS
SL3902-012	5	JLE17B	5/17/2018	6:59:00 18:59	JS
SL3902-012L	25	JLE17B	5/17/2018	7:03:00 19:03	JS
SL3902-012A	5	JLE17B	5/17/2018	7:07:00 19:07	JS
SL3902-012S	5	JLE17B	5/17/2018	7:11:00 19:11	JS
SL3902-012P	5	JLE17B	5/17/2018	7:15:00 19:15	JS
SL3902-013	5	JLE17B	5/17/2018	7:19:00 19:19	JS
RINSE	1	JLE17B	5/17/2018	7:24:00 19:24	JS
CCV	1	JLE17B	5/17/2018	7:28:00 19:28	JS
CCB	1	JLE17B	5/17/2018	7:32:00 19:32	JS
SL3902-013L	25	JLE17B	5/17/2018	7:36:00 19:36	JS
SL3902-013A	5	JLE17B	5/17/2018	7:40:00 19:40	JS
SL3902-013S	5	JLE17B	5/17/2018	7:44:00 19:44	JS

SAMPLE ID	DF	FILE	DATE	TIME	ANALYST
SL3902-013P	5	JLE17B	5/17/2018	7:48:00 19:48	JS
SL3902-014	5	JLE17B	5/17/2018	7:52:00 19:52	JS
RINSE	1	JLE17B	5/17/2018	7:56:00 19:56	JS
PBWLE10IMW1	5	JLE17B	5/17/2018	8:01:00 20:01	JS
LCSWLE10IMW1	5	JLE17B	5/17/2018	8:05:00 20:05	JS
SL3952-002	5	JLE17B	5/17/2018	8:09:00 20:09	JS
RINSE	1	JLE17B	5/17/2018	8:13:00 20:13	JS
CCV	1	JLE17B	5/17/2018	8:17:00 20:17	JS
CCB	1	JLE17B	5/17/2018	8:21:00 20:21	JS
SL3952-003	5	JLE17B	5/17/2018	8:25:00 20:25	JS
SL3952-004	5	JLE17B	5/17/2018	8:30:00 20:30	JS
SL3952-005	5	JLE17B	5/17/2018	8:34:00 20:34	JS
SL3952-006	5	JLE17B	5/17/2018	8:38:00 20:38	JS
SL3952-007	5	JLE17B	5/17/2018	8:42:00 20:42	JS
SL3952-008	5	JLE17B	5/17/2018	8:46:00 20:46	JS
SL3952-009	5	JLE17B	5/17/2018	8:51:00 20:51	JS
SL3952-010	5	JLE17B	5/17/2018	8:55:00 20:55	JS
SL3952-011	5	JLE17B	5/17/2018	8:59:00 20:59	JS
RINSE	1	JLE17B	5/17/2018	9:03:00 21:03	JS
CCV	1	JLE17B	5/17/2018	9:07:00 21:07	JS
CCB	1	JLE17B	5/17/2018	9:11:00 21:11	JS
SL3952-011L	25	JLE17B	5/17/2018	9:16:00 21:16	JS
SL3952-011A	5	JLE17B	5/17/2018	9:20:00 21:20	JS
SL3952-011S	5	JLE17B	5/17/2018	9:24:00 21:24	JS
SL3952-011P	5	JLE17B	5/17/2018	9:28:00 21:28	JS
SL3952-012	5	JLE17B	5/17/2018	9:32:00 21:32	JS
RINSE	1	JLE17B	5/17/2018	9:37:00 21:37	JS
PBWLE10IMW2	5	JLE17B	5/17/2018	9:41:00 21:41	JS
LCSWLE10IMW2	5	JLE17B	5/17/2018	9:45:00 21:45	JS
SL3952-013	5	JLE17B	5/17/2018	9:49:00 21:49	JS
RINSE	1	JLE17B	5/17/2018	9:53:00 21:53	JS
CCV	1	JLE17B	5/17/2018	9:57:00 21:57	JS
CCB	1	JLE17B	5/17/2018	10:01:0 22:01	JS
SL3952-016	5	JLE17B	5/17/2018	10:05:0 22:05	JS
SL3952-017	5	JLE17B	5/17/2018	10:10:0 22:10	JS
SL3952-018	5	JLE17B	5/17/2018	10:14:0 22:14	JS
SL3952-019	5	JLE17B	5/17/2018	10:18:0 22:18	JS
SL3952-020	5	JLE17B	5/17/2018	10:22:0 22:22	JS
SL3952-021	5	JLE17B	5/17/2018	10:26:0 22:26	JS
SL3952-022	5	JLE17B	5/17/2018	10:31:0 22:31	JS
SL3952-023	5	JLE17B	5/17/2018	10:35:0 22:35	JS
SL3952-024	5	JLE17B	5/17/2018	10:39:0 22:39	JS
RINSE	1	JLE17B	5/17/2018	10:43:0 22:43	JS
CCV	1	JLE17B	5/17/2018	10:47:0 22:47	JS
CCB	1	JLE17B	5/17/2018	10:52:0 22:52	JS
SL3995-015	5	JLE17B	5/17/2018	10:56:0 22:56	JS
RINSE	1	JLE17B	5/17/2018	11:00:0 23:00	JS

SAMPLE ID	DF	FILE	DATE	TIME	ANALYST
SL4254-001	1	JLE17B	5/17/2018	11:04:0 23:04	JS
SL4254-002	1	JLE17B	5/17/2018	11:08:0 23:08	JS
SL4254-003	1	JLE17B	5/17/2018	11:12:0 23:12	JS
SL4254-004	1	JLE17B	5/17/2018	11:17:0 23:17	JS
SL4267-001	1	JLE17B	5/17/2018	11:21:0 23:21	JS
PBWLE09IMW2	5	JLE17B	5/17/2018	11:25:0 23:25	JS
LCSWLE09IMW2	5	JLE17B	5/17/2018	11:29:0 23:29	JS
SL3448-003	5	JLE17B	5/17/2018	11:33:0 23:33	JS
CCV	1	JLE17B	5/17/2018	11:37:0 23:37	JS
CCB	1	JLE17B	5/17/2018	11:42:0 23:42	JS
SL3448-004	5	JLE17B	5/17/2018	11:46:0 23:46	JS
SL3448-004L	25	JLE17B	5/17/2018	11:50:0 23:50	JS
SL3448-004A	5	JLE17B	5/17/2018	11:54:0 23:54	JS
SL3448-004S	5	JLE17B	5/17/2018	11:58:0 23:58	JS
SL3448-007	5	JLE17B	5/18/2018	12:02:0 0:02	JS
SL3448-008	5	JLE17B	5/18/2018	12:07:0 0:07	JS
SL3448-008L	25	JLE17B	5/18/2018	12:11:0 0:11	JS
SL3448-008A	5	JLE17B	5/18/2018	12:15:0 0:15	JS
SL3448-008S	5	JLE17B	5/18/2018	12:19:0 0:19	JS
SL3448-009	5	JLE17B	5/18/2018	12:23:0 0:23	JS
CCV	1	JLE17B	5/18/2018	12:27:0 0:27	JS
CCB	1	JLE17B	5/18/2018	12:31:0 0:31	JS
SL3558-001	5	JLE17B	5/18/2018	12:36:0 0:36	JS
SL3558-005	5	JLE17B	5/18/2018	12:40:0 0:40	JS
SL3558-009	5	JLE17B	5/18/2018	12:44:0 0:44	JS
SL3448-001	5	JLE17B	5/18/2018	12:48:0 0:48	JS
SL3448-002	5	JLE17B	5/18/2018	12:53:0 0:53	JS
RINSE	1	JLE17B	5/18/2018	12:57:0 0:57	JS
SL3448-005	5	JLE17B	5/18/2018	1:01:00 1:01	JS
SL3448-006	5	JLE17B	5/18/2018	1:05:00 1:05	JS
RINSE	1	JLE17B	5/18/2018	1:10:00 1:10	JS
RINSE	1	JLE17B	5/18/2018	1:14:00 1:14	JS
CCV	1	JLE17B	5/18/2018	1:18:00 1:18	JS
CCB	1	JLE17B	5/18/2018	1:22:00 1:22	JS
SL3558-002	5	JLE17B	5/18/2018	1:26:00 1:26	JS
SL3558-002L	25	JLE17B	5/18/2018	1:31:00 1:31	JS
SL3558-002A	5	JLE17B	5/18/2018	1:35:00 1:35	JS
RINSE	1	JLE17B	5/18/2018	1:39:00 1:39	JS
RINSE	1	JLE17B	5/18/2018	1:44:00 1:44	JS
SL3558-002S	5	JLE17B	5/18/2018	1:48:00 1:48	JS
SL3558-006	5	JLE17B	5/18/2018	1:52:00 1:52	JS
SL3558-006L	25	JLE17B	5/18/2018	1:56:00 1:56	JS
RINSE	1	JLE17B	5/18/2018	2:00:00 2:00	JS
RINSE	1	JLE17B	5/18/2018	2:05:00 2:05	JS
CCV	1	JLE17B	5/18/2018	2:09:00 2:09	JS
CCB	1	JLE17B	5/18/2018	2:13:00 2:13	JS
SL3558-006A	5	JLE17B	5/18/2018	2:17:00 2:17	JS

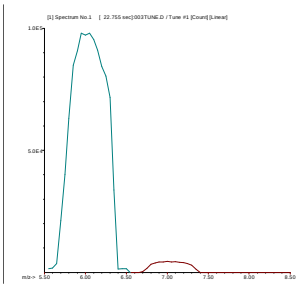
SAMPLE ID	DF	FILE	DATE	TIME	ANALYST
SL3558-006S	5	JLE17B	5/18/2018	2:22:00 2:22	JS
RINSE	1	JLE17B	5/18/2018	2:26:00 2:26	JS
RINSE	1	JLE17B	5/18/2018	2:30:00 2:30	JS
CCV	1	JLE17B	5/18/2018	2:34:00 2:34	JS
CCB	1	JLE17B	5/18/2018	2:38:00 2:38	JS
PQL	1	JLE17B	5/18/2018	2:43:00 2:43	JS
CCV	1	JLE17B	5/18/2018	2:47:00 2:47	JS
CCB	1	JLE17B	5/18/2018	2:51:00 2:51	JS

6020 QC Tune Report

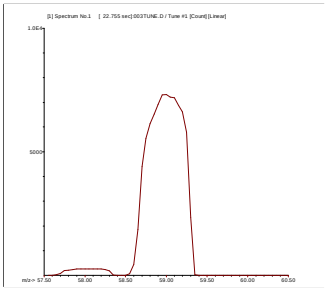
Data File: C:\ICPCHEM\1\DATA\JLE17A.B\003TUNE.D
Date Acquired: May 17 2018 02:58 pm
Acq. Method: TN6020E.M
Operator: JS
Sample Name: 6020 TUNE
Misc Info:
Vial Number: 1107
Current Method: C:\ICPCHEM\1\METHODS\TN6020E.M

RSD (%)

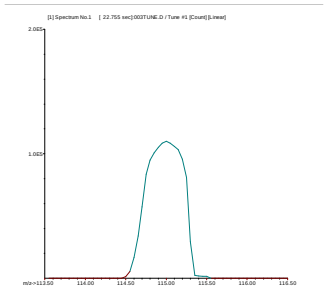
Element	Actual	Required	Flag
7 Li	1.32	5.00	
59 Co	0.96	5.00	
115 In	0.97	5.00	
205 Tl	1.37	5.00	



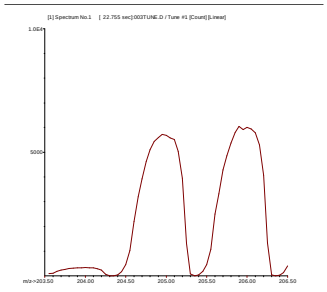
7 Li
Mass Calib.
Actual: 7.00
Required: 6.90 - 7.10
Flag:
Peak Width
Actual: 0.60
Required: 0.90
Flag:



59 Co
Mass Calib.
Actual: 59.00
Required: 58.90 - 59.10
Flag:
Peak Width
Actual: 0.65
Required: 0.90
Flag:



115 In
Mass Calib.
Actual: 115.00
Required: 114.90 - 115.10
Flag:
Peak Width
Actual: 0.70
Required: 0.90
Flag:



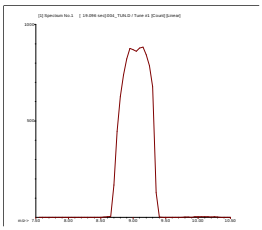
205 Tl
Mass Calib.
Actual: 205.00
Required: 204.90 - 205.10
Flag:
Peak Width
Actual: 0.65
Required: 0.90
Flag:

200.8 QC Tune Report

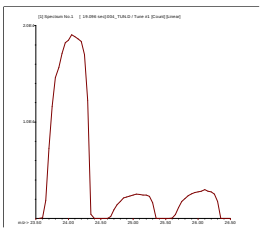
Data File: C:\ICPCHEM\1\DATA\JLE17A.B\004_TUN.D
Date Acquired: May 17 2018 03:01 pm
Acq. Method: TN200_8E.M
Operator: JS
Sample Name: 200.8 TUNE
Misc Info:
Vial Number: 1107
Current Method: C:\ICPCHEM\1\METHODS\TN200_8E.M

RSD (%)

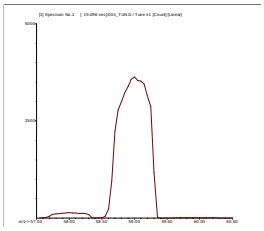
Element	Actual	Required	Flag
9 Be	1.27	5.00	
24 Mg	1.52	5.00	
59 Co	1.21	5.00	
115 In	0.98	5.00	
208 Pb	0.32	5.00	



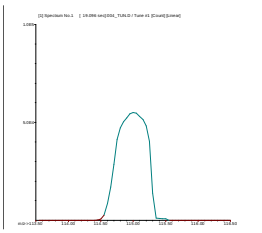
9 Be
Mass Calib.
Actual: 9.05
Required: 8.90 - 9.10
Flag:
Peak Width
Actual: 0.65
Required: 1.00
Flag:



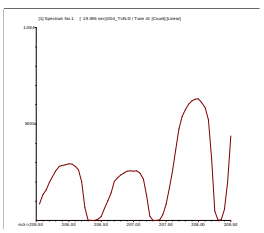
24 Mg
Mass Calib.
Actual: 24.10
Required: 23.90 - 24.10
Flag:
Peak Width
Actual: 0.65
Required: 1.00
Flag:



59 Co
Mass Calib.
Actual: 59.05
Required: 58.90 - 59.10
Flag:
Peak Width
Actual: 0.70
Required: 1.00
Flag:



115 In
Mass Calib.
Actual: 115.00
Required: 114.90 - 115.10
Flag:
Peak Width
Actual: 0.70
Required: 1.00
Flag:



208 Pb
Mass Calib.
Actual: 207.95
Required: 207.90 - 208.10
Flag:
Peak Width
Actual: 0.65
Required: 1.00
Flag:

Tune Result: Pass

Katahdin Analytical Services 4000258

Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\JLE17B.B\015CALB.I
Date Acquired: May 17 2018 05:01 pm
Operator: JS
Sample Name: Cal Blank
Misc Info:
Vial Number: 1203
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal Update: May 17 2018 05:03 pm
Sample Type: CalBlk
Total Dil Factor: 1.00

QC&ISTD Elements

Element		CPS Mean		SD	RSD(%)
6	Li	2900107.00	A	79600.00	2.74
9	Be	11.11	P	1.93	17.33
11	B	251.12	P	9.62	3.83
23	Na	28669.11	P	823.30	2.87
25	Mg	175.57	P	63.37	36.09
27	Al	2723.33	P	383.70	14.09
28	Si	364085.69	P	9659.00	2.65
29	Si	26418.84	P	398.50	1.51
39	K	1045558.00	A	5197.00	0.50
43	Ca	140.76	P	35.72	25.38
44	Ca	2692.81	P	247.00	9.17
45	Sc	2161269.00	A	55560.00	2.57
51	V	1671.43	P	363.10	21.72
52	Cr	5986.93	P	219.00	3.66
53	Cr	8003.44	P	95.30	1.19
55	Mn	1386.78	P	61.74	4.45
56	Fe	1168987.00	A	5842.00	0.50
57	Fe	12331.88	P	194.80	1.58
59	Co	131.12	P	65.78	50.17
60	Ni	70.77	P	1.94	2.74
63	Cu	847.83	P	62.93	7.42
65	Cu	407.79	P	48.57	11.91
66	Zn	654.48	P	20.10	3.07
68	Zn	565.59	P	24.12	4.26
72	Ge	459106.19	P	9963.00	2.17
75	As	110.46	P	58.11	52.61
82	Se	-16.03	P	16.02	99.94
88	Sr	44.45	P	11.11	25.00
89	Y	2890707.00	A	43090.00	1.49
98	Mo	23.80	P	7.11	29.90
107	Ag	27.78	P	5.09	18.33
109	Ag	13.33	P	5.77	43.30
111	Cd	676.25	P	33.20	4.91
114	Cd	-3.46	P	16.19	467.34
115	In	2958285.00	A	37450.00	1.27
118	Sn	313.35	P	8.82	2.81
120	Sn	473.36	P	23.33	4.93
121	Sb	18.89	P	8.39	44.41
123	Sb	13.33	P	10.00	75.00
135	Ba	24.45	P	7.70	31.49
137	Ba	27.78	P	6.94	24.98
159	Tb	3415758.00	A	23790.00	0.70
182	W	24.45	P	5.09	20.83
203	Tl	97.78	P	6.94	7.10
205	Tl	198.90	P	42.21	21.22
208	Pb	1611.21	P	22.69	1.41
209	Bi	1757454.00	A	18190.00	1.04
232	Th	22.22	P	1.93	8.66
238	U	10.00	P	6.67	66.67

Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\JLE17B.B\016CALI.D\016CALI.D#
Date Acquired: May 17 2018 05:05 pm
Operator: JS
Sample Name: Cal Std
Misc Info:
Vial Number: 1101
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal Update: May 17 2018 05:03 pm
Sample Type: CalStd
Total Dil Factor: 1.00

QC&ISTD Elements

Element	CPS Mean		SD	RSD(%)
6 Li	2672079.00	A	78450.00	2.94
9 Be	100612.80	P	1529.00	1.52
11 B	44588.18	P	2189.00	4.91
23 Na	64211600.00	A	81860.00	0.13
25 Mg	5338900.00	A	21970.00	0.41
27 Al	5051078.00	A	110700.00	2.19
28 Si	3331393.00	A	9572.00	0.29
29 Si	178515.70	P	863.80	0.48
39 K	69551408.00	A	663600.00	0.95
43 Ca	120907.70	P	2841.00	2.35
44 Ca	1953698.00	A	42910.00	2.20
45 Sc	2114767.00	A	33680.00	1.59
51 V	400286.50	P	1157.00	0.29
52 Cr	343554.41	P	1562.00	0.45
53 Cr	44863.91	P	1043.00	2.32
55 Mn	432613.00	P	5666.00	1.31
56 Fe	70689032.00	A	539900.00	0.76
57 Fe	1754311.00	A	12700.00	0.72
59 Co	372466.19	P	362.80	0.10
60 Ni	83874.84	P	1078.00	1.29
63 Cu	200566.80	P	1975.00	0.98
65 Cu	95635.77	P	853.50	0.89
66 Zn	50120.00	P	295.40	0.59
68 Zn	35851.33	P	588.00	1.64
72 Ge	440223.09	P	4420.00	1.00
75 As	50847.21	P	655.00	1.29
82 Se	3252.22	P	27.26	0.84
88 Sr	483352.59	P	1907.00	0.39
89 Y	2857843.00	A	14940.00	0.52
98 Mo	153743.41	P	1111.00	0.72
107 Ag	242244.20	P	1249.00	0.52
109 Ag	232807.59	P	1290.00	0.55
111 Cd	49241.13	P	448.30	0.91
114 Cd	108499.10	P	1074.00	0.99
115 In	2904346.00	A	4360.00	0.15
118 Sn	150035.59	P	1576.00	1.05
120 Sn	208297.91	P	276.30	0.13
121 Sb	195494.91	P	2316.00	1.18
123 Sb	148584.70	P	1472.00	0.99
135 Ba	45446.14	P	540.90	1.19
137 Ba	78349.33	P	702.80	0.90
159 Tb	3440865.00	A	33350.00	0.97
182 W	148189.30	P	1537.00	1.04
203 Tl	127710.10	P	370.20	0.29
205 Tl	304306.41	P	886.90	0.29
208 Pb	422119.50	P	1348.00	0.32
209 Bi	1708447.00	A	968.80	0.06
232 Th	478892.69	P	3585.00	0.75
238 U	476173.69	P	4607.00	0.97

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2672078.50	2.94	2900107.00	92.1	79.5 - 120.4	
45 Sc	2114767.50	1.59	2161269.30	97.8	79.5 - 120.4	
72 Ge	440223.16	1.00	459106.19	95.9	79.5 - 120.4	
159 Tb	3440865.30	0.97	3415757.80	100.7	79.5 - 120.4	
209 Bi	1708446.80	0.06	1757454.40	97.2	79.5 - 120.4	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE17B.B\015CALB.D\015CALB.D#

--- :Element Failures --- :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000260

ICV QC Report

Data File: C:\ICPCHEM\1\DATA\JLE17B.B\017_ICV.D\017_ICV.D#
Date Acquired: May 17 2018 05:09 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: ICV
Misc Info:
Vial Number: 1202
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 17 2018 05:07 pm
Dilution Factor: 1.00
QC Range (%): 89.499998 - 110.5

QC Elements

Element	Conc.		RSD(%)	Expected	Rec (%)	Flag
9 Be	19.42	ppb	3.64	20	97.1	
11 B	21.18	ppb	5.84	20	105.9	
23 Na	3,901.	ppb	0.83	4,000	97.525	
25 Mg	3,948.	ppb	0.96	4,000	98.7	
27 Al	401.1	ppb	1.16	400	100.275	
28 Si	412.7	ppb	1.87	400	103.175	
29 Si	389.7	ppb	0.50	400	97.425	
39 K	3,938.	ppb	2.52	4,000	98.45	
43 Ca	3,857.	ppb	2.73	4,000	96.425	
44 Ca	3,944.	ppb	0.97	4,000	98.6	
51 V	19.68	ppb	1.87	20	98.4	
52 Cr	19.6	ppb	0.89	20	98	
53 Cr	15.65	ppb	4.93	20	78.25	
55 Mn	19.53	ppb	0.98	20	97.65	
56 Fe	3,961.	ppb	1.16	4,000	99.025	
57 Fe	3,950.	ppb	0.88	4,000	98.75	
59 Co	19.89	ppb	1.10	20	99.45	
60 Ni	19.74	ppb	0.91	20	98.7	
63 Cu	19.77	ppb	0.30	20	98.85	
65 Cu	19.69	ppb	1.78	20	98.45	
66 Zn	20.05	ppb	0.55	20	100.25	
68 Zn	19.8	ppb	2.19	20	99	
75 As	19.81	ppb	0.14	20	99.05	
82 Se	20.26	ppb	2.05	20	101.3	
88 Sr	19.28	ppb	0.72	20	96.4	
89 Y	--------	---	--------	---	#VALUE!	
98 Mo	37.78	ppb	1.28	40	94.45	
107 Ag	19.5	ppb	0.39	20	97.5	
109 Ag	19.46	ppb	0.52	20	97.3	
111 Cd	19.67	ppb	1.63	20	98.35	
114 Cd	19.58	ppb	0.92	20	97.9	
115 In	--------	---	--------	---	#VALUE!	
118 Sn	20.08	ppb	1.39	20	100.4	
120 Sn	19.86	ppb	1.02	20	99.3	
121 Sb	20.09	ppb	1.38	20	100.45	
123 Sb	20.13	ppb	1.02	20	100.65	
135 Ba	19.99	ppb	2.80	20	99.95	
137 Ba	19.94	ppb	0.99	20	99.7	
182 W	19.75	ppb	0.54	20	98.75	
203 Tl	19.9	ppb	0.46	20	99.5	
205 Tl	20.03	ppb	0.26	20	100.15	
208 Pb	19.39	ppb	0.73	20	96.95	
232 Th	19.38	ppb	1.25	20	96.9	
238 U	19.29	ppb	0.60	20	96.45	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2749425.50	4.96	2900107.00	94.8	80 - 120.4	
45 Sc	2196411.00	2.74	2161269.30	101.6	80 - 120.4	
72 Ge	452445.66	0.79	459106.19	98.5	80 - 120.4	
159 Tb	3366843.50	0.91	3415757.80	98.6	80 - 120.4	
209 Bi	1722442.60	0.41	1757454.40	98.0	80 - 120.4	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE17B.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000261

ICB QC Report

Data File: C:\ICPCHEM\1\DATA\JLE17B.B\018_ICB.D\018_ICB.D#
Date Acquired: May 17 2018 05:12 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: ICB
Misc Info:
Vial Number: 1203
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 17 2018 05:07 pm
Sample Type: 6-ICB
Dilution Factor: 1.00

QC Elements

Element	Conc.		RSD(%)	High Limit	Flag
9 Be	0.0047	ppb	42.19	1.00	
11 B	1.537	ppb	11.95	1.00	
23 Na	0.6188	ppb	89.98	1.00	
25 Mg	0.4679	ppb	161.55	1.00	
27 Al	0.0586	ppb	121.56	1.00	
28 Si	5.187	ppb	80.36	1.00	
29 Si	2.608	ppb	81.98	1.00	
39 K	3.622	ppb	38.43	1.00	
43 Ca	4.944	ppb	30.83	1.00	
44 Ca	1.288	ppb	124.61	1.00	
51 V	-0.0087	ppb	550.72	1.00	
52 Cr	-0.0427	ppb	57.10	1.00	
53 Cr	-3.814	ppb	2.60	1.00	
55 Mn	0.0065	ppb	70.97	1.00	
56 Fe	6.333	ppb	28.98	1.00	
57 Fe	3.365	ppb	60.33	1.00	
59 Co	0.0058	ppb	67.19	1.00	
60 Ni	-0.0027	ppb	665.44	1.00	
63 Cu	-0.0065	ppb	215.26	1.00	
65 Cu	-0.0187	ppb	57.28	1.00	
66 Zn	-0.0313	ppb	52.33	1.00	
68 Zn	0.1128	ppb	55.88	1.00	
75 As	-0.2219	ppb	59.44	1.00	
82 Se	0.1209	ppb	103.47	1.00	
88 Sr	0.0051	ppb	149.02	1.00	
89 Y	--------	---	--------	---	
98 Mo	0.0558	ppb	34.30	1.00	
107 Ag	0.0045	ppb	122.18	1.00	
109 Ag	0.0031	ppb	51.37	1.00	
111 Cd	-0.0092	ppb	484.60	1.00	
114 Cd	-0.0004	ppb	1211.70	1.00	
115 In	--------	---	--------	---	
118 Sn	0.0368	ppb	16.20	1.00	
120 Sn	0.0345	ppb	13.60	1.00	
121 Sb	0.0123	ppb	24.55	1.00	
123 Sb	0.0149	ppb	38.42	1.00	
135 Ba	-0.0017	ppb	455.52	1.00	
137 Ba	0.0036	ppb	313.24	1.00	
182 W	0.0623	ppb	20.89	1.00	
203 Tl	0.0024	ppb	287.74	1.00	
205 Tl	0.008	ppb	177.78	1.00	
208 Pb	0.0214	ppb	54.80	1.00	
232 Th	0.0414	ppb	20.95	1.00	
238 U	0.005	ppb	63.70	1.00	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2752464.00	1.66	2900107.00	94.9	79.5 - 120	
45 Sc	2098926.00	0.69	2161269.30	97.1	79.5 - 120	
72 Ge	445201.69	0.35	459106.19	97.0	79.5 - 120	
159 Tb	3304755.00	1.01	3415757.80	96.8	79.5 - 120	
209 Bi	1689231.50	0.57	1757454.40	96.1	79.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE17B.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000262

PQL QC Report

Data File: C:\ICPCHEM\1\DATA\JLE17B.B\019_PQL.D\019_PQL.D#
Date Acquired: May 17 2018 05:16 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: PQL
Misc Info:
Vial Number: 1302
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 17 2018 05:07 pm
Dilution Factor: 1.00
QC Range (%): 69.599998 - 130.4

QC Elements

Element	Conc.		RSD(%)	Expected	Rec (%)	Flag
9 Be	0.1898	ppb	2.61	0.20	94.9	
11 B	4.29	ppb	2.59	4.00	107.25	
23 Na	210.3	ppb	0.62	200.00	105.15	
25 Mg	20.31	ppb	1.30	20.00	101.55	
27 Al	20.29	ppb	1.42	20.00	101.45	
28 Si	126.1	ppb	4.62	100.00	126.1	
29 Si	97.69	ppb	7.15	100.00	97.69	
39 K	198.2	ppb	1.96	200.00	99.1	
43 Ca	23.14	ppb	32.13	20.00	115.7	
44 Ca	19.44	ppb	9.09	20.00	97.2	
51 V	0.9974	ppb	9.14	1.00	99.74	
52 Cr	0.9504	ppb	0.83	1.00	95.04	
53 Cr	-2.215	ppb	21.68	---	#VALUE!	
55 Mn	0.4263	ppb	3.15	0.40	106.575	
56 Fe	20.72	ppb	12.68	20.00	103.6	
57 Fe	19.37	ppb	5.64	20.00	96.85	
59 Co	0.2058	ppb	1.13	0.20	102.9	
60 Ni	0.417	ppb	12.00	0.40	104.25	
63 Cu	0.5942	ppb	6.33	0.60	99.0333	
65 Cu	0.5829	ppb	9.75	0.60	97.15	
66 Zn	2.305	ppb	7.22	2.00	115.25	
68 Zn	2.233	ppb	4.78	2.00	111.65	
75 As	0.9231	ppb	7.28	1.00	92.31	
82 Se	1.275	ppb	10.69	1.00	127.5	Fail-DoD
88 Sr	0.9803	ppb	1.31	1.00	98.03	
89 Y	--------	---	--------	---	#VALUE!	
98 Mo	0.9581	ppb	5.80	1.00	95.81	
107 Ag	0.1963	ppb	3.62	0.20	98.15	
109 Ag	0.1931	ppb	3.45	0.20	96.55	
111 Cd	0.1687	ppb	4.71	0.20	84.35	
114 Cd	0.2011	ppb	1.45	0.20	100.55	
115 In	--------	---	--------	---	#VALUE!	
118 Sn	1.029	ppb	2.80	1.00	102.9	
120 Sn	1.002	ppb	5.38	1.00	100.2	
121 Sb	0.2141	ppb	6.41	0.20	107.05	
123 Sb	0.2157	ppb	8.94	0.20	107.85	
135 Ba	0.4105	ppb	5.30	0.40	102.625	
137 Ba	0.3942	ppb	5.99	0.40	98.55	
182 W	1.015	ppb	3.79	1.00	101.5	
203 Tl	0.2064	ppb	9.28	0.20	103.2	
205 Tl	0.2061	ppb	5.10	0.20	103.05	
208 Pb	0.2163	ppb	2.73	0.20	108.15	
232 Th	0.2069	ppb	4.55	0.20	103.45	
238 U	0.1992	ppb	2.92	0.20	99.6	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2925436.00	2.00	2900107.00	100.9	80 - 120.4	
45 Sc	2177146.80	1.18	2161269.30	100.7	80 - 120.4	
72 Ge	461361.84	0.83	459106.19	100.5	80 - 120.4	
159 Tb	3413353.00	0.98	3415757.80	99.9	80 - 120.4	
209 Bi	1733308.00	0.93	1757454.40	98.6	80 - 120.4	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE17B.B\015CALB.D\015CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Katahdin Analytical Services 4000263

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE17B.B\020SMPL.D\020SMPL.D#
Date Acquired: May 17 2018 05:20 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: RINSE
Misc Info:
Vial Number: 1301
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 17 2018 05:07 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0033	0.0033	ppb	37.33	100.	
11 B	0.4648	0.4648	ppb	22.83	1000.	
23 Na	0.3927	0.3927	ppb	40.57	200000.	
25 Mg	-0.0244	-0.0244	ppb	307.59	200000.	
27 Al	0.0294	0.0294	ppb	49.10	200000.	
28 Si	6.743	6.743	ppb	71.42	#VALUE!	
29 Si	4.047	4.047	ppb	97.83	10000.	
39 K	5.654	5.654	ppb	52.67	200000.	
43 Ca	2.425	2.425	ppb	21.41	#VALUE!	
44 Ca	0.9257	0.9257	ppb	70.96	200000.	
51 V	-0.0047	-0.0047	ppb	2011.30	1000.	
52 Cr	0.0076	0.0076	ppb	445.80	2000.	
53 Cr	-2.58	-2.58	ppb	13.96	#VALUE!	
55 Mn	0.0126	0.0126	ppb	59.32	2000.	
56 Fe	6.405	6.405	ppb	34.88	#VALUE!	
57 Fe	2.18	2.18	ppb	76.84	100000.	
59 Co	-0.002	-0.002	ppb	32.43	1000.	
60 Ni	0.0039	0.0039	ppb	673.10	1000.	
63 Cu	-0.0044	-0.0044	ppb	570.36	#VALUE!	
65 Cu	-0.002	-0.002	ppb	471.86	2000.	
66 Zn	0.0184	0.0184	ppb	284.49	2000.	
68 Zn	0.0782	0.0782	ppb	64.30	#VALUE!	
75 As	-0.0816	-0.0816	ppb	317.72	1000.	
82 Se	0.002	0.002	ppb	18408.00	1000.	
88 Sr	0.0021	0.0021	ppb	80.69	2000.	
89 Y	----	--------	---	---	#VALUE!	
98 Mo	0.008	0.008	ppb	29.70	1000.	
107 Ag	-0.002	-0.002	ppb	33.87	100.	
109 Ag	0.0028	0.0028	ppb	93.25	#VALUE!	
111 Cd	-0.0249	-0.0249	ppb	93.98	#VALUE!	
114 Cd	0.0013	0.0013	ppb	127.85	1000.	
115 In	----	--------	---	---	#VALUE!	
118 Sn	0.0186	0.0186	ppb	61.16	1000.	
120 Sn	0.0052	0.0052	ppb	111.60	#VALUE!	
121 Sb	0.0038	0.0038	ppb	47.46	#VALUE!	
123 Sb	0.0021	0.0021	ppb	137.78	1000.	
135 Ba	0.0128	0.0128	ppb	73.51	2000.	
137 Ba	0.0044	0.0044	ppb	302.08	#VALUE!	
182 W	0.0082	0.0082	ppb	13.70	1000.	
203 Tl	0.0006	0.0006	ppb	1495.10	1000.	
205 Tl	0.0049	0.0049	ppb	77.58	#VALUE!	
208 Pb	0.0062	0.0062	ppb	98.16	2000.	
232 Th	0.015	0.015	ppb	27.26	1000.	
238 U	0.0011	0.0011	ppb	57.97	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2653400.80	2.01	2900107.00	91.5	69.5 - 120	
45 Sc	2058341.90	1.65	2161269.30	95.2	69.5 - 120	
72 Ge	440320.47	1.07	459106.19	95.9	69.5 - 120	
159 Tb	3276558.30	1.16	3415757.80	95.9	69.5 - 120	
209 Bi	1689284.40	1.76	1757454.40	96.1	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE17B.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000264

ICS-A QC Report

Data File: C:\ICPCHEM\1\DATA\JLE17B.B\021ICSA.D\021ICSA.D#
Date Acquired: May 17 2018 05:24 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: ICSA
Misc Info:
Vial Number: 1104
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 17 2018 05:07 pm
Sample Type: 6-ICSA
Dilution Factor: 1.00

QC Elements

Element	Conc.		RSD(%)	High Limit	Flag
9 Be	0.0024	ppb	41.56		
11 B	0.6329	ppb	7.08		
23 Na	94,480.	ppb	2.10		
25 Mg	92,720.	ppb	1.88		
27 Al	92,940.	ppb	2.06		
28 Si	18.01	ppb	20.22		
29 Si	59.47	ppb	3.51		
39 K	96,370.	ppb	0.34		
43 Ca	98,430.	ppb	0.66		
44 Ca	93,360.	ppb	0.18		
51 V	0.2569	ppb	25.10		
52 Cr	0.8633	ppb	4.20		
53 Cr	-2.516	ppb	5.80		
55 Mn	0.4037	ppb	4.54		
56 Fe	94,950.	ppb	0.97		
57 Fe	90,840.	ppb	0.88		
59 Co	0.091	ppb	14.94		
60 Ni	-0.314	ppb	28.91		
63 Cu	3.531	ppb	2.80		
65 Cu	0.951	ppb	2.74		
66 Zn	2.27	ppb	0.80		
68 Zn	0.6272	ppb	10.07		
75 As	0.1297	ppb	69.78		
82 Se	0.4582	ppb	122.48		
88 Sr	0.9294	ppb	3.98		
89 Y	--------	---	--------		
98 Mo	1,870.	ppb	0.43		
107 Ag	0.0199	ppb	23.26		
109 Ag	0.0286	ppb	16.08		
111 Cd	-0.0398	ppb	97.99		
114 Cd	-0.0065	ppb	270.18		
115 In	--------	---	--------		
118 Sn	0.0782	ppb	31.43		
120 Sn	0.0444	ppb	11.34		
121 Sb	0.0372	ppb	16.43		
123 Sb	0.0539	ppb	17.36		
135 Ba	0.0723	ppb	12.29		
137 Ba	0.0762	ppb	13.51		
182 W	0.2201	ppb	12.64		
203 Tl	0.0036	ppb	40.60		
205 Tl	0.0035	ppb	227.46		
208 Pb	0.0672	ppb	17.11		
232 Th	0.0556	ppb	40.36		
238 U	0.0015	ppb	38.44		

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2559649.30	2.72	2900107.00	88.3	69.5 - 120.4	
45 Sc	2114349.30	0.68	2161269.30	97.8	69.5 - 120.4	
72 Ge	445456.09	1.07	459106.19	97.0	69.5 - 120.4	
159 Tb	3347522.30	1.11	3415757.80	98.0	69.5 - 120.4	
209 Bi	1583876.40	0.15	1757454.40	90.1	69.5 - 120.4	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE17B.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000265

ICS-AB QC Report

Data File: C:\ICPCHEM\1\DATA\JLE17B.B\022ICSB.D\022ICSB.D#
Date Acquired: May 17 2018 05:28 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: ICSAB
Misc Info:
Vial Number: 1105
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 17 2018 05:07 pm
Sample Type: 6-ICSAB
Dilution Factor: 1.00

QC Elements

Element	Conc.		RSD(%)	Expected	QC Range(%)	Flag
9 Be	20.79	ppb	2.00	20.00	79.5 - 120	
11 B	22.89	ppb	2.34	20.00	79.5 - 120	
23 Na	97,960.	ppb	1.84	#########	79.5 - 120	
25 Mg	97,020.	ppb	1.59	#########	79.5 - 120	
27 Al	96,030.	ppb	0.64	#########	79.5 - 120	
28 Si	549.	ppb	1.97	---	##### - #####	
29 Si	562.9	ppb	0.73	---	##### - #####	
39 K	98,580.	ppb	2.09	#########	79.5 - 120	
43 Ca	101,400.	ppb	1.52	#########	79.5 - 120	
44 Ca	96,330.	ppb	2.04	#########	79.5 - 120	
51 V	20.84	ppb	0.97	20.00	79.5 - 120	
52 Cr	20.85	ppb	0.82	20.00	79.5 - 120	
53 Cr	19.86	ppb	3.05	---	##### - #####	
55 Mn	20.19	ppb	0.90	20.00	79.5 - 120	
56 Fe	96,860.	ppb	1.58	#########	79.5 - 120	
57 Fe	93,130.	ppb	1.56	#########	79.5 - 120	
59 Co	20.03	ppb	1.41	20.00	79.5 - 120	
60 Ni	19.05	ppb	1.12	20.00	79.5 - 120	
63 Cu	22.74	ppb	2.17	20.00	79.5 - 120	
65 Cu	20.2	ppb	2.78	20.00	79.5 - 120	
66 Zn	20.96	ppb	2.44	20.00	79.5 - 120	
68 Zn	19.49	ppb	1.41	20.00	79.5 - 120	
75 As	20.73	ppb	1.53	20.00	79.5 - 120	
82 Se	20.21	ppb	1.94	20.00	79.5 - 120	
88 Sr	21.03	ppb	0.30	20.00	79.5 - 120	
89 Y	--------	---	--------	---	##### - #####	
98 Mo	1,922.	ppb	1.22	2000.00	79.5 - 120	
107 Ag	18.9	ppb	0.69	20.00	79.5 - 120	
109 Ag	18.73	ppb	0.44	20.00	79.5 - 120	
111 Cd	19.18	ppb	0.35	20.00	79.5 - 120	
114 Cd	19.06	ppb	0.68	20.00	79.5 - 120	
115 In	--------	---	--------	---	##### - #####	
118 Sn	20.83	ppb	1.86	20.00	79.5 - 120	
120 Sn	20.64	ppb	2.44	20.00	79.5 - 120	
121 Sb	20.77	ppb	1.74	20.00	79.5 - 120	
123 Sb	20.79	ppb	1.16	20.00	79.5 - 120	
135 Ba	20.83	ppb	2.50	20.00	79.5 - 120	
137 Ba	20.87	ppb	1.51	20.00	79.5 - 120	
182 W	21.	ppb	1.01	20.00	79.5 - 120	
203 Tl	21.45	ppb	0.94	20.00	79.5 - 120	
205 Tl	21.2	ppb	1.44	20.00	79.5 - 120	
208 Pb	21.31	ppb	0.94	20.00	79.5 - 120	
232 Th	22.65	ppb	1.06	20.00	79.5 - 120	
238 U	22.33	ppb	1.41	20.00	79.5 - 120	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2546642.80	2.04	2900107.00	87.8	69.5 - 120	
45 Sc	2140446.00	0.65	2161269.30	99.0	69.5 - 120	
72 Ge	452586.97	0.36	459106.19	98.6	69.5 - 120	
159 Tb	3385622.00	1.41	3415757.80	99.1	69.5 - 120	
209 Bi	1569230.00	1.13	1757454.40	89.3	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE17B.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000266

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE17B.B\023SMPL.D\023SMPL.D#
Date Acquired: May 17 2018 05:32 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: RINSE
Misc Info:
Vial Number: 1303
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 17 2018 05:07 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0024	0.0024	ppb	109.77	100.	
11 B	0.4683	0.4683	ppb	28.19	1000.	
23 Na	9.696	9.696	ppb	71.08	200000.	
25 Mg	4.556	4.556	ppb	146.18	200000.	
27 Al	5.032	5.032	ppb	144.26	200000.	
28 Si	7.179	7.179	ppb	54.56	#VALUE!	
29 Si	-3.822	-3.822	ppb	58.50	10000.	
39 K	3.044	3.044	ppb	289.75	200000.	
43 Ca	7.117	7.117	ppb	186.17	#VALUE!	
44 Ca	4.533	4.533	ppb	120.78	200000.	
51 V	-0.0499	-0.0499	ppb	57.08	1000.	
52 Cr	0.0088	0.0088	ppb	230.84	2000.	
53 Cr	-1.939	-1.939	ppb	8.99	#VALUE!	
55 Mn	0.0028	0.0028	ppb	271.14	2000.	
56 Fe	12.6	12.6	ppb	76.02	#VALUE!	
57 Fe	7.191	7.191	ppb	115.52	100000.	
59 Co	0.0004	0.0004	ppb	864.84	1000.	
60 Ni	0.0172	0.0172	ppb	73.20	1000.	
63 Cu	0.2611	0.2611	ppb	5.42	#VALUE!	
65 Cu	0.2385	0.2385	ppb	10.77	2000.	
66 Zn	0.1283	0.1283	ppb	39.48	2000.	
68 Zn	0.2051	0.2051	ppb	11.33	#VALUE!	
75 As	-0.1761	-0.1761	ppb	131.12	1000.	
82 Se	0.1262	0.1262	ppb	68.35	1000.	
88 Sr	0.0034	0.0034	ppb	65.24	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	0.8638	0.8638	ppb	57.28	1000.	
107 Ag	0.0047	0.0047	ppb	21.47	100.	
109 Ag	0.0056	0.0056	ppb	59.00	#VALUE!	
111 Cd	-0.1008	-0.1008	ppb	25.11	#VALUE!	
114 Cd	-0.0017	-0.0017	ppb	529.50	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	0.0183	0.0183	ppb	12.64	1000.	
120 Sn	0.0141	0.0141	ppb	40.02	#VALUE!	
121 Sb	0.0042	0.0042	ppb	88.08	#VALUE!	
123 Sb	0.0032	0.0032	ppb	168.44	1000.	
135 Ba	0.0172	0.0172	ppb	73.03	2000.	
137 Ba	0.0173	0.0173	ppb	67.42	#VALUE!	
182 W	0.0049	0.0049	ppb	86.39	1000.	
203 Tl	-0.0024	-0.0024	ppb	96.52	1000.	
205 Tl	0.0053	0.0053	ppb	76.29	#VALUE!	
208 Pb	0.1452	0.1452	ppb	10.60	2000.	
232 Th	0.0091	0.0091	ppb	40.23	1000.	
238 U	0.0019	0.0019	ppb	74.79	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2671002.80	2.75	2900107.00	92.1	69.5 - 120	
45 Sc	2133823.30	1.23	2161269.30	98.7	69.5 - 120	
72 Ge	454225.56	1.64	459106.19	98.9	69.5 - 120	
159 Tb	3333380.50	1.11	3415757.80	97.6	69.5 - 120	
209 Bi	1706887.30	1.63	1757454.40	97.1	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE17B.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000267

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE17B.B\024SMPL.D\024SMPL.D#
Date Acquired: May 17 2018 05:36 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: LRS1
Misc Info:
Vial Number: 3511
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 17 2018 05:07 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	101.	101.	ppb	3.43	100.	>LDR
11 B	0.2084	0.2084	ppb	30.81	1000.	
23 Na	4.82	4.82	ppb	11.55	200000.	
25 Mg	1.179	1.179	ppb	3.89	200000.	
27 Al	1.409	1.409	ppb	4.03	200000.	
28 Si	5.073	5.073	ppb	48.55	#VALUE!	
29 Si	0.4145	0.4145	ppb	1330.50	10000.	
39 K	-1.763	-1.763	ppb	158.99	200000.	
43 Ca	1,394.	1,394.	ppb	2.82	#VALUE!	
44 Ca	69.87	69.87	ppb	27.55	200000.	
51 V	1,024.	1,024.	ppb	1.05	1000.	>LDR
52 Cr	2,027.	2,027.	ppb	1.13	2000.	>LDR
53 Cr	2,240.	2,240.	ppb	1.85	#VALUE!	
55 Mn	1,989.	1,989.	ppb	1.55	2000.	
56 Fe	3.123	3.123	ppb	180.08	#VALUE!	
57 Fe	-4.868	-4.868	ppb	36.96	100000.	
59 Co	1,026.	1,026.	ppb	1.34	1000.	>LDR
60 Ni	1,034.	1,034.	ppb	1.44	1000.	>LDR
63 Cu	2,001.	2,001.	ppb	1.55	#VALUE!	
65 Cu	2,007.	2,007.	ppb	1.33	2000.	>LDR
66 Zn	2,020.	2,020.	ppb	0.94	2000.	>LDR
68 Zn	2,064.	2,064.	ppb	2.19	#VALUE!	
75 As	1,046.	1,046.	ppb	2.83	1000.	>LDR
82 Se	1,063.	1,063.	ppb	1.87	1000.	>LDR
88 Sr	1,953.	1,953.	ppb	1.74	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	1,002.	1,002.	ppb	1.96	1000.	>LDR
107 Ag	106.7	106.7	ppb	2.31	100.	>LDR
109 Ag	106.7	106.7	ppb	1.69	#VALUE!	
111 Cd	1,040.	1,040.	ppb	2.00	#VALUE!	
114 Cd	1,015.	1,015.	ppb	1.97	1000.	>LDR
115 In	----	--------	--- ---		#VALUE!	
118 Sn	1,009.	1,009.	ppb	2.98	1000.	>LDR
120 Sn	991.5	991.5	ppb	3.03	#VALUE!	
121 Sb	999.6	999.6	ppb	2.48	#VALUE!	
123 Sb	1,016.	1,016.	ppb	3.17	1000.	>LDR
135 Ba	2,053.	2,053.	ppb	2.45	2000.	>LDR
137 Ba	2,019.	2,019.	ppb	2.40	#VALUE!	
182 W	995.7	995.7	ppb	2.55	1000.	
203 Tl	1,017.	1,017.	ppb	1.76	1000.	>LDR
205 Tl	977.	977.	ppb	1.17	#VALUE!	
208 Pb	1,953.	1,953.	ppb	1.00	2000.	
232 Th	990.8	990.8	ppb	1.60	1000.	
238 U	965.8	965.8	ppb	1.75	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2689637.50	3.24	2900107.00	92.7	69.5 - 120	
45 Sc	2120081.00	1.81	2161269.30	98.1	69.5 - 120	
72 Ge	439110.66	1.51	459106.19	95.6	69.5 - 120	
159 Tb	3436057.30	2.36	3415757.80	100.6	69.5 - 120	
209 Bi	1757380.60	1.06	1757454.40	100.0	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE17B.B\015CALB.D\015CALB.D#

16 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Katahdin Analytical Services 4000268

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE17B.B\025SMPL.D\025SMPL.D#
Date Acquired: May 17 2018 05:39 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: LRS2
Misc Info:
Vial Number: 3512
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 17 2018 05:07 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0194	0.0194	ppb	92.56	100.	
11 B	0.6982	0.6982	ppb	0.66	1000.	
23 Na	192,400.	192,400.	ppb	1.26	200000.	
25 Mg	186,700.	186,700.	ppb	0.31	200000.	
27 Al	190,100.	190,100.	ppb	0.62	200000.	
28 Si	9,368.	9,368.	ppb	0.74	#VALUE!	
29 Si	10,110.	10,110.	ppb	0.74	10000.	>LDR
39 K	191,900.	191,900.	ppb	0.52	200000.	
43 Ca	196,500.	196,500.	ppb	0.61	#VALUE!	
44 Ca	188,400.	188,400.	ppb	0.77	200000.	
51 V	0.1397	0.1397	ppb	27.62	1000.	
52 Cr	0.7545	0.7545	ppb	24.65	2000.	
53 Cr	-3.795	-3.795	ppb	4.40	#VALUE!	
55 Mn	7.623	7.623	ppb	1.02	2000.	
56 Fe	97,290.	97,290.	ppb	1.81	#VALUE!	
57 Fe	93,770.	93,770.	ppb	1.23	100000.	
59 Co	0.6232	0.6232	ppb	15.17	1000.	
60 Ni	0.5681	0.5681	ppb	27.95	1000.	
63 Cu	7.702	7.702	ppb	2.18	#VALUE!	
65 Cu	1.671	1.671	ppb	7.56	2000.	
66 Zn	3.184	3.184	ppb	1.65	2000.	
68 Zn	1.083	1.083	ppb	13.43	#VALUE!	
75 As	0.2488	0.2488	ppb	81.11	1000.	
82 Se	0.8992	0.8992	ppb	23.58	1000.	
88 Sr	6.795	6.795	ppb	1.63	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	1.228	1.228	ppb	24.12	1000.	
107 Ag	0.3445	0.3445	ppb	6.08	100.	
109 Ag	0.3499	0.3499	ppb	3.32	#VALUE!	
111 Cd	0.041	0.041	ppb	155.42	#VALUE!	
114 Cd	0.0511	0.0511	ppb	200.51	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	0.7496	0.7496	ppb	5.90	1000.	
120 Sn	0.7208	0.7208	ppb	4.62	#VALUE!	
121 Sb	0.6684	0.6684	ppb	10.63	#VALUE!	
123 Sb	0.6593	0.6593	ppb	10.14	1000.	
135 Ba	0.3638	0.3638	ppb	81.89	2000.	
137 Ba	0.3526	0.3526	ppb	53.74	#VALUE!	
182 W	1.361	1.361	ppb	37.28	1000.	
203 Tl	0.0907	0.0907	ppb	110.23	1000.	
205 Tl	0.0985	0.0985	ppb	111.53	#VALUE!	
208 Pb	0.6042	0.6042	ppb	32.49	2000.	
232 Th	1.522	1.522	ppb	49.13	1000.	
238 U	0.1627	0.1627	ppb	70.31	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2453832.30	0.67	2900107.00	84.6	69.5 - 120	
45 Sc	2144037.30	1.29	2161269.30	99.2	69.5 - 120	
72 Ge	437981.38	0.81	459106.19	95.4	69.5 - 120	
159 Tb	3136093.00	1.97	3415757.80	91.8	69.5 - 120	
209 Bi	1415447.30	0.70	1757454.40	80.5	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE17B.B\015CALB.D\015CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Katahdin Analytical Services 4000269

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE17B.B\026SMPL.D\026SMPL.D#
Date Acquired: May 17 2018 05:43 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: RINSE
Misc Info:
Vial Number: 1303
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 17 2018 05:07 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0023	0.0023	ppb	141.79	100.	
11 B	0.1034	0.1034	ppb	55.86	1000.	
23 Na	9.642	9.642	ppb	13.33	200000.	
25 Mg	0.9556	0.9556	ppb	11.62	200000.	
27 Al	0.758	0.758	ppb	2.57	200000.	
28 Si	-1.806	-1.806	ppb	297.07	#VALUE!	
29 Si	-17.26	-17.26	ppb	37.95	10000.	
39 K	-4.591	-4.591	ppb	35.70	200000.	
43 Ca	1.832	1.832	ppb	118.94	#VALUE!	
44 Ca	1.824	1.824	ppb	40.34	200000.	
51 V	-0.044	-0.044	ppb	258.58	1000.	
52 Cr	0.114	0.114	ppb	25.10	2000.	
53 Cr	3.142	3.142	ppb	9.12	#VALUE!	
55 Mn	0.002	0.002	ppb	249.72	2000.	
56 Fe	10.82	10.82	ppb	17.87	#VALUE!	
57 Fe	3.575	3.575	ppb	12.93	100000.	
59 Co	0.0029	0.0029	ppb	177.42	1000.	
60 Ni	0.0178	0.0178	ppb	30.77	1000.	
63 Cu	0.2427	0.2427	ppb	10.02	#VALUE!	
65 Cu	0.2312	0.2312	ppb	4.70	2000.	
66 Zn	0.154	0.154	ppb	25.71	2000.	
68 Zn	0.2618	0.2618	ppb	41.29	#VALUE!	
75 As	0.1667	0.1667	ppb	89.92	1000.	
82 Se	0.6117	0.6117	ppb	50.74	1000.	
88 Sr	-0.0005	-0.0005	ppb	488.79	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	0.1447	0.1447	ppb	46.50	1000.	
107 Ag	0.0017	0.0017	ppb	88.62	100.	
109 Ag	0.003	0.003	ppb	90.65	#VALUE!	
111 Cd	-0.0908	-0.0908	ppb	6.91	#VALUE!	
114 Cd	-0.0002	-0.0002	ppb	532.11	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	0.1299	0.1299	ppb	13.37	1000.	
120 Sn	0.1015	0.1015	ppb	10.75	#VALUE!	
121 Sb	0.0325	0.0325	ppb	50.15	#VALUE!	
123 Sb	0.0435	0.0435	ppb	12.27	1000.	
135 Ba	0.0219	0.0219	ppb	90.82	2000.	
137 Ba	0.031	0.031	ppb	10.92	#VALUE!	
182 W	0.2114	0.2114	ppb	39.47	1000.	
203 Tl	0.0079	0.0079	ppb	117.06	1000.	
205 Tl	0.0024	0.0024	ppb	113.33	#VALUE!	
208 Pb	0.1557	0.1557	ppb	1.61	2000.	
232 Th	0.0456	0.0456	ppb	63.38	1000.	
238 U	0.005	0.005	ppb	40.18	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2918541.50	1.53	2900107.00	100.6	69.5 - 120	
45 Sc	2297638.50	0.92	2161269.30	106.3	69.5 - 120	
72 Ge	479183.72	0.54	459106.19	104.4	69.5 - 120	
159 Tb	3348496.50	0.20	3415757.80	98.0	69.5 - 120	
209 Bi	1698001.40	0.65	1757454.40	96.6	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE17B.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000270

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE17B.B\027SMPL.D\027SMPL.D#
Date Acquired: May 17 2018 05:47 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: RINSE
Misc Info:
Vial Number: 1303
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 17 2018 05:07 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0002	0.0002	ppb	963.44	100.	
11 B	0.0951	0.0951	ppb	39.68	1000.	
23 Na	8.488	8.488	ppb	68.07	200000.	
25 Mg	4.174	4.174	ppb	138.00	200000.	
27 Al	4.854	4.854	ppb	148.89	200000.	
28 Si	7.991	7.991	ppb	26.47	#VALUE!	
29 Si	-4.681	-4.681	ppb	63.70	10000.	
39 K	-0.8276	-0.8276	ppb	930.16	200000.	
43 Ca	2.289	2.289	ppb	319.44	#VALUE!	
44 Ca	5.921	5.921	ppb	108.85	200000.	
51 V	0.0542	0.0542	ppb	122.43	1000.	
52 Cr	0.0822	0.0822	ppb	38.60	2000.	
53 Cr	2.387	2.387	ppb	12.25	#VALUE!	
55 Mn	0.0119	0.0119	ppb	92.59	2000.	
56 Fe	10.25	10.25	ppb	58.05	#VALUE!	
57 Fe	5.311	5.311	ppb	109.66	100000.	
59 Co	0.0036	0.0036	ppb	31.40	1000.	
60 Ni	0.0135	0.0135	ppb	46.89	1000.	
63 Cu	0.2222	0.2222	ppb	10.44	#VALUE!	
65 Cu	0.1682	0.1682	ppb	9.79	2000.	
66 Zn	0.1402	0.1402	ppb	7.71	2000.	
68 Zn	0.2585	0.2585	ppb	21.47	#VALUE!	
75 As	-0.016	-0.016	ppb	1132.00	1000.	
82 Se	0.1657	0.1657	ppb	134.64	1000.	
88 Sr	0.0061	0.0061	ppb	81.37	2000.	
89 Y	----	--------	---	---	#VALUE!	
98 Mo	0.06	0.06	ppb	37.55	1000.	
107 Ag	0.0006	0.0006	ppb	184.34	100.	
109 Ag	0.0038	0.0038	ppb	104.53	#VALUE!	
111 Cd	-0.0692	-0.0692	ppb	19.78	#VALUE!	
114 Cd	-0.0007	-0.0007	ppb	766.23	1000.	
115 In	----	--------	---	---	#VALUE!	
118 Sn	0.075	0.075	ppb	22.36	1000.	
120 Sn	0.0534	0.0534	ppb	14.76	#VALUE!	
121 Sb	0.0173	0.0173	ppb	21.78	#VALUE!	
123 Sb	0.0216	0.0216	ppb	6.39	1000.	
135 Ba	0.0256	0.0256	ppb	40.37	2000.	
137 Ba	0.028	0.028	ppb	9.08	#VALUE!	
182 W	0.0712	0.0712	ppb	18.96	1000.	
203 Tl	0.0109	0.0109	ppb	92.85	1000.	
205 Tl	0.0082	0.0082	ppb	27.70	#VALUE!	
208 Pb	0.1521	0.1521	ppb	7.55	2000.	
232 Th	0.0333	0.0333	ppb	66.55	1000.	
238 U	0.0014	0.0014	ppb	153.54	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2772009.00	1.83	2900107.00	95.6	69.5 - 120	
45 Sc	2228586.50	1.91	2161269.30	103.1	69.5 - 120	
72 Ge	467826.13	0.74	459106.19	101.9	69.5 - 120	
159 Tb	3354190.30	0.80	3415757.80	98.2	69.5 - 120	
209 Bi	1699864.10	0.93	1757454.40	96.7	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE17B.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000271

CCV QC Report

Data File: C:\ICPCHEM\1\DATA\JLE17B.B\028_CCV.D\028_CCV.D#
Date Acquired: May 17 2018 05:51 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: CCV
Misc Info:
Vial Number: 1206
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 17 2018 05:07 pm
Dilution Factor: 1.00
QC Range (%): 89.5 - 110.5

QC Elements

Element	Conc.		RSD(%)	Expected	Rec (%)	Flag
9 Be	24.5	ppb	2.51	25	98	
11 B	23.88	ppb	2.40	25	95.52	
23 Na	5,084.	ppb	2.68	5,000	101.68	
25 Mg	5,079.	ppb	4.04	5,000	101.58	
27 Al	499.9	ppb	2.57	500	99.98	
28 Si	519.5	ppb	2.52	500	103.9	
29 Si	479.	ppb	3.66	500	95.8	
39 K	4,953.	ppb	2.17	5,000	99.06	
43 Ca	4,944.	ppb	1.87	5,000	98.88	
44 Ca	5,057.	ppb	0.72	5,000	101.14	
51 V	25.37	ppb	0.84	25	101.48	
52 Cr	25.16	ppb	2.13	25	100.64	
53 Cr	26.8	ppb	5.78	25	107.2	
55 Mn	25.42	ppb	0.88	25	101.68	
56 Fe	4,989.	ppb	0.69	5,000	99.78	
57 Fe	5,038.	ppb	0.90	5,000	100.76	
59 Co	25.37	ppb	1.02	25	101.48	
60 Ni	25.33	ppb	0.53	25	101.32	
63 Cu	25.45	ppb	0.93	25	101.8	
65 Cu	25.2	ppb	0.59	25	100.8	
66 Zn	25.33	ppb	1.01	25	101.32	
68 Zn	25.51	ppb	0.47	25	102.04	
75 As	25.35	ppb	1.82	25	101.4	
82 Se	26.08	ppb	3.04	25	104.32	
88 Sr	24.6	ppb	1.26	25	98.4	
89 Y	--------	---	--------	---	#VALUE!	
98 Mo	24.48	ppb	2.03	25	97.92	
107 Ag	25.	ppb	1.65	25	100	
109 Ag	24.74	ppb	1.75	25	98.96	
111 Cd	24.76	ppb	0.97	25	99.04	
114 Cd	24.72	ppb	0.77	25	98.88	
115 In	--------	---	--------	---	#VALUE!	
118 Sn	25.51	ppb	0.26	25	102.04	
120 Sn	25.43	ppb	0.31	25	101.72	
121 Sb	25.66	ppb	1.38	25	102.64	
123 Sb	25.7	ppb	0.21	25	102.8	
135 Ba	25.53	ppb	1.52	25	102.12	
137 Ba	25.92	ppb	0.94	25	103.68	
182 W	24.96	ppb	0.30	25	99.84	
203 Tl	25.6	ppb	1.24	25	102.4	
205 Tl	25.46	ppb	0.83	25	101.84	
208 Pb	25.34	ppb	1.85	25	101.36	
232 Th	25.11	ppb	1.73	25	100.44	
238 U	25.04	ppb	1.18	25	100.16	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2911423.00	3.08	2900107.00	100.4	80 - 120.4	
45 Sc	2277442.50	1.90	2161269.30	105.4	80 - 120.4	
72 Ge	467384.28	0.62	459106.19	101.8	80 - 120.4	
159 Tb	3491441.50	0.32	3415757.80	102.2	80 - 120.4	
209 Bi	1740938.00	0.59	1757454.40	99.1	80 - 120.4	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE17B.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000272

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\JLE17B.B\029_CCB.D\029_CCB.D#
Date Acquired: May 17 2018 05:55 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: CCB
Misc Info:
Vial Number: 1207
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 17 2018 05:07 pm
Sample Type: 6-CCB
Dilution Factor: 1.00

QC Elements

Element	Conc.		RSD(%)	High Limit	Flag
9 Be	0.0025	ppb	80.13	1.00	
11 B	1.066	ppb	17.90	1.00	
23 Na	3.163	ppb	7.66	1.00	
25 Mg	0.7376	ppb	7.42	1.00	
27 Al	-0.0182	ppb	421.87	1.00	
28 Si	12.09	ppb	36.73	1.00	
29 Si	2.933	ppb	84.18	1.00	
39 K	1.013	ppb	95.77	1.00	
43 Ca	-0.4331	ppb	1291.80	1.00	
44 Ca	0.6465	ppb	137.42	1.00	
51 V	0.1025	ppb	137.37	1.00	
52 Cr	0.0233	ppb	196.05	1.00	
53 Cr	-0.3659	ppb	170.37	1.00	
55 Mn	0.0079	ppb	81.23	1.00	
56 Fe	7.162	ppb	60.17	1.00	
57 Fe	1.531	ppb	251.47	1.00	
59 Co	0.0046	ppb	60.14	1.00	
60 Ni	-0.0068	ppb	111.75	1.00	
63 Cu	0.0067	ppb	185.49	1.00	
65 Cu	-0.0001	ppb	35026.00	1.00	
66 Zn	0.0418	ppb	62.45	1.00	
68 Zn	0.0287	ppb	225.48	1.00	
75 As	0.0638	ppb	129.37	1.00	
82 Se	0.2685	ppb	37.51	1.00	
88 Sr	0.0039	ppb	60.81	1.00	
89 Y	--------	---	--------	---	
98 Mo	0.0434	ppb	33.66	1.00	
107 Ag	0.0022	ppb	195.85	1.00	
109 Ag	0.0048	ppb	39.92	1.00	
111 Cd	-0.0803	ppb	37.72	1.00	
114 Cd	0.0011	ppb	44.02	1.00	
115 In	--------	---	--------	---	
118 Sn	0.033	ppb	26.89	1.00	
120 Sn	0.0296	ppb	22.42	1.00	
121 Sb	0.0202	ppb	1.59	1.00	
123 Sb	0.0187	ppb	50.25	1.00	
135 Ba	-0.0077	ppb	152.71	1.00	
137 Ba	0.012	ppb	68.14	1.00	
182 W	0.0769	ppb	32.78	1.00	
203 Tl	0.0079	ppb	102.11	1.00	
205 Tl	0.0036	ppb	105.58	1.00	
208 Pb	0.0138	ppb	25.81	1.00	
232 Th	0.065	ppb	17.64	1.00	
238 U	0.0019	ppb	78.06	1.00	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2630824.80	3.83	2900107.00	90.7	79.5 - 120	
45 Sc	2122041.00	1.24	2161269.30	98.2	79.5 - 120	
72 Ge	446243.66	1.66	459106.19	97.2	79.5 - 120	
159 Tb	3276755.50	1.28	3415757.80	95.9	79.5 - 120	
209 Bi	1681979.60	1.57	1757454.40	95.7	79.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE17B.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000273

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE17B.B\030SMPL.D\030SMPL.D#
Date Acquired: May 17 2018 05:59 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: PBWLE08IMW1
Misc Info:
Vial Number: 2101
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 17 2018 05:07 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0028	0.0006	ppb	374.71	100.	
11 B	1.92	0.384	ppb	21.04	1000.	
23 Na	24.495	4.899	ppb	3.87	200000.	
25 Mg	13.07	2.614	ppb	6.56	200000.	
27 Al	7.31	1.462	ppb	3.99	200000.	
28 Si	54.8	10.96	ppb	20.26	#VALUE!	
29 Si	18.34	3.668	ppb	68.32	10000.	
39 K	10.645	2.129	ppb	37.34	200000.	
43 Ca	9.905	1.981	ppb	280.67	#VALUE!	
44 Ca	14.51	2.902	ppb	52.69	200000.	
51 V	-0.024	-0.0048	ppb	1950.00	1000.	
52 Cr	0.2264	0.0453	ppb	24.49	2000.	
53 Cr	5.34	1.068	ppb	10.08	#VALUE!	
55 Mn	0.1604	0.0321	ppb	9.78	2000.	
56 Fe	34.8	6.96	ppb	22.10	#VALUE!	
57 Fe	0.1927	0.0385	ppb	10612.00	100000.	
59 Co	0.0065	0.0013	ppb	197.07	1000.	
60 Ni	0.018	0.0036	ppb	67.52	1000.	
63 Cu	0.1727	0.0345	ppb	23.85	#VALUE!	
65 Cu	0.0562	0.0112	ppb	146.57	2000.	
66 Zn	1.067	0.2134	ppb	45.62	2000.	
68 Zn	1.3435	0.2687	ppb	14.19	#VALUE!	
75 As	-0.6065	-0.1213	ppb	163.07	1000.	
82 Se	0.728	0.1456	ppb	84.82	1000.	
88 Sr	0.0477	0.0095	ppb	17.38	2000.	
89 Y	----	--------	---	---	#VALUE!	
98 Mo	0.0886	0.0177	ppb	12.93	1000.	
107 Ag	0.0031	0.0006	ppb	205.93	100.	
109 Ag	0.0063	0.0013	ppb	121.55	#VALUE!	
111 Cd	-0.3373	-0.0675	ppb	42.65	#VALUE!	
114 Cd	0.0008	0.0002	ppb	1705.60	1000.	
115 In	----	--------	---	---	#VALUE!	
118 Sn	0.2229	0.0446	ppb	63.55	1000.	
120 Sn	0.2304	0.0461	ppb	31.76	#VALUE!	
121 Sb	0.0329	0.0066	ppb	18.26	#VALUE!	
123 Sb	0.0646	0.0129	ppb	14.00	1000.	
135 Ba	0.0967	0.0193	ppb	102.43	2000.	
137 Ba	0.1065	0.0213	ppb	16.87	#VALUE!	
182 W	0.1691	0.0338	ppb	31.93	1000.	
203 Tl	0.007	0.0014	ppb	519.77	1000.	
205 Tl	-0.0072	-0.0014	ppb	233.24	#VALUE!	
208 Pb	-0.0074	-0.0015	ppb	921.62	2000.	
232 Th	0.149	0.0298	ppb	30.14	1000.	
238 U	-0.0004	-0.0001	ppb	286.30	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2679370.50	2.63	2900107.00	92.4	69.5 - 120	
45 Sc	2126043.30	0.87	2161269.30	98.4	69.5 - 120	
72 Ge	447659.59	1.28	459106.19	97.5	69.5 - 120	
159 Tb	3242965.50	2.17	3415757.80	94.9	69.5 - 120	
209 Bi	1674331.40	0.65	1757454.40	95.3	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE17B.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000274

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE17B.B\031SMPL.D\031SMPL.D#
Date Acquired: May 17 2018 06:03 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: LCSWLE08IMW1
Misc Info:
Vial Number: 2102
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 17 2018 05:07 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	49.835	9.967	ppb	2.25	100.	
11 B	509.	101.8	ppb	2.85	1000.	
23 Na	7,800.	1,560.	ppb	1.78	200000.	
25 Mg	5,170.	1,034.	ppb	1.38	200000.	
27 Al	2,138.	427.6	ppb	0.70	200000.	
28 Si	1,235.5	247.1	ppb	1.21	#VALUE!	
29 Si	1,023.5	204.7	ppb	1.80	10000.	
39 K	10,390.	2,078.	ppb	0.78	200000.	
43 Ca	2,983.	596.6	ppb	7.17	#VALUE!	
44 Ca	2,543.5	508.7	ppb	1.16	200000.	
51 V	517.	103.4	ppb	0.89	1000.	
52 Cr	202.1	40.42	ppb	0.97	2000.	
53 Cr	267.2	53.44	ppb	1.27	#VALUE!	
55 Mn	518.5	103.7	ppb	0.92	2000.	
56 Fe	1,081.	216.2	ppb	1.04	#VALUE!	
57 Fe	1,006.	201.2	ppb	3.00	100000.	
59 Co	526.	105.2	ppb	0.38	1000.	
60 Ni	515.5	103.1	ppb	0.57	1000.	
63 Cu	254.9	50.98	ppb	0.77	#VALUE!	
65 Cu	256.1	51.22	ppb	0.60	2000.	
66 Zn	503.	100.6	ppb	0.47	2000.	
68 Zn	566.	113.2	ppb	1.01	#VALUE!	
75 As	103.35	20.67	ppb	1.61	1000.	
82 Se	101.5	20.3	ppb	1.38	1000.	
88 Sr	501.5	100.3	ppb	0.88	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	101.5	20.3	ppb	1.23	1000.	
107 Ag	52.3	10.46	ppb	0.86	100.	
109 Ag	52.1	10.42	ppb	1.62	#VALUE!	
111 Cd	257.25	51.45	ppb	1.24	#VALUE!	
114 Cd	255.55	51.11	ppb	1.02	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	510.5	102.1	ppb	1.72	1000.	
120 Sn	508.	101.6	ppb	1.12	#VALUE!	
121 Sb	105.	21.	ppb	1.53	#VALUE!	
123 Sb	103.95	20.79	ppb	1.27	1000.	
135 Ba	2,071.5	414.3	ppb	1.27	2000.	
137 Ba	2,059.5	411.9	ppb	1.02	#VALUE!	
182 W	101.8	20.36	ppb	0.48	1000.	
203 Tl	104.8	20.96	ppb	1.20	1000.	
205 Tl	105.2	21.04	ppb	1.81	#VALUE!	
208 Pb	104.35	20.87	ppb	0.82	2000.	
232 Th	102.8	20.56	ppb	1.23	1000.	
238 U	102.45	20.49	ppb	1.46	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2718444.80	0.53	2900107.00	93.7	69.5 - 120	
45 Sc	2070351.00	1.09	2161269.30	95.8	69.5 - 120	
72 Ge	442917.59	0.92	459106.19	96.5	69.5 - 120	
159 Tb	3430560.80	0.88	3415757.80	100.4	69.5 - 120	
209 Bi	1717256.10	1.07	1757454.40	97.7	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE17B.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000275

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE17B.B\032SMPL.D\032SMPL.D#
Date Acquired: May 17 2018 06:07 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3902-002
Misc Info:
Vial Number: 2103
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 17 2018 05:07 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.3096	0.0619	ppb	8.11	100.	
11 B	202.75	40.55	ppb	2.69	1000.	
23 Na	283,550.	56,710.	ppb	1.59	200000.	
25 Mg	65,800.	13,160.	ppb	1.32	200000.	
27 Al	7,105.	1,421.	ppb	1.05	200000.	
28 Si	33,185.	6,637.	ppb	1.87	#VALUE!	
29 Si	36,005.	7,201.	ppb	1.90	10000.	
39 K	20,165.	4,033.	ppb	1.19	200000.	
43 Ca	403,600.	80,720.	ppb	0.87	#VALUE!	
44 Ca	379,550.	75,910.	ppb	1.11	200000.	
51 V	18.58	3.716	ppb	0.91	1000.	
52 Cr	39.6	7.92	ppb	2.14	2000.	
53 Cr	74.5	14.9	ppb	12.57	#VALUE!	
55 Mn	1,450.5	290.1	ppb	0.73	2000.	
56 Fe	14,845.	2,969.	ppb	0.39	#VALUE!	
57 Fe	15,205.	3,041.	ppb	0.48	100000.	
59 Co	4.0975	0.8195	ppb	0.39	1000.	
60 Ni	19.605	3.921	ppb	0.56	1000.	
63 Cu	22.57	4.514	ppb	0.24	#VALUE!	
65 Cu	15.025	3.005	ppb	2.60	2000.	
66 Zn	80.05	16.01	ppb	2.52	2000.	
68 Zn	80.55	16.11	ppb	0.78	#VALUE!	
75 As	10.865	2.173	ppb	2.27	1000.	
82 Se	1.9005	0.3801	ppb	92.82	1000.	
88 Sr	1,616.	323.2	ppb	1.58	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	18.425	3.685	ppb	2.86	1000.	
107 Ag	0.0339	0.0068	ppb	43.09	100.	
109 Ag	0.0407	0.0081	ppb	57.16	#VALUE!	
111 Cd	-0.3363	-0.0673	ppb	29.78	#VALUE!	
114 Cd	0.0353	0.0071	ppb	171.93	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	1.8985	0.3797	ppb	7.11	1000.	
120 Sn	1.786	0.3572	ppb	12.26	#VALUE!	
121 Sb	0.3925	0.0785	ppb	10.43	#VALUE!	
123 Sb	0.3305	0.0661	ppb	8.42	1000.	
135 Ba	142.2	28.44	ppb	1.77	2000.	
137 Ba	140.7	28.14	ppb	0.90	#VALUE!	
182 W	0.641	0.1282	ppb	12.76	1000.	
203 Tl	0.0726	0.0145	ppb	77.76	1000.	
205 Tl	0.1309	0.0262	ppb	11.22	#VALUE!	
208 Pb	11.915	2.383	ppb	2.55	2000.	
232 Th	8.3	1.66	ppb	3.43	1000.	
238 U	1.6525	0.3305	ppb	3.81	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2570901.80	4.17	2900107.00	88.6	69.5 - 120	
45 Sc	2078330.60	1.25	2161269.30	96.2	69.5 - 120	
72 Ge	444409.81	0.40	459106.19	96.8	69.5 - 120	
159 Tb	3463828.50	1.53	3415757.80	101.4	69.5 - 120	
209 Bi	1685643.30	1.73	1757454.40	95.9	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE17B.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000276

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE17B.B\033SMPL.D\033SMPL.D#
Date Acquired: May 17 2018 06:11 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3902-003
Misc Info:
Vial Number: 2104
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 17 2018 05:07 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0106	0.0021	ppb	66.45	100.	
11 B	191.7	38.34	ppb	1.40	1000.	
23 Na	283,250.	56,650.	ppb	1.42	200000.	
25 Mg	65,350.	13,070.	ppb	0.34	200000.	
27 Al	9.295	1.859	ppb	4.09	200000.	
28 Si	20,060.	4,012.	ppb	1.36	#VALUE!	
29 Si	20,910.	4,182.	ppb	1.09	10000.	
39 K	18,615.	3,723.	ppb	1.77	200000.	
43 Ca	408,350.	81,670.	ppb	1.94	#VALUE!	
44 Ca	381,150.	76,230.	ppb	1.51	200000.	
51 V	0.563	0.1126	ppb	120.69	1000.	
52 Cr	2.5405	0.5081	ppb	7.52	2000.	
53 Cr	66.45	13.29	ppb	13.75	#VALUE!	
55 Mn	1,384.	276.8	ppb	1.55	2000.	
56 Fe	6,200.	1,240.	ppb	1.41	#VALUE!	
57 Fe	6,615.	1,323.	ppb	1.93	100000.	
59 Co	0.5535	0.1107	ppb	21.61	1000.	
60 Ni	1.8695	0.3739	ppb	21.58	1000.	
63 Cu	10.75	2.15	ppb	1.98	#VALUE!	
65 Cu	3.1685	0.6337	ppb	2.42	2000.	
66 Zn	10.36	2.072	ppb	9.85	2000.	
68 Zn	10.075	2.015	ppb	2.62	#VALUE!	
75 As	8.84	1.768	ppb	19.04	1000.	
82 Se	3.6335	0.7267	ppb	7.73	1000.	
88 Sr	1,582.5	316.5	ppb	0.88	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	12.65	2.53	ppb	1.41	1000.	
107 Ag	0.004	0.0008	ppb	51.85	100.	
109 Ag	0.0131	0.0026	ppb	147.75	#VALUE!	
111 Cd	-0.2929	-0.0586	ppb	22.79	#VALUE!	
114 Cd	0.0042	0.0008	ppb	744.90	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	1.1515	0.2303	ppb	12.55	1000.	
120 Sn	0.995	0.199	ppb	6.39	#VALUE!	
121 Sb	0.0848	0.017	ppb	20.14	#VALUE!	
123 Sb	0.1134	0.0227	ppb	22.45	1000.	
135 Ba	37.755	7.551	ppb	0.37	2000.	
137 Ba	37.45	7.49	ppb	2.60	#VALUE!	
182 W	0.3181	0.0636	ppb	21.93	1000.	
203 Tl	-0.0228	-0.0046	ppb	145.49	1000.	
205 Tl	0.0088	0.0018	ppb	194.43	#VALUE!	
208 Pb	-0.3234	-0.0647	ppb	19.27	2000.	
232 Th	0.391	0.0782	ppb	36.71	1000.	
238 U	0.697	0.1394	ppb	7.35	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2599576.80	1.51	2900107.00	89.6	69.5 - 120	
45 Sc	2071618.90	1.35	2161269.30	95.9	69.5 - 120	
72 Ge	449818.00	0.84	459106.19	98.0	69.5 - 120	
159 Tb	3491234.00	1.69	3415757.80	102.2	69.5 - 120	
209 Bi	1713095.10	2.34	1757454.40	97.5	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE17B.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000277

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE17B.B\034SMPL.D\034SMPL.D#
Date Acquired: May 17 2018 06:15 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3902-004
Misc Info:
Vial Number: 2105
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 17 2018 05:07 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.2034	0.0407	ppb	22.43	100.	
11 B	245.35	49.07	ppb	4.13	1000.	
23 Na	289,300.	57,860.	ppb	1.98	200000.	
25 Mg	64,850.	12,970.	ppb	2.68	200000.	
27 Al	4,813.5	962.7	ppb	1.91	200000.	
28 Si	28,455.	5,691.	ppb	2.52	#VALUE!	
29 Si	31,310.	6,262.	ppb	3.01	10000.	
39 K	18,505.	3,701.	ppb	2.46	200000.	
43 Ca	370,800.	74,160.	ppb	1.84	#VALUE!	
44 Ca	348,100.	69,620.	ppb	3.14	200000.	
51 V	13.495	2.699	ppb	5.11	1000.	
52 Cr	29.15	5.83	ppb	1.09	2000.	
53 Cr	92.95	18.59	ppb	3.83	#VALUE!	
55 Mn	1,343.	268.6	ppb	2.40	2000.	
56 Fe	11,655.	2,331.	ppb	1.71	#VALUE!	
57 Fe	12,080.	2,416.	ppb	2.02	100000.	
59 Co	2.775	0.555	ppb	8.66	1000.	
60 Ni	12.425	2.485	ppb	0.74	1000.	
63 Cu	22.62	4.524	ppb	1.89	#VALUE!	
65 Cu	14.825	2.965	ppb	2.48	2000.	
66 Zn	51.7	10.34	ppb	4.26	2000.	
68 Zn	52.25	10.45	ppb	0.78	#VALUE!	
75 As	14.145	2.829	ppb	8.89	1000.	
82 Se	3.1415	0.6283	ppb	39.55	1000.	
88 Sr	1,482.5	296.5	ppb	2.12	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	18.03	3.606	ppb	2.95	1000.	
107 Ag	0.028	0.0056	ppb	38.59	100.	
109 Ag	0.0313	0.0063	ppb	31.02	#VALUE!	
111 Cd	-0.0997	-0.0199	ppb	107.33	#VALUE!	
114 Cd	0.0362	0.0072	ppb	18.05	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	1.3915	0.2783	ppb	12.97	1000.	
120 Sn	1.4025	0.2805	ppb	8.68	#VALUE!	
121 Sb	0.2535	0.0507	ppb	10.74	#VALUE!	
123 Sb	0.2701	0.054	ppb	9.36	1000.	
135 Ba	104.5	20.9	ppb	0.61	2000.	
137 Ba	104.45	20.89	ppb	2.56	#VALUE!	
182 W	0.4392	0.0878	ppb	12.33	1000.	
203 Tl	0.0758	0.0152	ppb	90.10	1000.	
205 Tl	0.0421	0.0084	ppb	64.81	#VALUE!	
208 Pb	7.885	1.577	ppb	5.07	2000.	
232 Th	4.983	0.9966	ppb	3.41	1000.	
238 U	1.594	0.3188	ppb	4.20	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2651761.80	2.75	2900107.00	91.4	69.5 - 120	
45 Sc	2125158.00	2.01	2161269.30	98.3	69.5 - 120	
72 Ge	455981.78	1.42	459106.19	99.3	69.5 - 120	
159 Tb	3539683.30	1.09	3415757.80	103.6	69.5 - 120	
209 Bi	1725570.10	2.42	1757454.40	98.2	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE17B.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000278

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE17B.B\035SMPL.D\035SMPL.D#
Date Acquired: May 17 2018 06:19 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3902-005
Misc Info:
Vial Number: 2106
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 17 2018 05:07 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0139	0.0028	ppb	87.20	100.	
11 B	242.1	48.42	ppb	1.31	1000.	
23 Na	290,500.	58,100.	ppb	3.04	200000.	
25 Mg	65,050.	13,010.	ppb	2.17	200000.	
27 Al	9.225	1.845	ppb	3.43	200000.	
28 Si	19,455.	3,891.	ppb	2.03	#VALUE!	
29 Si	20,265.	4,053.	ppb	3.16	10000.	
39 K	17,505.	3,501.	ppb	3.16	200000.	
43 Ca	374,300.	74,860.	ppb	2.53	#VALUE!	
44 Ca	351,450.	70,290.	ppb	2.28	200000.	
51 V	0.0709	0.0142	ppb	362.34	1000.	
52 Cr	2.01	0.402	ppb	6.14	2000.	
53 Cr	70.95	14.19	ppb	8.70	#VALUE!	
55 Mn	1,297.5	259.5	ppb	1.38	2000.	
56 Fe	5,315.	1,063.	ppb	1.30	#VALUE!	
57 Fe	5,690.	1,138.	ppb	2.45	100000.	
59 Co	0.481	0.0962	ppb	8.61	1000.	
60 Ni	1.8465	0.3693	ppb	19.63	1000.	
63 Cu	9.69	1.938	ppb	0.72	#VALUE!	
65 Cu	2.0555	0.4111	ppb	4.01	2000.	
66 Zn	11.47	2.294	ppb	7.88	2000.	
68 Zn	10.935	2.187	ppb	5.13	#VALUE!	
75 As	12.765	2.553	ppb	11.68	1000.	
82 Se	2.0735	0.4147	ppb	59.44	1000.	
88 Sr	1,474.	294.8	ppb	1.25	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	13.615	2.723	ppb	2.42	1000.	
107 Ag	-0.0049	-0.001	ppb	37.39	100.	
109 Ag	0.0074	0.0015	ppb	81.34	#VALUE!	
111 Cd	-0.1272	-0.0254	ppb	81.72	#VALUE!	
114 Cd	0.0037	0.0007	ppb	367.96	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	0.907	0.1814	ppb	1.87	1000.	
120 Sn	0.9465	0.1893	ppb	7.60	#VALUE!	
121 Sb	0.0651	0.013	ppb	24.18	#VALUE!	
123 Sb	0.0915	0.0183	ppb	8.53	1000.	
135 Ba	31.285	6.257	ppb	4.97	2000.	
137 Ba	31.18	6.236	ppb	2.76	#VALUE!	
182 W	0.3192	0.0638	ppb	16.29	1000.	
203 Tl	-0.0117	-0.0023	ppb	269.84	1000.	
205 Tl	-0.003	-0.0006	ppb	1025.30	#VALUE!	
208 Pb	-0.281	-0.0562	ppb	18.49	2000.	
232 Th	0.1936	0.0387	ppb	32.15	1000.	
238 U	0.9485	0.1897	ppb	6.05	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2569690.00	1.16	2900107.00	88.6	69.5 - 120	
45 Sc	2051771.30	1.49	2161269.30	94.9	69.5 - 120	
72 Ge	447407.06	0.72	459106.19	97.5	69.5 - 120	
159 Tb	3493552.30	1.88	3415757.80	102.3	69.5 - 120	
209 Bi	1703964.00	2.43	1757454.40	97.0	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE17B.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000279

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE17B.B\036SMPL.D\036SMPL.D#
Date Acquired: May 17 2018 06:23 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3902-006
Misc Info:
Vial Number: 2107
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 17 2018 05:07 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.3612	0.0722	ppb	15.88	100.	
11 B	273.4	54.68	ppb	3.91	1000.	
23 Na	288,950.	57,790.	ppb	2.14	200000.	
25 Mg	63,600.	12,720.	ppb	1.18	200000.	
27 Al	7,195.	1,439.	ppb	0.27	200000.	
28 Si	30,505.	6,101.	ppb	0.84	#VALUE!	
29 Si	33,435.	6,687.	ppb	1.40	10000.	
39 K	19,390.	3,878.	ppb	0.92	200000.	
43 Ca	366,550.	73,310.	ppb	0.99	#VALUE!	
44 Ca	343,250.	68,650.	ppb	0.45	200000.	
51 V	20.8	4.16	ppb	1.18	1000.	
52 Cr	42.89	8.578	ppb	0.77	2000.	
53 Cr	102.8	20.56	ppb	1.27	#VALUE!	
55 Mn	1,278.5	255.7	ppb	0.60	2000.	
56 Fe	13,770.	2,754.	ppb	0.69	#VALUE!	
57 Fe	14,275.	2,855.	ppb	0.83	100000.	
59 Co	3.8675	0.7735	ppb	2.95	1000.	
60 Ni	17.445	3.489	ppb	3.57	1000.	
63 Cu	23.565	4.713	ppb	1.16	#VALUE!	
65 Cu	16.685	3.337	ppb	1.58	2000.	
66 Zn	46.61	9.322	ppb	2.67	2000.	
68 Zn	54.35	10.87	ppb	3.48	#VALUE!	
75 As	13.22	2.644	ppb	16.77	1000.	
82 Se	2.565	0.513	ppb	69.36	1000.	
88 Sr	1,464.	292.8	ppb	1.14	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	19.715	3.943	ppb	1.36	1000.	
107 Ag	0.0294	0.0059	ppb	34.29	100.	
109 Ag	0.0373	0.0075	ppb	19.47	#VALUE!	
111 Cd	-0.1688	-0.0338	ppb	83.85	#VALUE!	
114 Cd	0.008	0.0016	ppb	239.79	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	1.6735	0.3347	ppb	12.81	1000.	
120 Sn	1.466	0.2932	ppb	4.27	#VALUE!	
121 Sb	0.3283	0.0657	ppb	11.68	#VALUE!	
123 Sb	0.3431	0.0686	ppb	21.10	1000.	
135 Ba	243.85	48.77	ppb	1.51	2000.	
137 Ba	245.5	49.1	ppb	1.53	#VALUE!	
182 W	0.4746	0.0949	ppb	12.85	1000.	
203 Tl	0.185	0.037	ppb	28.03	1000.	
205 Tl	0.1806	0.0361	ppb	18.04	#VALUE!	
208 Pb	14.485	2.897	ppb	1.81	2000.	
232 Th	6.115	1.223	ppb	1.57	1000.	
238 U	4.1335	0.8267	ppb	1.40	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2682204.30	0.18	2900107.00	92.5	69.5 - 120	
45 Sc	2098409.80	0.37	2161269.30	97.1	69.5 - 120	
72 Ge	452884.22	0.27	459106.19	98.6	69.5 - 120	
159 Tb	3498303.80	1.38	3415757.80	102.4	69.5 - 120	
209 Bi	1714584.50	0.80	1757454.40	97.6	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE17B.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE17B.B\037SMPL.D\037SMPL.D#
Date Acquired: May 17 2018 06:27 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3902-007
Misc Info:
Vial Number: 2108
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 17 2018 05:07 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0219	0.0044	ppb	39.18	100.	
11 B	281.8	56.36	ppb	2.27	1000.	
23 Na	278,650.	55,730.	ppb	0.51	200000.	
25 Mg	63,000.	12,600.	ppb	1.51	200000.	
27 Al	9.28	1.856	ppb	11.37	200000.	
28 Si	17,780.	3,556.	ppb	0.77	#VALUE!	
29 Si	18,390.	3,678.	ppb	0.53	10000.	
39 K	17,720.	3,544.	ppb	1.50	200000.	
43 Ca	366,700.	73,340.	ppb	2.22	#VALUE!	
44 Ca	346,750.	69,350.	ppb	1.42	200000.	
51 V	0.7475	0.1495	ppb	24.87	1000.	
52 Cr	2.9355	0.5871	ppb	4.06	2000.	
53 Cr	70.	14.	ppb	10.86	#VALUE!	
55 Mn	1,226.	245.2	ppb	0.17	2000.	
56 Fe	4,428.	885.6	ppb	1.01	#VALUE!	
57 Fe	4,863.	972.6	ppb	1.35	100000.	
59 Co	0.4773	0.0955	ppb	9.16	1000.	
60 Ni	2.249	0.4498	ppb	16.30	1000.	
63 Cu	8.945	1.789	ppb	3.04	#VALUE!	
65 Cu	1.6995	0.3399	ppb	11.95	2000.	
66 Zn	6.525	1.305	ppb	2.81	2000.	
68 Zn	6.62	1.324	ppb	10.63	#VALUE!	
75 As	14.37	2.874	ppb	0.50	1000.	
82 Se	1.6185	0.3237	ppb	80.48	1000.	
88 Sr	1,459.	291.8	ppb	0.60	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	13.605	2.721	ppb	0.35	1000.	
107 Ag	0.0023	0.0005	ppb	517.45	100.	
109 Ag	-0.0007	-0.0001	ppb	1252.10	#VALUE!	
111 Cd	-0.1644	-0.0329	ppb	10.95	#VALUE!	
114 Cd	-0.0181	-0.0036	ppb	133.87	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	0.938	0.1876	ppb	15.38	1000.	
120 Sn	0.933	0.1866	ppb	12.55	#VALUE!	
121 Sb	0.0655	0.0131	ppb	25.79	#VALUE!	
123 Sb	0.1089	0.0218	ppb	14.25	1000.	
135 Ba	29.985	5.997	ppb	2.11	2000.	
137 Ba	30.265	6.053	ppb	1.02	#VALUE!	
182 W	0.27	0.054	ppb	6.33	1000.	
203 Tl	-0.0505	-0.0101	ppb	22.11	1000.	
205 Tl	-0.0126	-0.0025	ppb	12.70	#VALUE!	
208 Pb	-0.2745	-0.0549	ppb	11.03	2000.	
232 Th	0.1381	0.0276	ppb	23.99	1000.	
238 U	2.6955	0.5391	ppb	3.39	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2488007.30	1.16	2900107.00	85.8	69.5 - 120	
45 Sc	2031709.50	1.44	2161269.30	94.0	69.5 - 120	
72 Ge	440720.97	0.64	459106.19	96.0	69.5 - 120	
159 Tb	3374449.00	0.99	3415757.80	98.8	69.5 - 120	
209 Bi	1672673.80	0.70	1757454.40	95.2	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE17B.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000281

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE17B.B\038SMPL.D\038SMPL.D#
Date Acquired: May 17 2018 06:31 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3902-008
Misc Info:
Vial Number: 2109
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 17 2018 05:07 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.2142	0.0428	ppb	15.35	100.	
11 B	242.25	48.45	ppb	2.21	1000.	
23 Na	294,200.	58,840.	ppb	0.37	200000.	
25 Mg	66,700.	13,340.	ppb	1.07	200000.	
27 Al	4,972.5	994.5	ppb	0.80	200000.	
28 Si	25,160.	5,032.	ppb	0.76	#VALUE!	
29 Si	26,975.	5,395.	ppb	0.35	10000.	
39 K	18,815.	3,763.	ppb	1.83	200000.	
43 Ca	375,550.	75,110.	ppb	0.68	#VALUE!	
44 Ca	353,950.	70,790.	ppb	0.77	200000.	
51 V	9.585	1.917	ppb	7.28	1000.	
52 Cr	33.205	6.641	ppb	1.85	2000.	
53 Cr	98.3	19.66	ppb	1.67	#VALUE!	
55 Mn	1,438.5	287.7	ppb	0.72	2000.	
56 Fe	8,920.	1,784.	ppb	0.23	#VALUE!	
57 Fe	9,390.	1,878.	ppb	1.20	100000.	
59 Co	2.1735	0.4347	ppb	2.98	1000.	
60 Ni	11.035	2.207	ppb	1.56	1000.	
63 Cu	20.24	4.048	ppb	2.54	#VALUE!	
65 Cu	13.095	2.619	ppb	3.15	2000.	
66 Zn	62.85	12.57	ppb	1.31	2000.	
68 Zn	63.4	12.68	ppb	1.34	#VALUE!	
75 As	12.175	2.435	ppb	9.02	1000.	
82 Se	2.063	0.4126	ppb	48.67	1000.	
88 Sr	1,516.	303.2	ppb	1.14	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	18.52	3.704	ppb	0.53	1000.	
107 Ag	0.0166	0.0033	ppb	70.53	100.	
109 Ag	0.0251	0.005	ppb	41.96	#VALUE!	
111 Cd	-0.072	-0.0144	ppb	257.26	#VALUE!	
114 Cd	0.0468	0.0094	ppb	12.10	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	1.9705	0.3941	ppb	13.34	1000.	
120 Sn	1.566	0.3132	ppb	6.42	#VALUE!	
121 Sb	0.1757	0.0351	ppb	2.68	#VALUE!	
123 Sb	0.2163	0.0433	ppb	2.50	1000.	
135 Ba	127.55	25.51	ppb	1.13	2000.	
137 Ba	129.95	25.99	ppb	0.61	#VALUE!	
182 W	0.3188	0.0638	ppb	4.26	1000.	
203 Tl	0.0506	0.0101	ppb	130.86	1000.	
205 Tl	0.0764	0.0153	ppb	24.04	#VALUE!	
208 Pb	6.515	1.303	ppb	2.18	2000.	
232 Th	3.3875	0.6775	ppb	2.84	1000.	
238 U	3.4715	0.6943	ppb	0.81	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2569056.80	2.12	2900107.00	88.6	69.5 - 120	
45 Sc	2061973.80	2.13	2161269.30	95.4	69.5 - 120	
72 Ge	445936.06	1.80	459106.19	97.1	69.5 - 120	
159 Tb	3472680.80	0.71	3415757.80	101.7	69.5 - 120	
209 Bi	1697777.00	0.75	1757454.40	96.6	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE17B.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000282

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE17B.B\039SMPL.D\039SMPL.D#
Date Acquired: May 17 2018 06:35 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: RINSE
Misc Info:
Vial Number: 2110
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 17 2018 05:07 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0003	0.0003	ppb	553.90	100.	
11 B	2.776	2.776	ppb	9.73	1000.	
23 Na	13.7	13.7	ppb	78.03	200000.	
25 Mg	2.381	2.381	ppb	86.18	200000.	
27 Al	1.15	1.15	ppb	13.44	200000.	
28 Si	15.	15.	ppb	30.39	#VALUE!	
29 Si	16.38	16.38	ppb	47.14	10000.	
39 K	9.914	9.914	ppb	10.03	200000.	
43 Ca	11.18	11.18	ppb	126.83	#VALUE!	
44 Ca	8.429	8.429	ppb	140.47	200000.	
51 V	0.0006	0.0006	ppb	10606.00	1000.	
52 Cr	0.0918	0.0918	ppb	40.16	2000.	
53 Cr	2.263	2.263	ppb	3.88	#VALUE!	
55 Mn	0.0581	0.0581	ppb	57.60	2000.	
56 Fe	17.84	17.84	ppb	16.86	#VALUE!	
57 Fe	7.298	7.298	ppb	43.75	100000.	
59 Co	0.0049	0.0049	ppb	80.64	1000.	
60 Ni	-0.0025	-0.0025	ppb	358.62	1000.	
63 Cu	0.2787	0.2787	ppb	10.50	#VALUE!	
65 Cu	0.2767	0.2767	ppb	11.95	2000.	
66 Zn	0.0058	0.0058	ppb	562.99	2000.	
68 Zn	0.0948	0.0948	ppb	29.41	#VALUE!	
75 As	-0.0228	-0.0228	ppb	650.70	1000.	
82 Se	0.2111	0.2111	ppb	142.30	1000.	
88 Sr	0.0354	0.0354	ppb	136.19	2000.	
89 Y	----	--------	---	---	#VALUE!	
98 Mo	0.0099	0.0099	ppb	31.68	1000.	
107 Ag	-0.0023	-0.0023	ppb	64.48	100.	
109 Ag	-0.0013	-0.0013	ppb	55.28	#VALUE!	
111 Cd	-0.0121	-0.0121	ppb	181.36	#VALUE!	
114 Cd	-0.0007	-0.0007	ppb	989.78	1000.	
115 In	----	--------	---	---	#VALUE!	
118 Sn	0.0271	0.0271	ppb	75.97	1000.	
120 Sn	0.0251	0.0251	ppb	11.30	#VALUE!	
121 Sb	0.0017	0.0017	ppb	293.32	#VALUE!	
123 Sb	0.006	0.006	ppb	67.61	1000.	
135 Ba	0.0125	0.0125	ppb	98.48	2000.	
137 Ba	0.0177	0.0177	ppb	37.99	#VALUE!	
182 W	-0.0001	-0.0001	ppb	1187.50	1000.	
203 Tl	0.0015	0.0015	ppb	255.25	1000.	
205 Tl	0.0027	0.0027	ppb	134.67	#VALUE!	
208 Pb	0.1396	0.1396	ppb	15.36	2000.	
232 Th	0.0016	0.0016	ppb	117.18	1000.	
238 U	0.0002	0.0002	ppb	354.38	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2669079.00	2.32	2900107.00	92.0	69.5 - 120	
45 Sc	2073566.00	1.24	2161269.30	95.9	69.5 - 120	
72 Ge	441033.19	2.01	459106.19	96.1	69.5 - 120	
159 Tb	3296115.80	0.45	3415757.80	96.5	69.5 - 120	
209 Bi	1690369.10	1.86	1757454.40	96.2	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE17B.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000283

CCV QC Report

Data File: C:\ICPCHEM\1\DATA\JLE17B.B\040_CCV.D\040_CCV.D#
Date Acquired: May 17 2018 06:39 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: CCV
Misc Info:
Vial Number: 1206
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 17 2018 05:07 pm
Dilution Factor: 1.00
QC Range (%): 89.5 - 110.5

QC Elements

Element	Conc.		RSD(%)	Expected	Rec (%)	Flag
9 Be	25.5	ppb	1.07	25	102	
11 B	25.78	ppb	4.75	25	103.12	
23 Na	5,008.	ppb	4.67	5,000	100.16	
25 Mg	5,136.	ppb	3.32	5,000	102.72	
27 Al	508.6	ppb	1.58	500	101.72	
28 Si	523.2	ppb	3.52	500	104.64	
29 Si	496.4	ppb	4.94	500	99.28	
39 K	4,996.	ppb	3.44	5,000	99.92	
43 Ca	4,967.	ppb	3.85	5,000	99.34	
44 Ca	5,008.	ppb	3.21	5,000	100.16	
51 V	25.2	ppb	2.28	25	100.8	
52 Cr	25.07	ppb	1.70	25	100.28	
53 Cr	25.79	ppb	6.89	25	103.16	
55 Mn	25.	ppb	1.81	25	100	
56 Fe	4,978.	ppb	2.08	5,000	99.56	
57 Fe	5,037.	ppb	2.38	5,000	100.74	
59 Co	25.01	ppb	1.14	25	100.04	
60 Ni	24.94	ppb	1.59	25	99.76	
63 Cu	25.15	ppb	1.91	25	100.6	
65 Cu	24.82	ppb	2.62	25	99.28	
66 Zn	24.99	ppb	3.20	25	99.96	
68 Zn	25.26	ppb	1.43	25	101.04	
75 As	25.34	ppb	1.17	25	101.36	
82 Se	25.38	ppb	1.14	25	101.52	
88 Sr	24.76	ppb	1.09	25	99.04	
89 Y	--------	---	--------	---	#VALUE!	
98 Mo	24.79	ppb	1.42	25	99.16	
107 Ag	25.26	ppb	2.13	25	101.04	
109 Ag	25.09	ppb	1.83	25	100.36	
111 Cd	25.11	ppb	1.65	25	100.44	
114 Cd	25.1	ppb	1.70	25	100.4	
115 In	--------	---	--------	---	#VALUE!	
118 Sn	24.98	ppb	1.80	25	99.92	
120 Sn	24.84	ppb	1.13	25	99.36	
121 Sb	25.26	ppb	2.20	25	101.04	
123 Sb	25.14	ppb	2.36	25	100.56	
135 Ba	25.24	ppb	2.17	25	100.96	
137 Ba	25.04	ppb	3.19	25	100.16	
182 W	24.86	ppb	0.67	25	99.44	
203 Tl	25.15	ppb	1.70	25	100.6	
205 Tl	25.22	ppb	2.79	25	100.88	
208 Pb	25.18	ppb	2.31	25	100.72	
232 Th	24.67	ppb	3.39	25	98.68	
238 U	24.99	ppb	2.32	25	99.96	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2721719.30	0.88	2900107.00	93.8	80 - 120.4	
45 Sc	2169413.50	3.44	2161269.30	100.4	80 - 120.4	
72 Ge	451496.34	1.70	459106.19	98.3	80 - 120.4	
159 Tb	3503473.80	1.54	3415757.80	102.6	80 - 120.4	
209 Bi	1776086.00	1.73	1757454.40	101.1	80 - 120.4	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE17B.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000284

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\JLE17B.B\041_CCB.D\041_CCB.D#
Date Acquired: May 17 2018 06:43 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: CCB
Misc Info:
Vial Number: 1207
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 17 2018 05:07 pm
Sample Type: 6-CCB
Dilution Factor: 1.00

QC Elements

Element	Conc.		RSD(%)	High Limit	Flag
9 Be	0.001	ppb	309.20	1.00	
11 B	1.765	ppb	10.23	1.00	
23 Na	3.687	ppb	15.30	1.00	
25 Mg	0.1708	ppb	91.04	1.00	
27 Al	0.0479	ppb	152.91	1.00	
28 Si	5.561	ppb	128.39	1.00	
29 Si	6.153	ppb	78.21	1.00	
39 K	3.748	ppb	112.57	1.00	
43 Ca	1.608	ppb	151.24	1.00	
44 Ca	-0.2353	ppb	558.86	1.00	
51 V	0.0272	ppb	327.99	1.00	
52 Cr	-0.0358	ppb	29.82	1.00	
53 Cr	-2.3	ppb	10.07	1.00	
55 Mn	0.0123	ppb	56.60	1.00	
56 Fe	0.9295	ppb	142.98	1.00	
57 Fe	2.46	ppb	124.72	1.00	
59 Co	-0.0003	ppb	3374.50	1.00	
60 Ni	-0.0089	ppb	73.58	1.00	
63 Cu	0.0478	ppb	31.71	1.00	
65 Cu	0.0497	ppb	21.17	1.00	
66 Zn	0.0112	ppb	242.74	1.00	
68 Zn	0.0377	ppb	163.13	1.00	
75 As	0.0089	ppb	1611.70	1.00	
82 Se	0.1818	ppb	112.65	1.00	
88 Sr	0.0028	ppb	87.49	1.00	
89 Y	--------	---	--------	---	
98 Mo	0.0284	ppb	59.75	1.00	
107 Ag	0.0019	ppb	59.41	1.00	
109 Ag	0.0012	ppb	176.05	1.00	
111 Cd	0.0089	ppb	124.05	1.00	
114 Cd	-0.0004	ppb	529.68	1.00	
115 In	--------	---	--------	---	
118 Sn	0.0425	ppb	29.11	1.00	
120 Sn	0.0105	ppb	46.27	1.00	
121 Sb	0.009	ppb	33.46	1.00	
123 Sb	0.0171	ppb	25.39	1.00	
135 Ba	0.0015	ppb	649.97	1.00	
137 Ba	0.003	ppb	220.64	1.00	
182 W	0.0446	ppb	57.00	1.00	
203 Tl	0.0069	ppb	178.27	1.00	
205 Tl	-0.001	ppb	351.10	1.00	
208 Pb	0.0051	ppb	31.76	1.00	
232 Th	0.0553	ppb	6.43	1.00	
238 U	0.0019	ppb	63.46	1.00	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2733710.50	0.83	2900107.00	94.3	79.5 - 120	
45 Sc	2143981.50	3.09	2161269.30	99.2	79.5 - 120	
72 Ge	448729.59	1.27	459106.19	97.7	79.5 - 120	
159 Tb	3394156.00	1.21	3415757.80	99.4	79.5 - 120	
209 Bi	1750736.90	1.33	1757454.40	99.6	79.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE17B.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000285

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE17B.B\042SMPL.D\042SMPL.D#
Date Acquired: May 17 2018 06:47 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3902-009
Misc Info:
Vial Number: 2111
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 17 2018 05:07 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0153	0.0031	ppb	3.94	100.	
11 B	243.3	48.66	ppb	3.46	1000.	
23 Na	313,400.	62,680.	ppb	1.48	200000.	
25 Mg	70,300.	14,060.	ppb	1.20	200000.	
27 Al	9.635	1.927	ppb	4.83	200000.	
28 Si	16,620.	3,324.	ppb	0.39	#VALUE!	
29 Si	17,335.	3,467.	ppb	0.52	10000.	
39 K	18,665.	3,733.	ppb	1.06	200000.	
43 Ca	398,400.	79,680.	ppb	1.34	#VALUE!	
44 Ca	371,150.	74,230.	ppb	1.36	200000.	
51 V	0.1679	0.0336	ppb	320.13	1000.	
52 Cr	2.355	0.471	ppb	9.87	2000.	
53 Cr	57.35	11.47	ppb	27.91	#VALUE!	
55 Mn	1,476.5	295.3	ppb	1.15	2000.	
56 Fe	3,851.	770.2	ppb	0.88	#VALUE!	
57 Fe	4,341.	868.2	ppb	0.34	100000.	
59 Co	0.572	0.1144	ppb	5.61	1000.	
60 Ni	2.276	0.4552	ppb	15.12	1000.	
63 Cu	9.12	1.824	ppb	2.60	#VALUE!	
65 Cu	1.867	0.3734	ppb	15.46	2000.	
66 Zn	19.55	3.91	ppb	2.91	2000.	
68 Zn	19.51	3.902	ppb	2.26	#VALUE!	
75 As	11.715	2.343	ppb	17.32	1000.	
82 Se	2.979	0.5958	ppb	3.31	1000.	
88 Sr	1,538.5	307.7	ppb	1.32	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	14.025	2.805	ppb	1.47	1000.	
107 Ag	0.0031	0.0006	ppb	248.61	100.	
109 Ag	0.0021	0.0004	ppb	489.07	#VALUE!	
111 Cd	-0.0434	-0.0087	ppb	260.73	#VALUE!	
114 Cd	-0.0067	-0.0013	ppb	426.52	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	1.0545	0.2109	ppb	3.51	1000.	
120 Sn	0.939	0.1878	ppb	6.04	#VALUE!	
121 Sb	0.118	0.0236	ppb	27.31	#VALUE!	
123 Sb	0.0876	0.0175	ppb	2.19	1000.	
135 Ba	33.89	6.778	ppb	0.43	2000.	
137 Ba	34.89	6.978	ppb	2.74	#VALUE!	
182 W	0.2602	0.052	ppb	6.50	1000.	
203 Tl	-0.014	-0.0028	ppb	123.35	1000.	
205 Tl	-0.0025	-0.0005	ppb	550.89	#VALUE!	
208 Pb	-0.2353	-0.0471	ppb	42.84	2000.	
232 Th	0.4265	0.0853	ppb	23.52	1000.	
238 U	2.8625	0.5725	ppb	1.75	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2713544.00	1.47	2900107.00	93.6	69.5 - 120	
45 Sc	2173745.30	0.33	2161269.30	100.6	69.5 - 120	
72 Ge	463419.72	0.33	459106.19	100.9	69.5 - 120	
159 Tb	3443111.50	1.31	3415757.80	100.8	69.5 - 120	
209 Bi	1684918.90	0.20	1757454.40	95.9	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE17B.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000286

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE17B.B\043SMPL.D\043SMPL.D#
Date Acquired: May 17 2018 06:51 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3902-010
Misc Info:
Vial Number: 2112
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 17 2018 05:07 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.1868	0.0374	ppb	18.29	100.	
11 B	250.8	50.16	ppb	2.61	1000.	
23 Na	310,400.	62,080.	ppb	0.98	200000.	
25 Mg	70,050.	14,010.	ppb	1.44	200000.	
27 Al	4,339.5	867.9	ppb	0.12	200000.	
28 Si	24,395.	4,879.	ppb	0.86	#VALUE!	
29 Si	26,170.	5,234.	ppb	0.60	10000.	
39 K	19,560.	3,912.	ppb	0.77	200000.	
43 Ca	397,800.	79,560.	ppb	0.20	#VALUE!	
44 Ca	371,650.	74,330.	ppb	1.20	200000.	
51 V	8.68	1.736	ppb	13.30	1000.	
52 Cr	38.965	7.793	ppb	1.72	2000.	
53 Cr	99.3	19.86	ppb	5.52	#VALUE!	
55 Mn	1,512.5	302.5	ppb	0.83	2000.	
56 Fe	9,015.	1,803.	ppb	0.71	#VALUE!	
57 Fe	9,620.	1,924.	ppb	1.10	100000.	
59 Co	2.1765	0.4353	ppb	5.28	1000.	
60 Ni	13.32	2.664	ppb	1.61	1000.	
63 Cu	21.	4.2	ppb	2.49	#VALUE!	
65 Cu	13.265	2.653	ppb	2.02	2000.	
66 Zn	66.4	13.28	ppb	0.64	2000.	
68 Zn	68.2	13.64	ppb	1.87	#VALUE!	
75 As	12.31	2.462	ppb	8.74	1000.	
82 Se	2.461	0.4922	ppb	18.16	1000.	
88 Sr	1,559.	311.8	ppb	0.42	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	19.155	3.831	ppb	1.98	1000.	
107 Ag	0.0115	0.0023	ppb	86.35	100.	
109 Ag	0.02	0.004	ppb	1.31	#VALUE!	
111 Cd	-0.017	-0.0034	ppb	648.15	#VALUE!	
114 Cd	0.0471	0.0094	ppb	110.73	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	1.643	0.3286	ppb	5.66	1000.	
120 Sn	1.6475	0.3295	ppb	0.73	#VALUE!	
121 Sb	0.1881	0.0376	ppb	12.85	#VALUE!	
123 Sb	0.2109	0.0422	ppb	31.80	1000.	
135 Ba	120.8	24.16	ppb	1.73	2000.	
137 Ba	121.9	24.38	ppb	1.14	#VALUE!	
182 W	0.3416	0.0683	ppb	10.82	1000.	
203 Tl	0.0278	0.0056	ppb	77.25	1000.	
205 Tl	0.0636	0.0127	ppb	37.71	#VALUE!	
208 Pb	6.575	1.315	ppb	1.55	2000.	
232 Th	3.732	0.7464	ppb	1.64	1000.	
238 U	3.7115	0.7423	ppb	0.71	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2751844.30	2.20	2900107.00	94.9	69.5 - 120	
45 Sc	2198003.50	0.86	2161269.30	101.7	69.5 - 120	
72 Ge	467100.03	0.78	459106.19	101.7	69.5 - 120	
159 Tb	3499292.00	1.41	3415757.80	102.4	69.5 - 120	
209 Bi	1702278.60	1.15	1757454.40	96.9	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE17B.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000287

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE17B.B\044SMPL.D\044SMPL.D#
Date Acquired: May 17 2018 06:55 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3902-011
Misc Info:
Vial Number: 2201
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 17 2018 05:07 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0067	0.0013	ppb	116.42	100.	
11 B	235.25	47.05	ppb	3.52	1000.	
23 Na	297,000.	59,400.	ppb	2.22	200000.	
25 Mg	66,600.	13,320.	ppb	1.57	200000.	
27 Al	8.9	1.78	ppb	4.74	200000.	
28 Si	16,065.	3,213.	ppb	0.79	#VALUE!	
29 Si	16,635.	3,327.	ppb	0.97	10000.	
39 K	17,765.	3,553.	ppb	1.34	200000.	
43 Ca	379,450.	75,890.	ppb	1.83	#VALUE!	
44 Ca	354,150.	70,830.	ppb	0.59	200000.	
51 V	0.8075	0.1615	ppb	28.25	1000.	
52 Cr	2.3295	0.4659	ppb	11.54	2000.	
53 Cr	69.7	13.94	ppb	11.92	#VALUE!	
55 Mn	1,396.	279.2	ppb	0.29	2000.	
56 Fe	3,562.5	712.5	ppb	1.05	#VALUE!	
57 Fe	3,983.	796.6	ppb	1.47	100000.	
59 Co	0.4953	0.0991	ppb	12.06	1000.	
60 Ni	2.1235	0.4247	ppb	20.09	1000.	
63 Cu	8.945	1.789	ppb	3.64	#VALUE!	
65 Cu	1.4465	0.2893	ppb	11.08	2000.	
66 Zn	16.895	3.379	ppb	1.72	2000.	
68 Zn	16.6	3.32	ppb	3.77	#VALUE!	
75 As	10.32	2.064	ppb	15.03	1000.	
82 Se	1.8115	0.3623	ppb	55.07	1000.	
88 Sr	1,465.	293.	ppb	1.03	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	13.05	2.61	ppb	4.59	1000.	
107 Ag	0.0015	0.0003	ppb	555.56	100.	
109 Ag	0.0019	0.0004	ppb	664.58	#VALUE!	
111 Cd	-0.0137	-0.0027	ppb	1491.60	#VALUE!	
114 Cd	0.005	0.001	ppb	136.84	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	0.991	0.1982	ppb	14.52	1000.	
120 Sn	0.944	0.1888	ppb	3.76	#VALUE!	
121 Sb	0.0556	0.0111	ppb	33.22	#VALUE!	
123 Sb	0.0752	0.015	ppb	28.32	1000.	
135 Ba	33.255	6.651	ppb	3.58	2000.	
137 Ba	32.18	6.436	ppb	3.22	#VALUE!	
182 W	0.2289	0.0458	ppb	16.68	1000.	
203 Tl	-0.0579	-0.0116	ppb	55.66	1000.	
205 Tl	-0.0177	-0.0035	ppb	123.19	#VALUE!	
208 Pb	-0.3195	-0.0639	ppb	24.95	2000.	
232 Th	0.1299	0.026	ppb	27.95	1000.	
238 U	2.6785	0.5357	ppb	1.93	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2764401.80	2.73	2900107.00	95.3	69.5 - 120	
45 Sc	2175060.00	0.73	2161269.30	100.6	69.5 - 120	
72 Ge	470237.63	0.55	459106.19	102.4	69.5 - 120	
159 Tb	3479987.80	1.36	3415757.80	101.9	69.5 - 120	
209 Bi	1711617.80	0.68	1757454.40	97.4	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE17B.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000288

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE17B.B\045SMPL.D\045SMPL.D#
Date Acquired: May 17 2018 06:59 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3902-012
Misc Info:
Vial Number: 2202
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 17 2018 05:07 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.4276	0.0855	ppb	8.62	100.	
11 B	237.35	47.47	ppb	5.00	1000.	
23 Na	334,050.	66,810.	ppb	0.71	200000.	
25 Mg	75,050.	15,010.	ppb	1.63	200000.	
27 Al	9,325.	1,865.	ppb	1.37	200000.	
28 Si	31,495.	6,299.	ppb	1.95	#VALUE!	
29 Si	34,430.	6,886.	ppb	1.13	10000.	
39 K	21,215.	4,243.	ppb	1.31	200000.	
43 Ca	398,400.	79,680.	ppb	1.10	#VALUE!	
44 Ca	372,750.	74,550.	ppb	1.36	200000.	
51 V	21.67	4.334	ppb	4.07	1000.	
52 Cr	46.005	9.201	ppb	1.24	2000.	
53 Cr	106.	21.2	ppb	2.56	#VALUE!	
55 Mn	1,440.5	288.1	ppb	1.37	2000.	
56 Fe	13,350.	2,670.	ppb	1.22	#VALUE!	
57 Fe	13,905.	2,781.	ppb	0.78	100000.	
59 Co	4.0275	0.8055	ppb	3.90	1000.	
60 Ni	19.375	3.875	ppb	2.00	1000.	
63 Cu	31.495	6.299	ppb	0.79	#VALUE!	
65 Cu	23.17	4.634	ppb	0.81	2000.	
66 Zn	113.	22.6	ppb	0.79	2000.	
68 Zn	114.65	22.93	ppb	1.31	#VALUE!	
75 As	13.575	2.715	ppb	5.82	1000.	
82 Se	2.862	0.5724	ppb	19.06	1000.	
88 Sr	1,601.	320.2	ppb	1.26	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	21.735	4.347	ppb	4.87	1000.	
107 Ag	0.0311	0.0062	ppb	70.19	100.	
109 Ag	0.0276	0.0055	ppb	12.40	#VALUE!	
111 Cd	0.2462	0.0492	ppb	53.82	#VALUE!	
114 Cd	0.241	0.0482	ppb	8.77	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	2.1585	0.4317	ppb	3.84	1000.	
120 Sn	2.085	0.417	ppb	10.95	#VALUE!	
121 Sb	0.2864	0.0573	ppb	10.61	#VALUE!	
123 Sb	0.3089	0.0618	ppb	16.92	1000.	
135 Ba	177.9	35.58	ppb	0.93	2000.	
137 Ba	177.8	35.56	ppb	1.01	#VALUE!	
182 W	0.4124	0.0825	ppb	22.03	1000.	
203 Tl	0.1148	0.023	ppb	23.45	1000.	
205 Tl	0.1479	0.0296	ppb	10.75	#VALUE!	
208 Pb	13.365	2.673	ppb	0.73	2000.	
232 Th	7.165	1.433	ppb	1.00	1000.	
238 U	3.9985	0.7997	ppb	1.07	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2720821.80	2.80	2900107.00	93.8	69.5 - 120	
45 Sc	2135881.30	0.98	2161269.30	98.8	69.5 - 120	
72 Ge	457745.56	0.79	459106.19	99.7	69.5 - 120	
159 Tb	3492208.00	0.91	3415757.80	102.2	69.5 - 120	
209 Bi	1693523.30	0.64	1757454.40	96.4	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE17B.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000289

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE17B.B\046SMPL.D\046SMPL.D#
Date Acquired: May 17 2018 07:03 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3902-012L
Misc Info:
Vial Number: 2203
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 17 2018 05:07 pm
Sample Type: Sample
Dilution Factor: 25.00
Autodil Factor: Undiluted
Final Dil Factor: 25.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.3935	0.0157	ppb	19.98	100.	
11 B	304.75	12.19	ppb	0.81	1000.	
23 Na	335,250.	13,410.	ppb	2.63	200000.	
25 Mg	78,900.	3,156.	ppb	2.19	200000.	
27 Al	9,902.5	396.1	ppb	0.98	200000.	
28 Si	32,525.	1,301.	ppb	1.67	#VALUE!	
29 Si	33,325.	1,333.	ppb	2.96	10000.	
39 K	21,977.5	879.1	ppb	3.46	200000.	
43 Ca	395,000.	15,800.	ppb	1.89	#VALUE!	
44 Ca	384,000.	15,360.	ppb	0.88	200000.	
51 V	18.9975	0.7599	ppb	9.44	1000.	
52 Cr	48.175	1.927	ppb	1.98	2000.	
53 Cr	151.925	6.077	ppb	3.69	#VALUE!	
55 Mn	1,547.	61.88	ppb	1.53	2000.	
56 Fe	14,230.	569.2	ppb	2.09	#VALUE!	
57 Fe	14,552.5	582.1	ppb	3.11	100000.	
59 Co	4.055	0.1622	ppb	7.28	1000.	
60 Ni	26.325	1.053	ppb	3.55	1000.	
63 Cu	34.275	1.371	ppb	2.80	#VALUE!	
65 Cu	26.4	1.056	ppb	3.95	2000.	
66 Zn	124.8	4.992	ppb	3.51	2000.	
68 Zn	129.35	5.174	ppb	5.00	#VALUE!	
75 As	14.4	0.576	ppb	28.84	1000.	
82 Se	10.5675	0.4227	ppb	68.65	1000.	
88 Sr	1,742.	69.68	ppb	1.30	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	23.24	0.9296	ppb	2.16	1000.	
107 Ag	0.0483	0.0019	ppb	52.69	100.	
109 Ag	0.0823	0.0033	ppb	26.61	#VALUE!	
111 Cd	-0.4733	-0.0189	ppb	280.24	#VALUE!	
114 Cd	0.3005	0.012	ppb	42.44	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	2.255	0.0902	ppb	3.03	1000.	
120 Sn	2.0618	0.0825	ppb	19.01	#VALUE!	
121 Sb	0.3255	0.013	ppb	16.87	#VALUE!	
123 Sb	0.2818	0.0113	ppb	32.67	1000.	
135 Ba	182.2	7.288	ppb	2.80	2000.	
137 Ba	182.175	7.287	ppb	3.79	#VALUE!	
182 W	0.5368	0.0215	ppb	16.28	1000.	
203 Tl	-0.0563	-0.0023	ppb	687.11	1000.	
205 Tl	0.2137	0.0085	ppb	50.41	#VALUE!	
208 Pb	13.3575	0.5343	ppb	0.70	2000.	
232 Th	6.5625	0.2625	ppb	1.69	1000.	
238 U	3.9225	0.1569	ppb	0.82	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2524236.50	2.52	2900107.00	87.0	69.5 - 120	
45 Sc	2044959.50	0.81	2161269.30	94.6	69.5 - 120	
72 Ge	435218.28	0.73	459106.19	94.8	69.5 - 120	
159 Tb	3335452.30	0.27	3415757.80	97.6	69.5 - 120	
209 Bi	1701785.90	0.68	1757454.40	96.8	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE17B.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000290

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE17B.B\047SMPL.D\047SMPL.D#
Date Acquired: May 17 2018 07:07 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3902-012A
Misc Info:
Vial Number: 2204
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 17 2018 05:07 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	10.87	2.174	ppb	1.21	100.	
11 B	444.35	88.87	ppb	2.66	1000.	
23 Na	337,250.	67,450.	ppb	1.95	200000.	
25 Mg	75,900.	15,180.	ppb	1.82	200000.	
27 Al	10,380.	2,076.	ppb	1.10	200000.	
28 Si	36,245.	7,249.	ppb	1.10	#VALUE!	
29 Si	39,505.	7,901.	ppb	0.67	10000.	
39 K	30,905.	6,181.	ppb	1.92	200000.	
43 Ca	394,000.	78,800.	ppb	1.94	#VALUE!	
44 Ca	369,050.	73,810.	ppb	1.95	200000.	
51 V	71.45	14.29	ppb	0.86	1000.	
52 Cr	95.75	19.15	ppb	1.26	2000.	
53 Cr	154.55	30.91	ppb	1.09	#VALUE!	
55 Mn	1,460.5	292.1	ppb	1.19	2000.	
56 Fe	14,325.	2,865.	ppb	1.19	#VALUE!	
57 Fe	14,860.	2,972.	ppb	1.39	100000.	
59 Co	14.125	2.825	ppb	1.04	1000.	
60 Ni	38.6	7.72	ppb	1.04	1000.	
63 Cu	61.4	12.28	ppb	1.24	#VALUE!	
65 Cu	52.4	10.48	ppb	1.32	2000.	
66 Zn	208.65	41.73	ppb	1.02	2000.	
68 Zn	209.7	41.94	ppb	2.39	#VALUE!	
75 As	63.25	12.65	ppb	2.17	1000.	
82 Se	52.45	10.49	ppb	0.59	1000.	
88 Sr	1,660.5	332.1	ppb	1.24	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	73.05	14.61	ppb	0.76	1000.	
107 Ag	9.725	1.945	ppb	2.32	100.	
109 Ag	9.81	1.962	ppb	4.22	#VALUE!	
111 Cd	10.095	2.019	ppb	4.70	#VALUE!	
114 Cd	10.375	2.075	ppb	2.50	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	53.4	10.68	ppb	2.94	1000.	
120 Sn	53.1	10.62	ppb	1.39	#VALUE!	
121 Sb	10.58	2.116	ppb	5.06	#VALUE!	
123 Sb	10.56	2.112	ppb	5.35	1000.	
135 Ba	199.95	39.99	ppb	1.78	2000.	
137 Ba	197.15	39.43	ppb	3.31	#VALUE!	
182 W	53.35	10.67	ppb	3.37	1000.	
203 Tl	10.64	2.128	ppb	5.99	1000.	
205 Tl	10.805	2.161	ppb	2.77	#VALUE!	
208 Pb	23.89	4.778	ppb	2.43	2000.	
232 Th	18.5	3.7	ppb	0.73	1000.	
238 U	14.88	2.976	ppb	2.01	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2512985.80	1.95	2900107.00	86.7	69.5 - 120	
45 Sc	2016395.10	0.94	2161269.30	93.3	69.5 - 120	
72 Ge	432988.63	1.28	459106.19	94.3	69.5 - 120	
159 Tb	3384655.50	2.72	3415757.80	99.1	69.5 - 120	
209 Bi	1650672.10	2.10	1757454.40	93.9	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE17B.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000291

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE17B.B\048SMPL.D\048SMPL.D#
Date Acquired: May 17 2018 07:11 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3902-012S
Misc Info:
Vial Number: 2205
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 17 2018 05:07 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	50.65	10.13	ppb	2.09	100.	
11 B	766.5	153.3	ppb	4.12	1000.	
23 Na	343,350.	68,670.	ppb	0.72	200000.	
25 Mg	80,800.	16,160.	ppb	2.13	200000.	
27 Al	12,155.	2,431.	ppb	3.05	200000.	
28 Si	33,980.	6,796.	ppb	2.40	#VALUE!	
29 Si	36,905.	7,381.	ppb	2.04	10000.	
39 K	31,450.	6,290.	ppb	1.18	200000.	
43 Ca	411,450.	82,290.	ppb	0.93	#VALUE!	
44 Ca	385,900.	77,180.	ppb	1.13	200000.	
51 V	549.	109.8	ppb	1.20	1000.	
52 Cr	246.05	49.21	ppb	0.95	2000.	
53 Cr	318.05	63.61	ppb	2.35	#VALUE!	
55 Mn	1,992.	398.4	ppb	1.75	2000.	
56 Fe	15,310.	3,062.	ppb	1.33	#VALUE!	
57 Fe	15,485.	3,097.	ppb	0.30	100000.	
59 Co	518.	103.6	ppb	1.89	1000.	
60 Ni	520.5	104.1	ppb	0.50	1000.	
63 Cu	279.6	55.92	ppb	0.34	#VALUE!	
65 Cu	271.	54.2	ppb	1.71	2000.	
66 Zn	607.5	121.5	ppb	0.56	2000.	
68 Zn	664.5	132.9	ppb	1.09	#VALUE!	
75 As	116.75	23.35	ppb	0.09	1000.	
82 Se	100.7	20.14	ppb	1.90	1000.	
88 Sr	2,179.5	435.9	ppb	0.60	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	128.4	25.68	ppb	1.66	1000.	
107 Ag	50.65	10.13	ppb	1.29	100.	
109 Ag	50.3	10.06	ppb	1.33	#VALUE!	
111 Cd	251.55	50.31	ppb	0.75	#VALUE!	
114 Cd	251.25	50.25	ppb	1.48	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	508.	101.6	ppb	0.39	1000.	
120 Sn	506.5	101.3	ppb	0.65	#VALUE!	
121 Sb	94.3	18.86	ppb	1.50	#VALUE!	
123 Sb	93.7	18.74	ppb	1.23	1000.	
135 Ba	2,282.	456.4	ppb	0.90	2000.	
137 Ba	2,267.5	453.5	ppb	0.45	#VALUE!	
182 W	103.55	20.71	ppb	1.17	1000.	
203 Tl	106.45	21.29	ppb	0.14	1000.	
205 Tl	106.25	21.25	ppb	0.04	#VALUE!	
208 Pb	119.25	23.85	ppb	0.28	2000.	
232 Th	117.1	23.42	ppb	1.83	1000.	
238 U	112.2	22.44	ppb	0.78	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2555504.30	2.70	2900107.00	88.1	69.5 - 120	
45 Sc	2000162.30	1.58	2161269.30	92.5	69.5 - 120	
72 Ge	424069.09	0.84	459106.19	92.4	69.5 - 120	
159 Tb	3348441.80	0.73	3415757.80	98.0	69.5 - 120	
209 Bi	1661058.30	1.33	1757454.40	94.5	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE17B.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000292

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE17B.B\049SMPL.D\049SMPL.D#
Date Acquired: May 17 2018 07:15 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3902-012P
Misc Info:
Vial Number: 2206
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 17 2018 05:07 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	49.975	9.995	ppb	2.92	100.	
11 B	778.5	155.7	ppb	0.75	1000.	
23 Na	340,550.	68,110.	ppb	1.82	200000.	
25 Mg	80,900.	16,180.	ppb	3.37	200000.	
27 Al	12,695.	2,539.	ppb	0.95	200000.	
28 Si	35,780.	7,156.	ppb	1.72	#VALUE!	
29 Si	38,880.	7,776.	ppb	1.15	10000.	
39 K	31,665.	6,333.	ppb	1.32	200000.	
43 Ca	407,300.	81,460.	ppb	1.22	#VALUE!	
44 Ca	382,350.	76,470.	ppb	1.00	200000.	
51 V	549.5	109.9	ppb	1.66	1000.	
52 Cr	246.2	49.24	ppb	1.43	2000.	
53 Cr	310.	62.	ppb	0.89	#VALUE!	
55 Mn	1,973.	394.6	ppb	0.31	2000.	
56 Fe	14,925.	2,985.	ppb	0.27	#VALUE!	
57 Fe	15,200.	3,040.	ppb	1.31	100000.	
59 Co	512.	102.4	ppb	1.40	1000.	
60 Ni	517.	103.4	ppb	1.40	1000.	
63 Cu	277.55	55.51	ppb	1.05	#VALUE!	
65 Cu	267.75	53.55	ppb	0.18	2000.	
66 Zn	602.	120.4	ppb	0.94	2000.	
68 Zn	665.5	133.1	ppb	1.08	#VALUE!	
75 As	115.95	23.19	ppb	1.54	1000.	
82 Se	101.15	20.23	ppb	0.73	1000.	
88 Sr	2,170.5	434.1	ppb	0.53	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	127.15	25.43	ppb	1.28	1000.	
107 Ag	50.25	10.05	ppb	1.14	100.	
109 Ag	50.4	10.08	ppb	0.83	#VALUE!	
111 Cd	253.05	50.61	ppb	1.05	#VALUE!	
114 Cd	251.8	50.36	ppb	0.26	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	501.	100.2	ppb	2.44	1000.	
120 Sn	496.05	99.21	ppb	1.71	#VALUE!	
121 Sb	94.05	18.81	ppb	2.83	#VALUE!	
123 Sb	94.2	18.84	ppb	1.98	1000.	
135 Ba	2,221.	444.2	ppb	1.90	2000.	
137 Ba	2,226.	445.2	ppb	1.79	#VALUE!	
182 W	102.25	20.45	ppb	1.75	1000.	
203 Tl	104.9	20.98	ppb	2.12	1000.	
205 Tl	105.85	21.17	ppb	2.33	#VALUE!	
208 Pb	118.5	23.7	ppb	2.42	2000.	
232 Th	115.75	23.15	ppb	3.04	1000.	
238 U	112.2	22.44	ppb	2.19	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2548650.80	2.19	2900107.00	87.9	69.5 - 120	
45 Sc	1998089.40	1.71	2161269.30	92.4	69.5 - 120	
72 Ge	426298.31	1.60	459106.19	92.9	69.5 - 120	
159 Tb	3409881.50	2.70	3415757.80	99.8	69.5 - 120	
209 Bi	1679659.80	2.65	1757454.40	95.6	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE17B.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000293

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE17B.B\050SMPL.D\050SMPL.D#
Date Acquired: May 17 2018 07:19 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3902-013
Misc Info:
Vial Number: 2207
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 17 2018 05:07 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0228	0.0046	ppb	64.67	100.	
11 B	255.85	51.17	ppb	1.68	1000.	
23 Na	318,850.	63,770.	ppb	4.13	200000.	
25 Mg	71,900.	14,380.	ppb	2.39	200000.	
27 Al	9.855	1.971	ppb	13.88	200000.	
28 Si	13,790.	2,758.	ppb	4.33	#VALUE!	
29 Si	14,265.	2,853.	ppb	3.56	10000.	
39 K	18,115.	3,623.	ppb	3.10	200000.	
43 Ca	387,650.	77,530.	ppb	3.57	#VALUE!	
44 Ca	361,950.	72,390.	ppb	3.16	200000.	
51 V	0.8645	0.1729	ppb	136.03	1000.	
52 Cr	2.554	0.5108	ppb	11.79	2000.	
53 Cr	63.2	12.64	ppb	18.58	#VALUE!	
55 Mn	1,350.5	270.1	ppb	3.05	2000.	
56 Fe	3,242.5	648.5	ppb	3.32	#VALUE!	
57 Fe	3,647.5	729.5	ppb	1.53	100000.	
59 Co	0.5645	0.1129	ppb	7.94	1000.	
60 Ni	2.9785	0.5957	ppb	17.49	1000.	
63 Cu	9.935	1.987	ppb	4.88	#VALUE!	
65 Cu	1.54	0.308	ppb	17.02	2000.	
66 Zn	14.995	2.999	ppb	3.69	2000.	
68 Zn	14.32	2.864	ppb	6.67	#VALUE!	
75 As	10.33	2.066	ppb	7.29	1000.	
82 Se	2.543	0.5086	ppb	8.38	1000.	
88 Sr	1,576.	315.2	ppb	3.23	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	13.365	2.673	ppb	3.60	1000.	
107 Ag	0.005	0.001	ppb	418.78	100.	
109 Ag	0.0105	0.0021	ppb	105.51	#VALUE!	
111 Cd	-0.1108	-0.0222	ppb	161.33	#VALUE!	
114 Cd	0.0065	0.0013	ppb	589.59	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	1.11	0.222	ppb	12.71	1000.	
120 Sn	1.0985	0.2197	ppb	2.47	#VALUE!	
121 Sb	0.1176	0.0235	ppb	35.48	#VALUE!	
123 Sb	0.1356	0.0271	ppb	14.24	1000.	
135 Ba	30.965	6.193	ppb	2.95	2000.	
137 Ba	31.26	6.252	ppb	3.44	#VALUE!	
182 W	0.3255	0.0651	ppb	19.31	1000.	
203 Tl	-0.0278	-0.0056	ppb	79.18	1000.	
205 Tl	0.002	0.0004	ppb	906.57	#VALUE!	
208 Pb	-0.2961	-0.0592	ppb	10.34	2000.	
232 Th	0.569	0.1138	ppb	24.26	1000.	
238 U	2.4365	0.4873	ppb	2.44	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2496175.30	2.39	2900107.00	86.1	69.5 - 120	
45 Sc	2014338.30	3.28	2161269.30	93.2	69.5 - 120	
72 Ge	433485.19	2.01	459106.19	94.4	69.5 - 120	
159 Tb	3377800.30	1.47	3415757.80	98.9	69.5 - 120	
209 Bi	1644729.40	2.12	1757454.40	93.6	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE17B.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000294

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE17B.B\051SMPL.D\051SMPL.D#
Date Acquired: May 17 2018 07:24 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: RINSE
Misc Info:
Vial Number: 2208
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 17 2018 05:07 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0033	0.0033	ppb	24.71	100.	
11 B	4.777	4.777	ppb	6.80	1000.	
23 Na	16.4	16.4	ppb	51.73	200000.	
25 Mg	7.206	7.206	ppb	28.75	200000.	
27 Al	1.473	1.473	ppb	11.98	200000.	
28 Si	28.43	28.43	ppb	23.44	#VALUE!	
29 Si	27.61	27.61	ppb	16.41	10000.	
39 K	19.97	19.97	ppb	9.74	200000.	
43 Ca	8.078	8.078	ppb	121.94	#VALUE!	
44 Ca	9.97	9.97	ppb	99.71	200000.	
51 V	0.1321	0.1321	ppb	44.79	1000.	
52 Cr	0.137	0.137	ppb	20.71	2000.	
53 Cr	1.537	1.537	ppb	21.35	#VALUE!	
55 Mn	0.1323	0.1323	ppb	33.68	2000.	
56 Fe	32.19	32.19	ppb	15.47	#VALUE!	
57 Fe	10.41	10.41	ppb	12.57	100000.	
59 Co	0.01	0.01	ppb	78.32	1000.	
60 Ni	-0.0019	-0.0019	ppb	461.79	1000.	
63 Cu	0.2558	0.2558	ppb	10.53	#VALUE!	
65 Cu	0.2513	0.2513	ppb	15.01	2000.	
66 Zn	0.1913	0.1913	ppb	31.27	2000.	
68 Zn	0.1462	0.1462	ppb	31.09	#VALUE!	
75 As	-0.0735	-0.0735	ppb	307.99	1000.	
82 Se	0.2998	0.2998	ppb	34.26	1000.	
88 Sr	0.043	0.043	ppb	127.07	2000.	
89 Y	----	--------	---	---	#VALUE!	
98 Mo	0.0111	0.0111	ppb	28.64	1000.	
107 Ag	0.0012	0.0012	ppb	93.16	100.	
109 Ag	0.0042	0.0042	ppb	64.86	#VALUE!	
111 Cd	0.0182	0.0182	ppb	34.61	#VALUE!	
114 Cd	-0.0011	-0.0011	ppb	204.53	1000.	
115 In	----	--------	---	---	#VALUE!	
118 Sn	0.0139	0.0139	ppb	58.84	1000.	
120 Sn	0.0115	0.0115	ppb	44.87	#VALUE!	
121 Sb	0.0047	0.0047	ppb	59.56	#VALUE!	
123 Sb	0.0106	0.0106	ppb	32.38	1000.	
135 Ba	0.0515	0.0515	ppb	52.40	2000.	
137 Ba	0.0591	0.0591	ppb	79.54	#VALUE!	
182 W	0.0103	0.0103	ppb	70.53	1000.	
203 Tl	0.0011	0.0011	ppb	475.11	1000.	
205 Tl	0.002	0.002	ppb	65.16	#VALUE!	
208 Pb	0.1551	0.1551	ppb	6.76	2000.	
232 Th	0.0079	0.0079	ppb	23.21	1000.	
238 U	0.001	0.001	ppb	80.68	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2337701.80	4.89	2900107.00	80.6	69.5 - 120	
45 Sc	1908355.10	2.21	2161269.30	88.3	69.5 - 120	
72 Ge	407454.53	3.09	459106.19	88.7	69.5 - 120	
159 Tb	3061168.50	1.37	3415757.80	89.6	69.5 - 120	
209 Bi	1588500.10	1.17	1757454.40	90.4	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE17B.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000295

CCV QC Report

Data File: C:\ICPCHEM\1\DATA\JLE17B.B\052_CCV.D\052_CCV.D#
Date Acquired: May 17 2018 07:28 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: CCV
Misc Info:
Vial Number: 1206
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 17 2018 05:07 pm
Dilution Factor: 1.00
QC Range (%): 89.5 - 110.5

QC Elements

Element	Conc.		RSD(%)	Expected	Rec (%)	Flag
9 Be	24.73	ppb	1.89	25	98.92	
11 B	26.47	ppb	3.07	25	105.88	
23 Na	5,135.	ppb	2.70	5,000	102.7	
25 Mg	5,168.	ppb	1.02	5,000	103.36	
27 Al	509.4	ppb	1.12	500	101.88	
28 Si	531.7	ppb	0.23	500	106.34	
29 Si	499.3	ppb	2.15	500	99.86	
39 K	5,026.	ppb	0.48	5,000	100.52	
43 Ca	4,982.	ppb	2.69	5,000	99.64	
44 Ca	5,082.	ppb	0.33	5,000	101.64	
51 V	25.19	ppb	1.04	25	100.76	
52 Cr	25.1	ppb	0.69	25	100.4	
53 Cr	26.2	ppb	4.14	25	104.8	
55 Mn	25.12	ppb	0.92	25	100.48	
56 Fe	4,985.	ppb	1.59	5,000	99.7	
57 Fe	5,056.	ppb	1.44	5,000	101.12	
59 Co	25.14	ppb	1.32	25	100.56	
60 Ni	25.07	ppb	0.72	25	100.28	
63 Cu	25.49	ppb	0.69	25	101.96	
65 Cu	25.17	ppb	0.91	25	100.68	
66 Zn	25.19	ppb	1.34	25	100.76	
68 Zn	25.26	ppb	1.22	25	101.04	
75 As	25.23	ppb	1.83	25	100.92	
82 Se	24.8	ppb	2.72	25	99.2	
88 Sr	25.12	ppb	0.41	25	100.48	
89 Y	--------	---	--------	---	#VALUE!	
98 Mo	24.9	ppb	0.42	25	99.6	
107 Ag	25.43	ppb	0.67	25	101.72	
109 Ag	25.3	ppb	1.29	25	101.2	
111 Cd	25.6	ppb	1.44	25	102.4	
114 Cd	25.37	ppb	0.99	25	101.48	
115 In	--------	---	--------	---	#VALUE!	
118 Sn	25.46	ppb	2.48	25	101.84	
120 Sn	25.01	ppb	1.71	25	100.04	
121 Sb	25.52	ppb	1.09	25	102.08	
123 Sb	25.4	ppb	2.40	25	101.6	
135 Ba	25.56	ppb	1.22	25	102.24	
137 Ba	25.67	ppb	1.77	25	102.68	
182 W	25.07	ppb	1.58	25	100.28	
203 Tl	25.47	ppb	1.40	25	101.88	
205 Tl	25.35	ppb	0.12	25	101.4	
208 Pb	25.07	ppb	0.33	25	100.28	
232 Th	24.77	ppb	1.24	25	99.08	
238 U	24.87	ppb	1.01	25	99.48	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2640409.00	2.51	2900107.00	91.0	80 - 120.4	
45 Sc	2059158.30	0.14	2161269.30	95.3	80 - 120.4	
72 Ge	430159.13	0.76	459106.19	93.7	80 - 120.4	
159 Tb	3348416.50	0.80	3415757.80	98.0	80 - 120.4	
209 Bi	1699436.80	0.38	1757454.40	96.7	80 - 120.4	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE17B.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000296

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\JLE17B.B\053_CCB.D\053_CCB.D#
Date Acquired: May 17 2018 07:32 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: CCB
Misc Info:
Vial Number: 1207
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 17 2018 05:07 pm
Sample Type: 6-CCB
Dilution Factor: 1.00

QC Elements

Element	Conc.		RSD(%)	High Limit	Flag
9 Be	0.0039	ppb	100.70	1.00	
11 B	2.478	ppb	13.13	1.00	
23 Na	4.552	ppb	6.09	1.00	
25 Mg	0.2571	ppb	78.69	1.00	
27 Al	-0.0288	ppb	277.59	1.00	
28 Si	6.037	ppb	84.66	1.00	
29 Si	4.616	ppb	122.68	1.00	
39 K	4.375	ppb	62.17	1.00	
43 Ca	-3.132	ppb	118.81	1.00	
44 Ca	0.3089	ppb	409.84	1.00	
51 V	0.0734	ppb	16.43	1.00	
52 Cr	-0.0158	ppb	37.17	1.00	
53 Cr	-2.338	ppb	1.32	1.00	
55 Mn	0.0067	ppb	123.37	1.00	
56 Fe	5.047	ppb	81.08	1.00	
57 Fe	3.652	ppb	14.98	1.00	
59 Co	0.0016	ppb	306.23	1.00	
60 Ni	-0.0097	ppb	5.17	1.00	
63 Cu	0.0256	ppb	53.58	1.00	
65 Cu	0.0091	ppb	240.21	1.00	
66 Zn	-0.0139	ppb	269.97	1.00	
68 Zn	0.0442	ppb	164.47	1.00	
75 As	-0.1275	ppb	146.90	1.00	
82 Se	0.036	ppb	637.90	1.00	
88 Sr	0.0052	ppb	65.66	1.00	
89 Y	--------	---	--------	---	
98 Mo	0.0248	ppb	32.19	1.00	
107 Ag	0.0018	ppb	58.66	1.00	
109 Ag	0.0042	ppb	41.19	1.00	
111 Cd	0.0066	ppb	535.31	1.00	
114 Cd	-0.0015	ppb	366.38	1.00	
115 In	--------	---	--------	---	
118 Sn	0.0238	ppb	74.06	1.00	
120 Sn	0.0159	ppb	42.21	1.00	
121 Sb	0.014	ppb	18.02	1.00	
123 Sb	0.0137	ppb	42.15	1.00	
135 Ba	0.0007	ppb	725.30	1.00	
137 Ba	0.0006	ppb	995.58	1.00	
182 W	0.0439	ppb	37.62	1.00	
203 Tl	-0.008	ppb	90.57	1.00	
205 Tl	0.0025	ppb	351.59	1.00	
208 Pb	0.0027	ppb	279.30	1.00	
232 Th	0.0568	ppb	19.00	1.00	
238 U	0.0035	ppb	57.77	1.00	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2676696.80	3.30	2900107.00	92.3	79.5 - 120	
45 Sc	2114575.80	2.11	2161269.30	97.8	79.5 - 120	
72 Ge	442073.66	2.09	459106.19	96.3	79.5 - 120	
159 Tb	3318331.00	1.55	3415757.80	97.1	79.5 - 120	
209 Bi	1684549.10	1.37	1757454.40	95.9	79.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE17B.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE17B.B\054SMPL.D\054SMPL.D#
Date Acquired: May 17 2018 07:36 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3902-013L
Misc Info:
Vial Number: 2209
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 17 2018 05:07 pm
Sample Type: Sample
Dilution Factor: 25.00
Autodil Factor: Undiluted
Final Dil Factor: 25.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.1043	0.0042	ppb	110.69	100.	
11 B	257.	10.28	ppb	1.08	1000.	
23 Na	353,250.	14,130.	ppb	2.89	200000.	
25 Mg	80,475.	3,219.	ppb	1.75	200000.	
27 Al	20.865	0.8346	ppb	21.00	200000.	
28 Si	15,575.	623.	ppb	1.58	#VALUE!	
29 Si	15,117.5	604.7	ppb	2.03	10000.	
39 K	19,552.5	782.1	ppb	1.44	200000.	
43 Ca	403,750.	16,150.	ppb	2.04	#VALUE!	
44 Ca	391,500.	15,660.	ppb	1.54	200000.	
51 V	0.2341	0.0094	ppb	488.63	1000.	
52 Cr	1.8485	0.0739	ppb	70.57	2000.	
53 Cr	9.6225	0.3849	ppb	243.93	#VALUE!	
55 Mn	1,480.75	59.23	ppb	0.42	2000.	
56 Fe	3,537.5	141.5	ppb	3.25	#VALUE!	
57 Fe	4,015.	160.6	ppb	4.14	100000.	
59 Co	0.7438	0.0298	ppb	12.04	1000.	
60 Ni	8.55	0.342	ppb	12.83	1000.	
63 Cu	10.42	0.4168	ppb	6.16	#VALUE!	
65 Cu	1.2885	0.0515	ppb	54.02	2000.	
66 Zn	15.505	0.6202	ppb	6.46	2000.	
68 Zn	17.16	0.6864	ppb	17.96	#VALUE!	
75 As	14.35	0.574	ppb	22.54	1000.	
82 Se	9.865	0.3946	ppb	66.45	1000.	
88 Sr	1,715.	68.6	ppb	0.56	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	13.5475	0.5419	ppb	2.67	1000.	
107 Ag	0.0243	0.001	ppb	87.01	100.	
109 Ag	0.0241	0.001	ppb	152.63	#VALUE!	
111 Cd	-0.7978	-0.0319	ppb	36.51	#VALUE!	
114 Cd	-0.0547	-0.0022	ppb	121.59	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	0.9973	0.0399	ppb	24.13	1000.	
120 Sn	0.5075	0.0203	ppb	83.79	#VALUE!	
121 Sb	0.2127	0.0085	ppb	51.75	#VALUE!	
123 Sb	0.126	0.005	ppb	108.41	1000.	
135 Ba	31.95	1.278	ppb	1.47	2000.	
137 Ba	33.1	1.324	ppb	2.15	#VALUE!	
182 W	0.435	0.0174	ppb	59.71	1000.	
203 Tl	-0.0433	-0.0017	ppb	190.36	1000.	
205 Tl	-0.074	-0.003	ppb	77.31	#VALUE!	
208 Pb	-0.7573	-0.0303	ppb	8.90	2000.	
232 Th	1.1	0.044	ppb	24.30	1000.	
238 U	2.53	0.1012	ppb	12.67	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2771007.30	1.46	2900107.00	95.5	69.5 - 120	
45 Sc	2123193.50	1.06	2161269.30	98.2	69.5 - 120	
72 Ge	453599.31	1.11	459106.19	98.8	69.5 - 120	
159 Tb	3366273.80	0.63	3415757.80	98.6	69.5 - 120	
209 Bi	1696875.80	1.73	1757454.40	96.6	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE17B.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000298

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE17B.B\055SMPL.D\055SMPL.D#
Date Acquired: May 17 2018 07:40 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3902-013A
Misc Info:
Vial Number: 2210
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 17 2018 05:07 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	10.355	2.071	ppb	3.59	100.	
11 B	439.2	87.84	ppb	2.67	1000.	
23 Na	336,350.	67,270.	ppb	2.34	200000.	
25 Mg	74,100.	14,820.	ppb	1.84	200000.	
27 Al	1,069.5	213.9	ppb	1.73	200000.	
28 Si	18,800.	3,760.	ppb	2.57	#VALUE!	
29 Si	19,280.	3,856.	ppb	3.43	10000.	
39 K	28,575.	5,715.	ppb	2.36	200000.	
43 Ca	383,400.	76,680.	ppb	2.91	#VALUE!	
44 Ca	357,150.	71,430.	ppb	1.92	200000.	
51 V	51.65	10.33	ppb	1.30	1000.	
52 Cr	52.9	10.58	ppb	1.48	2000.	
53 Cr	109.	21.8	ppb	10.65	#VALUE!	
55 Mn	1,355.	271.	ppb	1.45	2000.	
56 Fe	4,156.	831.2	ppb	1.89	#VALUE!	
57 Fe	4,552.	910.4	ppb	2.04	100000.	
59 Co	10.56	2.112	ppb	2.41	1000.	
60 Ni	22.015	4.403	ppb	0.31	1000.	
63 Cu	39.4	7.88	ppb	1.12	#VALUE!	
65 Cu	30.62	6.124	ppb	1.98	2000.	
66 Zn	112.05	22.41	ppb	0.77	2000.	
68 Zn	110.25	22.05	ppb	0.51	#VALUE!	
75 As	62.55	12.51	ppb	0.84	1000.	
82 Se	50.35	10.07	ppb	3.31	1000.	
88 Sr	1,566.5	313.3	ppb	1.81	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	63.75	12.75	ppb	1.06	1000.	
107 Ag	9.74	1.948	ppb	2.67	100.	
109 Ag	9.73	1.946	ppb	0.65	#VALUE!	
111 Cd	9.86	1.972	ppb	3.88	#VALUE!	
114 Cd	9.81	1.962	ppb	1.55	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	52.65	10.53	ppb	3.72	1000.	
120 Sn	52.3	10.46	ppb	1.58	#VALUE!	
121 Sb	10.6	2.12	ppb	2.87	#VALUE!	
123 Sb	10.59	2.118	ppb	3.18	1000.	
135 Ba	51.6	10.32	ppb	2.99	2000.	
137 Ba	51.8	10.36	ppb	1.66	#VALUE!	
182 W	52.55	10.51	ppb	3.63	1000.	
203 Tl	10.83	2.166	ppb	4.92	1000.	
205 Tl	10.705	2.141	ppb	2.36	#VALUE!	
208 Pb	10.055	2.011	ppb	0.85	2000.	
232 Th	11.285	2.257	ppb	1.47	1000.	
238 U	13.	2.6	ppb	0.25	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2692717.00	2.11	2900107.00	92.8	69.5 - 120	
45 Sc	2130238.30	1.70	2161269.30	98.6	69.5 - 120	
72 Ge	453240.41	0.94	459106.19	98.7	69.5 - 120	
159 Tb	3408035.30	1.88	3415757.80	99.8	69.5 - 120	
209 Bi	1655260.00	0.60	1757454.40	94.2	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE17B.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000299

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE17B.B\056SMPL.D\056SMPL.D#
Date Acquired: May 17 2018 07:44 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3902-013S
Misc Info:
Vial Number: 2211
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 17 2018 05:07 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	48.93	9.786	ppb	1.64	100.	
11 B	751.	150.2	ppb	2.88	1000.	
23 Na	343,450.	68,690.	ppb	1.15	200000.	
25 Mg	79,700.	15,940.	ppb	0.57	200000.	
27 Al	2,075.	415.	ppb	1.46	200000.	
28 Si	15,415.	3,083.	ppb	1.16	#VALUE!	
29 Si	15,745.	3,149.	ppb	1.68	10000.	
39 K	28,980.	5,796.	ppb	0.65	200000.	
43 Ca	406,300.	81,260.	ppb	1.48	#VALUE!	
44 Ca	376,600.	75,320.	ppb	1.08	200000.	
51 V	511.	102.2	ppb	0.97	1000.	
52 Cr	195.8	39.16	ppb	1.14	2000.	
53 Cr	273.5	54.7	ppb	2.05	#VALUE!	
55 Mn	1,858.5	371.7	ppb	1.14	2000.	
56 Fe	4,369.5	873.9	ppb	0.84	#VALUE!	
57 Fe	4,736.5	947.3	ppb	0.95	100000.	
59 Co	501.	100.2	ppb	0.39	1000.	
60 Ni	487.75	97.55	ppb	0.81	1000.	
63 Cu	250.9	50.18	ppb	0.66	#VALUE!	
65 Cu	240.6	48.12	ppb	0.70	2000.	
66 Zn	490.15	98.03	ppb	1.81	2000.	
68 Zn	550.	110.	ppb	0.29	#VALUE!	
75 As	112.3	22.46	ppb	2.23	1000.	
82 Se	99.45	19.89	ppb	3.56	1000.	
88 Sr	2,057.	411.4	ppb	0.98	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	113.45	22.69	ppb	0.30	1000.	
107 Ag	47.36	9.472	ppb	1.47	100.	
109 Ag	47.305	9.461	ppb	0.14	#VALUE!	
111 Cd	239.55	47.91	ppb	1.17	#VALUE!	
114 Cd	237.35	47.47	ppb	0.55	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	516.	103.2	ppb	0.67	1000.	
120 Sn	510.	102.	ppb	1.23	#VALUE!	
121 Sb	104.4	20.88	ppb	1.57	#VALUE!	
123 Sb	104.45	20.89	ppb	2.26	1000.	
135 Ba	2,089.5	417.9	ppb	1.29	2000.	
137 Ba	2,078.5	415.7	ppb	0.69	#VALUE!	
182 W	104.	20.8	ppb	0.80	1000.	
203 Tl	102.9	20.58	ppb	1.50	1000.	
205 Tl	102.85	20.57	ppb	1.35	#VALUE!	
208 Pb	102.55	20.51	ppb	1.49	2000.	
232 Th	105.7	21.14	ppb	1.94	1000.	
238 U	108.2	21.64	ppb	0.65	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2753736.80	1.96	2900107.00	95.0	69.5 - 120	
45 Sc	2145888.00	1.03	2161269.30	99.3	69.5 - 120	
72 Ge	452576.66	1.29	459106.19	98.6	69.5 - 120	
159 Tb	3392550.80	1.51	3415757.80	99.3	69.5 - 120	
209 Bi	1649045.80	1.94	1757454.40	93.8	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE17B.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000300

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE17B.B\057SMPL.D\057SMPL.D#
Date Acquired: May 17 2018 07:48 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3902-013P
Misc Info:
Vial Number: 2212
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 17 2018 05:07 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	49.58	9.916	ppb	5.15	100.	
11 B	786.	157.2	ppb	7.33	1000.	
23 Na	360,300.	72,060.	ppb	1.90	200000.	
25 Mg	82,950.	16,590.	ppb	2.20	200000.	
27 Al	2,110.	422.	ppb	3.29	200000.	
28 Si	15,805.	3,161.	ppb	1.65	#VALUE!	
29 Si	16,045.	3,209.	ppb	2.72	10000.	
39 K	29,625.	5,925.	ppb	2.75	200000.	
43 Ca	421,700.	84,340.	ppb	4.11	#VALUE!	
44 Ca	393,850.	78,770.	ppb	3.17	200000.	
51 V	529.	105.8	ppb	1.59	1000.	
52 Cr	201.2	40.24	ppb	1.24	2000.	
53 Cr	279.4	55.88	ppb	5.37	#VALUE!	
55 Mn	1,938.5	387.7	ppb	3.29	2000.	
56 Fe	4,516.	903.2	ppb	3.68	#VALUE!	
57 Fe	4,909.	981.8	ppb	1.45	100000.	
59 Co	514.	102.8	ppb	2.43	1000.	
60 Ni	497.4	99.48	ppb	2.09	1000.	
63 Cu	256.3	51.26	ppb	2.24	#VALUE!	
65 Cu	247.6	49.52	ppb	1.84	2000.	
66 Zn	498.6	99.72	ppb	2.45	2000.	
68 Zn	562.5	112.5	ppb	2.50	#VALUE!	
75 As	116.15	23.23	ppb	3.73	1000.	
82 Se	102.35	20.47	ppb	3.74	1000.	
88 Sr	2,143.	428.6	ppb	3.33	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	115.85	23.17	ppb	3.58	1000.	
107 Ag	48.585	9.717	ppb	3.91	100.	
109 Ag	48.25	9.65	ppb	2.73	#VALUE!	
111 Cd	247.3	49.46	ppb	3.15	#VALUE!	
114 Cd	244.4	48.88	ppb	2.96	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	521.	104.2	ppb	2.69	1000.	
120 Sn	515.5	103.1	ppb	2.23	#VALUE!	
121 Sb	106.6	21.32	ppb	2.74	#VALUE!	
123 Sb	105.85	21.17	ppb	2.22	1000.	
135 Ba	2,114.5	422.9	ppb	2.46	2000.	
137 Ba	2,127.5	425.5	ppb	2.17	#VALUE!	
182 W	105.1	21.02	ppb	3.79	1000.	
203 Tl	105.6	21.12	ppb	1.37	1000.	
205 Tl	106.45	21.29	ppb	1.41	#VALUE!	
208 Pb	105.5	21.1	ppb	1.59	2000.	
232 Th	108.45	21.69	ppb	1.61	1000.	
238 U	109.7	21.94	ppb	2.14	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2792994.30	5.73	2900107.00	96.3	69.5 - 120	
45 Sc	2175622.00	2.63	2161269.30	100.7	69.5 - 120	
72 Ge	456317.72	2.14	459106.19	99.4	69.5 - 120	
159 Tb	3444898.00	2.05	3415757.80	100.9	69.5 - 120	
209 Bi	1664261.50	0.51	1757454.40	94.7	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE17B.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000301

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE17B.B\058SMPL.D\058SMPL.D#
Date Acquired: May 17 2018 07:52 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3902-014
Misc Info:
Vial Number: 2301
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 17 2018 05:07 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0095	0.0019	ppb	174.11	100.	
11 B	42.31	8.462	ppb	19.23	1000.	
23 Na	70.15	14.03	ppb	3.79	200000.	
25 Mg	19.52	3.904	ppb	3.83	200000.	
27 Al	10.65	2.13	ppb	3.63	200000.	
28 Si	110.6	22.12	ppb	12.14	#VALUE!	
29 Si	111.55	22.31	ppb	12.04	10000.	
39 K	63.65	12.73	ppb	23.40	200000.	
43 Ca	120.	24.	ppb	11.21	#VALUE!	
44 Ca	105.4	21.08	ppb	1.64	200000.	
51 V	0.879	0.1758	ppb	86.29	1000.	
52 Cr	1.681	0.3362	ppb	7.32	2000.	
53 Cr	62.65	12.53	ppb	2.54	#VALUE!	
55 Mn	0.6745	0.1349	ppb	12.19	2000.	
56 Fe	148.8	29.76	ppb	17.65	#VALUE!	
57 Fe	62.6	12.52	ppb	36.10	100000.	
59 Co	0.0284	0.0057	ppb	141.46	1000.	
60 Ni	1.041	0.2082	ppb	10.65	1000.	
63 Cu	0.8215	0.1643	ppb	1.74	#VALUE!	
65 Cu	0.8225	0.1645	ppb	18.52	2000.	
66 Zn	1.348	0.2696	ppb	9.64	2000.	
68 Zn	1.2145	0.2429	ppb	17.18	#VALUE!	
75 As	1.245	0.249	ppb	40.56	1000.	
82 Se	0.9175	0.1835	ppb	108.83	1000.	
88 Sr	0.4437	0.0887	ppb	25.39	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	0.4268	0.0854	ppb	10.98	1000.	
107 Ag	0.0136	0.0027	ppb	44.84	100.	
109 Ag	0.0099	0.002	ppb	52.21	#VALUE!	
111 Cd	0.0456	0.0091	ppb	447.36	#VALUE!	
114 Cd	0.0128	0.0026	ppb	148.92	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	1.1535	0.2307	ppb	11.83	1000.	
120 Sn	1.253	0.2506	ppb	23.01	#VALUE!	
121 Sb	0.0611	0.0122	ppb	50.96	#VALUE!	
123 Sb	0.0968	0.0194	ppb	25.92	1000.	
135 Ba	0.3577	0.0715	ppb	28.65	2000.	
137 Ba	0.3657	0.0731	ppb	20.76	#VALUE!	
182 W	0.1514	0.0303	ppb	27.85	1000.	
203 Tl	-0.0344	-0.0069	ppb	76.44	1000.	
205 Tl	-0.0043	-0.0009	ppb	694.71	#VALUE!	
208 Pb	-0.2913	-0.0583	ppb	15.65	2000.	
232 Th	0.568	0.1136	ppb	15.87	1000.	
238 U	0.0074	0.0015	ppb	145.84	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2556294.80	3.00	2900107.00	88.1	69.5 - 120	
45 Sc	2032014.40	1.89	2161269.30	94.0	69.5 - 120	
72 Ge	442910.72	1.47	459106.19	96.5	69.5 - 120	
159 Tb	3276375.30	2.16	3415757.80	95.9	69.5 - 120	
209 Bi	1666091.40	1.14	1757454.40	94.8	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE17B.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000302

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE17B.B\059SMPL.D\059SMPL.D#
Date Acquired: May 17 2018 07:56 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: RINSE
Misc Info:
Vial Number: 2302
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 17 2018 05:07 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.001	0.001	ppb	53.27	100.	
11 B	3.181	3.181	ppb	10.47	1000.	
23 Na	7.766	7.766	ppb	2.99	200000.	
25 Mg	0.5734	0.5734	ppb	15.61	200000.	
27 Al	1.312	1.312	ppb	6.82	200000.	
28 Si	14.22	14.22	ppb	15.39	#VALUE!	
29 Si	9.758	9.758	ppb	57.61	10000.	
39 K	6.217	6.217	ppb	19.80	200000.	
43 Ca	4.538	4.538	ppb	77.17	#VALUE!	
44 Ca	9.115	9.115	ppb	6.88	200000.	
51 V	0.0569	0.0569	ppb	113.89	1000.	
52 Cr	0.0575	0.0575	ppb	23.57	2000.	
53 Cr	-0.1153	-0.1153	ppb	262.10	#VALUE!	
55 Mn	0.0378	0.0378	ppb	26.49	2000.	
56 Fe	15.87	15.87	ppb	2.49	#VALUE!	
57 Fe	6.949	6.949	ppb	38.57	100000.	
59 Co	0.0076	0.0076	ppb	59.95	1000.	
60 Ni	0.0096	0.0096	ppb	69.77	1000.	
63 Cu	0.2376	0.2376	ppb	2.02	#VALUE!	
65 Cu	0.235	0.235	ppb	20.62	2000.	
66 Zn	0.7056	0.7056	ppb	21.20	2000.	
68 Zn	0.6247	0.6247	ppb	7.57	#VALUE!	
75 As	-0.0583	-0.0583	ppb	209.53	1000.	
82 Se	0.2279	0.2279	ppb	114.26	1000.	
88 Sr	0.012	0.012	ppb	10.42	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	0.005	0.005	ppb	70.24	1000.	
107 Ag	0.0005	0.0005	ppb	210.45	100.	
109 Ag	0.001	0.001	ppb	107.68	#VALUE!	
111 Cd	0.0234	0.0234	ppb	55.73	#VALUE!	
114 Cd	0.0049	0.0049	ppb	23.36	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	0.1009	0.1009	ppb	17.25	1000.	
120 Sn	0.085	0.085	ppb	20.89	#VALUE!	
121 Sb	0.0029	0.0029	ppb	138.60	#VALUE!	
123 Sb	0.0033	0.0033	ppb	53.78	1000.	
135 Ba	0.032	0.032	ppb	13.27	2000.	
137 Ba	0.0336	0.0336	ppb	11.01	#VALUE!	
182 W	0.0086	0.0086	ppb	48.92	1000.	
203 Tl	0.0027	0.0027	ppb	116.63	1000.	
205 Tl	0.0013	0.0013	ppb	199.56	#VALUE!	
208 Pb	0.1408	0.1408	ppb	3.47	2000.	
232 Th	0.005	0.005	ppb	61.95	1000.	
238 U	0.0007	0.0007	ppb	97.40	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2661240.30	0.71	2900107.00	91.8	69.5 - 120	
45 Sc	2147802.30	1.14	2161269.30	99.4	69.5 - 120	
72 Ge	451734.00	0.72	459106.19	98.4	69.5 - 120	
159 Tb	3274063.30	0.46	3415757.80	95.9	69.5 - 120	
209 Bi	1693937.40	1.23	1757454.40	96.4	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE17B.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000303

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE17B.B\060SMPL.D\060SMPL.D#
Date Acquired: May 17 2018 08:01 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: PBWLE10IMW1
Misc Info:
Vial Number: 2303
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 17 2018 05:07 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	-0.0032	-0.0006	ppb	294.94	100.	
11 B	9.755	1.951	ppb	7.18	1000.	
23 Na	32.23	6.446	ppb	5.66	200000.	
25 Mg	9.71	1.942	ppb	19.91	200000.	
27 Al	7.435	1.487	ppb	9.99	200000.	
28 Si	87.6	17.52	ppb	6.37	#VALUE!	
29 Si	66.05	13.21	ppb	28.88	10000.	
39 K	42.935	8.587	ppb	36.24	200000.	
43 Ca	17.13	3.426	ppb	127.09	#VALUE!	
44 Ca	16.305	3.261	ppb	41.40	200000.	
51 V	0.1606	0.0321	ppb	197.23	1000.	
52 Cr	0.3179	0.0636	ppb	40.44	2000.	
53 Cr	5.09	1.018	ppb	23.29	#VALUE!	
55 Mn	0.168	0.0336	ppb	11.00	2000.	
56 Fe	80.55	16.11	ppb	11.81	#VALUE!	
57 Fe	31.8	6.36	ppb	7.94	100000.	
59 Co	0.0271	0.0054	ppb	50.54	1000.	
60 Ni	1.038	0.2076	ppb	9.85	1000.	
63 Cu	0.2652	0.053	ppb	14.69	#VALUE!	
65 Cu	0.3	0.06	ppb	25.15	2000.	
66 Zn	0.7905	0.1581	ppb	31.21	2000.	
68 Zn	1.021	0.2042	ppb	39.99	#VALUE!	
75 As	0.2561	0.0512	ppb	222.57	1000.	
82 Se	0.849	0.1698	ppb	34.36	1000.	
88 Sr	0.0225	0.0045	ppb	82.84	2000.	
89 Y	----	--------	---	---	#VALUE!	
98 Mo	0.0318	0.0064	ppb	50.13	1000.	
107 Ag	0.0038	0.0008	ppb	315.24	100.	
109 Ag	0.0043	0.0009	ppb	168.22	#VALUE!	
111 Cd	0.196	0.0392	ppb	87.24	#VALUE!	
114 Cd	0.0043	0.0009	ppb	408.13	1000.	
115 In	----	--------	---	---	#VALUE!	
118 Sn	0.2076	0.0415	ppb	54.24	1000.	
120 Sn	0.1222	0.0244	ppb	45.80	#VALUE!	
121 Sb	0.0241	0.0048	ppb	40.82	#VALUE!	
123 Sb	0.0271	0.0054	ppb	92.61	1000.	
135 Ba	0.033	0.0066	ppb	112.81	2000.	
137 Ba	0.024	0.0048	ppb	90.02	#VALUE!	
182 W	0.0239	0.0048	ppb	85.13	1000.	
203 Tl	-0.0134	-0.0027	ppb	267.18	1000.	
205 Tl	-0.0184	-0.0037	ppb	136.39	#VALUE!	
208 Pb	0.1279	0.0256	ppb	54.54	2000.	
232 Th	0.0418	0.0084	ppb	66.65	1000.	
238 U	0.0021	0.0004	ppb	153.88	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2540745.50	0.85	2900107.00	87.6	69.5 - 120	
45 Sc	2084630.40	2.98	2161269.30	96.5	69.5 - 120	
72 Ge	435979.34	0.60	459106.19	95.0	69.5 - 120	
159 Tb	3238697.80	2.15	3415757.80	94.8	69.5 - 120	
209 Bi	1654893.00	1.77	1757454.40	94.2	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE17B.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000304

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE17B.B\061SMPL.D\061SMPL.D#
Date Acquired: May 17 2018 08:05 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: LCSWLE10IMW1
Misc Info:
Vial Number: 2304
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 17 2018 05:07 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	48.985	9.797	ppb	4.21	100.	
11 B	513.5	102.7	ppb	3.51	1000.	
23 Na	7,935.	1,587.	ppb	2.21	200000.	
25 Mg	5,235.	1,047.	ppb	1.21	200000.	
27 Al	2,155.5	431.1	ppb	0.47	200000.	
28 Si	1,257.	251.4	ppb	1.55	#VALUE!	
29 Si	1,079.5	215.9	ppb	3.36	10000.	
39 K	10,280.	2,056.	ppb	1.56	200000.	
43 Ca	2,889.	577.8	ppb	3.79	#VALUE!	
44 Ca	2,561.5	512.3	ppb	3.15	200000.	
51 V	516.5	103.3	ppb	2.65	1000.	
52 Cr	202.95	40.59	ppb	1.76	2000.	
53 Cr	259.25	51.85	ppb	2.08	#VALUE!	
55 Mn	515.5	103.1	ppb	2.32	2000.	
56 Fe	1,102.	220.4	ppb	2.81	#VALUE!	
57 Fe	1,021.5	204.3	ppb	1.49	100000.	
59 Co	520.5	104.1	ppb	1.56	1000.	
60 Ni	513.5	102.7	ppb	1.67	1000.	
63 Cu	254.4	50.88	ppb	2.20	#VALUE!	
65 Cu	254.85	50.97	ppb	1.47	2000.	
66 Zn	500.	100.	ppb	2.04	2000.	
68 Zn	571.5	114.3	ppb	1.80	#VALUE!	
75 As	105.05	21.01	ppb	3.08	1000.	
82 Se	102.65	20.53	ppb	2.96	1000.	
88 Sr	502.	100.4	ppb	1.46	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	101.95	20.39	ppb	2.46	1000.	
107 Ag	52.05	10.41	ppb	1.70	100.	
109 Ag	51.9	10.38	ppb	2.60	#VALUE!	
111 Cd	256.7	51.34	ppb	2.07	#VALUE!	
114 Cd	253.75	50.75	ppb	2.48	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	521.	104.2	ppb	2.19	1000.	
120 Sn	514.	102.8	ppb	2.58	#VALUE!	
121 Sb	106.4	21.28	ppb	2.07	#VALUE!	
123 Sb	105.5	21.1	ppb	1.68	1000.	
135 Ba	2,101.5	420.3	ppb	2.54	2000.	
137 Ba	2,102.5	420.5	ppb	2.20	#VALUE!	
182 W	103.65	20.73	ppb	1.95	1000.	
203 Tl	104.85	20.97	ppb	2.07	1000.	
205 Tl	105.2	21.04	ppb	2.45	#VALUE!	
208 Pb	104.6	20.92	ppb	2.05	2000.	
232 Th	101.85	20.37	ppb	1.79	1000.	
238 U	102.35	20.47	ppb	2.72	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2719726.80	4.44	2900107.00	93.8	69.5 - 120	
45 Sc	2064327.50	1.90	2161269.30	95.5	69.5 - 120	
72 Ge	436849.50	2.17	459106.19	95.2	69.5 - 120	
159 Tb	3322596.00	2.61	3415757.80	97.3	69.5 - 120	
209 Bi	1692431.80	2.06	1757454.40	96.3	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE17B.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000305

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE17B.B\062SMPL.D\062SMPL.D#
Date Acquired: May 17 2018 08:09 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3952-002
Misc Info:
Vial Number: 2305
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 17 2018 05:07 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.6295	0.1259	ppb	3.47	100.	
11 B	383.25	76.65	ppb	0.13	1000.	
23 Na	256,100.	51,220.	ppb	1.16	200000.	
25 Mg	63,550.	12,710.	ppb	1.05	200000.	
27 Al	11,045.	2,209.	ppb	1.58	200000.	
28 Si	33,180.	6,636.	ppb	2.24	#VALUE!	
29 Si	35,920.	7,184.	ppb	1.99	10000.	
39 K	21,760.	4,352.	ppb	2.21	200000.	
43 Ca	346,300.	69,260.	ppb	2.94	#VALUE!	
44 Ca	328,050.	65,610.	ppb	2.04	200000.	
51 V	31.94	6.388	ppb	3.87	1000.	
52 Cr	47.885	9.577	ppb	2.04	2000.	
53 Cr	86.15	17.23	ppb	2.36	#VALUE!	
55 Mn	1,479.5	295.9	ppb	0.69	2000.	
56 Fe	16,275.	3,255.	ppb	1.06	#VALUE!	
57 Fe	16,680.	3,336.	ppb	1.43	100000.	
59 Co	4.5105	0.9021	ppb	2.53	1000.	
60 Ni	24.295	4.859	ppb	2.59	1000.	
63 Cu	30.12	6.024	ppb	1.15	#VALUE!	
65 Cu	23.27	4.654	ppb	2.72	2000.	
66 Zn	250.	50.	ppb	1.34	2000.	
68 Zn	252.65	50.53	ppb	1.08	#VALUE!	
75 As	7.3	1.46	ppb	27.88	1000.	
82 Se	2.7505	0.5501	ppb	21.65	1000.	
88 Sr	1,425.	285.	ppb	1.35	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	27.185	5.437	ppb	0.30	1000.	
107 Ag	0.0427	0.0085	ppb	35.92	100.	
109 Ag	0.0449	0.009	ppb	42.74	#VALUE!	
111 Cd	-0.1333	-0.0267	ppb	149.70	#VALUE!	
114 Cd	0.0596	0.0119	ppb	37.92	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	1.992	0.3984	ppb	4.47	1000.	
120 Sn	1.9145	0.3829	ppb	5.97	#VALUE!	
121 Sb	0.618	0.1236	ppb	1.51	#VALUE!	
123 Sb	0.672	0.1344	ppb	15.25	1000.	
135 Ba	229.1	45.82	ppb	1.81	2000.	
137 Ba	228.95	45.79	ppb	1.34	#VALUE!	
182 W	0.4048	0.081	ppb	9.65	1000.	
203 Tl	0.1249	0.025	ppb	19.49	1000.	
205 Tl	0.1712	0.0342	ppb	14.15	#VALUE!	
208 Pb	8.185	1.637	ppb	0.80	2000.	
232 Th	8.05	1.61	ppb	1.28	1000.	
238 U	11.11	2.222	ppb	1.14	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2590725.30	3.70	2900107.00	89.3	69.5 - 120	
45 Sc	2039168.30	0.84	2161269.30	94.4	69.5 - 120	
72 Ge	439990.56	1.30	459106.19	95.8	69.5 - 120	
159 Tb	3380642.50	2.29	3415757.80	99.0	69.5 - 120	
209 Bi	1648632.40	1.85	1757454.40	93.8	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE17B.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000306

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE17B.B\063SMPL.D\063SMPL.D#
Date Acquired: May 17 2018 08:13 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: RINSE
Misc Info:
Vial Number: 2306
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 17 2018 05:07 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0033	0.0033	ppb	78.65	100.	
11 B	4.614	4.614	ppb	9.22	1000.	
23 Na	23.96	23.96	ppb	2.26	200000.	
25 Mg	0.8949	0.8949	ppb	6.34	200000.	
27 Al	2.42	2.42	ppb	10.21	200000.	
28 Si	21.88	21.88	ppb	32.24	#VALUE!	
29 Si	14.71	14.71	ppb	31.36	10000.	
39 K	11.29	11.29	ppb	45.00	200000.	
43 Ca	59.4	59.4	ppb	13.56	#VALUE!	
44 Ca	50.52	50.52	ppb	4.43	200000.	
51 V	-0.0036	-0.0036	ppb	1541.10	1000.	
52 Cr	0.0794	0.0794	ppb	55.86	2000.	
53 Cr	-1.242	-1.242	ppb	13.00	#VALUE!	
55 Mn	0.0684	0.0684	ppb	14.85	2000.	
56 Fe	22.46	22.46	ppb	24.76	#VALUE!	
57 Fe	7.948	7.948	ppb	47.95	100000.	
59 Co	0.0053	0.0053	ppb	120.78	1000.	
60 Ni	0.0168	0.0168	ppb	56.05	1000.	
63 Cu	2.245	2.245	ppb	0.79	#VALUE!	
65 Cu	2.255	2.255	ppb	0.87	2000.	
66 Zn	0.253	0.253	ppb	20.83	2000.	
68 Zn	0.2257	0.2257	ppb	57.20	#VALUE!	
75 As	0.0854	0.0854	ppb	79.84	1000.	
82 Se	0.2221	0.2221	ppb	81.32	1000.	
88 Sr	0.0302	0.0302	ppb	21.81	2000.	
89 Y	----	--------	---	---	#VALUE!	
98 Mo	0.0074	0.0074	ppb	67.69	1000.	
107 Ag	0.0023	0.0023	ppb	71.17	100.	
109 Ag	0.0025	0.0025	ppb	56.08	#VALUE!	
111 Cd	-0.0195	-0.0195	ppb	55.28	#VALUE!	
114 Cd	-0.0012	-0.0012	ppb	372.77	1000.	
115 In	----	--------	---	---	#VALUE!	
118 Sn	0.0389	0.0389	ppb	76.04	1000.	
120 Sn	0.0394	0.0394	ppb	24.71	#VALUE!	
121 Sb	0.0026	0.0026	ppb	100.78	#VALUE!	
123 Sb	0.0097	0.0097	ppb	31.65	1000.	
135 Ba	0.0722	0.0722	ppb	36.38	2000.	
137 Ba	0.0637	0.0637	ppb	8.53	#VALUE!	
182 W	0.0039	0.0039	ppb	80.20	1000.	
203 Tl	0.0044	0.0044	ppb	224.36	1000.	
205 Tl	0.0017	0.0017	ppb	236.73	#VALUE!	
208 Pb	0.152	0.152	ppb	18.41	2000.	
232 Th	0.0103	0.0103	ppb	30.28	1000.	
238 U	0.0008	0.0008	ppb	4.39	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2444831.80	3.92	2900107.00	84.3	69.5 - 120	
45 Sc	1989746.60	3.90	2161269.30	92.1	69.5 - 120	
72 Ge	424087.25	3.31	459106.19	92.4	69.5 - 120	
159 Tb	3169470.30	2.22	3415757.80	92.8	69.5 - 120	
209 Bi	1631389.90	1.92	1757454.40	92.8	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE17B.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000307

CCV QC Report

Data File: C:\ICPCHEM\1\DATA\JLE17B.B\064_CCV.D\064_CCV.D#
Date Acquired: May 17 2018 08:17 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: CCV
Misc Info:
Vial Number: 1206
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 17 2018 05:07 pm
Dilution Factor: 1.00
QC Range (%): 89.5 - 110.5

QC Elements

Element	Conc.		RSD(%)	Expected	Rec (%)	Flag
9 Be	25.11	ppb	1.77	25	100.44	
11 B	26.44	ppb	4.89	25	105.76	
23 Na	5,055.	ppb	2.47	5,000	101.1	
25 Mg	5,137.	ppb	3.20	5,000	102.74	
27 Al	505.3	ppb	2.00	500	101.06	
28 Si	534.3	ppb	1.74	500	106.86	
29 Si	507.4	ppb	3.30	500	101.48	
39 K	4,978.	ppb	1.98	5,000	99.56	
43 Ca	4,956.	ppb	1.12	5,000	99.12	
44 Ca	5,047.	ppb	1.01	5,000	100.94	
51 V	25.11	ppb	0.95	25	100.44	
52 Cr	25.07	ppb	1.25	25	100.28	
53 Cr	24.82	ppb	2.17	25	99.28	
55 Mn	25.19	ppb	1.14	25	100.76	
56 Fe	4,960.	ppb	1.28	5,000	99.2	
57 Fe	5,025.	ppb	0.43	5,000	100.5	
59 Co	25.	ppb	0.48	25	100	
60 Ni	24.91	ppb	0.81	25	99.64	
63 Cu	25.2	ppb	0.46	25	100.8	
65 Cu	25.22	ppb	1.43	25	100.88	
66 Zn	24.99	ppb	1.07	25	99.96	
68 Zn	25.05	ppb	1.55	25	100.2	
75 As	25.14	ppb	2.41	25	100.56	
82 Se	24.65	ppb	1.70	25	98.6	
88 Sr	24.83	ppb	1.56	25	99.32	
89 Y	--------	---	--------	---	#VALUE!	
98 Mo	24.99	ppb	1.82	25	99.96	
107 Ag	25.37	ppb	0.75	25	101.48	
109 Ag	25.15	ppb	1.74	25	100.6	
111 Cd	25.43	ppb	1.13	25	101.72	
114 Cd	25.21	ppb	1.57	25	100.84	
115 In	--------	---	--------	---	#VALUE!	
118 Sn	25.17	ppb	1.98	25	100.68	
120 Sn	25.1	ppb	2.89	25	100.4	
121 Sb	25.46	ppb	2.43	25	101.84	
123 Sb	25.36	ppb	1.79	25	101.44	
135 Ba	25.69	ppb	1.78	25	102.76	
137 Ba	25.71	ppb	2.35	25	102.84	
182 W	24.94	ppb	2.02	25	99.76	
203 Tl	25.46	ppb	1.07	25	101.84	
205 Tl	25.3	ppb	1.73	25	101.2	
208 Pb	25.35	ppb	1.79	25	101.4	
232 Th	24.97	ppb	2.39	25	99.88	
238 U	25.05	ppb	1.06	25	100.2	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2544249.50	3.08	2900107.00	87.7	80 - 120.4	
45 Sc	2023206.30	2.71	2161269.30	93.6	80 - 120.4	
72 Ge	425350.19	1.53	459106.19	92.6	80 - 120.4	
159 Tb	3289666.00	2.34	3415757.80	96.3	80 - 120.4	
209 Bi	1652847.40	1.30	1757454.40	94.0	80 - 120.4	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE17B.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\JLE17B.B\065_CCB.D\065_CCB.D#
Date Acquired: May 17 2018 08:21 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: CCB
Misc Info:
Vial Number: 1207
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 17 2018 05:07 pm
Sample Type: 6-CCB
Dilution Factor: 1.00

QC Elements

Element	Conc.		RSD(%)	High Limit	Flag
9 Be	0.0065	ppb	21.20	1.00	
11 B	2.626	ppb	15.73	1.00	
23 Na	4.55	ppb	34.62	1.00	
25 Mg	0.3939	ppb	160.17	1.00	
27 Al	0.1079	ppb	123.45	1.00	
28 Si	25.27	ppb	27.53	1.00	
29 Si	18.57	ppb	24.53	1.00	
39 K	15.92	ppb	23.77	1.00	
43 Ca	1.478	ppb	470.16	1.00	
44 Ca	1.053	ppb	263.53	1.00	
51 V	-0.0275	ppb	107.71	1.00	
52 Cr	0.0141	ppb	114.25	1.00	
53 Cr	-2.427	ppb	8.41	1.00	
55 Mn	0.0265	ppb	28.96	1.00	
56 Fe	13.93	ppb	16.03	1.00	
57 Fe	5.519	ppb	6.20	1.00	
59 Co	0.0025	ppb	68.93	1.00	
60 Ni	-0.0144	ppb	53.39	1.00	
63 Cu	-0.0066	ppb	186.18	1.00	
65 Cu	-0.0185	ppb	149.97	1.00	
66 Zn	0.0444	ppb	64.47	1.00	
68 Zn	0.0047	ppb	676.09	1.00	
75 As	0.0198	ppb	1153.90	1.00	
82 Se	0.1905	ppb	136.38	1.00	
88 Sr	0.0049	ppb	85.64	1.00	
89 Y	--------	---	--------	---	
98 Mo	0.0171	ppb	20.26	1.00	
107 Ag	0.0021	ppb	59.29	1.00	
109 Ag	0.0015	ppb	26.90	1.00	
111 Cd	0.0052	ppb	481.88	1.00	
114 Cd	-0.0023	ppb	227.00	1.00	
115 In	--------	---	--------	---	
118 Sn	0.0434	ppb	32.30	1.00	
120 Sn	0.0109	ppb	138.06	1.00	
121 Sb	0.0147	ppb	39.97	1.00	
123 Sb	0.0136	ppb	21.45	1.00	
135 Ba	-0.0038	ppb	210.77	1.00	
137 Ba	0.0013	ppb	503.95	1.00	
182 W	0.0423	ppb	27.55	1.00	
203 Tl	-0.0022	ppb	480.18	1.00	
205 Tl	0.003	ppb	109.23	1.00	
208 Pb	0.0264	ppb	11.65	1.00	
232 Th	0.0566	ppb	14.54	1.00	
238 U	0.0032	ppb	43.95	1.00	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2335624.50	0.72	2900107.00	80.5	79.5 - 120	
45 Sc	1861439.80	2.22	2161269.30	86.1	79.5 - 120	
72 Ge	399798.09	1.58	459106.19	87.1	79.5 - 120	
159 Tb	3063715.00	1.79	3415757.80	89.7	79.5 - 120	
209 Bi	1570932.40	0.80	1757454.40	89.4	79.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE17B.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE17B.B\066SMPL.D\066SMPL.D#
Date Acquired: May 17 2018 08:25 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3952-003
Misc Info:
Vial Number: 2307
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 17 2018 05:07 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0115	0.0023	ppb	51.58	100.	
11 B	340.1	68.02	ppb	6.27	1000.	
23 Na	236,250.	47,250.	ppb	3.03	200000.	
25 Mg	56,000.	11,200.	ppb	4.14	200000.	
27 Al	9.12	1.824	ppb	6.84	200000.	
28 Si	8,335.	1,667.	ppb	2.77	#VALUE!	
29 Si	8,620.	1,724.	ppb	1.82	10000.	
39 K	18,215.	3,643.	ppb	3.63	200000.	
43 Ca	312,350.	62,470.	ppb	5.64	#VALUE!	
44 Ca	297,050.	59,410.	ppb	4.10	200000.	
51 V	-0.0361	-0.0072	ppb	1588.50	1000.	
52 Cr	1.5335	0.3067	ppb	17.15	2000.	
53 Cr	39.94	7.988	ppb	27.88	#VALUE!	
55 Mn	1,259.	251.8	ppb	2.68	2000.	
56 Fe	1,649.5	329.9	ppb	4.00	#VALUE!	
57 Fe	1,955.	391.	ppb	1.44	100000.	
59 Co	0.6045	0.1209	ppb	9.72	1000.	
60 Ni	3.905	0.781	ppb	6.81	1000.	
63 Cu	7.785	1.557	ppb	1.50	#VALUE!	
65 Cu	1.613	0.3226	ppb	15.36	2000.	
66 Zn	36.47	7.294	ppb	3.03	2000.	
68 Zn	36.235	7.247	ppb	0.37	#VALUE!	
75 As	4.5385	0.9077	ppb	21.01	1000.	
82 Se	2.5565	0.5113	ppb	17.68	1000.	
88 Sr	1,300.5	260.1	ppb	2.44	2000.	
89 Y	----	--------	---	---	#VALUE!	
98 Mo	16.505	3.301	ppb	1.82	1000.	
107 Ag	0.0094	0.0019	ppb	100.11	100.	
109 Ag	0.0072	0.0014	ppb	27.29	#VALUE!	
111 Cd	-0.2611	-0.0522	ppb	18.01	#VALUE!	
114 Cd	-0.0078	-0.0016	ppb	86.80	1000.	
115 In	----	--------	---	---	#VALUE!	
118 Sn	0.7775	0.1555	ppb	22.14	1000.	
120 Sn	0.6835	0.1367	ppb	7.61	#VALUE!	
121 Sb	0.3059	0.0612	ppb	12.79	#VALUE!	
123 Sb	0.3524	0.0705	ppb	2.51	1000.	
135 Ba	35.135	7.027	ppb	3.07	2000.	
137 Ba	34.515	6.903	ppb	4.22	#VALUE!	
182 W	0.1242	0.0248	ppb	31.27	1000.	
203 Tl	-0.062	-0.0124	ppb	29.34	1000.	
205 Tl	0.0117	0.0023	ppb	178.09	#VALUE!	
208 Pb	-0.2245	-0.0449	ppb	23.79	2000.	
232 Th	0.4065	0.0813	ppb	31.96	1000.	
238 U	8.77	1.754	ppb	1.90	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2452792.30	3.47	2900107.00	84.6	69.5 - 120	
45 Sc	1952968.10	1.97	2161269.30	90.4	69.5 - 120	
72 Ge	425767.16	1.32	459106.19	92.7	69.5 - 120	
159 Tb	3276633.80	1.63	3415757.80	95.9	69.5 - 120	
209 Bi	1617258.90	1.40	1757454.40	92.0	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE17B.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000310

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE17B.B\067SMPL.D\067SMPL.D#
Date Acquired: May 17 2018 08:30 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3952-004
Misc Info:
Vial Number: 2308
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 17 2018 05:07 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.2693	0.0539	ppb	5.86	100.	
11 B	234.55	46.91	ppb	6.36	1000.	
23 Na	338,550.	67,710.	ppb	1.35	200000.	
25 Mg	82,800.	16,560.	ppb	1.17	200000.	
27 Al	5,980.	1,196.	ppb	3.98	200000.	
28 Si	28,440.	5,688.	ppb	3.23	#VALUE!	
29 Si	31,035.	6,207.	ppb	3.57	10000.	
39 K	20,670.	4,134.	ppb	2.24	200000.	
43 Ca	400,050.	80,010.	ppb	2.77	#VALUE!	
44 Ca	376,600.	75,320.	ppb	2.44	200000.	
51 V	16.665	3.333	ppb	2.12	1000.	
52 Cr	32.97	6.594	ppb	3.34	2000.	
53 Cr	78.8	15.76	ppb	6.00	#VALUE!	
55 Mn	1,552.	310.4	ppb	1.22	2000.	
56 Fe	10,280.	2,056.	ppb	1.88	#VALUE!	
57 Fe	10,655.	2,131.	ppb	2.43	100000.	
59 Co	3.828	0.7656	ppb	2.18	1000.	
60 Ni	15.27	3.054	ppb	2.24	1000.	
63 Cu	22.11	4.422	ppb	1.41	#VALUE!	
65 Cu	13.32	2.664	ppb	4.55	2000.	
66 Zn	54.4	10.88	ppb	2.97	2000.	
68 Zn	56.7	11.34	ppb	1.26	#VALUE!	
75 As	16.88	3.376	ppb	2.88	1000.	
82 Se	2.0295	0.4059	ppb	67.50	1000.	
88 Sr	1,699.	339.8	ppb	2.23	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	15.015	3.003	ppb	2.33	1000.	
107 Ag	0.0217	0.0043	ppb	44.06	100.	
109 Ag	0.0372	0.0074	ppb	30.73	#VALUE!	
111 Cd	-0.1965	-0.0393	ppb	19.92	#VALUE!	
114 Cd	0.0274	0.0055	ppb	133.89	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	1.18	0.236	ppb	7.04	1000.	
120 Sn	1.1485	0.2297	ppb	8.28	#VALUE!	
121 Sb	0.313	0.0626	ppb	10.28	#VALUE!	
123 Sb	0.3608	0.0722	ppb	4.09	1000.	
135 Ba	126.55	25.31	ppb	2.68	2000.	
137 Ba	125.85	25.17	ppb	0.43	#VALUE!	
182 W	0.4806	0.0961	ppb	14.54	1000.	
203 Tl	0.0362	0.0072	ppb	84.12	1000.	
205 Tl	0.0758	0.0152	ppb	25.64	#VALUE!	
208 Pb	6.755	1.351	ppb	1.23	2000.	
232 Th	5.66	1.132	ppb	1.65	1000.	
238 U	2.614	0.5228	ppb	3.20	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2353715.50	3.95	2900107.00	81.2	69.5 - 120	
45 Sc	1940071.60	2.54	2161269.30	89.8	69.5 - 120	
72 Ge	421630.88	1.33	459106.19	91.8	69.5 - 120	
159 Tb	3289096.00	2.24	3415757.80	96.3	69.5 - 120	
209 Bi	1620580.10	0.98	1757454.40	92.2	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE17B.B\015CALB.D\015CALB.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000311

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE17B.B\068SMPL.D\068SMPL.D#
Date Acquired: May 17 2018 08:34 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3952-005
Misc Info:
Vial Number: 2309
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 17 2018 05:07 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0086	0.0017	ppb	102.21	100.	
11 B	235.55	47.11	ppb	5.39	1000.	
23 Na	350,800.	70,160.	ppb	1.05	200000.	
25 Mg	83,950.	16,790.	ppb	0.60	200000.	
27 Al	14.695	2.939	ppb	9.57	200000.	
28 Si	16,100.	3,220.	ppb	0.60	#VALUE!	
29 Si	16,805.	3,361.	ppb	0.17	10000.	
39 K	19,690.	3,938.	ppb	1.51	200000.	
43 Ca	409,350.	81,870.	ppb	0.94	#VALUE!	
44 Ca	383,450.	76,690.	ppb	1.00	200000.	
51 V	0.7985	0.1597	ppb	20.03	1000.	
52 Cr	2.2495	0.4499	ppb	12.31	2000.	
53 Cr	61.15	12.23	ppb	14.51	#VALUE!	
55 Mn	1,519.	303.8	ppb	0.97	2000.	
56 Fe	2,536.5	507.3	ppb	0.84	#VALUE!	
57 Fe	2,966.	593.2	ppb	2.94	100000.	
59 Co	1.1105	0.2221	ppb	3.97	1000.	
60 Ni	3.073	0.6146	ppb	11.21	1000.	
63 Cu	11.08	2.216	ppb	1.39	#VALUE!	
65 Cu	1.7405	0.3481	ppb	6.45	2000.	
66 Zn	17.58	3.516	ppb	3.81	2000.	
68 Zn	17.355	3.471	ppb	4.22	#VALUE!	
75 As	17.565	3.513	ppb	5.27	1000.	
82 Se	2.1665	0.4333	ppb	17.57	1000.	
88 Sr	1,696.5	339.3	ppb	0.96	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	11.485	2.297	ppb	1.56	1000.	
107 Ag	0.004	0.0008	ppb	219.04	100.	
109 Ag	0.005	0.001	ppb	180.45	#VALUE!	
111 Cd	-0.1295	-0.0259	ppb	49.02	#VALUE!	
114 Cd	0.0047	0.0009	ppb	310.57	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	0.719	0.1438	ppb	6.70	1000.	
120 Sn	0.781	0.1562	ppb	4.73	#VALUE!	
121 Sb	0.2139	0.0428	ppb	22.78	#VALUE!	
123 Sb	0.2476	0.0495	ppb	12.00	1000.	
135 Ba	29.595	5.919	ppb	1.37	2000.	
137 Ba	29.195	5.839	ppb	2.30	#VALUE!	
182 W	0.2788	0.0558	ppb	5.60	1000.	
203 Tl	-0.0485	-0.0097	ppb	90.27	1000.	
205 Tl	-0.0025	-0.0005	ppb	877.82	#VALUE!	
208 Pb	-0.281	-0.0562	ppb	11.56	2000.	
232 Th	0.2145	0.0429	ppb	34.59	1000.	
238 U	1.895	0.379	ppb	1.00	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2604442.30	1.95	2900107.00	89.8	69.5 - 120	
45 Sc	2082982.90	0.81	2161269.30	96.4	69.5 - 120	
72 Ge	450132.88	1.08	459106.19	98.0	69.5 - 120	
159 Tb	3402742.80	1.15	3415757.80	99.6	69.5 - 120	
209 Bi	1653864.10	1.74	1757454.40	94.1	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE17B.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000312

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE17B.B\069SMPL.D\069SMPL.D#
Date Acquired: May 17 2018 08:38 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3952-006
Misc Info:
Vial Number: 2310
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 17 2018 05:07 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	2.322	0.4644	ppb	1.51	100.	
11 B	244.9	48.98	ppb	0.49	1000.	
23 Na	334,150.	66,830.	ppb	2.00	200000.	
25 Mg	84,450.	16,890.	ppb	1.97	200000.	
27 Al	54,650.	10,930.	ppb	1.87	200000.	
28 Si	61,850.	12,370.	ppb	1.81	#VALUE!	
29 Si	66,250.	13,250.	ppb	2.10	10000.	>LDR
39 K	32,650.	6,530.	ppb	3.76	200000.	
43 Ca	429,100.	85,820.	ppb	2.92	#VALUE!	
44 Ca	401,850.	80,370.	ppb	3.05	200000.	
51 V	125.3	25.06	ppb	0.19	1000.	
52 Cr	524.5	104.9	ppb	1.62	2000.	
53 Cr	572.	114.4	ppb	2.90	#VALUE!	
55 Mn	2,168.	433.6	ppb	0.30	2000.	
56 Fe	111,750.	22,350.	ppb	0.88	#VALUE!	
57 Fe	108,500.	21,700.	ppb	1.19	100000.	
59 Co	24.57	4.914	ppb	1.59	1000.	
60 Ni	184.75	36.95	ppb	0.83	1000.	
63 Cu	174.3	34.86	ppb	1.44	#VALUE!	
65 Cu	162.8	32.56	ppb	2.07	2000.	
66 Zn	1,280.	256.	ppb	1.88	2000.	
68 Zn	1,286.	257.2	ppb	2.11	#VALUE!	
75 As	24.985	4.997	ppb	2.75	1000.	
82 Se	3.15	0.63	ppb	36.06	1000.	
88 Sr	1,874.5	374.9	ppb	0.45	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	144.95	28.99	ppb	1.03	1000.	
107 Ag	0.2417	0.0483	ppb	6.80	100.	
109 Ag	0.2139	0.0428	ppb	11.74	#VALUE!	
111 Cd	0.5355	0.1071	ppb	11.06	#VALUE!	
114 Cd	0.2969	0.0594	ppb	24.37	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	7.575	1.515	ppb	1.23	1000.	
120 Sn	7.335	1.467	ppb	2.45	#VALUE!	
121 Sb	0.9465	0.1893	ppb	7.09	#VALUE!	
123 Sb	0.934	0.1868	ppb	5.02	1000.	
135 Ba	1,009.	201.8	ppb	1.48	2000.	
137 Ba	1,016.5	203.3	ppb	1.37	#VALUE!	
182 W	1.1785	0.2357	ppb	5.72	1000.	
203 Tl	0.8345	0.1669	ppb	6.93	1000.	
205 Tl	0.7895	0.1579	ppb	7.92	#VALUE!	
208 Pb	58.8	11.76	ppb	1.49	2000.	
232 Th	43.965	8.793	ppb	2.44	1000.	
238 U	8.81	1.762	ppb	1.70	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2494707.00	2.84	2900107.00	86.0	69.5 - 120	
45 Sc	2029061.30	1.50	2161269.30	93.9	69.5 - 120	
72 Ge	431245.75	1.07	459106.19	93.9	69.5 - 120	
159 Tb	3437546.50	1.16	3415757.80	100.6	69.5 - 120	
209 Bi	1651704.00	2.06	1757454.40	94.0	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE17B.B\015CALB.D\015CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Katahdin Analytical Services 4000313

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE17B.B\070SMPL.D\070SMPL.D#
Date Acquired: May 17 2018 08:42 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3952-007
Misc Info:
Vial Number: 2311
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 17 2018 05:07 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0106	0.0021	ppb	84.88	100.	
11 B	223.1	44.62	ppb	5.32	1000.	
23 Na	323,550.	64,710.	ppb	3.38	200000.	
25 Mg	73,500.	14,700.	ppb	1.84	200000.	
27 Al	14.765	2.953	ppb	6.45	200000.	
28 Si	14,695.	2,939.	ppb	1.33	#VALUE!	
29 Si	15,100.	3,020.	ppb	1.09	10000.	
39 K	18,540.	3,708.	ppb	0.86	200000.	
43 Ca	384,450.	76,890.	ppb	2.92	#VALUE!	
44 Ca	362,350.	72,470.	ppb	1.34	200000.	
51 V	0.8355	0.1671	ppb	54.78	1000.	
52 Cr	2.5085	0.5017	ppb	9.39	2000.	
53 Cr	53.85	10.77	ppb	25.86	#VALUE!	
55 Mn	1,334.5	266.9	ppb	1.18	2000.	
56 Fe	5,235.	1,047.	ppb	1.91	#VALUE!	
57 Fe	5,555.	1,111.	ppb	1.10	100000.	
59 Co	1.2045	0.2409	ppb	7.33	1000.	
60 Ni	10.5	2.1	ppb	3.35	1000.	
63 Cu	10.27	2.054	ppb	0.35	#VALUE!	
65 Cu	1.5575	0.3115	ppb	10.39	2000.	
66 Zn	50.25	10.05	ppb	2.25	2000.	
68 Zn	49.41	9.882	ppb	1.61	#VALUE!	
75 As	11.96	2.392	ppb	9.19	1000.	
82 Se	2.5805	0.5161	ppb	27.51	1000.	
88 Sr	1,587.	317.4	ppb	1.75	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	19.14	3.828	ppb	1.70	1000.	
107 Ag	0.0019	0.0004	ppb	681.87	100.	
109 Ag	0.0021	0.0004	ppb	110.65	#VALUE!	
111 Cd	-0.1439	-0.0288	ppb	155.68	#VALUE!	
114 Cd	-0.0123	-0.0025	ppb	77.81	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	0.834	0.1668	ppb	22.90	1000.	
120 Sn	0.7245	0.1449	ppb	3.89	#VALUE!	
121 Sb	0.1228	0.0246	ppb	41.33	#VALUE!	
123 Sb	0.1586	0.0317	ppb	19.72	1000.	
135 Ba	40.295	8.059	ppb	3.60	2000.	
137 Ba	41.005	8.201	ppb	1.93	#VALUE!	
182 W	0.2059	0.0412	ppb	11.74	1000.	
203 Tl	-0.0219	-0.0044	ppb	279.03	1000.	
205 Tl	-0.0093	-0.0019	ppb	269.52	#VALUE!	
208 Pb	-0.2643	-0.0529	ppb	7.77	2000.	
232 Th	0.2091	0.0418	ppb	29.44	1000.	
238 U	1.762	0.3524	ppb	6.93	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2439841.00	4.21	2900107.00	84.1	69.5 - 120	
45 Sc	1989866.60	1.89	2161269.30	92.1	69.5 - 120	
72 Ge	432461.31	1.67	459106.19	94.2	69.5 - 120	
159 Tb	3334353.00	1.47	3415757.80	97.6	69.5 - 120	
209 Bi	1626508.90	0.96	1757454.40	92.5	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE17B.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000314

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE17B.B\071SMPL.D\071SMPL.D#
Date Acquired: May 17 2018 08:46 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3952-008
Misc Info:
Vial Number: 2312
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 17 2018 05:07 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	17.545	3.509	ppb	2.72	100.	
11 B	260.45	52.09	ppb	2.00	1000.	
23 Na	91,300.	18,260.	ppb	0.77	200000.	
25 Mg	195,450.	39,090.	ppb	0.89	200000.	
27 Al	258,400.	51,680.	ppb	1.16	200000.	
28 Si	89,150.	17,830.	ppb	2.32	#VALUE!	
29 Si	93,250.	18,650.	ppb	3.09	10000.	>LDR
39 K	74,100.	14,820.	ppb	0.34	200000.	
43 Ca	535,500.	107,100.	ppb	0.57	#VALUE!	
44 Ca	507,000.	101,400.	ppb	0.16	200000.	
51 V	527.5	105.5	ppb	1.13	1000.	
52 Cr	419.6	83.92	ppb	0.23	2000.	
53 Cr	457.75	91.55	ppb	0.90	#VALUE!	
55 Mn	5,005.	1,001.	ppb	0.37	2000.	
56 Fe	271,800.	54,360.	ppb	0.52	#VALUE!	
57 Fe	262,250.	52,450.	ppb	0.30	100000.	
59 Co	120.3	24.06	ppb	0.32	1000.	
60 Ni	343.7	68.74	ppb	1.03	1000.	
63 Cu	276.8	55.36	ppb	0.52	#VALUE!	
65 Cu	276.05	55.21	ppb	1.57	2000.	
66 Zn	1,303.5	260.7	ppb	0.25	2000.	
68 Zn	1,371.	274.2	ppb	0.05	#VALUE!	
75 As	74.9	14.98	ppb	2.83	1000.	
82 Se	20.04	4.008	ppb	2.61	1000.	
88 Sr	2,147.5	429.5	ppb	1.08	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	30.555	6.111	ppb	0.85	1000.	
107 Ag	1.3545	0.2709	ppb	4.78	100.	
109 Ag	1.422	0.2844	ppb	9.10	#VALUE!	
111 Cd	5.72	1.144	ppb	5.80	#VALUE!	
114 Cd	4.322	0.8644	ppb	4.70	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	16.13	3.226	ppb	1.53	1000.	
120 Sn	15.745	3.149	ppb	2.26	#VALUE!	
121 Sb	1.493	0.2986	ppb	1.64	#VALUE!	
123 Sb	1.4565	0.2913	ppb	3.49	1000.	
135 Ba	2,679.	535.8	ppb	0.51	2000.	
137 Ba	2,652.5	530.5	ppb	0.60	#VALUE!	
182 W	0.495	0.099	ppb	5.90	1000.	
203 Tl	4.577	0.9154	ppb	2.80	1000.	
205 Tl	4.6395	0.9279	ppb	1.35	#VALUE!	
208 Pb	227.8	45.56	ppb	0.87	2000.	
232 Th	151.3	30.26	ppb	0.98	1000.	
238 U	47.43	9.486	ppb	0.93	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2509141.50	1.39	2900107.00	86.5	69.5 - 120	
45 Sc	2120047.80	0.75	2161269.30	98.1	69.5 - 120	
72 Ge	433701.66	0.39	459106.19	94.5	69.5 - 120	
159 Tb	3522814.50	0.89	3415757.80	103.1	69.5 - 120	
209 Bi	1671017.80	0.88	1757454.40	95.1	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE17B.B\015CALB.D\015CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Katahdin Analytical Services 4000315

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE17B.B\072SMPL.D\072SMPL.D#
Date Acquired: May 17 2018 08:51 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3952-009
Misc Info:
Vial Number: 2401
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 17 2018 05:07 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	-0.001	-0.0002	ppb	786.78	100.	
11 B	171.95	34.39	ppb	4.84	1000.	
23 Na	98,650.	19,730.	ppb	2.23	200000.	
25 Mg	40,290.	8,058.	ppb	1.07	200000.	
27 Al	24.585	4.917	ppb	102.89	200000.	
28 Si	23,730.	4,746.	ppb	1.66	#VALUE!	
29 Si	25,555.	5,111.	ppb	3.66	10000.	
39 K	17,040.	3,408.	ppb	2.46	200000.	
43 Ca	242,350.	48,470.	ppb	0.85	#VALUE!	
44 Ca	233,000.	46,600.	ppb	0.87	200000.	
51 V	-0.0991	-0.0198	ppb	145.76	1000.	
52 Cr	1.493	0.2986	ppb	17.37	2000.	
53 Cr	33.81	6.762	ppb	30.76	#VALUE!	
55 Mn	993.5	198.7	ppb	0.61	2000.	
56 Fe	1,221.	244.2	ppb	1.99	#VALUE!	
57 Fe	1,407.	281.4	ppb	0.65	100000.	
59 Co	0.3665	0.0733	ppb	4.84	1000.	
60 Ni	2.4	0.48	ppb	2.36	1000.	
63 Cu	6.05	1.21	ppb	2.69	#VALUE!	
65 Cu	3.2815	0.6563	ppb	3.68	2000.	
66 Zn	11.865	2.373	ppb	4.24	2000.	
68 Zn	13.765	2.753	ppb	5.16	#VALUE!	
75 As	3.8645	0.7729	ppb	29.66	1000.	
82 Se	2.3565	0.4713	ppb	50.97	1000.	
88 Sr	1,100.	220.	ppb	0.90	2000.	
89 Y	----	--------	---	---	#VALUE!	
98 Mo	9.47	1.894	ppb	3.56	1000.	
107 Ag	0.0028	0.0006	ppb	586.29	100.	
109 Ag	0.0089	0.0018	ppb	114.33	#VALUE!	
111 Cd	-0.56	-0.112	ppb	2.23	#VALUE!	
114 Cd	0.0063	0.0013	ppb	433.87	1000.	
115 In	----	--------	---	---	#VALUE!	
118 Sn	0.8235	0.1647	ppb	19.61	1000.	
120 Sn	0.858	0.1716	ppb	12.52	#VALUE!	
121 Sb	0.1826	0.0365	ppb	11.50	#VALUE!	
123 Sb	0.1631	0.0326	ppb	17.64	1000.	
135 Ba	64.6	12.92	ppb	1.26	2000.	
137 Ba	65.	13.	ppb	0.70	#VALUE!	
182 W	0.2124	0.0425	ppb	5.16	1000.	
203 Tl	-0.0177	-0.0035	ppb	247.77	1000.	
205 Tl	-0.0298	-0.006	ppb	32.48	#VALUE!	
208 Pb	-0.1206	-0.0241	ppb	74.34	2000.	
232 Th	0.3412	0.0682	ppb	30.23	1000.	
238 U	1.567	0.3134	ppb	2.62	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2317523.00	2.23	2900107.00	79.9	69.5 - 120	
45 Sc	1890597.30	1.52	2161269.30	87.5	69.5 - 120	
72 Ge	418162.34	0.92	459106.19	91.1	69.5 - 120	
159 Tb	3429647.80	0.87	3415757.80	100.4	69.5 - 120	
209 Bi	1702906.60	1.13	1757454.40	96.9	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE17B.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000316

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE17B.B\073SMPL.D\073SMPL.D#
Date Acquired: May 17 2018 08:55 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3952-010
Misc Info:
Vial Number: 2402
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 17 2018 05:07 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.18	0.036	ppb	20.95	100.	
11 B	238.5	47.7	ppb	5.18	1000.	
23 Na	362,450.	72,490.	ppb	2.03	200000.	
25 Mg	86,850.	17,370.	ppb	1.87	200000.	
27 Al	3,638.	727.6	ppb	1.73	200000.	
28 Si	26,570.	5,314.	ppb	2.57	#VALUE!	
29 Si	28,975.	5,795.	ppb	1.99	10000.	
39 K	21,795.	4,359.	ppb	3.32	200000.	
43 Ca	426,400.	85,280.	ppb	2.58	#VALUE!	
44 Ca	399,550.	79,910.	ppb	2.95	200000.	
51 V	9.04	1.808	ppb	7.75	1000.	
52 Cr	36.365	7.273	ppb	1.68	2000.	
53 Cr	79.	15.8	ppb	6.10	#VALUE!	
55 Mn	1,498.5	299.7	ppb	1.98	2000.	
56 Fe	13,895.	2,779.	ppb	1.14	#VALUE!	
57 Fe	14,290.	2,858.	ppb	1.61	100000.	
59 Co	2.12	0.424	ppb	3.40	1000.	
60 Ni	14.67	2.934	ppb	1.35	1000.	
63 Cu	26.67	5.334	ppb	2.06	#VALUE!	
65 Cu	16.	3.2	ppb	3.75	2000.	
66 Zn	156.5	31.3	ppb	0.49	2000.	
68 Zn	152.55	30.51	ppb	0.27	#VALUE!	
75 As	11.75	2.35	ppb	3.69	1000.	
82 Se	1.543	0.3086	ppb	73.27	1000.	
88 Sr	1,807.	361.4	ppb	1.02	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	21.6	4.32	ppb	0.80	1000.	
107 Ag	0.0126	0.0025	ppb	135.41	100.	
109 Ag	0.0365	0.0073	ppb	31.89	#VALUE!	
111 Cd	-0.3329	-0.0666	ppb	13.97	#VALUE!	
114 Cd	0.0166	0.0033	ppb	32.38	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	2.2635	0.4527	ppb	5.99	1000.	
120 Sn	2.422	0.4844	ppb	2.50	#VALUE!	
121 Sb	0.175	0.035	ppb	27.86	#VALUE!	
123 Sb	0.2388	0.0478	ppb	9.02	1000.	
135 Ba	95.	19.	ppb	2.49	2000.	
137 Ba	94.8	18.96	ppb	0.34	#VALUE!	
182 W	0.3062	0.0612	ppb	24.62	1000.	
203 Tl	0.0167	0.0033	ppb	76.97	1000.	
205 Tl	0.0301	0.006	ppb	72.33	#VALUE!	
208 Pb	4.6705	0.9341	ppb	1.21	2000.	
232 Th	2.964	0.5928	ppb	8.22	1000.	
238 U	1.849	0.3698	ppb	2.41	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2300322.50	3.39	2900107.00	79.3	69.5 - 120	
45 Sc	1903286.40	2.26	2161269.30	88.1	69.5 - 120	
72 Ge	417412.09	1.19	459106.19	90.9	69.5 - 120	
159 Tb	3368284.00	1.71	3415757.80	98.6	69.5 - 120	
209 Bi	1650160.60	0.36	1757454.40	93.9	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE17B.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000317

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE17B.B\074SMPL.D\074SMPL.D#
Date Acquired: May 17 2018 08:59 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3952-011
Misc Info:
Vial Number: 2403
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 17 2018 05:07 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0124	0.0025	ppb	126.42	100.	
11 B	231.8	46.36	ppb	2.35	1000.	
23 Na	348,850.	69,770.	ppb	1.30	200000.	
25 Mg	81,450.	16,290.	ppb	2.08	200000.	
27 Al	11.93	2.386	ppb	4.13	200000.	
28 Si	17,985.	3,597.	ppb	0.90	#VALUE!	
29 Si	18,780.	3,756.	ppb	1.84	10000.	
39 K	20,340.	4,068.	ppb	2.80	200000.	
43 Ca	404,300.	80,860.	ppb	2.09	#VALUE!	
44 Ca	380,400.	76,080.	ppb	1.86	200000.	
51 V	0.754	0.1508	ppb	90.65	1000.	
52 Cr	1.964	0.3928	ppb	5.88	2000.	
53 Cr	53.2	10.64	ppb	13.06	#VALUE!	
55 Mn	1,377.	275.4	ppb	0.36	2000.	
56 Fe	6,435.	1,287.	ppb	1.23	#VALUE!	
57 Fe	6,725.	1,345.	ppb	0.30	100000.	
59 Co	0.5615	0.1123	ppb	13.62	1000.	
60 Ni	2.6125	0.5225	ppb	3.41	1000.	
63 Cu	11.62	2.324	ppb	3.91	#VALUE!	
65 Cu	1.6675	0.3335	ppb	9.36	2000.	
66 Zn	28.94	5.788	ppb	3.86	2000.	
68 Zn	27.06	5.412	ppb	1.56	#VALUE!	
75 As	10.745	2.149	ppb	6.00	1000.	
82 Se	2.413	0.4826	ppb	65.25	1000.	
88 Sr	1,724.5	344.9	ppb	0.39	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	13.315	2.663	ppb	0.36	1000.	
107 Ag	-0.0012	-0.0002	ppb	921.54	100.	
109 Ag	0.0025	0.0005	ppb	179.26	#VALUE!	
111 Cd	-0.2643	-0.0529	ppb	20.56	#VALUE!	
114 Cd	-0.0099	-0.002	ppb	279.83	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	0.7945	0.1589	ppb	14.60	1000.	
120 Sn	0.656	0.1312	ppb	9.80	#VALUE!	
121 Sb	0.0693	0.0139	ppb	47.45	#VALUE!	
123 Sb	0.116	0.0232	ppb	19.24	1000.	
135 Ba	30.875	6.175	ppb	3.69	2000.	
137 Ba	31.115	6.223	ppb	2.49	#VALUE!	
182 W	0.2289	0.0458	ppb	23.90	1000.	
203 Tl	-0.0701	-0.014	ppb	63.56	1000.	
205 Tl	-0.0241	-0.0048	ppb	75.53	#VALUE!	
208 Pb	-0.3313	-0.0663	ppb	8.08	2000.	
232 Th	0.0998	0.02	ppb	50.35	1000.	
238 U	1.35	0.27	ppb	3.17	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2325637.50	2.26	2900107.00	80.2	69.5 - 120	
45 Sc	1932160.40	0.97	2161269.30	89.4	69.5 - 120	
72 Ge	422024.25	0.74	459106.19	91.9	69.5 - 120	
159 Tb	3388677.80	0.95	3415757.80	99.2	69.5 - 120	
209 Bi	1663905.80	1.34	1757454.40	94.7	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE17B.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000318

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE17B.B\075SMPL.D\075SMPL.D#
Date Acquired: May 17 2018 09:03 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: RINSE
Misc Info:
Vial Number: 2404
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 17 2018 05:07 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0012	0.0012	ppb	44.11	100.	
11 B	2.838	2.838	ppb	11.68	1000.	
23 Na	7.453	7.453	ppb	2.32	200000.	
25 Mg	0.3867	0.3867	ppb	43.68	200000.	
27 Al	0.9227	0.9227	ppb	15.77	200000.	
28 Si	48.68	48.68	ppb	38.58	#VALUE!	
29 Si	32.11	32.11	ppb	8.79	10000.	
39 K	10.13	10.13	ppb	28.82	200000.	
43 Ca	5.147	5.147	ppb	73.87	#VALUE!	
44 Ca	1.039	1.039	ppb	24.61	200000.	
51 V	-0.014	-0.014	ppb	359.33	1000.	
52 Cr	0.1061	0.1061	ppb	26.76	2000.	
53 Cr	0.6475	0.6475	ppb	50.87	#VALUE!	
55 Mn	0.0365	0.0365	ppb	3.26	2000.	
56 Fe	30.15	30.15	ppb	17.41	#VALUE!	
57 Fe	9.469	9.469	ppb	4.43	100000.	
59 Co	0.0073	0.0073	ppb	56.68	1000.	
60 Ni	0.0035	0.0035	ppb	325.42	1000.	
63 Cu	0.1885	0.1885	ppb	7.60	#VALUE!	
65 Cu	0.1787	0.1787	ppb	22.64	2000.	
66 Zn	0.089	0.089	ppb	44.38	2000.	
68 Zn	0.1501	0.1501	ppb	38.32	#VALUE!	
75 As	0.1404	0.1404	ppb	125.36	1000.	
82 Se	0.2013	0.2013	ppb	22.62	1000.	
88 Sr	0.0059	0.0059	ppb	54.48	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	0.0041	0.0041	ppb	85.31	1000.	
107 Ag	0.0009	0.0009	ppb	13.19	100.	
109 Ag	0.0022	0.0022	ppb	82.10	#VALUE!	
111 Cd	0.0108	0.0108	ppb	287.63	#VALUE!	
114 Cd	0.0041	0.0041	ppb	42.83	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	0.0085	0.0085	ppb	104.60	1000.	
120 Sn	-0.0044	-0.0044	ppb	151.94	#VALUE!	
121 Sb	0.0022	0.0022	ppb	115.09	#VALUE!	
123 Sb	0.0016	0.0016	ppb	80.35	1000.	
135 Ba	0.0034	0.0034	ppb	64.14	2000.	
137 Ba	0.0175	0.0175	ppb	37.64	#VALUE!	
182 W	0.0011	0.0011	ppb	248.42	1000.	
203 Tl	-0.0047	-0.0047	ppb	186.89	1000.	
205 Tl	-0.0015	-0.0015	ppb	181.97	#VALUE!	
208 Pb	0.141	0.141	ppb	12.90	2000.	
232 Th	0.0004	0.0004	ppb	423.13	1000.	
238 U	0.001	0.001	ppb	82.31	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2497614.50	2.55	2900107.00	86.1	69.5 - 120	
45 Sc	1998898.10	1.94	2161269.30	92.5	69.5 - 120	
72 Ge	423880.97	1.95	459106.19	92.3	69.5 - 120	
159 Tb	3169372.80	1.58	3415757.80	92.8	69.5 - 120	
209 Bi	1603430.40	2.28	1757454.40	91.2	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE17B.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000319

CCV QC Report

Data File: C:\ICPCHEM\1\DATA\JLE17B.B\076_CCV.D\076_CCV.D#
Date Acquired: May 17 2018 09:07 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: CCV
Misc Info:
Vial Number: 1206
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 17 2018 05:07 pm
Dilution Factor: 1.00
QC Range (%): 89.5 - 110.5

QC Elements

Element	Conc.		RSD(%)	Expected	Rec (%)	Flag
9 Be	24.82	ppb	1.83	25	99.28	
11 B	26.65	ppb	6.77	25	106.6	
23 Na	4,989.	ppb	1.02	5,000	99.78	
25 Mg	5,111.	ppb	0.48	5,000	102.22	
27 Al	513.6	ppb	1.42	500	102.72	
28 Si	557.1	ppb	2.06	500	111.42	
29 Si	513.7	ppb	2.09	500	102.74	
39 K	5,039.	ppb	2.55	5,000	100.78	
43 Ca	5,002.	ppb	1.44	5,000	100.04	
44 Ca	5,035.	ppb	0.73	5,000	100.7	
51 V	25.15	ppb	3.62	25	100.6	
52 Cr	25.13	ppb	1.98	25	100.52	
53 Cr	24.19	ppb	3.95	25	96.76	
55 Mn	25.28	ppb	2.08	25	101.12	
56 Fe	4,970.	ppb	2.61	5,000	99.4	
57 Fe	5,091.	ppb	3.34	5,000	101.82	
59 Co	25.22	ppb	2.15	25	100.88	
60 Ni	25.17	ppb	2.66	25	100.68	
63 Cu	25.47	ppb	1.30	25	101.88	
65 Cu	25.19	ppb	2.65	25	100.76	
66 Zn	25.33	ppb	2.84	25	101.32	
68 Zn	25.1	ppb	1.95	25	100.4	
75 As	25.27	ppb	1.99	25	101.08	
82 Se	25.53	ppb	1.30	25	102.12	
88 Sr	25.33	ppb	2.22	25	101.32	
89 Y	--------	---	--------	---	#VALUE!	
98 Mo	25.45	ppb	2.05	25	101.8	
107 Ag	25.65	ppb	2.28	25	102.6	
109 Ag	25.79	ppb	1.97	25	103.16	
111 Cd	25.58	ppb	1.69	25	102.32	
114 Cd	25.61	ppb	2.09	25	102.44	
115 In	--------	---	--------	---	#VALUE!	
118 Sn	25.05	ppb	1.63	25	100.2	
120 Sn	24.89	ppb	0.73	25	99.56	
121 Sb	25.22	ppb	1.03	25	100.88	
123 Sb	25.26	ppb	0.98	25	101.04	
135 Ba	25.21	ppb	1.76	25	100.84	
137 Ba	25.25	ppb	1.25	25	101	
182 W	25.06	ppb	0.42	25	100.24	
203 Tl	25.55	ppb	1.05	25	102.2	
205 Tl	25.45	ppb	0.59	25	101.8	
208 Pb	25.36	ppb	0.72	25	101.44	
232 Th	24.64	ppb	1.15	25	98.56	
238 U	24.83	ppb	0.58	25	99.32	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2477883.50	2.59	2900107.00	85.4	80 - 120.4	
45 Sc	1972214.80	0.30	2161269.30	91.3	80 - 120.4	
72 Ge	415503.03	2.15	459106.19	90.5	80 - 120.4	
159 Tb	3300224.00	1.63	3415757.80	96.6	80 - 120.4	
209 Bi	1658226.90	1.40	1757454.40	94.4	80 - 120.4	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE17B.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000320

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\JLE17B.B\077_CCB.D\077_CCB.D#
Date Acquired: May 17 2018 09:11 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: CCB
Misc Info:
Vial Number: 1207
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 17 2018 05:07 pm
Sample Type: 6-CCB
Dilution Factor: 1.00

QC Elements

Element	Conc.		RSD(%)	High Limit	Flag
9 Be	0.0041	ppb	26.38	1.00	
11 B	2.158	ppb	10.72	1.00	
23 Na	4.748	ppb	9.23	1.00	
25 Mg	0.2904	ppb	164.15	1.00	
27 Al	-0.0053	ppb	1453.40	1.00	
28 Si	27.27	ppb	11.61	1.00	
29 Si	18.61	ppb	14.70	1.00	
39 K	10.32	ppb	11.88	1.00	
43 Ca	0.6028	ppb	150.28	1.00	
44 Ca	-0.3852	ppb	211.32	1.00	
51 V	-0.0149	ppb	333.96	1.00	
52 Cr	-0.0123	ppb	159.10	1.00	
53 Cr	-3.384	ppb	7.54	1.00	
55 Mn	0.0169	ppb	80.24	1.00	
56 Fe	12.37	ppb	15.04	1.00	
57 Fe	5.521	ppb	46.21	1.00	
59 Co	0.0089	ppb	101.37	1.00	
60 Ni	-0.0003	ppb	1536.60	1.00	
63 Cu	-0.0072	ppb	287.94	1.00	
65 Cu	-0.0223	ppb	129.51	1.00	
66 Zn	0.0502	ppb	146.84	1.00	
68 Zn	-0.0404	ppb	50.57	1.00	
75 As	-0.0658	ppb	413.83	1.00	
82 Se	0.407	ppb	29.12	1.00	
88 Sr	0.0025	ppb	274.23	1.00	
89 Y	--------	---	--------	---	
98 Mo	0.0235	ppb	32.69	1.00	
107 Ag	0.0048	ppb	64.21	1.00	
109 Ag	0.0031	ppb	134.35	1.00	
111 Cd	-0.0244	ppb	129.27	1.00	
114 Cd	0.0002	ppb	1817.40	1.00	
115 In	--------	---	--------	---	
118 Sn	0.0128	ppb	117.24	1.00	
120 Sn	0.014	ppb	42.26	1.00	
121 Sb	0.0134	ppb	13.71	1.00	
123 Sb	0.0158	ppb	8.50	1.00	
135 Ba	0.0074	ppb	77.98	1.00	
137 Ba	0.0014	ppb	107.15	1.00	
182 W	0.0459	ppb	45.22	1.00	
203 Tl	-0.0055	ppb	58.57	1.00	
205 Tl	0.0013	ppb	318.69	1.00	
208 Pb	0.0033	ppb	230.89	1.00	
232 Th	0.0505	ppb	4.02	1.00	
238 U	0.0022	ppb	84.53	1.00	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2441263.30	4.56	2900107.00	84.2	79.5 - 120	
45 Sc	1938108.30	0.84	2161269.30	89.7	79.5 - 120	
72 Ge	412317.00	1.16	459106.19	89.8	79.5 - 120	
159 Tb	3165488.00	0.96	3415757.80	92.7	79.5 - 120	
209 Bi	1614172.00	1.62	1757454.40	91.8	79.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE17B.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE17B.B\078SMPL.D\078SMPL.D#
Date Acquired: May 17 2018 09:16 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3952-011L
Misc Info:
Vial Number: 2405
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 17 2018 05:07 pm
Sample Type: Sample
Dilution Factor: 25.00
Autodil Factor: Undiluted
Final Dil Factor: 25.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0749	0.003	ppb	86.59	100.	
11 B	241.825	9.673	ppb	4.27	1000.	
23 Na	361,000.	14,440.	ppb	3.00	200000.	
25 Mg	87,450.	3,498.	ppb	1.98	200000.	
27 Al	21.1975	0.8479	ppb	9.23	200000.	
28 Si	19,367.5	774.7	ppb	2.58	#VALUE!	
29 Si	18,770.	750.8	ppb	4.41	10000.	
39 K	20,407.5	816.3	ppb	1.87	200000.	
43 Ca	391,750.	15,670.	ppb	2.49	#VALUE!	
44 Ca	386,250.	15,450.	ppb	1.12	200000.	
51 V	1.4273	0.0571	ppb	100.95	1000.	
52 Cr	1.4565	0.0583	ppb	26.88	2000.	
53 Cr	-33.05	-1.322	ppb	56.64	#VALUE!	
55 Mn	1,448.	57.92	ppb	0.61	2000.	
56 Fe	6,755.	270.2	ppb	0.92	#VALUE!	
57 Fe	7,025.	281.	ppb	3.23	100000.	
59 Co	0.678	0.0271	ppb	16.34	1000.	
60 Ni	5.7325	0.2293	ppb	16.46	1000.	
63 Cu	10.67	0.4268	ppb	1.42	#VALUE!	
65 Cu	0.6958	0.0278	ppb	146.17	2000.	
66 Zn	29.8	1.192	ppb	5.86	2000.	
68 Zn	28.65	1.146	ppb	14.56	#VALUE!	
75 As	8.9475	0.3579	ppb	18.66	1000.	
82 Se	7.5875	0.3035	ppb	71.24	1000.	
88 Sr	1,799.	71.96	ppb	0.79	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	12.915	0.5166	ppb	5.72	1000.	
107 Ag	0.0107	0.0004	ppb	788.08	100.	
109 Ag	0.0553	0.0022	ppb	17.54	#VALUE!	
111 Cd	-0.8748	-0.035	ppb	111.29	#VALUE!	
114 Cd	0.0469	0.0019	ppb	340.01	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	0.7445	0.0298	ppb	26.22	1000.	
120 Sn	0.846	0.0338	ppb	84.28	#VALUE!	
121 Sb	0.2328	0.0093	ppb	77.30	#VALUE!	
123 Sb	0.2466	0.0099	ppb	53.84	1000.	
135 Ba	31.925	1.277	ppb	3.69	2000.	
137 Ba	31.625	1.265	ppb	2.69	#VALUE!	
182 W	0.368	0.0147	ppb	64.00	1000.	
203 Tl	-0.0559	-0.0022	ppb	299.42	1000.	
205 Tl	-0.0196	-0.0008	ppb	546.99	#VALUE!	
208 Pb	-0.3613	-0.0145	ppb	53.29	2000.	
232 Th	0.7658	0.0306	ppb	19.95	1000.	
238 U	1.3003	0.052	ppb	14.19	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2550112.80	0.68	2900107.00	87.9	69.5 - 120	
45 Sc	1996626.90	3.65	2161269.30	92.4	69.5 - 120	
72 Ge	423540.03	1.85	459106.19	92.3	69.5 - 120	
159 Tb	3283200.30	2.82	3415757.80	96.1	69.5 - 120	
209 Bi	1652945.80	2.33	1757454.40	94.1	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE17B.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000322

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE17B.B\079SMPL.D\079SMPL.D#
Date Acquired: May 17 2018 09:20 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3952-011A
Misc Info:
Vial Number: 2406
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 17 2018 05:07 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	10.4	2.08	ppb	1.82	100.	
11 B	438.7	87.74	ppb	3.77	1000.	
23 Na	350,850.	70,170.	ppb	2.77	200000.	
25 Mg	83,250.	16,650.	ppb	2.68	200000.	
27 Al	1,063.5	212.7	ppb	1.95	200000.	
28 Si	22,940.	4,588.	ppb	0.53	#VALUE!	
29 Si	23,580.	4,716.	ppb	2.69	10000.	
39 K	29,770.	5,954.	ppb	3.02	200000.	
43 Ca	393,550.	78,710.	ppb	3.90	#VALUE!	
44 Ca	374,250.	74,850.	ppb	2.28	200000.	
51 V	51.7	10.34	ppb	1.92	1000.	
52 Cr	51.25	10.25	ppb	2.00	2000.	
53 Cr	94.7	18.94	ppb	8.84	#VALUE!	
55 Mn	1,393.	278.6	ppb	0.80	2000.	
56 Fe	7,335.	1,467.	ppb	1.08	#VALUE!	
57 Fe	7,735.	1,547.	ppb	1.38	100000.	
59 Co	10.655	2.131	ppb	4.59	1000.	
60 Ni	22.565	4.513	ppb	4.33	1000.	
63 Cu	40.665	8.133	ppb	0.93	#VALUE!	
65 Cu	30.655	6.131	ppb	1.20	2000.	
66 Zn	125.8	25.16	ppb	0.55	2000.	
68 Zn	124.	24.8	ppb	1.24	#VALUE!	
75 As	61.9	12.38	ppb	1.41	1000.	
82 Se	51.5	10.3	ppb	1.69	1000.	
88 Sr	1,758.	351.6	ppb	0.94	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	65.6	13.12	ppb	0.50	1000.	
107 Ag	10.025	2.005	ppb	3.01	100.	
109 Ag	10.	2.	ppb	1.38	#VALUE!	
111 Cd	10.17	2.034	ppb	1.80	#VALUE!	
114 Cd	10.24	2.048	ppb	0.91	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	51.1	10.22	ppb	1.23	1000.	
120 Sn	50.6	10.12	ppb	1.19	#VALUE!	
121 Sb	10.43	2.086	ppb	0.28	#VALUE!	
123 Sb	10.315	2.063	ppb	1.37	1000.	
135 Ba	52.2	10.44	ppb	1.93	2000.	
137 Ba	51.45	10.29	ppb	1.63	#VALUE!	
182 W	52.95	10.59	ppb	1.46	1000.	
203 Tl	10.54	2.108	ppb	3.31	1000.	
205 Tl	10.455	2.091	ppb	1.49	#VALUE!	
208 Pb	10.39	2.078	ppb	1.73	2000.	
232 Th	11.16	2.232	ppb	1.88	1000.	
238 U	12.11	2.422	ppb	1.14	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2345558.80	2.12	2900107.00	80.9	69.5 - 120	
45 Sc	1957258.50	1.82	2161269.30	90.6	69.5 - 120	
72 Ge	417636.91	1.12	459106.19	91.0	69.5 - 120	
159 Tb	3348783.80	1.36	3415757.80	98.0	69.5 - 120	
209 Bi	1623433.30	2.29	1757454.40	92.4	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE17B.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000323

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE17B.B\080SMPL.D\080SMPL.D#
Date Acquired: May 17 2018 09:24 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3952-011S
Misc Info:
Vial Number: 2407
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 17 2018 05:07 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	48.31	9.662	ppb	1.32	100.	
11 B	721.	144.2	ppb	3.52	1000.	
23 Na	345,350.	69,070.	ppb	1.46	200000.	
25 Mg	85,350.	17,070.	ppb	1.52	200000.	
27 Al	2,080.	416.	ppb	2.49	200000.	
28 Si	18,485.	3,697.	ppb	1.54	#VALUE!	
29 Si	18,830.	3,766.	ppb	1.30	10000.	
39 K	29,145.	5,829.	ppb	0.72	200000.	
43 Ca	389,250.	77,850.	ppb	0.94	#VALUE!	
44 Ca	365,200.	73,040.	ppb	1.76	200000.	
51 V	505.5	101.1	ppb	0.38	1000.	
52 Cr	193.15	38.63	ppb	0.89	2000.	
53 Cr	249.2	49.84	ppb	0.83	#VALUE!	
55 Mn	1,799.	359.8	ppb	0.14	2000.	
56 Fe	7,190.	1,438.	ppb	1.02	#VALUE!	
57 Fe	7,460.	1,492.	ppb	2.10	100000.	
59 Co	492.25	98.45	ppb	0.70	1000.	
60 Ni	483.2	96.64	ppb	0.60	1000.	
63 Cu	249.55	49.91	ppb	0.79	#VALUE!	
65 Cu	236.95	47.39	ppb	0.83	2000.	
66 Zn	493.5	98.7	ppb	2.11	2000.	
68 Zn	557.	111.4	ppb	1.27	#VALUE!	
75 As	110.85	22.17	ppb	2.71	1000.	
82 Se	98.1	19.62	ppb	2.48	1000.	
88 Sr	2,120.5	424.1	ppb	0.44	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	114.	22.8	ppb	1.82	1000.	
107 Ag	47.98	9.596	ppb	1.77	100.	
109 Ag	47.83	9.566	ppb	1.22	#VALUE!	
111 Cd	244.	48.8	ppb	1.18	#VALUE!	
114 Cd	242.35	48.47	ppb	0.56	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	490.65	98.13	ppb	1.90	1000.	
120 Sn	485.4	97.08	ppb	2.08	#VALUE!	
121 Sb	99.2	19.84	ppb	2.16	#VALUE!	
123 Sb	99.05	19.81	ppb	1.74	1000.	
135 Ba	1,992.5	398.5	ppb	1.73	2000.	
137 Ba	2,005.5	401.1	ppb	1.90	#VALUE!	
182 W	100.9	20.18	ppb	1.28	1000.	
203 Tl	103.4	20.68	ppb	1.35	1000.	
205 Tl	102.35	20.47	ppb	2.03	#VALUE!	
208 Pb	100.9	20.18	ppb	1.65	2000.	
232 Th	103.95	20.79	ppb	2.85	1000.	
238 U	105.45	21.09	ppb	1.57	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2565410.80	1.42	2900107.00	88.5	69.5 - 120	
45 Sc	2012365.10	1.78	2161269.30	93.1	69.5 - 120	
72 Ge	426157.56	1.19	459106.19	92.8	69.5 - 120	
159 Tb	3432322.30	2.00	3415757.80	100.5	69.5 - 120	
209 Bi	1657902.40	2.10	1757454.40	94.3	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE17B.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000324

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE17B.B\081SMPL.D\081SMPL.D#
Date Acquired: May 17 2018 09:28 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3952-011P
Misc Info:
Vial Number: 2408
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 17 2018 05:07 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	52.4	10.48	ppb	2.27	100.	
11 B	800.5	160.1	ppb	2.19	1000.	
23 Na	378,450.	75,690.	ppb	1.34	200000.	
25 Mg	93,750.	18,750.	ppb	0.73	200000.	
27 Al	2,184.	436.8	ppb	1.13	200000.	
28 Si	20,140.	4,028.	ppb	1.77	#VALUE!	
29 Si	20,460.	4,092.	ppb	0.67	10000.	
39 K	31,600.	6,320.	ppb	0.75	200000.	
43 Ca	426,950.	85,390.	ppb	1.28	#VALUE!	
44 Ca	404,950.	80,990.	ppb	0.64	200000.	
51 V	545.5	109.1	ppb	0.34	1000.	
52 Cr	204.4	40.88	ppb	0.84	2000.	
53 Cr	267.15	53.43	ppb	0.95	#VALUE!	
55 Mn	1,930.5	386.1	ppb	1.31	2000.	
56 Fe	7,815.	1,563.	ppb	0.20	#VALUE!	
57 Fe	8,210.	1,642.	ppb	1.13	100000.	
59 Co	520.	104.	ppb	1.04	1000.	
60 Ni	509.5	101.9	ppb	0.30	1000.	
63 Cu	260.9	52.18	ppb	0.29	#VALUE!	
65 Cu	251.55	50.31	ppb	0.55	2000.	
66 Zn	519.	103.8	ppb	0.93	2000.	
68 Zn	590.	118.	ppb	1.15	#VALUE!	
75 As	118.25	23.65	ppb	1.26	1000.	
82 Se	102.25	20.45	ppb	3.44	1000.	
88 Sr	2,276.	455.2	ppb	0.98	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	120.5	24.1	ppb	0.76	1000.	
107 Ag	50.8	10.16	ppb	1.32	100.	
109 Ag	49.965	9.993	ppb	0.53	#VALUE!	
111 Cd	254.7	50.94	ppb	0.33	#VALUE!	
114 Cd	253.7	50.74	ppb	0.26	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	523.5	104.7	ppb	0.55	1000.	
120 Sn	522.5	104.5	ppb	0.90	#VALUE!	
121 Sb	106.85	21.37	ppb	0.42	#VALUE!	
123 Sb	105.75	21.15	ppb	1.19	1000.	
135 Ba	2,142.5	428.5	ppb	0.74	2000.	
137 Ba	2,135.5	427.1	ppb	0.31	#VALUE!	
182 W	107.7	21.54	ppb	0.79	1000.	
203 Tl	109.45	21.89	ppb	1.76	1000.	
205 Tl	108.85	21.77	ppb	1.08	#VALUE!	
208 Pb	107.75	21.55	ppb	1.28	2000.	
232 Th	112.2	22.44	ppb	1.45	1000.	
238 U	112.8	22.56	ppb	0.93	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2585305.80	1.49	2900107.00	89.1	69.5 - 120	
45 Sc	2071794.40	0.50	2161269.30	95.9	69.5 - 120	
72 Ge	433780.69	0.31	459106.19	94.5	69.5 - 120	
159 Tb	3410137.80	0.72	3415757.80	99.8	69.5 - 120	
209 Bi	1636722.60	1.38	1757454.40	93.1	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE17B.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000325

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE17B.B\082SMPL.D\082SMPL.D#
Date Acquired: May 17 2018 09:32 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3952-012
Misc Info:
Vial Number: 2409
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 17 2018 05:07 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.2329	0.0466	ppb	15.84	100.	
11 B	257.35	51.47	ppb	1.82	1000.	
23 Na	375,750.	75,150.	ppb	1.99	200000.	
25 Mg	93,700.	18,740.	ppb	0.32	200000.	
27 Al	4,660.	932.	ppb	0.18	200000.	
28 Si	27,600.	5,520.	ppb	1.50	#VALUE!	
29 Si	29,715.	5,943.	ppb	0.25	10000.	
39 K	22,715.	4,543.	ppb	0.64	200000.	
43 Ca	420,450.	84,090.	ppb	0.66	#VALUE!	
44 Ca	394,600.	78,920.	ppb	0.79	200000.	
51 V	18.125	3.625	ppb	1.90	1000.	
52 Cr	35.61	7.122	ppb	1.06	2000.	
53 Cr	75.3	15.06	ppb	2.35	#VALUE!	
55 Mn	1,424.5	284.9	ppb	1.40	2000.	
56 Fe	13,595.	2,719.	ppb	1.82	#VALUE!	
57 Fe	14,050.	2,810.	ppb	1.42	100000.	
59 Co	2.4205	0.4841	ppb	3.31	1000.	
60 Ni	12.75	2.55	ppb	5.72	1000.	
63 Cu	22.13	4.426	ppb	2.21	#VALUE!	
65 Cu	12.35	2.47	ppb	1.78	2000.	
66 Zn	52.55	10.51	ppb	2.45	2000.	
68 Zn	52.35	10.47	ppb	3.46	#VALUE!	
75 As	10.915	2.183	ppb	11.22	1000.	
82 Se	2.3085	0.4617	ppb	32.01	1000.	
88 Sr	1,806.5	361.3	ppb	1.45	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	16.345	3.269	ppb	1.59	1000.	
107 Ag	0.0255	0.0051	ppb	37.97	100.	
109 Ag	0.0213	0.0043	ppb	7.51	#VALUE!	
111 Cd	-0.0463	-0.0093	ppb	237.05	#VALUE!	
114 Cd	0.101	0.0202	ppb	22.88	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	1.2605	0.2521	ppb	3.18	1000.	
120 Sn	1.2865	0.2573	ppb	1.94	#VALUE!	
121 Sb	0.2277	0.0455	ppb	6.38	#VALUE!	
123 Sb	0.244	0.0488	ppb	7.90	1000.	
135 Ba	100.15	20.03	ppb	2.96	2000.	
137 Ba	98.8	19.76	ppb	4.26	#VALUE!	
182 W	0.4991	0.0998	ppb	12.68	1000.	
203 Tl	0.0468	0.0094	ppb	56.34	1000.	
205 Tl	0.0431	0.0086	ppb	53.24	#VALUE!	
208 Pb	6.145	1.229	ppb	4.05	2000.	
232 Th	5.055	1.011	ppb	3.83	1000.	
238 U	1.5455	0.3091	ppb	3.30	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2395149.50	1.45	2900107.00	82.6	69.5 - 120	
45 Sc	1946619.50	0.49	2161269.30	90.1	69.5 - 120	
72 Ge	419852.53	1.65	459106.19	91.4	69.5 - 120	
159 Tb	3334608.50	3.51	3415757.80	97.6	69.5 - 120	
209 Bi	1629627.00	1.23	1757454.40	92.7	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE17B.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000326

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE17B.B\083SMPL.D\083SMPL.D#
Date Acquired: May 17 2018 09:37 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: RINSE
Misc Info:
Vial Number: 2410
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 17 2018 05:07 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0012	0.0012	ppb	48.96	100.	
11 B	4.411	4.411	ppb	16.89	1000.	
23 Na	24.11	24.11	ppb	5.79	200000.	
25 Mg	1.928	1.928	ppb	3.23	200000.	
27 Al	12.87	12.87	ppb	2.01	200000.	
28 Si	25.49	25.49	ppb	5.97	#VALUE!	
29 Si	20.81	20.81	ppb	16.99	10000.	
39 K	13.7	13.7	ppb	12.50	200000.	
43 Ca	28.31	28.31	ppb	15.10	#VALUE!	
44 Ca	32.72	32.72	ppb	3.41	200000.	
51 V	-0.0179	-0.0179	ppb	43.70	1000.	
52 Cr	0.0523	0.0523	ppb	41.37	2000.	
53 Cr	-1.207	-1.207	ppb	19.10	#VALUE!	
55 Mn	0.071	0.071	ppb	6.42	2000.	
56 Fe	22.6	22.6	ppb	9.39	#VALUE!	
57 Fe	11.35	11.35	ppb	8.39	100000.	
59 Co	0.0056	0.0056	ppb	117.46	1000.	
60 Ni	0.0118	0.0118	ppb	20.71	1000.	
63 Cu	0.2315	0.2315	ppb	7.47	#VALUE!	
65 Cu	0.2309	0.2309	ppb	13.82	2000.	
66 Zn	1.107	1.107	ppb	3.72	2000.	
68 Zn	1.184	1.184	ppb	7.03	#VALUE!	
75 As	0.0286	0.0286	ppb	273.37	1000.	
82 Se	0.2192	0.2192	ppb	90.37	1000.	
88 Sr	0.0228	0.0228	ppb	25.82	2000.	
89 Y	----	--------	---	---	#VALUE!	
98 Mo	0.0133	0.0133	ppb	30.62	1000.	
107 Ag	0.0001	0.0001	ppb	1647.80	100.	
109 Ag	0.0021	0.0021	ppb	148.48	#VALUE!	
111 Cd	0.0244	0.0244	ppb	48.92	#VALUE!	
114 Cd	-0.0071	-0.0071	ppb	67.26	1000.	
115 In	----	--------	---	---	#VALUE!	
118 Sn	0.0506	0.0506	ppb	18.84	1000.	
120 Sn	0.0402	0.0402	ppb	39.00	#VALUE!	
121 Sb	0.0081	0.0081	ppb	9.93	#VALUE!	
123 Sb	0.0069	0.0069	ppb	37.39	1000.	
135 Ba	0.1447	0.1447	ppb	12.37	2000.	
137 Ba	0.1213	0.1213	ppb	22.09	#VALUE!	
182 W	0.0052	0.0052	ppb	21.38	1000.	
203 Tl	-0.0002	-0.0002	ppb	1583.90	1000.	
205 Tl	0.0017	0.0017	ppb	328.45	#VALUE!	
208 Pb	0.1714	0.1714	ppb	9.94	2000.	
232 Th	0.0091	0.0091	ppb	78.54	1000.	
238 U	0.0008	0.0008	ppb	178.53	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2500534.80	2.86	2900107.00	86.2	69.5 - 120	
45 Sc	1957740.80	1.35	2161269.30	90.6	69.5 - 120	
72 Ge	414848.03	0.60	459106.19	90.4	69.5 - 120	
159 Tb	3159247.80	1.11	3415757.80	92.5	69.5 - 120	
209 Bi	1607847.00	0.77	1757454.40	91.5	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE17B.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000327

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE17B.B\084SMPL.D\084SMPL.D#
Date Acquired: May 17 2018 09:41 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: PBWLE10IMW2
Misc Info:
Vial Number: 2411
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 17 2018 05:07 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0093	0.0019	ppb	35.81	100.	
11 B	11.12	2.224	ppb	6.48	1000.	
23 Na	40.66	8.132	ppb	5.11	200000.	
25 Mg	10.07	2.014	ppb	8.91	200000.	
27 Al	7.095	1.419	ppb	5.23	200000.	
28 Si	139.65	27.93	ppb	15.36	#VALUE!	
29 Si	102.4	20.48	ppb	28.77	10000.	
39 K	64.15	12.83	ppb	19.62	200000.	
43 Ca	15.385	3.077	ppb	102.21	#VALUE!	
44 Ca	12.035	2.407	ppb	74.95	200000.	
51 V	0.1539	0.0308	ppb	139.15	1000.	
52 Cr	0.1458	0.0292	ppb	122.74	2000.	
53 Cr	-2.78	-0.556	ppb	38.54	#VALUE!	
55 Mn	0.2306	0.0461	ppb	17.11	2000.	
56 Fe	97.2	19.44	ppb	9.57	#VALUE!	
57 Fe	37.565	7.513	ppb	52.48	100000.	
59 Co	0.0295	0.0059	ppb	50.57	1000.	
60 Ni	0.557	0.1114	ppb	28.24	1000.	
63 Cu	0.0701	0.014	ppb	128.03	#VALUE!	
65 Cu	-0.0086	-0.0017	ppb	1061.60	2000.	
66 Zn	0.99	0.198	ppb	20.99	2000.	
68 Zn	0.79	0.158	ppb	3.45	#VALUE!	
75 As	-0.1715	-0.0343	ppb	221.63	1000.	
82 Se	0.6275	0.1255	ppb	209.24	1000.	
88 Sr	0.0213	0.0043	ppb	51.81	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	0.0076	0.0015	ppb	125.85	1000.	
107 Ag	0.0034	0.0007	ppb	331.65	100.	
109 Ag	0.0081	0.0016	ppb	29.80	#VALUE!	
111 Cd	0.0433	0.0087	ppb	329.64	#VALUE!	
114 Cd	-0.0243	-0.0049	ppb	55.95	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	0.1883	0.0377	ppb	46.97	1000.	
120 Sn	0.0721	0.0144	ppb	22.48	#VALUE!	
121 Sb	0.0146	0.0029	ppb	80.96	#VALUE!	
123 Sb	0.008	0.0016	ppb	3.98	1000.	
135 Ba	0.0657	0.0131	ppb	56.18	2000.	
137 Ba	0.0624	0.0125	ppb	34.84	#VALUE!	
182 W	0.0241	0.0048	ppb	63.09	1000.	
203 Tl	-0.0419	-0.0084	ppb	32.57	1000.	
205 Tl	-0.0106	-0.0021	ppb	249.13	#VALUE!	
208 Pb	0.0483	0.0097	ppb	151.82	2000.	
232 Th	0.0377	0.0075	ppb	45.89	1000.	
238 U	0.0017	0.0003	ppb	311.93	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2473889.00	1.37	2900107.00	85.3	69.5 - 120	
45 Sc	1921742.60	2.26	2161269.30	88.9	69.5 - 120	
72 Ge	409303.91	1.12	459106.19	89.2	69.5 - 120	
159 Tb	3141535.50	1.04	3415757.80	92.0	69.5 - 120	
209 Bi	1598018.00	0.60	1757454.40	90.9	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE17B.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000328

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE17B.B\085SMPL.D\085SMPL.D#
Date Acquired: May 17 2018 09:45 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: LCSWLE10IMW2
Misc Info:
Vial Number: 2412
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 17 2018 05:07 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	52.2	10.44	ppb	2.21	100.	
11 B	543.	108.6	ppb	5.49	1000.	
23 Na	8,425.	1,685.	ppb	1.59	200000.	
25 Mg	5,605.	1,121.	ppb	0.90	200000.	
27 Al	2,310.5	462.1	ppb	1.63	200000.	
28 Si	1,341.	268.2	ppb	1.41	#VALUE!	
29 Si	1,145.	229.	ppb	1.91	10000.	
39 K	10,890.	2,178.	ppb	1.06	200000.	
43 Ca	3,156.5	631.3	ppb	1.65	#VALUE!	
44 Ca	2,710.	542.	ppb	1.03	200000.	
51 V	550.5	110.1	ppb	1.04	1000.	
52 Cr	216.15	43.23	ppb	0.53	2000.	
53 Cr	267.35	53.47	ppb	1.67	#VALUE!	
55 Mn	555.	111.	ppb	1.79	2000.	
56 Fe	1,179.	235.8	ppb	1.52	#VALUE!	
57 Fe	1,118.	223.6	ppb	2.72	100000.	
59 Co	561.	112.2	ppb	0.58	1000.	
60 Ni	546.	109.2	ppb	0.16	1000.	
63 Cu	271.75	54.35	ppb	0.51	#VALUE!	
65 Cu	271.2	54.24	ppb	0.48	2000.	
66 Zn	536.	107.2	ppb	0.14	2000.	
68 Zn	604.	120.8	ppb	1.89	#VALUE!	
75 As	110.65	22.13	ppb	2.02	1000.	
82 Se	108.65	21.73	ppb	2.24	1000.	
88 Sr	542.5	108.5	ppb	1.41	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	110.8	22.16	ppb	1.79	1000.	
107 Ag	55.6	11.12	ppb	0.81	100.	
109 Ag	56.	11.2	ppb	1.19	#VALUE!	
111 Cd	279.35	55.87	ppb	1.00	#VALUE!	
114 Cd	278.2	55.64	ppb	0.45	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	541.5	108.3	ppb	0.26	1000.	
120 Sn	536.	107.2	ppb	0.24	#VALUE!	
121 Sb	111.65	22.33	ppb	1.39	#VALUE!	
123 Sb	110.85	22.17	ppb	0.99	1000.	
135 Ba	2,200.	440.	ppb	0.84	2000.	
137 Ba	2,207.	441.4	ppb	0.76	#VALUE!	
182 W	110.65	22.13	ppb	0.37	1000.	
203 Tl	113.55	22.71	ppb	0.21	1000.	
205 Tl	112.05	22.41	ppb	0.96	#VALUE!	
208 Pb	112.7	22.54	ppb	0.57	2000.	
232 Th	110.1	22.02	ppb	1.05	1000.	
238 U	109.95	21.99	ppb	0.79	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2645778.80	3.01	2900107.00	91.2	69.5 - 120	
45 Sc	1982250.10	1.55	2161269.30	91.7	69.5 - 120	
72 Ge	417856.16	1.15	459106.19	91.0	69.5 - 120	
159 Tb	3355748.80	0.44	3415757.80	98.2	69.5 - 120	
209 Bi	1681514.40	0.58	1757454.40	95.7	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE17B.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000329

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE17B.B\086SMPL.D\086SMPL.D#
Date Acquired: May 17 2018 09:49 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3952-013
Misc Info:
Vial Number: 2501
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 17 2018 05:07 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0188	0.0038	ppb	78.25	100.	
11 B	235.1	47.02	ppb	1.81	1000.	
23 Na	384,400.	76,880.	ppb	0.98	200000.	
25 Mg	94,200.	18,840.	ppb	0.60	200000.	
27 Al	10.565	2.113	ppb	5.69	200000.	
28 Si	18,870.	3,774.	ppb	1.69	#VALUE!	
29 Si	19,490.	3,898.	ppb	1.68	10000.	
39 K	21,450.	4,290.	ppb	1.25	200000.	
43 Ca	418,400.	83,680.	ppb	1.94	#VALUE!	
44 Ca	390,550.	78,110.	ppb	1.10	200000.	
51 V	0.54	0.108	ppb	105.00	1000.	
52 Cr	1.6705	0.3341	ppb	14.05	2000.	
53 Cr	40.675	8.135	ppb	22.34	#VALUE!	
55 Mn	1,382.5	276.5	ppb	0.89	2000.	
56 Fe	6,890.	1,378.	ppb	1.18	#VALUE!	
57 Fe	7,395.	1,479.	ppb	0.81	100000.	
59 Co	0.523	0.1046	ppb	2.61	1000.	
60 Ni	0.7465	0.1493	ppb	30.50	1000.	
63 Cu	12.015	2.403	ppb	2.42	#VALUE!	
65 Cu	2.163	0.4326	ppb	9.78	2000.	
66 Zn	13.87	2.774	ppb	6.95	2000.	
68 Zn	12.06	2.412	ppb	1.10	#VALUE!	
75 As	10.865	2.173	ppb	1.76	1000.	
82 Se	3.144	0.6288	ppb	19.66	1000.	
88 Sr	1,785.	357.	ppb	0.99	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	11.48	2.296	ppb	3.11	1000.	
107 Ag	0.002	0.0004	ppb	705.23	100.	
109 Ag	0.0047	0.0009	ppb	283.55	#VALUE!	
111 Cd	-0.0423	-0.0085	ppb	251.27	#VALUE!	
114 Cd	-0.015	-0.003	ppb	111.40	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	0.7685	0.1537	ppb	3.24	1000.	
120 Sn	0.734	0.1468	ppb	10.38	#VALUE!	
121 Sb	0.0919	0.0184	ppb	6.41	#VALUE!	
123 Sb	0.1398	0.028	ppb	4.38	1000.	
135 Ba	30.8	6.16	ppb	4.53	2000.	
137 Ba	30.88	6.176	ppb	0.93	#VALUE!	
182 W	0.3073	0.0615	ppb	13.92	1000.	
203 Tl	-0.028	-0.0056	ppb	100.29	1000.	
205 Tl	-0.0346	-0.0069	ppb	93.36	#VALUE!	
208 Pb	-0.2679	-0.0536	ppb	7.70	2000.	
232 Th	0.6575	0.1315	ppb	23.80	1000.	
238 U	0.9705	0.1941	ppb	2.40	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2559281.30	1.01	2900107.00	88.2	69.5 - 120	
45 Sc	2007945.00	0.83	2161269.30	92.9	69.5 - 120	
72 Ge	428101.75	0.46	459106.19	93.2	69.5 - 120	
159 Tb	3365382.80	1.00	3415757.80	98.5	69.5 - 120	
209 Bi	1620351.40	1.39	1757454.40	92.2	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE17B.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000330

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE17B.B\087SMPL.D\087SMPL.D#
Date Acquired: May 17 2018 09:53 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: RINSE
Misc Info:
Vial Number: 2502
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 17 2018 05:07 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0018	0.0018	ppb	95.66	100.	
11 B	3.734	3.734	ppb	14.56	1000.	
23 Na	38.85	38.85	ppb	2.55	200000.	
25 Mg	232.6	232.6	ppb	2.20	200000.	
27 Al	33.21	33.21	ppb	0.28	200000.	
28 Si	27.21	27.21	ppb	11.33	#VALUE!	
29 Si	21.54	21.54	ppb	5.06	10000.	
39 K	12.73	12.73	ppb	3.35	200000.	
43 Ca	271.	271.	ppb	3.33	#VALUE!	
44 Ca	266.7	266.7	ppb	2.61	200000.	
51 V	0.2605	0.2605	ppb	28.18	1000.	
52 Cr	0.0888	0.0888	ppb	29.29	2000.	
53 Cr	-1.855	-1.855	ppb	28.80	#VALUE!	
55 Mn	0.3041	0.3041	ppb	2.43	2000.	
56 Fe	21.06	21.06	ppb	8.99	#VALUE!	
57 Fe	12.34	12.34	ppb	15.68	100000.	
59 Co	0.0169	0.0169	ppb	10.36	1000.	
60 Ni	0.1059	0.1059	ppb	12.98	1000.	
63 Cu	0.2937	0.2937	ppb	8.41	#VALUE!	
65 Cu	0.2646	0.2646	ppb	10.27	2000.	
66 Zn	0.7874	0.7874	ppb	7.19	2000.	
68 Zn	0.7307	0.7307	ppb	6.52	#VALUE!	
75 As	-0.1551	-0.1551	ppb	92.71	1000.	
82 Se	0.262	0.262	ppb	40.27	1000.	
88 Sr	0.7421	0.7421	ppb	4.51	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	0.0085	0.0085	ppb	32.25	1000.	
107 Ag	0.0006	0.0006	ppb	724.44	100.	
109 Ag	0.0036	0.0036	ppb	54.67	#VALUE!	
111 Cd	-0.0039	-0.0039	ppb	347.00	#VALUE!	
114 Cd	-0.0003	-0.0003	ppb	884.27	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	0.1005	0.1005	ppb	5.76	1000.	
120 Sn	0.082	0.082	ppb	5.37	#VALUE!	
121 Sb	0.0086	0.0086	ppb	65.62	#VALUE!	
123 Sb	0.012	0.012	ppb	45.79	1000.	
135 Ba	0.3764	0.3764	ppb	11.45	2000.	
137 Ba	0.4202	0.4202	ppb	3.58	#VALUE!	
182 W	0.0026	0.0026	ppb	121.86	1000.	
203 Tl	-0.0059	-0.0059	ppb	52.43	1000.	
205 Tl	-0.0005	-0.0005	ppb	755.95	#VALUE!	
208 Pb	0.1724	0.1724	ppb	5.83	2000.	
232 Th	0.0061	0.0061	ppb	38.10	1000.	
238 U	0.0023	0.0023	ppb	41.74	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2478910.30	0.98	2900107.00	85.5	69.5 - 120	
45 Sc	1961229.40	0.34	2161269.30	90.7	69.5 - 120	
72 Ge	416429.19	0.95	459106.19	90.7	69.5 - 120	
159 Tb	3193034.80	0.62	3415757.80	93.5	69.5 - 120	
209 Bi	1613530.90	1.24	1757454.40	91.8	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE17B.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000331

CCV QC Report

Data File: C:\ICPCHEM\1\DATA\JLE17B.B\088_CCV.D\088_CCV.D#
Date Acquired: May 17 2018 09:57 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: CCV
Misc Info:
Vial Number: 1306
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 17 2018 05:07 pm
Dilution Factor: 1.00
QC Range (%): 89.5 - 110.5

QC Elements

Element	Conc.		RSD(%)	Expected	Rec (%)	Flag
9 Be	24.53	ppb	2.71	25	98.12	
11 B	25.71	ppb	2.98	25	102.84	
23 Na	5,185.	ppb	1.56	5,000	103.7	
25 Mg	5,203.	ppb	2.28	5,000	104.06	
27 Al	513.4	ppb	1.96	500	102.68	
28 Si	533.1	ppb	3.00	500	106.62	
29 Si	507.3	ppb	2.38	500	101.46	
39 K	5,094.	ppb	1.48	5,000	101.88	
43 Ca	5,036.	ppb	1.37	5,000	100.72	
44 Ca	5,085.	ppb	1.65	5,000	101.7	
51 V	25.17	ppb	1.26	25	100.68	
52 Cr	25.35	ppb	0.58	25	101.4	
53 Cr	24.36	ppb	1.61	25	97.44	
55 Mn	25.08	ppb	1.19	25	100.32	
56 Fe	4,964.	ppb	0.84	5,000	99.28	
57 Fe	5,033.	ppb	1.30	5,000	100.66	
59 Co	25.21	ppb	0.41	25	100.84	
60 Ni	24.79	ppb	2.15	25	99.16	
63 Cu	25.25	ppb	0.93	25	101	
65 Cu	24.85	ppb	1.09	25	99.4	
66 Zn	24.93	ppb	1.48	25	99.72	
68 Zn	25.28	ppb	1.57	25	101.12	
75 As	25.32	ppb	0.81	25	101.28	
82 Se	24.87	ppb	1.35	25	99.48	
88 Sr	24.87	ppb	1.15	25	99.48	
89 Y	--------	---	--------	---	#VALUE!	
98 Mo	24.59	ppb	1.03	25	98.36	
107 Ag	25.06	ppb	0.66	25	100.24	
109 Ag	24.87	ppb	0.51	25	99.48	
111 Cd	25.31	ppb	0.44	25	101.24	
114 Cd	25.02	ppb	0.45	25	100.08	
115 In	--------	---	--------	---	#VALUE!	
118 Sn	25.07	ppb	1.56	25	100.28	
120 Sn	25.02	ppb	1.44	25	100.08	
121 Sb	25.39	ppb	0.54	25	101.56	
123 Sb	25.46	ppb	1.00	25	101.84	
135 Ba	25.33	ppb	1.18	25	101.32	
137 Ba	25.53	ppb	1.14	25	102.12	
182 W	24.74	ppb	1.15	25	98.96	
203 Tl	24.97	ppb	1.06	25	99.88	
205 Tl	25.15	ppb	1.46	25	100.6	
208 Pb	24.99	ppb	1.12	25	99.96	
232 Th	24.68	ppb	0.92	25	98.72	
238 U	24.69	ppb	0.89	25	98.76	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2769189.50	1.45	2900107.00	95.5	80 - 120.4	
45 Sc	2103941.80	1.28	2161269.30	97.3	80 - 120.4	
72 Ge	438570.88	1.20	459106.19	95.5	80 - 120.4	
159 Tb	3390314.00	1.12	3415757.80	99.3	80 - 120.4	
209 Bi	1717834.10	1.81	1757454.40	97.7	80 - 120.4	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE17B.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\JLE17B.B\089_CCB.D\089_CCB.D#
Date Acquired: May 17 2018 10:01 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: CCB
Misc Info:
Vial Number: 1207
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 17 2018 05:07 pm
Sample Type: 6-CCB
Dilution Factor: 1.00

QC Elements

Element	Conc.		RSD(%)	High Limit	Flag
9 Be	0.0031	ppb	109.94	1.00	
11 B	2.084	ppb	9.79	1.00	
23 Na	3.849	ppb	5.56	1.00	
25 Mg	0.3264	ppb	68.14	1.00	
27 Al	0.032	ppb	202.91	1.00	
28 Si	10.39	ppb	21.01	1.00	
29 Si	0.4269	ppb	728.51	1.00	
39 K	-0.0902	ppb	2622.00	1.00	
43 Ca	2.153	ppb	54.58	1.00	
44 Ca	-0.6025	ppb	128.10	1.00	
51 V	-0.0161	ppb	248.57	1.00	
52 Cr	-0.0567	ppb	38.39	1.00	
53 Cr	-3.645	ppb	3.36	1.00	
55 Mn	0.0093	ppb	31.91	1.00	
56 Fe	-2.153	ppb	58.34	1.00	
57 Fe	2.536	ppb	108.87	1.00	
59 Co	0.0005	ppb	633.25	1.00	
60 Ni	-0.0001	ppb	11488.00	1.00	
63 Cu	-0.0259	ppb	51.81	1.00	
65 Cu	-0.0415	ppb	7.05	1.00	
66 Zn	-0.015	ppb	414.09	1.00	
68 Zn	-0.0232	ppb	431.15	1.00	
75 As	-0.0112	ppb	431.63	1.00	
82 Se	0.313	ppb	62.65	1.00	
88 Sr	0.0029	ppb	60.39	1.00	
89 Y	--------	---	--------	---	
98 Mo	0.022	ppb	18.24	1.00	
107 Ag	0.0014	ppb	128.29	1.00	
109 Ag	0.0032	ppb	157.40	1.00	
111 Cd	0.0202	ppb	19.83	1.00	
114 Cd	0.0001	ppb	3144.40	1.00	
115 In	--------	---	--------	---	
118 Sn	0.0364	ppb	46.30	1.00	
120 Sn	0.0245	ppb	38.36	1.00	
121 Sb	0.0091	ppb	33.71	1.00	
123 Sb	0.0093	ppb	32.42	1.00	
135 Ba	-0.0019	ppb	689.76	1.00	
137 Ba	0.0113	ppb	91.30	1.00	
182 W	0.0368	ppb	23.84	1.00	
203 Tl	-0.0009	ppb	413.47	1.00	
205 Tl	-0.0002	ppb	18.95	1.00	
208 Pb	-0.01	ppb	38.21	1.00	
232 Th	0.0517	ppb	20.70	1.00	
238 U	0.0041	ppb	26.78	1.00	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2750088.80	1.37	2900107.00	94.8	79.5 - 120	
45 Sc	2100434.30	0.77	2161269.30	97.2	79.5 - 120	
72 Ge	438268.00	0.16	459106.19	95.5	79.5 - 120	
159 Tb	3349982.50	0.54	3415757.80	98.1	79.5 - 120	
209 Bi	1698012.50	0.89	1757454.40	96.6	79.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE17B.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000333

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE17B.B\090SMPL.D\090SMPL.D#
Date Acquired: May 17 2018 10:05 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3952-016
Misc Info:
Vial Number: 2503
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 17 2018 05:07 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.2395	0.0479	ppb	0.97	100.	
11 B	221.4	44.28	ppb	2.93	1000.	
23 Na	382,900.	76,580.	ppb	2.39	200000.	
25 Mg	94,450.	18,890.	ppb	4.16	200000.	
27 Al	4,275.5	855.1	ppb	3.61	200000.	
28 Si	28,340.	5,668.	ppb	4.75	#VALUE!	
29 Si	30,935.	6,187.	ppb	4.21	10000.	
39 K	22,725.	4,545.	ppb	4.03	200000.	
43 Ca	410,850.	82,170.	ppb	4.06	#VALUE!	
44 Ca	386,600.	77,320.	ppb	3.60	200000.	
51 V	12.425	2.485	ppb	2.93	1000.	
52 Cr	19.45	3.89	ppb	2.78	2000.	
53 Cr	47.095	9.419	ppb	12.10	#VALUE!	
55 Mn	1,390.	278.	ppb	1.31	2000.	
56 Fe	12,430.	2,486.	ppb	2.10	#VALUE!	
57 Fe	13,050.	2,610.	ppb	2.22	100000.	
59 Co	1.93	0.386	ppb	4.62	1000.	
60 Ni	7.085	1.417	ppb	8.02	1000.	
63 Cu	17.66	3.532	ppb	3.42	#VALUE!	
65 Cu	7.965	1.593	ppb	3.73	2000.	
66 Zn	33.68	6.736	ppb	1.67	2000.	
68 Zn	37.31	7.462	ppb	3.96	#VALUE!	
75 As	10.61	2.122	ppb	7.52	1000.	
82 Se	2.197	0.4394	ppb	47.91	1000.	
88 Sr	1,746.5	349.3	ppb	2.05	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	13.275	2.655	ppb	0.20	1000.	
107 Ag	0.0181	0.0036	ppb	66.35	100.	
109 Ag	0.0387	0.0077	ppb	29.60	#VALUE!	
111 Cd	-0.0509	-0.0102	ppb	315.32	#VALUE!	
114 Cd	-0.0044	-0.0009	ppb	691.45	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	0.9735	0.1947	ppb	14.58	1000.	
120 Sn	0.9745	0.1949	ppb	2.68	#VALUE!	
121 Sb	0.1341	0.0268	ppb	12.97	#VALUE!	
123 Sb	0.1423	0.0285	ppb	18.44	1000.	
135 Ba	168.2	33.64	ppb	3.32	2000.	
137 Ba	168.8	33.76	ppb	2.08	#VALUE!	
182 W	0.3493	0.0699	ppb	15.69	1000.	
203 Tl	0.0502	0.01	ppb	85.25	1000.	
205 Tl	0.0294	0.0059	ppb	83.08	#VALUE!	
208 Pb	3.3325	0.6665	ppb	3.87	2000.	
232 Th	4.1385	0.8277	ppb	3.01	1000.	
238 U	1.595	0.319	ppb	2.98	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2588894.30	1.45	2900107.00	89.3	69.5 - 120	
45 Sc	2020566.00	2.86	2161269.30	93.5	69.5 - 120	
72 Ge	430986.16	1.53	459106.19	93.9	69.5 - 120	
159 Tb	3360496.30	2.19	3415757.80	98.4	69.5 - 120	
209 Bi	1619940.90	2.61	1757454.40	92.2	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE17B.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000334

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE17B.B\091SMPL.D\091SMPL.D#
Date Acquired: May 17 2018 10:10 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3952-017
Misc Info:
Vial Number: 2504
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 17 2018 05:07 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0132	0.0026	ppb	98.44	100.	
11 B	224.4	44.88	ppb	1.14	1000.	
23 Na	374,750.	74,950.	ppb	1.76	200000.	
25 Mg	93,200.	18,640.	ppb	3.17	200000.	
27 Al	10.82	2.164	ppb	7.52	200000.	
28 Si	18,360.	3,672.	ppb	0.73	#VALUE!	
29 Si	19,040.	3,808.	ppb	0.80	10000.	
39 K	21,510.	4,302.	ppb	1.54	200000.	
43 Ca	404,400.	80,880.	ppb	0.52	#VALUE!	
44 Ca	378,900.	75,780.	ppb	0.73	200000.	
51 V	0.5485	0.1097	ppb	154.51	1000.	
52 Cr	1.527	0.3054	ppb	5.30	2000.	
53 Cr	41.27	8.254	ppb	17.43	#VALUE!	
55 Mn	1,317.	263.4	ppb	1.17	2000.	
56 Fe	6,110.	1,222.	ppb	0.57	#VALUE!	
57 Fe	6,615.	1,323.	ppb	0.27	100000.	
59 Co	0.473	0.0946	ppb	7.19	1000.	
60 Ni	0.8865	0.1773	ppb	36.46	1000.	
63 Cu	11.445	2.289	ppb	3.52	#VALUE!	
65 Cu	1.6865	0.3373	ppb	12.24	2000.	
66 Zn	10.21	2.042	ppb	2.62	2000.	
68 Zn	9.33	1.866	ppb	7.35	#VALUE!	
75 As	9.81	1.962	ppb	6.59	1000.	
82 Se	2.176	0.4352	ppb	49.36	1000.	
88 Sr	1,725.	345.	ppb	2.57	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	10.34	2.068	ppb	2.76	1000.	
107 Ag	-0.0102	-0.002	ppb	58.54	100.	
109 Ag	0.003	0.0006	ppb	68.21	#VALUE!	
111 Cd	-0.0401	-0.008	ppb	218.45	#VALUE!	
114 Cd	-0.0079	-0.0016	ppb	279.03	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	0.6155	0.1231	ppb	0.95	1000.	
120 Sn	0.619	0.1238	ppb	7.60	#VALUE!	
121 Sb	0.0371	0.0074	ppb	43.41	#VALUE!	
123 Sb	0.0696	0.0139	ppb	19.30	1000.	
135 Ba	29.39	5.878	ppb	3.50	2000.	
137 Ba	28.77	5.754	ppb	1.79	#VALUE!	
182 W	0.2624	0.0525	ppb	15.03	1000.	
203 Tl	-0.0326	-0.0065	ppb	126.28	1000.	
205 Tl	-0.0141	-0.0028	ppb	113.26	#VALUE!	
208 Pb	-0.3149	-0.063	ppb	13.06	2000.	
232 Th	0.225	0.045	ppb	40.77	1000.	
238 U	1.203	0.2406	ppb	8.66	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2605102.80	1.22	2900107.00	89.8	69.5 - 120	
45 Sc	2064241.90	1.41	2161269.30	95.5	69.5 - 120	
72 Ge	439552.09	0.28	459106.19	95.7	69.5 - 120	
159 Tb	3419380.30	0.77	3415757.80	100.1	69.5 - 120	
209 Bi	1647946.80	0.96	1757454.40	93.8	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE17B.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000335

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE17B.B\092SMPL.D\092SMPL.D#
Date Acquired: May 17 2018 10:14 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3952-018
Misc Info:
Vial Number: 2505
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 17 2018 05:07 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0011	0.0002	ppb	391.32	100.	
11 B	14.37	2.874	ppb	15.37	1000.	
23 Na	61.5	12.3	ppb	26.27	200000.	
25 Mg	18.005	3.601	ppb	21.34	200000.	
27 Al	10.66	2.132	ppb	7.75	200000.	
28 Si	61.65	12.33	ppb	14.97	#VALUE!	
29 Si	50.3	10.06	ppb	10.92	10000.	
39 K	23.595	4.719	ppb	65.78	200000.	
43 Ca	51.8	10.36	ppb	54.85	#VALUE!	
44 Ca	49.28	9.856	ppb	25.02	200000.	
51 V	-0.1035	-0.0207	ppb	73.27	1000.	
52 Cr	0.98	0.196	ppb	18.74	2000.	
53 Cr	42.	8.4	ppb	4.27	#VALUE!	
55 Mn	0.4258	0.0852	ppb	13.35	2000.	
56 Fe	54.9	10.98	ppb	6.33	#VALUE!	
57 Fe	26.73	5.346	ppb	53.63	100000.	
59 Co	0.0042	0.0008	ppb	366.50	1000.	
60 Ni	0.4406	0.0881	ppb	11.19	1000.	
63 Cu	0.4092	0.0818	ppb	4.62	#VALUE!	
65 Cu	0.4614	0.0923	ppb	12.91	2000.	
66 Zn	0.9345	0.1869	ppb	17.90	2000.	
68 Zn	0.5665	0.1133	ppb	41.80	#VALUE!	
75 As	0.1542	0.0308	ppb	532.60	1000.	
82 Se	-0.0093	-0.0019	ppb	17315.00	1000.	
88 Sr	0.2112	0.0422	ppb	43.77	2000.	
89 Y	----	--------	---	---	#VALUE!	
98 Mo	0.0745	0.0149	ppb	44.22	1000.	
107 Ag	-0.0055	-0.0011	ppb	34.42	100.	
109 Ag	-0.0029	-0.0006	ppb	250.04	#VALUE!	
111 Cd	0.063	0.0126	ppb	41.10	#VALUE!	
114 Cd	0.0101	0.002	ppb	14.28	1000.	
115 In	----	--------	---	---	#VALUE!	
118 Sn	0.6755	0.1351	ppb	9.30	1000.	
120 Sn	0.5865	0.1173	ppb	20.31	#VALUE!	
121 Sb	0.0149	0.003	ppb	132.87	#VALUE!	
123 Sb	0.0482	0.0096	ppb	35.60	1000.	
135 Ba	0.0339	0.0068	ppb	8.49	2000.	
137 Ba	0.0819	0.0164	ppb	23.77	#VALUE!	
182 W	0.0276	0.0055	ppb	39.98	1000.	
203 Tl	-0.0469	-0.0094	ppb	76.35	1000.	
205 Tl	-0.059	-0.0118	ppb	39.12	#VALUE!	
208 Pb	-0.2959	-0.0592	ppb	21.82	2000.	
232 Th	0.0729	0.0146	ppb	43.95	1000.	
238 U	0.0026	0.0005	ppb	176.70	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2686583.00	0.63	2900107.00	92.6	69.5 - 120	
45 Sc	2048616.40	1.74	2161269.30	94.8	69.5 - 120	
72 Ge	437051.91	0.58	459106.19	95.2	69.5 - 120	
159 Tb	3354292.30	1.70	3415757.80	98.2	69.5 - 120	
209 Bi	1681229.60	2.00	1757454.40	95.7	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE17B.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000336

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE17B.B\093SMPL.D\093SMPL.D#
Date Acquired: May 17 2018 10:18 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3952-019
Misc Info:
Vial Number: 2506
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 17 2018 05:07 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.8245	0.1649	ppb	14.26	100.	
11 B	291.65	58.33	ppb	5.18	1000.	
23 Na	324,050.	64,810.	ppb	2.58	200000.	
25 Mg	77,850.	15,570.	ppb	1.30	200000.	
27 Al	17,660.	3,532.	ppb	2.75	200000.	
28 Si	49,760.	9,952.	ppb	2.68	#VALUE!	
29 Si	53,550.	10,710.	ppb	3.42	10000.	>LDR
39 K	22,935.	4,587.	ppb	1.01	200000.	
43 Ca	402,900.	80,580.	ppb	0.97	#VALUE!	
44 Ca	378,800.	75,760.	ppb	0.92	200000.	
51 V	49.18	9.836	ppb	3.40	1000.	
52 Cr	49.585	9.917	ppb	1.64	2000.	
53 Cr	73.85	14.77	ppb	1.96	#VALUE!	
55 Mn	1,394.5	278.9	ppb	1.22	2000.	
56 Fe	23,295.	4,659.	ppb	1.74	#VALUE!	
57 Fe	24,230.	4,846.	ppb	1.82	100000.	
59 Co	5.905	1.181	ppb	2.61	1000.	
60 Ni	20.21	4.042	ppb	5.69	1000.	
63 Cu	39.99	7.998	ppb	0.72	#VALUE!	
65 Cu	32.8	6.56	ppb	1.76	2000.	
66 Zn	73.5	14.7	ppb	2.39	2000.	
68 Zn	82.3	16.46	ppb	2.18	#VALUE!	
75 As	15.335	3.067	ppb	7.29	1000.	
82 Se	3.4525	0.6905	ppb	18.64	1000.	
88 Sr	1,639.	327.8	ppb	1.35	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	18.105	3.621	ppb	1.84	1000.	
107 Ag	0.08	0.016	ppb	27.52	100.	
109 Ag	0.0718	0.0144	ppb	25.43	#VALUE!	
111 Cd	0.233	0.0466	ppb	58.49	#VALUE!	
114 Cd	0.1097	0.0219	ppb	17.91	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	1.6245	0.3249	ppb	10.02	1000.	
120 Sn	1.5635	0.3127	ppb	3.68	#VALUE!	
121 Sb	0.7685	0.1537	ppb	0.52	#VALUE!	
123 Sb	0.7925	0.1585	ppb	7.06	1000.	
135 Ba	319.1	63.82	ppb	2.42	2000.	
137 Ba	318.1	63.62	ppb	2.00	#VALUE!	
182 W	0.3375	0.0675	ppb	26.42	1000.	
203 Tl	0.2366	0.0473	ppb	1.65	1000.	
205 Tl	0.2309	0.0462	ppb	2.51	#VALUE!	
208 Pb	26.355	5.271	ppb	1.64	2000.	
232 Th	14.07	2.814	ppb	1.21	1000.	
238 U	2.8015	0.5603	ppb	2.13	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2598457.30	3.57	2900107.00	89.6	69.5 - 120	
45 Sc	2053169.80	1.93	2161269.30	95.0	69.5 - 120	
72 Ge	436570.84	0.97	459106.19	95.1	69.5 - 120	
159 Tb	3422378.30	1.45	3415757.80	100.2	69.5 - 120	
209 Bi	1644928.00	0.28	1757454.40	93.6	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE17B.B\015CALB.D\015CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Katahdin Analytical Services 4000337

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE17B.B\094SMPL.D\094SMPL.D#
Date Acquired: May 17 2018 10:22 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3952-020
Misc Info:
Vial Number: 2507
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 17 2018 05:07 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0107	0.0021	ppb	139.45	100.	
11 B	285.4	57.08	ppb	0.69	1000.	
23 Na	311,800.	62,360.	ppb	2.77	200000.	
25 Mg	72,250.	14,450.	ppb	0.84	200000.	
27 Al	10.275	2.055	ppb	15.96	200000.	
28 Si	16,395.	3,279.	ppb	0.47	#VALUE!	
29 Si	17,015.	3,403.	ppb	1.28	10000.	
39 K	18,350.	3,670.	ppb	0.52	200000.	
43 Ca	374,900.	74,980.	ppb	0.83	#VALUE!	
44 Ca	352,250.	70,450.	ppb	0.53	200000.	
51 V	0.4827	0.0965	ppb	191.22	1000.	
52 Cr	1.572	0.3144	ppb	8.53	2000.	
53 Cr	33.655	6.731	ppb	10.45	#VALUE!	
55 Mn	1,190.5	238.1	ppb	1.14	2000.	
56 Fe	4,772.	954.4	ppb	1.53	#VALUE!	
57 Fe	5,310.	1,062.	ppb	1.18	100000.	
59 Co	0.463	0.0926	ppb	5.81	1000.	
60 Ni	1.185	0.237	ppb	8.16	1000.	
63 Cu	9.62	1.924	ppb	4.20	#VALUE!	
65 Cu	1.5215	0.3043	ppb	5.70	2000.	
66 Zn	7.97	1.594	ppb	3.71	2000.	
68 Zn	6.99	1.398	ppb	5.29	#VALUE!	
75 As	10.255	2.051	ppb	12.41	1000.	
82 Se	1.467	0.2934	ppb	87.80	1000.	
88 Sr	1,537.	307.4	ppb	0.73	2000.	
89 Y	----	--------	---	---	#VALUE!	
98 Mo	12.175	2.435	ppb	1.60	1000.	
107 Ag	0.0104	0.0021	ppb	116.44	100.	
109 Ag	-0.003	-0.0006	ppb	2.90	#VALUE!	
111 Cd	-0.0998	-0.02	ppb	54.19	#VALUE!	
114 Cd	-0.0125	-0.0025	ppb	52.95	1000.	
115 In	----	--------	---	---	#VALUE!	
118 Sn	0.5615	0.1123	ppb	16.47	1000.	
120 Sn	0.4936	0.0987	ppb	26.58	#VALUE!	
121 Sb	0.0457	0.0091	ppb	38.77	#VALUE!	
123 Sb	0.0675	0.0135	ppb	25.37	1000.	
135 Ba	35.71	7.142	ppb	2.79	2000.	
137 Ba	37.1	7.42	ppb	0.52	#VALUE!	
182 W	0.1814	0.0363	ppb	42.59	1000.	
203 Tl	-0.0256	-0.0051	ppb	145.62	1000.	
205 Tl	-0.0252	-0.005	ppb	109.33	#VALUE!	
208 Pb	-0.3459	-0.0692	ppb	24.51	2000.	
232 Th	0.1833	0.0367	ppb	18.68	1000.	
238 U	0.923	0.1846	ppb	8.81	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2592134.30	1.00	2900107.00	89.4	69.5 - 120	
45 Sc	2060577.00	0.56	2161269.30	95.3	69.5 - 120	
72 Ge	440489.16	0.81	459106.19	95.9	69.5 - 120	
159 Tb	3497786.30	1.35	3415757.80	102.4	69.5 - 120	
209 Bi	1672208.30	2.58	1757454.40	95.1	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE17B.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000338

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE17B.B\095SMPL.D\095SMPL.D#
Date Acquired: May 17 2018 10:26 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3952-021
Misc Info:
Vial Number: 2508
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 17 2018 05:07 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.5485	0.1097	ppb	9.46	100.	
11 B	218.95	43.79	ppb	2.47	1000.	
23 Na	364,950.	72,990.	ppb	1.06	200000.	
25 Mg	89,100.	17,820.	ppb	0.69	200000.	
27 Al	11,235.	2,247.	ppb	0.98	200000.	
28 Si	42,505.	8,501.	ppb	0.18	#VALUE!	
29 Si	46,070.	9,214.	ppb	0.64	10000.	
39 K	22,975.	4,595.	ppb	1.04	200000.	
43 Ca	428,900.	85,780.	ppb	0.51	#VALUE!	
44 Ca	399,750.	79,950.	ppb	0.22	200000.	
51 V	34.695	6.939	ppb	3.86	1000.	
52 Cr	55.75	11.15	ppb	1.17	2000.	
53 Cr	83.95	16.79	ppb	3.71	#VALUE!	
55 Mn	1,554.5	310.9	ppb	2.31	2000.	
56 Fe	22,600.	4,520.	ppb	2.48	#VALUE!	
57 Fe	23,495.	4,699.	ppb	1.98	100000.	
59 Co	5.345	1.069	ppb	2.46	1000.	
60 Ni	28.465	5.693	ppb	1.89	1000.	
63 Cu	33.08	6.616	ppb	0.44	#VALUE!	
65 Cu	24.17	4.834	ppb	3.48	2000.	
66 Zn	161.45	32.29	ppb	0.92	2000.	
68 Zn	162.5	32.5	ppb	2.62	#VALUE!	
75 As	13.255	2.651	ppb	10.11	1000.	
82 Se	2.9295	0.5859	ppb	46.32	1000.	
88 Sr	1,800.5	360.1	ppb	1.67	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	18.93	3.786	ppb	3.28	1000.	
107 Ag	0.0488	0.0098	ppb	8.09	100.	
109 Ag	0.0439	0.0088	ppb	35.42	#VALUE!	
111 Cd	0.1399	0.028	ppb	151.38	#VALUE!	
114 Cd	0.0885	0.0177	ppb	30.40	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	1.4455	0.2891	ppb	4.16	1000.	
120 Sn	1.2515	0.2503	ppb	11.29	#VALUE!	
121 Sb	0.3059	0.0612	ppb	16.44	#VALUE!	
123 Sb	0.4189	0.0838	ppb	13.74	1000.	
135 Ba	247.95	49.59	ppb	1.08	2000.	
137 Ba	251.55	50.31	ppb	0.86	#VALUE!	
182 W	0.4805	0.0961	ppb	14.07	1000.	
203 Tl	0.1302	0.026	ppb	44.07	1000.	
205 Tl	0.1503	0.0301	ppb	5.14	#VALUE!	
208 Pb	14.685	2.937	ppb	1.26	2000.	
232 Th	8.57	1.714	ppb	2.66	1000.	
238 U	2.2045	0.4409	ppb	4.99	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2670794.30	2.04	2900107.00	92.1	69.5 - 120	
45 Sc	2043498.30	0.45	2161269.30	94.6	69.5 - 120	
72 Ge	437223.16	0.68	459106.19	95.2	69.5 - 120	
159 Tb	3436873.30	0.55	3415757.80	100.6	69.5 - 120	
209 Bi	1669719.40	1.30	1757454.40	95.0	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE17B.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000339

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE17B.B\096SMPL.D\096SMPL.D#
Date Acquired: May 17 2018 10:31 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3952-022
Misc Info:
Vial Number: 2509
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 17 2018 05:07 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0012	0.0002	ppb	709.88	100.	
11 B	205.45	41.09	ppb	4.57	1000.	
23 Na	365,250.	73,050.	ppb	1.58	200000.	
25 Mg	87,950.	17,590.	ppb	2.18	200000.	
27 Al	20.32	4.064	ppb	1.30	200000.	
28 Si	19,670.	3,934.	ppb	1.99	#VALUE!	
29 Si	20,430.	4,086.	ppb	1.37	10000.	
39 K	20,470.	4,094.	ppb	1.11	200000.	
43 Ca	424,200.	84,840.	ppb	0.31	#VALUE!	
44 Ca	398,750.	79,750.	ppb	1.36	200000.	
51 V	0.5845	0.1169	ppb	31.79	1000.	
52 Cr	1.6495	0.3299	ppb	1.56	2000.	
53 Cr	30.44	6.088	ppb	17.26	#VALUE!	
55 Mn	1,452.	290.4	ppb	1.70	2000.	
56 Fe	7,895.	1,579.	ppb	1.63	#VALUE!	
57 Fe	8,460.	1,692.	ppb	2.52	100000.	
59 Co	0.632	0.1264	ppb	5.46	1000.	
60 Ni	3.0705	0.6141	ppb	6.14	1000.	
63 Cu	10.955	2.191	ppb	1.55	#VALUE!	
65 Cu	2.073	0.4146	ppb	13.61	2000.	
66 Zn	30.56	6.112	ppb	2.99	2000.	
68 Zn	28.645	5.729	ppb	1.26	#VALUE!	
75 As	9.035	1.807	ppb	8.72	1000.	
82 Se	3.2285	0.6457	ppb	40.41	1000.	
88 Sr	1,780.5	356.1	ppb	1.32	2000.	
89 Y	----	--------	---	---	#VALUE!	
98 Mo	12.405	2.481	ppb	2.13	1000.	
107 Ag	0.005	0.001	ppb	46.04	100.	
109 Ag	-0.0005	-0.0001	ppb	2122.60	#VALUE!	
111 Cd	0.0307	0.0061	ppb	52.72	#VALUE!	
114 Cd	-0.0012	-0.0002	ppb	930.09	1000.	
115 In	----	--------	---	---	#VALUE!	
118 Sn	0.593	0.1186	ppb	2.93	1000.	
120 Sn	0.4605	0.0921	ppb	8.22	#VALUE!	
121 Sb	0.101	0.0202	ppb	20.87	#VALUE!	
123 Sb	0.0821	0.0164	ppb	33.50	1000.	
135 Ba	34.495	6.899	ppb	2.73	2000.	
137 Ba	35.035	7.007	ppb	1.84	#VALUE!	
182 W	0.2303	0.0461	ppb	24.08	1000.	
203 Tl	-0.0305	-0.0061	ppb	157.96	1000.	
205 Tl	-0.0513	-0.0103	ppb	28.27	#VALUE!	
208 Pb	-0.3358	-0.0672	ppb	12.39	2000.	
232 Th	0.1187	0.0237	ppb	20.12	1000.	
238 U	0.871	0.1742	ppb	5.93	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2686164.30	2.44	2900107.00	92.6	69.5 - 120	
45 Sc	2047040.00	1.31	2161269.30	94.7	69.5 - 120	
72 Ge	435627.47	0.91	459106.19	94.9	69.5 - 120	
159 Tb	3437586.50	0.78	3415757.80	100.6	69.5 - 120	
209 Bi	1651909.30	1.35	1757454.40	94.0	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE17B.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000340

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE17B.B\097SMPL.D\097SMPL.D#
Date Acquired: May 17 2018 10:35 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3952-023
Misc Info:
Vial Number: 2510
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 17 2018 05:07 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.3207	0.0641	ppb	4.78	100.	
11 B	273.7	54.74	ppb	6.29	1000.	
23 Na	284,700.	56,940.	ppb	1.96	200000.	
25 Mg	75,900.	15,180.	ppb	0.56	200000.	
27 Al	5,695.	1,139.	ppb	1.19	200000.	
28 Si	28,700.	5,740.	ppb	0.68	#VALUE!	
29 Si	31,395.	6,279.	ppb	0.14	10000.	
39 K	21,125.	4,225.	ppb	1.87	200000.	
43 Ca	397,600.	79,520.	ppb	3.91	#VALUE!	
44 Ca	370,750.	74,150.	ppb	2.36	200000.	
51 V	14.72	2.944	ppb	6.16	1000.	
52 Cr	29.215	5.843	ppb	0.99	2000.	
53 Cr	59.6	11.92	ppb	5.28	#VALUE!	
55 Mn	1,399.	279.8	ppb	1.28	2000.	
56 Fe	10,970.	2,194.	ppb	0.11	#VALUE!	
57 Fe	11,530.	2,306.	ppb	0.63	100000.	
59 Co	2.7355	0.5471	ppb	1.20	1000.	
60 Ni	13.41	2.682	ppb	3.31	1000.	
63 Cu	24.02	4.804	ppb	0.96	#VALUE!	
65 Cu	16.895	3.379	ppb	1.84	2000.	
66 Zn	33.895	6.779	ppb	3.47	2000.	
68 Zn	37.56	7.512	ppb	1.27	#VALUE!	
75 As	13.76	2.752	ppb	3.20	1000.	
82 Se	2.396	0.4792	ppb	10.44	1000.	
88 Sr	1,600.	320.	ppb	1.03	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	13.605	2.721	ppb	1.54	1000.	
107 Ag	0.0298	0.006	ppb	68.71	100.	
109 Ag	0.0328	0.0066	ppb	18.37	#VALUE!	
111 Cd	0.5265	0.1053	ppb	32.37	#VALUE!	
114 Cd	0.3642	0.0728	ppb	2.66	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	0.9115	0.1823	ppb	14.09	1000.	
120 Sn	0.9935	0.1987	ppb	14.09	#VALUE!	
121 Sb	0.3363	0.0673	ppb	13.55	#VALUE!	
123 Sb	0.3599	0.072	ppb	12.24	1000.	
135 Ba	194.45	38.89	ppb	0.58	2000.	
137 Ba	190.5	38.1	ppb	0.70	#VALUE!	
182 W	0.3045	0.0609	ppb	7.58	1000.	
203 Tl	0.0837	0.0167	ppb	43.13	1000.	
205 Tl	0.0749	0.015	ppb	7.57	#VALUE!	
208 Pb	12.26	2.452	ppb	1.61	2000.	
232 Th	4.661	0.9322	ppb	1.61	1000.	
238 U	4.1325	0.8265	ppb	2.39	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2708188.50	3.78	2900107.00	93.4	69.5 - 120	
45 Sc	2075522.30	0.83	2161269.30	96.0	69.5 - 120	
72 Ge	440300.22	0.64	459106.19	95.9	69.5 - 120	
159 Tb	3430536.80	0.20	3415757.80	100.4	69.5 - 120	
209 Bi	1654022.10	0.54	1757454.40	94.1	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE17B.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000341

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE17B.B\098SMPL.D\098SMPL.D#
Date Acquired: May 17 2018 10:39 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3952-024
Misc Info:
Vial Number: 2511
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 17 2018 05:07 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0081	0.0016	ppb	53.96	100.	
11 B	286.5	57.3	ppb	3.34	1000.	
23 Na	300,100.	60,020.	ppb	1.44	200000.	
25 Mg	79,150.	15,830.	ppb	0.79	200000.	
27 Al	15.115	3.023	ppb	3.07	200000.	
28 Si	17,560.	3,512.	ppb	0.28	#VALUE!	
29 Si	18,345.	3,669.	ppb	0.45	10000.	
39 K	20,885.	4,177.	ppb	0.35	200000.	
43 Ca	410,750.	82,150.	ppb	1.13	#VALUE!	
44 Ca	382,250.	76,450.	ppb	0.16	200000.	
51 V	0.1695	0.0339	ppb	82.03	1000.	
52 Cr	2.3285	0.4657	ppb	3.32	2000.	
53 Cr	32.68	6.536	ppb	11.98	#VALUE!	
55 Mn	1,349.	269.8	ppb	0.84	2000.	
56 Fe	4,785.	957.	ppb	0.47	#VALUE!	
57 Fe	5,385.	1,077.	ppb	0.25	100000.	
59 Co	0.702	0.1404	ppb	6.99	1000.	
60 Ni	4.801	0.9602	ppb	1.40	1000.	
63 Cu	9.335	1.867	ppb	3.39	#VALUE!	
65 Cu	1.7115	0.3423	ppb	0.52	2000.	
66 Zn	22.67	4.534	ppb	1.11	2000.	
68 Zn	22.765	4.553	ppb	4.46	#VALUE!	
75 As	11.645	2.329	ppb	11.92	1000.	
82 Se	1.6845	0.3369	ppb	91.60	1000.	
88 Sr	1,636.	327.2	ppb	1.40	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	11.785	2.357	ppb	1.17	1000.	
107 Ag	0.0024	0.0005	ppb	705.60	100.	
109 Ag	0.0041	0.0008	ppb	83.93	#VALUE!	
111 Cd	0.0721	0.0144	ppb	271.55	#VALUE!	
114 Cd	-0.0163	-0.0033	ppb	213.69	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	0.7735	0.1547	ppb	3.47	1000.	
120 Sn	0.7065	0.1413	ppb	9.23	#VALUE!	
121 Sb	0.0847	0.0169	ppb	41.93	#VALUE!	
123 Sb	0.1247	0.0249	ppb	26.56	1000.	
135 Ba	49.805	9.961	ppb	1.79	2000.	
137 Ba	49.755	9.951	ppb	1.15	#VALUE!	
182 W	0.1973	0.0395	ppb	9.18	1000.	
203 Tl	-0.0571	-0.0114	ppb	53.14	1000.	
205 Tl	-0.0441	-0.0088	ppb	23.20	#VALUE!	
208 Pb	-0.31	-0.062	ppb	4.42	2000.	
232 Th	0.084	0.0168	ppb	23.44	1000.	
238 U	3.1505	0.6301	ppb	1.88	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2715727.50	0.68	2900107.00	93.6	69.5 - 120	
45 Sc	2070236.90	1.51	2161269.30	95.8	69.5 - 120	
72 Ge	440380.88	0.59	459106.19	95.9	69.5 - 120	
159 Tb	3401899.80	1.07	3415757.80	99.6	69.5 - 120	
209 Bi	1641069.40	1.23	1757454.40	93.4	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE17B.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000342

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE17B.B\099SMPL.D\099SMPL.D#
Date Acquired: May 17 2018 10:43 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: RINSE
Misc Info:
Vial Number: 2512
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 17 2018 05:07 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	-0.0001	-0.0001	ppb	3059.40	100.	
11 B	3.17	3.17	ppb	12.46	1000.	
23 Na	41.81	41.81	ppb	7.01	200000.	
25 Mg	1.558	1.558	ppb	8.85	200000.	
27 Al	2.666	2.666	ppb	3.25	200000.	
28 Si	11.56	11.56	ppb	11.59	#VALUE!	
29 Si	8.575	8.575	ppb	31.76	10000.	
39 K	5.386	5.386	ppb	48.66	200000.	
43 Ca	9.521	9.521	ppb	35.80	#VALUE!	
44 Ca	4.814	4.814	ppb	20.30	200000.	
51 V	-0.0425	-0.0425	ppb	197.48	1000.	
52 Cr	0.0007	0.0007	ppb	215.99	2000.	
53 Cr	-2.311	-2.311	ppb	11.35	#VALUE!	
55 Mn	0.1114	0.1114	ppb	3.73	2000.	
56 Fe	7.662	7.662	ppb	29.56	#VALUE!	
57 Fe	10.23	10.23	ppb	24.31	100000.	
59 Co	0.025	0.025	ppb	26.34	1000.	
60 Ni	0.0348	0.0348	ppb	45.83	1000.	
63 Cu	0.2752	0.2752	ppb	8.83	#VALUE!	
65 Cu	0.271	0.271	ppb	5.85	2000.	
66 Zn	4.061	4.061	ppb	3.31	2000.	
68 Zn	3.984	3.984	ppb	3.73	#VALUE!	
75 As	-0.0773	-0.0773	ppb	40.44	1000.	
82 Se	-0.0264	-0.0264	ppb	830.18	1000.	
88 Sr	0.0201	0.0201	ppb	22.00	2000.	
89 Y	----	--------	---	---	#VALUE!	
98 Mo	0.0417	0.0417	ppb	7.21	1000.	
107 Ag	0.0022	0.0022	ppb	32.50	100.	
109 Ag	0.0009	0.0009	ppb	321.37	#VALUE!	
111 Cd	0.0324	0.0324	ppb	2.79	#VALUE!	
114 Cd	-0.0018	-0.0018	ppb	125.59	1000.	
115 In	----	--------	---	---	#VALUE!	
118 Sn	0.0391	0.0391	ppb	31.06	1000.	
120 Sn	0.0352	0.0352	ppb	41.80	#VALUE!	
121 Sb	0.0031	0.0031	ppb	55.68	#VALUE!	
123 Sb	0.0064	0.0064	ppb	61.56	1000.	
135 Ba	0.1883	0.1883	ppb	8.74	2000.	
137 Ba	0.1863	0.1863	ppb	13.02	#VALUE!	
182 W	-0.0024	-0.0024	ppb	99.51	1000.	
203 Tl	-0.0056	-0.0056	ppb	91.83	1000.	
205 Tl	-0.004	-0.004	ppb	82.72	#VALUE!	
208 Pb	0.1574	0.1574	ppb	13.95	2000.	
232 Th	0.0004	0.0004	ppb	120.08	1000.	
238 U	0.0009	0.0009	ppb	45.19	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2732732.30	0.63	2900107.00	94.2	69.5 - 120	
45 Sc	2071359.80	0.84	2161269.30	95.8	69.5 - 120	
72 Ge	432523.84	1.19	459106.19	94.2	69.5 - 120	
159 Tb	3304043.30	1.51	3415757.80	96.7	69.5 - 120	
209 Bi	1668853.00	1.05	1757454.40	95.0	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE17B.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000343

CCV QC Report

Data File: C:\ICPCHEM\1\DATA\JLE17B.B\100_CCV.D\100_CCV.D#
Date Acquired: May 17 2018 10:47 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: CCV
Misc Info:
Vial Number: 1306
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 17 2018 05:07 pm
Dilution Factor: 1.00
QC Range (%): 89.5 - 110.5

QC Elements

Element	Conc.		RSD(%)	Expected	Rec (%)	Flag
9 Be	24.72	ppb	0.71	25	98.88	
11 B	25.83	ppb	1.47	25	103.32	
23 Na	5,271.	ppb	1.17	5,000	105.42	
25 Mg	5,314.	ppb	0.76	5,000	106.28	
27 Al	521.5	ppb	1.63	500	104.3	
28 Si	544.1	ppb	2.80	500	108.82	
29 Si	511.6	ppb	2.01	500	102.32	
39 K	5,139.	ppb	1.81	5,000	102.78	
43 Ca	5,019.	ppb	2.01	5,000	100.38	
44 Ca	5,043.	ppb	1.43	5,000	100.86	
51 V	25.32	ppb	2.66	25	101.28	
52 Cr	25.	ppb	0.13	25	100	
53 Cr	23.7	ppb	4.49	25	94.8	
55 Mn	25.1	ppb	1.27	25	100.4	
56 Fe	4,976.	ppb	1.52	5,000	99.52	
57 Fe	5,047.	ppb	1.12	5,000	100.94	
59 Co	24.99	ppb	0.42	25	99.96	
60 Ni	24.93	ppb	1.23	25	99.72	
63 Cu	25.33	ppb	0.84	25	101.32	
65 Cu	25.16	ppb	1.66	25	100.64	
66 Zn	24.8	ppb	0.68	25	99.2	
68 Zn	24.94	ppb	2.28	25	99.76	
75 As	25.25	ppb	2.50	25	101	
82 Se	25.38	ppb	1.73	25	101.52	
88 Sr	24.78	ppb	1.68	25	99.12	
89 Y	--------	---	--------	---	#VALUE!	
98 Mo	24.3	ppb	0.45	25	97.2	
107 Ag	24.65	ppb	0.98	25	98.6	
109 Ag	24.88	ppb	0.53	25	99.52	
111 Cd	25.16	ppb	1.13	25	100.64	
114 Cd	25.01	ppb	0.90	25	100.04	
115 In	--------	---	--------	---	#VALUE!	
118 Sn	24.89	ppb	1.12	25	99.56	
120 Sn	24.6	ppb	0.56	25	98.4	
121 Sb	24.89	ppb	0.71	25	99.56	
123 Sb	25.07	ppb	1.03	25	100.28	
135 Ba	25.13	ppb	0.83	25	100.52	
137 Ba	25.2	ppb	1.03	25	100.8	
182 W	24.72	ppb	0.93	25	98.88	
203 Tl	25.56	ppb	0.42	25	102.24	
205 Tl	25.1	ppb	0.65	25	100.4	
208 Pb	25.08	ppb	0.71	25	100.32	
232 Th	24.82	ppb	0.96	25	99.28	
238 U	24.81	ppb	0.64	25	99.24	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2740626.00	0.60	2900107.00	94.5	80 - 120.4	
45 Sc	2057585.40	1.62	2161269.30	95.2	80 - 120.4	
72 Ge	427777.09	1.13	459106.19	93.2	80 - 120.4	
159 Tb	3367354.00	0.85	3415757.80	98.6	80 - 120.4	
209 Bi	1673132.50	0.83	1757454.40	95.2	80 - 120.4	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE17B.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\JLE17B.B\101_CCB.D\101_CCB.D#
Date Acquired: May 17 2018 10:52 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: CCB
Misc Info:
Vial Number: 1307
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 17 2018 05:07 pm
Sample Type: 6-CCB
Dilution Factor: 1.00

QC Elements

Element	Conc.		RSD(%)	High Limit	Flag
9 Be	0.0027	ppb	57.08	1.00	
11 B	2.099	ppb	11.32	1.00	
23 Na	5.317	ppb	2.76	1.00	
25 Mg	0.0589	ppb	32.45	1.00	
27 Al	-0.0375	ppb	94.50	1.00	
28 Si	13.59	ppb	54.73	1.00	
29 Si	7.37	ppb	106.51	1.00	
39 K	5.491	ppb	20.02	1.00	
43 Ca	1.53	ppb	258.95	1.00	
44 Ca	-0.5398	ppb	103.45	1.00	
51 V	-0.0214	ppb	229.62	1.00	
52 Cr	-0.0823	ppb	25.01	1.00	
53 Cr	-3.59	ppb	6.59	1.00	
55 Mn	0.0155	ppb	24.44	1.00	
56 Fe	1.239	ppb	340.11	1.00	
57 Fe	4.273	ppb	84.86	1.00	
59 Co	-0.0014	ppb	534.87	1.00	
60 Ni	-0.0113	ppb	73.64	1.00	
63 Cu	0.0069	ppb	158.88	1.00	
65 Cu	0.038	ppb	25.35	1.00	
66 Zn	-0.0369	ppb	201.92	1.00	
68 Zn	0.0112	ppb	800.54	1.00	
75 As	-0.0986	ppb	134.35	1.00	
82 Se	0.2631	ppb	174.91	1.00	
88 Sr	0.0009	ppb	224.96	1.00	
89 Y	--------	---	--------	---	
98 Mo	0.0228	ppb	48.36	1.00	
107 Ag	0.0011	ppb	248.31	1.00	
109 Ag	0.0023	ppb	106.41	1.00	
111 Cd	0.0353	ppb	64.96	1.00	
114 Cd	0.001	ppb	555.99	1.00	
115 In	--------	---	--------	---	
118 Sn	0.0074	ppb	57.23	1.00	
120 Sn	0.0034	ppb	110.90	1.00	
121 Sb	0.0105	ppb	7.46	1.00	
123 Sb	0.0136	ppb	10.60	1.00	
135 Ba	-0.0073	ppb	93.69	1.00	
137 Ba	0.0089	ppb	48.69	1.00	
182 W	0.0396	ppb	56.11	1.00	
203 Tl	-0.0071	ppb	42.39	1.00	
205 Tl	-0.0013	ppb	186.37	1.00	
208 Pb	-0.0043	ppb	95.12	1.00	
232 Th	0.0487	ppb	7.03	1.00	
238 U	0.0018	ppb	14.08	1.00	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2594211.80	2.35	2900107.00	89.5	79.5 - 120	
45 Sc	1997403.30	0.99	2161269.30	92.4	79.5 - 120	
72 Ge	417680.97	1.73	459106.19	91.0	79.5 - 120	
159 Tb	3191493.80	2.11	3415757.80	93.4	79.5 - 120	
209 Bi	1628392.00	1.70	1757454.40	92.7	79.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE17B.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000345

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE17B.B\102SMPL.D\102SMPL.D#
Date Acquired: May 17 2018 10:56 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3995-015
Misc Info:
Vial Number: 3101
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 17 2018 05:07 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0033	0.0007	ppb	401.17	100.	
11 B	6.785	1.357	ppb	6.58	1000.	
23 Na	87.3	17.46	ppb	1.67	200000.	
25 Mg	19.34	3.868	ppb	1.08	200000.	
27 Al	23.715	4.743	ppb	2.28	200000.	
28 Si	84.2	16.84	ppb	20.15	#VALUE!	
29 Si	81.75	16.35	ppb	26.88	10000.	
39 K	50.3	10.06	ppb	7.95	200000.	
43 Ca	53.85	10.77	ppb	51.74	#VALUE!	
44 Ca	41.885	8.377	ppb	10.98	200000.	
51 V	0.1424	0.0285	ppb	136.67	1000.	
52 Cr	0.6975	0.1395	ppb	27.63	2000.	
53 Cr	17.995	3.599	ppb	14.44	#VALUE!	
55 Mn	0.4788	0.0958	ppb	3.33	2000.	
56 Fe	31.86	6.372	ppb	19.08	#VALUE!	
57 Fe	39.67	7.934	ppb	16.37	100000.	
59 Co	0.0386	0.0077	ppb	70.80	1000.	
60 Ni	0.533	0.1066	ppb	8.06	1000.	
63 Cu	0.562	0.1124	ppb	5.25	#VALUE!	
65 Cu	0.4688	0.0938	ppb	41.48	2000.	
66 Zn	1.7315	0.3463	ppb	18.51	2000.	
68 Zn	1.874	0.3748	ppb	15.26	#VALUE!	
75 As	0.0096	0.0019	ppb	3746.00	1000.	
82 Se	2.1395	0.4279	ppb	29.49	1000.	
88 Sr	0.222	0.0444	ppb	13.97	2000.	
89 Y	----	--------	---	---	#VALUE!	
98 Mo	0.0612	0.0122	ppb	70.72	1000.	
107 Ag	-0.0035	-0.0007	ppb	157.87	100.	
109 Ag	0.0087	0.0017	ppb	0.88	#VALUE!	
111 Cd	0.1515	0.0303	ppb	142.95	#VALUE!	
114 Cd	0.0016	0.0003	ppb	2219.80	1000.	
115 In	----	--------	---	---	#VALUE!	
118 Sn	0.585	0.117	ppb	13.33	1000.	
120 Sn	0.552	0.1104	ppb	13.33	#VALUE!	
121 Sb	0.022	0.0044	ppb	68.56	#VALUE!	
123 Sb	0.0698	0.014	ppb	45.11	1000.	
135 Ba	0.3334	0.0667	ppb	23.41	2000.	
137 Ba	0.3764	0.0753	ppb	19.09	#VALUE!	
182 W	0.0448	0.009	ppb	27.99	1000.	
203 Tl	-0.0131	-0.0026	ppb	259.45	1000.	
205 Tl	-0.0196	-0.0039	ppb	41.94	#VALUE!	
208 Pb	-0.2757	-0.0551	ppb	38.21	2000.	
232 Th	0.3092	0.0618	ppb	14.27	1000.	
238 U	0.0059	0.0012	ppb	54.74	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2750682.50	1.40	2900107.00	94.8	69.5 - 120	
45 Sc	1986079.40	0.20	2161269.30	91.9	69.5 - 120	
72 Ge	421902.84	0.34	459106.19	91.9	69.5 - 120	
159 Tb	3280991.30	1.57	3415757.80	96.1	69.5 - 120	
209 Bi	1633133.00	1.38	1757454.40	92.9	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE17B.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000346

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE17B.B\103SMPL.D\103SMPL.D#
Date Acquired: May 17 2018 11:00 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: RINSE
Misc Info:
Vial Number: 3102
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 17 2018 05:07 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0042	0.0042	ppb	49.53	100.	
11 B	0.879	0.879	ppb	7.71	1000.	
23 Na	28.96	28.96	ppb	1.19	200000.	
25 Mg	2.15	2.15	ppb	5.28	200000.	
27 Al	3.793	3.793	ppb	3.25	200000.	
28 Si	9.524	9.524	ppb	33.60	#VALUE!	
29 Si	8.663	8.663	ppb	32.92	10000.	
39 K	3.777	3.777	ppb	12.67	200000.	
43 Ca	26.71	26.71	ppb	27.85	#VALUE!	
44 Ca	25.25	25.25	ppb	8.48	200000.	
51 V	-0.0944	-0.0944	ppb	43.75	1000.	
52 Cr	-0.0297	-0.0297	ppb	48.50	2000.	
53 Cr	-3.909	-3.909	ppb	6.00	#VALUE!	
55 Mn	0.1432	0.1432	ppb	5.35	2000.	
56 Fe	5.684	5.684	ppb	20.27	#VALUE!	
57 Fe	12.91	12.91	ppb	15.54	100000.	
59 Co	0.0204	0.0204	ppb	1.62	1000.	
60 Ni	0.0378	0.0378	ppb	26.88	1000.	
63 Cu	0.2816	0.2816	ppb	5.56	#VALUE!	
65 Cu	0.2814	0.2814	ppb	5.16	2000.	
66 Zn	0.8018	0.8018	ppb	5.31	2000.	
68 Zn	0.7691	0.7691	ppb	22.91	#VALUE!	
75 As	-0.0908	-0.0908	ppb	183.62	1000.	
82 Se	0.147	0.147	ppb	115.17	1000.	
88 Sr	0.0399	0.0399	ppb	8.71	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	0.0063	0.0063	ppb	37.29	1000.	
107 Ag	0.0009	0.0009	ppb	316.60	100.	
109 Ag	0.0007	0.0007	ppb	479.02	#VALUE!	
111 Cd	0.0302	0.0302	ppb	62.11	#VALUE!	
114 Cd	-0.004	-0.004	ppb	35.62	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	0.0941	0.0941	ppb	6.84	1000.	
120 Sn	0.0798	0.0798	ppb	5.19	#VALUE!	
121 Sb	0.0047	0.0047	ppb	86.72	#VALUE!	
123 Sb	0.0068	0.0068	ppb	7.15	1000.	
135 Ba	0.4006	0.4006	ppb	1.12	2000.	
137 Ba	0.4192	0.4192	ppb	11.45	#VALUE!	
182 W	0.0032	0.0032	ppb	158.06	1000.	
203 Tl	-0.0088	-0.0088	ppb	144.15	1000.	
205 Tl	-0.003	-0.003	ppb	83.27	#VALUE!	
208 Pb	0.1606	0.1606	ppb	9.29	2000.	
232 Th	0.0031	0.0031	ppb	27.39	1000.	
238 U	0.0009	0.0009	ppb	102.65	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2738750.50	2.70	2900107.00	94.4	69.5 - 120	
45 Sc	2055843.90	0.58	2161269.30	95.1	69.5 - 120	
72 Ge	426493.06	1.13	459106.19	92.9	69.5 - 120	
159 Tb	3276458.00	1.72	3415757.80	95.9	69.5 - 120	
209 Bi	1644636.50	1.49	1757454.40	93.6	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE17B.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000347

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE17B.B\104SMPL.D\104SMPL.D#
Date Acquired: May 17 2018 11:04 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL4254-001
Misc Info: AQ
Vial Number: 3103
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 17 2018 05:07 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0022	0.0022	ppb	166.76	100.	
11 B	9.625	9.625	ppb	2.57	1000.	
23 Na	110,900.	110,900.	ppb	0.67	200000.	
25 Mg	2.323	2.323	ppb	6.40	200000.	
27 Al	4.591	4.591	ppb	3.17	200000.	
28 Si	5,029.	5,029.	ppb	1.57	#VALUE!	
29 Si	5,684.	5,684.	ppb	2.26	10000.	
39 K	85.73	85.73	ppb	3.11	200000.	
43 Ca	9.701	9.701	ppb	25.05	#VALUE!	
44 Ca	31.02	31.02	ppb	4.35	200000.	
51 V	0.4567	0.4567	ppb	21.94	1000.	
52 Cr	1.361	1.361	ppb	5.49	2000.	
53 Cr	-3.187	-3.187	ppb	6.73	#VALUE!	
55 Mn	1.69	1.69	ppb	1.32	2000.	
56 Fe	32.82	32.82	ppb	3.05	#VALUE!	
57 Fe	35.17	35.17	ppb	4.13	100000.	
59 Co	0.0345	0.0345	ppb	13.25	1000.	
60 Ni	0.29	0.29	ppb	22.80	1000.	
63 Cu	10.91	10.91	ppb	0.49	#VALUE!	
65 Cu	7.632	7.632	ppb	0.72	2000.	
66 Zn	3.466	3.466	ppb	2.63	2000.	
68 Zn	3.464	3.464	ppb	3.24	#VALUE!	
75 As	0.6235	0.6235	ppb	42.13	1000.	
82 Se	0.165	0.165	ppb	137.58	1000.	
88 Sr	0.1668	0.1668	ppb	7.56	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	0.0082	0.0082	ppb	13.22	1000.	
107 Ag	0.0008	0.0008	ppb	435.35	100.	
109 Ag	0.0035	0.0035	ppb	75.38	#VALUE!	
111 Cd	-0.004	-0.004	ppb	426.49	#VALUE!	
114 Cd	-0.0012	-0.0012	ppb	554.88	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	-0.0016	-0.0016	ppb	310.47	1000.	
120 Sn	-0.0045	-0.0045	ppb	83.83	#VALUE!	
121 Sb	0.0045	0.0045	ppb	21.92	#VALUE!	
123 Sb	0.0106	0.0106	ppb	36.47	1000.	
135 Ba	0.1362	0.1362	ppb	13.62	2000.	
137 Ba	0.142	0.142	ppb	12.89	#VALUE!	
182 W	0.0065	0.0065	ppb	38.80	1000.	
203 Tl	-0.0079	-0.0079	ppb	68.12	1000.	
205 Tl	0.0001	0.0001	ppb	2105.70	#VALUE!	
208 Pb	0.2558	0.2558	ppb	3.25	2000.	
232 Th	0.0191	0.0191	ppb	32.29	1000.	
238 U	0.022	0.022	ppb	22.29	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2618170.30	1.07	2900107.00	90.3	69.5 - 120	
45 Sc	2023993.50	0.86	2161269.30	93.6	69.5 - 120	
72 Ge	419646.59	0.19	459106.19	91.4	69.5 - 120	
159 Tb	3222307.80	0.63	3415757.80	94.3	69.5 - 120	
209 Bi	1545666.40	0.89	1757454.40	87.9	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE17B.B\015CALB.D\015CALB.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000348

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE17B.B\105SMPL.D\105SMPL.D#
Date Acquired: May 17 2018 11:08 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL4254-002
Misc Info: AQ
Vial Number: 3104
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 17 2018 05:07 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0027	0.0027	ppb	83.83	100.	
11 B	8.087	8.087	ppb	5.46	1000.	
23 Na	19,360.	19,360.	ppb	1.83	200000.	
25 Mg	759.5	759.5	ppb	0.76	200000.	
27 Al	3.728	3.728	ppb	6.45	200000.	
28 Si	526.5	526.5	ppb	2.27	#VALUE!	
29 Si	640.8	640.8	ppb	2.65	10000.	
39 K	29.48	29.48	ppb	4.93	200000.	
43 Ca	37,370.	37,370.	ppb	0.85	#VALUE!	
44 Ca	35,780.	35,780.	ppb	1.80	200000.	
51 V	0.3119	0.3119	ppb	22.82	1000.	
52 Cr	1.238	1.238	ppb	1.95	2000.	
53 Cr	-3.645	-3.645	ppb	2.85	#VALUE!	
55 Mn	9.687	9.687	ppb	2.12	2000.	
56 Fe	11.04	11.04	ppb	12.62	#VALUE!	
57 Fe	60.03	60.03	ppb	3.94	100000.	
59 Co	0.0557	0.0557	ppb	9.97	1000.	
60 Ni	0.1656	0.1656	ppb	16.10	1000.	
63 Cu	4.392	4.392	ppb	1.27	#VALUE!	
65 Cu	3.873	3.873	ppb	1.75	2000.	
66 Zn	10.28	10.28	ppb	2.84	2000.	
68 Zn	10.04	10.04	ppb	0.75	#VALUE!	
75 As	0.1651	0.1651	ppb	157.54	1000.	
82 Se	0.1818	0.1818	ppb	238.28	1000.	
88 Sr	63.2	63.2	ppb	0.85	2000.	
89 Y	----	--------	---	---	#VALUE!	
98 Mo	0.0049	0.0049	ppb	43.98	1000.	
107 Ag	0.0001	0.0001	ppb	2826.90	100.	
109 Ag	0.001	0.001	ppb	129.79	#VALUE!	
111 Cd	0.0027	0.0027	ppb	1218.80	#VALUE!	
114 Cd	0.0081	0.0081	ppb	73.24	1000.	
115 In	----	--------	---	---	#VALUE!	
118 Sn	-0.011	-0.011	ppb	50.20	1000.	
120 Sn	0.295	0.295	ppb	191.53	#VALUE!	
121 Sb	0.0443	0.0443	ppb	15.40	#VALUE!	
123 Sb	0.0498	0.0498	ppb	20.03	1000.	
135 Ba	0.4775	0.4775	ppb	11.49	2000.	
137 Ba	0.486	0.486	ppb	7.26	#VALUE!	
182 W	0.0048	0.0048	ppb	154.04	1000.	
203 Tl	-0.0015	-0.0015	ppb	761.32	1000.	
205 Tl	0.0011	0.0011	ppb	514.02	#VALUE!	
208 Pb	4.699	4.699	ppb	0.67	2000.	
232 Th	0.0067	0.0067	ppb	60.50	1000.	
238 U	0.0022	0.0022	ppb	35.69	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2601174.30	5.04	2900107.00	89.7	69.5 - 120	
45 Sc	1991643.80	1.50	2161269.30	92.2	69.5 - 120	
72 Ge	418286.75	1.37	459106.19	91.1	69.5 - 120	
159 Tb	3245067.80	0.83	3415757.80	95.0	69.5 - 120	
209 Bi	1622852.80	0.31	1757454.40	92.3	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE17B.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000349

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE17B.B\106SMPL.D\106SMPL.D#
Date Acquired: May 17 2018 11:12 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL4254-003
Misc Info: AQ
Vial Number: 3105
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 17 2018 05:07 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0074	0.0074	ppb	16.63	100.	
11 B	7.485	7.485	ppb	4.55	1000.	
23 Na	87,550.	87,550.	ppb	0.12	200000.	
25 Mg	53.77	53.77	ppb	3.79	200000.	
27 Al	3.403	3.403	ppb	6.07	200000.	
28 Si	5,150.	5,150.	ppb	1.20	#VALUE!	
29 Si	5,654.	5,654.	ppb	2.11	10000.	
39 K	110.5	110.5	ppb	2.66	200000.	
43 Ca	351.4	351.4	ppb	11.82	#VALUE!	
44 Ca	364.8	364.8	ppb	3.26	200000.	
51 V	0.1957	0.1957	ppb	7.93	1000.	
52 Cr	0.7858	0.7858	ppb	1.62	2000.	
53 Cr	-2.542	-2.542	ppb	11.23	#VALUE!	
55 Mn	17.7	17.7	ppb	1.93	2000.	
56 Fe	22.76	22.76	ppb	14.19	#VALUE!	
57 Fe	24.46	24.46	ppb	5.16	100000.	
59 Co	0.0417	0.0417	ppb	15.12	1000.	
60 Ni	0.4439	0.4439	ppb	1.01	1000.	
63 Cu	8.336	8.336	ppb	0.97	#VALUE!	
65 Cu	5.8	5.8	ppb	0.57	2000.	
66 Zn	7.143	7.143	ppb	1.76	2000.	
68 Zn	7.211	7.211	ppb	1.61	#VALUE!	
75 As	0.4495	0.4495	ppb	17.52	1000.	
82 Se	0.1126	0.1126	ppb	234.90	1000.	
88 Sr	3.395	3.395	ppb	1.63	2000.	
89 Y	----	--------	---	---	#VALUE!	
98 Mo	0.1403	0.1403	ppb	13.67	1000.	
107 Ag	-0.0007	-0.0007	ppb	241.10	100.	
109 Ag	0.0022	0.0022	ppb	19.57	#VALUE!	
111 Cd	0.0019	0.0019	ppb	1386.20	#VALUE!	
114 Cd	0.0004	0.0004	ppb	737.11	1000.	
115 In	----	--------	---	---	#VALUE!	
118 Sn	0.0365	0.0365	ppb	204.50	1000.	
120 Sn	0.004	0.004	ppb	615.00	#VALUE!	
121 Sb	0.0126	0.0126	ppb	57.95	#VALUE!	
123 Sb	0.0169	0.0169	ppb	7.54	1000.	
135 Ba	0.4851	0.4851	ppb	8.72	2000.	
137 Ba	0.4723	0.4723	ppb	4.23	#VALUE!	
182 W	0.0044	0.0044	ppb	152.89	1000.	
203 Tl	-0.0066	-0.0066	ppb	115.48	1000.	
205 Tl	-0.002	-0.002	ppb	215.11	#VALUE!	
208 Pb	0.5476	0.5476	ppb	6.66	2000.	
232 Th	0.0097	0.0097	ppb	45.71	1000.	
238 U	0.0624	0.0624	ppb	7.92	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2552738.00	1.81	2900107.00	88.0	69.5 - 120	
45 Sc	2015457.60	0.63	2161269.30	93.3	69.5 - 120	
72 Ge	423800.59	0.72	459106.19	92.3	69.5 - 120	
159 Tb	3246183.00	0.59	3415757.80	95.0	69.5 - 120	
209 Bi	1601730.10	1.04	1757454.40	91.1	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE17B.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000350

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE17B.B\107SMPL.D\107SMPL.D#
Date Acquired: May 17 2018 11:17 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL4254-004
Misc Info: AQ
Vial Number: 3106
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 17 2018 05:07 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0011	0.0011	ppb	100.44	100.	
11 B	5.021	5.021	ppb	6.23	1000.	
23 Na	6,107.	6,107.	ppb	1.56	200000.	
25 Mg	6.089	6.089	ppb	4.85	200000.	
27 Al	3.721	3.721	ppb	2.93	200000.	
28 Si	367.3	367.3	ppb	1.90	#VALUE!	
29 Si	367.3	367.3	ppb	1.11	10000.	
39 K	10.91	10.91	ppb	28.51	200000.	
43 Ca	35.22	35.22	ppb	23.04	#VALUE!	
44 Ca	33.09	33.09	ppb	4.28	200000.	
51 V	0.1231	0.1231	ppb	30.85	1000.	
52 Cr	0.2931	0.2931	ppb	10.60	2000.	
53 Cr	-3.399	-3.399	ppb	2.81	#VALUE!	
55 Mn	0.9708	0.9708	ppb	2.31	2000.	
56 Fe	6.207	6.207	ppb	72.10	#VALUE!	
57 Fe	6.918	6.918	ppb	21.58	100000.	
59 Co	0.0035	0.0035	ppb	237.97	1000.	
60 Ni	2.378	2.378	ppb	1.11	1000.	
63 Cu	1.476	1.476	ppb	5.70	#VALUE!	
65 Cu	1.278	1.278	ppb	3.35	2000.	
66 Zn	5.059	5.059	ppb	2.10	2000.	
68 Zn	4.906	4.906	ppb	2.41	#VALUE!	
75 As	0.1363	0.1363	ppb	37.32	1000.	
82 Se	0.6215	0.6215	ppb	10.92	1000.	
88 Sr	0.2846	0.2846	ppb	5.11	2000.	
89 Y	----	--------	---	---	#VALUE!	
98 Mo	0.0085	0.0085	ppb	59.70	1000.	
107 Ag	0.0025	0.0025	ppb	77.09	100.	
109 Ag	0.001	0.001	ppb	256.39	#VALUE!	
111 Cd	0.028	0.028	ppb	111.44	#VALUE!	
114 Cd	0.0011	0.0011	ppb	333.65	1000.	
115 In	----	--------	---	---	#VALUE!	
118 Sn	0.0375	0.0375	ppb	20.02	1000.	
120 Sn	0.0366	0.0366	ppb	49.26	#VALUE!	
121 Sb	0.077	0.077	ppb	9.63	#VALUE!	
123 Sb	0.0855	0.0855	ppb	4.66	1000.	
135 Ba	0.2268	0.2268	ppb	12.93	2000.	
137 Ba	0.251	0.251	ppb	7.72	#VALUE!	
182 W	-0.0011	-0.0011	ppb	282.97	1000.	
203 Tl	0.0075	0.0075	ppb	24.63	1000.	
205 Tl	0.0063	0.0063	ppb	63.42	#VALUE!	
208 Pb	1.47	1.47	ppb	2.56	2000.	
232 Th	0.0033	0.0033	ppb	70.15	1000.	
238 U	0.0001	0.0001	ppb	1066.30	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2611792.80	3.85	2900107.00	90.1	69.5 - 120	
45 Sc	1984411.60	2.26	2161269.30	91.8	69.5 - 120	
72 Ge	418700.91	1.89	459106.19	91.2	69.5 - 120	
159 Tb	3214956.00	0.76	3415757.80	94.1	69.5 - 120	
209 Bi	1648572.80	1.52	1757454.40	93.8	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE17B.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000351

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE17B.B\108SMPL.D\108SMPL.D#
Date Acquired: May 17 2018 11:21 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL4267-001
Misc Info: DW
Vial Number: 3107
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 17 2018 05:07 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0154	0.0154	ppb	48.80	100.	
11 B	3.495	3.495	ppb	3.59	1000.	
23 Na	7,496.	7,496.	ppb	2.14	200000.	
25 Mg	427.	427.	ppb	1.41	200000.	
27 Al	109.1	109.1	ppb	0.85	200000.	
28 Si	2,597.	2,597.	ppb	1.73	#VALUE!	
29 Si	2,686.	2,686.	ppb	2.36	10000.	
39 K	545.2	545.2	ppb	1.87	200000.	
43 Ca	5,228.	5,228.	ppb	2.99	#VALUE!	
44 Ca	5,138.	5,138.	ppb	0.43	200000.	
51 V	0.3167	0.3167	ppb	20.01	1000.	
52 Cr	0.0717	0.0717	ppb	25.57	2000.	
53 Cr	-2.949	-2.949	ppb	4.46	#VALUE!	
55 Mn	7.254	7.254	ppb	0.71	2000.	
56 Fe	8.957	8.957	ppb	6.83	#VALUE!	
57 Fe	16.13	16.13	ppb	11.15	100000.	
59 Co	0.0383	0.0383	ppb	20.16	1000.	
60 Ni	0.8689	0.8689	ppb	4.43	1000.	
63 Cu	50.71	50.71	ppb	0.73	#VALUE!	
65 Cu	50.53	50.53	ppb	0.65	2000.	
66 Zn	21.62	21.62	ppb	1.23	2000.	
68 Zn	21.62	21.62	ppb	2.30	#VALUE!	
75 As	0.2322	0.2322	ppb	41.41	1000.	
82 Se	0.1069	0.1069	ppb	269.04	1000.	
88 Sr	21.6	21.6	ppb	1.69	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	0.1396	0.1396	ppb	6.79	1000.	
107 Ag	0.0025	0.0025	ppb	49.22	100.	
109 Ag	0.0025	0.0025	ppb	50.77	#VALUE!	
111 Cd	-0.0101	-0.0101	ppb	164.69	#VALUE!	
114 Cd	0.0084	0.0084	ppb	74.38	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	-0.014	-0.014	ppb	72.03	1000.	
120 Sn	-0.0232	-0.0232	ppb	95.48	#VALUE!	
121 Sb	0.0251	0.0251	ppb	25.48	#VALUE!	
123 Sb	0.0294	0.0294	ppb	4.57	1000.	
135 Ba	3.557	3.557	ppb	2.51	2000.	
137 Ba	3.606	3.606	ppb	3.39	#VALUE!	
182 W	0.0019	0.0019	ppb	156.66	1000.	
203 Tl	-0.0035	-0.0035	ppb	355.16	1000.	
205 Tl	0.0118	0.0118	ppb	34.47	#VALUE!	
208 Pb	0.4618	0.4618	ppb	1.66	2000.	
232 Th	0.0192	0.0192	ppb	27.29	1000.	
238 U	0.0179	0.0179	ppb	6.94	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2613757.80	1.11	2900107.00	90.1	69.5 - 120	
45 Sc	1961906.30	0.60	2161269.30	90.8	69.5 - 120	
72 Ge	417149.94	0.92	459106.19	90.9	69.5 - 120	
159 Tb	3296109.30	0.51	3415757.80	96.5	69.5 - 120	
209 Bi	1674143.30	0.41	1757454.40	95.3	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE17B.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000352

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE17B.B\109SMPL.D\109SMPL.D#
Date Acquired: May 17 2018 11:25 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: PBWLE09IMW2
Misc Info:
Vial Number: 3108
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 17 2018 05:07 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0039	0.0008	ppb	172.51	100.	
11 B	4.9425	0.9885	ppb	4.64	1000.	
23 Na	43.12	8.624	ppb	3.25	200000.	
25 Mg	12.075	2.415	ppb	6.22	200000.	
27 Al	8.16	1.632	ppb	5.08	200000.	
28 Si	102.	20.4	ppb	2.90	#VALUE!	
29 Si	79.8	15.96	ppb	33.71	10000.	
39 K	31.005	6.201	ppb	34.58	200000.	
43 Ca	-7.68	-1.536	ppb	107.16	#VALUE!	
44 Ca	7.715	1.543	ppb	128.32	200000.	
51 V	0.2425	0.0485	ppb	209.12	1000.	
52 Cr	1.0485	0.2097	ppb	8.88	2000.	
53 Cr	18.79	3.758	ppb	13.89	#VALUE!	
55 Mn	0.4876	0.0975	ppb	8.09	2000.	
56 Fe	44.7	8.94	ppb	19.68	#VALUE!	
57 Fe	17.175	3.435	ppb	34.32	100000.	
59 Co	0.0221	0.0044	ppb	56.12	1000.	
60 Ni	0.2486	0.0497	ppb	16.12	1000.	
63 Cu	0.2648	0.053	ppb	38.70	#VALUE!	
65 Cu	0.1364	0.0273	ppb	31.89	2000.	
66 Zn	0.2601	0.052	ppb	65.74	2000.	
68 Zn	0.7485	0.1497	ppb	12.14	#VALUE!	
75 As	0.1603	0.0321	ppb	428.88	1000.	
82 Se	0.6545	0.1309	ppb	149.20	1000.	
88 Sr	0.0381	0.0076	ppb	41.36	2000.	
89 Y	----	--------	---	---	#VALUE!	
98 Mo	0.0178	0.0036	ppb	72.73	1000.	
107 Ag	0.0023	0.0005	ppb	314.25	100.	
109 Ag	-0.0021	-0.0004	ppb	312.71	#VALUE!	
111 Cd	0.3032	0.0606	ppb	101.83	#VALUE!	
114 Cd	-0.0067	-0.0013	ppb	538.09	1000.	
115 In	----	--------	---	---	#VALUE!	
118 Sn	1.0455	0.2091	ppb	2.40	1000.	
120 Sn	0.947	0.1894	ppb	6.11	#VALUE!	
121 Sb	0.0143	0.0029	ppb	157.75	#VALUE!	
123 Sb	0.0421	0.0084	ppb	14.70	1000.	
135 Ba	0.0125	0.0025	ppb	599.20	2000.	
137 Ba	0.0413	0.0083	ppb	128.63	#VALUE!	
182 W	0.0097	0.0019	ppb	191.88	1000.	
203 Tl	-0.0323	-0.0065	ppb	94.95	1000.	
205 Tl	-0.028	-0.0056	ppb	73.99	#VALUE!	
208 Pb	-0.1661	-0.0332	ppb	61.86	2000.	
232 Th	0.0238	0.0048	ppb	22.95	1000.	
238 U	0.0027	0.0005	ppb	108.01	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2422475.50	1.08	2900107.00	83.5	69.5 - 120	
45 Sc	1901197.00	1.11	2161269.30	88.0	69.5 - 120	
72 Ge	406890.66	0.92	459106.19	88.6	69.5 - 120	
159 Tb	3279740.00	1.45	3415757.80	96.0	69.5 - 120	
209 Bi	1668028.30	1.68	1757454.40	94.9	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE17B.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000353

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE17B.B\110SMPL.D\110SMPL.D#
Date Acquired: May 17 2018 11:29 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: LCSWLE09IMW2
Misc Info:
Vial Number: 3109
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 17 2018 05:07 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	48.905	9.781	ppb	1.94	100.	
11 B	494.05	98.81	ppb	3.37	1000.	
23 Na	8,005.	1,601.	ppb	2.42	200000.	
25 Mg	5,300.	1,060.	ppb	3.14	200000.	
27 Al	2,230.5	446.1	ppb	2.31	200000.	
28 Si	1,292.5	258.5	ppb	2.83	#VALUE!	
29 Si	1,070.5	214.1	ppb	4.17	10000.	
39 K	10,390.	2,078.	ppb	3.87	200000.	
43 Ca	3,018.	603.6	ppb	3.27	#VALUE!	
44 Ca	2,582.	516.4	ppb	3.93	200000.	
51 V	512.	102.4	ppb	1.07	1000.	
52 Cr	203.25	40.65	ppb	1.03	2000.	
53 Cr	241.15	48.23	ppb	1.67	#VALUE!	
55 Mn	519.	103.8	ppb	1.15	2000.	
56 Fe	1,065.5	213.1	ppb	2.27	#VALUE!	
57 Fe	1,051.	210.2	ppb	2.30	100000.	
59 Co	521.	104.2	ppb	1.83	1000.	
60 Ni	517.5	103.5	ppb	1.83	1000.	
63 Cu	256.05	51.21	ppb	2.02	#VALUE!	
65 Cu	255.4	51.08	ppb	2.34	2000.	
66 Zn	502.5	100.5	ppb	1.95	2000.	
68 Zn	564.	112.8	ppb	1.35	#VALUE!	
75 As	103.45	20.69	ppb	2.41	1000.	
82 Se	102.85	20.57	ppb	2.87	1000.	
88 Sr	519.5	103.9	ppb	1.20	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	103.	20.6	ppb	1.83	1000.	
107 Ag	52.95	10.59	ppb	1.63	100.	
109 Ag	53.05	10.61	ppb	1.62	#VALUE!	
111 Cd	265.1	53.02	ppb	1.36	#VALUE!	
114 Cd	263.85	52.77	ppb	1.57	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	501.	100.2	ppb	2.61	1000.	
120 Sn	497.9	99.58	ppb	2.58	#VALUE!	
121 Sb	102.	20.4	ppb	2.02	#VALUE!	
123 Sb	101.95	20.39	ppb	3.39	1000.	
135 Ba	2,053.5	410.7	ppb	2.58	2000.	
137 Ba	2,071.	414.2	ppb	2.56	#VALUE!	
182 W	104.65	20.93	ppb	1.41	1000.	
203 Tl	106.	21.2	ppb	1.82	1000.	
205 Tl	105.45	21.09	ppb	2.31	#VALUE!	
208 Pb	105.3	21.06	ppb	2.33	2000.	
232 Th	102.4	20.48	ppb	2.40	1000.	
238 U	103.15	20.63	ppb	2.13	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2555481.00	2.64	2900107.00	88.1	69.5 - 120	
45 Sc	1903381.30	2.24	2161269.30	88.1	69.5 - 120	
72 Ge	404355.25	1.36	459106.19	88.1	69.5 - 120	
159 Tb	3330410.80	2.01	3415757.80	97.5	69.5 - 120	
209 Bi	1680549.60	1.97	1757454.40	95.6	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE17B.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000354

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE17B.B\111SMPL.D\111SMPL.D#
Date Acquired: May 17 2018 11:33 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL3448-003
Misc Info:
Vial Number: 3110
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 17 2018 05:07 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0337	0.0067	ppb	31.53	100.	
11 B	31.43	6.286	ppb	12.14	1000.	
23 Na	2,252.5	450.5	ppb	1.58	200000.	
25 Mg	25,560.	5,112.	ppb	1.69	200000.	
27 Al	1,198.	239.6	ppb	2.23	200000.	
28 Si	4,797.5	959.5	ppb	3.68	#VALUE!	
29 Si	4,741.5	948.3	ppb	4.29	10000.	
39 K	964.	192.8	ppb	1.76	200000.	
43 Ca	54,300.	10,860.	ppb	2.95	#VALUE!	
44 Ca	53,700.	10,740.	ppb	1.39	200000.	
51 V	1.3135	0.2627	ppb	70.77	1000.	
52 Cr	1.499	0.2998	ppb	15.59	2000.	
53 Cr	20.93	4.186	ppb	18.81	#VALUE!	
55 Mn	151.55	30.31	ppb	0.38	2000.	
56 Fe	852.5	170.5	ppb	1.85	#VALUE!	
57 Fe	922.5	184.5	ppb	3.08	100000.	
59 Co	0.5085	0.1017	ppb	16.99	1000.	
60 Ni	0.728	0.1456	ppb	6.98	1000.	
63 Cu	1.588	0.3176	ppb	2.97	#VALUE!	
65 Cu	1.437	0.2874	ppb	4.02	2000.	
66 Zn	3.3855	0.6771	ppb	13.75	2000.	
68 Zn	4.6025	0.9205	ppb	12.15	#VALUE!	
75 As	0.7475	0.1495	ppb	171.97	1000.	
82 Se	1.5015	0.3003	ppb	59.87	1000.	
88 Sr	61.1	12.22	ppb	1.12	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	0.204	0.0408	ppb	18.07	1000.	
107 Ag	0.0117	0.0023	ppb	77.64	100.	
109 Ag	0.0168	0.0034	ppb	90.41	#VALUE!	
111 Cd	0.1123	0.0225	ppb	75.60	#VALUE!	
114 Cd	0.0428	0.0086	ppb	75.69	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	1.3735	0.2747	ppb	10.78	1000.	
120 Sn	1.4085	0.2817	ppb	9.43	#VALUE!	
121 Sb	0.0973	0.0195	ppb	37.98	#VALUE!	
123 Sb	0.1354	0.0271	ppb	7.05	1000.	
135 Ba	29.775	5.955	ppb	3.30	2000.	
137 Ba	29.4	5.88	ppb	1.45	#VALUE!	
182 W	0.1226	0.0245	ppb	22.38	1000.	
203 Tl	-0.0206	-0.0041	ppb	231.75	1000.	
205 Tl	0.0132	0.0026	ppb	215.92	#VALUE!	
208 Pb	0.4805	0.0961	ppb	13.93	2000.	
232 Th	0.916	0.1832	ppb	15.27	1000.	
238 U	0.4142	0.0828	ppb	8.02	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2453116.00	0.89	2900107.00	84.6	69.5 - 120	
45 Sc	1902047.50	1.75	2161269.30	88.0	69.5 - 120	
72 Ge	412264.47	0.47	459106.19	89.8	69.5 - 120	
159 Tb	3378397.80	0.59	3415757.80	98.9	69.5 - 120	
209 Bi	1686391.50	1.31	1757454.40	96.0	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE17B.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000355

CCV QC Report

Data File: C:\ICPCHEM\1\DATA\JLE17B.B\112_CCV.D\112_CCV.D#
Date Acquired: May 17 2018 11:37 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: CCV
Misc Info:
Vial Number: 1306
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 17 2018 05:07 pm
Dilution Factor: 1.00
QC Range (%): 89.5 - 110.5

QC Elements

Element	Conc.		RSD(%)	Expected	Rec (%)	Flag
9 Be	25.26	ppb	1.91	25	101.04	
11 B	25.93	ppb	6.85	25	103.72	
23 Na	5,003.	ppb	1.76	5,000	100.06	
25 Mg	5,151.	ppb	1.13	5,000	103.02	
27 Al	517.3	ppb	1.54	500	103.46	
28 Si	533.5	ppb	1.60	500	106.7	
29 Si	498.6	ppb	1.54	500	99.72	
39 K	5,064.	ppb	1.51	5,000	101.28	
43 Ca	4,900.	ppb	0.56	5,000	98	
44 Ca	5,057.	ppb	1.46	5,000	101.14	
51 V	24.73	ppb	1.33	25	98.92	
52 Cr	24.86	ppb	1.85	25	99.44	
53 Cr	23.59	ppb	1.63	25	94.36	
55 Mn	25.24	ppb	0.74	25	100.96	
56 Fe	4,976.	ppb	1.92	5,000	99.52	
57 Fe	5,008.	ppb	1.47	5,000	100.16	
59 Co	24.93	ppb	0.55	25	99.72	
60 Ni	24.63	ppb	0.88	25	98.52	
63 Cu	25.14	ppb	0.55	25	100.56	
65 Cu	24.86	ppb	0.37	25	99.44	
66 Zn	25.22	ppb	1.41	25	100.88	
68 Zn	25.23	ppb	1.13	25	100.92	
75 As	25.2	ppb	1.81	25	100.8	
82 Se	25.2	ppb	2.08	25	100.8	
88 Sr	24.78	ppb	0.59	25	99.12	
89 Y	--------	---	--------	---	#VALUE!	
98 Mo	24.9	ppb	1.34	25	99.6	
107 Ag	25.6	ppb	0.71	25	102.4	
109 Ag	25.33	ppb	0.72	25	101.32	
111 Cd	25.76	ppb	0.95	25	103.04	
114 Cd	25.55	ppb	0.97	25	102.2	
115 In	--------	---	--------	---	#VALUE!	
118 Sn	24.28	ppb	1.01	25	97.12	
120 Sn	24.09	ppb	1.25	25	96.36	
121 Sb	24.47	ppb	0.48	25	97.88	
123 Sb	24.71	ppb	0.30	25	98.84	
135 Ba	24.71	ppb	0.89	25	98.84	
137 Ba	24.65	ppb	1.00	25	98.6	
182 W	24.8	ppb	0.23	25	99.2	
203 Tl	25.	ppb	0.80	25	100	
205 Tl	25.	ppb	0.68	25	100	
208 Pb	24.85	ppb	0.65	25	99.4	
232 Th	24.63	ppb	1.91	25	98.52	
238 U	24.79	ppb	0.99	25	99.16	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2486431.80	2.31	2900107.00	85.7	80 - 120.4	
45 Sc	1961805.40	1.61	2161269.30	90.8	80 - 120.4	
72 Ge	406275.97	1.16	459106.19	88.5	80 - 120.4	
159 Tb	3347679.00	0.78	3415757.80	98.0	80 - 120.4	
209 Bi	1689407.30	1.01	1757454.40	96.1	80 - 120.4	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE17B.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\JLE17B.B\113_CCB.D\113_CCB.D#
Date Acquired: May 17 2018 11:42 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: CCB
Misc Info:
Vial Number: 1307
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 17 2018 05:07 pm
Sample Type: 6-CCB
Dilution Factor: 1.00

QC Elements

Element	Conc.		RSD(%)	High Limit	Flag
9 Be	0.004	ppb	37.38	1.00	
11 B	1.801	ppb	16.14	1.00	
23 Na	3.019	ppb	3.88	1.00	
25 Mg	0.0827	ppb	158.49	1.00	
27 Al	0.0269	ppb	148.01	1.00	
28 Si	12.68	ppb	52.29	1.00	
29 Si	5.723	ppb	116.65	1.00	
39 K	5.07	ppb	48.44	1.00	
43 Ca	3.051	ppb	172.47	1.00	
44 Ca	-2.076	ppb	15.95	1.00	
51 V	-0.0324	ppb	33.24	1.00	
52 Cr	-0.0528	ppb	21.19	1.00	
53 Cr	-3.856	ppb	2.34	1.00	
55 Mn	0.0236	ppb	20.33	1.00	
56 Fe	-5.144	ppb	35.83	1.00	
57 Fe	2.226	ppb	106.96	1.00	
59 Co	0.0104	ppb	71.57	1.00	
60 Ni	-0.0169	ppb	14.12	1.00	
63 Cu	-0.0151	ppb	89.30	1.00	
65 Cu	-0.0199	ppb	39.22	1.00	
66 Zn	-0.0095	ppb	644.92	1.00	
68 Zn	-0.0036	ppb	2851.60	1.00	
75 As	-0.0442	ppb	165.14	1.00	
82 Se	0.3248	ppb	30.54	1.00	
88 Sr	0.0014	ppb	183.72	1.00	
89 Y	--------	---	--------	---	
98 Mo	0.0224	ppb	53.87	1.00	
107 Ag	0.001	ppb	151.28	1.00	
109 Ag	0.0042	ppb	16.72	1.00	
111 Cd	0.003	ppb	950.65	1.00	
114 Cd	0.0012	ppb	323.43	1.00	
115 In	--------	---	--------	---	
118 Sn	0.0368	ppb	44.88	1.00	
120 Sn	0.0171	ppb	30.26	1.00	
121 Sb	0.0108	ppb	42.65	1.00	
123 Sb	0.0136	ppb	18.36	1.00	
135 Ba	0.0026	ppb	172.28	1.00	
137 Ba	-0.0006	ppb	919.64	1.00	
182 W	0.0467	ppb	33.78	1.00	
203 Tl	0.0019	ppb	201.73	1.00	
205 Tl	0.0014	ppb	297.94	1.00	
208 Pb	0.0152	ppb	97.96	1.00	
232 Th	0.0704	ppb	11.37	1.00	
238 U	0.0026	ppb	14.00	1.00	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2545093.50	1.32	2900107.00	87.8	79.5 - 120	
45 Sc	1926110.80	1.37	2161269.30	89.1	79.5 - 120	
72 Ge	405201.00	1.07	459106.19	88.3	79.5 - 120	
159 Tb	3258878.00	0.64	3415757.80	95.4	79.5 - 120	
209 Bi	1672172.40	0.02	1757454.40	95.1	79.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE17B.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000357

Logbooks and Supporting Documents

Katahdin Analytical Services, Inc.

Metals Preparation Benchsheet

Reagent Information:

HNO3: MS2201 **HCL:** MS2196

Method: 3010-MS

REVIEWED
JSS-11-18
KATAHDIN ANALYTICAL
METALS SECTION

Pipet **LCS/Spiking Information:**

M11 **CLPP-SPK-1 (ID/Vol):** MS2124 / 0.05 mL
M15 **CLPP-SPK-INT1 (ID/Vol):** MW1722 3/0.5 mL
M15 **CLPP-SPK-INT2 (ID/Vol):** MW1724/0.5 mL
____ _____ **Spike (ID/Vol):** NA / _____ mL

Heat Source ID : D
Start Time: 0833 **Temp.** 95 °C
End Time: 1558 **Temp.** 93 °C
Thermometer ID/Pos: ALC11 / 3.8

Sample ID	Batch ID	Initial Wt/Vol	Initial Units	Final Vol	Final Units	MX	Meth	Anal.	Date	Bottle
LCSWLE10IMW2	LE10IMW2	0.05	L	0.05	L	AQ	IM	AMJ	05/10/2018	
PBWLE10IMW2	LE10IMW2		L		L	AQ	IM	AMJ	05/10/2018	
SL3952-013	LE10IMW2		L		L	AQ	IM	AMJ	05/10/2018	DA
SL3952-016	LE10IMW2		L		L	AQ	IM	AMJ	05/10/2018	AD
SL3952-017	LE10IMW2		L		L	AQ	IM	AMJ	05/10/2018	DA
SL3952-018	LE10IMW2		L		L	AQ	IM	AMJ	05/10/2018	AD
SL3952-019	LE10IMW2		L		L	AQ	IM	AMJ	05/10/2018	DA
SL3952-020	LE10IMW2		L		L	AQ	IM	AMJ	05/10/2018	AD
SL3952-021	LE10IMW2		L		L	AQ	IM	AMJ	05/10/2018	DA
SL3952-022	LE10IMW2		L		L	AQ	IM	AMJ	05/10/2018	AD
SL3952-023	LE10IMW2		L		L	AQ	IM	AMJ	05/10/2018	DA
SL3952-024	LE10IMW2		L		L	AQ	IM	AMJ	05/10/2018	AD
SL3993-001	LE10IMW2		L		L	AQ	IM	AMJ	05/10/2018	D
~~SL3993-001P~~	~~LE10IMW2~~		L		L	AQ	IM	AMJ	05/10/2018	A
~~SL3993-001S~~	~~LE10IMW2~~		L		L	AQ	IM	AMJ	05/10/2018	
SL3993-002	LE10IMW2		L		L	AQ	IM	AMJ	05/10/2018	
SL3995-015	LE10IMW2		L		L	AQ	IM	AMJ	05/10/2018	

AMJ 5/10/18

AMJ 5/10/18

JSS 11.18

QA-064-Revision 3 - 06/15/2017 **Digestion performed by:** AMJ **On:** 5/10/18 **Page:** LE073 **Revision:** 00

Katahdin Analytical Services, Inc. **Metals Preparation Benchsheet**

Reagent Information:

Aqua Regia: MR7014 Boiling Stones: MSR90 Method: 7471

KMNO4: MS2003 NH2OH-HCl: MS2011

Standards/Spiking Information:

1ppm A : MW17721

Pipet 1ppm B : MW17722

M15 LCSO = 500uL of 1ppm A to 100mL

M11 Spike(S/P) = 100uL of 1ppm A to 100mL

M15 ICV = 600uL of 1ppm B to 100 mL

M15 S10.0 = 1000uL of 1ppm A to 100 mL

Balance ID: Bal15 LCSS: NA

Heat Source ID : B

Start Time: 11:22 /Temp. 93 °C

End Time: 11:52 /Temp. 92 °C

Thermometer ID/Pos: AIC25 /6.1

REVIEWED
MD 5/14/18
KATAHDIN ANALYTICAL
METALS SECTION

Sample ID	Batch ID	Initial Wt/Vol	Initial Units	Final Vol	Final Units	MX	Meth	Anal.	Date	Bottle
LC2OLE11HGS1	LE11HGS1	0.6	g	0.1	L	SL	HG	AMJ	05/11/2018	N/A
LCSOLE11HGS1	LE11HGS1	0.6	g		L	SL	HG	AMJ	05/11/2018	
PBSLE11HGS1	LE11HGS1	0.6	g		L	SL	HG	AMJ	05/11/2018	
SL3995-001	LE11HGS1	0.76	g		L	SL	HG	AMJ	05/11/2018	E
SL3995-002	LE11HGS1	0.62	g		L	SL	HG	AMJ	05/11/2018	
SL3995-003	LE11HGS1	0.71	g		L	SL	HG	AMJ	05/11/2018	
SL3995-004	LE11HGS1	0.68	g		L	SL	HG	AMJ	05/11/2018	
SL3995-005	LE11HGS1	0.75	g		L	SL	HG	AMJ	05/11/2018	N
SL3995-005P	LE11HGS1	0.76	g		L	SL	HG	AMJ	05/11/2018	N
SL3995-005S	LE11HGS1	0.76	g		L	SL	HG	AMJ	05/11/2018	N
SL3995-006	LE11HGS1	0.67	g		L	SL	HG	AMJ	05/11/2018	E
SL3995-007	LE11HGS1	0.81	g		L	SL	HG	AMJ	05/11/2018	
SL3995-008	LE11HGS1	0.76	g		L	SL	HG	AMJ	05/11/2018	
SL3995-009	LE11HGS1	0.61	g		L	SL	HG	AMJ	05/11/2018	
SL3995-010	LE11HGS1	0.69	g		L	SL	HG	AMJ	05/11/2018	
SL3995-011	LE11HGS1	0.79	g		L	SL	HG	AMJ	05/11/2018	
SL3995-012	LE11HGS1	0.71	g		L	SL	HG	AMJ	05/11/2018	
SL3995-013	LE11HGS1	0.65	g		L	SL	HG	AMJ	05/11/2018	
SL3995-014	LE11HGS1	0.81	g		L	SL	HG	AMJ	05/11/2018	
SL4090-001	LE11HGS1	0.74	g		L	SL	HG	AMJ	05/11/2018	
SL4091-001	LE11HGS1	0.73	g		L	SL	HG	AMJ	05/11/2018	A
SL4092-001	LE11HGS1	0.69	g		L	SL	HG	AMJ	05/11/2018	
SL4092-002	LE11HGS1	0.67	g		L	SL	HG	AMJ	05/11/2018	
SL4092-003	LE11HGS1	0.63	g		L	SL	HG	AMJ	05/11/2018	

MD 5/14/18

QA-067-Revision 2 - 05/10/2017 Digestion performed by: AMJ On: 5/11/18 Page: LE083 Revision: 00

Katahdin Analytical Services, Inc. **Metals Preparation Benchsheet**

Reagent Information: **Method:** 7470

HNO3: MSR101 H2SO4: MSR243

KMNO4: MS2003 K2S2O8: ~~MB~~ MIL1963 NH2OH-HCl: MR2011

JS for AMJ 5.14.18

REVIEWED JSS.14.18 KATAHDIN ANALYTICAL METALS SECTION

Standards/Spiking Information:

1ppm A : MW17721

1ppm B : MW17723

Pipet
M11 LCSW = 125uL of 1ppm A to 25mL
M11 Spike(S/P) = 25uL of 1ppm A to 25mL
M15 ICV = 600uL of 1ppm B to 100 mL
M15 S10.0 = 1000uL of 1ppm A to 100 mL

Heat Source ID : B

Start Time: 0848 /Temp. 92 °C

End Time: 10:48 /Temp. 93 °C

Thermometer ID/Pos: AIC25/61

*Spiking info: QAM185 pg. 60 | *Spiking info: QAM185 page: 61

Sample ID	Batch ID	Initial Wt/Vol	Initial Units	Final Vol	Final Units	MX	Meth	Anal.	Date	Bottle
LCSWLE11HGW1	LE11HGW1	0.025	L	0.025	L	AQ	HG	AMJ	05/11/2018	
PBT1452A	LE11HGW1		L		L	AQ	HG	AMJ	05/11/2018	A
PBT1453A	LE11HGW1		L		L	AQ	HG	AMJ	05/11/2018	A
PBWLE11HGW1	LE11HGW1		L		L	AQ	HG	AMJ	05/11/2018	
SL3912-001	LE11HGW1		L		L	AQ	HG	AMJ	05/11/2018	A
SL3918-001	LE11HGW1		L		L	AQ	HG	AMJ	05/11/2018	A
SL3918-001P*	LE11HGW1		L		L	AQ	HG	AMJ	05/11/2018	A
SL3918-001S*	LE11HGW1		L		L	AQ	HG	AMJ	05/11/2018	A
SL3920-002	LE11HGW1	0.025	L		L	AQ	HG	AMJ	05/11/2018	A
SL3920-003	LE11HGW1	0.025	L		L	AQ	HG	AMJ	05/11/2018	A
SL3920-004	LE11HGW1	0.025	L		L	AQ	HG	AMJ	05/11/2018	A
SL3952-020	LE11HGW1	0.025	L		L	AQ	HG	AMJ	05/11/2018	D
SL3952-021	LE11HGW1		L		L	AQ	HG	AMJ	05/11/2018	A
SL3952-022	LE11HGW1		L		L	AQ	HG	AMJ	05/11/2018	D
SL3952-023	LE11HGW1		L		L	AQ	HG	AMJ	05/11/2018	A
SL3952-024	LE11HGW1		L		L	AQ	HG	AMJ	05/11/2018	D
SL3963-001	LE11HGW1		L		L	AQ	HG	AMJ	05/11/2018	A
SL3964-001	LE11HGW1		L		L	AQ	HG	AMJ	05/11/2018	B
SL3995-015	LE11HGW1		L		L	AQ	HG	AMJ	05/11/2018	A
SL4008-001	LE11HGW1		L		L	AQ	HG	AMJ	05/11/2018	A
SL4019-001	LE11HGW1		L		L	AQ	HG	AMJ	05/11/2018	
SL4019-001P*	LE11HGW1		L		L	AQ	HG	AMJ	05/11/2018	
SL4019-001S*	LE11HGW1		L		L	AQ	HG	AMJ	05/11/2018	
SL4019-002	LE11HGW1		L		L	AQ	HG	AMJ	05/11/2018	

SL3920-2, SL3920-3, SL3920-4 + Batch QC received additional 20mL of KMNO4.
AMJ 5/11/18

QA-066-Revision 3 - 06/01/2017 **Digestion performed by:** AMS **On:** 5/11/18 **Page:** LE078 **Revision:** 00

Katahdin Analytical Services, Inc. **Metals Preparation Benchsheet** **Method:** 3050H-MS

Reagent Information:

HNO3: MSR101 HCL: MSR96 H2O2: MSR85 Filter Paper: 14 26300 58

Boiling Stones: MSR90

5/11/18 AMS

Pipet	LCS	Spike
M11	☒	☑
M15	☑	☒
M15	☑	☒
___	☐	☐

LCS/Spiking Information:

CLPP-SPK-1 (ID/Vol): MS2124 / 0.1 mL

CLPP-SPK-INT1 (ID/Vol): MW1723 / 1.0 mL

CLPP-SPK-INT2 (ID/Vol): MW1724 / 1.0 mL

Spike (ID/Vol): NA / ___ mL

LCSS: NA Balance ID: Bal 15

Heat Source ID: D

Start Time: 0941 /Temp. 94 °C

End Time: 16:02 /Temp. 91 °C

Thermometer ID/Pos: AlCl1 / 1.1

REVIEWED

JS 5.14.18

KATAHDIN ANALYTICAL METALS SECTION

Sample ID	Batch ID	Initial Wt/Vol	Initial Units	Final Vol	Final Units	MX	Meth	Anal.	Date	Bottle
LCSOLE11IMS1	LE11IMS1	1.0	g	0.1	L	SL	IM	AMJ	05/11/2018	
PBSLE11IMS1	LE11IMS1	1.0	g		L	SL	IM	AMJ	05/11/2018	
SL3952-001	LE11IMS1	1.57	g		L	SL	IM	AMJ	05/11/2018	E
SL3952-002	LE11IMS1	1.65	g		L	SL	IM	AMJ	05/11/2018	
SL3952-003	LE11IMS1	1.64	g		L	SL	IM	AMJ	05/11/2018	
SL3952-004	LE11IMS1	1.44	g		L	SL	IM	AMJ	05/11/2018	
SL3952-005	LE11IMS1	1.47	g		L	SL	IM	AMJ	05/11/2018	N
SL3952-005P	LE11IMS1	1.48	g		L	SL	IM	AMJ	05/11/2018	N
SL3952-005S	LE11IMS1	1.50	g		L	SL	IM	AMJ	05/11/2018	N
SL3952-006	LE11IMS1	1.01	g		L	SL	IM	AMJ	05/11/2018	E
SL3952-007	LE11IMS1	1.14	g		L	SL	IM	AMJ	05/11/2018	
SL3952-008	LE11IMS1	1.09	g		L	SL	IM	AMJ	05/11/2018	
SL3952-009	LE11IMS1	1.48	g		L	SL	IM	AMJ	05/11/2018	
SL3952-010	LE11IMS1	1.70	g		L	SL	IM	AMJ	05/11/2018	
SL3952-011	LE11IMS1	1.02	g		L	SL	IM	AMJ	05/11/2018	
SL3952-012	LE11IMS1	1.72	g		L	SL	IM	AMJ	05/11/2018	
SL3952-013	LE11IMS1	1.42	g		L	SL	IM	AMJ	05/11/2018	
SL3952-014	LE11IMS1	1.32	g		L	SL	IM	AMJ	05/11/2018	

AMJ 5/14/18

Digestion performed by: AMJ On: 5/11/18

Katahdin Analytical Services 4000362

CONVENTIONAL AND PHYSICAL ANALYTICAL DATA

QC Summary Section

Quality Control Report

Blank Sample Summary Report

Chromium, Hexavalent

Samp Type	QC Batch	Anal. Method	Anal. Date	Prep. Date	Result	PQL	LOD
MBLANK	WG228391	SW846 7196A	15-MAY-18	14-MAY-18	J 0.26 mg/Kgdrywt	0.48 mg/Kgdrywt	0.29
MBLANK	WG228768	SW846 7196A	18-MAY-18	17-MAY-18	J 0.32 mg/Kgdrywt	0.48 mg/Kgdrywt	0.29

Total Solids

Samp Type	QC Batch	Anal. Method	Anal. Date	Prep. Date	Result	PQL	LOD
MBLANK	WG228109	SW3540C	14-MAY-18	11-MAY-18	100 %	1 %	N/A

Quality Control Report

Laboratory Control Sample Summary Report

Chromium, Hexavalent

Lab Sample Id	Samp Type	QC Batch	Analysis Date	Prep Date	Units	Spike Amt.	Result	Recovery	Acceptance Range	RPD
WG228391-2	LCS	WG228391	15-MAY-18	14-MAY-18	mg/Kgdrywt	40	36.	90	80-120	
WG228768-2	LCS	WG228768	18-MAY-18	17-MAY-18	mg/Kgdrywt	40	38.	94	80-120	

Total Solids

Lab Sample Id	Samp Type	QC Batch	Analysis Date	Prep Date	Units	Spike Amt.	Result	Recovery	Acceptance Range	RPD
WG228109-2	LCS	WG228109	14-MAY-18	11-MAY-18	%	90	90.	100	90-110	

Quality Control Report

Duplicate Sample Summary Report

Total Solids

Duplicate Sample ID	Original Sample ID	QC Batch	Analysis Date	Result Units	Sample Result	Duplicate Result	RPD(%)	RPD Limit
WG228109-3	SL3995-5	WG228109	14-MAY-18	%	83.	83.	1	20

Quality Control Report

Matrix Spike Sample Summary Report

Chromium, Hexavalent

Matrix Spike Sample ID	Sample Type	Original Sample ID	QC Batch	Analysis Date	Result Units	Spike Amount	Sample Result	MS Result	Recovery (%)	Recovery Limit
WG228768-3	MS	SL3995-5	WG228768	18-MAY-18	mg/Kgdrywt	1442.03	U 0.33	990	68*	75 - 125
WG228768-4	MS	SL3995-5	WG228768	18-MAY-18	mg/Kgdrywt	49.89	U 0.33	21.	42*	75 - 125

Sample Data Section

KATAHDIN ANALYTICAL SERVICES – INORGANIC DATA QUALIFIERS

The sampled date indicated on the attached Report(s) of Analysis (ROA) is the date for which a grab sample was collected or the date for which a composite sample was completed. Beginning and start times for composite samples can be found on the Chain-of-Custody.

U Indicates the compound was analyzed for but not detected above the specified level. This level may be the Practical Quantitation Level (PQL) (also called Limit of Quantitation (LOQ)), the Limit of Detection (LOD) or Method Detection Limit (MDL) as required by the client.

Note: All results reported as "U" MDL have a 50% rate for false negatives compared to those results reported as "U" PQL "U" LOQ or "U" LOD, where the rate of false negatives is <1%.

E Estimated value. This flag identifies compounds whose concentrations exceed the upper level of the calibration range of the instrument for that specific analysis.

J Estimated value. The analyte was detected in the sample at a concentration less than the laboratory Practical Quantitation Level (PQL) (also called Limit of Quantitation (LOQ)), but above the Method Detection Limit (MDL).

I-7 The laboratory's Practical Quantitation Level (PQL) or LOQ could not be achieved for this parameter due to sample composition, matrix effects, sample volume, or quantity used for analysis.

A-4 Please refer to cover letter or narrative for further information.

H_ Please note that the regulatory holding time for _____ is "analyze immediately". Ideally, this analysis must be performed in the field at the time of sample collection. _____ for this sample was not performed at the time of sample collection. The analysis was performed as soon as possible after receipt by the laboratory.

H1 - pH H2 - DO H3 - sulfite H4 - residual chlorine

T1 The client did not provide the full volume of at least one liter for analysis of TSS. Therefore, the PQL of 2.5 mg/L could not be achieved.

T2 The client provided the required volume of at least one liter for analysis of TSS, but the laboratory could not filter the full one liter volume due to the sample matrix. Therefore, the PQL of 2.5 mg/L could not be achieved.

M1 The matrix spike and/or matrix spike duplicate recovery performed on this sample was outside of the laboratory acceptance criteria. Sample matrix is suspected. The laboratory criteria was met for the Laboratory Control Sample (LCS) analyzed concurrently with this sample.

M2 The matrix spike and/or matrix spike duplicate recovery was outside of the laboratory acceptance criteria. The native sample concentration is greater than four times the spike added concentration so the spike added could not be distinguished from the native sample concentration.

R1 The relative percent difference (RPD) between the duplicate analyses performed on this sample was outside of the laboratory acceptance criteria (when both values are greater than ten times the PQL).

MCL	Maximum Contaminant Level	NL	No limit
NFL	No Free Liquid Present	FLP	Free Liquid Present
NOD	No Odor Detected	TON	Threshold Odor Number

D-1 As required by Method 5210B, APHA Standard Methods for the Examination of Water and Wastewater (21st edition), the BOD value reported for this sample is 'qualified' because the check standard run concurrently with the sample analysis did not meet the criteria specified in the method (198 +/- 30.5 mg/L). These results may not be reportable for compliance purposes.

D-2 The measured final dissolved oxygen concentrations of all dilutions were less than the method-specified limit of 1 mg/L. The reported BOD result was calculated assuming a final oxygen concentration equal to 1 mg/L. The reported value should be considered a minimum value.

D-3 The dilution water used to prepare this sample did not meet the method and/or regulatory criteria of less than 0.2 or 0.4 mg/L dissolved oxygen (DO) uptake over the five day period of incubation. These results may not be reportable for compliance purposes.

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: David Nelson
ATI, Inc.
9220 Rumsey Road
Columbia,MD 21045

Lab Sample ID: SL3995-1
Report Date: 04-JUN-18
Client PO: PN:16-027
Project: Cornhusker Army Ammu
SDG: SL3995

Sample Description	Matrix	Date Sampled	Date Received
CHAAP-BKRD-SS01	SL	08-MAY-18 13:10:00	09-MAY-18

Parameter	Result	Adj LOQ	Adj MDL	Adj LOD	Anal. Method	QC.Batch	Anal. Date	Prep. Method	Prep. Date	Footnotes
Chromium, Hexavalent	J0.24 mg/Kgdrywt	0.57	0.17	0.34	SW846 7196A	WG228391	15-MAY-18 16:40:00	SW846 3060A	14-MAY-18	
Total Solids	85. %	1		N/A	SW3540C	WG228109	14-MAY-18 08:38:44	SW3540C	11-MAY-18	

Katahdin Analytical Services 5000009

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: David Nelson
ATI, Inc.
9220 Rumsey Road
Columbia,MD 21045

Lab Sample ID: SL3995-2
Report Date: 04-JUN-18
Client PO: PN:16-027
Project: Cornhusker Army Ammu
SDG: SL3995

Sample Description	Matrix	Date Sampled	Date Received
CHAAP-BKRD-SS02	SL	08-MAY-18 13:40:00	09-MAY-18

Parameter	Result	Adj LOQ	Adj MDL	Adj LOD	Anal. Method	QC.Batch	Anal. Date	Prep. Method	Prep. Date	Footnotes
Chromium, Hexavalent	0.83 mg/Kgdrywt	0.59	0.18	0.35	SW846 7196A	WG228391	15-MAY-18 16:40:00	SW846 3060A	14-MAY-18	
Total Solids	84. %	1		N/A	SW3540C	WG228109	14-MAY-18 08:38:53	SW3540C	11-MAY-18	

Katahdin Analytical Services 5000010

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: David Nelson
ATI, Inc.
9220 Rumsey Road
Columbia,MD 21045

Lab Sample ID: SL3995-3
Report Date: 04-JUN-18
Client PO: PN:16-027
Project: Cornhusker Army Ammu
SDG: SL3995

Sample Description	Matrix	Date Sampled	Date Received
CHAAP-BKRD-SS102	SL	08-MAY-18 12:00:00	09-MAY-18

Parameter	Result	Adj LOQ	Adj MDL	Adj LOD	Anal. Method	QC.Batch	Anal. Date	Prep. Method	Prep. Date	Footnotes
Chromium, Hexavalent	0.69 mg/Kgdrywt	0.59	0.18	0.35	SW846 7196A	WG228391	15-MAY-18 16:40:00	SW846 3060A	14-MAY-18	
Total Solids	83. %	1		N/A	SW3540C	WG228109	14-MAY-18 08:39:00	SW3540C	11-MAY-18	

Katahdin Analytical Services 5000011

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: David Nelson
ATI, Inc.
9220 Rumsey Road
Columbia,MD 21045

Lab Sample ID: SL3995-4
Report Date: 04-JUN-18
Client PO: PN:16-027
Project: Cornhusker Army Ammu
SDG: SL3995

Sample Description	Matrix	Date Sampled	Date Received
CHAAP-BKRD-SS03	SL	08-MAY-18 14:05:00	09-MAY-18

Parameter	Result	Adj LOQ	Adj MDL	Adj LOD	Anal. Method	QC.Batch	Anal. Date	Prep. Method	Prep. Date	Footnotes
Chromium, Hexavalent	J0.48 mg/Kgdrywt	0.60	0.18	0.36	SW846 7196A	WG228391	15-MAY-18 16:40:00	SW846 3060A	14-MAY-18	
Total Solids	83. %	1		N/A	SW3540C	WG228109	14-MAY-18 08:39:15	SW3540C	11-MAY-18	

Katahdin Analytical Services 5000012

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: David Nelson
ATI, Inc.
9220 Rumsey Road
Columbia,MD 21045

Lab Sample ID: SL3995-5
Report Date: 04-JUN-18
Client PO: PN:16-027
Project: Cornhusker Army Ammu
SDG: SL3995

Sample Description	Matrix	Date Sampled	Date Received
CHAAP-BKRD-SS04	SL	08-MAY-18 14:25:00	09-MAY-18

Parameter	Result	Adj LOQ	Adj MDL	Adj LOD	Anal. Method	QC.Batch	Anal. Date	Prep. Method	Prep. Date	Footnotes
Chromium, Hexavalent	U0.33 mg/Kgdrywt	0.56	0.17	0.33	SW846 7196A	WG228768	18-MAY-18 17:44:00	SW846 3060A	17-MAY-18	
Total Solids	83. %	1		N/A	SW3540C	WG228109	14-MAY-18 08:39:24	SW3540C	11-MAY-18	

Katahdin Analytical Services 5000013

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: David Nelson
ATI, Inc.
9220 Rumsey Road
Columbia,MD 21045

Lab Sample ID: SL3995-6
Report Date: 04-JUN-18
Client PO: PN:16-027
Project: Cornhusker Army Ammu
SDG: SL3995

Sample Description	Matrix	Date Sampled	Date Received
CHAAP-BKRD-SS05	SL	08-MAY-18 15:00:00	09-MAY-18

Parameter	Result	Adj LOQ	Adj MDL	Adj LOD	Anal. Method	QC.Batch	Anal. Date	Prep. Method	Prep. Date	Footnotes
Chromium, Hexavalent	U0.19 mg/Kgdrywt	0.62	0.19	0.38	SW846 7196A	WG228391	15-MAY-18 16:40:00	SW846 3060A	14-MAY-18	
Total Solids	79. %	1		N/A	SW3540C	WG228109	14-MAY-18 08:39:32	SW3540C	11-MAY-18	

Katahdin Analytical Services 500014

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: David Nelson
ATI, Inc.
9220 Rumsey Road
Columbia,MD 21045

Lab Sample ID: SL3995-7
Report Date: 04-JUN-18
Client PO: PN:16-027
Project: Cornhusker Army Ammu
SDG: SL3995

Sample Description	Matrix	Date Sampled	Date Received
CHAAP-BKRD-SS06	SL	08-MAY-18 15:25:00	09-MAY-18

Parameter	Result	Adj LOQ	Adj MDL	Adj LOD	Anal. Method	QC.Batch	Anal. Date	Prep. Method	Prep. Date	Footnotes
Chromium, Hexavalent	J0.40 mg/Kgdrywt	0.59	0.18	0.35	SW846 7196A	WG228391	15-MAY-18 16:40:00	SW846 3060A	14-MAY-18	
Total Solids	79. %	1		N/A	SW3540C	WG228109	14-MAY-18 08:39:40	SW3540C	11-MAY-18	

Katahdin Analytical Services 500015

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: David Nelson
ATI, Inc.
9220 Rumsey Road
Columbia,MD 21045

Lab Sample ID: SL3995-8
Report Date: 04-JUN-18
Client PO: PN:16-027
Project: Cornhusker Army Ammu
SDG: SL3995

Sample Description	Matrix	Date Sampled	Date Received
CHAAP-BKRD-SB01	SL	08-MAY-18 13:25:00	09-MAY-18

Parameter	Result	Adj LOQ	Adj MDL	Adj LOD	Anal. Method	QC.Batch	Anal. Date	Prep. Method	Prep. Date	Footnotes
Chromium, Hexavalent	0.63 mg/Kgdrywt	0.60	0.18	0.36	SW846 7196A	WG228391	15-MAY-18 16:40:00	SW846 3060A	14-MAY-18	
Total Solids	81. %	1		N/A	SW3540C	WG228109	14-MAY-18 08:39:49	SW3540C	11-MAY-18	

Katahdin Analytical Services 5000016

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: David Nelson
ATI, Inc.
9220 Rumsey Road
Columbia,MD 21045

Lab Sample ID: SL3995-9
Report Date: 04-JUN-18
Client PO: PN:16-027
Project: Cornhusker Army Ammu
SDG: SL3995

Sample Description	Matrix	Date Sampled	Date Received
CHAAP-BKRD-SB02	SL	08-MAY-18 13:55:00	09-MAY-18

Parameter	Result	Adj LOQ	Adj MDL	Adj LOD	Anal. Method	QC.Batch	Anal. Date	Prep. Method	Prep. Date	Footnotes
Chromium, Hexavalent	J0.47 mg/Kgdrywt	0.59	0.18	0.35	SW846 7196A	WG228391	15-MAY-18 16:40:00	SW846 3060A	14-MAY-18	
Total Solids	81. %	1		N/A	SW3540C	WG228109	14-MAY-18 08:39:57	SW3540C	11-MAY-18	

Katahdin Analytical Services 500017

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: David Nelson
ATI, Inc.
9220 Rumsey Road
Columbia,MD 21045

Lab Sample ID: SL3995-10
Report Date: 04-JUN-18
Client PO: PN:16-027
Project: Cornhusker Army Ammu
SDG: SL3995

Sample Description	Matrix	Date Sampled	Date Received
CHAAP-BKRD-SB03	SL	08-MAY-18 14:20:00	09-MAY-18

Parameter	Result	Adj LOQ	Adj MDL	Adj LOD	Anal. Method	QC.Batch	Anal. Date	Prep. Method	Prep. Date	Footnotes
Chromium, Hexavalent	J0.55 mg/Kgdrywt	0.60	0.18	0.36	SW846 7196A	WG228391	15-MAY-18 16:40:00	SW846 3060A	14-MAY-18	
Total Solids	80. %	1		N/A	SW3540C	WG228109	14-MAY-18 08:40:06	SW3540C	11-MAY-18	

Katahdin Analytical Services 500018

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: David Nelson
ATI, Inc.
9220 Rumsey Road
Columbia,MD 21045

Lab Sample ID: SL3995-11
Report Date: 04-JUN-18
Client PO: PN:16-027
Project: Cornhusker Army Ammu
SDG: SL3995

Sample Description	Matrix	Date Sampled	Date Received
CHAAP-BKRD-SB04	SL	08-MAY-18 14:45:00	09-MAY-18

Parameter	Result	Adj LOQ	Adj MDL	Adj LOD	Anal. Method	QC.Batch	Anal. Date	Prep. Method	Prep. Date	Footnotes
Chromium, Hexavalent	J0.48 mg/Kgdrywt	0.60	0.18	0.36	SW846 7196A	WG228391	15-MAY-18 16:40:00	SW846 3060A	14-MAY-18	
Total Solids	81. %	1		N/A	SW3540C	WG228109	14-MAY-18 08:40:14	SW3540C	11-MAY-18	

Katahdin Analytical Services 5000019

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: David Nelson
ATI, Inc.
9220 Rumsey Road
Columbia,MD 21045

Lab Sample ID: SL3995-12
Report Date: 04-JUN-18
Client PO: PN:16-027
Project: Cornhusker Army Ammu
SDG: SL3995

Sample Description	Matrix	Date Sampled	Date Received
CHAAP-BKRD-SB05	SL	08-MAY-18 15:15:00	09-MAY-18

Parameter	Result	Adj LOQ	Adj MDL	Adj LOD	Anal. Method	QC.Batch	Anal. Date	Prep. Method	Prep. Date	Footnotes
Chromium, Hexavalent	J0.49 mg/Kgdrywt	0.61	0.18	0.36	SW846 7196A	WG228391	15-MAY-18 16:40:00	SW846 3060A	14-MAY-18	
Total Solids	82. %	1		N/A	SW3540C	WG228109	14-MAY-18 08:40:23	SW3540C	11-MAY-18	

Katahdin Analytical Services 5000020

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: David Nelson
ATI, Inc.
9220 Rumsey Road
Columbia,MD 21045

Lab Sample ID: SL3995-13
Report Date: 04-JUN-18
Client PO: PN:16-027
Project: Cornhusker Army Ammu
SDG: SL3995

Sample Description	Matrix	Date Sampled	Date Received
CHAAP-BKRD-SB105	SL	08-MAY-18 12:00:00	09-MAY-18

Parameter	Result	Adj LOQ	Adj MDL	Adj LOD	Anal. Method	QC.Batch	Anal. Date	Prep. Method	Prep. Date	Footnotes
Chromium, Hexavalent	J0.48 mg/Kgdrywt	0.60	0.18	0.36	SW846 7196A	WG228391	15-MAY-18 16:40:00	SW846 3060A	14-MAY-18	
Total Solids	80. %	1		N/A	SW3540C	WG228109	14-MAY-18 08:40:31	SW3540C	11-MAY-18	

Katahdin Analytical Services 500002

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: David Nelson
ATI, Inc.
9220 Rumsey Road
Columbia,MD 21045

Lab Sample ID: SL3995-14
Report Date: 04-JUN-18
Client PO: PN:16-027
Project: Cornhusker Army Ammu
SDG: SL3995

Sample Description	Matrix	Date Sampled	Date Received
CHAAP-BKRD-SB06	SL	08-MAY-18 15:40:00	09-MAY-18

Parameter	Result	Adj LOQ	Adj MDL	Adj LOD	Anal. Method	QC.Batch	Anal. Date	Prep. Method	Prep. Date	Footnotes
Chromium, Hexavalent	J0.57 mg/Kgdrywt	0.62	0.18	0.37	SW846 7196A	WG228768	18-MAY-18 17:44:00	SW846 3060A	17-MAY-18	
Total Solids	78. %	1		N/A	SW3540C	WG228109	14-MAY-18 08:40:40	SW3540C	11-MAY-18	

Katahdin Analytical Services 500022

Raw Data Section

WET CHEMISTRY BATCH REPORT
May 15 2018, 05:35 pm
Batch: WG228391

Parameter: Chromium, Hexavalent

Date Analyzed: 15-MAY-18

Analyst Initials: AP

Prep Date: 14-MAY-18

Prep Method: SW846 3060A

Prep Chemist: AP

Sample	Samp Type	Method	Initial Amt.	Final Amt.	Rpt. DF	Result	Rpt Result	TS(%)	PQL	MDL	Adj PQL	RPD	%Rec
SL3807-1	SAMP	SW846 7196A	20.000mL	25.000mL	1.2	.03	U0.38 mg/Kgdrywt	76.	.4	0.19	0.63		
SL3807-2	SAMP	SW846 7196A	20.000mL	25.000mL	1.2	.6	0.60 mg/Kgdrywt	82.	.4	0.17	0.57		
SL3809-14	SAMP	SW846 7196A	20.000mL	25.000mL	1.2	.45	J0.45 mg/Kgdrywt	83.	.4	0.17	0.56		
SL3809-24	SAMP	SW846 7196A	20.000mL	25.000mL	1.2	.62	0.62 mg/Kgdrywt	80.	.4	0.18	0.59		
SL3809-34	SAMP	SW846 7196A	20.000mL	25.000mL	1.2	.49	J0.49 mg/Kgdrywt	80.	.4	0.18	0.61		
SL3809-44	SAMP	SW846 7196A	20.000mL	25.000mL	1.2	.5	J0.50 mg/Kgdrywt	76.	.4	0.19	0.62		
SL3809-54	SAMP	SW846 7196A	20.000mL	25.000mL	1.2	.5	J0.50 mg/Kgdrywt	79.	.4	0.19	0.63		
SL3809-63	SAMP	SW846 7196A	20.000mL	25.000mL	1.2	.58	J0.58 mg/Kgdrywt	78.	.4	0.19	0.62		
SL3995-1	SAMP	SW846 7196A	20.000mL	25.000mL	1.2	.24	J0.24 mg/Kgdrywt	85.	.4	0.17	0.57		
SL3995-10	SAMP	SW846 7196A	20.000mL	25.000mL	1.2	.55	J0.55 mg/Kgdrywt	80.	.4	0.18	0.60		
SL3995-11	SAMP	SW846 7196A	20.000mL	25.000mL	1.2	.48	J0.48 mg/Kgdrywt	81.	.4	0.18	0.60		
SL3995-12	SAMP	SW846 7196A	20.000mL	25.000mL	1.2	.49	J0.49 mg/Kgdrywt	82.	.4	0.18	0.61		
SL3995-13	SAMP	SW846 7196A	20.000mL	25.000mL	1.2	.48	J0.48 mg/Kgdrywt	80.	.4	0.18	0.60		
SL3995-2	SAMP	SW846 7196A	20.000mL	25.000mL	1.2	.83	0.83 mg/Kgdrywt	84.	.4	0.18	0.59		
SL3995-3	SAMP	SW846 7196A	20.000mL	25.000mL	1.2	.69	0.69 mg/Kgdrywt	83.	.4	0.18	0.59		
SL3995-4	SAMP	SW846 7196A	20.000mL	25.000mL	1.2	.48	J0.48 mg/Kgdrywt	83.	.4	0.18	0.60		
SL3995-6	SAMP	SW846 7196A	20.000mL	25.000mL	1.2	.19	U0.19 mg/Kgdrywt	79.	.4	0.19	0.62		
SL3995-7	SAMP	SW846 7196A	20.000mL	25.000mL	1.2	.4	J0.40 mg/Kgdrywt	79.	.4	0.18	0.59		
SL3995-8	SAMP	SW846 7196A	20.000mL	25.000mL	1.2	.63	0.63 mg/Kgdrywt	81.	.4	0.18	0.60		
SL3995-9	SAMP	SW846 7196A	20.000mL	25.000mL	1.2	.47	J0.47 mg/Kgdrywt	81.	.4	0.18	0.59		
WG228391-1	MBLANK	SW846 7196A	20.000mL	25.000mL	1.2	.26	J0.26 mg/Kgdrywt	NA	.4	0.14	0.48		
WG228391-2	LCS	SW846 7196A	20.000mL	25.000mL	1.2	36.1	36. mg/Kgdrywt	NA	.4	0.14	0.48		90
WG228391-3	MS	SW846 7196A	1.0000mL	25.000mL	25	1195.78	1200 mg/Kgdrywt	NA	.4	3.9	13.		90
WG228391-4	MS	SW846 7196A	20.000mL	25.000mL	1.2	46.14	46. mg/Kgdrywt	NA	.4	0.18	0.61		89

Comments:

SL3809-24	MS/MSD
WG228391-1	SL3809-24
WG228391-2	SL3809-24
WG228391-3	SL3809-24
WG228391-4	SL3809-24

Entered by: AP Date: 5/15/18 Accepted by: Date: 05/16/18 ~~05/15/18~~

Katahdin Analytical Services 5000024

HEXAVALENT CHROMIUM IN SOILS

Preparation Method: 3060A (Alkaline Digestion) Analysis Method: 7196A (Colorimetric)

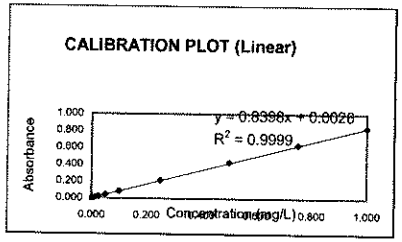
CALIBRATION INFORMATION

Calibration Analysis Date:	3/22/2018
Calibration Analyst:	AP

KCrO4 Stock Standard ID:	W16042
KCrO4 Stock Standard Conc (mg/L):	25

Standard Name	Vol. Of Stock Std. Added (ml)	Final Volume (mL)	Std. Conc. (mg/L)	Meas. Abs.	Response Factor
Calib. Blank	0.000	25	0.000	0.000	
Std. 1	0.010	25	0.010	0.009	1.111
Std. 2	0.025	25	0.025	0.023	1.087
Std. 3	0.050	25	0.050	0.044	1.136
Std. 4	0.100	25	0.100	0.088	1.136
Std. 5	0.250	25	0.250	0.215	1.163
Std. 6	0.500	25	0.500	0.427	1.171
Std. 7	0.750	25	0.750	0.633	1.185
Std. 8	1.000	25	1.000	0.839	1.192

No. of data points:	9
Corr. Coeff. (R):	0.999966371
Slope (m):	0.839828612
Intercept (b):	0.002562242



SAMPLE ANALYSIS

CCV Source Standard ID:	W16186	Spreadsheet File Name:	051518.XLS
CCV Source Std. Conc. (mg/L):	25	Sample Anal. Date:	5/15/2018
		Sample Analyst:	AP

	ANALYSIS INFORMATION								DIGESTION INFORMATION				CALCULATIONS		
Katahdin Sample No.	Initial Volume, IV (mL)	Final Volume, FV (mL)	Dil. Fctr.	Sample Absorbance	Matrix Blk. Absorbance	Corrected Absorbance	Calc. Cr+6 in FV (mg/L)	Calc. Cr+6 in IV (mg/L)	Digested Wet Wt. (g)	Digestate Final Vol. (L)	Total Solids (%)	Cr+6 Spike Added (mg)	Calc. Cr+6 in Sample (mg/kgdrywt)	Calc. Cr+6 Spike Added (mg/kgdrywt)	CCV / Spike Recovery
ICV	25.0	25.0	1.000	0.424		0.424	0.502	0.502							
CCV	25.0	25.0	1.000	0.420		0.420	0.497	0.497							100.4%
CCB	25.0	25.0	1.000	0.000		0.000	-0.003	-0.003							99.4%
METHOD BLANK A	20.0	25.0	1.250	0.007		0.007	0.005	0.007	2.5000	0.100	100.000%		0.26		
LCS A	20.0	25.0	1.250	0.609		0.609	0.722	0.903	2.5000	0.100	100.000%	0.100	36.10	40.00	90.3%
SL3807-1	20.0	25.0	1.250	0.188	0.185	0.003	0.001	0.001	2.5035	0.100	76.524%		0.03		
SL3807-2	20.0	25.0	1.250	0.011		0.011	0.010	0.013	2.5795	0.100	81.622%		0.60		
SL3809-14	20.0	25.0	1.250	0.009		0.009	0.008	0.010	2.5909	0.100	82.977%		0.45		
SL3809-24	20.0	25.0	1.250	0.011		0.011	0.010	0.013	2.5403	0.100	80.080%		0.62		
SL3809-24 Post-Dig MS	20.0	25.0	1.250	0.418		0.418	0.495	0.618	2.5403	0.100	80.080%		30.40		98.9%
SL3809-24 Serial Dilution	4.0	25.0	6.250	0.002		0.002	-0.001	-0.004	2.5403	0.100	80.080%		-0.21		
SL2809-24 Insoluble MS	1.0	25.0	25.000	0.780		0.780	0.926	23.143	2.4168	0.100	80.080%	2.574	1195.78	1330.09	89.9%
SL3809-24 Soluble MS	20.0	25.0	1.250	0.611		0.611	0.724	0.906	2.4508	0.100	80.080%	0.100	46.14	50.95	89.3%
CCV	25.0	25.0	1.000	0.419		0.419	0.496	0.496							99.2%
CCB	25.0	25.0	1.000	0.001		0.001	-0.002	-0.002							
SL3809-34	20.0	25.0	1.250	0.009		0.009	0.008	0.010	2.4713	0.100	79.604%		0.49		
SL3809-44	20.0	25.0	1.250	0.009		0.009	0.008	0.010	2.5267	0.100	76.112%		0.50		
SL3809-54	20.0	25.0	1.250	0.009		0.009	0.008	0.010	2.4192	0.100	78.746%		0.50		
SL3809-63	20.0	25.0	1.250	0.010		0.010	0.009	0.011	2.4736	0.100	77.577%		0.58		
SL3995-1	20.0	25.0	1.250	0.109	0.103	0.006	0.004	0.005	2.4541	0.100	85.108%		0.24		
SL3995-2	20.0	25.0	1.250	0.065	0.051	0.014	0.014	0.017	2.4372	0.100	83.698%		0.83		
SL3995-3	20.0	25.0	1.250	0.088	0.076	0.012	0.011	0.014	2.4456	0.100	83.071%		0.69		
SL3995-4	20.0	25.0	1.250	0.034	0.025	0.009	0.008	0.010	2.4024	0.100	83.459%		0.48		
SL3995-6	20.0	25.0	1.250	0.041	0.036	0.005	0.003	0.004	2.4325	0.100	78.808%		0.19		
SL3995-7	20.0	25.0	1.250	0.093	0.085	0.008	0.006	0.008	2.5705	0.100	79.411%		0.40		
CCV	25.0	25.0	1.000	0.413		0.413	0.489	0.489							97.7%
CCB	25.0	25.0	1.000	0.001		0.001	-0.002	-0.002							
SL3995-8	20.0	25.0	1.250	0.011		0.011	0.010	0.013	2.4639	0.100	81.012%		0.63		
SL3995-9	20.0	25.0	1.250	0.009		0.009	0.008	0.010	2.5074	0.100	81.310%		0.47		
SL3995-10	20.0	25.0	1.250	0.010		0.010	0.009	0.011	2.5015	0.100	80.441%		0.55		
SL3995-11	20.0	25.0	1.250	0.009		0.009	0.008	0.010	2.4577	0.100	81.007%		0.48		
SL3995-12	20.0	25.0	1.250	0.009		0.009	0.008	0.010	2.4027	0.100	81.892%		0.49		
SL3995-13	20.0	25.0	1.250	0.009		0.009	0.008	0.010	2.5304	0.100	79.700%		0.48		
CCV	25.0	25.0	1.000	0.415		0.415	0.491	0.491							98.2%
CCB	25.0	25.0	1.000	0.001		0.001	-0.002	-0.002							

Katahdin Analytical Services 5000025

WC328391 M4 73702

KATAHDIN ANALYTICAL SERVICES

METHOD SW846 7196A

MATRIX: SOIL / SEDIMENT / SOLID **PQL: 0.5mg/Kg (assumes 2.5g dry weight to 100 mL)**

Calibration / Quality Control Checks:	
Cal Std. Source ID (K2Cr2O7): W16186 25 ug/mL	**CCV ID:** W16186 25 ug/mL
LCS Stock ID: SWL4101 1000 ug/mL	**ICV ID:** W16187 25 ug/mL
Reagents:	**Phosphate Buffer ID:** W14990
Diphenylcarbazide Solution ID: W16492	**10% H2SO4 ID:** Prep Day of Use 20mL H_2SO_4 SWL4212 → 200mL DI
Alkaline Digestion Reagent ID: W16402/W16483	**Alkaline Digestion Reagent pH:** 12.62
SW 3060A Leachate Generation Date: 5/14/18	**Filtration End Time:** 1805

Sample ID	Analysis Time	Dilution	pH adj'd 7.5 +/- 0.5	pH adj'd 2.0 +/- 0.5	Sample to Color Vol. (mL)	Final Color Vol. (mL)	Sample Color/Turb Abs @ 540 nm	Developed Sample Abs @ 540 nm
ICV	1600		✓	✓	25	25		0.424
CCV								0.420
CCB								0.000
Blank					20			0.007
LCS					20			0.609
SL3807-1					20		0.185	0.188
-2					20			0.011
SL3809-14					20			0.009
-24					20			0.011
-24 P.D.S					20			0.418
-24 S.D.					4			0.002
-24 Insol MS					1.00			0.780
-24 Sol MS.					20			0.611
CCV					25			0.419
CCB								0.001
SL3809-34					20			0.009
~~-49~~-44					20			0.009
-54					20			0.009
-63					20			0.010
SL3995-1					20		0.103	0.109
-2	1620				20		~~0.289~~ 0.051	~~0.290~~ 0.065

AP 5/15/18

AP 5/1 *

Notes: W5

* sample centrifuged

Analyst: AP	**Date:** 5/15/18
Checked By: [signature]	**Date:** 05/16/18

KATAHDIN ANALYTICAL SERVICES

METHOD SW846 7196A

MATRIX: SOIL / SEDIMENT / SOLID **PQL: 0.5mg/Kg (assumes 2.5g dry weight to 100 mL)**

Calibration / Quality Control Checks:	
Cal Std. Source ID (K2Cr2O7): p13 ug/mL	**CCV ID:** p13 ug/mL
LCS Stock ID: ug/mL	**ICV ID:** ug/mL
Reagents:	**Phosphate Buffer ID:**
Diphenylcarbazide Solution ID:	**10% H2SO4 ID:**
Alkaline Digestion Reagent ID:	**Alkaline Digestion Reagent pH:**
SW 3060A Leachate Generation Date:	**Filtration End Time:**

Sample ID	Analysis Time	Dilution	pH adj'd 7.5 +/- 0.5	pH adj'd 2.0 +/- 0.5	Sample to Color Vol. (mL)	Final Color Vol. (mL)	Sample Color/Turb Abs @ 540 nm	Developed Sample Abs @ 540 nm	
SL3995-3	1620		✓	✓	20	25	0.076	0.088	*
-4					20		0.025	0.034	*
-6					20		0.036	0.041	*
-7					20		0.085	0.093	
CCV					25			0.413	
CCB					1			0.001	
SL3995-8					20			0.011	
-9					20			0.009	
-10					20			0.010	
-11					20			0.009	
-12					20			0.009	
-13					20			0.009	
CCV					25			0.415	
CCB	1640				1			0.001	
				AP 5/15/18					

Notes:

Analyst: AP	**Date:** 5/15/18
Checked By:	**Date:** 05/16/18

Katahdin Analytical Services, Inc. **Metals Preparation Benchsheet**

Reagent Information:

HNO3:_____ HCL:_____ H2O2:_____ **Method:** 3060

LCS / Spike **LCS/Spiking Information:**

☐ ☐ CLPP-SPK-1 (ID/Vol):_____/_____mL

☐ ☐ CLPP-SPK-INT1 (ID/Vol):_____/_____mL

☐ ☐ CLPP-SPK-INT2 (ID/Vol):_____/_____mL

☐ ☐ _____ Spike (ID/Vol):_____/_____mL

☐ ☐ CLPP-SPK-4 (ID/Vol):_____/_____mL

LCSS:_____ Balance ID: 1124016031

Hot Plate/Block ID : 0

Start Time/Temp.: 1240 / 90 °C

End Time/Temp. : 1340 / 92.5 °C

Thermometer ID/Pos.:_____/_____

Filter Paper:_____

Sample ID	Batch ID	Initial Wt/Vol	Initial Units	Final Vol	Final Units	MX	Meth	Anal.	Date	Initial Color	Initial Texture	Final Color	Final Clarity	Artifacts	Bottle
BLANK	LE14CRS1	2.5	g	0.1	L	SL	CR	AP	05/14/2018	N/A	N/A	N/A	N/A		
LCS	LE14CRS1	2.5	g	0.1	L	SL	CR	AP	05/14/2018	N/A	N/A	N/A	N/A		
SL3807-1	LE14CRS1	2.5035	g	0.1	L	SL	CR	AP	05/14/2018						
SL3807-2	LE14CRS1	2.5795	g	0.1	L	SL	CR	AP	05/14/2018						
SL3809-14	LE14CRS1	2.3909	g	0.1	L	SL	CR	AP	05/14/2018						
SL3809-24	LE14CRS1	2.5403	g	0.1	L	SL	CR	AP	05/14/2018						
SL3809-24 INSOL MS	LE14CRS1	2.4168	g	0.1	L	SL	CR	AP	05/14/2018						
SL3809-24 SOL MS	LE14CRS1	2.4508	g	0.1	L	SL	CR	AP	05/14/2018						
SL3809-34	LE14CRS1	2.4713	g	0.1	L	SL	CR	AP	05/14/2018						
SL3809-44	LE14CRS1	2.5267	g	0.1	L	SL	CR	AP	05/14/2018						
SL3809-54	LE14CRS1	2.4192	g	0.1	L	SL	CR	AP	05/14/2018						
SL3809-63	LE14CRS1	2.4736	g	0.1	L	SL	CR	AP	05/14/2018						
SL3995-1	LE14CRS1	2.4541	g	0.1	L	SL	CR	AP	05/14/2018						
SL3995-10	LE14CRS1	2.5015	g	0.1	L	SL	CR	AP	05/14/2018						
SL3995-11	LE14CRS1	2.4577	g	0.1	L	SL	CR	AP	05/14/2018						
SL3995-12	LE14CRS1	2.4027	g	0.1	L	SL	CR	AP	05/14/2018						
SL3995-13	LE14CRS1	2.5304	g	0.1	L	SL	CR	AP	05/14/2018						
SL3995-2	LE14CRS1	2.4372	g	0.1	L	SL	CR	AP	05/14/2018						
SL3995-3	LE14CRS1	2.4456	g	0.1	L	SL	CR	AP	05/14/2018						
SL3995-4	LE14CRS1	2.4024	g	0.1	L	SL	CR	AP	05/14/2018						
SL3995-6	LE14CRS1	2.4325	g	0.1	L	SL	CR	AP	05/14/2018						
SL3995-7	LE14CRS1	2.5705	g	0.1	L	SL	CR	AP	05/14/2018						
SL3995-8	LE14CRS1	2.4639	g	0.1	L	SL	CR	AP	05/14/2018						
SL3995-9	LE14CRS1	2.5074	g	0.1	L	SL	CR	AP	05/14/2018						

Insoluble MS spiked w/ 0.0160g $PbCrO_4$ SWL3761

Soluble MS & LCS spiked w/ 0.100 mL (SWL4101) Cr+6 Std 1000mg/L W3

Reviewed 05/16/18

Digestion performed by: AP On: 5/14/18

Filtration End: 1805

Katahdin Analytical Services 5000028

Samplenum	Measuredate	Parameter	Result	Moisture
SL3807-1	06-MAY-18	TOTAL SOLIDS	76.524%	23.476%
SL3807-2	06-MAY-18	TOTAL SOLIDS	81.622%	18.378%

Samplenum	Measuredate	Parameter	Result	Moisture
SL3809-2	06-MAY-18	TOTAL SOLIDS	77.708%	22.292%
SL3809-3	06-MAY-18	TOTAL SOLIDS	87.226%	12.774%
SL3809-4	06-MAY-18	TOTAL SOLIDS	79.746%	20.254%
SL3809-5	06-MAY-18	TOTAL SOLIDS	85.072%	14.928%
SL3809-6	06-MAY-18	TOTAL SOLIDS	80.691%	19.309%
SL3809-7	06-MAY-18	TOTAL SOLIDS	80.643%	19.357%
SL3809-8	06-MAY-18	TOTAL SOLIDS	82.72%	17.28%
SL3809-9	06-MAY-18	TOTAL SOLIDS	80.961%	19.039%
SL3809-10	06-MAY-18	TOTAL SOLIDS	73.07%	26.93%
SL3809-11	06-MAY-18	TOTAL SOLIDS	81.322%	18.678%
SL3809-12	06-MAY-18	TOTAL SOLIDS	75.681%	24.319%
SL3809-13	06-MAY-18	TOTAL SOLIDS	79.782%	20.218%
SL3809-14	06-MAY-18	TOTAL SOLIDS	82.977%	17.023%
SL3809-15	06-MAY-18	TOTAL SOLIDS	79.365%	20.635%
SL3809-16	06-MAY-18	TOTAL SOLIDS	77.836%	22.164%
SL3809-17	06-MAY-18	TOTAL SOLIDS	80.852%	19.148%
SL3809-18	06-MAY-18	TOTAL SOLIDS	84.269%	15.731%
SL3809-19	06-MAY-18	TOTAL SOLIDS	83.532%	16.468%
SL3809-20	06-MAY-18	TOTAL SOLIDS	82.2%	17.8%
SL3809-21	06-MAY-18	TOTAL SOLIDS	82.577%	17.423%
SL3809-22	06-MAY-18	TOTAL SOLIDS	82.252%	17.748%
SL3809-23	06-MAY-18	TOTAL SOLIDS	78.414%	21.586%
SL3809-24	06-MAY-18	TOTAL SOLIDS	80.08%	19.92%
SL3809-25	06-MAY-18	TOTAL SOLIDS	82.22%	17.78%
SL3809-26	06-MAY-18	TOTAL SOLIDS	86.116%	13.884%
SL3809-27	06-MAY-18	TOTAL SOLIDS	81.345%	18.655%
SL3809-28	06-MAY-18	TOTAL SOLIDS	74.017%	25.983%
SL3809-29	06-MAY-18	TOTAL SOLIDS	74.074%	25.926%
SL3809-30	06-MAY-18	TOTAL SOLIDS	82.457%	17.543%
SL3809-31	06-MAY-18	TOTAL SOLIDS	78.714%	21.286%
SL3809-32	06-MAY-18	TOTAL SOLIDS	69.643%	30.357%
SL3809-33	06-MAY-18	TOTAL SOLIDS	79.486%	20.514%
SL3809-34	06-MAY-18	TOTAL SOLIDS	79.604%	20.396%
SL3809-35	06-MAY-18	TOTAL SOLIDS	76.54%	23.46%
SL3809-36	06-MAY-18	TOTAL SOLIDS	80.871%	19.129%
SL3809-37	06-MAY-18	TOTAL SOLIDS	62.411%	37.589%
SL3809-38	06-MAY-18	TOTAL SOLIDS	75.89%	24.11%
SL3809-39	06-MAY-18	TOTAL SOLIDS	73.949%	26.051%
SL3809-40	06-MAY-18	TOTAL SOLIDS	79.162%	20.838%
SL3809-41	06-MAY-18	TOTAL SOLIDS	80.09%	19.91%
SL3809-42	06-MAY-18	TOTAL SOLIDS	83.934%	16.066%
SL3809-43	06-MAY-18	TOTAL SOLIDS	85.518%	14.482%
SL3809-44	06-MAY-18	TOTAL SOLIDS	76.112%	23.888%

Samplenum	Measuredate	Parameter	Result	Moisture
SL3809-46	06-MAY-18	TOTAL SOLIDS	80.458%	19.542%
SL3809-47	06-MAY-18	TOTAL SOLIDS	81.082%	18.918%
SL3809-48	06-MAY-18	TOTAL SOLIDS	80.955%	19.045%
SL3809-49	06-MAY-18	TOTAL SOLIDS	78.167%	21.833%
SL3809-50	06-MAY-18	TOTAL SOLIDS	81.815%	18.185%
SL3809-51	07-MAY-18	TOTAL SOLIDS	82.914%	17.086%
SL3809-52	07-MAY-18	TOTAL SOLIDS	79.596%	20.404%
SL3809-53	07-MAY-18	TOTAL SOLIDS	77.66%	22.34%
SL3809-54	07-MAY-18	TOTAL SOLIDS	78.746%	21.254%
SL3809-55	07-MAY-18	TOTAL SOLIDS	75.308%	24.692%
SL3809-56	07-MAY-18	TOTAL SOLIDS	73.006%	26.994%
SL3809-57	07-MAY-18	TOTAL SOLIDS	75.772%	24.228%
SL3809-58	07-MAY-18	TOTAL SOLIDS	78.896%	21.104%
SL3809-59	07-MAY-18	TOTAL SOLIDS	78.472%	21.528%
SL3809-60	07-MAY-18	TOTAL SOLIDS	80.84%	19.16%
SL3809-61	07-MAY-18	TOTAL SOLIDS	76.837%	23.163%
SL3809-62	07-MAY-18	TOTAL SOLIDS	80.458%	19.542%
SL3809-63	07-MAY-18	TOTAL SOLIDS	77.577%	22.423%
SL3809-64	07-MAY-18	TOTAL SOLIDS	81.297%	18.703%
SL3809-65	07-MAY-18	TOTAL SOLIDS	82.819%	17.181%

Samplenum	Measuredate	Parameter	Result	Moisture
SL3995-1	14-MAY-18	TOTAL SOLIDS	85.108%	14.892%
SL3995-2	14-MAY-18	TOTAL SOLIDS	83.698%	16.302%
SL3995-3	14-MAY-18	TOTAL SOLIDS	83.071%	16.929%
SL3995-4	14-MAY-18	TOTAL SOLIDS	83.459%	16.541%
SL3995-5	14-MAY-18	TOTAL SOLIDS	83.168%	16.832%
SL3995-6	14-MAY-18	TOTAL SOLIDS	78.808%	21.192%
SL3995-7	14-MAY-18	TOTAL SOLIDS	79.411%	20.589%
SL3995-8	14-MAY-18	TOTAL SOLIDS	81.012%	18.988%
SL3995-9	14-MAY-18	TOTAL SOLIDS	81.31%	18.69%
SL3995-10	14-MAY-18	TOTAL SOLIDS	80.441%	19.559%
SL3995-11	14-MAY-18	TOTAL SOLIDS	81.007%	18.993%
SL3995-12	14-MAY-18	TOTAL SOLIDS	81.892%	18.108%
SL3995-13	14-MAY-18	TOTAL SOLIDS	79.7%	20.3%
SL3995-14	14-MAY-18	TOTAL SOLIDS	78.494%	21.506%

WET CHEMISTRY BATCH REPORT
May 30 2018, 11:18 am
Batch: WG228768

Parameter: Chromium, Hexavalent

Prep Date: 17-MAY-18

Date Analyzed: 18-MAY-18

Prep Method: SW846 3060A

Analyst Initials: AP

Prep Chemist: AP

Sample	Samp Type	Method	Initial Amt.	Final Amt.	Rpt. DF	Result	Rpt Result	TS(%)	PQL	MDL	Adj PQL	RPD	%Rec
SL3995-14	SAMP	SW846 7196A	20.000mL	25.000mL	1.2	.057	J0.57 mg/Kgdrywt	78.	.4	0.18	0.62		
SL3995-5	SAMP	SW846 7196A	20.000mL	25.000mL	1.2	.1	U0.33 mg/Kgdrywt	83.	.4	0.17	0.56		
SL4180-1	SAMP	SW846 7196A	20.000mL	25.000mL	1.2	.16	J0.16 mg/Kgdrywt	85.	.4	0.16	0.54		
SL4180-16	SAMP	SW846 7196A	20.000mL	25.000mL	1.2	.25	J0.25 mg/Kgdrywt	82.	.4	0.18	0.59		
SL4180-18	SAMP	SW846 7196A	20.000mL	25.000mL	1.2	.47	J0.47 mg/Kgdrywt	80.	.4	0.18	0.59		
SL4180-2	SAMP	SW846 7196A	20.000mL	25.000mL	1.2	.25	J0.25 mg/Kgdrywt	83.	.4	0.17	0.58		
SL4180-21	SAMP	SW846 7196A	20.000mL	25.000mL	1.2	.44	J0.44 mg/Kgdrywt	74.	.4	0.20	0.65		
SL4180-22	SAMP	SW846 7196A	20.000mL	25.000mL	1.2	.53	J0.53 mg/Kgdrywt	74.	.4	0.20	0.66		
SL4180-24	SAMP	SW846 7196A	20.000mL	25.000mL	1.2	.25	J0.25 mg/Kgdrywt	81.	.4	0.17	0.58		
SL4180-25	SAMP	SW846 7196A	20.000mL	25.000mL	1.2	.17	J0.17 mg/Kgdrywt	81.	.4	0.17	0.57		
SL4180-26	SAMP	SW846 7196A	20.000mL	25.000mL	1.2	.41	J0.41 mg/Kgdrywt	78.	.4	0.18	0.60		
SL4180-3	SAMP	SW846 7196A	20.000mL	25.000mL	1.2	.4	J0.40 mg/Kgdrywt	82.	.4	0.18	0.59		
SL4233-10	SAMP	SW846 7196A	20.000mL	25.000mL	1.2	.49	J0.49 mg/Kgdrywt	87.	.4	0.16	0.53		
SL4233-11	SAMP	SW846 7196A	20.000mL	25.000mL	1.2	.4	J0.40 mg/Kgdrywt	81.	.4	0.18	0.59		
SL4233-12	SAMP	SW846 7196A	20.000mL	25.000mL	1.2	.33	J0.33 mg/Kgdrywt	83.	.4	0.18	0.60		
SL4233-4	SAMP	SW846 7196A	20.000mL	25.000mL	1.2	.43	J0.43 mg/Kgdrywt	73.	.4	0.19	0.63		
SL4233-5	SAMP	SW846 7196A	20.000mL	25.000mL	1.2	.41	J0.41 mg/Kgdrywt	79.	.4	0.18	0.60		
SL4233-6	SAMP	SW846 7196A	20.000mL	25.000mL	1.2	.24	J0.24 mg/Kgdrywt	85.	.4	0.17	0.56		
SL4233-9	SAMP	SW846 7196A	20.000mL	25.000mL	1.2	.43	J0.43 mg/Kgdrywt	74.	.4	0.19	0.64		
WG228768-1	MBLANK	SW846 7196A	20.000mL	25.000mL	1.2	.32	J0.32 mg/Kgdrywt	NA	.4	0.14	0.48		
WG228768-2	LCS	SW846 7196A	20.000mL	25.000mL	1.2	37.59	38. mg/Kgdrywt	NA	.4	0.14	0.48		94
WG228768-3	MS	SW846 7196A	1.0000mL	25.000mL	25	987.4	990 mg/Kgdrywt	NA	.4	3.8	12.		68
WG228768-4	MS	SW846 7196A	20.000mL	25.000mL	1.2	21.12	21. mg/Kgdrywt	NA	.4	0.18	0.60		42
WG228768-5	MS	SW846 7196A	1.0000mL	25.000mL	25	1194.61	1200 mg/Kgdrywt	NA	.4	3.8	12.		87
WG228768-6	MS	SW846 7196A	20.000mL	25.000mL	1.2	47.75	48. mg/Kgdrywt	NA	.4	0.18	0.61		93

Comments:

SL3995-5	MS/MSD
SL4180-18	MS/MSD
WG228768-1	SL3995-5
WG228768-2	SL3995-5
WG228768-3	SL3995-5
WG228768-4	SL3995-5
WG228768-5	SL4180-18
WG228768-6	SL4180-18

Entered by: HP Date: 5/30/18 Accepted by: [signature] Date: 6/2/18

Katahdin Analytical Services 5000033

HEXAVALENT CHROMIUM IN SOILS

Preparation Method: 3060A (Alkaline Digestion) Analysis Method: 7196A (Colorimetric)

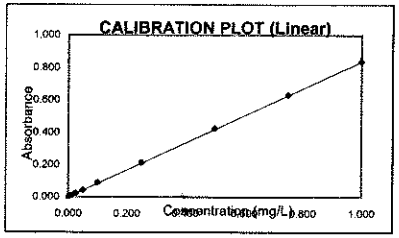
CALIBRATION INFORMATION

Calibration Analysis Date:	3/22/2018
Calibration Analyst:	AP

KCrO4 Stock Standard ID:	W16042
KCrO4 Stock Standard Conc (mg/L):	25

Standard Name	Vol. Of Stock Std. Added (ml)	Final Volume (mL)	Std. Conc. (mg/L)	Meas. Abs.	Response Factor
Calib. Blank	0.000	25	0.000	0.000	
Std. 1	0.010	25	0.010	0.009	1.111
Std. 2	0.025	25	0.025	0.023	1.087
Std. 3	0.050	25	0.050	0.044	1.136
Std. 4	0.100	25	0.100	0.088	1.136
Std. 5	0.250	25	0.250	0.215	1.163
Std. 6	0.500	25	0.500	0.427	1.171
Std. 7	0.750	25	0.750	0.633	1.185
Std. 8	1.000	25	1.000	0.839	1.192

No. of data points:	9
Corr. Coeff. (R):	0.999966371
Slope (m):	0.839828612
Intercept (b):	0.002562242



SAMPLE ANALYSIS

Spreadsheet File Name:	051818.XLS		
CCV Source Standard ID:	W16504	**Sample Anal. Date:**	5/18/2018
CCV Source Std. Conc. (mg/L):	25	**Sample Analyst:**	AP

	ANALYSIS INFORMATION								DIGESTION INFORMATION				CALCULATIONS		
Katahdin Sample No.	Initial Volume, IV (mL)	Final Volume, FV (mL)	Dil. Fctr.	Sample Absorbance	Matrix Blk. Absorbance	Corrected Absorbance	Calc. Cr+6 in FV (mg/L)	Calc. Cr+6 in IV (mg/L)	Digested Wet Wt. (g)	Digestate Final Vol. (L)	Total Solids (%)	Cr+6 Spike Added (mg)	Calc. Cr+6 in Sample (mg/kgdrywt)	Calc. Cr+6 Spike Added (mg/kgdrywt)	CCV / Spike Recovery
ICV	25.0	25.0	1.000	0.409		0.409	0.484	0.484							96.8%
CCV	25.0	25.0	1.000	0.398		0.398	0.471	0.471							94.2%
CCB	25.0	25.0	1.000	0.000		0.000	-0.003	-0.003							
METHOD BLANK A	20.0	25.0	1.250	0.008		0.008	0.006	0.008	2.5000	0.100	100.000%		0.32		
LCS A	20.0	25.0	1.250	0.634		0.634	0.752	0.940	2.5000	0.100	100.000%	0.100	37.59	40.00	94.0%
SL3995-5	20.0	25.0	1.250	0.040	0.036	0.004	0.002	0.002	2.5886	0.100	83.168%		0.10		
SL3995-5 Post-Dig MS	20.0	25.0	1.250	0.394		0.394	0.466								93.2%
SL3995-5 Serial Dilution	4.0	25.0	6.250	0.010	0.009	0.001	-0.002	-0.012	2.5886	0.100	83.168%		-0.54		
SL3995-5 Insoluble MS	1.0	25.0	25.000	0.674	0.009	0.665	0.789	19.719	2.4013	0.100	83.168%	2.880	987.40	1442.03	68.5%
SL3995-5 Soluble MS	20.0	25.0	1.250	0.339	0.052	0.287	0.339	0.423	2.4100	0.100	83.168%	0.100	21.12	49.89	42.1%
SL3995-14	20.0	25.0	1.250	0.011	0.001	0.010	0.009	0.011	2.4674	0.100	78.494%		0.57		
SL4180-1	20.0	25.0	1.250	0.186	0.181	0.005	0.003	0.004	2.5931	0.100	85.018%		0.16		
SL4180-2	20.0	25.0	1.250	0.311	0.305	0.006	0.004	0.005	2.4959	0.100	83.137%		0.25		
CCV	25.0	25.0	1.000	0.398		0.398	0.471	0.471							94.2%
CCB	25.0	25.0	1.000	0.001		0.001	-0.002	-0.002							
SL4180-3	20.0	25.0	1.250	0.010	0.002	0.008	0.006	0.008	2.4951	0.100	81.589%		0.40		
SL4180-16	20.0	25.0	1.250	0.217	0.211	0.006	0.004	0.005	2.4584	0.100	82.524%		0.25		
SL4180-18	20.0	25.0	1.250	0.010	0.001	0.009	0.008	0.010	2.5214	0.100	80.180%		0.47		
SL4180-18 Post-Dig MS	20.0	25.0	1.250	0.409		0.409	0.484								96.8%
SL4180-18 Serial Dilution	4.0	25.0	6.250	0.002	0.001	0.001	-0.002	-0.012	2.5214	0.100	80.180%		-0.58		
SL4180-18 Insoluble MS	1.0	25.0	25.000	0.800		0.800	0.950	23.738	2.4783	0.100	80.180%	2.735	1194.61	1376.43	86.8%
SL4180-18 Soluble MS	20.0	25.0	1.250	0.636	0.002	0.634	0.752	0.940	2.4546	0.100	80.180%	0.100	47.75	50.81	93.1%
SL4180-21	20.0	25.0	1.250	0.022	0.014	0.008	0.006	0.008	2.4931	0.100	73.564%		0.44		
SL4180-22	20.0	25.0	1.250	0.010	0.001	0.009	0.008	0.010	2.4587	0.100	73.584%		0.53		
SL4180-24	20.0	25.0	1.250	0.012	0.006	0.006	0.004	0.005	2.5598	0.100	80.734%		0.25		
CCV	25.0	25.0	1.000	0.393		0.393	0.465	0.465							93.0%
CCB	25.0	25.0	1.000	0.001		0.001	-0.002	-0.002							
SL4180-25	20.0	25.0	1.250	0.042	0.037	0.005	0.003	0.004	2.5788	0.100	81.483%		0.17		
SL4180-26	20.0	25.0	1.250	0.009	0.001	0.008	0.006	0.008	2.5576	0.100	77.938%		0.41		
SL4233-4	20.0	25.0	1.250	0.054	0.046	0.008	0.006	0.008	2.5818	0.100	73.468%		0.43		
SL4233-5	20.0	25.0	1.250	0.133	0.125	0.008	0.006	0.008	2.5053	0.100	79.151%		0.41		
SL4233-6	20.0	25.0	1.250	0.117	0.111	0.006	0.004	0.005	2.5045	0.100	85.008%		0.24		
SL4233-9	20.0	25.0	1.250	0.083	0.075	0.008	0.006	0.008	2.5290	0.100	73.719%		0.43		
SL4233-10	20.0	25.0	1.250	0.117	0.107	0.010	0.009	0.011	2.5768	0.100	87.404%		0.49		
SL4233-11	20.0	25.0	1.250	0.057	0.049	0.008	0.006	0.008	2.5123	0.100	81.219%		0.40		
SL4233-12	20.0	25.0	1.250	0.125	0.118	0.007	0.005	0.007	2.4111	0.100	82.836%		0.33		
CCV	25.0	25.0	1.000	0.395		0.395	0.467	0.467							93.5%
CCB	25.0	25.0	1.000	0.001		0.001	-0.002	-0.002							

Katahdin Analytical Services 5000034

WG228768 R474618

KATAHDIN ANALYTICAL SERVICES

METHOD SW846 7196A

MATRIX: SOIL / SEDIMENT / SOLID **PQL: 0.5mg/Kg (assumes 2.5g dry weight to 100 mL)**

Calibration / Quality Control Checks:	
AP 5/19/18 **Cal Std. Source ID (K2Cr2O7):** W16~~504~~ 042 25 ug/mL	**CCV ID:** W16504 25 ug/mL
LCS Stock ID: SW-L4101 1000 ug/mL	**ICV ID:** W16503 25 ug/mL
Reagents:	**Phosphate Buffer ID:** W14990
Diphenylcarbazide Solution ID:	**10% H2SO4 ID:**
Alkaline Digestion Reagent ID: W16483	**Alkaline Digestion Reagent pH:** 12.87
SW 3060A Leachate Generation Date: 5/17/18	**Filtration End Time:** 1800

Sample ID	Analysis Time	Dilution	pH adj'd 7.5 +/- 0.5	pH adj'd 2.0 +/- 0.5	Sample to Color Vol. (mL)	Final Color Vol. (mL)	Sample Color/Turb Abs @ 540 nm	Developed Sample Abs @ 540 nm
ICV	1700		✓	✓	25	25		0.409
CCV								0.398
CCB								0.000
Blank					20			0.008
LCS								0.674
SL3995-5							0.036	0.040
-5PDS.								0.394
-5S.D.					4.0		0.009	0.010
-5Insolms					1.00		0.009	0.674
-5Solms					20		0.052	0.339
-14							0.001	0.011
SL4180-1							0.181	0.186
-2							0.305	0.311
CCV					25			0.398
CCB								0.001
SL4180-3					20		0.002	0.010
-16							0.211	0.217
-18							0.001	0.010
-18P.D.S.								0.409
-18S.D.					4.0		0.001	0.002
-18 Insolms					1.00			0.800

Notes: SL4180-17 needs reprep due to loss of volume past pH adjustment.

Analyst: AP	**Date:** 5/18/18
Checked By: [signature]	**Date:** 05/24/18

KATAHDIN ANALYTICAL SERVICES

METHOD SW846 7196A

MATRIX: SOIL / SEDIMENT / SOLID **PQL: 0.5mg/Kg (assumes 2.5g dry weight to 100 mL)**

Calibration / Quality Control Checks:	
Cal Std. Source ID (K2Cr2O7): P15 ug/mL	**CCV ID:** P15 ug/mL
LCS Stock ID: ug/mL	**ICV ID:** ug/mL
Reagents:	**Phosphate Buffer ID:**
Diphenylcarbazide Solution ID:	**10% H2SO4 ID:**
Alkaline Digestion Reagent ID:	**Alkaline Digestion Reagent pH:**
SW 3060A Leachate Generation Date:	**Filtration End Time:**

Sample ID	Analysis Time	Dilution	pH adj'd 7.5 +/- 0.5	pH adj'd 2.0 +/- 0.5	Sample to Color Vol. (mL)	Final Color Vol. (mL)	Sample Color/Turb Abs @ 540 nm	Developed Sample Abs @ 540 nm	
SL4180-18Solns			✓	✓	20	25	0.002	0.636	
-21							0.014	0.022	
-22							0.001	0.010	
-24							0.006	0.012	
CCV					25			0.393	
CCB					1			0.001	
SL4180-25					20		0.037	0.042	
-26							0.001	0.009	AP 5/18
SL 4233-4							0.046	~~0.00~~ 0.005	4
-5							0.125	0.0133	AP 5/18/18
-6							0.111	0.117	
-9							0.075	0.083	
-10							0.107	0.117	
-11							0.049	0.057	
-12							0.118	0.125	
CCV					25			0.395	
CCB	1744				1			0.001	
				5/21/18					
			AT						

Notes:

Analyst: AT	**Date:** 5/18/18
Checked By:	**Date:** 05/24/18

Katahdin Analytical Services, Inc. **Metals Preparation Benchsheet**

Reagent Information:

HNO3:_____ HCL:_____ H2O2:_____ **Method:** 3060

LCS / Spike **LCS/Spiking Information:**

- ☐ ☐ CLPP-SPK-1 (ID/Vol):_____/_____mL
- ☐ ☐ CLPP-SPK-INT1 (ID/Vol):_____/_____mL
- ☐ ☐ CLPP-SPK-INT2 (ID/Vol):_____/_____mL
- ☐ ☐ _____ Spike (ID/Vol):_____/_____mL
- ☐ ☐ CLPP-SPK-4 (ID/Vol):_____/_____mL

LCSS :_____ Balance ID:_____

Hot Plate/Block ID : O

Start Time/Temp.: 1325 / 90 °C

End Time/Temp. : 1425 / 92.5 °C

Thermometer ID/Pos.:_____/_____

Filter Paper:_____

Sample ID	Batch ID	Initial Wt/Vol	Initial Units	Final Vol	Final Units	MX	Meth	Anal.	Date	Initial Color	Initial Texture	Final Color	Final Clarity	Artifacts	Bottle
BLANK	LE17CRS1	2.5000	g	0.1	L	SL	CR	AP	05/17/2018	N/A	N/A	N/A	N/A		
LCS	LE17CRS1	2.5000	g	0.1	L	SL	CR	AP	05/17/2018	N/A	N/A	N/A	N/A		
SL3995-14	LE17CRS1	2.4674	g	0.1	L	SL	CR	AP	05/17/2018						
SL3995-5	LE17CRS1	2.5886	g	0.1	L	SL	CR	AP	05/17/2018						
SL3995-5 INSOL MS	LE17CRS1	2.4013	g	0.1	L	SL	CR	AP	05/17/2018						
SL3995-5 SOL MS	LE17CRS1	2.4100	g	0.1	L	SL	CR	AP	05/17/2018						
SL4180-1	LE17CRS1	2.5931	g	0.1	L	SL	CR	AP	05/17/2018						
SL4180-16	LE17CRS1	2.4584	g	0.1	L	SL	CR	AP	05/17/2018						
SL4180-17	LE17CRS1	2.5731	g	0.1	L	SL	CR	AP	05/17/2018						
SL4180-18	LE17CRS1	2.5214	g	0.1	L	SL	CR	AP	05/17/2018						
SL4180-18 INSOL MS	LE17CRS1	2.4783	g	0.1	L	SL	CR	AP	05/17/2018						
SL4180-18 SOL MS	LE17CRS1	2.4546	g	0.1	L	SL	CR	AP	05/17/2018						
SL4180-2	LE17CRS1	2.4959	g	0.1	L	SL	CR	AP	05/17/2018						
SL4180-21	LE17CRS1	2.4931	g	0.1	L	SL	CR	AP	05/17/2018						
SL4180-22	LE17CRS1	2.4587	g	0.1	L	SL	CR	AP	05/17/2018						
SL4180-24	LE17CRS1	2.5598	g	0.1	L	SL	CR	AP	05/17/2018						
SL4180-25	LE17CRS1	2.5788	g	0.1	L	SL	CR	AP	05/17/2018						
SL4180-26	LE17CRS1	2.5576	g	0.1	L	SL	CR	AP	05/17/2018						
SL4180-3	LE17CRS1	2.4951	g	0.1	L	SL	CR	AP	05/17/2018						
SL4233-10	LE17CRS1	2.5768	g	0.1	L	SL	CR	AP	05/17/2018						
SL4233-11	LE17CRS1	2.5123	g	0.1	L	SL	CR	AP	05/17/2018						
SL4233-12	LE17CRS1	2.4111	g	0.1	L	SL	CR	AP	05/17/2018						
SL4233-4	LE17CRS1	2.5818	g	0.1	L	SL	CR	AP	05/17/2018						
SL4233-5	LE17CRS1	2.5053	g	0.1	L	SL	CR	AP	05/17/2018						
SL4233-6	LE17CRS1	2.5015	g	0.1	L	SL	CR	AP	05/17/2018						
SL4233-9	LE17CRS1	2.5290	g	0.1	L	SL	CR	AP	05/17/2018						

Insoluble MS for SL-3995-1 spiked w/ 0.0179g $PbCrO_4$ (SWL3761)

" " SL4180-18 " " 0.0170g " "

LCS & Soluble MS's spiked w/ 0.10 mL 1000 mg/L Cr^{+6} Std (SWL4101)

for AP

Digestion performed by: _____ **On:** 05/17/18

Page: LE101 **Revision:** 00

Katahdin Analytical Services 5000037

Samplenum	Measuredate	Parameter	Result	Moisture
SL3995-1	14-MAY-18	TOTAL SOLIDS	85.108%	14.892%
SL3995-2	14-MAY-18	TOTAL SOLIDS	83.698%	16.302%
SL3995-3	14-MAY-18	TOTAL SOLIDS	83.071%	16.929%
SL3995-4	14-MAY-18	TOTAL SOLIDS	83.459%	16.541%
SL3995-5	14-MAY-18	TOTAL SOLIDS	83.168%	16.832%
SL3995-6	14-MAY-18	TOTAL SOLIDS	78.808%	21.192%
SL3995-7	14-MAY-18	TOTAL SOLIDS	79.411%	20.589%
SL3995-8	14-MAY-18	TOTAL SOLIDS	81.012%	18.988%
SL3995-9	14-MAY-18	TOTAL SOLIDS	81.31%	18.69%
SL3995-10	14-MAY-18	TOTAL SOLIDS	80.441%	19.559%
SL3995-11	14-MAY-18	TOTAL SOLIDS	81.007%	18.993%
SL3995-12	14-MAY-18	TOTAL SOLIDS	81.892%	18.108%
SL3995-13	14-MAY-18	TOTAL SOLIDS	79.7%	20.3%
SL3995-14	14-MAY-18	TOTAL SOLIDS	78.494%	21.506%

Samplenum	Measuredate	Parameter	Result	Moisture
SL4180-21	16-MAY-18	TOTAL SOLIDS	73.564%	26.436%
SL4180-22	16-MAY-18	TOTAL SOLIDS	73.584%	26.416%
SL4180-23	16-MAY-18	TOTAL SOLIDS	77.765%	22.235%
SL4180-24	16-MAY-18	TOTAL SOLIDS	80.734%	19.266%
SL4180-25	16-MAY-18	TOTAL SOLIDS	81.483%	18.517%
SL4180-26	16-MAY-18	TOTAL SOLIDS	77.938%	22.062%
SL4180-27	16-MAY-18	TOTAL SOLIDS	72.878%	27.122%
SL4180-1	16-MAY-18	TOTAL SOLIDS	85.018%	14.982%
SL4180-2	16-MAY-18	TOTAL SOLIDS	83.137%	16.863%
SL4180-3	16-MAY-18	TOTAL SOLIDS	81.589%	18.411%
SL4180-4	16-MAY-18	TOTAL SOLIDS	76.859%	23.141%
SL4180-5	16-MAY-18	TOTAL SOLIDS	83.109%	16.891%
SL4180-6	16-MAY-18	TOTAL SOLIDS	76.038%	23.962%
SL4180-7	16-MAY-18	TOTAL SOLIDS	79.863%	20.137%
SL4180-8	16-MAY-18	TOTAL SOLIDS	81.152%	18.848%
SL4180-9	16-MAY-18	TOTAL SOLIDS	81.19%	18.81%
SL4180-10	16-MAY-18	TOTAL SOLIDS	80.832%	19.168%
SL4180-11	16-MAY-18	TOTAL SOLIDS	76.564%	23.436%
SL4180-12	16-MAY-18	TOTAL SOLIDS	87.078%	12.922%
SL4180-13	16-MAY-18	TOTAL SOLIDS	80.387%	19.613%
SL4180-14	16-MAY-18	TOTAL SOLIDS	82.876%	17.124%
SL4180-15	16-MAY-18	TOTAL SOLIDS	80.191%	19.809%
SL4180-16	16-MAY-18	TOTAL SOLIDS	82.524%	17.476%
SL4180-17	16-MAY-18	TOTAL SOLIDS	80.402%	19.598%
SL4180-18	16-MAY-18	TOTAL SOLIDS	80.18%	19.82%
SL4180-19	16-MAY-18	TOTAL SOLIDS	69.468%	30.532%
SL4180-20	16-MAY-18	TOTAL SOLIDS	81.566%	18.434%

Samplenum	Measuredate	Parameter	Result	Moisture
SL4233-53	18-MAY-18	TOTAL SOLIDS	74.456%	25.544%
SL4233-2	18-MAY-18	TOTAL SOLIDS	81.816%	18.184%
SL4233-3	18-MAY-18	TOTAL SOLIDS	80.79%	19.21%
SL4233-4	18-MAY-18	TOTAL SOLIDS	73.468%	26.532%
SL4233-5	18-MAY-18	TOTAL SOLIDS	79.151%	20.849%
SL4233-6	18-MAY-18	TOTAL SOLIDS	85.008%	14.992%
SL4233-7	18-MAY-18	TOTAL SOLIDS	76.973%	23.027%
SL4233-8	18-MAY-18	TOTAL SOLIDS	76.768%	23.232%
SL4233-9	18-MAY-18	TOTAL SOLIDS	73.719%	26.281%
SL4233-10	18-MAY-18	TOTAL SOLIDS	87.404%	12.596%
SL4233-11	18-MAY-18	TOTAL SOLIDS	81.219%	18.781%
SL4233-12	18-MAY-18	TOTAL SOLIDS	82.836%	17.164%
SL4233-13	18-MAY-18	TOTAL SOLIDS	80.324%	19.676%
SL4233-14	18-MAY-18	TOTAL SOLIDS	79.401%	20.599%
SL4233-15	18-MAY-18	TOTAL SOLIDS	72.708%	27.292%
SL4233-17	18-MAY-18	TOTAL SOLIDS	75.333%	24.667%
SL4233-19	18-MAY-18	TOTAL SOLIDS	73.688%	26.312%
SL4233-21	18-MAY-18	TOTAL SOLIDS	82.894%	17.106%
SL4233-22	18-MAY-18	TOTAL SOLIDS	80.066%	19.934%
SL4233-23	18-MAY-18	TOTAL SOLIDS	81.153%	18.847%
SL4233-24	18-MAY-18	TOTAL SOLIDS	80.122%	19.878%
SL4233-25	18-MAY-18	TOTAL SOLIDS	79.228%	20.772%
SL4233-26	18-MAY-18	TOTAL SOLIDS	77.405%	22.595%
SL4233-27	18-MAY-18	TOTAL SOLIDS	78.206%	21.794%
SL4233-28	18-MAY-18	TOTAL SOLIDS	80.083%	19.917%
SL4233-29	18-MAY-18	TOTAL SOLIDS	79.729%	20.271%
SL4233-30	18-MAY-18	TOTAL SOLIDS	80.052%	19.948%
SL4233-31	18-MAY-18	TOTAL SOLIDS	76.429%	23.571%
SL4233-32	18-MAY-18	TOTAL SOLIDS	79.392%	20.608%
SL4233-33	18-MAY-18	TOTAL SOLIDS	80.487%	19.513%
SL4233-34	18-MAY-18	TOTAL SOLIDS	76.445%	23.555%
SL4233-35	18-MAY-18	TOTAL SOLIDS	76.12%	23.88%
SL4233-36	18-MAY-18	TOTAL SOLIDS	80.105%	19.895%
SL4233-37	18-MAY-18	TOTAL SOLIDS	77.665%	22.335%
SL4233-38	18-MAY-18	TOTAL SOLIDS	80.4%	19.6%
SL4233-39	18-MAY-18	TOTAL SOLIDS	84.928%	15.072%
SL4233-40	18-MAY-18	TOTAL SOLIDS	81.997%	18.003%
SL4233-41	18-MAY-18	TOTAL SOLIDS	77.708%	22.292%
SL4233-42	18-MAY-18	TOTAL SOLIDS	74.195%	25.805%
SL4233-43	18-MAY-18	TOTAL SOLIDS	82.672%	17.328%
SL4233-44	18-MAY-18	TOTAL SOLIDS	75.464%	24.536%
SL4233-45	18-MAY-18	TOTAL SOLIDS	76.81%	23.19%
SL4233-46	18-MAY-18	TOTAL SOLIDS	77.884%	22.116%

WET CHEMISTRY BATCH REPORT
May 30 2018, 11:16 am
Batch: WG229295

Parameter: Chromium, Hexavalent

Prep Date: 23-MAY-18

Date Analyzed: 24-MAY-18

Prep Method: SW846 3060A

Analyst Initials: AP

Prep Chemist: AP

Sample	Samp Type	Method	Initial Amt.	Final Amt.	Rpt. DF	Result	Rpt Result	TS(%)	PQL	MDL	Adj PQL	RPD	%Rec
SL4180-17	SAMP	SW846 7196A	20.000mL	25.000mL	1.2	.1	U0.35 mg/Kgdrywt	80.	.4	0.17	0.58		
SL4233-13	SAMP	SW846 7196A	20.000mL	25.000mL	1.2	.33	J0.33 mg/Kgdrywt	80.	.4	0.18	0.60		
SL4233-17	SAMP	SW846 7196A	20.000mL	25.000mL	1.2	.34	J0.34 mg/Kgdrywt	75.	.4	0.18	0.62		
SL4233-19	SAMP	SW846 7196A	20.000mL	25.000mL	1.2	.2	J0.20 mg/Kgdrywt	74.	.4	0.19	0.65		
SL4233-21	SAMP	SW846 7196A	20.000mL	25.000mL	1.2	-.04	U0.35 mg/Kgdrywt	83.	.4	0.17	0.58		
SL4233-22	SAMP	SW846 7196A	20.000mL	25.000mL	1.2	-.12	U0.37 mg/Kgdrywt	80.	.4	0.18	0.61		
SL4233-28	SAMP	SW846 7196A	20.000mL	25.000mL	1.2	-1.19	U0.35 mg/Kgdrywt	80.	.4	0.17	0.58		
SL4233-29	SAMP	SW846 7196A	20.000mL	25.000mL	1.2	.33	J0.33 mg/Kgdrywt	80.	.4	0.18	0.60		
SL4233-30	SAMP	SW846 7196A	20.000mL	25.000mL	1.2	.47	J0.47 mg/Kgdrywt	80.	.4	0.18	0.59		
SL4233-35	SAMP	SW846 7196A	20.000mL	25.000mL	1.2	.49	J0.49 mg/Kgdrywt	76.	.4	0.18	0.62		
SL4233-36	SAMP	SW846 7196A	20.000mL	25.000mL	1.2	.4	J0.40 mg/Kgdrywt	80.	.4	0.18	0.59		
SL4233-42	SAMP	SW846 7196A	20.000mL	25.000mL	1.2	.36	J0.36 mg/Kgdrywt	74.	.4	0.19	0.65		
SL4233-43	SAMP	SW846 7196A	20.000mL	25.000mL	1.2	.41	J0.41 mg/Kgdrywt	83.	.4	0.18	0.60		
SL4233-48	SAMP	SW846 7196A	20.000mL	25.000mL	1.2	-.05	U0.39 mg/Kgdrywt	72.	.4	0.20	0.65		
SL4233-49	SAMP	SW846 7196A	20.000mL	25.000mL	1.2	.5	J0.50 mg/Kgdrywt	79.	.4	0.19	0.62		
WG229295-1	MBLANK	SW846 7196A	20.000mL	25.000mL	1.2	.26	J0.26 mg/Kgdrywt	NA	.4	0.14	0.48		
WG229295-2	LCS	SW846 7196A	20.000mL	25.000mL	1.2	35.21	35. mg/Kgdrywt	NA	.4	0.14	0.48		88
WG229295-3	LCSD	SW846 7196A	20.000mL	25.000mL	1.2	37.65	38. mg/Kgdrywt	NA	.4	0.14	0.48	7	94
WG229295-4	MS	SW846 7196A	1.0000mL	25.000mL	25	1192.71	1200 mg/Kgdrywt	NA	.4	3.8	13.		88
WG229295-5	MS	SW846 7196A	20.000mL	25.000mL	1.2	43.12	43. mg/Kgdrywt	NA	.4	0.18	0.61		84

Comments:

SL4233-36	MS/MSD
WG229295-1	SL4233-36
WG229295-2	SL4233-36
WG229295-3	SL4233-36
WG229295-4	SL4233-36
WG229295-5	SL4233-36

Entered by: AP Date: 5/30/18 Accepted by: RO Date: 6/2/18

Katahdin Analytical Services 5000041

HEXAVALENT CHROMIUM IN SOILS

Preparation Method: 3060A (Alkaline Digestion) Analysis Method: 7196A (Colorimetric)

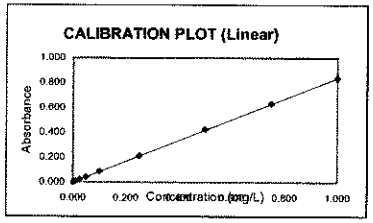
CALIBRATION INFORMATION

Calibration Analysis Date:	3/22/2018
Calibration Analyst:	AP

KCrO4 Stock Standard ID:	W16042
KCrO4 Stock Standard Conc (mg/L):	25

Standard Name	Vol. Of Stock Std. Added (ml)	Final Volume (mL)	Std. Conc. (mg/L)	Meas. Abs.	Response Factor
Calib. Blank	0.000	25	0.000	0.000	
Std. 1	0.010	25	0.010	0.009	1.111
Std. 2	0.025	25	0.025	0.023	1.087
Std. 3	0.050	25	0.050	0.044	1.136
Std. 4	0.100	25	0.100	0.088	1.136
Std. 5	0.250	25	0.250	0.215	1.163
Std. 6	0.500	25	0.500	0.427	1.171
Std. 7	0.750	25	0.750	0.633	1.185
Std. 8	1.000	25	1.000	0.839	1.192

No. of data points:	9
Corr. Coeff. (R):	0.999966371
Slope (m):	0.839828612
Intercept (b):	0.002562242



SAMPLE ANALYSIS

CCV Source Standard ID:	W16504	Spreadsheet File Name:	052418.XLS
CCV Source Std. Conc. (mg/L):	25	Sample Anal. Date:	5/24/2018
		Sample Analyst:	AP

	ANALYSIS INFORMATION								DIGESTION INFORMATION				CALCULATIONS			
Katahdin Sample No.	Initial Volume, IV (mL)	Final Volume, FV (mL)	Dil Fctr.	Sample Absorbance	Matrix Blk. Absorbance	Corrected Absorbance	Calc. Cr+6 in FV (mg/L)	Calc. Cr+6 in IV (mg/L)	Digested Wet Wt. (g)	Digestate Final Vol. (L)	Total Solids (%)	Cr+6 Spike Added (mg)	Calc. Cr+6 in Sample (mg/kgdrywt)	Calc. Cr+6 Spike Added (mg/kgdrywt)	CCV / Spike Recovery	
ICV	25.0	25.0	1.000	0.422		0.422	0.499	0.499							99.9%	
CCV	25.0	25.0	1.000	0.419		0.419	0.496	0.496							99.2%	
CCB	25.0	25.0	1.000	-0.001		-0.001	-0.004	-0.004								
METHOD BLANK A	20.0	25.0	1.250	0.007		0.007	0.005	0.007	2.5000	0.100	100.000%		0.26			
LCS A	20.0	25.0	1.250	0.594		0.594	0.704	0.880	2.5000	0.100	100.000%	0.100	35.21	40.00	88.0%	
LCSD	20.0	25.0	1.250	0.635		0.635	0.753	0.941	2.5000	0.100	100.000%	0.100	37.65	40.00	94.1%	
SL3995-5	20.0	25.0	1.250	0.148	0.180	-0.032	-0.041	-0.051	2.5032	0.100	83.168%		-2.47			
SL3995-5 Post-Dig MS	20.0	25.0	1.250	0.512		0.512	0.607	0.758	2.5032	0.100	83.168%		36.42			
SL3995-5 Serial Dilution	4.0	25.0	6.250	0.038	0.036	0.002	-0.001	-0.004	2.5032	0.100	83.168%		-0.20			
SL3995-5 Insoluble MS	1.0	25.0	25.000	0.603	0.011	0.592	0.702	17.546	2.5773	0.100	83.168%	2.655	818.59	1238.48	66.3%	
SL3995-5 Soluble MS	20.0	25.0	1.250	0.426	0.268	0.158	0.185	0.231	2.5272	0.100	83.168%	0.100	11.01	47.58	28.3%	
SL4180-17	20.0	25.0	1.250	0.090	0.086	0.004	0.002	0.002	2.5668	0.100	80.402%		0.10			
SL4233-13	20.0	25.0	1.250	0.162	0.155	0.007	0.005	0.007	2.5064	0.100	80.324%		0.33			
CCV	25.0	25.0	1.000	0.419		0.419	0.496	0.496							99.2%	
CCB	25.0	25.0	1.000	-0.001		-0.001	-0.004	-0.004								
SL4233-15 Soluble MS	20.0	25.0	1.250	0.587	0.001	0.586	0.695	0.868	2.5059	0.100	72.708%	0.100	47.66	54.89	86.8%	Extimated Value, No Sample for Comparison
SL4233-15 Insoluble MS	1.0	25.0	25.000	0.808		0.808	0.959	23.976	2.4968	0.100	72.708%	2.590	1320.73	1426.87	92.6%	Extimated Value, No Sample for Comparison
SL4233-17	20.0	25.0	1.250	0.034	0.027	0.007	0.005	0.007	2.5861	0.100	75.333%		0.34			
SL4233-19	20.0	25.0	1.250	0.086	0.081	0.005	0.003	0.004	2.5111	0.100	73.688%		0.20			
SL4233-21	20.0	25.0	1.250	0.311	0.309	0.002	-0.001	-0.001	2.4997	0.100	82.994%		-0.04			
SL4233-22	20.0	25.0	1.250	0.003	0.002	0.001	-0.002	-0.002	2.4543	0.100	80.066%		-0.12			
SL4233-28	20.0	25.0	1.250	0.136	0.150	-0.014	-0.020	-0.025	2.5778	0.100	80.083%		-1.19			
SL4233-29	20.0	25.0	1.250	0.007	0.000	0.007	0.005	0.007	2.4893	0.100	79.729%		0.33			
SL4233-30	20.0	25.0	1.250	0.010	0.001	0.009	0.008	0.010	2.5490	0.100	80.052%		0.47			
SL4233-35	20.0	25.0	1.250	0.053	0.044	0.009	0.008	0.010	2.5529	0.100	76.120%		0.49			
CCV	25.0	25.0	1.000	0.419		0.419	0.496	0.496							99.2%	
CCB	25.0	25.0	1.000	-0.001		-0.001	-0.004	-0.004								
SL4233-36	20.0	25.0	1.250	0.008	0.000	0.008	0.006	0.008	2.5395	0.100	80.105%		0.40			
SL4233-36 Post Dig MS	20.0	25.0	1.250	0.382		0.382	0.452	0.565	2.5395	0.100	80.105%		27.76			
SL4233-36 Serial Dilution	4.0	25.0	6.250	0.001	-0.001	0.002	-0.001	-0.004	2.5395	0.100	80.105%		-0.21			
SL4233-36 Insoluble MS	1.0	25.0	25.000	0.795		0.795	0.944	23.589	2.4690	0.100	80.105%	2.671	1192.71	1350.37	88.3%	
SL4233-36 Soluble MS	20.0	25.0	1.250	0.569	0.000	0.569	0.674	0.843	2.4408	0.100	80.105%	0.100	43.12	51.15	83.5%	
SL4233-42	20.0	25.0	1.250	0.027	0.020	0.007	0.005	0.007	2.4973	0.100	74.195%		0.36			
SL4233-43	20.0	25.0	1.250	0.009	0.001	0.008	0.006	0.008	2.4099	0.100	82.672%		0.41			
SL4233-48	20.0	25.0	1.250	0.098	0.096	0.002	-0.001	-0.001	2.5537	0.100	71.949%		-0.05			
SL4233-49	20.0	25.0	1.250	0.009	0.000	0.009	0.008	0.010	2.4523	0.100	78.816%		0.50			
CCV	25.0	25.0	1.000	0.415		0.415	0.491	0.491							98.2%	
CCB	25.0	25.0	1.000	-0.001		-0.001	-0.004	-0.004								

Katahdin Analytical Services 5000042

WG229295 R475963

KATAHDIN ANALYTICAL SERVICES

METHOD SW846 7196A

MATRIX: SOIL / SEDIMENT / SOLID **PQL: 0.5mg/Kg (assumes 2.5g dry weight to 100 mL)**

Calibration / Quality Control Checks:	
Cal Std. Source ID (K2Cr2O7): W16042 25 ug/mL	**CCV ID:** W16504 25 ug/mL
LCS Stock ID: SWL4101 1000 ug/mL	**ICV ID:** W16503 25 ug/mL
Reagents:	**Phosphate Buffer ID:** W14990
Diphenylcarbazide Solution ID: W16537	**10% H2SO4 ID:** Rcpday of: 20mL H2SO4 SWL4212 → 200mL DI
Alkaline Digestion Reagent ID: W16483/W16536	**Alkaline Digestion Reagent pH:** 12.93
SW 3060A Leachate Generation Date: 052318	**Filtration End Time:** 1730

Sample ID	Analysis Time	Dilution	pH adj'd 7.5 +/- 0.5	pH adj'd 2.0 +/- 0.5	Sample to Color Vol. (mL)	Final Color Vol. (mL)	Sample Color/Turb Abs @ 540 nm	Developed Sample Abs @ 540 nm
ICV	1505		✓		25	25		0.422
CCV								0.419
CCB								-0.001
Blank					20			0.007
LCS								0.594
LCSD								0.635
SL3995-5							0.180	0.148
-5 P.D.S.								0.512
-5 S.D.					4.00		0.036	0.038
-5 Insol MS					1.000		0.011	0.603
-5 Sol MS					20		0.268	0.426
SL4180-17							0.086	0.090
SL4233-13							0.155	0.162
CCV					~~20~~ 25			0.419
CCB					25			-.001
SL4233-~~14~~ 15 Sol MS					20		0.001	0.587
-15 Insol MS					1.000			0.808
-17 ~~-15 Sol MS~~					20		0.027	0.034
-19							0.081	0.086
-21							0.309	0.311
-22							0.002	0.003

AP 5/24/18

Notes: W4, W5

Analyst: JP/ZF/AP	**Date:** 5/24/18
Checked By: R	**Date:** 6/2/18

KATAHDIN ANALYTICAL SERVICES

METHOD SW846 7196A

MATRIX: SOIL / SEDIMENT / SOLID **PQL: 0.5mg/Kg (assumes 2.5g dry weight to 100 mL)**

Calibration / Quality Control Checks:	
Cal Std. Source ID (K2Cr2O7): P K7 ug/mL	**CCV ID:** P17 ug/mL
LCS Stock ID: ug/mL	**ICV ID:** ug/mL
Reagents:	**Phosphate Buffer ID:**
Diphenylcarbazide Solution ID:	**10% H2SO4 ID:**
Alkaline Digestion Reagent ID:	**Alkaline Digestion Reagent pH:**
SW 3060A Leachate Generation Date:	**Filtration End Time:**

Sample ID	Analysis Time	Dilution	pH adj'd 7.5 +/- 0.5	pH adj'd 2.0 +/- 0.5	Sample to Color Vol. (mL)	Final Color Vol. (mL)	Sample Color/Turb Abs @ 540 nm	Developed Sample Abs @ 540 nm
SL4233-28			✓		20	25	0.150	0.136
-29							0.000	0.007
-30							0.001	0.010
-35							0.044	0.053
CCV					25			0.419
CCB					1			-0.001
SL4233-36					20		0.000	0.008
-36 P.D.S					1			0.382
-36 S.D.					4.00		-0.001	0.001 * SP MA 5/24/18
-36 lmslms					1.000			0.795
-36 SLMS					20		0.000	0.569
-42							0.020	0.027
-43							0.001	0.009
-48							0.096	0.098
-49							0.000	0.009
CCV					25			0.415
CCB	16:15				1			-0.001
				17	5/30/18			

Notes:

Analyst: AP/JP/ZF	**Date:** 5/24/18
Checked By: PD	**Date:** 6/2/18

Katahdin Analytical Services, Inc. **Metals Preparation Benchsheet**

Reagent Information:

HNO3:_____ HCL:_____ H2O2:_____ **Method:** 3060

LCS / Spike **LCS/Spiking Information:**

☐ ☐ CLPP-SPK-1 (ID/Vol):_____/_____mL
☐ ☐ CLPP-SPK-INT1 (ID/Vol):_____/_____mL
☐ ☐ CLPP-SPK-INT2 (ID/Vol):_____/_____mL
☐ ☐ _____ Spike (ID/Vol):_____/_____mL
☐ ☐ CLPP-SPK-4 (ID/Vol):_____/_____mL
LCSS:_____ Balance ID: 1124016031

Hot Plate/Block ID: O
Start Time/Temp.: 1345 / 90 °C
End Time/Temp.: 1445 / 92.5 °C
Thermometer ID/Pos.:_____/_____

Filter Paper:_____

Sample ID	Batch ID	Initial Wt/Vol	Initial Units	Final Vol	Final Units	MX	Meth	Anal.	Date	Initial Color	Initial Texture	Final Color	Final Clarity	Artifacts	Bottle
BLANK	LE23CRS1	2.5	g	0.1	L	SL	CR	AP/ZF/JP	05/23/2018	N/A	N/A	N/A	N/A		
LCS	LE23CRS1	2.5	g	0.1	L	SL	CR	AP/ZF/JP	05/23/2018	N/A	N/A	N/A	N/A		
LCSD	LE23CRS1	2.5	g	0.1	L	SL	CR	AP/ZF/JP	05/23/2018						
SL3995-5	LE23CRS1	~~2.5032~~ ~~0.2500~~	g	0.1	L	SL	CR	AP/ZF/JP	05/23/2018						
SL3995-5 INSOL MS	LE23CRS1	~~2.5773~~ ~~0.2462~~	g	0.1	L	SL	CR	AP/ZF/JP	05/23/2018						
SL3995-5 SOL MS	LE23CRS1	~~2.5272~~ ~~0.2481~~	g	0.1	L	SL	CR	AP/ZF/JP	05/23/2018						
SL4180-17	LE23CRS1	~~2.6668~~ ~~0.2522~~	g	0.1	L	SL	CR	AP/ZF/JP	05/23/2018						
SL4233-13	LE23CRS1	~~2.5064~~ ~~0.2420~~	g	0.1	L	SL	CR	AP/ZF/JP	05/23/2018						
SL4233-14	LE23CRS1	~~2.4769~~ ~~0.2482~~	g	redigest	L	SL	CR	AP/ZF/JP	05/23/2018						
SL4233-15	LE23CRS1	~~2.5720.2497~~	g		L	SL	CR	AP/ZF/JP	05/23/2018						
SL4233-15 INSOL MS	LE23CRS1	~~2.4965~~ ~~0.2456~~	g		L	SL	CR	AP/ZF/JP	05/23/2018						
SL4233-15 SOL MS	LE23CRS1	~~2.5059~~ ~~0.2477~~	g		L	SL	CR	AP/ZF/JP	05/23/2018						
SL4233-17	LE23CRS1	~~2.5861~~ ~~0.2456~~	g	0.1	L	SL	CR	AP/ZF/JP	05/23/2018						
SL4233-19	LE23CRS1	~~2.5111~~ ~~0.2461~~	g	0.1	L	SL	CR	AP/ZF/JP	05/23/2018						
SL4233-21	LE23CRS1	~~2.4997~~ ~~0.2446~~	g	0.1	L	SL	CR	AP/ZF/JP	05/23/2018						
SL4233-22	LE23CRS1	~~2.4543~~ ~~0.2420~~	g	0.1	L	SL	CR	AP/ZF/JP	05/23/2018						
SL4233-28	LE23CRS1	~~2.5776~~ ~~0.2517~~	g	0.1	L	SL	CR	AP/ZF/JP	05/23/2018						
SL4233-29	LE23CRS1	~~2.4893~~ ~~0.2466~~	g	0.1	L	SL	CR	AP/ZF/JP	05/23/2018						
SL4233-30	LE23CRS1	~~2.5490~~ ~~0.2496~~	g	0.1	L	SL	CR	AP/ZF/JP	05/23/2018						
SL4233-35	LE23CRS1	~~2.5529~~ ~~0.2491~~	g	0.1	L	SL	CR	AP/ZF/JP	05/23/2018						
SL4233-36	LE23CRS1	~~2.5395~~ ~~0.2427~~	g	0.1	L	SL	CR	AP/ZF/JP	05/23/2018						
SL4233-36 INSOL MS	LE23CRS1	~~2.4690~~ ~~0.2469~~	g	0.1	L	SL	CR	AP/ZF/JP	05/23/2018						
SL4233-36 SOL MS	LE23CRS1	~~2.4408~~ ~~0.2498~~	g	0.1	L	SL	CR	AP/ZF/JP	05/23/2018						
SL4233-42	LE23CRS1	~~2.4973~~ ~~0.2567~~	g	0.1	L	SL	CR	AP/ZF/JP	05/23/2018						
SL4233-43	LE23CRS1	~~2.4098~~ ~~0.2573~~	g	0.1	L	SL	CR	AP/ZF/JP	05/23/2018						
SL4233-48	LE23CRS1	~~2.6537~~ ~~0.2544~~	g	0.1	L	SL	CR	AP/ZF/JP	05/23/2018						
SL4233-49	LE23CRS1	~~2.4523~~ ~~0.2429~~	g	0.1	L	SL	CR	AP/ZF/JP	05/23/2018						

SL3995-5 Insol spike: 0.0165g

SL4233-15 spike: 0.0161g

SL4233-36 spike: 0.0166g

Insoluble MS spiked w/ PbCrO6 (SWL)

Soluble MS & LCS spiked w/ 0.1 mL Cr+6 Std 1000 µg/mL SWL4101

Digestion performed by: AP/ZF/JP **On:** 5/23/18

Katahdin Analytical Services 5000045

TOTAL SOLIDS BATCH REPORT
May 14 2018, 08:43 am
Batch: WG228109

Sample	Matrix	Type	Prep Date	Tare	Initial	Final1	Final	by	Date	Raw TS	Rep TS	Recovery	RPD
SL3946-1	SL	SAMP	11-MAY-18	1.3 g	14.0761 g	12.1037 g	12.1037 g	was	14-MAY-18	84.5620	84. %		
SL3951-3	SL	SAMP	11-MAY-18	1.3 g	11.4671 g	11.132 g	11.132 g	was	14-MAY-18	96.7040	97. %		
SL3951-4	SL	SAMP	11-MAY-18	1.3 g	12.858 g	12.5466 g	12.5466 g	was	14-MAY-18	97.3060	97. %		
SL3995-1	SL	SAMP	11-MAY-18	1.3 g	14.028 g	12.1325 g	12.1325 g	was	14-MAY-18	85.1080	85. %		
SL3995-10	SL	SAMP	11-MAY-18	1.3 g	16.4425 g	13.4808 g	13.4808 g	was	14-MAY-18	80.4410	80. %		
SL3995-11	SL	SAMP	11-MAY-18	1.3 g	15.2554 g	12.6048 g	12.6048 g	was	14-MAY-18	81.0070	81. %		
SL3995-12	SL	SAMP	11-MAY-18	1.3 g	20.5825 g	17.0908 g	17.0908 g	was	14-MAY-18	81.8920	82. %		
SL3995-13	SL	SAMP	11-MAY-18	1.3 g	19.7114 g	15.9738 g	15.9738 g	was	14-MAY-18	79.7000	80. %		
SL3995-14	SL	SAMP	11-MAY-18	1.3 g	19.4423 g	15.5407 g	15.5407 g	was	14-MAY-18	78.4940	78. %		
SL3995-2	SL	SAMP	11-MAY-18	1.3 g	13.5575 g	11.5593 g	11.5593 g	was	14-MAY-18	83.6980	84. %		
SL3995-3	SL	SAMP	11-MAY-18	1.3 g	14.3227 g	12.1181 g	12.1181 g	was	14-MAY-18	83.0710	83. %		
SL3995-4	SL	SAMP	11-MAY-18	1.3 g	15.996 g	13.5651 g	13.5651 g	was	14-MAY-18	83.4590	83. %		
SL3995-5	SL	SAMP	11-MAY-18	1.3 g	11.5626 g	9.8352 g	9.8352 g	was	14-MAY-18	83.1680	83. %		
SL3995-6	SL	SAMP	11-MAY-18	1.3 g	20.6638 g	16.5603 g	16.5603 g	was	14-MAY-18	78.8080	79. %		
SL3995-7	SL	SAMP	11-MAY-18	1.3 g	21.3027 g	17.1843 g	17.1843 g	was	14-MAY-18	79.4110	79. %		
SL3995-8	SL	SAMP	11-MAY-18	1.3 g	19.6683 g	16.1805 g	16.1805 g	was	14-MAY-18	81.0120	81. %		
SL3995-9	SL	SAMP	11-MAY-18	1.3 g	17.3869 g	14.3803 g	14.3803 g	was	14-MAY-18	81.3100	81. %		
WG228109-1	SL	MBLANK	11-MAY-18	1.3 g	5.8052 g	5.8034 g	5.8034 g	was	14-MAY-18	99.9600	100 %		
WG228109-2	SL	LCS	11-MAY-18	1.3 g	6.3091 g	5.8076 g	5.8076 g	was	14-MAY-18	89.9880	90. %	100	
WG228109-3	SL	DUP	11-MAY-18	1.3 g	13.3337 g	11.2434 g	11.2434 g	was	14-MAY-18	82.6300	83. %		1
WG228109-4	SL	DUP	11-MAY-18	1.3 g	13.6665 g	13.2771 g	13.2771 g	was	14-MAY-18	96.8510	97. %		0

Comments:

SL3951-3	MS/MSD, perform total solids on dried sample. Limit drying to 5 days.-per client request.
SL3951-4	perform total solids on dried sample. Limit drying to 5 days.-per client request.
SL3995-5	MS/MSD
WG228109-1	SL3995-5
WG228109-2	SL3995-5
WG228109-3	SL3995-5
WG228109-4	SL3951-3

Entered by: _____ Date: 5-14-18 Accepted by: _____ Date: 05/14/18 ✓

Katahdin Analytical Services 5000046

Katahdin
ANALYTICAL SERVICES

Katahdin Analytical Services

RM73236

Work Group Report (wk02)

11-MAY-18 01:03 PM

Work Group: WG228109
Department: 100 Wetlab Prep

Operator:

Created: 11-MAY-18
Due:

Tin	Sample	Account Name	Product	Matrix	Status	UA	Workdate	PR Location
26	SL3946-1	[redacted]	TS	Solid	WIP	U	20-MAY-18	
27	SL3951-3	[redacted]	TS	Solid	WIP	U	21-MAY-18	
28	SL3951-4	[redacted]	TS	Solid	WIP	U	21-MAY-18	
29	SL3995-1	[redacted]	TS	Solid	WIP	U	21-MAY-18	
30	SL3995-2	[redacted]	TS	Solid	WIP	U	21-MAY-18	
31	SL3995-3	[redacted]	TS	Solid	WIP	U	21-MAY-18	
32	SL3995-4	[redacted]	TS	Solid	WIP	U	21-MAY-18	
33	SL3995-5	[redacted]	TS	Solid	WIP	U	21-MAY-18	
34	SL3995-6	[redacted]	TS	Solid	WIP	U	21-MAY-18	
35	SL3995-7	[redacted]	TS	Solid	WIP	U	21-MAY-18	
36	SL3995-8	[redacted]	TS	Solid	WIP	U	21-MAY-18	
37	SL3995-9	[redacted]	TS	Solid	WIP	U	21-MAY-18	
38	SL3995-10	[redacted]	TS	Solid	WIP	U	21-MAY-18	
39	SL3995-11	[redacted]	TS	Solid	WIP	U	21-MAY-18	
40	SL3995-12	[redacted]	TS	Solid	WIP	U	21-MAY-18	
41	SL3995-13	[redacted]	TS	Solid	WIP	U	21-MAY-18	
42	SL3995-14	[redacted]	TS	Solid	WIP	U	21-MAY-18	
43	WG228109-1	MBLANK	TS	Solid	WIP	U	11-MAY-18	
44	WG228109-2	LCS	TS	Solid	WIP	U	11-MAY-18	
45	WG228109-3	DUP	TS	Solid	WIP	U	11-MAY-18	
46	WG228109-4	DUP	TS	Solid	WIP	U	11-MAY-18	

Comments:

SL3951-3	MS/MSD, perform total solids on dried sample. Limit drying to 5 days.-per client request.
SL3951-4	perform total solids on dried sample. Limit drying to 5 days.-per client request.
SL3995-5	MS/MSD
WG228109-1	SL3995-5
WG228109-2	SL3995-5
WG228109-3	SL3995-5
WG228109-4	SL3951-3

Start: 16:45

Total Solids: SM2540 G / ASTM D2216			PQL: 0.10%	Oven ID: 107N0042		Balance Calibrated?
TS	In 1	In 2	TS	Out 1	Out 2	Y / N
ANALYST IN:	JMS		ANALYST OUT:	WAS		In:
DATE IN:	5-11-18		DATE OUT:	5/14/18		Out (TS):
TIME IN:	15:07		TIME OUT:	700		Balance ID:
TEMP IN:	104		TEMP OUT:	104		S/N 1124016031

ATI, INC.
CORNHUSKER
ARMY AMMUNITION PLANT
SL4180

KATAHDIN ANALYTICAL SERVICES
600 TECHNOLOGY WAY
SCARBOROUGH, ME 04074

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SAMPLE DATA PACKAGE

NARRATIVE
KATAHDIN ANALYTICAL SERVICES
ATI, INC.
CORNHUSKER ARMY AMMUNITION PLANT
SL4180

Sample Receipt

The following samples were received on May 15, 2018 and were logged in under Katahdin Analytical Services work order number SL4180 for a hardcopy due date of May 27, 2018.

KATAHDIN Sample No.	ATI Sample Identification
SL4180-1	CHAAP-21B-DS-SS02
SL4180-2	CHAAP-21B-DS-SS102
SL4180-3	CHAAP-21B-DS-SB02-5
SL4180-4	CHAAP-21B-DS-SB02-10
SL4180-5	CHAAP-21B-DS-SS06
SL4180-6	CHAAP-21B-DS-SB06-5
SL4180-7	CHAAP-21B-DS-SB06-10
SL4180-8	CHAAP-21B-DS-SS07
SL4180-9	CHAAP-21B-DS-SB07-5
SL4180-10	CHAAP-21B-DS-SB107-5
SL4180-11	CHAAP-21B-DS-SB07-10
SL4180-12	CHAAP-21B-DS-SS08
SL4180-13	CHAAP-21B-DS-SB08-5
SL4180-14	CHAAP-21B-DS-SS09
SL4180-15	CHAAP-21B-DS-SB09-5
SL4180-16	CHAAP-21B-DS-SS11
SL4180-17	CHAAP-21B-DS-SS111
SL4180-18	CHAAP-21B-DS-SB11-5
SL4180-19	CHAAP-21B-DS-SS10
SL4180-20	CHAAP-21B-DS-SB10-5
SL4180-21	CHAAP-21B-DS-SS04
SL4180-22	CHAAP-21B-DS-SB04-5
SL4180-23	CHAAP-21B-DS-SB04-10
SL4180-24	CHAAP-21B-DS-SS03
SL4180-25	CHAAP-21B-DS-SS103
SL4180-26	CHAAP-21B-DS-SB03-5
SL4180-27	CHAAP-21B-DS-SB03-10
SL4180-28	CHAAP-TB-051418
SL4180-29	CHAAP-EB-051418

The samples were logged in for the analyses specified on the chain of custody form. All problems encountered and resolved during sample receipt have been documented on the applicable chain of custody forms.

We certify that the test results provided in this report meet all the requirements of the NELAP standards unless otherwise noted in this narrative or in the Report of Analysis.

We certify that the test results provided in this report are accredited under the laboratory's ISO/IEC 17025:2005 and DoD-ELAP accreditation issued by the ANSI-ASQ National Accreditation Board. Refer to certificate and scope of accreditation L2223.

Analytes which are reported but not listed on our ANAB scope of accreditation will be "^" flagged and the following language will be included in the case narrative for all DoD compliant work: "^" Indicates this analyte is not included on Katahdin Analytical Services DoD-ELAP Scope of Accreditation.

Sample analyses have been performed by the methods as noted herein.

Should you have any questions or comments concerning this Report of Analysis, please do not hesitate to contact your Katahdin Analytical Services Project Manager, **Ms. Heather Manz**. This narrative is an integral part of the Report of Analysis.

Organics Analysis

The samples of Work Order SL4180 were analyzed in accordance with "Test Methods for Evaluating Solid Wastes: Physical/Chemical Methods." SW-846, 2nd edition, 1982 (revised 1984), 3rd edition, 1986, and Updates I, II, IIA, III, IIIA, and IIIB 1996, 1998 & 2004, Office of Solid Waste and Emergency Response, U.S. EPA and/or for the specific methods listed below or on the Report of Analysis.

Samples SL4180-8 and 18 were used for the matrix spikes (MS) and matrix spike duplicates (MSD), as requested by the client.

8260B Analysis

Sample SL4180-29 had a recovery for the surrogate 1,2-dichloroethane-d4 that was high and outside of the DoD QSM acceptance criteria. Since a high recovery indicates a high bias and no target analytes were detected, no further action was taken.

Samples SL4180-5, 8, 12, 14, 16, 17, 21 and 25 had low recoveries for the surrogate p-bromofluorobenzene that were outside of the QAPP acceptance limits and/or had low responses for one internal standard, which were outside the DoD QSM acceptance limit of -50% to +100% of the responses of the internal standards of the ICAL midpoint standard. The samples were re-analyzed with similar deviations. The results for both analyses are reported.

The independent check standard (file W4030A) associated with the initial calibration on the W instrument on 5-18-18 had a high concentration for dichlorodifluoromethane that exceeded the DoD QSM acceptance limit of ±20% of the expected value from the ICAL. The Independent Check Report consists of the full list of spiked analytes, but only the client's list of target analytes are evaluated.

The calibration verification standard (CV) (file D1447) had high responses for the compounds acetone, 2-butanone, and 2-hexanone. The CVs (files W4034 and W4100) had high responses for the compound acetone and/or 1,2-dibromo-3-chloropropane. These responses resulted in %D's that were greater than the DoD QSM acceptance limits of 20%.

Note: The Form VII has a column for %D that is set to 20%. The DoD QSM 5.0 criterion for an opening CV is 20%D and a closing CV is 50%D. All of the compounds in the CV's were evaluated to either 20% criteria for opening CVs or 50% criteria for closing CVs.

The target analyte naphthalene was detected below ½ the reporting limit in the method blanks WG228693-2, WG228825-2 and WG228751-9. According to the DoD QSM section D.1.1.1, a method blank is considered to be contaminated if the concentration of any target analyte in the blank exceeds ½ the reporting limit. Since the method blank was acceptable, no further action was taken.

The reported percent recovery acceptance limits for the Laboratory Control Samples (LCSs) are based on the QAPP acceptance limits. The recoveries of the spiked analytes in the LCS, Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are compared to these acceptance limits. Katahdin standard operating procedure is to take corrective action only if the number of spiked analytes in the LCS that are outside of the QC limits is greater than the DoD QSM allowable number of exceedances. If the associated MS/MSD has greater than the allowable number of exceedances, no corrective action is taken, as long as the LCS is acceptable.

8330B Analysis

Samples SL4180-2, 12, 14, 16, and 21 were manually integrated for the target analyte HMX and/or the extraction surrogate 1,2-dinitrobenzene on the primary and/or confirmation columns. The specific reasons for the manual integrations are indicated on the raw data by the manual integration codes (M1-M11). These codes are further explained in the attachment following this narrative.

All samples were initially analyzed on the primary Phenomenex column. If a sample has a peak that is within the retention time window of a target analyte and the concentration is above the PQL, the sample is reanalyzed for confirmation on the confirmation Acclaim E2 column. An analyte is considered confirmed if the mentioned criteria are achieved with both columns. Samples SL4180-5, 6, 7, and 21 were reanalyzed for confirmation on the confirmation Acclaim E2 column and samples SL4180-5 and 21 confirmed for HMX. All of the supporting data for the confirmation analysis is included in the report. The results from the primary column are reported.

There were no other protocol deviations or observations noted by the organics laboratory staff.

Metals Analysis

The samples of Katahdin Work Order SL4180 were prepared and analyzed for metals in accordance with the "Test Methods for Evaluating Solid Wastes: Physical/Chemical Methods." SW-846. 2nd edition, 1982 (revised 1984), 3rd edition, 1986, and Updates I, II, IIA, III, IIIA and IIIB 1996, 1998 & 2004, Office of Solid Waste and Emergency Response, U.S. EPA.

Inductively-Coupled Plasma Mass Spectrometric Analysis (ICP-MS)

Solid-matrix Katahdin Sample Numbers SL4180-(1-17) were digested for ICP-MS analysis on 05/21/18 (QC Batch LE21IMS1) in accordance with USEPA Method 3050B. Katahdin Sample Number SL4180-8 was prepared with duplicate matrix-spiked aliquots, per client request.

Solid-matrix Katahdin Sample Numbers SL4180-(18-27) were digested for ICP-MS analysis on 05/21/18 (QC Batch LE21IMS2) in accordance with USEPA Method 3050B. Katahdin Sample Number SL4180-18 was prepared with duplicate matrix-spiked aliquots, per client request.

Aqueous-matrix Katahdin Sample Number SL4180-29 was digested for ICP-MS analysis on 05/21/18 (QC Batch LE21IMW2) in accordance with USEPA Method 3010A.

All sample digestates for method 6020A were diluted by a factor of 5 during analysis to reduce mass interferences from chlorine, which is present in the digestates from the hydrochloric acid used in digesting the samples. Per client request, samples which required an additional dilution have been identified using a "D" flag in the qualifier column on all Form 1s.

ICP-MS analyses of Katahdin Work Order SL4180 sample digestates were performed using an Agilent 7500 ICP-MS spectrometer in accordance with USEPA Method 6020A. Results for all standards and samples are reported using the mean of 3 replicate measurements. All samples were analyzed within holding times and all analytical run QC criteria were met.

Internal standard recoveries for ICP-MS analyses can be found in the raw data section of the accompanying data package. The following table indicates which analytes are associated with each internal standard element.

Internal Standard Element	Associated Analytes
Lithium	Beryllium, Boron
Scandium	Sodium, Magnesium, Aluminum, Potassium, Calcium
Germanium or Yttrium	Vanadium, Chromium, Manganese, Iron, Cobalt, Nickel, Copper, Zinc, Arsenic, Selenium, Silver, Cadmium, Strontium, Molybdenum
Terbium	Antimony, Barium, Tin, Tungsten
Bismuth	Lead, Thallium, Thorium, Uranium

Instrument tuning information can also be found in the raw data section in the reports labeled "6020 QC Tune Report". For Method 6020A, the relative standard deviation was determined from 4 replicate measurements and the peak width was measured at 10% of the peak height.

Analysis of Mercury by Cold Vapor Atomic Absorption (CVAA)

Aqueous-matrix Katahdin Sample Number SL4180-29 was digested for mercury analysis on 05/17/18 (QC Batch LE17HGW2) in accordance with USEPA Method 7470A.

Solid-matrix Katahdin Sample Numbers SL4180-(1-17, 19-21) were digested for mercury analysis on 05/21/18 (QC Batch LE21HGS1) in accordance with USEPA Method 7471A. Katahdin Sample Number SL4180-8 was prepared with duplicate matrix-spiked aliquots, per client request.

Solid-matrix Katahdin Sample Numbers SL4180-(18, 22-27) were digested for mercury analysis on 05/21/18 (QC Batch LE21HGS2) in accordance with USEPA Method 7471A. Katahdin Sample Number SL4180-18 was prepared with duplicate matrix-spiked aliquots, per client request.

Mercury analysis of the Katahdin Work Order SL4180 sample digestates were performed using a Cetac M6100 automated mercury analyzer in accordance with USEPA Methods 7470A and 7471B. All samples were analyzed within holding times. All analytical run QC criteria were met.

Matrix QC Summary

The measured recoveries of aluminum, antimony, barium, calcium, iron, magnesium, manganese, and potassium in one or both of the matrix-spiked aliquots of Katahdin Sample Numbers SL4180-(8, 18) are outside the project acceptance criteria. For aluminum, calcium, iron, magnesium, manganese, and potassium, this may be attributable to the native concentration being significantly greater than the spike added.

The matrix-spike duplicate analyses of Katahdin Sample Numbers SL4180-(8, 18) are within the project's acceptance criteria (<20% relative difference between duplicate matrix-spiked aliquots) for all analytes.

The measured recoveries of aluminum, barium, calcium, iron, lead, magnesium, and manganese in the post-digestion spiked aliquots of Katahdin Sample Numbers SL4180-(8, 18) are outside the project's acceptance criteria (80%-120% recovery of the added element). This may be attributable to the native concentration being significantly greater than the spike added.

The serial dilution analysis of Katahdin Sample Number SL4180-8 is outside the project's acceptance criteria (<10% relative percent difference, if the concentration in the original sample is greater than 50 times the LOD) for magnesium.

The serial dilution analysis of Katahdin Sample Number SL4180-18 is outside the project's acceptance criteria (<10% relative percent difference, if the concentration in the original sample is greater than 50 times the LOD) for iron, magnesium, manganese, nickel, and zinc.

Reporting of Metals Results

Per client request, analytical results for client samples on Form I and preparation blanks on Form IIIP have been reported using the laboratory's limits of detection (LOD). All results were evaluated down to the laboratory's method detection limits (MDLs). Results that fall between the MDL and the LOQ are flagged with "J" in the C-qualifier column, and the measured concentration appears in the concentration column. Results that are less than the MDL are flagged with "U" in the C-qualifier column, and the LOD is listed in the concentration column. These LOQs, MDLs and LODs have been adjusted for each sample based on the sample amounts used in preparation and analysis.

Analytical results on Forms VA, VD, VII, and IX for client samples, matrix QC samples (duplicates and matrix spikes), and laboratory control samples have been reported down to the laboratory's method detection limits (MDLs). Analytical results that are below the MDLs are flagged with "U" in the C-qualifier column, and the measured concentration is listed in the concentration column.

Analytical results for instrument run QC samples (ICVs, ICBs, etc.) have been reported down to the laboratory's instrument detection limits (IDLs).

IDLs, LODs, MDLs, and LOQs are listed on Form 10 of the accompanying data package.

Wet Chemistry Analysis

The samples of Work Order SL4180 were analyzed in accordance with the specific methods listed on the Report of Analysis.

Analyses for hexavalent chromium and total solids were performed according to "Test Methods for Evaluating Solid Wastes: Physical/Chemical Methods." SW-846 2nd edition, 1982 (revised 1984), 3rd edition, 1986, and Updates I, II, IIA,III, IIIA and IIIB 1996, 1998 & 2004, Office of Solid Waste and Emergency Response, U.S. EPA. Trivalent chromium was calculated as the difference between total chromium and hexavalent chromium.

All Wet Chemistry results were evaluated to Katahdin Analytical Services' Method Detection Limits (MDL). Measured concentrations that fall between the MDL and Katahdin's Limit of Quantitation (LOQ) are flagged "J". Measured concentrations that are below the MDL are flagged "U" and reported as "U LOD", where "LOD" is the numerical value of the Limit of Detection.

All analyses were performed within analytical holding times. All quality control criteria were met.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the Quality Assurance Officer, or their designee, as verified by the following signature.

Leslie Dimond
06.04.13

Leslie Dimond
Quality Assurance Officer

Katahdin Analytical Services, Inc.

Manual Integration Codes For GC/MS, GC, HPLC and/or IC

M1	Peak splitting.
M2	Well defined peaks on the shoulders of the other peaks.
M3	There is additional area due to a coeluting interferant.
M4	There are negative spikes in the baseline.
M5	There are rising or falling baselines.
M6	The software has failed to detect a peak or misidentified a peak.
M7	Excessive peak tailing.
M8	Analysis such as GRO, DRO and TPH require a baseline hold.
M9	Peak was not completely integrated as in GC/MS.
M10	Primary ion was correctly integrated, but secondary or tertiary ion needed manual integration as in GC/MS.
M11	For GC analysis, when a sample is diluted by 1:10 or more, the surrogate is set to undetected and then the area under the surrogate is manually integrated.
M12	Manual integration saved in method due to TurboChrom floating point error.

Katahdin Analytical Services, LLC. **Sample Receipt Condition Report**

Client: ATI	KAS PM: HMM	Sampled By: Client	
Project:	KIMS Entry By: JCB	Delivered By: Fedex	
KAS Work Order#: SL4180	KIMS Review By: HMM	Received By: JCB	
SDG #:	Cooler: 1 of 3	Date/Time Rec.: 5.15.18 915	

Receipt Criteria	Y	N	EX*	NA	Comments and/or Resolution
1. Custody seals present / intact?	✓				
2. Chain of Custody present in cooler?	✓				
3. Chain of Custody signed by client?	✓				
4. Chain of Custody matches samples?	✓				
5. Temperature Blanks present? If not, take temperature of any sample w/ IR gun.	✓				Temp (°C): 5.0
Samples received at <6 °C w/o freezing?	✓				Note: Not required for metals (except Hg soil) analysis.
Ice packs or ice present?	✓				The lack of ice or ice packs (i.e. no attempt to begin cooling process) or insufficient ice may not meet certain regulatory requirements and may invalidate certain data.
If yes, was there sufficient ice to meet temperature requirements?	✓				
If temp. out, has the cooling process begun (i.e. ice or packs present) and sample collection times <6hrs., but samples are not yet cool?				✓	Note: No cooling process required for metals (except Hg soil) analysis.
6. Volatiles:					
Aqueous: No bubble larger than a pea?	✓				
Soil/Sediment:					
Received in airtight container?	✓				
Received in methanol?	✓				
Methanol covering soil?	✓				
D.I. Water - Received within 48 hour HT?	✓				
Air: Refer to KAS COC for canister/flow controller requirements.	√ if air included				
7. Trip Blank present in cooler?	✓				No soil Trip blank
8. Proper sample containers and volume?	✓				
9. Samples within hold time upon receipt?	✓				
10. Aqueous samples properly preserved? Metals, COD, NH3, TKN, O/G, phenol, TPO4, N+N, TOC, DRO, TPH – pH <2				✓	
Sulfide - >9				✓	
Cyanide – pH >12				✓	

* Log-In Notes to Exceptions: document any problems with samples or discrepancies or pH adjustments.

Katahdin Analytical Services, LLC. **Sample Receipt Condition Report**

Client: ATI	KAS PM: HHM	Sampled By: Client	
Project:	KIMS Entry By: JCB	Delivered By: Fedex	
KAS Work Order#: SL4180	KIMS Review By: HHM	Received By: JCB	
SDG #:	Cooler: 2 of 3	Date/Time Rec.: 5.15.18 915	

Receipt Criteria	Y	N	EX*	NA	Comments and/or Resolution
1. Custody seals present / intact?	✓				
2. Chain of Custody present in cooler?	✓				
3. Chain of Custody signed by client?	✓				
4. Chain of Custody matches samples?	✓				
5. Temperature Blanks present? If not, take temperature of any sample w/ IR gun.	✓				Temp (°C): 5.1
Samples received at <6 °C w/o freezing?	✓				Note: Not required for metals (except Hg soil) analysis.
Ice packs or ice present?	✓				The lack of ice or ice packs (i.e. no attempt to begin cooling process) or insufficient ice may not meet certain regulatory requirements and may invalidate certain data.
If yes, was there sufficient ice to meet temperature requirements?	✓				
If temp. out, has the cooling process begun (i.e. ice or packs present) and sample collection times <6hrs., but samples are not yet cool?				✓	Note: No cooling process required for metals (except Hg soil) analysis.
6. Volatiles:					
Aqueous: No bubble larger than a pea?				✓	
Soil/Sediment:					
Received in airtight container?				✓	
Received in methanol?				✓	
Methanol covering soil?				✓	
D.I. Water - Received within 48 hour HT?				✓	
Air: Refer to KAS COC for canister/flow controller requirements.	√ if air included				
7. Trip Blank present in cooler?				✓	
8. Proper sample containers and volume?	✓				
9. Samples within hold time upon receipt?	✓				
10. Aqueous samples properly preserved? Metals, COD, NH3, TKN, O/G, phenol, TPO4, N+N, TOC, DRO, TPH – pH <2				✓	
Sulfide - >9				✓	
Cyanide – pH >12				✓	

* Log-In Notes to Exceptions: document any problems with samples or discrepancies or pH adjustments.

Katahdin Analytical Services, LLC.

Sample Receipt Condition Report

Client: ATI	KAS PM: mm	Sampled By: Client	
Project:	KIMS Entry By: TCB	Delivered By: Fedex	
KAS Work Order#: SL4180	KIMS Review By: mm	Received By: JOB	
SDG #:	Cooler: 3 of 3	Date/Time Rec.: 5.15.18 915	

Receipt Criteria	Y	N	EX*	NA	Comments and/or Resolution
1. Custody seals present / intact?	✓				
2. Chain of Custody present in cooler?	✓				
3. Chain of Custody signed by client?	✓				
4. Chain of Custody matches samples?	✓				
5. Temperature Blanks present? If not, take temperature of any sample w/ IR gun.	✓				Temp (°C): 3.8
Samples received at <6 °C w/o freezing?	✓				Note: Not required for metals (except Hg soil) analysis.
Ice packs or ice present?	✓				The lack of ice or ice packs (i.e. no attempt to begin cooling process) or insufficient ice may not meet certain regulatory requirements and may invalidate certain data.
If yes, was there sufficient ice to meet temperature requirements?	✓				
If temp. out, has the cooling process begun (i.e. ice or packs present) and sample collection times <6hrs., but samples are not yet cool?				✓	Note: No cooling process required for metals (except Hg soil) analysis.
6. Volatiles:					
Aqueous: No bubble larger than a pea?				✓	
Soil/Sediment:					
Received in airtight container?				✓	
Received in methanol?				✓	
Methanol covering soil?				✓	
D.I. Water - Received within 48 hour HT?				✓	
Air: Refer to KAS COC for canister/flow controller requirements.	√ if air included				
7. Trip Blank present in cooler?				✓	
8. Proper sample containers and volume?	✓				
9. Samples within hold time upon receipt?	✓				
10. Aqueous samples properly preserved? Metals, COD, NH3, TKN, O/G, phenol, TPO4, N+N, TOC, DRO, TPH – pH <2	✓				
Sulfide - >9				✓	
Cyanide – pH >12				✓	

* Log-In Notes to Exceptions: document any problems with samples or discrepancies or pH adjustments.

Katahdin ANALYTICAL SERVICES
600 Technology Way
P.O. Box 540
Scarborough, ME 04070
Tel: (207) 874-2400
Fax: (207) 775-4029

Chain of Custody

Client:	Contact:	Phone #:	Fax #:
ATI INC.	**David Nelson**	410-992-3424	( )
Address: 9220 Rumsey Road, Suite 100	City: Columbia	State: MD	Zip Code: 21045
Purchase Order #:	Proj. Name/No.:		Katahdin Quote #:
Bill (if different than above):		Address:	
Sampler (Print/Sign): Alex Hedgepath - HGL			Copies To: Ryan Sullivan / Jennifer Spies

LAB USE ONLY Work Order #: 345180 (Katahdin Project Number)

Remarks:

Shipping Info: FEDEX UPS CLIENT

Airbill No:

Temp C: Temp Blank: Intact / Not Intact

	Sample Description	Date/Time Collected	Matrix	No. of Containers	VOCs (8260) Filt. N	Explosives (8330B) Filt. N	Metals (6020) Filt. N	Metals (6020) Field Filtered Filt. Y	PAHs (8270C-SIM) Filt. N	CrVI (7196A) Filt. N	SPLP Metals (1312) Filt. N			Page 1 of 3 Filt. N
1	CHAAP-21B-DS-SS02 ✓	1500-05/14/18	S	3	X									
2	CHAAP-21B-DS-SS102 ✓	1200-05/14/18	S	3	X									
3	CHAAP-21B-DS-SB02-5 ✓	1505-05/14/18	S	3	X									
4	CHAAP-21B-DS-SB02-10 ✓	1510-05/14/18	S	3	X									
5	CHAAP-21B-DS-SS06 ✓	1430-05/14/18	S	3	X									
6	CHAAP-21B-DS-SB06-5 ✓	1435-05/14/18	S	3	X									
7	CHAAP-21B-DS-SB06-10 ✓	1440-05/14/18	S	3	X									
8	CHAAP-21B-DS-SS07 ✓	1400-05/14/18	S	3	X									
9	CHAAP-21B-DS-SS07-MS/MSD ✓	1400-05/14/18	S	6	X									
10	CHAAP-21B-DS-SB07-5 ✓	1403-05/14/18	S	3	X									
11	CHAAP-21B-DS-SB107-5 ✓	1200-05/14/18	S	3	X									
12	CHAAP-21B-DS-SB07-10 ✓	1405-05/14/18	S	3	X									
13	CHAAP-21B-DS-SS08 ✓	1335-05/14/18	S	3	X									
14	CHAAP-21B-DS-SB08-5 ✓	1340-05/14/18	S	3	X									
15	CHAAP-21B-DS-SS09 ✓	1315-05/14/18	S	3	X									
16	CHAAP-21B-DS-SB09-5 ✓	1320-05/14/18	S	3	X									
17	CHAAP-21B-DS-SS11 ✓	1250-05/14/18	S	3	X									
18	CHAAP-21B-DS-SS111 ✓	1200-05/14/18	S	3	X									
19	CHAAP-21B-DS-SB11-5(-MS/MSD) ✓	1300-05/14/18	S	9	X									
20	CHAAP-21B-DS-SS10 ✓	1230-05/14/18	S	3	X									
21	CHAAP-21B-DS-SB10-5 ✓	1235-05/14/18	S	3	X									
22	CHAAP-21B-DS-SS04 ✓	1210-05/14/18	S	3	X									
23	CHAAP-21B-DS-SB04-5 ✓	1215-05/14/18	S	3	X									
24	CHAAP-21B-DS-SB04-10 ✓	1220-05/14/18	S	3	X									
25	CHAAP-21B-DS-SS03 ✓	1115-05/14/18	S	3	X									
26	CHAAP-21B-DS-SS103 ✓	1200-05/14/18	S	3	X									
27	CHAAP-21B-DS-SB03-5 ✓	1130-05/14/18	S	3	X									
28	CHAAP-21B-DS-SB03-10 ✓	1145-05/14/18	S	3	X									
29	CHAAP-TB-051418 ✓	1000-05/14/18	W	~~3~~ 2	X									
30	CHAAP-EB-051418 ✓	1600-05/14/18	W	~~3~~ 2	X									
	-END OF SAMPLES													

COMMENTS: TB was field filled with DI Reagent

Relinquished By:	Date/Time	Received By:	Relinquished By:	Date/Time	Received By:
Alex Hedgepath HGL	05/14/18 - 1700	[signature] 5/15/18 0715			
Relinquished By:	Date/Time	Received By:	Relinquished By:	Date/Time	Received By:

All laboratory and field work shall be governed by KATAHDIN's Standard Terms and Conditions, except where a Purchase Order or Contract supersede.

Katahdin ANALYTICAL SERVICES
600 Technology Way
P.O. Box 540
Scarborough, ME 04070
Tel: (207) 874-2400
Fax: (207) 775-4029

Chain of Custody

Client:	Contact:	Phone #:	Fax #:
ATI INC.	**David Nelson**	410-992-3424	( )
Address: 9220 Rumsey Road, Suite 100	City: Columbia	State: MD	Zip Code: 21045
Purchase Order #:	Proj. Name/No.:		Katahdin Quote #:
Bill (if different than above):		Address:	
Sampler (Print/Sign): Alex Hedgepath - HGL			Copies To: Ryan Sullivan / Jennifer Spies

LAB USE ONLY Work Order #: 5LC4180 (Katahdin Project Number)

Remarks:

Shipping Info: FEDEX UPS CLIENT

Airbill No:

Temp C Temp Blank Intact Not Intact

	Sample Description	Date/Time Collected	Matrix	No. of Containers	Analysis and Container Type Preservatives: VOCs (8260) Filt. N	Explosives (8330B) Filt. N	Metals (6020) Filt. N	Metals (6020) Field Filtered Filt. Y	PAHs (8270C-SIM) Filt. N	CrVI (7196A) Filt. N	SPLP Metals (1312) Filt. N			Page 2 of 3 Filt. N
1	CHAAP-21B-DS-SS02 ✓	1500-05/14/18	S	1		X	X			X				
2	CHAAP-21B-DS-SS102 ✓	1200-05/14/18	S	1		X	X			X				
3	CHAAP-21B-DS-SB02-5 ✓	1505-05/14/18	S	1		X	X			X				
4	CHAAP-21B-DS-SB02-10 ✓	1510-05/14/18	S	1		X	X							
5	CHAAP-21B-DS-SB06-5 ✓	1435-05/14/18	S	1		X	X							
6	CHAAP-21B-DS-SB06-10 ✓	1440-05/14/18	S	1		X	X							
7	CHAAP-21B-DS-SS07-MS/MSD ✓	1400-05/14/18	S	2		X	X							
8	CHAAP-21B-DS-SB07-5 ✓	1403-05/14/18	S	1		X	X							
9	CHAAP-21B-DS-SB107-5 ✓	1200-05/14/18	S	1		X	X							
10	CHAAP-21B-DS-SB07-10 ✓	1405-05/14/18	S	1		X	X							
11	CHAAP-21B-DS-SS08 ✓	1335-05/14/18	S	1		X	X							
12	CHAAP-21B-DS-SS09 ✓	1315-05/14/18	S	1		X	X							
13	CHAAP-21B-DS-SS11 ✓	1250-05/14/18	S	1		X	X			X				
14	CHAAP-21B-DS-SS111 ✓	1200-05/14/18	S	1		X	X			X				
15	CHAAP-21B-DS-SB11-5-MS/MSD ✓	1300-05/14/18	S	2		X	X			X				
16	CHAAP-21B-DS-SS04 ✓	1210-05/14/18	S	1		X	X			X				
17	CHAAP-21B-DS-SB04-5 ✓	1215-05/14/18	S	1		X	X			X				
18	CHAAP-21B-DS-SB04-10 ✓	1220-05/14/18	S	1		X	X							
19	CHAAP-21B-DS-SS03 ✓	1115-05/14/18	S	1		X	X			X				
20	CHAAP-21B-DS-SS103 ✓	1200-05/14/18	S	1		X	X			X				
21	CHAAP-21B-DS-SB03-10 ✓	1145-05/14/18	S	1		X	X							
	-END OF SAMPLES													

COMMENTS: 5-15-18

Relinquished By:	Date/Time	Received By:	Relinquished By:	Date/Time	Received By:
Alex Hedgepath HGL	05/14/18 - 1700	915			
Relinquished By:	Date/Time	Received By:	Relinquished By:	Date/Time	Received By:

All laboratory and field work shall be governed by KATAHDIN's Standard Terms and Conditions, except where a Purchase Order or Contract supersede.

Katahdin ANALYTICAL SERVICES
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Fax: (207) 775-4029

Chain of Custody

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ATI INC.	**David Nelson**	410-992-3424	( )
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Purchase Order #:	Proj. Name/No.:		Katahdin Quote #:
Bill (if different than above):		Address:	
Sampler (Print/Sign): Alex Hedgepath - HGL			Copies To: Ryan Sullivan / Jennifer Spies

LAB USE ONLY — Work Order #: 5L4180 (Katahdin Project Number)

Remarks:

Shipping Info: FEDEX UPS CLIENT
Airbill No:
Temp C: Temp Blank: Intact / Not intact

	Sample Description	Date/Time Collected	Matrix	No. of Containers	VOCs (8260) Filt. N	Explosives (8330B) Filt. N	Metals (6020) Filt. N	Metals (6020) Field Filtered Filt. Y	PAHs (8270C-SIM) Filt. N	CrVI (7196A) Filt. N	SPLP Metals (1312) Filt. N			Page 3 of 3 Filt. N
					Analysis and Container Type / Preservatives									
1	CHAAP-EB-051418	1600-05/14/18	W	3		X	X							
2	CHAAP-21B-DS-SS06 ✓	1430-05/14/18	S	1		X	X							
3	CHAAP-21B-DS-SS07 ✓	1400-05/14/18	S	1		X	X							
4	CHAAP-21B-DS-SB08-5 ✓	1340-05/14/18	S	1		X	X							
5	CHAAP-21B-DS-SB09-5 ✓	1320-05/14/18	S	1		X	X							
6	CHAAP-21B-DS-SB11-5 ✓	1300-05/14/18	S	1		X	X			X				
7	CHAAP-21B-DS-SS10 ✓	1230-05/14/18	S	1		X	X							
8	CHAAP-21B-DS-SB10-5 ✓	1235-05/14/18	S	1		X	X							
9	CHAAP-21B-DS-SB03-5 ✓	1130-05/14/18	S	1		X	X			X				
	END OF SAMPLES													

COMMENTS:

5.15.18

Relinquished By:	Date/Time	Received By:	Relinquished By:	Date/Time	Received By:
Alex Hedgepath HGL	05/14/18 - 1700	915			
Relinquished By:	Date/Time	Received By:	Relinquished By:	Date/Time	Received By:

All laboratory and field work shall be governed by KATAHDIN's Standard Terms and Conditions, except where a Purchase Order or Contract supersede.

Katahdin ANALYTICAL SERVICES

Katahdin Analytical Services

Login Chain of Custody Report (lno1)

May. 16, 2018
09:45 AM

Login Number: SL4180

Account: ATI001 Web
ATI, Inc.

Project: ATI-CORN-AAP
Cornhusker Army Ammunition Plant

Quote/Incoming: ATI-CORN-AAP

Primary Report Address:
David Nelson
ATI, Inc.
9220 Rumsey Road
Suite 100
Columbia,MD 21045
david.nelson@atiinc.com

Primary Invoice Address:
David Nelson
ATI, Inc.
9220 Rumsey Road
Suite 100
Columbia,MD 21045

Report CC Addresses:
Invoice CC Addresses:

Login Information:

ANALYSIS INSTRUCTIONS	:	FDS, DOD 5.0, ND to LOD w/ J flags. Report all valid runs. Summary needs all forms. GC/MS IS eval window +/- 10s. Metals ICSA - 2 sigfigs. Flag dilutions w/ "D" qualifier. Include any excedences in the case narrative. Limits in KIMS match QAPP. Hold extracts for 60 days. 8260B, 8270DSIM, 8330B, 6020A/7471A/7471B. No explo soil prep needed (8330B Mod). Reprep failing hex cr matrix QC & parent samples, include info in narrative.
CHECK NO.	:	
CLIENT PO#	:	PN:16-027
CLIENT PROJECT MANAGE	:	
CONTRACT	:	W9182F-16-D-0014
COOLER TEMPERATURE	:	5.0, 5.1, 3.8
DELIVERY SERVICES	:	FedEx
EDD FORMAT	:	ATI-(ERIS)
LOGIN INITIALS	:	JCB
PM	:	HHM
PROJECT NAME	:	Cornhusker Army Ammunition Plant
QC LEVEL	:	IV
REPORT INSTRUCTIONS	:	SDS needs all forms. Check EDD, if errors, fix them or contact client (Jeff Martin703-736-4533 jmartin@hgl.com). Upload PDF & EDD to SDS. Email david.nelson@atiinc.com, seichelberger@hgl.com, rsullivan@hgl.com, Teresa.offner@atiinc.com, jspies@hgl.com to tell them report is uploaded. Email invoice to jspies@hgl.com, david.nelson@atiinc.com and seichelberger@hgl.com.
SDG ID	:	
SDG STATUS	:	
VERBAL TAT	:	5

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
SL4180-1	CHAAP-21B-DS-SS02	14-MAY-18 15:00	15-MAY-18			27-MAY-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Solid	S	SW7196A-CRVI	11-JUN-18	50g Glass		
Solid	S	SW8260-S	28-MAY-18	40 mL Vial+DI+MEOH		
Solid	S	SW8330-S	28-MAY-18			
Solid	P	TAL-MET-SW846-ICPMS				

SW3050MS-PREP	SW6020-ALUMINUM	SW6020-ANTIMONY	
SW6020-ARSENIC	SW6020-BARIUM	SW6020-BERYLLIUM	
SW6020-CADMIUM	SW6020-CALCIUM	SW6020-CHROMIUM	
SW6020-COBALT	SW6020-COPPER	SW6020-IRON	
SW6020-LEAD	SW6020-MAGNESIUM	SW6020-MANGANESE	
SW6020-NICKEL	SW6020-POTASSIUM	SW6020-SELENIUM	
SW6020-SILVER	SW6020-SODIUM	SW6020-THALLIUM	
SW6020-VANADIUM	SW6020-ZINC	SW7471-MERCURY	

Solid	S	TS	28-MAY-18				

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
SL4180-2	CHAAP-21B-DS-SS102	14-MAY-18 12:00	15-MAY-18			27-MAY-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Solid	S	SW7196A-CRVI	11-JUN-18	50g Glass		
Solid	S	SW8260-S	28-MAY-18	40 mL Vial+DI+MEOH		
Solid	S	SW8330-S	28-MAY-18			
Solid	P	TAL-MET-SW846-ICPMS				

SW3050MS-PREP	SW6020-ALUMINUM	SW6020-ANTIMONY	
SW6020-ARSENIC	SW6020-BARIUM	SW6020-BERYLLIUM	
SW6020-CADMIUM	SW6020-CALCIUM	SW6020-CHROMIUM	
SW6020-COBALT	SW6020-COPPER	SW6020-IRON	
SW6020-LEAD	SW6020-MAGNESIUM	SW6020-MANGANESE	
SW6020-NICKEL	SW6020-POTASSIUM	SW6020-SELENIUM	
SW6020-SILVER	SW6020-SODIUM	SW6020-THALLIUM	
SW6020-VANADIUM	SW6020-ZINC	SW7471-MERCURY	

Solid	S	TS	28-MAY-18				

MTLM 5-16-18

Login Number: SL4180

Quote/Incoming: ATI-CORN-AAP

Account: ATI001 Web
ATI, Inc.

Project: ATI-CORN-AAP
Cornhusker Army Ammunition Plant

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
SL4180-3	CHAAP-21B-DS-SB02-5	14-MAY-18 15:05	15-MAY-18			27-MAY-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Solid	S	SW7196A-CRVI	11-JUN-18	50g Glass		
Solid	S	SW8260-S	28-MAY-18	40 mL Vial+DI+MEOH		
Solid	S	SW8330-S	28-MAY-18			
Solid	P	TAL-MET-SW846-ICPMS				

SW3050MS-PREP	SW6020-ALUMINUM	SW6020-ANTIMONY
SW6020-ARSENIC	SW6020-BARIUM	SW6020-BERYLLIUM
SW6020-CADMIUM	SW6020-CALCIUM	SW6020-CHROMIUM
SW6020-COBALT	SW6020-COPPER	SW6020-IRON
SW6020-LEAD	SW6020-MAGNESIUM	SW6020-MANGANESE
SW6020-NICKEL	SW6020-POTASSIUM	SW6020-SELENIUM
SW6020-SILVER	SW6020-SODIUM	SW6020-THALLIUM
SW6020-VANADIUM	SW6020-ZINC	SW7471-MERCURY

Solid	S	TS	28-MAY-18

SL4180-4	CHAAP-21B-DS-SB02-10	14-MAY-18 15:10	15-MAY-18			27-MAY-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Solid	S	SW8260-S	28-MAY-18	40 mL Vial+DI+MEOH		
Solid	S	SW8330-S	28-MAY-18			
Solid	P	TAL-MET-SW846-ICPMS				

SW3050MS-PREP	SW6020-ALUMINUM	SW6020-ANTIMONY
SW6020-ARSENIC	SW6020-BARIUM	SW6020-BERYLLIUM
SW6020-CADMIUM	SW6020-CALCIUM	SW6020-CHROMIUM
SW6020-COBALT	SW6020-COPPER	SW6020-IRON
SW6020-LEAD	SW6020-MAGNESIUM	SW6020-MANGANESE
SW6020-NICKEL	SW6020-POTASSIUM	SW6020-SELENIUM
SW6020-SILVER	SW6020-SODIUM	SW6020-THALLIUM
SW6020-VANADIUM	SW6020-ZINC	SW7471-MERCURY

Solid	S	TS	28-MAY-18

SL4180-5	CHAAP-21B-DS-SS06	14-MAY-18 14:30	15-MAY-18			27-MAY-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Solid	S	SW8260-S	28-MAY-18	40 mL Vial+DI+MEOH		
Solid	S	SW8330-S	28-MAY-18			
Solid	P	TAL-MET-SW846-ICPMS				

SW3050MS-PREP	SW6020-ALUMINUM	SW6020-ANTIMONY
SW6020-ARSENIC	SW6020-BARIUM	SW6020-BERYLLIUM
SW6020-CADMIUM	SW6020-CALCIUM	SW6020-CHROMIUM
SW6020-COBALT	SW6020-COPPER	SW6020-IRON
SW6020-LEAD	SW6020-MAGNESIUM	SW6020-MANGANESE
SW6020-NICKEL	SW6020-POTASSIUM	SW6020-SELENIUM
SW6020-SILVER	SW6020-SODIUM	SW6020-THALLIUM
SW6020-VANADIUM	SW6020-ZINC	SW7471-MERCURY

Solid	S	TS	28-MAY-18

5-16-18

Login Number: SL4180

Quote/Incoming: ATI-CORN-AAP

Account: ATI001 Web
ATI, Inc.

Project: ATI-CORN-AAP
Cornhusker Army Ammunition Plant

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
SL4180-6	CHAAP-21B-DS-SB06-5	14-MAY-18 14:35	15-MAY-18			27-MAY-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Solid	S	SW8260-S	28-MAY-18	40 mL Vial+DI+MEOH		
Solid	S	SW8330-S	28-MAY-18			
Solid	P	TAL-MET-SW846-ICPMS				

SW3050MS-PREP	SW6020-ALUMINUM	SW6020-ANTIMONY
SW6020-ARSENIC	SW6020-BARIUM	SW6020-BERYLLIUM
SW6020-CADMIUM	SW6020-CALCIUM	SW6020-CHROMIUM
SW6020-COBALT	SW6020-COPPER	SW6020-IRON
SW6020-LEAD	SW6020-MAGNESIUM	SW6020-MANGANESE
SW6020-NICKEL	SW6020-POTASSIUM	SW6020-SELENIUM
SW6020-SILVER	SW6020-SODIUM	SW6020-THALLIUM
SW6020-VANADIUM	SW6020-ZINC	SW7471-MERCURY

Solid	S	TS	28-MAY-18

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
SL4180-7	CHAAP-21B-DS-SB06-10	14-MAY-18 14:40	15-MAY-18			27-MAY-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Solid	S	SW8260-S	28-MAY-18	40 mL Vial+DI+MEOH		
Solid	S	SW8330-S	28-MAY-18			
Solid	P	TAL-MET-SW846-ICPMS				

SW3050MS-PREP	SW6020-ALUMINUM	SW6020-ANTIMONY
SW6020-ARSENIC	SW6020-BARIUM	SW6020-BERYLLIUM
SW6020-CADMIUM	SW6020-CALCIUM	SW6020-CHROMIUM
SW6020-COBALT	SW6020-COPPER	SW6020-IRON
SW6020-LEAD	SW6020-MAGNESIUM	SW6020-MANGANESE
SW6020-NICKEL	SW6020-POTASSIUM	SW6020-SELENIUM
SW6020-SILVER	SW6020-SODIUM	SW6020-THALLIUM
SW6020-VANADIUM	SW6020-ZINC	SW7471-MERCURY

Solid	S	TS	28-MAY-18

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
SL4180-8	CHAAP-21B-DS-SS07	14-MAY-18 14:00	15-MAY-18			27-MAY-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Solid	S	SW8260-S	28-MAY-18	40 mL Vial+DI+MEOH		**MS/MSD**
Solid	S	SW8330-S	28-MAY-18			
Solid	P	TAL-MET-SW846-ICPMS				

SW3050MS-PREP	SW6020-ALUMINUM	SW6020-ANTIMONY
SW6020-ARSENIC	SW6020-BARIUM	SW6020-BERYLLIUM
SW6020-CADMIUM	SW6020-CALCIUM	SW6020-CHROMIUM
SW6020-COBALT	SW6020-COPPER	SW6020-IRON
SW6020-LEAD	SW6020-MAGNESIUM	SW6020-MANGANESE
SW6020-NICKEL	SW6020-POTASSIUM	SW6020-SELENIUM
SW6020-SILVER	SW6020-SODIUM	SW6020-THALLIUM
SW6020-VANADIUM	SW6020-ZINC	SW7471-MERCURY

Solid	S	TS	28-MAY-18

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
SL4180-9	CHAAP-21B-DS-SB07-5	14-MAY-18 14:03	15-MAY-18			27-MAY-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Solid	S	SW8260-S	28-MAY-18	40 mL Vial+DI+MEOH		
Solid	S	SW8330-S	28-MAY-18			
Solid	P	TAL-MET-SW846-ICPMS				

SW3050MS-PREP	SW6020-ALUMINUM	SW6020-ANTIMONY
SW6020-ARSENIC	SW6020-BARIUM	SW6020-BERYLLIUM
SW6020-CADMIUM	SW6020-CALCIUM	SW6020-CHROMIUM
SW6020-COBALT	SW6020-COPPER	SW6020-IRON
SW6020-LEAD	SW6020-MAGNESIUM	SW6020-MANGANESE
SW6020-NICKEL	SW6020-POTASSIUM	SW6020-SELENIUM
SW6020-SILVER	SW6020-SODIUM	SW6020-THALLIUM
SW6020-VANADIUM	SW6020-ZINC	SW7471-MERCURY

Solid	S	TS	28-MAY-18

HHLM
5-16-18

Login Number: SL4180

Quote/Incoming: ATI-CORN-AAP

Account: ATI001 Web
ATI, Inc.

Project: ATI-CORN-AAP
Cornhusker Army Ammunition Plant

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
SL4180-10	CHAAP-21B-DS-SB107-5	14-MAY-18 12:00	15-MAY-18			27-MAY-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Solid	S	SW8260-S	28-MAY-18	40 mL Vial+DI+MEOH		
Solid	S	SW8330-S	28-MAY-18			
Solid	P	TAL-MET-SW846-ICPMS				

SW3050MS-PREP	SW6020-ALUMINUM	SW6020-ANTIMONY
SW6020-ARSENIC	SW6020-BARIUM	SW6020-BERYLLIUM
SW6020-CADMIUM	SW6020-CALCIUM	SW6020-CHROMIUM
SW6020-COBALT	SW6020-COPPER	SW6020-IRON
SW6020-LEAD	SW6020-MAGNESIUM	SW6020-MANGANESE
SW6020-NICKEL	SW6020-POTASSIUM	SW6020-SELENIUM
SW6020-SILVER	SW6020-SODIUM	SW6020-THALLIUM
SW6020-VANADIUM	SW6020-ZINC	SW7471-MERCURY

Solid	S	TS	28-MAY-18

SL4180-11	CHAAP-21B-DS-SB07-10	14-MAY-18 14:05	15-MAY-18			27-MAY-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Solid	S	SW8260-S	28-MAY-18	40 mL Vial+DI+MEOH		
Solid	S	SW8330-S	28-MAY-18			
Solid	P	TAL-MET-SW846-ICPMS				

SW3050MS-PREP	SW6020-ALUMINUM	SW6020-ANTIMONY
SW6020-ARSENIC	SW6020-BARIUM	SW6020-BERYLLIUM
SW6020-CADMIUM	SW6020-CALCIUM	SW6020-CHROMIUM
SW6020-COBALT	SW6020-COPPER	SW6020-IRON
SW6020-LEAD	SW6020-MAGNESIUM	SW6020-MANGANESE
SW6020-NICKEL	SW6020-POTASSIUM	SW6020-SELENIUM
SW6020-SILVER	SW6020-SODIUM	SW6020-THALLIUM
SW6020-VANADIUM	SW6020-ZINC	SW7471-MERCURY

Solid	S	TS	28-MAY-18

SL4180-12	CHAAP-21B-DS-SS08	14-MAY-18 13:35	15-MAY-18			27-MAY-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Solid	S	SW8260-S	28-MAY-18	40 mL Vial+DI+MEOH		
Solid	S	SW8330-S	28-MAY-18			
Solid	P	TAL-MET-SW846-ICPMS				

SW3050MS-PREP	SW6020-ALUMINUM	SW6020-ANTIMONY
SW6020-ARSENIC	SW6020-BARIUM	SW6020-BERYLLIUM
SW6020-CADMIUM	SW6020-CALCIUM	SW6020-CHROMIUM
SW6020-COBALT	SW6020-COPPER	SW6020-IRON
SW6020-LEAD	SW6020-MAGNESIUM	SW6020-MANGANESE
SW6020-NICKEL	SW6020-POTASSIUM	SW6020-SELENIUM
SW6020-SILVER	SW6020-SODIUM	SW6020-THALLIUM
SW6020-VANADIUM	SW6020-ZINC	SW7471-MERCURY

Solid	S	TS	28-MAY-18

SL4180-13	CHAAP-21B-DS-SB08-5	14-MAY-18 13:40	15-MAY-18			27-MAY-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Solid	S	SW8260-S	28-MAY-18	40 mL Vial+DI+MEOH		
Solid	S	SW8330-S	28-MAY-18			
Solid	P	TAL-MET-SW846-ICPMS				

SW3050MS-PREP	SW6020-ALUMINUM	SW6020-ANTIMONY
SW6020-ARSENIC	SW6020-BARIUM	SW6020-BERYLLIUM
SW6020-CADMIUM	SW6020-CALCIUM	SW6020-CHROMIUM
SW6020-COBALT	SW6020-COPPER	SW6020-IRON
SW6020-LEAD	SW6020-MAGNESIUM	SW6020-MANGANESE
SW6020-NICKEL	SW6020-POTASSIUM	SW6020-SELENIUM
SW6020-SILVER	SW6020-SODIUM	SW6020-THALLIUM
SW6020-VANADIUM	SW6020-ZINC	SW7471-MERCURY

Solid	S	TS	28-MAY-18

HHM
5-16-18

Login Number: SL4180

Quote/Incoming: ATI-CORN-AAP

Account: ATI001 Web
ATI, Inc.

Project: ATI-CORN-AAP
Cornhusker Army Ammunition Plant

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
SL4180-14	CHAAP-21B-DS-SS09	14-MAY-18 13:15	15-MAY-18			27-MAY-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Solid	S	SW8260-S	28-MAY-18	40 mL Vial+DI+MEOH		
Solid	S	SW8330-S	28-MAY-18			
Solid	P	TAL-MET-SW846-ICPMS				

SW3050MS-PREP	SW6020-ALUMINUM	SW6020-ANTIMONY
SW6020-ARSENIC	SW6020-BARIUM	SW6020-BERYLLIUM
SW6020-CADMIUM	SW6020-CALCIUM	SW6020-CHROMIUM
SW6020-COBALT	SW6020-COPPER	SW6020-IRON
SW6020-LEAD	SW6020-MAGNESIUM	SW6020-MANGANESE
SW6020-NICKEL	SW6020-POTASSIUM	SW6020-SELENIUM
SW6020-SILVER	SW6020-SODIUM	SW6020-THALLIUM
SW6020-VANADIUM	SW6020-ZINC	SW7471-MERCURY

Solid	S	TS	28-MAY-18

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
SL4180-15	CHAAP-21B-DS-SB09-5	14-MAY-18 13:20	15-MAY-18			27-MAY-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Solid	S	SW8260-S	28-MAY-18	40 mL Vial+DI+MEOH		
Solid	S	SW8330-S	28-MAY-18			
Solid	P	TAL-MET-SW846-ICPMS				

SW3050MS-PREP	SW6020-ALUMINUM	SW6020-ANTIMONY
SW6020-ARSENIC	SW6020-BARIUM	SW6020-BERYLLIUM
SW6020-CADMIUM	SW6020-CALCIUM	SW6020-CHROMIUM
SW6020-COBALT	SW6020-COPPER	SW6020-IRON
SW6020-LEAD	SW6020-MAGNESIUM	SW6020-MANGANESE
SW6020-NICKEL	SW6020-POTASSIUM	SW6020-SELENIUM
SW6020-SILVER	SW6020-SODIUM	SW6020-THALLIUM
SW6020-VANADIUM	SW6020-ZINC	SW7471-MERCURY

Solid	S	TS	28-MAY-18

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
SL4180-16	CHAAP-21B-DS-SS11	14-MAY-18 12:50	15-MAY-18			27-MAY-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Solid	S	SW7196A-CRVI	11-JUN-18	50g Glass		
Solid	S	SW8260-S	28-MAY-18	40 mL Vial+DI+MEOH		
Solid	S	SW8330-S	28-MAY-18			
Solid	P	TAL-MET-SW846-ICPMS				

SW3050MS-PREP	SW6020-ALUMINUM	SW6020-ANTIMONY
SW6020-ARSENIC	SW6020-BARIUM	SW6020-BERYLLIUM
SW6020-CADMIUM	SW6020-CALCIUM	SW6020-CHROMIUM
SW6020-COBALT	SW6020-COPPER	SW6020-IRON
SW6020-LEAD	SW6020-MAGNESIUM	SW6020-MANGANESE
SW6020-NICKEL	SW6020-POTASSIUM	SW6020-SELENIUM
SW6020-SILVER	SW6020-SODIUM	SW6020-THALLIUM
SW6020-VANADIUM	SW6020-ZINC	SW7471-MERCURY

Solid	S	TS	28-MAY-18

HHM
5-16-18

Login Number: SL4180

Quote/Incoming: ATI-CORN-AAP

Account: ATI001 Web

ATI, Inc.

Project: ATI-CORN-AAP

Cornhusker Army Ammunition Plant

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
SL4180-17	CHAAP-21B-DS-SS111	14-MAY-18 12:00	15-MAY-18			27-MAY-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Solid	S	SW7196A-CRVI	11-JUN-18	50g Glass		
Solid	S	SW8260-S	28-MAY-18	40 mL Vial+DI+MEOH		
Solid	S	SW8330-S	28-MAY-18			
Solid	P	TAL-MET-SW846-ICPMS				

SW3050MS-PREP	SW6020-ALUMINUM	SW6020-ANTIMONY
SW6020-ARSENIC	SW6020-BARIUM	SW6020-BERYLLIUM
SW6020-CADMIUM	SW6020-CALCIUM	SW6020-CHROMIUM
SW6020-COBALT	SW6020-COPPER	SW6020-IRON
SW6020-LEAD	SW6020-MAGNESIUM	SW6020-MANGANESE
SW6020-NICKEL	SW6020-POTASSIUM	SW6020-SELENIUM
SW6020-SILVER	SW6020-SODIUM	SW6020-THALLIUM
SW6020-VANADIUM	SW6020-ZINC	SW7471-MERCURY

Solid	S	TS	28-MAY-18

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
SL4180-18	CHAAP-21B-DS-SB11-5	14-MAY-18 13:00	15-MAY-18			27-MAY-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Solid	S	SW7196A-CRVI	11-JUN-18	50g Glass		**MS/MSD**
Solid	S	SW8260-S	28-MAY-18	40 mL Vial+DI+MEOH		
Solid	S	SW8330-S	28-MAY-18			
Solid	P	TAL-MET-SW846-ICPMS				

SW3050MS-PREP	SW6020-ALUMINUM	SW6020-ANTIMONY
SW6020-ARSENIC	SW6020-BARIUM	SW6020-BERYLLIUM
SW6020-CADMIUM	SW6020-CALCIUM	SW6020-CHROMIUM
SW6020-COBALT	SW6020-COPPER	SW6020-IRON
SW6020-LEAD	SW6020-MAGNESIUM	SW6020-MANGANESE
SW6020-NICKEL	SW6020-POTASSIUM	SW6020-SELENIUM
SW6020-SILVER	SW6020-SODIUM	SW6020-THALLIUM
SW6020-VANADIUM	SW6020-ZINC	SW7471-MERCURY

Solid	S	TS	28-MAY-18

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
SL4180-19	CHAAP-21B-DS-SS10	14-MAY-18 12:30	15-MAY-18			27-MAY-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Solid	S	SW8260-S	28-MAY-18	40 mL Vial+DI+MEOH		
Solid	S	SW8330-S	28-MAY-18			
Solid	P	TAL-MET-SW846-ICPMS				

SW3050MS-PREP	SW6020-ALUMINUM	SW6020-ANTIMONY
SW6020-ARSENIC	SW6020-BARIUM	SW6020-BERYLLIUM
SW6020-CADMIUM	SW6020-CALCIUM	SW6020-CHROMIUM
SW6020-COBALT	SW6020-COPPER	SW6020-IRON
SW6020-LEAD	SW6020-MAGNESIUM	SW6020-MANGANESE
SW6020-NICKEL	SW6020-POTASSIUM	SW6020-SELENIUM
SW6020-SILVER	SW6020-SODIUM	SW6020-THALLIUM
SW6020-VANADIUM	SW6020-ZINC	SW7471-MERCURY

Solid	S	TS	28-MAY-18

HHM 5-16-18

Login Number: SL4180 **Quote/Incoming:** ATI-CORN-AAP

Account: ATI001 Web
ATI, Inc.

Project: ATI-CORN-AAP
Cornhusker Army Ammunition Plant

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
SL4180-20	CHAAP-21B-DS-SB10-5	14-MAY-18 12:35	15-MAY-18			27-MAY-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Solid	S	SW8260-S	28-MAY-18	40 mL Vial+DI+MEOH		
Solid	S	SW8330-S	28-MAY-18			
Solid	P	TAL-MET-SW846-ICPMS				

SW3050MS-PREP	SW6020-ALUMINUM	SW6020-ANTIMONY
SW6020-ARSENIC	SW6020-BARIUM	SW6020-BERYLLIUM
SW6020-CADMIUM	SW6020-CALCIUM	SW6020-CHROMIUM
SW6020-COBALT	SW6020-COPPER	SW6020-IRON
SW6020-LEAD	SW6020-MAGNESIUM	SW6020-MANGANESE
SW6020-NICKEL	SW6020-POTASSIUM	SW6020-SELENIUM
SW6020-SILVER	SW6020-SODIUM	SW6020-THALLIUM
SW6020-VANADIUM	SW6020-ZINC	SW7471-MERCURY

Solid	S	TS	28-MAY-18

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
SL4180-21	CHAAP-21B-DS-SS04	14-MAY-18 12:10	15-MAY-18			27-MAY-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Solid	S	SW7196A-CRVI	11-JUN-18	50g Glass		
Solid	S	SW8260-S	28-MAY-18	40 mL Vial+DI+MEOH		
Solid	S	SW8330-S	28-MAY-18			
Solid	P	TAL-MET-SW846-ICPMS				

SW3050MS-PREP	SW6020-ALUMINUM	SW6020-ANTIMONY
SW6020-ARSENIC	SW6020-BARIUM	SW6020-BERYLLIUM
SW6020-CADMIUM	SW6020-CALCIUM	SW6020-CHROMIUM
SW6020-COBALT	SW6020-COPPER	SW6020-IRON
SW6020-LEAD	SW6020-MAGNESIUM	SW6020-MANGANESE
SW6020-NICKEL	SW6020-POTASSIUM	SW6020-SELENIUM
SW6020-SILVER	SW6020-SODIUM	SW6020-THALLIUM
SW6020-VANADIUM	SW6020-ZINC	SW7471-MERCURY

Solid	S	TS	28-MAY-18

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
SL4180-22	CHAAP-21B-DS-SB04-5	14-MAY-18 12:15	15-MAY-18			27-MAY-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Solid	S	SW7196A-CRVI	11-JUN-18	50g Glass		
Solid	S	SW8260-S	28-MAY-18	40 mL Vial+DI+MEOH		
Solid	S	SW8330-S	28-MAY-18			
Solid	P	TAL-MET-SW846-ICPMS				

SW3050MS-PREP	SW6020-ALUMINUM	SW6020-ANTIMONY
SW6020-ARSENIC	SW6020-BARIUM	SW6020-BERYLLIUM
SW6020-CADMIUM	SW6020-CALCIUM	SW6020-CHROMIUM
SW6020-COBALT	SW6020-COPPER	SW6020-IRON
SW6020-LEAD	SW6020-MAGNESIUM	SW6020-MANGANESE
SW6020-NICKEL	SW6020-POTASSIUM	SW6020-SELENIUM
SW6020-SILVER	SW6020-SODIUM	SW6020-THALLIUM
SW6020-VANADIUM	SW6020-ZINC	SW7471-MERCURY

Solid	S	TS	28-MAY-18

HHW 5-16-18

Login Number: SL4180

Quote/Incoming: ATI-CORN-AAP

Account: ATI001 Web
ATI, Inc.

Project: ATI-CORN-AAP
Cornhusker Army Ammunition Plant

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
SL4180-23	CHAAP-21B-DS-SB04-10	14-MAY-18 12:20	15-MAY-18			27-MAY-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Solid	S	SW8260-S	28-MAY-18	40 mL Vial+DI+MEOH		
Solid	S	SW8330-S	28-MAY-18			
Solid	P	TAL-MET-SW846-ICPMS				

SW3050MS-PREP	SW6020-ALUMINUM	SW6020-ANTIMONY
SW6020-ARSENIC	SW6020-BARIUM	SW6020-BERYLLIUM
SW6020-CADMIUM	SW6020-CALCIUM	SW6020-CHROMIUM
SW6020-COBALT	SW6020-COPPER	SW6020-IRON
SW6020-LEAD	SW6020-MAGNESIUM	SW6020-MANGANESE
SW6020-NICKEL	SW6020-POTASSIUM	SW6020-SELENIUM
SW6020-SILVER	SW6020-SODIUM	SW6020-THALLIUM
SW6020-VANADIUM	SW6020-ZINC	SW7471-MERCURY

Solid	S	TS	28-MAY-18

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
SL4180-24	CHAAP-21B-DS-SS03	14-MAY-18 11:15	15-MAY-18			27-MAY-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Solid	S	SW7196A-CRVI	11-JUN-18	50g Glass		
Solid	S	SW8260-S	28-MAY-18	40 mL Vial+DI+MEOH		
Solid	S	SW8330-S	28-MAY-18			
Solid	P	TAL-MET-SW846-ICPMS				

SW3050MS-PREP	SW6020-ALUMINUM	SW6020-ANTIMONY
SW6020-ARSENIC	SW6020-BARIUM	SW6020-BERYLLIUM
SW6020-CADMIUM	SW6020-CALCIUM	SW6020-CHROMIUM
SW6020-COBALT	SW6020-COPPER	SW6020-IRON
SW6020-LEAD	SW6020-MAGNESIUM	SW6020-MANGANESE
SW6020-NICKEL	SW6020-POTASSIUM	SW6020-SELENIUM
SW6020-SILVER	SW6020-SODIUM	SW6020-THALLIUM
SW6020-VANADIUM	SW6020-ZINC	SW7471-MERCURY

Solid	S	TS	28-MAY-18

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
SL4180-25	CHAAP-21B-DS-SS103	14-MAY-18 12:00	15-MAY-18			27-MAY-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Solid	S	SW7196A-CRVI	11-JUN-18	50g Glass		
Solid	S	SW8260-S	28-MAY-18	40 mL Vial+DI+MEOH		
Solid	S	SW8330-S	28-MAY-18			
Solid	P	TAL-MET-SW846-ICPMS				

SW3050MS-PREP	SW6020-ALUMINUM	SW6020-ANTIMONY
SW6020-ARSENIC	SW6020-BARIUM	SW6020-BERYLLIUM
SW6020-CADMIUM	SW6020-CALCIUM	SW6020-CHROMIUM
SW6020-COBALT	SW6020-COPPER	SW6020-IRON
SW6020-LEAD	SW6020-MAGNESIUM	SW6020-MANGANESE
SW6020-NICKEL	SW6020-POTASSIUM	SW6020-SELENIUM
SW6020-SILVER	SW6020-SODIUM	SW6020-THALLIUM
SW6020-VANADIUM	SW6020-ZINC	SW7471-MERCURY

Solid	S	TS	28-MAY-18

HHM
5-16-18

Login Number: SL4180 **Quote/Incoming:** ATI-CORN-AAP

Account: ATI001 Web
ATI, Inc.

Project: ATI-CORN-AAP
Cornhusker Army Ammunition Plant

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
SL4180-26	CHAAP-21B-DS-SB03-5	14-MAY-18 11:30	15-MAY-18			27-MAY-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Solid	S	SW7196A-CRVI	11-JUN-18	50g Glass		
Solid	S	SW8260-S	28-MAY-18	40 mL Vial+DI+MEOH		
Solid	S	SW8330-S	28-MAY-18			
Solid	P	TAL-MET-SW846-ICPMS				

SW3050MS-PREP	SW6020-ALUMINUM	SW6020-ANTIMONY
SW6020-ARSENIC	SW6020-BARIUM	SW6020-BERYLLIUM
SW6020-CADMIUM	SW6020-CALCIUM	SW6020-CHROMIUM
SW6020-COBALT	SW6020-COPPER	SW6020-IRON
SW6020-LEAD	SW6020-MAGNESIUM	SW6020-MANGANESE
SW6020-NICKEL	SW6020-POTASSIUM	SW6020-SELENIUM
SW6020-SILVER	SW6020-SODIUM	SW6020-THALLIUM
SW6020-VANADIUM	SW6020-ZINC	SW7471-MERCURY

Solid	S	TS	28-MAY-18

SL4180-27	CHAAP-21B-DS-SB03-10		14-MAY-18 11:45	15-MAY-18		27-MAY-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Solid	S	SW8260-S	28-MAY-18	40 mL Vial+DI+MEOH		
Solid	S	SW8330-S	28-MAY-18			
Solid	P	TAL-MET-SW846-ICPMS				

SW3050MS-PREP	SW6020-ALUMINUM	SW6020-ANTIMONY
SW6020-ARSENIC	SW6020-BARIUM	SW6020-BERYLLIUM
SW6020-CADMIUM	SW6020-CALCIUM	SW6020-CHROMIUM
SW6020-COBALT	SW6020-COPPER	SW6020-IRON
SW6020-LEAD	SW6020-MAGNESIUM	SW6020-MANGANESE
SW6020-NICKEL	SW6020-POTASSIUM	SW6020-SELENIUM
SW6020-SILVER	SW6020-SODIUM	SW6020-THALLIUM
SW6020-VANADIUM	SW6020-ZINC	SW7471-MERCURY

Solid	S	TS	28-MAY-18

SL4180-28	CHAAP-TB-051418		14-MAY-18 10:00	15-MAY-18		27-MAY-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	SW8260-S	28-MAY-18	40mL Vial+HCl		

SL4180-29	CHAAP-EB-051418		14-MAY-18 16:00	15-MAY-18		27-MAY-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	SW8260-S	28-MAY-18	40mL Vial+HCl		
Aqueous	S	SW8330-S	21-MAY-18	1L N-Amber Glass		
Aqueous	P	TAL-MET-SW846-ICPMS				

SW3010MS-PREP	SW6020-ALUMINUM	SW6020-ANTIMONY
SW6020-ARSENIC	SW6020-BARIUM	SW6020-BERYLLIUM
SW6020-CADMIUM	SW6020-CALCIUM	SW6020-CHROMIUM
SW6020-COBALT	SW6020-COPPER	SW6020-IRON
SW6020-LEAD	SW6020-MAGNESIUM	SW6020-MANGANESE
SW6020-NICKEL	SW6020-POTASSIUM	SW6020-SELENIUM
SW6020-SILVER	SW6020-SODIUM	SW6020-THALLIUM
SW6020-VANADIUM	SW6020-ZINC	SW7470-MERCURY

Hrum
5-16-18

Total Samples: ***29*** ***Total Analyses:*** ***123***

SAMPLE DATA SUMMARY PACKAGE

KATAHDIN ANALYTICAL SERVICES - ORGANIC DATA QUALIFIERS

The sampled date indicated on the attached Report(s) of Analysis (ROA) is the date for which a grab sample was collected or the date for which a composite sample was completed. Beginning and start times for composite samples can be found on the Chain-of-Custody.

U Indicates the compound was analyzed for but not detected above the specified level. This level may be the Limit of Quantitation (LOQ)(previously called Practical Quantitation Level (PQL)), the Limit of Detection (LOD) or Method Detection Limit (MDL) as required by the client.

Note: All results reported as "U" MDL have a 50% rate for false negatives compared to those results reported as "U" PQL/LOQ or "U" LOD, where the rate of false negatives is <1%.

* Compound recovery or percent RPD (relative percent difference) was outside of quality control limits.

D Indicates the result was obtained from analysis of a diluted sample. Surrogate recoveries may not be calculable.

E Estimated value. This flag identifies compounds whose concentrations exceed the upper level of the calibration range of the instrument for that specific analysis.

J Estimated value. The analyte was detected in the sample at a concentration less than the laboratory Limit of Quantitation (LOQ)(previously called Practical Quantitation Limit (PQL)), but above the Method Detection Limit (MDL).

or

J Used for Pesticides, PCBs, Herbicides, Formaldehyde, Explosives and Method 504.1 analytes when there is a greater than 40% difference for detected concentrations between the two GC columns.

B Indicates the analyte was detected in the laboratory method blank analyzed concurrently with the sample.

C Indicates that the flagged compound did not meet DoD criteria in the corresponding daily calibration verification (CV).

L Indicates that the flagged compound did not meet DoD criteria in the corresponding Laboratory Control Sample (LCS) and/or Laboratory Control Sample Duplicate (LCSD) prepared and/or analyzed concurrently with the sample.

M Indicates that the flagged compound did not meet DoD criteria in the Matrix Spike and/or Matrix Spike Duplicate prepared and/or analyzed concurrently with the native sample.

N Presumptive evidence of a compound based on a mass spectral library search.

A Indicates that a tentatively identified compound is a suspected aldol-condensation product.

P Used for Pesticide/Aroclor analyte when there is a greater than 25% difference for detected concentrations between the two GC columns. (for CLP methods only).

METALS SAMPLE FLAGGING

FLAG	SPECIFIED MEANING
E	The reported value is estimated because of the presence of interference (as indicated by serial dilution).
N	The pre-digestion spiked sample recovery is not within control limits.
*	The duplicate sample analysis relative percent difference (RPD) is not within control limits.
B	Indicates the analyte was detected in the laboratory method blank analyzed concurrently with the sample.
A	The post-digestion spiked sample recovery is not within control limits.
•	Analytical run QC sample (e.g. ICV, CCV, ICB, CCB, ICSA, ICSAB) not within control limits.
U	The analyte was not detected above the specified level. This level may be the Limit of Quantitation (LOQ) (previously called Practical Quantitation Level (PQL)), the Limit of Detection (LOD) or Method Detection Limit (MDL) as required by the client. Note: All results reported as "U" MDL have a 50% rate for false negatives compared to those results reported as "U" PQL/LOQ or "U" LOD, where the rate of false negatives is <1%.
J	The analyte was detected in the sample at a concentration less than the laboratory Limit of Quantitation (LOQ) (previously called Practical Quantitation Limit (PQL)), but above the Method Detection Limit (MDL).
Q	One or more quality control criteria failed (e.g., LCS recovery, surrogate spike recovery or CCV).

KATAHDIN ANALYTICAL SERVICES – INORGANIC DATA QUALIFIERS

The sampled date indicated on the attached Report(s) of Analysis (ROA) is the date for which a grab sample was collected or the date for which a composite sample was completed. Beginning and start times for composite samples can be found on the Chain-of-Custody.

U Indicates the compound was analyzed for but not detected above the specified level. This level may be the Practical Quantitation Level (PQL) (also called Limit of Quantitation (LOQ)), the Limit of Detection (LOD) or Method Detection Limit (MDL) as required by the client.

Note: All results reported as "U" MDL have a 50% rate for false negatives compared to those results reported as "U" PQL "U" LOQ or "U" LOD, where the rate of false negatives is <1%.

E Estimated value. This flag identifies compounds whose concentrations exceed the upper level of the calibration range of the instrument for that specific analysis.

J Estimated value. The analyte was detected in the sample at a concentration less than the laboratory Practical Quantitation Level (PQL) (also called Limit of Quantitation (LOQ)), but above the Method Detection Limit (MDL).

I-7 The laboratory's Practical Quantitation Level (PQL) or LOQ could not be achieved for this parameter due to sample composition, matrix effects, sample volume, or quantity used for analysis.

A-4 Please refer to cover letter or narrative for further information.

H_ Please note that the regulatory holding time for _____ is "analyze immediately". Ideally, this analysis must be performed in the field at the time of sample collection. _____ for this sample was not performed at the time of sample collection. The analysis was performed as soon as possible after receipt by the laboratory.

H1 - pH H2 - DO H3 - sulfite H4 - residual chlorine

T1 The client did not provide the full volume of at least one liter for analysis of TSS. Therefore, the PQL of 2.5 mg/L could not be achieved.

T2 The client provided the required volume of at least one liter for analysis of TSS, but the laboratory could not filter the full one liter volume due to the sample matrix. Therefore, the PQL of 2.5 mg/L could not be achieved.

M1 The matrix spike and/or matrix spike duplicate recovery performed on this sample was outside of the laboratory acceptance criteria. Sample matrix is suspected. The laboratory criteria was met for the Laboratory Control Sample (LCS) analyzed concurrently with this sample.

M2 The matrix spike and/or matrix spike duplicate recovery was outside of the laboratory acceptance criteria. The native sample concentration is greater than four times the spike added concentration so the spike added could not be distinguished from the native sample concentration.

R1 The relative percent difference (RPD) between the duplicate analyses performed on this sample was outside of the laboratory acceptance criteria (when both values are greater than ten times the PQL).

MCL	Maximum Contaminant Level	NL	No limit
NFL	No Free Liquid Present	FLP	Free Liquid Present
NOD	No Odor Detected	TON	Threshold Odor Number

D-1 As required by Method 5210B, APHA Standard Methods for the Examination of Water and Wastewater (21st edition), the BOD value reported for this sample is 'qualified' because the check standard run concurrently with the sample analysis did not meet the criteria specified in the method (198 +/- 30.5 mg/L). These results may not be reportable for compliance purposes.

D-2 The measured final dissolved oxygen concentrations of all dilutions were less than the method-specified limit of 1 mg/L. The reported BOD result was calculated assuming a final oxygen concentration equal to 1 mg/L. The reported value should be considered a minimum value.

D-3 The dilution water used to prepare this sample did not meet the method and/or regulatory criteria of less than 0.2 or 0.4 mg/L dissolved oxygen (DO) uptake over the five day period of incubation. These results may not be reportable for compliance purposes.

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-1
Client ID: CHAAP-21B-DS-SS02
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4038.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 19-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228693

Analysis Date: 19-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 85.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,1,1,2-Tetrachloroethane	U	3.0	ug/Kgdrywt	1	5	6.0	0.84	3.0
1,1,1-Trichloroethane	U	3.0	ug/Kgdrywt	1	5	6.0	0.50	3.0
1,1,2,2-Tetrachloroethane	U	3.0	ug/Kgdrywt	1	5	6.0	1.0	3.0
Freon-113	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
1,1,2-Trichloroethane	U	3.0	ug/Kgdrywt	1	5	6.0	1.2	3.0
1,1-Dichloroethane	U	3.0	ug/Kgdrywt	1	5	6.0	2.0	3.0
1,1-Dichloroethene	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
1,1-Dichloropropene	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
1,2,3-Trichlorobenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.91	3.0
1,2,3-Trichloropropane	U	3.0	ug/Kgdrywt	1	5	6.0	1.4	3.0
1,2,4-Trichlorobenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.95	3.0
1,2,4-Trimethylbenzene	U	3.0	ug/Kgdrywt	1	5	6.0	1.0	3.0
1,2-Dibromo-3-Chloropropane	U	3.0	ug/Kgdrywt	1	5	6.0	1.8	3.0
1,2-Dibromoethane	U	3.0	ug/Kgdrywt	1	5	6.0	1.4	3.0
1,2-Dichlorobenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.94	3.0
1,2-Dichloroethane	U	3.0	ug/Kgdrywt	1	5	6.0	1.2	3.0
1,2-Dichloropropane	U	3.0	ug/Kgdrywt	1	5	6.0	1.7	3.0
1,3,5-Trimethylbenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.80	3.0
1,3-Dichlorobenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.74	3.0
1,3-Dichloropropane	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
1,4-Dichlorobenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.53	3.0
2,2-Dichloropropane	U	3.0	ug/Kgdrywt	1	5	6.0	0.60	3.0
2-Butanone	U	15	ug/Kgdrywt	1	25	30.	7.1	15.
2-Chlorotoluene	U	3.0	ug/Kgdrywt	1	5	6.0	1.3	3.0
2-Hexanone	U	15	ug/Kgdrywt	1	25	30.	5.8	15.
4-Chlorotoluene	U	3.0	ug/Kgdrywt	1	5	6.0	0.59	3.0
P-Isopropyltoluene	U	3.0	ug/Kgdrywt	1	5	6.0	0.91	3.0
4-Methyl-2-Pentanone	U	15	ug/Kgdrywt	1	25	30.	7.1	15.
Acetone	U	15	ug/Kgdrywt	1	25	30.	6.1	15.
Benzene	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
Bromobenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.89	3.0
Bromochloromethane	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
Bromodichloromethane	U	3.0	ug/Kgdrywt	1	5	6.0	0.72	3.0
Bromoform	U	3.0	ug/Kgdrywt	1	5	6.0	0.84	3.0
Bromomethane	U	6.0	ug/Kgdrywt	1	10	12.	1.3	6.0

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Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-1
Client ID: CHAAP-21B-DS-SS02
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4038.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 19-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228693

Analysis Date: 19-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 85.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Carbon Disulfide	U	3.0	ug/Kgdrywt	1	5	6.0	0.94	3.0
Carbon Tetrachloride	U	3.0	ug/Kgdrywt	1	5	6.0	1.6	3.0
Chlorobenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.61	3.0
Dibromochloromethane	U	3.0	ug/Kgdrywt	1	5	6.0	8.4	3.0
Chloroethane	U	6.0	ug/Kgdrywt	1	10	12.	1.6	6.0
Chloroform	U	3.0	ug/Kgdrywt	1	5	6.0	0.42	3.0
Chloromethane	U	6.0	ug/Kgdrywt	1	10	12.	1.7	6.0
cis-1,2-Dichloroethene	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
cis-1,3-Dichloropropene	U	3.0	ug/Kgdrywt	1	5	6.0	0.86	3.0
Dibromomethane	U	3.0	ug/Kgdrywt	1	5	6.0	0.61	3.0
Dichlorodifluoromethane	UL	6.0	ug/Kgdrywt	1	10	12.	1.1	6.0
Ethylbenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.78	3.0
Hexachlorobutadiene	U	3.0	ug/Kgdrywt	1	5	6.0	0.89	3.0
Isopropylbenzene	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
m+p-Xylenes	U	6.0	ug/Kgdrywt	1	10	12.	2.0	6.0
Methyl tert-butyl Ether	U	3.0	ug/Kgdrywt	1	5	6.0	1.3	3.0
Methylene Chloride	U	15	ug/Kgdrywt	1	25	30.	9.5	15.
N-Butylbenzene	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
N-Propylbenzene	U	3.0	ug/Kgdrywt	1	5	6.0	1.0	3.0
Naphthalene	J	1.4	ug/Kgdrywt	1	5	6.0	1.0	3.0
o-Xylene	U	3.0	ug/Kgdrywt	1	5	6.0	1.6	3.0
sec-Butylbenzene	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
Styrene	U	3.0	ug/Kgdrywt	1	5	6.0	0.61	3.0
tert-Butylbenzene	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
Tetrachloroethene	U	3.0	ug/Kgdrywt	1	5	6.0	1.4	3.0
Toluene	U	3.0	ug/Kgdrywt	1	5	6.0	1.7	3.0
trans-1,2-Dichloroethene	U	3.0	ug/Kgdrywt	1	5	6.0	0.85	3.0
trans-1,3-Dichloropropene	U	3.0	ug/Kgdrywt	1	5	6.0	1.0	3.0
Trichloroethene	U	3.0	ug/Kgdrywt	1	5	6.0	0.71	3.0
Trichlorofluoromethane	U	6.0	ug/Kgdrywt	1	10	12.	1.1	6.0
Vinyl Chloride	U	6.0	ug/Kgdrywt	1	10	12.	1.0	6.0
1,2-Dichloroethane-D4		105.	%					
p-Bromofluorobenzene		83.4	%					
Dibromofluoromethane		103.	%					
Toluene-D8		102.	%					

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Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-2RA
Client ID: CHAAP-21B-DS-SS102
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4091.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 22-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228825

Analysis Date: 22-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 83.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,1,1,2-Tetrachloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.77	2.8
1,1,1-Trichloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.46	2.8
1,1,2,2-Tetrachloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.92	2.8
Freon-113	U	2.8	ug/Kgdrywt	1	5	5.5	0.99	2.8
1,1,2-Trichloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.1	2.8
1,1-Dichloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.9	2.8
1,1-Dichloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
1,1-Dichloropropene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
1,2,3-Trichlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.84	2.8
1,2,3-Trichloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	1.3	2.8
1,2,4-Trichlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.87	2.8
1,2,4-Trimethylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.96	2.8
1,2-Dibromo-3-Chloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	1.6	2.8
1,2-Dibromoethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.3	2.8
1,2-Dichlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.86	2.8
1,2-Dichloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.1	2.8
1,2-Dichloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	1.5	2.8
1,3,5-Trimethylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.74	2.8
1,3-Dichlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.68	2.8
1,3-Dichloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
1,4-Dichlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.48	2.8
2,2-Dichloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	0.55	2.8
2-Butanone	U	14	ug/Kgdrywt	1	25	28.	6.5	14.
2-Chlorotoluene	U	2.8	ug/Kgdrywt	1	5	5.5	1.2	2.8
2-Hexanone	U	14	ug/Kgdrywt	1	25	28.	5.3	14.
4-Chlorotoluene	U	2.8	ug/Kgdrywt	1	5	5.5	0.54	2.8
P-Isopropyltoluene	U	2.8	ug/Kgdrywt	1	5	5.5	0.84	2.8
4-Methyl-2-Pentanone	U	14	ug/Kgdrywt	1	25	28.	6.5	14.
Acetone	U	14	ug/Kgdrywt	1	25	28.	5.6	14.
Benzene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
Bromobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.81	2.8
Bromochloromethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
Bromodichloromethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.66	2.8
Bromoform	U	2.8	ug/Kgdrywt	1	5	5.5	0.77	2.8
Bromomethane	U	5.5	ug/Kgdrywt	1	10	11.	1.2	5.5

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-2RA
Client ID: CHAAP-21B-DS-SS102
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4091.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 22-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228825

Analysis Date: 22-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 83.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Carbon Disulfide	U	2.8	ug/Kgdrywt	1	5	5.5	0.86	2.8
Carbon Tetrachloride	U	2.8	ug/Kgdrywt	1	5	5.5	1.4	2.8
Chlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.56	2.8
Dibromochloromethane	U	2.8	ug/Kgdrywt	1	5	5.5	7.7	2.8
Chloroethane	U	5.5	ug/Kgdrywt	1	10	11.	1.4	5.5
Chloroform	U	2.8	ug/Kgdrywt	1	5	5.5	0.38	2.8
Chloromethane	U	5.5	ug/Kgdrywt	1	10	11.	1.5	5.5
cis-1,2-Dichloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
cis-1,3-Dichloropropene	U	2.8	ug/Kgdrywt	1	5	5.5	0.79	2.8
Dibromomethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.56	2.8
Dichlorodifluoromethane	U	5.5	ug/Kgdrywt	1	10	11.	1.0	5.5
Ethylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.72	2.8
Hexachlorobutadiene	U	2.8	ug/Kgdrywt	1	5	5.5	0.81	2.8
Isopropylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
m+p-Xylenes	U	5.5	ug/Kgdrywt	1	10	11.	1.9	5.5
Methyl tert-butyl Ether	U	2.8	ug/Kgdrywt	1	5	5.5	1.2	2.8
Methylene Chloride	U	14	ug/Kgdrywt	1	25	28.	8.7	14.
N-Butylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
N-Propylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.91	2.8
Naphthalene	U	2.8	ug/Kgdrywt	1	5	5.5	0.97	2.8
o-Xylene	U	2.8	ug/Kgdrywt	1	5	5.5	1.4	2.8
sec-Butylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
Styrene	U	2.8	ug/Kgdrywt	1	5	5.5	0.56	2.8
tert-Butylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.99	2.8
Tetrachloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	1.3	2.8
Toluene	U	2.8	ug/Kgdrywt	1	5	5.5	1.5	2.8
trans-1,2-Dichloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	0.78	2.8
trans-1,3-Dichloropropene	U	2.8	ug/Kgdrywt	1	5	5.5	0.95	2.8
Trichloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	0.65	2.8
Trichlorofluoromethane	U	5.5	ug/Kgdrywt	1	10	11.	1.0	5.5
Vinyl Chloride	U	5.5	ug/Kgdrywt	1	10	11.	0.96	5.5
1,2-Dichloroethane-D4		101.	%					
p-Bromofluorobenzene		80.9	%					
Dibromofluoromethane		103.	%					
Toluene-D8		100.	%					

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-3
Client ID: CHAAP-21B-DS-SB02-5
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4040.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 19-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228693

Analysis Date: 19-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 82.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,1,1,2-Tetrachloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.70	2.5
1,1,1-Trichloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.42	2.5
1,1,2,2-Tetrachloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.84	2.5
Freon-113	U	2.5	ug/Kgdrywt	1	5	5.0	0.90	2.5
1,1,2-Trichloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.97	2.5
1,1-Dichloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	1.7	2.5
1,1-Dichloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	0.93	2.5
1,1-Dichloropropene	U	2.5	ug/Kgdrywt	1	5	5.0	0.91	2.5
1,2,3-Trichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.76	2.5
1,2,3-Trichloropropane	U	2.5	ug/Kgdrywt	1	5	5.0	1.2	2.5
1,2,4-Trichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.79	2.5
1,2,4-Trimethylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.87	2.5
1,2-Dibromo-3-Chloropropane	U	2.5	ug/Kgdrywt	1	5	5.0	1.5	2.5
1,2-Dibromoethane	U	2.5	ug/Kgdrywt	1	5	5.0	1.2	2.5
1,2-Dichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.78	2.5
1,2-Dichloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	1.0	2.5
1,2-Dichloropropane	U	2.5	ug/Kgdrywt	1	5	5.0	1.4	2.5
1,3,5-Trimethylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.67	2.5
1,3-Dichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.62	2.5
1,3-Dichloropropane	U	2.5	ug/Kgdrywt	1	5	5.0	0.94	2.5
1,4-Dichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.44	2.5
2,2-Dichloropropane	U	2.5	ug/Kgdrywt	1	5	5.0	0.50	2.5
2-Butanone	U	12	ug/Kgdrywt	1	25	25.	5.9	12.
2-Chlorotoluene	U	2.5	ug/Kgdrywt	1	5	5.0	1.1	2.5
2-Hexanone	U	12	ug/Kgdrywt	1	25	25.	4.8	12.
4-Chlorotoluene	U	2.5	ug/Kgdrywt	1	5	5.0	0.49	2.5
P-Isopropyltoluene	U	2.5	ug/Kgdrywt	1	5	5.0	0.76	2.5
4-Methyl-2-Pentanone	U	12	ug/Kgdrywt	1	25	25.	5.9	12.
Acetone	U	12	ug/Kgdrywt	1	25	25.	5.1	12.
Benzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.92	2.5
Bromobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.74	2.5
Bromochloromethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.91	2.5
Bromodichloromethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.60	2.5
Bromoform	U	2.5	ug/Kgdrywt	1	5	5.0	0.70	2.5
Bromomethane	U	5.0	ug/Kgdrywt	1	10	10.	1.1	5.0

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-3
Client ID: CHAAP-21B-DS-SB02-5
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4040.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 19-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228693

Analysis Date: 19-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 82.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Carbon Disulfide	U	2.5	ug/Kgdrywt	1	5	5.0	0.78	2.5
Carbon Tetrachloride	U	2.5	ug/Kgdrywt	1	5	5.0	1.3	2.5
Chlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.51	2.5
Dibromochloromethane	U	2.5	ug/Kgdrywt	1	5	5.0	7.0	2.5
Chloroethane	U	5.0	ug/Kgdrywt	1	10	10.	1.3	5.0
Chloroform	U	2.5	ug/Kgdrywt	1	5	5.0	0.35	2.5
Chloromethane	U	5.0	ug/Kgdrywt	1	10	10.	1.4	5.0
cis-1,2-Dichloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	0.91	2.5
cis-1,3-Dichloropropene	U	2.5	ug/Kgdrywt	1	5	5.0	0.72	2.5
Dibromomethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.51	2.5
Dichlorodifluoromethane	UL	5.0	ug/Kgdrywt	1	10	10.	0.92	5.0
Ethylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.65	2.5
Hexachlorobutadiene	U	2.5	ug/Kgdrywt	1	5	5.0	0.74	2.5
Isopropylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.92	2.5
m+p-Xylenes	U	5.0	ug/Kgdrywt	1	10	10.	1.7	5.0
Methyl tert-butyl Ether	U	2.5	ug/Kgdrywt	1	5	5.0	1.1	2.5
Methylene Chloride	U	12	ug/Kgdrywt	1	25	25.	7.9	12.
N-Butylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.92	2.5
N-Propylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.83	2.5
Naphthalene	U	2.5	ug/Kgdrywt	1	5	5.0	0.88	2.5
o-Xylene	U	2.5	ug/Kgdrywt	1	5	5.0	1.3	2.5
sec-Butylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.91	2.5
Styrene	U	2.5	ug/Kgdrywt	1	5	5.0	0.51	2.5
tert-Butylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.90	2.5
Tetrachloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	1.2	2.5
Toluene	U	2.5	ug/Kgdrywt	1	5	5.0	1.4	2.5
trans-1,2-Dichloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	0.71	2.5
trans-1,3-Dichloropropene	U	2.5	ug/Kgdrywt	1	5	5.0	0.86	2.5
Trichloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	0.59	2.5
Trichlorofluoromethane	U	5.0	ug/Kgdrywt	1	10	10.	0.91	5.0
Vinyl Chloride	U	5.0	ug/Kgdrywt	1	10	10.	0.87	5.0
1,2-Dichloroethane-D4		103.	%					
p-Bromofluorobenzene		95.8	%					
Dibromofluoromethane		103.	%					
Toluene-D8		99.5	%					

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-4
Client ID: CHAAP-21B-DS-SB02-10
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4041.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 19-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228693

Analysis Date: 19-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 77.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,1,1,2-Tetrachloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.70	2.5
1,1,1-Trichloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.42	2.5
1,1,2,2-Tetrachloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.84	2.5
Freon-113	U	2.5	ug/Kgdrywt	1	5	5.0	0.90	2.5
1,1,2-Trichloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.97	2.5
1,1-Dichloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	1.7	2.5
1,1-Dichloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	0.93	2.5
1,1-Dichloropropene	U	2.5	ug/Kgdrywt	1	5	5.0	0.91	2.5
1,2,3-Trichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.76	2.5
1,2,3-Trichloropropane	U	2.5	ug/Kgdrywt	1	5	5.0	1.2	2.5
1,2,4-Trichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.79	2.5
1,2,4-Trimethylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.87	2.5
1,2-Dibromo-3-Chloropropane	U	2.5	ug/Kgdrywt	1	5	5.0	1.5	2.5
1,2-Dibromoethane	U	2.5	ug/Kgdrywt	1	5	5.0	1.2	2.5
1,2-Dichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.78	2.5
1,2-Dichloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	1.0	2.5
1,2-Dichloropropane	U	2.5	ug/Kgdrywt	1	5	5.0	1.4	2.5
1,3,5-Trimethylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.67	2.5
1,3-Dichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.62	2.5
1,3-Dichloropropane	U	2.5	ug/Kgdrywt	1	5	5.0	0.94	2.5
1,4-Dichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.44	2.5
2,2-Dichloropropane	U	2.5	ug/Kgdrywt	1	5	5.0	0.50	2.5
2-Butanone	U	12	ug/Kgdrywt	1	25	25.	5.9	12.
2-Chlorotoluene	U	2.5	ug/Kgdrywt	1	5	5.0	1.1	2.5
2-Hexanone	U	12	ug/Kgdrywt	1	25	25.	4.8	12.
4-Chlorotoluene	U	2.5	ug/Kgdrywt	1	5	5.0	0.49	2.5
P-Isopropyltoluene	U	2.5	ug/Kgdrywt	1	5	5.0	0.76	2.5
4-Methyl-2-Pentanone	U	12	ug/Kgdrywt	1	25	25.	5.9	12.
Acetone	J	7.2	ug/Kgdrywt	1	25	25.	5.1	12.
Benzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.92	2.5
Bromobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.74	2.5
Bromochloromethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.91	2.5
Bromodichloromethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.60	2.5
Bromoform	U	2.5	ug/Kgdrywt	1	5	5.0	0.70	2.5
Bromomethane	U	5.0	ug/Kgdrywt	1	10	10.	1.1	5.0

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-4
Client ID: CHAAP-21B-DS-SB02-10
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4041.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 19-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228693

Analysis Date: 19-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 77.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Carbon Disulfide	J	1.2	ug/Kgdrywt	1	5	5.0	0.78	2.5
Carbon Tetrachloride	U	2.5	ug/Kgdrywt	1	5	5.0	1.3	2.5
Chlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.51	2.5
Dibromochloromethane	U	2.5	ug/Kgdrywt	1	5	5.0	7.0	2.5
Chloroethane	U	5.0	ug/Kgdrywt	1	10	10.	1.3	5.0
Chloroform	U	2.5	ug/Kgdrywt	1	5	5.0	0.35	2.5
Chloromethane	U	5.0	ug/Kgdrywt	1	10	10.	1.4	5.0
cis-1,2-Dichloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	0.91	2.5
cis-1,3-Dichloropropene	U	2.5	ug/Kgdrywt	1	5	5.0	0.72	2.5
Dibromomethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.51	2.5
Dichlorodifluoromethane	UL	5.0	ug/Kgdrywt	1	10	10.	0.92	5.0
Ethylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.65	2.5
Hexachlorobutadiene	U	2.5	ug/Kgdrywt	1	5	5.0	0.74	2.5
Isopropylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.92	2.5
m+p-Xylenes	U	5.0	ug/Kgdrywt	1	10	10.	1.7	5.0
Methyl tert-butyl Ether	U	2.5	ug/Kgdrywt	1	5	5.0	1.1	2.5
Methylene Chloride	U	12	ug/Kgdrywt	1	25	25.	7.9	12.
N-Butylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.92	2.5
N-Propylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.83	2.5
Naphthalene	J	0.92	ug/Kgdrywt	1	5	5.0	0.88	2.5
o-Xylene	U	2.5	ug/Kgdrywt	1	5	5.0	1.3	2.5
sec-Butylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.91	2.5
Styrene	U	2.5	ug/Kgdrywt	1	5	5.0	0.51	2.5
tert-Butylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.90	2.5
Tetrachloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	1.2	2.5
Toluene	U	2.5	ug/Kgdrywt	1	5	5.0	1.4	2.5
trans-1,2-Dichloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	0.71	2.5
trans-1,3-Dichloropropene	U	2.5	ug/Kgdrywt	1	5	5.0	0.86	2.5
Trichloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	0.59	2.5
Trichlorofluoromethane	U	5.0	ug/Kgdrywt	1	10	10.	0.91	5.0
Vinyl Chloride	U	5.0	ug/Kgdrywt	1	10	10.	0.87	5.0
1,2-Dichloroethane-D4		105.	%					
p-Bromofluorobenzene		95.9	%					
Dibromofluoromethane		105.	%					
Toluene-D8		102.	%					

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-5
Client ID: CHAAP-21B-DS-SS06
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4042.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 19-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228693

Analysis Date: 19-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 83.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,1,1,2-Tetrachloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.77	2.8
1,1,1-Trichloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.46	2.8
1,1,2,2-Tetrachloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.92	2.8
Freon-113	U	2.8	ug/Kgdrywt	1	5	5.5	0.99	2.8
1,1,2-Trichloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.1	2.8
1,1-Dichloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.9	2.8
1,1-Dichloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
1,1-Dichloropropene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
1,2,3-Trichlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.84	2.8
1,2,3-Trichloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	1.3	2.8
1,2,4-Trichlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.87	2.8
1,2,4-Trimethylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.96	2.8
1,2-Dibromo-3-Chloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	1.6	2.8
1,2-Dibromoethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.3	2.8
1,2-Dichlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.86	2.8
1,2-Dichloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.1	2.8
1,2-Dichloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	1.5	2.8
1,3,5-Trimethylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.74	2.8
1,3-Dichlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.68	2.8
1,3-Dichloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
1,4-Dichlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.48	2.8
2,2-Dichloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	0.55	2.8
2-Butanone	U	14	ug/Kgdrywt	1	25	28.	6.5	14.
2-Chlorotoluene	U	2.8	ug/Kgdrywt	1	5	5.5	1.2	2.8
2-Hexanone	U	14	ug/Kgdrywt	1	25	28.	5.3	14.
4-Chlorotoluene	U	2.8	ug/Kgdrywt	1	5	5.5	0.54	2.8
P-Isopropyltoluene	U	2.8	ug/Kgdrywt	1	5	5.5	0.84	2.8
4-Methyl-2-Pentanone	U	14	ug/Kgdrywt	1	25	28.	6.5	14.
Acetone	U	14	ug/Kgdrywt	1	25	28.	5.6	14.
Benzene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
Bromobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.81	2.8
Bromochloromethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
Bromodichloromethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.66	2.8
Bromoform	U	2.8	ug/Kgdrywt	1	5	5.5	0.77	2.8
Bromomethane	U	5.5	ug/Kgdrywt	1	10	11.	1.2	5.5

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-5
Client ID: CHAAP-21B-DS-SS06
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4042.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 19-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228693

Analysis Date: 19-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 83.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Carbon Disulfide	U	2.8	ug/Kgdrywt	1	5	5.5	0.86	2.8
Carbon Tetrachloride	U	2.8	ug/Kgdrywt	1	5	5.5	1.4	2.8
Chlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.56	2.8
Dibromochloromethane	U	2.8	ug/Kgdrywt	1	5	5.5	7.7	2.8
Chloroethane	U	5.5	ug/Kgdrywt	1	10	11.	1.4	5.5
Chloroform	U	2.8	ug/Kgdrywt	1	5	5.5	0.38	2.8
Chloromethane	U	5.5	ug/Kgdrywt	1	10	11.	1.5	5.5
cis-1,2-Dichloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
cis-1,3-Dichloropropene	U	2.8	ug/Kgdrywt	1	5	5.5	0.79	2.8
Dibromomethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.56	2.8
Dichlorodifluoromethane	UL	5.5	ug/Kgdrywt	1	10	11.	1.0	5.5
Ethylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.72	2.8
Hexachlorobutadiene	U	2.8	ug/Kgdrywt	1	5	5.5	0.81	2.8
Isopropylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
m+p-Xylenes	U	5.5	ug/Kgdrywt	1	10	11.	1.9	5.5
Methyl tert-butyl Ether	U	2.8	ug/Kgdrywt	1	5	5.5	1.2	2.8
Methylene Chloride	U	14	ug/Kgdrywt	1	25	28.	8.7	14.
N-Butylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
N-Propylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.91	2.8
Naphthalene	J	1.1	ug/Kgdrywt	1	5	5.5	0.97	2.8
o-Xylene	U	2.8	ug/Kgdrywt	1	5	5.5	1.4	2.8
sec-Butylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
Styrene	U	2.8	ug/Kgdrywt	1	5	5.5	0.56	2.8
tert-Butylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.99	2.8
Tetrachloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	1.3	2.8
Toluene	U	2.8	ug/Kgdrywt	1	5	5.5	1.5	2.8
trans-1,2-Dichloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	0.78	2.8
trans-1,3-Dichloropropene	U	2.8	ug/Kgdrywt	1	5	5.5	0.95	2.8
Trichloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	0.65	2.8
Trichlorofluoromethane	U	5.5	ug/Kgdrywt	1	10	11.	1.0	5.5
Vinyl Chloride	U	5.5	ug/Kgdrywt	1	10	11.	0.96	5.5
1,2-Dichloroethane-D4		107.	%					
p-Bromofluorobenzene		85.1	%					
Dibromofluoromethane		102.	%					
Toluene-D8		101.	%					

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-5RA
Client ID: CHAAP-21B-DS-SS06
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4092.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 22-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228825

Analysis Date: 22-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 83.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,1,1,2-Tetrachloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.77	2.8
1,1,1-Trichloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.46	2.8
1,1,2,2-Tetrachloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.92	2.8
Freon-113	U	2.8	ug/Kgdrywt	1	5	5.5	0.99	2.8
1,1,2-Trichloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.1	2.8
1,1-Dichloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.9	2.8
1,1-Dichloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
1,1-Dichloropropene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
1,2,3-Trichlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.84	2.8
1,2,3-Trichloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	1.3	2.8
1,2,4-Trichlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.87	2.8
1,2,4-Trimethylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.96	2.8
1,2-Dibromo-3-Chloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	1.6	2.8
1,2-Dibromoethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.3	2.8
1,2-Dichlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.86	2.8
1,2-Dichloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.1	2.8
1,2-Dichloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	1.5	2.8
1,3,5-Trimethylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.74	2.8
1,3-Dichlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.68	2.8
1,3-Dichloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
1,4-Dichlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.48	2.8
2,2-Dichloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	0.55	2.8
2-Butanone	U	14	ug/Kgdrywt	1	25	28.	6.5	14.
2-Chlorotoluene	U	2.8	ug/Kgdrywt	1	5	5.5	1.2	2.8
2-Hexanone	U	14	ug/Kgdrywt	1	25	28.	5.3	14.
4-Chlorotoluene	U	2.8	ug/Kgdrywt	1	5	5.5	0.54	2.8
P-Isopropyltoluene	U	2.8	ug/Kgdrywt	1	5	5.5	0.84	2.8
4-Methyl-2-Pentanone	U	14	ug/Kgdrywt	1	25	28.	6.5	14.
Acetone	U	14	ug/Kgdrywt	1	25	28.	5.6	14.
Benzene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
Bromobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.81	2.8
Bromochloromethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
Bromodichloromethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.66	2.8
Bromoform	U	2.8	ug/Kgdrywt	1	5	5.5	0.77	2.8
Bromomethane	U	5.5	ug/Kgdrywt	1	10	11.	1.2	5.5

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-5RA
Client ID: CHAAP-21B-DS-SS06
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4092.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 22-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228825

Analysis Date: 22-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 83.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Carbon Disulfide	U	2.8	ug/Kgdrywt	1	5	5.5	0.86	2.8
Carbon Tetrachloride	U	2.8	ug/Kgdrywt	1	5	5.5	1.4	2.8
Chlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.56	2.8
Dibromochloromethane	U	2.8	ug/Kgdrywt	1	5	5.5	7.7	2.8
Chloroethane	U	5.5	ug/Kgdrywt	1	10	11.	1.4	5.5
Chloroform	U	2.8	ug/Kgdrywt	1	5	5.5	0.38	2.8
Chloromethane	U	5.5	ug/Kgdrywt	1	10	11.	1.5	5.5
cis-1,2-Dichloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
cis-1,3-Dichloropropene	U	2.8	ug/Kgdrywt	1	5	5.5	0.79	2.8
Dibromomethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.56	2.8
Dichlorodifluoromethane	U	5.5	ug/Kgdrywt	1	10	11.	1.0	5.5
Ethylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.72	2.8
Hexachlorobutadiene	U	2.8	ug/Kgdrywt	1	5	5.5	0.81	2.8
Isopropylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
m+p-Xylenes	U	5.5	ug/Kgdrywt	1	10	11.	1.9	5.5
Methyl tert-butyl Ether	U	2.8	ug/Kgdrywt	1	5	5.5	1.2	2.8
Methylene Chloride	U	14	ug/Kgdrywt	1	25	28.	8.7	14.
N-Butylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
N-Propylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.91	2.8
Naphthalene	U	2.8	ug/Kgdrywt	1	5	5.5	0.97	2.8
o-Xylene	U	2.8	ug/Kgdrywt	1	5	5.5	1.4	2.8
sec-Butylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
Styrene	U	2.8	ug/Kgdrywt	1	5	5.5	0.56	2.8
tert-Butylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.99	2.8
Tetrachloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	1.3	2.8
Toluene	U	2.8	ug/Kgdrywt	1	5	5.5	1.5	2.8
trans-1,2-Dichloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	0.78	2.8
trans-1,3-Dichloropropene	U	2.8	ug/Kgdrywt	1	5	5.5	0.95	2.8
Trichloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	0.65	2.8
Trichlorofluoromethane	U	5.5	ug/Kgdrywt	1	10	11.	1.0	5.5
Vinyl Chloride	U	5.5	ug/Kgdrywt	1	10	11.	0.96	5.5
1,2-Dichloroethane-D4		105.	%					
p-Bromofluorobenzene	*	77.9	%					
Dibromofluoromethane		106.	%					
Toluene-D8		99.6	%					

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-6
Client ID: CHAAP-21B-DS-SB06-5
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4043.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 19-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228693

Analysis Date: 19-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 76.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,1,1,2-Tetrachloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.77	2.8
1,1,1-Trichloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.46	2.8
1,1,2,2-Tetrachloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.92	2.8
Freon-113	U	2.8	ug/Kgdrywt	1	5	5.5	0.99	2.8
1,1,2-Trichloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.1	2.8
1,1-Dichloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.9	2.8
1,1-Dichloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
1,1-Dichloropropene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
1,2,3-Trichlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.84	2.8
1,2,3-Trichloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	1.3	2.8
1,2,4-Trichlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.87	2.8
1,2,4-Trimethylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.96	2.8
1,2-Dibromo-3-Chloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	1.6	2.8
1,2-Dibromoethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.3	2.8
1,2-Dichlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.86	2.8
1,2-Dichloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.1	2.8
1,2-Dichloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	1.5	2.8
1,3,5-Trimethylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.74	2.8
1,3-Dichlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.68	2.8
1,3-Dichloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
1,4-Dichlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.48	2.8
2,2-Dichloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	0.55	2.8
2-Butanone	U	14	ug/Kgdrywt	1	25	28.	6.5	14.
2-Chlorotoluene	U	2.8	ug/Kgdrywt	1	5	5.5	1.2	2.8
2-Hexanone	U	14	ug/Kgdrywt	1	25	28.	5.3	14.
4-Chlorotoluene	U	2.8	ug/Kgdrywt	1	5	5.5	0.54	2.8
P-Isopropyltoluene	U	2.8	ug/Kgdrywt	1	5	5.5	0.84	2.8
4-Methyl-2-Pentanone	U	14	ug/Kgdrywt	1	25	28.	6.5	14.
Acetone	U	14	ug/Kgdrywt	1	25	28.	5.6	14.
Benzene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
Bromobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.81	2.8
Bromochloromethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
Bromodichloromethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.66	2.8
Bromoform	U	2.8	ug/Kgdrywt	1	5	5.5	0.77	2.8
Bromomethane	U	5.5	ug/Kgdrywt	1	10	11.	1.2	5.5

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-6
Client ID: CHAAP-21B-DS-SB06-5
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4043.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 19-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228693

Analysis Date: 19-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 76.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Carbon Disulfide	J	0.96	ug/Kgdrywt	1	5	5.5	0.86	2.8
Carbon Tetrachloride	U	2.8	ug/Kgdrywt	1	5	5.5	1.4	2.8
Chlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.56	2.8
Dibromochloromethane	U	2.8	ug/Kgdrywt	1	5	5.5	7.7	2.8
Chloroethane	U	5.5	ug/Kgdrywt	1	10	11.	1.4	5.5
Chloroform	U	2.8	ug/Kgdrywt	1	5	5.5	0.38	2.8
Chloromethane	U	5.5	ug/Kgdrywt	1	10	11.	1.5	5.5
cis-1,2-Dichloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
cis-1,3-Dichloropropene	U	2.8	ug/Kgdrywt	1	5	5.5	0.79	2.8
Dibromomethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.56	2.8
Dichlorodifluoromethane	UL	5.5	ug/Kgdrywt	1	10	11.	1.0	5.5
Ethylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.72	2.8
Hexachlorobutadiene	U	2.8	ug/Kgdrywt	1	5	5.5	0.81	2.8
Isopropylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
m+p-Xylenes	U	5.5	ug/Kgdrywt	1	10	11.	1.9	5.5
Methyl tert-butyl Ether	U	2.8	ug/Kgdrywt	1	5	5.5	1.2	2.8
Methylene Chloride	U	14	ug/Kgdrywt	1	25	28.	8.7	14.
N-Butylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
N-Propylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.91	2.8
Naphthalene	U	2.8	ug/Kgdrywt	1	5	5.5	0.97	2.8
o-Xylene	U	2.8	ug/Kgdrywt	1	5	5.5	1.4	2.8
sec-Butylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
Styrene	U	2.8	ug/Kgdrywt	1	5	5.5	0.56	2.8
tert-Butylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.99	2.8
Tetrachloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	1.3	2.8
Toluene	U	2.8	ug/Kgdrywt	1	5	5.5	1.5	2.8
trans-1,2-Dichloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	0.78	2.8
trans-1,3-Dichloropropene	U	2.8	ug/Kgdrywt	1	5	5.5	0.95	2.8
Trichloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	0.65	2.8
Trichlorofluoromethane	U	5.5	ug/Kgdrywt	1	10	11.	1.0	5.5
Vinyl Chloride	U	5.5	ug/Kgdrywt	1	10	11.	0.96	5.5
1,2-Dichloroethane-D4		106.	%					
p-Bromofluorobenzene		96.3	%					
Dibromofluoromethane		108.	%					
Toluene-D8		104.	%					

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-7
Client ID: CHAAP-21B-DS-SB06-10
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4044.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 19-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228693

Analysis Date: 19-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 80.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,1,1,2-Tetrachloroethane	U	2.4	ug/Kgdrywt	1	5	4.8	0.67	2.4
1,1,1-Trichloroethane	U	2.4	ug/Kgdrywt	1	5	4.8	0.40	2.4
1,1,2,2-Tetrachloroethane	U	2.4	ug/Kgdrywt	1	5	4.8	0.81	2.4
Freon-113	U	2.4	ug/Kgdrywt	1	5	4.8	0.86	2.4
1,1,2-Trichloroethane	U	2.4	ug/Kgdrywt	1	5	4.8	0.93	2.4
1,1-Dichloroethane	U	2.4	ug/Kgdrywt	1	5	4.8	1.6	2.4
1,1-Dichloroethene	U	2.4	ug/Kgdrywt	1	5	4.8	0.89	2.4
1,1-Dichloropropene	U	2.4	ug/Kgdrywt	1	5	4.8	0.87	2.4
1,2,3-Trichlorobenzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.73	2.4
1,2,3-Trichloropropane	U	2.4	ug/Kgdrywt	1	5	4.8	1.2	2.4
1,2,4-Trichlorobenzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.76	2.4
1,2,4-Trimethylbenzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.84	2.4
1,2-Dibromo-3-Chloropropane	U	2.4	ug/Kgdrywt	1	5	4.8	1.4	2.4
1,2-Dibromoethane	U	2.4	ug/Kgdrywt	1	5	4.8	1.2	2.4
1,2-Dichlorobenzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.75	2.4
1,2-Dichloroethane	U	2.4	ug/Kgdrywt	1	5	4.8	0.96	2.4
1,2-Dichloropropane	U	2.4	ug/Kgdrywt	1	5	4.8	1.3	2.4
1,3,5-Trimethylbenzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.64	2.4
1,3-Dichlorobenzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.60	2.4
1,3-Dichloropropane	U	2.4	ug/Kgdrywt	1	5	4.8	0.90	2.4
1,4-Dichlorobenzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.42	2.4
2,2-Dichloropropane	U	2.4	ug/Kgdrywt	1	5	4.8	0.48	2.4
2-Butanone	U	12	ug/Kgdrywt	1	25	24.	5.7	12.
2-Chlorotoluene	U	2.4	ug/Kgdrywt	1	5	4.8	1.0	2.4
2-Hexanone	U	12	ug/Kgdrywt	1	25	24.	4.6	12.
4-Chlorotoluene	U	2.4	ug/Kgdrywt	1	5	4.8	0.47	2.4
P-Isopropyltoluene	U	2.4	ug/Kgdrywt	1	5	4.8	0.73	2.4
4-Methyl-2-Pentanone	U	12	ug/Kgdrywt	1	25	24.	5.7	12.
Acetone	U	12	ug/Kgdrywt	1	25	24.	4.9	12.
Benzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.88	2.4
Bromobenzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.71	2.4
Bromochloromethane	U	2.4	ug/Kgdrywt	1	5	4.8	0.87	2.4
Bromodichloromethane	U	2.4	ug/Kgdrywt	1	5	4.8	0.58	2.4
Bromoform	U	2.4	ug/Kgdrywt	1	5	4.8	0.67	2.4
Bromomethane	U	4.8	ug/Kgdrywt	1	10	9.6	1.0	4.8

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-7
Client ID: CHAAP-21B-DS-SB06-10
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4044.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 19-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228693

Analysis Date: 19-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 80.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Carbon Disulfide	U	2.4	ug/Kgdrywt	1	5	4.8	0.75	2.4
Carbon Tetrachloride	U	2.4	ug/Kgdrywt	1	5	4.8	1.2	2.4
Chlorobenzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.49	2.4
Dibromochloromethane	U	2.4	ug/Kgdrywt	1	5	4.8	6.7	2.4
Chloroethane	U	4.8	ug/Kgdrywt	1	10	9.6	1.2	4.8
Chloroform	U	2.4	ug/Kgdrywt	1	5	4.8	0.34	2.4
Chloromethane	U	4.8	ug/Kgdrywt	1	10	9.6	1.3	4.8
cis-1,2-Dichloroethene	U	2.4	ug/Kgdrywt	1	5	4.8	0.87	2.4
cis-1,3-Dichloropropene	U	2.4	ug/Kgdrywt	1	5	4.8	0.69	2.4
Dibromomethane	U	2.4	ug/Kgdrywt	1	5	4.8	0.49	2.4
Dichlorodifluoromethane	UL	4.8	ug/Kgdrywt	1	10	9.6	0.88	4.8
Ethylbenzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.62	2.4
Hexachlorobutadiene	U	2.4	ug/Kgdrywt	1	5	4.8	0.71	2.4
Isopropylbenzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.88	2.4
m+p-Xylenes	U	4.8	ug/Kgdrywt	1	10	9.6	1.6	4.8
Methyl tert-butyl Ether	U	2.4	ug/Kgdrywt	1	5	4.8	1.0	2.4
Methylene Chloride	U	12	ug/Kgdrywt	1	25	24.	7.6	12.
N-Butylbenzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.88	2.4
N-Propylbenzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.80	2.4
Naphthalene	U	2.4	ug/Kgdrywt	1	5	4.8	0.84	2.4
o-Xylene	U	2.4	ug/Kgdrywt	1	5	4.8	1.2	2.4
sec-Butylbenzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.87	2.4
Styrene	U	2.4	ug/Kgdrywt	1	5	4.8	0.49	2.4
tert-Butylbenzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.86	2.4
Tetrachloroethene	U	2.4	ug/Kgdrywt	1	5	4.8	1.2	2.4
Toluene	U	2.4	ug/Kgdrywt	1	5	4.8	1.3	2.4
trans-1,2-Dichloroethene	U	2.4	ug/Kgdrywt	1	5	4.8	0.68	2.4
trans-1,3-Dichloropropene	U	2.4	ug/Kgdrywt	1	5	4.8	0.82	2.4
Trichloroethene	U	2.4	ug/Kgdrywt	1	5	4.8	0.57	2.4
Trichlorofluoromethane	U	4.8	ug/Kgdrywt	1	10	9.6	0.87	4.8
Vinyl Chloride	U	4.8	ug/Kgdrywt	1	10	9.6	0.84	4.8
1,2-Dichloroethane-D4		106.	%					
p-Bromofluorobenzene		96.4	%					
Dibromofluoromethane		106.	%					
Toluene-D8		100.	%					

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-8
Client ID: CHAAP-21B-DS-SS07
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4088.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 22-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228825

Analysis Date: 22-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 81.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,1,1,2-Tetrachloroethane	UM	2.8	ug/Kgdrywt	1	5	5.5	0.77	2.8
1,1,1-Trichloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.46	2.8
1,1,2,2-Tetrachloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.92	2.8
Freon-113	U	2.8	ug/Kgdrywt	1	5	5.5	0.99	2.8
1,1,2-Trichloroethane	UM	2.8	ug/Kgdrywt	1	5	5.5	1.1	2.8
1,1-Dichloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.9	2.8
1,1-Dichloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
1,1-Dichloropropene	UM	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
1,2,3-Trichlorobenzene	UMM	2.8	ug/Kgdrywt	1	5	5.5	0.84	2.8
1,2,3-Trichloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	1.3	2.8
1,2,4-Trichlorobenzene	UMM	2.8	ug/Kgdrywt	1	5	5.5	0.87	2.8
1,2,4-Trimethylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.96	2.8
1,2-Dibromo-3-Chloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	1.6	2.8
1,2-Dibromoethane	UMM	2.8	ug/Kgdrywt	1	5	5.5	1.3	2.8
1,2-Dichlorobenzene	UMM	2.8	ug/Kgdrywt	1	5	5.5	0.86	2.8
1,2-Dichloroethane	UM	2.8	ug/Kgdrywt	1	5	5.5	1.1	2.8
1,2-Dichloropropane	UM	2.8	ug/Kgdrywt	1	5	5.5	1.5	2.8
1,3,5-Trimethylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.74	2.8
1,3-Dichlorobenzene	UMM	2.8	ug/Kgdrywt	1	5	5.5	0.68	2.8
1,3-Dichloropropane	UM	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
1,4-Dichlorobenzene	UMM	2.8	ug/Kgdrywt	1	5	5.5	0.48	2.8
2,2-Dichloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	0.55	2.8
2-Butanone	UM	14	ug/Kgdrywt	1	25	28.	6.5	14.
2-Chlorotoluene	U	2.8	ug/Kgdrywt	1	5	5.5	1.2	2.8
2-Hexanone	UMM	14	ug/Kgdrywt	1	25	28.	5.3	14.
4-Chlorotoluene	U	2.8	ug/Kgdrywt	1	5	5.5	0.54	2.8
P-Isopropyltoluene	U	2.8	ug/Kgdrywt	1	5	5.5	0.84	2.8
4-Methyl-2-Pentanone	UMM	14	ug/Kgdrywt	1	25	28.	6.5	14.
Acetone	U	14	ug/Kgdrywt	1	25	28.	5.6	14.
Benzene	UM	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
Bromobenzene	UM	2.8	ug/Kgdrywt	1	5	5.5	0.81	2.8
Bromochloromethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
Bromodichloromethane	UM	2.8	ug/Kgdrywt	1	5	5.5	0.66	2.8
Bromoform	UMM	2.8	ug/Kgdrywt	1	5	5.5	0.77	2.8
Bromomethane	U	5.5	ug/Kgdrywt	1	10	11.	1.2	5.5

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Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-8
Client ID: CHAAP-21B-DS-SS07
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4088.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 22-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228825

Analysis Date: 22-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 81.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Carbon Disulfide	U	2.8	ug/Kgdrywt	1	5	5.5	0.86	2.8
Carbon Tetrachloride	U	2.8	ug/Kgdrywt	1	5	5.5	1.4	2.8
Chlorobenzene	UMM	2.8	ug/Kgdrywt	1	5	5.5	0.56	2.8
Dibromochloromethane	UM	2.8	ug/Kgdrywt	1	5	5.5	7.7	2.8
Chloroethane	UM	5.5	ug/Kgdrywt	1	10	11.	1.4	5.5
Chloroform	U	2.8	ug/Kgdrywt	1	5	5.5	0.38	2.8
Chloromethane	U	5.5	ug/Kgdrywt	1	10	11.	1.5	5.5
cis-1,2-Dichloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
cis-1,3-Dichloropropene	UMM	2.8	ug/Kgdrywt	1	5	5.5	0.79	2.8
Dibromomethane	UM	2.8	ug/Kgdrywt	1	5	5.5	0.56	2.8
Dichlorodifluoromethane	U	5.5	ug/Kgdrywt	1	10	11.	1.0	5.5
Ethylbenzene	UMM	2.8	ug/Kgdrywt	1	5	5.5	0.72	2.8
Hexachlorobutadiene	UMM	2.8	ug/Kgdrywt	1	5	5.5	0.81	2.8
Isopropylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
m+p-Xylenes	UMM	5.5	ug/Kgdrywt	1	10	11.	1.9	5.5
Methyl tert-butyl Ether	U	2.8	ug/Kgdrywt	1	5	5.5	1.2	2.8
Methylene Chloride	U	14	ug/Kgdrywt	1	25	28.	8.7	14.
N-Butylbenzene	UM	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
N-Propylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.91	2.8
Naphthalene	UMM	2.8	ug/Kgdrywt	1	5	5.5	0.97	2.8
o-Xylene	UMM	2.8	ug/Kgdrywt	1	5	5.5	1.4	2.8
sec-Butylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
Styrene	UMM	2.8	ug/Kgdrywt	1	5	5.5	0.56	2.8
tert-Butylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.99	2.8
Tetrachloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	1.3	2.8
Toluene	UMM	2.8	ug/Kgdrywt	1	5	5.5	1.5	2.8
trans-1,2-Dichloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	0.78	2.8
trans-1,3-Dichloropropene	UMM	2.8	ug/Kgdrywt	1	5	5.5	0.95	2.8
Trichloroethene	UM	2.8	ug/Kgdrywt	1	5	5.5	0.65	2.8
Trichlorofluoromethane	U	5.5	ug/Kgdrywt	1	10	11.	1.0	5.5
Vinyl Chloride	U	5.5	ug/Kgdrywt	1	10	11.	0.96	5.5
1,2-Dichloroethane-D4		106.	%					
p-Bromofluorobenzene	*	77.2	%					
Dibromofluoromethane		108.	%					
Toluene-D8		102.	%					

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-8RA
Client ID: CHAAP-21B-DS-SS07
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4111.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 22-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228846

Analysis Date: 22-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 81.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,1,1,2-Tetrachloroethane	UM	2.8	ug/Kgdrywt	1	5	5.5	0.77	2.8
1,1,1-Trichloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.46	2.8
1,1,2,2-Tetrachloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.92	2.8
Freon-113	U	2.8	ug/Kgdrywt	1	5	5.5	0.99	2.8
1,1,2-Trichloroethane	UM	2.8	ug/Kgdrywt	1	5	5.5	1.1	2.8
1,1-Dichloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.9	2.8
1,1-Dichloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
1,1-Dichloropropene	UM	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
1,2,3-Trichlorobenzene	UMM	2.8	ug/Kgdrywt	1	5	5.5	0.84	2.8
1,2,3-Trichloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	1.3	2.8
1,2,4-Trichlorobenzene	UMM	2.8	ug/Kgdrywt	1	5	5.5	0.87	2.8
1,2,4-Trimethylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.96	2.8
1,2-Dibromo-3-Chloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	1.6	2.8
1,2-Dibromoethane	UMM	2.8	ug/Kgdrywt	1	5	5.5	1.3	2.8
1,2-Dichlorobenzene	UMM	2.8	ug/Kgdrywt	1	5	5.5	0.86	2.8
1,2-Dichloroethane	UM	2.8	ug/Kgdrywt	1	5	5.5	1.1	2.8
1,2-Dichloropropane	UM	2.8	ug/Kgdrywt	1	5	5.5	1.5	2.8
1,3,5-Trimethylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.74	2.8
1,3-Dichlorobenzene	UMM	2.8	ug/Kgdrywt	1	5	5.5	0.68	2.8
1,3-Dichloropropane	UM	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
1,4-Dichlorobenzene	UMM	2.8	ug/Kgdrywt	1	5	5.5	0.48	2.8
2,2-Dichloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	0.55	2.8
2-Butanone	UM	14	ug/Kgdrywt	1	25	28.	6.5	14.
2-Chlorotoluene	U	2.8	ug/Kgdrywt	1	5	5.5	1.2	2.8
2-Hexanone	UMM	14	ug/Kgdrywt	1	25	28.	5.3	14.
4-Chlorotoluene	U	2.8	ug/Kgdrywt	1	5	5.5	0.54	2.8
P-Isopropyltoluene	U	2.8	ug/Kgdrywt	1	5	5.5	0.84	2.8
4-Methyl-2-Pentanone	UMM	14	ug/Kgdrywt	1	25	28.	6.5	14.
Acetone	U	14	ug/Kgdrywt	1	25	28.	5.6	14.
Benzene	UM	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
Bromobenzene	UM	2.8	ug/Kgdrywt	1	5	5.5	0.81	2.8
Bromochloromethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
Bromodichloromethane	UM	2.8	ug/Kgdrywt	1	5	5.5	0.66	2.8
Bromoform	UMM	2.8	ug/Kgdrywt	1	5	5.5	0.77	2.8
Bromomethane	U	5.5	ug/Kgdrywt	1	10	11.	1.2	5.5

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-8RA
Client ID: CHAAP-21B-DS-SS07
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4111.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 22-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228846

Analysis Date: 22-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 81.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Carbon Disulfide	U	2.8	ug/Kgdrywt	1	5	5.5	0.86	2.8
Carbon Tetrachloride	U	2.8	ug/Kgdrywt	1	5	5.5	1.4	2.8
Chlorobenzene	UMM	2.8	ug/Kgdrywt	1	5	5.5	0.56	2.8
Dibromochloromethane	UM	2.8	ug/Kgdrywt	1	5	5.5	7.7	2.8
Chloroethane	UM	5.5	ug/Kgdrywt	1	10	11.	1.4	5.5
Chloroform	U	2.8	ug/Kgdrywt	1	5	5.5	0.38	2.8
Chloromethane	U	5.5	ug/Kgdrywt	1	10	11.	1.5	5.5
cis-1,2-Dichloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
cis-1,3-Dichloropropene	UMM	2.8	ug/Kgdrywt	1	5	5.5	0.79	2.8
Dibromomethane	UM	2.8	ug/Kgdrywt	1	5	5.5	0.56	2.8
Dichlorodifluoromethane	U	5.5	ug/Kgdrywt	1	10	11.	1.0	5.5
Ethylbenzene	UMM	2.8	ug/Kgdrywt	1	5	5.5	0.72	2.8
Hexachlorobutadiene	UMM	2.8	ug/Kgdrywt	1	5	5.5	0.81	2.8
Isopropylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
m+p-Xylenes	UMM	5.5	ug/Kgdrywt	1	10	11.	1.9	5.5
Methyl tert-butyl Ether	U	2.8	ug/Kgdrywt	1	5	5.5	1.2	2.8
Methylene Chloride	U	14	ug/Kgdrywt	1	25	28.	8.7	14.
N-Butylbenzene	UM	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
N-Propylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.91	2.8
Naphthalene	UMM	2.8	ug/Kgdrywt	1	5	5.5	0.97	2.8
o-Xylene	UMM	2.8	ug/Kgdrywt	1	5	5.5	1.4	2.8
sec-Butylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
Styrene	UMM	2.8	ug/Kgdrywt	1	5	5.5	0.56	2.8
tert-Butylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.99	2.8
Tetrachloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	1.3	2.8
Toluene	UMM	2.8	ug/Kgdrywt	1	5	5.5	1.5	2.8
trans-1,2-Dichloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	0.78	2.8
trans-1,3-Dichloropropene	UMM	2.8	ug/Kgdrywt	1	5	5.5	0.95	2.8
Trichloroethene	UM	2.8	ug/Kgdrywt	1	5	5.5	0.65	2.8
Trichlorofluoromethane	U	5.5	ug/Kgdrywt	1	10	11.	1.0	5.5
Vinyl Chloride	U	5.5	ug/Kgdrywt	1	10	11.	0.96	5.5
1,2-Dichloroethane-D4		109.	%					
p-Bromofluorobenzene	*	74.4	%					
Dibromofluoromethane		114.	%					
Toluene-D8		99.2	%					

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-9
Client ID: CHAAP-21B-DS-SB07-5
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4045.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 19-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228693

Analysis Date: 19-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 81.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,1,1,2-Tetrachloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.70	2.5
1,1,1-Trichloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.42	2.5
1,1,2,2-Tetrachloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.84	2.5
Freon-113	U	2.5	ug/Kgdrywt	1	5	5.0	0.90	2.5
1,1,2-Trichloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.97	2.5
1,1-Dichloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	1.7	2.5
1,1-Dichloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	0.93	2.5
1,1-Dichloropropene	U	2.5	ug/Kgdrywt	1	5	5.0	0.91	2.5
1,2,3-Trichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.76	2.5
1,2,3-Trichloropropane	U	2.5	ug/Kgdrywt	1	5	5.0	1.2	2.5
1,2,4-Trichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.79	2.5
1,2,4-Trimethylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.87	2.5
1,2-Dibromo-3-Chloropropane	U	2.5	ug/Kgdrywt	1	5	5.0	1.5	2.5
1,2-Dibromoethane	U	2.5	ug/Kgdrywt	1	5	5.0	1.2	2.5
1,2-Dichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.78	2.5
1,2-Dichloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	1.0	2.5
1,2-Dichloropropane	U	2.5	ug/Kgdrywt	1	5	5.0	1.4	2.5
1,3,5-Trimethylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.67	2.5
1,3-Dichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.62	2.5
1,3-Dichloropropane	U	2.5	ug/Kgdrywt	1	5	5.0	0.94	2.5
1,4-Dichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.44	2.5
2,2-Dichloropropane	U	2.5	ug/Kgdrywt	1	5	5.0	0.50	2.5
2-Butanone	U	12	ug/Kgdrywt	1	25	25.	5.9	12.
2-Chlorotoluene	U	2.5	ug/Kgdrywt	1	5	5.0	1.1	2.5
2-Hexanone	U	12	ug/Kgdrywt	1	25	25.	4.8	12.
4-Chlorotoluene	U	2.5	ug/Kgdrywt	1	5	5.0	0.49	2.5
P-Isopropyltoluene	U	2.5	ug/Kgdrywt	1	5	5.0	0.76	2.5
4-Methyl-2-Pentanone	U	12	ug/Kgdrywt	1	25	25.	5.9	12.
Acetone	U	12	ug/Kgdrywt	1	25	25.	5.1	12.
Benzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.92	2.5
Bromobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.74	2.5
Bromochloromethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.91	2.5
Bromodichloromethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.60	2.5
Bromoform	U	2.5	ug/Kgdrywt	1	5	5.0	0.70	2.5
Bromomethane	U	5.0	ug/Kgdrywt	1	10	10.	1.1	5.0

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-9
Client ID: CHAAP-21B-DS-SB07-5
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4045.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 19-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228693

Analysis Date: 19-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 81.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Carbon Disulfide	U	2.5	ug/Kgdrywt	1	5	5.0	0.78	2.5
Carbon Tetrachloride	U	2.5	ug/Kgdrywt	1	5	5.0	1.3	2.5
Chlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.51	2.5
Dibromochloromethane	U	2.5	ug/Kgdrywt	1	5	5.0	7.0	2.5
Chloroethane	U	5.0	ug/Kgdrywt	1	10	10.	1.3	5.0
Chloroform	U	2.5	ug/Kgdrywt	1	5	5.0	0.35	2.5
Chloromethane	U	5.0	ug/Kgdrywt	1	10	10.	1.4	5.0
cis-1,2-Dichloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	0.91	2.5
cis-1,3-Dichloropropene	U	2.5	ug/Kgdrywt	1	5	5.0	0.72	2.5
Dibromomethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.51	2.5
Dichlorodifluoromethane	UL	5.0	ug/Kgdrywt	1	10	10.	0.92	5.0
Ethylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.65	2.5
Hexachlorobutadiene	U	2.5	ug/Kgdrywt	1	5	5.0	0.74	2.5
Isopropylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.92	2.5
m+p-Xylenes	U	5.0	ug/Kgdrywt	1	10	10.	1.7	5.0
Methyl tert-butyl Ether	U	2.5	ug/Kgdrywt	1	5	5.0	1.1	2.5
Methylene Chloride	U	12	ug/Kgdrywt	1	25	25.	7.9	12.
N-Butylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.92	2.5
N-Propylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.83	2.5
Naphthalene	U	2.5	ug/Kgdrywt	1	5	5.0	0.88	2.5
o-Xylene	U	2.5	ug/Kgdrywt	1	5	5.0	1.3	2.5
sec-Butylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.91	2.5
Styrene	U	2.5	ug/Kgdrywt	1	5	5.0	0.51	2.5
tert-Butylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.90	2.5
Tetrachloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	1.2	2.5
Toluene	U	2.5	ug/Kgdrywt	1	5	5.0	1.4	2.5
trans-1,2-Dichloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	0.71	2.5
trans-1,3-Dichloropropene	U	2.5	ug/Kgdrywt	1	5	5.0	0.86	2.5
Trichloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	0.59	2.5
Trichlorofluoromethane	U	5.0	ug/Kgdrywt	1	10	10.	0.91	5.0
Vinyl Chloride	U	5.0	ug/Kgdrywt	1	10	10.	0.87	5.0
1,2-Dichloroethane-D4		106.	%					
p-Bromofluorobenzene		96.7	%					
Dibromofluoromethane		106.	%					
Toluene-D8		104.	%					

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-10
Client ID: CHAAP-21B-DS-SB107-5
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4046.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 19-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228693

Analysis Date: 19-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 81.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,1,1,2-Tetrachloroethane	U	2.3	ug/Kgdrywt	1	5	4.6	0.65	2.3
1,1,1-Trichloroethane	U	2.3	ug/Kgdrywt	1	5	4.6	0.39	2.3
1,1,2,2-Tetrachloroethane	U	2.3	ug/Kgdrywt	1	5	4.6	0.78	2.3
Freon-113	U	2.3	ug/Kgdrywt	1	5	4.6	0.84	2.3
1,1,2-Trichloroethane	U	2.3	ug/Kgdrywt	1	5	4.6	0.90	2.3
1,1-Dichloroethane	U	2.3	ug/Kgdrywt	1	5	4.6	1.6	2.3
1,1-Dichloroethene	U	2.3	ug/Kgdrywt	1	5	4.6	0.86	2.3
1,1-Dichloropropene	U	2.3	ug/Kgdrywt	1	5	4.6	0.85	2.3
1,2,3-Trichlorobenzene	U	2.3	ug/Kgdrywt	1	5	4.6	0.71	2.3
1,2,3-Trichloropropane	U	2.3	ug/Kgdrywt	1	5	4.6	1.1	2.3
1,2,4-Trichlorobenzene	U	2.3	ug/Kgdrywt	1	5	4.6	0.73	2.3
1,2,4-Trimethylbenzene	U	2.3	ug/Kgdrywt	1	5	4.6	0.81	2.3
1,2-Dibromo-3-Chloropropane	U	2.3	ug/Kgdrywt	1	5	4.6	1.4	2.3
1,2-Dibromoethane	U	2.3	ug/Kgdrywt	1	5	4.6	1.1	2.3
1,2-Dichlorobenzene	U	2.3	ug/Kgdrywt	1	5	4.6	0.72	2.3
1,2-Dichloroethane	U	2.3	ug/Kgdrywt	1	5	4.6	0.93	2.3
1,2-Dichloropropane	U	2.3	ug/Kgdrywt	1	5	4.6	1.3	2.3
1,3,5-Trimethylbenzene	U	2.3	ug/Kgdrywt	1	5	4.6	0.62	2.3
1,3-Dichlorobenzene	U	2.3	ug/Kgdrywt	1	5	4.6	0.58	2.3
1,3-Dichloropropane	U	2.3	ug/Kgdrywt	1	5	4.6	0.87	2.3
1,4-Dichlorobenzene	U	2.3	ug/Kgdrywt	1	5	4.6	0.41	2.3
2,2-Dichloropropane	U	2.3	ug/Kgdrywt	1	5	4.6	0.46	2.3
2-Butanone	U	12	ug/Kgdrywt	1	25	23.	5.5	12.
2-Chlorotoluene	U	2.3	ug/Kgdrywt	1	5	4.6	1.0	2.3
2-Hexanone	U	12	ug/Kgdrywt	1	25	23.	4.5	12.
4-Chlorotoluene	U	2.3	ug/Kgdrywt	1	5	4.6	0.46	2.3
P-Isopropyltoluene	U	2.3	ug/Kgdrywt	1	5	4.6	0.71	2.3
4-Methyl-2-Pentanone	U	12	ug/Kgdrywt	1	25	23.	5.5	12.
Acetone	U	12	ug/Kgdrywt	1	25	23.	4.7	12.
Benzene	U	2.3	ug/Kgdrywt	1	5	4.6	0.86	2.3
Bromobenzene	U	2.3	ug/Kgdrywt	1	5	4.6	0.69	2.3
Bromochloromethane	U	2.3	ug/Kgdrywt	1	5	4.6	0.85	2.3
Bromodichloromethane	U	2.3	ug/Kgdrywt	1	5	4.6	0.56	2.3
Bromoform	U	2.3	ug/Kgdrywt	1	5	4.6	0.65	2.3
Bromomethane	U	4.6	ug/Kgdrywt	1	10	9.3	1.0	4.6

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Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-10
Client ID: CHAAP-21B-DS-SB107-5
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4046.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 19-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228693

Analysis Date: 19-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 81.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Carbon Disulfide	U	2.3	ug/Kgdrywt	1	5	4.6	0.72	2.3
Carbon Tetrachloride	U	2.3	ug/Kgdrywt	1	5	4.6	1.2	2.3
Chlorobenzene	U	2.3	ug/Kgdrywt	1	5	4.6	0.47	2.3
Dibromochloromethane	U	2.3	ug/Kgdrywt	1	5	4.6	6.5	2.3
Chloroethane	U	4.6	ug/Kgdrywt	1	10	9.3	1.2	4.6
Chloroform	U	2.3	ug/Kgdrywt	1	5	4.6	0.32	2.3
Chloromethane	U	4.6	ug/Kgdrywt	1	10	9.3	1.3	4.6
cis-1,2-Dichloroethene	U	2.3	ug/Kgdrywt	1	5	4.6	0.85	2.3
cis-1,3-Dichloropropene	U	2.3	ug/Kgdrywt	1	5	4.6	0.67	2.3
Dibromomethane	U	2.3	ug/Kgdrywt	1	5	4.6	0.47	2.3
Dichlorodifluoromethane	UL	4.6	ug/Kgdrywt	1	10	9.3	0.86	4.6
Ethylbenzene	U	2.3	ug/Kgdrywt	1	5	4.6	0.60	2.3
Hexachlorobutadiene	U	2.3	ug/Kgdrywt	1	5	4.6	0.69	2.3
Isopropylbenzene	U	2.3	ug/Kgdrywt	1	5	4.6	0.86	2.3
m+p-Xylenes	U	4.6	ug/Kgdrywt	1	10	9.3	1.6	4.6
Methyl tert-butyl Ether	U	2.3	ug/Kgdrywt	1	5	4.6	1.0	2.3
Methylene Chloride	U	12	ug/Kgdrywt	1	25	23.	7.3	12.
N-Butylbenzene	U	2.3	ug/Kgdrywt	1	5	4.6	0.86	2.3
N-Propylbenzene	U	2.3	ug/Kgdrywt	1	5	4.6	0.77	2.3
Naphthalene	U	2.3	ug/Kgdrywt	1	5	4.6	0.82	2.3
o-Xylene	U	2.3	ug/Kgdrywt	1	5	4.6	1.2	2.3
sec-Butylbenzene	U	2.3	ug/Kgdrywt	1	5	4.6	0.85	2.3
Styrene	U	2.3	ug/Kgdrywt	1	5	4.6	0.47	2.3
tert-Butylbenzene	U	2.3	ug/Kgdrywt	1	5	4.6	0.84	2.3
Tetrachloroethene	U	2.3	ug/Kgdrywt	1	5	4.6	1.1	2.3
Toluene	U	2.3	ug/Kgdrywt	1	5	4.6	1.3	2.3
trans-1,2-Dichloroethene	U	2.3	ug/Kgdrywt	1	5	4.6	0.66	2.3
trans-1,3-Dichloropropene	U	2.3	ug/Kgdrywt	1	5	4.6	0.80	2.3
Trichloroethene	U	2.3	ug/Kgdrywt	1	5	4.6	0.55	2.3
Trichlorofluoromethane	U	4.6	ug/Kgdrywt	1	10	9.3	0.85	4.6
Vinyl Chloride	U	4.6	ug/Kgdrywt	1	10	9.3	0.81	4.6
1,2-Dichloroethane-D4		106.	%					
p-Bromofluorobenzene		95.4	%					
Dibromofluoromethane		106.	%					
Toluene-D8		100.	%					

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-11
Client ID: CHAAP-21B-DS-SB07-10
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4047.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 19-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228693

Analysis Date: 19-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 76.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,1,1,2-Tetrachloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.77	2.8
1,1,1-Trichloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.46	2.8
1,1,2,2-Tetrachloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.92	2.8
Freon-113	U	2.8	ug/Kgdrywt	1	5	5.5	0.99	2.8
1,1,2-Trichloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.1	2.8
1,1-Dichloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.9	2.8
1,1-Dichloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
1,1-Dichloropropene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
1,2,3-Trichlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.84	2.8
1,2,3-Trichloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	1.3	2.8
1,2,4-Trichlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.87	2.8
1,2,4-Trimethylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.96	2.8
1,2-Dibromo-3-Chloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	1.6	2.8
1,2-Dibromoethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.3	2.8
1,2-Dichlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.86	2.8
1,2-Dichloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.1	2.8
1,2-Dichloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	1.5	2.8
1,3,5-Trimethylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.74	2.8
1,3-Dichlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.68	2.8
1,3-Dichloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
1,4-Dichlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.48	2.8
2,2-Dichloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	0.55	2.8
2-Butanone	U	14	ug/Kgdrywt	1	25	28.	6.5	14.
2-Chlorotoluene	U	2.8	ug/Kgdrywt	1	5	5.5	1.2	2.8
2-Hexanone	U	14	ug/Kgdrywt	1	25	28.	5.3	14.
4-Chlorotoluene	U	2.8	ug/Kgdrywt	1	5	5.5	0.54	2.8
P-Isopropyltoluene	U	2.8	ug/Kgdrywt	1	5	5.5	0.84	2.8
4-Methyl-2-Pentanone	U	14	ug/Kgdrywt	1	25	28.	6.5	14.
Acetone	U	14	ug/Kgdrywt	1	25	28.	5.6	14.
Benzene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
Bromobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.81	2.8
Bromochloromethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
Bromodichloromethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.66	2.8
Bromoform	U	2.8	ug/Kgdrywt	1	5	5.5	0.77	2.8
Bromomethane	U	5.5	ug/Kgdrywt	1	10	11.	1.2	5.5

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-11
Client ID: CHAAP-21B-DS-SB07-10
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4047.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 19-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228693

Analysis Date: 19-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 76.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Carbon Disulfide	U	2.8	ug/Kgdrywt	1	5	5.5	0.86	2.8
Carbon Tetrachloride	U	2.8	ug/Kgdrywt	1	5	5.5	1.4	2.8
Chlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.56	2.8
Dibromochloromethane	U	2.8	ug/Kgdrywt	1	5	5.5	7.7	2.8
Chloroethane	U	5.5	ug/Kgdrywt	1	10	11.	1.4	5.5
Chloroform	U	2.8	ug/Kgdrywt	1	5	5.5	0.38	2.8
Chloromethane	U	5.5	ug/Kgdrywt	1	10	11.	1.5	5.5
cis-1,2-Dichloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
cis-1,3-Dichloropropene	U	2.8	ug/Kgdrywt	1	5	5.5	0.79	2.8
Dibromomethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.56	2.8
Dichlorodifluoromethane	UL	5.5	ug/Kgdrywt	1	10	11.	1.0	5.5
Ethylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.72	2.8
Hexachlorobutadiene	U	2.8	ug/Kgdrywt	1	5	5.5	0.81	2.8
Isopropylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
m+p-Xylenes	U	5.5	ug/Kgdrywt	1	10	11.	1.9	5.5
Methyl tert-butyl Ether	U	2.8	ug/Kgdrywt	1	5	5.5	1.2	2.8
Methylene Chloride	U	14	ug/Kgdrywt	1	25	28.	8.7	14.
N-Butylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
N-Propylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.91	2.8
Naphthalene	U	2.8	ug/Kgdrywt	1	5	5.5	0.97	2.8
o-Xylene	U	2.8	ug/Kgdrywt	1	5	5.5	1.4	2.8
sec-Butylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
Styrene	U	2.8	ug/Kgdrywt	1	5	5.5	0.56	2.8
tert-Butylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.99	2.8
Tetrachloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	1.3	2.8
Toluene	U	2.8	ug/Kgdrywt	1	5	5.5	1.5	2.8
trans-1,2-Dichloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	0.78	2.8
trans-1,3-Dichloropropene	U	2.8	ug/Kgdrywt	1	5	5.5	0.95	2.8
Trichloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	0.65	2.8
Trichlorofluoromethane	U	5.5	ug/Kgdrywt	1	10	11.	1.0	5.5
Vinyl Chloride	U	5.5	ug/Kgdrywt	1	10	11.	0.96	5.5
1,2-Dichloroethane-D4		106.	%					
p-Bromofluorobenzene		95.5	%					
Dibromofluoromethane		107.	%					
Toluene-D8		103.	%					

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Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-12
Client ID: CHAAP-21B-DS-SS08
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4048.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 19-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228693

Analysis Date: 19-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 87.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,1,1,2-Tetrachloroethane	U	3.0	ug/Kgdrywt	1	5	6.0	0.84	3.0
1,1,1-Trichloroethane	U	3.0	ug/Kgdrywt	1	5	6.0	0.50	3.0
1,1,2,2-Tetrachloroethane	U	3.0	ug/Kgdrywt	1	5	6.0	1.0	3.0
Freon-113	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
1,1,2-Trichloroethane	U	3.0	ug/Kgdrywt	1	5	6.0	1.2	3.0
1,1-Dichloroethane	U	3.0	ug/Kgdrywt	1	5	6.0	2.0	3.0
1,1-Dichloroethene	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
1,1-Dichloropropene	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
1,2,3-Trichlorobenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.91	3.0
1,2,3-Trichloropropane	U	3.0	ug/Kgdrywt	1	5	6.0	1.4	3.0
1,2,4-Trichlorobenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.95	3.0
1,2,4-Trimethylbenzene	U	3.0	ug/Kgdrywt	1	5	6.0	1.0	3.0
1,2-Dibromo-3-Chloropropane	U	3.0	ug/Kgdrywt	1	5	6.0	1.8	3.0
1,2-Dibromoethane	U	3.0	ug/Kgdrywt	1	5	6.0	1.4	3.0
1,2-Dichlorobenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.94	3.0
1,2-Dichloroethane	U	3.0	ug/Kgdrywt	1	5	6.0	1.2	3.0
1,2-Dichloropropane	U	3.0	ug/Kgdrywt	1	5	6.0	1.7	3.0
1,3,5-Trimethylbenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.80	3.0
1,3-Dichlorobenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.74	3.0
1,3-Dichloropropane	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
1,4-Dichlorobenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.53	3.0
2,2-Dichloropropane	U	3.0	ug/Kgdrywt	1	5	6.0	0.60	3.0
2-Butanone	U	15	ug/Kgdrywt	1	25	30.	7.1	15.
2-Chlorotoluene	U	3.0	ug/Kgdrywt	1	5	6.0	1.3	3.0
2-Hexanone	U	15	ug/Kgdrywt	1	25	30.	5.8	15.
4-Chlorotoluene	U	3.0	ug/Kgdrywt	1	5	6.0	0.59	3.0
P-Isopropyltoluene	U	3.0	ug/Kgdrywt	1	5	6.0	0.91	3.0
4-Methyl-2-Pentanone	U	15	ug/Kgdrywt	1	25	30.	7.1	15.
Acetone	U	15	ug/Kgdrywt	1	25	30.	6.1	15.
Benzene	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
Bromobenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.89	3.0
Bromochloromethane	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
Bromodichloromethane	U	3.0	ug/Kgdrywt	1	5	6.0	0.72	3.0
Bromoform	U	3.0	ug/Kgdrywt	1	5	6.0	0.84	3.0
Bromomethane	U	6.0	ug/Kgdrywt	1	10	12.	1.3	6.0

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-12
Client ID: CHAAP-21B-DS-SS08
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4048.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 19-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228693

Analysis Date: 19-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 87.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Carbon Disulfide	U	3.0	ug/Kgdrywt	1	5	6.0	0.94	3.0
Carbon Tetrachloride	U	3.0	ug/Kgdrywt	1	5	6.0	1.6	3.0
Chlorobenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.61	3.0
Dibromochloromethane	U	3.0	ug/Kgdrywt	1	5	6.0	8.4	3.0
Chloroethane	U	6.0	ug/Kgdrywt	1	10	12.	1.6	6.0
Chloroform	U	3.0	ug/Kgdrywt	1	5	6.0	0.42	3.0
Chloromethane	U	6.0	ug/Kgdrywt	1	10	12.	1.7	6.0
cis-1,2-Dichloroethene	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
cis-1,3-Dichloropropene	U	3.0	ug/Kgdrywt	1	5	6.0	0.86	3.0
Dibromomethane	U	3.0	ug/Kgdrywt	1	5	6.0	0.61	3.0
Dichlorodifluoromethane	UL	6.0	ug/Kgdrywt	1	10	12.	1.1	6.0
Ethylbenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.78	3.0
Hexachlorobutadiene	U	3.0	ug/Kgdrywt	1	5	6.0	0.89	3.0
Isopropylbenzene	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
m+p-Xylenes	U	6.0	ug/Kgdrywt	1	10	12.	2.0	6.0
Methyl tert-butyl Ether	U	3.0	ug/Kgdrywt	1	5	6.0	1.3	3.0
Methylene Chloride	U	15	ug/Kgdrywt	1	25	30.	9.5	15.
N-Butylbenzene	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
N-Propylbenzene	U	3.0	ug/Kgdrywt	1	5	6.0	1.0	3.0
Naphthalene	J	1.4	ug/Kgdrywt	1	5	6.0	1.0	3.0
o-Xylene	U	3.0	ug/Kgdrywt	1	5	6.0	1.6	3.0
sec-Butylbenzene	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
Styrene	U	3.0	ug/Kgdrywt	1	5	6.0	0.61	3.0
tert-Butylbenzene	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
Tetrachloroethene	U	3.0	ug/Kgdrywt	1	5	6.0	1.4	3.0
Toluene	U	3.0	ug/Kgdrywt	1	5	6.0	1.7	3.0
trans-1,2-Dichloroethene	U	3.0	ug/Kgdrywt	1	5	6.0	0.85	3.0
trans-1,3-Dichloropropene	U	3.0	ug/Kgdrywt	1	5	6.0	1.0	3.0
Trichloroethene	U	3.0	ug/Kgdrywt	1	5	6.0	0.71	3.0
Trichlorofluoromethane	U	6.0	ug/Kgdrywt	1	10	12.	1.1	6.0
Vinyl Chloride	U	6.0	ug/Kgdrywt	1	10	12.	1.0	6.0
1,2-Dichloroethane-D4		107.	%					
p-Bromofluorobenzene		80.3	%					
Dibromofluoromethane		105.	%					
Toluene-D8		103.	%					

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-12RA
Client ID: CHAAP-21B-DS-SS08
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4093.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 22-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228825

Analysis Date: 22-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 87.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,1,1,2-Tetrachloroethane	U	3.0	ug/Kgdrywt	1	5	6.0	0.84	3.0
1,1,1-Trichloroethane	U	3.0	ug/Kgdrywt	1	5	6.0	0.50	3.0
1,1,2,2-Tetrachloroethane	U	3.0	ug/Kgdrywt	1	5	6.0	1.0	3.0
Freon-113	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
1,1,2-Trichloroethane	U	3.0	ug/Kgdrywt	1	5	6.0	1.2	3.0
1,1-Dichloroethane	U	3.0	ug/Kgdrywt	1	5	6.0	2.0	3.0
1,1-Dichloroethene	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
1,1-Dichloropropene	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
1,2,3-Trichlorobenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.91	3.0
1,2,3-Trichloropropane	U	3.0	ug/Kgdrywt	1	5	6.0	1.4	3.0
1,2,4-Trichlorobenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.95	3.0
1,2,4-Trimethylbenzene	U	3.0	ug/Kgdrywt	1	5	6.0	1.0	3.0
1,2-Dibromo-3-Chloropropane	U	3.0	ug/Kgdrywt	1	5	6.0	1.8	3.0
1,2-Dibromoethane	U	3.0	ug/Kgdrywt	1	5	6.0	1.4	3.0
1,2-Dichlorobenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.94	3.0
1,2-Dichloroethane	U	3.0	ug/Kgdrywt	1	5	6.0	1.2	3.0
1,2-Dichloropropane	U	3.0	ug/Kgdrywt	1	5	6.0	1.7	3.0
1,3,5-Trimethylbenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.80	3.0
1,3-Dichlorobenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.74	3.0
1,3-Dichloropropane	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
1,4-Dichlorobenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.53	3.0
2,2-Dichloropropane	U	3.0	ug/Kgdrywt	1	5	6.0	0.60	3.0
2-Butanone	U	15	ug/Kgdrywt	1	25	30.	7.1	15.
2-Chlorotoluene	U	3.0	ug/Kgdrywt	1	5	6.0	1.3	3.0
2-Hexanone	U	15	ug/Kgdrywt	1	25	30.	5.8	15.
4-Chlorotoluene	U	3.0	ug/Kgdrywt	1	5	6.0	0.59	3.0
P-Isopropyltoluene	U	3.0	ug/Kgdrywt	1	5	6.0	0.91	3.0
4-Methyl-2-Pentanone	U	15	ug/Kgdrywt	1	25	30.	7.1	15.
Acetone	J	10	ug/Kgdrywt	1	25	30.	6.1	15.
Benzene	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
Bromobenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.89	3.0
Bromochloromethane	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
Bromodichloromethane	U	3.0	ug/Kgdrywt	1	5	6.0	0.72	3.0
Bromoform	U	3.0	ug/Kgdrywt	1	5	6.0	0.84	3.0
Bromomethane	U	6.0	ug/Kgdrywt	1	10	12.	1.3	6.0

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-12RA
Client ID: CHAAP-21B-DS-SS08
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4093.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 22-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228825

Analysis Date: 22-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 87.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Carbon Disulfide	U	3.0	ug/Kgdrywt	1	5	6.0	0.94	3.0
Carbon Tetrachloride	U	3.0	ug/Kgdrywt	1	5	6.0	1.6	3.0
Chlorobenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.61	3.0
Dibromochloromethane	U	3.0	ug/Kgdrywt	1	5	6.0	8.4	3.0
Chloroethane	U	6.0	ug/Kgdrywt	1	10	12.	1.6	6.0
Chloroform	U	3.0	ug/Kgdrywt	1	5	6.0	0.42	3.0
Chloromethane	U	6.0	ug/Kgdrywt	1	10	12.	1.7	6.0
cis-1,2-Dichloroethene	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
cis-1,3-Dichloropropene	U	3.0	ug/Kgdrywt	1	5	6.0	0.86	3.0
Dibromomethane	U	3.0	ug/Kgdrywt	1	5	6.0	0.61	3.0
Dichlorodifluoromethane	U	6.0	ug/Kgdrywt	1	10	12.	1.1	6.0
Ethylbenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.78	3.0
Hexachlorobutadiene	U	3.0	ug/Kgdrywt	1	5	6.0	0.89	3.0
Isopropylbenzene	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
m+p-Xylenes	U	6.0	ug/Kgdrywt	1	10	12.	2.0	6.0
Methyl tert-butyl Ether	U	3.0	ug/Kgdrywt	1	5	6.0	1.3	3.0
Methylene Chloride	U	15	ug/Kgdrywt	1	25	30.	9.5	15.
N-Butylbenzene	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
N-Propylbenzene	U	3.0	ug/Kgdrywt	1	5	6.0	1.0	3.0
Naphthalene	U	3.0	ug/Kgdrywt	1	5	6.0	1.0	3.0
o-Xylene	U	3.0	ug/Kgdrywt	1	5	6.0	1.6	3.0
sec-Butylbenzene	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
Styrene	U	3.0	ug/Kgdrywt	1	5	6.0	0.61	3.0
tert-Butylbenzene	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
Tetrachloroethene	U	3.0	ug/Kgdrywt	1	5	6.0	1.4	3.0
Toluene	U	3.0	ug/Kgdrywt	1	5	6.0	1.7	3.0
trans-1,2-Dichloroethene	U	3.0	ug/Kgdrywt	1	5	6.0	0.85	3.0
trans-1,3-Dichloropropene	U	3.0	ug/Kgdrywt	1	5	6.0	1.0	3.0
Trichloroethene	U	3.0	ug/Kgdrywt	1	5	6.0	0.71	3.0
Trichlorofluoromethane	U	6.0	ug/Kgdrywt	1	10	12.	1.1	6.0
Vinyl Chloride	U	6.0	ug/Kgdrywt	1	10	12.	1.0	6.0
1,2-Dichloroethane-D4		104.	%					
p-Bromofluorobenzene	*	76.4	%					
Dibromofluoromethane		109.	%					
Toluene-D8		98.9	%					

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-13
Client ID: CHAAP-21B-DS-SB08-5
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4049.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 19-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228693

Analysis Date: 19-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 80.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,1,1,2-Tetrachloroethane	U	2.3	ug/Kgdrywt	1	5	4.6	0.64	2.3
1,1,1-Trichloroethane	U	2.3	ug/Kgdrywt	1	5	4.6	0.39	2.3
1,1,2,2-Tetrachloroethane	U	2.3	ug/Kgdrywt	1	5	4.6	0.77	2.3
Freon-113	U	2.3	ug/Kgdrywt	1	5	4.6	0.83	2.3
1,1,2-Trichloroethane	U	2.3	ug/Kgdrywt	1	5	4.6	0.89	2.3
1,1-Dichloroethane	U	2.3	ug/Kgdrywt	1	5	4.6	1.6	2.3
1,1-Dichloroethene	U	2.3	ug/Kgdrywt	1	5	4.6	0.86	2.3
1,1-Dichloropropene	U	2.3	ug/Kgdrywt	1	5	4.6	0.84	2.3
1,2,3-Trichlorobenzene	U	2.3	ug/Kgdrywt	1	5	4.6	0.70	2.3
1,2,3-Trichloropropane	U	2.3	ug/Kgdrywt	1	5	4.6	1.1	2.3
1,2,4-Trichlorobenzene	U	2.3	ug/Kgdrywt	1	5	4.6	0.73	2.3
1,2,4-Trimethylbenzene	U	2.3	ug/Kgdrywt	1	5	4.6	0.80	2.3
1,2-Dibromo-3-Chloropropane	U	2.3	ug/Kgdrywt	1	5	4.6	1.4	2.3
1,2-Dibromoethane	U	2.3	ug/Kgdrywt	1	5	4.6	1.1	2.3
1,2-Dichlorobenzene	U	2.3	ug/Kgdrywt	1	5	4.6	0.72	2.3
1,2-Dichloroethane	U	2.3	ug/Kgdrywt	1	5	4.6	0.92	2.3
1,2-Dichloropropane	U	2.3	ug/Kgdrywt	1	5	4.6	1.3	2.3
1,3,5-Trimethylbenzene	U	2.3	ug/Kgdrywt	1	5	4.6	0.62	2.3
1,3-Dichlorobenzene	U	2.3	ug/Kgdrywt	1	5	4.6	0.57	2.3
1,3-Dichloropropane	U	2.3	ug/Kgdrywt	1	5	4.6	0.86	2.3
1,4-Dichlorobenzene	U	2.3	ug/Kgdrywt	1	5	4.6	0.40	2.3
2,2-Dichloropropane	U	2.3	ug/Kgdrywt	1	5	4.6	0.46	2.3
2-Butanone	U	12	ug/Kgdrywt	1	25	23.	5.4	12.
2-Chlorotoluene	U	2.3	ug/Kgdrywt	1	5	4.6	1.0	2.3
2-Hexanone	U	12	ug/Kgdrywt	1	25	23.	4.4	12.
4-Chlorotoluene	U	2.3	ug/Kgdrywt	1	5	4.6	0.45	2.3
P-Isopropyltoluene	U	2.3	ug/Kgdrywt	1	5	4.6	0.70	2.3
4-Methyl-2-Pentanone	U	12	ug/Kgdrywt	1	25	23.	5.4	12.
Acetone	U	12	ug/Kgdrywt	1	25	23.	4.7	12.
Benzene	U	2.3	ug/Kgdrywt	1	5	4.6	0.85	2.3
Bromobenzene	U	2.3	ug/Kgdrywt	1	5	4.6	0.68	2.3
Bromochloromethane	U	2.3	ug/Kgdrywt	1	5	4.6	0.84	2.3
Bromodichloromethane	U	2.3	ug/Kgdrywt	1	5	4.6	0.55	2.3
Bromoform	U	2.3	ug/Kgdrywt	1	5	4.6	0.64	2.3
Bromomethane	U	4.6	ug/Kgdrywt	1	10	9.2	1.0	4.6

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-13
Client ID: CHAAP-21B-DS-SB08-5
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4049.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 19-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228693

Analysis Date: 19-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 80.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Carbon Disulfide	U	2.3	ug/Kgdrywt	1	5	4.6	0.72	2.3
Carbon Tetrachloride	U	2.3	ug/Kgdrywt	1	5	4.6	1.2	2.3
Chlorobenzene	U	2.3	ug/Kgdrywt	1	5	4.6	0.47	2.3
Dibromochloromethane	U	2.3	ug/Kgdrywt	1	5	4.6	6.4	2.3
Chloroethane	U	4.6	ug/Kgdrywt	1	10	9.2	1.2	4.6
Chloroform	U	2.3	ug/Kgdrywt	1	5	4.6	0.32	2.3
Chloromethane	U	4.6	ug/Kgdrywt	1	10	9.2	1.3	4.6
cis-1,2-Dichloroethene	U	2.3	ug/Kgdrywt	1	5	4.6	0.84	2.3
cis-1,3-Dichloropropene	U	2.3	ug/Kgdrywt	1	5	4.6	0.66	2.3
Dibromomethane	U	2.3	ug/Kgdrywt	1	5	4.6	0.47	2.3
Dichlorodifluoromethane	UL	4.6	ug/Kgdrywt	1	10	9.2	0.85	4.6
Ethylbenzene	U	2.3	ug/Kgdrywt	1	5	4.6	0.60	2.3
Hexachlorobutadiene	U	2.3	ug/Kgdrywt	1	5	4.6	0.68	2.3
Isopropylbenzene	U	2.3	ug/Kgdrywt	1	5	4.6	0.85	2.3
m+p-Xylenes	U	4.6	ug/Kgdrywt	1	10	9.2	1.6	4.6
Methyl tert-butyl Ether	U	2.3	ug/Kgdrywt	1	5	4.6	1.0	2.3
Methylene Chloride	U	12	ug/Kgdrywt	1	25	23.	7.3	12.
N-Butylbenzene	U	2.3	ug/Kgdrywt	1	5	4.6	0.85	2.3
N-Propylbenzene	U	2.3	ug/Kgdrywt	1	5	4.6	0.76	2.3
Naphthalene	U	2.3	ug/Kgdrywt	1	5	4.6	0.81	2.3
o-Xylene	U	2.3	ug/Kgdrywt	1	5	4.6	1.2	2.3
sec-Butylbenzene	U	2.3	ug/Kgdrywt	1	5	4.6	0.84	2.3
Styrene	U	2.3	ug/Kgdrywt	1	5	4.6	0.47	2.3
tert-Butylbenzene	U	2.3	ug/Kgdrywt	1	5	4.6	0.83	2.3
Tetrachloroethene	U	2.3	ug/Kgdrywt	1	5	4.6	1.1	2.3
Toluene	U	2.3	ug/Kgdrywt	1	5	4.6	1.3	2.3
trans-1,2-Dichloroethene	U	2.3	ug/Kgdrywt	1	5	4.6	0.65	2.3
trans-1,3-Dichloropropene	U	2.3	ug/Kgdrywt	1	5	4.6	0.79	2.3
Trichloroethene	U	2.3	ug/Kgdrywt	1	5	4.6	0.54	2.3
Trichlorofluoromethane	U	4.6	ug/Kgdrywt	1	10	9.2	0.84	4.6
Vinyl Chloride	U	4.6	ug/Kgdrywt	1	10	9.2	0.80	4.6
1,2-Dichloroethane-D4		107.	%					
p-Bromofluorobenzene		94.0	%					
Dibromofluoromethane		104.	%					
Toluene-D8		101.	%					

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-14
Client ID: CHAAP-21B-DS-SS09
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4050.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 19-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228693

Analysis Date: 19-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 83.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,1,1,2-Tetrachloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.77	2.8
1,1,1-Trichloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.46	2.8
1,1,2,2-Tetrachloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.92	2.8
Freon-113	U	2.8	ug/Kgdrywt	1	5	5.5	0.99	2.8
1,1,2-Trichloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.1	2.8
1,1-Dichloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.9	2.8
1,1-Dichloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
1,1-Dichloropropene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
1,2,3-Trichlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.84	2.8
1,2,3-Trichloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	1.3	2.8
1,2,4-Trichlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.87	2.8
1,2,4-Trimethylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.96	2.8
1,2-Dibromo-3-Chloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	1.6	2.8
1,2-Dibromoethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.3	2.8
1,2-Dichlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.86	2.8
1,2-Dichloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.1	2.8
1,2-Dichloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	1.5	2.8
1,3,5-Trimethylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.74	2.8
1,3-Dichlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.68	2.8
1,3-Dichloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
1,4-Dichlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.48	2.8
2,2-Dichloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	0.55	2.8
2-Butanone	U	14	ug/Kgdrywt	1	25	28.	6.5	14.
2-Chlorotoluene	U	2.8	ug/Kgdrywt	1	5	5.5	1.2	2.8
2-Hexanone	U	14	ug/Kgdrywt	1	25	28.	5.3	14.
4-Chlorotoluene	U	2.8	ug/Kgdrywt	1	5	5.5	0.54	2.8
P-Isopropyltoluene	U	2.8	ug/Kgdrywt	1	5	5.5	0.84	2.8
4-Methyl-2-Pentanone	U	14	ug/Kgdrywt	1	25	28.	6.5	14.
Acetone	U	14	ug/Kgdrywt	1	25	28.	5.6	14.
Benzene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
Bromobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.81	2.8
Bromochloromethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
Bromodichloromethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.66	2.8
Bromoform	U	2.8	ug/Kgdrywt	1	5	5.5	0.77	2.8
Bromomethane	U	5.5	ug/Kgdrywt	1	10	11.	1.2	5.5

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-14
Client ID: CHAAP-21B-DS-SS09
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4050.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 19-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228693

Analysis Date: 19-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 83.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Carbon Disulfide	U	2.8	ug/Kgdrywt	1	5	5.5	0.86	2.8
Carbon Tetrachloride	U	2.8	ug/Kgdrywt	1	5	5.5	1.4	2.8
Chlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.56	2.8
Dibromochloromethane	U	2.8	ug/Kgdrywt	1	5	5.5	7.7	2.8
Chloroethane	U	5.5	ug/Kgdrywt	1	10	11.	1.4	5.5
Chloroform	U	2.8	ug/Kgdrywt	1	5	5.5	0.38	2.8
Chloromethane	U	5.5	ug/Kgdrywt	1	10	11.	1.5	5.5
cis-1,2-Dichloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
cis-1,3-Dichloropropene	U	2.8	ug/Kgdrywt	1	5	5.5	0.79	2.8
Dibromomethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.56	2.8
Dichlorodifluoromethane	UL	5.5	ug/Kgdrywt	1	10	11.	1.0	5.5
Ethylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.72	2.8
Hexachlorobutadiene	U	2.8	ug/Kgdrywt	1	5	5.5	0.81	2.8
Isopropylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
m+p-Xylenes	U	5.5	ug/Kgdrywt	1	10	11.	1.9	5.5
Methyl tert-butyl Ether	U	2.8	ug/Kgdrywt	1	5	5.5	1.2	2.8
Methylene Chloride	U	14	ug/Kgdrywt	1	25	28.	8.7	14.
N-Butylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
N-Propylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.91	2.8
Naphthalene	J	1.1	ug/Kgdrywt	1	5	5.5	0.97	2.8
o-Xylene	U	2.8	ug/Kgdrywt	1	5	5.5	1.4	2.8
sec-Butylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
Styrene	U	2.8	ug/Kgdrywt	1	5	5.5	0.56	2.8
tert-Butylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.99	2.8
Tetrachloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	1.3	2.8
Toluene	U	2.8	ug/Kgdrywt	1	5	5.5	1.5	2.8
trans-1,2-Dichloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	0.78	2.8
trans-1,3-Dichloropropene	U	2.8	ug/Kgdrywt	1	5	5.5	0.95	2.8
Trichloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	0.65	2.8
Trichlorofluoromethane	U	5.5	ug/Kgdrywt	1	10	11.	1.0	5.5
Vinyl Chloride	U	5.5	ug/Kgdrywt	1	10	11.	0.96	5.5
1,2-Dichloroethane-D4		107.	%					
p-Bromofluorobenzene		85.1	%					
Dibromofluoromethane		108.	%					
Toluene-D8		101.	%					

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-14RA
Client ID: CHAAP-21B-DS-SS09
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4094.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 22-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228825

Analysis Date: 22-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 83.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,1,1,2-Tetrachloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.77	2.8
1,1,1-Trichloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.46	2.8
1,1,2,2-Tetrachloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.92	2.8
Freon-113	U	2.8	ug/Kgdrywt	1	5	5.5	0.99	2.8
1,1,2-Trichloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.1	2.8
1,1-Dichloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.9	2.8
1,1-Dichloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
1,1-Dichloropropene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
1,2,3-Trichlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.84	2.8
1,2,3-Trichloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	1.3	2.8
1,2,4-Trichlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.87	2.8
1,2,4-Trimethylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.96	2.8
1,2-Dibromo-3-Chloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	1.6	2.8
1,2-Dibromoethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.3	2.8
1,2-Dichlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.86	2.8
1,2-Dichloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.1	2.8
1,2-Dichloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	1.5	2.8
1,3,5-Trimethylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.74	2.8
1,3-Dichlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.68	2.8
1,3-Dichloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
1,4-Dichlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.48	2.8
2,2-Dichloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	0.55	2.8
2-Butanone	U	14	ug/Kgdrywt	1	25	28.	6.5	14.
2-Chlorotoluene	U	2.8	ug/Kgdrywt	1	5	5.5	1.2	2.8
2-Hexanone	U	14	ug/Kgdrywt	1	25	28.	5.3	14.
4-Chlorotoluene	U	2.8	ug/Kgdrywt	1	5	5.5	0.54	2.8
P-Isopropyltoluene	U	2.8	ug/Kgdrywt	1	5	5.5	0.84	2.8
4-Methyl-2-Pentanone	U	14	ug/Kgdrywt	1	25	28.	6.5	14.
Acetone	U	14	ug/Kgdrywt	1	25	28.	5.6	14.
Benzene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
Bromobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.81	2.8
Bromochloromethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
Bromodichloromethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.66	2.8
Bromoform	U	2.8	ug/Kgdrywt	1	5	5.5	0.77	2.8
Bromomethane	U	5.5	ug/Kgdrywt	1	10	11.	1.2	5.5

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-14RA
Client ID: CHAAP-21B-DS-SS09
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4094.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 22-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228825

Analysis Date: 22-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 83.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Carbon Disulfide	U	2.8	ug/Kgdrywt	1	5	5.5	0.86	2.8
Carbon Tetrachloride	U	2.8	ug/Kgdrywt	1	5	5.5	1.4	2.8
Chlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.56	2.8
Dibromochloromethane	U	2.8	ug/Kgdrywt	1	5	5.5	7.7	2.8
Chloroethane	U	5.5	ug/Kgdrywt	1	10	11.	1.4	5.5
Chloroform	U	2.8	ug/Kgdrywt	1	5	5.5	0.38	2.8
Chloromethane	U	5.5	ug/Kgdrywt	1	10	11.	1.5	5.5
cis-1,2-Dichloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
cis-1,3-Dichloropropene	U	2.8	ug/Kgdrywt	1	5	5.5	0.79	2.8
Dibromomethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.56	2.8
Dichlorodifluoromethane	U	5.5	ug/Kgdrywt	1	10	11.	1.0	5.5
Ethylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.72	2.8
Hexachlorobutadiene	U	2.8	ug/Kgdrywt	1	5	5.5	0.81	2.8
Isopropylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
m+p-Xylenes	U	5.5	ug/Kgdrywt	1	10	11.	1.9	5.5
Methyl tert-butyl Ether	U	2.8	ug/Kgdrywt	1	5	5.5	1.2	2.8
Methylene Chloride	U	14	ug/Kgdrywt	1	25	28.	8.7	14.
N-Butylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
N-Propylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.91	2.8
Naphthalene	U	2.8	ug/Kgdrywt	1	5	5.5	0.97	2.8
o-Xylene	U	2.8	ug/Kgdrywt	1	5	5.5	1.4	2.8
sec-Butylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
Styrene	U	2.8	ug/Kgdrywt	1	5	5.5	0.56	2.8
tert-Butylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.99	2.8
Tetrachloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	1.3	2.8
Toluene	U	2.8	ug/Kgdrywt	1	5	5.5	1.5	2.8
trans-1,2-Dichloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	0.78	2.8
trans-1,3-Dichloropropene	U	2.8	ug/Kgdrywt	1	5	5.5	0.95	2.8
Trichloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	0.65	2.8
Trichlorofluoromethane	U	5.5	ug/Kgdrywt	1	10	11.	1.0	5.5
Vinyl Chloride	U	5.5	ug/Kgdrywt	1	10	11.	0.96	5.5
1,2-Dichloroethane-D4		106.	%					
p-Bromofluorobenzene	*	75.6	%					
Dibromofluoromethane		110.	%					
Toluene-D8		98.5	%					

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-15
Client ID: CHAAP-21B-DS-SB09-5
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4051.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 19-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228693

Analysis Date: 19-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 80.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,1,1,2-Tetrachloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.70	2.5
1,1,1-Trichloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.42	2.5
1,1,2,2-Tetrachloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.84	2.5
Freon-113	U	2.5	ug/Kgdrywt	1	5	5.0	0.90	2.5
1,1,2-Trichloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.97	2.5
1,1-Dichloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	1.7	2.5
1,1-Dichloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	0.93	2.5
1,1-Dichloropropene	U	2.5	ug/Kgdrywt	1	5	5.0	0.91	2.5
1,2,3-Trichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.76	2.5
1,2,3-Trichloropropane	U	2.5	ug/Kgdrywt	1	5	5.0	1.2	2.5
1,2,4-Trichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.79	2.5
1,2,4-Trimethylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.87	2.5
1,2-Dibromo-3-Chloropropane	U	2.5	ug/Kgdrywt	1	5	5.0	1.5	2.5
1,2-Dibromoethane	U	2.5	ug/Kgdrywt	1	5	5.0	1.2	2.5
1,2-Dichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.78	2.5
1,2-Dichloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	1.0	2.5
1,2-Dichloropropane	U	2.5	ug/Kgdrywt	1	5	5.0	1.4	2.5
1,3,5-Trimethylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.67	2.5
1,3-Dichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.62	2.5
1,3-Dichloropropane	U	2.5	ug/Kgdrywt	1	5	5.0	0.94	2.5
1,4-Dichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.44	2.5
2,2-Dichloropropane	U	2.5	ug/Kgdrywt	1	5	5.0	0.50	2.5
2-Butanone	U	12	ug/Kgdrywt	1	25	25.	5.9	12.
2-Chlorotoluene	U	2.5	ug/Kgdrywt	1	5	5.0	1.1	2.5
2-Hexanone	U	12	ug/Kgdrywt	1	25	25.	4.8	12.
4-Chlorotoluene	U	2.5	ug/Kgdrywt	1	5	5.0	0.49	2.5
P-Isopropyltoluene	U	2.5	ug/Kgdrywt	1	5	5.0	0.76	2.5
4-Methyl-2-Pentanone	U	12	ug/Kgdrywt	1	25	25.	5.9	12.
Acetone	U	12	ug/Kgdrywt	1	25	25.	5.1	12.
Benzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.92	2.5
Bromobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.74	2.5
Bromochloromethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.91	2.5
Bromodichloromethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.60	2.5
Bromoform	U	2.5	ug/Kgdrywt	1	5	5.0	0.70	2.5
Bromomethane	U	5.0	ug/Kgdrywt	1	10	10.	1.1	5.0

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-15
Client ID: CHAAP-21B-DS-SB09-5
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4051.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 19-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228693

Analysis Date: 19-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 80.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Carbon Disulfide	J	0.83	ug/Kgdrywt	1	5	5.0	0.78	2.5
Carbon Tetrachloride	U	2.5	ug/Kgdrywt	1	5	5.0	1.3	2.5
Chlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.51	2.5
Dibromochloromethane	U	2.5	ug/Kgdrywt	1	5	5.0	7.0	2.5
Chloroethane	U	5.0	ug/Kgdrywt	1	10	10.	1.3	5.0
Chloroform	U	2.5	ug/Kgdrywt	1	5	5.0	0.35	2.5
Chloromethane	U	5.0	ug/Kgdrywt	1	10	10.	1.4	5.0
cis-1,2-Dichloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	0.91	2.5
cis-1,3-Dichloropropene	U	2.5	ug/Kgdrywt	1	5	5.0	0.72	2.5
Dibromomethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.51	2.5
Dichlorodifluoromethane	UL	5.0	ug/Kgdrywt	1	10	10.	0.92	5.0
Ethylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.65	2.5
Hexachlorobutadiene	U	2.5	ug/Kgdrywt	1	5	5.0	0.74	2.5
Isopropylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.92	2.5
m+p-Xylenes	U	5.0	ug/Kgdrywt	1	10	10.	1.7	5.0
Methyl tert-butyl Ether	U	2.5	ug/Kgdrywt	1	5	5.0	1.1	2.5
Methylene Chloride	U	12	ug/Kgdrywt	1	25	25.	7.9	12.
N-Butylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.92	2.5
N-Propylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.83	2.5
Naphthalene	U	2.5	ug/Kgdrywt	1	5	5.0	0.88	2.5
o-Xylene	U	2.5	ug/Kgdrywt	1	5	5.0	1.3	2.5
sec-Butylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.91	2.5
Styrene	U	2.5	ug/Kgdrywt	1	5	5.0	0.51	2.5
tert-Butylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.90	2.5
Tetrachloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	1.2	2.5
Toluene	U	2.5	ug/Kgdrywt	1	5	5.0	1.4	2.5
trans-1,2-Dichloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	0.71	2.5
trans-1,3-Dichloropropene	U	2.5	ug/Kgdrywt	1	5	5.0	0.86	2.5
Trichloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	0.59	2.5
Trichlorofluoromethane	U	5.0	ug/Kgdrywt	1	10	10.	0.91	5.0
Vinyl Chloride	U	5.0	ug/Kgdrywt	1	10	10.	0.87	5.0
1,2-Dichloroethane-D4		108.	%					
p-Bromofluorobenzene		96.2	%					
Dibromofluoromethane		105.	%					
Toluene-D8		103.	%					

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-16
Client ID: CHAAP-21B-DS-SS11
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4072.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 21-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228751

Analysis Date: 21-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 82.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,1,1,2-Tetrachloroethane	U	3.0	ug/Kgdrywt	1	5	6.0	0.84	3.0
1,1,1-Trichloroethane	U	3.0	ug/Kgdrywt	1	5	6.0	0.50	3.0
1,1,2,2-Tetrachloroethane	U	3.0	ug/Kgdrywt	1	5	6.0	1.0	3.0
Freon-113	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
1,1,2-Trichloroethane	U	3.0	ug/Kgdrywt	1	5	6.0	1.2	3.0
1,1-Dichloroethane	U	3.0	ug/Kgdrywt	1	5	6.0	2.0	3.0
1,1-Dichloroethene	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
1,1-Dichloropropene	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
1,2,3-Trichlorobenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.91	3.0
1,2,3-Trichloropropane	U	3.0	ug/Kgdrywt	1	5	6.0	1.4	3.0
1,2,4-Trichlorobenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.95	3.0
1,2,4-Trimethylbenzene	U	3.0	ug/Kgdrywt	1	5	6.0	1.0	3.0
1,2-Dibromo-3-Chloropropane	U	3.0	ug/Kgdrywt	1	5	6.0	1.8	3.0
1,2-Dibromoethane	U	3.0	ug/Kgdrywt	1	5	6.0	1.4	3.0
1,2-Dichlorobenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.94	3.0
1,2-Dichloroethane	U	3.0	ug/Kgdrywt	1	5	6.0	1.2	3.0
1,2-Dichloropropane	U	3.0	ug/Kgdrywt	1	5	6.0	1.7	3.0
1,3,5-Trimethylbenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.80	3.0
1,3-Dichlorobenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.74	3.0
1,3-Dichloropropane	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
1,4-Dichlorobenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.53	3.0
2,2-Dichloropropane	U	3.0	ug/Kgdrywt	1	5	6.0	0.60	3.0
2-Butanone	U	15	ug/Kgdrywt	1	25	30.	7.1	15.
2-Chlorotoluene	U	3.0	ug/Kgdrywt	1	5	6.0	1.3	3.0
2-Hexanone	U	15	ug/Kgdrywt	1	25	30.	5.8	15.
4-Chlorotoluene	U	3.0	ug/Kgdrywt	1	5	6.0	0.59	3.0
P-Isopropyltoluene	U	3.0	ug/Kgdrywt	1	5	6.0	0.91	3.0
4-Methyl-2-Pentanone	U	15	ug/Kgdrywt	1	25	30.	7.1	15.
Acetone	U	15	ug/Kgdrywt	1	25	30.	6.1	15.
Benzene	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
Bromobenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.89	3.0
Bromochloromethane	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
Bromodichloromethane	U	3.0	ug/Kgdrywt	1	5	6.0	0.72	3.0
Bromoform	U	3.0	ug/Kgdrywt	1	5	6.0	0.84	3.0
Bromomethane	U	6.0	ug/Kgdrywt	1	10	12.	1.3	6.0

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-16
Client ID: CHAAP-21B-DS-SS11
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4072.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 21-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228751

Analysis Date: 21-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 82.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Carbon Disulfide	U	3.0	ug/Kgdrywt	1	5	6.0	0.94	3.0
Carbon Tetrachloride	U	3.0	ug/Kgdrywt	1	5	6.0	1.6	3.0
Chlorobenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.61	3.0
Dibromochloromethane	U	3.0	ug/Kgdrywt	1	5	6.0	8.4	3.0
Chloroethane	U	6.0	ug/Kgdrywt	1	10	12.	1.6	6.0
Chloroform	U	3.0	ug/Kgdrywt	1	5	6.0	0.42	3.0
Chloromethane	U	6.0	ug/Kgdrywt	1	10	12.	1.7	6.0
cis-1,2-Dichloroethene	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
cis-1,3-Dichloropropene	U	3.0	ug/Kgdrywt	1	5	6.0	0.86	3.0
Dibromomethane	U	3.0	ug/Kgdrywt	1	5	6.0	0.61	3.0
Dichlorodifluoromethane	U	6.0	ug/Kgdrywt	1	10	12.	1.1	6.0
Ethylbenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.78	3.0
Hexachlorobutadiene	U	3.0	ug/Kgdrywt	1	5	6.0	0.89	3.0
Isopropylbenzene	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
m+p-Xylenes	U	6.0	ug/Kgdrywt	1	10	12.	2.0	6.0
Methyl tert-butyl Ether	U	3.0	ug/Kgdrywt	1	5	6.0	1.3	3.0
Methylene Chloride	U	15	ug/Kgdrywt	1	25	30.	9.5	15.
N-Butylbenzene	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
N-Propylbenzene	U	3.0	ug/Kgdrywt	1	5	6.0	1.0	3.0
Naphthalene	J	1.3	ug/Kgdrywt	1	5	6.0	1.0	3.0
o-Xylene	U	3.0	ug/Kgdrywt	1	5	6.0	1.6	3.0
sec-Butylbenzene	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
Styrene	U	3.0	ug/Kgdrywt	1	5	6.0	0.61	3.0
tert-Butylbenzene	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
Tetrachloroethene	U	3.0	ug/Kgdrywt	1	5	6.0	1.4	3.0
Toluene	U	3.0	ug/Kgdrywt	1	5	6.0	1.7	3.0
trans-1,2-Dichloroethene	U	3.0	ug/Kgdrywt	1	5	6.0	0.85	3.0
trans-1,3-Dichloropropene	U	3.0	ug/Kgdrywt	1	5	6.0	1.0	3.0
Trichloroethene	U	3.0	ug/Kgdrywt	1	5	6.0	0.71	3.0
Trichlorofluoromethane	U	6.0	ug/Kgdrywt	1	10	12.	1.1	6.0
Vinyl Chloride	U	6.0	ug/Kgdrywt	1	10	12.	1.0	6.0
1,2-Dichloroethane-D4		101.	%					
p-Bromofluorobenzene	*	76.2	%					
Dibromofluoromethane		104.	%					
Toluene-D8		98.8	%					

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-16RA
Client ID: CHAAP-21B-DS-SS11
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4106.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 22-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228846

Analysis Date: 22-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 82.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,1,1,2-Tetrachloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.70	2.5
1,1,1-Trichloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.42	2.5
1,1,2,2-Tetrachloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.84	2.5
Freon-113	U	2.5	ug/Kgdrywt	1	5	5.0	0.90	2.5
1,1,2-Trichloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.97	2.5
1,1-Dichloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	1.7	2.5
1,1-Dichloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	0.93	2.5
1,1-Dichloropropene	U	2.5	ug/Kgdrywt	1	5	5.0	0.91	2.5
1,2,3-Trichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.76	2.5
1,2,3-Trichloropropane	U	2.5	ug/Kgdrywt	1	5	5.0	1.2	2.5
1,2,4-Trichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.79	2.5
1,2,4-Trimethylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.87	2.5
1,2-Dibromo-3-Chloropropane	U	2.5	ug/Kgdrywt	1	5	5.0	1.5	2.5
1,2-Dibromoethane	U	2.5	ug/Kgdrywt	1	5	5.0	1.2	2.5
1,2-Dichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.78	2.5
1,2-Dichloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	1.0	2.5
1,2-Dichloropropane	U	2.5	ug/Kgdrywt	1	5	5.0	1.4	2.5
1,3,5-Trimethylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.67	2.5
1,3-Dichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.62	2.5
1,3-Dichloropropane	U	2.5	ug/Kgdrywt	1	5	5.0	0.94	2.5
1,4-Dichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.44	2.5
2,2-Dichloropropane	U	2.5	ug/Kgdrywt	1	5	5.0	0.50	2.5
2-Butanone	U	12	ug/Kgdrywt	1	25	25.	5.9	12.
2-Chlorotoluene	U	2.5	ug/Kgdrywt	1	5	5.0	1.1	2.5
2-Hexanone	U	12	ug/Kgdrywt	1	25	25.	4.8	12.
4-Chlorotoluene	U	2.5	ug/Kgdrywt	1	5	5.0	0.49	2.5
P-Isopropyltoluene	U	2.5	ug/Kgdrywt	1	5	5.0	0.76	2.5
4-Methyl-2-Pentanone	U	12	ug/Kgdrywt	1	25	25.	5.9	12.
Acetone	U	12	ug/Kgdrywt	1	25	25.	5.1	12.
Benzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.92	2.5
Bromobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.74	2.5
Bromochloromethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.91	2.5
Bromodichloromethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.60	2.5
Bromoform	U	2.5	ug/Kgdrywt	1	5	5.0	0.70	2.5
Bromomethane	U	5.0	ug/Kgdrywt	1	10	10.	1.1	5.0

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-16RA
Client ID: CHAAP-21B-DS-SS11
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4106.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 22-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228846

Analysis Date: 22-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 82.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Carbon Disulfide	U	2.5	ug/Kgdrywt	1	5	5.0	0.78	2.5
Carbon Tetrachloride	U	2.5	ug/Kgdrywt	1	5	5.0	1.3	2.5
Chlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.51	2.5
Dibromochloromethane	U	2.5	ug/Kgdrywt	1	5	5.0	7.0	2.5
Chloroethane	U	5.0	ug/Kgdrywt	1	10	10.	1.3	5.0
Chloroform	U	2.5	ug/Kgdrywt	1	5	5.0	0.35	2.5
Chloromethane	U	5.0	ug/Kgdrywt	1	10	10.	1.4	5.0
cis-1,2-Dichloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	0.91	2.5
cis-1,3-Dichloropropene	U	2.5	ug/Kgdrywt	1	5	5.0	0.72	2.5
Dibromomethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.51	2.5
Dichlorodifluoromethane	U	5.0	ug/Kgdrywt	1	10	10.	0.92	5.0
Ethylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.65	2.5
Hexachlorobutadiene	U	2.5	ug/Kgdrywt	1	5	5.0	0.74	2.5
Isopropylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.92	2.5
m+p-Xylenes	U	5.0	ug/Kgdrywt	1	10	10.	1.7	5.0
Methyl tert-butyl Ether	U	2.5	ug/Kgdrywt	1	5	5.0	1.1	2.5
Methylene Chloride	U	12	ug/Kgdrywt	1	25	25.	7.9	12.
N-Butylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.92	2.5
N-Propylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.83	2.5
Naphthalene	U	2.5	ug/Kgdrywt	1	5	5.0	0.88	2.5
o-Xylene	U	2.5	ug/Kgdrywt	1	5	5.0	1.3	2.5
sec-Butylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.91	2.5
Styrene	U	2.5	ug/Kgdrywt	1	5	5.0	0.51	2.5
tert-Butylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.90	2.5
Tetrachloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	1.2	2.5
Toluene	U	2.5	ug/Kgdrywt	1	5	5.0	1.4	2.5
trans-1,2-Dichloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	0.71	2.5
trans-1,3-Dichloropropene	U	2.5	ug/Kgdrywt	1	5	5.0	0.86	2.5
Trichloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	0.59	2.5
Trichlorofluoromethane	U	5.0	ug/Kgdrywt	1	10	10.	0.91	5.0
Vinyl Chloride	U	5.0	ug/Kgdrywt	1	10	10.	0.87	5.0
1,2-Dichloroethane-D4		106.	%					
p-Bromofluorobenzene	*	73.5	%					
Dibromofluoromethane		111.	%					
Toluene-D8		96.6	%					

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-17
Client ID: CHAAP-21B-DS-SS111
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4073.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 21-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228751

Analysis Date: 21-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 80.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,1,1,2-Tetrachloroethane	U	3.0	ug/Kgdrywt	1	5	6.0	0.84	3.0
1,1,1-Trichloroethane	U	3.0	ug/Kgdrywt	1	5	6.0	0.50	3.0
1,1,2,2-Tetrachloroethane	U	3.0	ug/Kgdrywt	1	5	6.0	1.0	3.0
Freon-113	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
1,1,2-Trichloroethane	U	3.0	ug/Kgdrywt	1	5	6.0	1.2	3.0
1,1-Dichloroethane	U	3.0	ug/Kgdrywt	1	5	6.0	2.0	3.0
1,1-Dichloroethene	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
1,1-Dichloropropene	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
1,2,3-Trichlorobenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.91	3.0
1,2,3-Trichloropropane	U	3.0	ug/Kgdrywt	1	5	6.0	1.4	3.0
1,2,4-Trichlorobenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.95	3.0
1,2,4-Trimethylbenzene	U	3.0	ug/Kgdrywt	1	5	6.0	1.0	3.0
1,2-Dibromo-3-Chloropropane	U	3.0	ug/Kgdrywt	1	5	6.0	1.8	3.0
1,2-Dibromoethane	U	3.0	ug/Kgdrywt	1	5	6.0	1.4	3.0
1,2-Dichlorobenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.94	3.0
1,2-Dichloroethane	U	3.0	ug/Kgdrywt	1	5	6.0	1.2	3.0
1,2-Dichloropropane	U	3.0	ug/Kgdrywt	1	5	6.0	1.7	3.0
1,3,5-Trimethylbenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.80	3.0
1,3-Dichlorobenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.74	3.0
1,3-Dichloropropane	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
1,4-Dichlorobenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.53	3.0
2,2-Dichloropropane	U	3.0	ug/Kgdrywt	1	5	6.0	0.60	3.0
2-Butanone	U	15	ug/Kgdrywt	1	25	30.	7.1	15.
2-Chlorotoluene	U	3.0	ug/Kgdrywt	1	5	6.0	1.3	3.0
2-Hexanone	U	15	ug/Kgdrywt	1	25	30.	5.8	15.
4-Chlorotoluene	U	3.0	ug/Kgdrywt	1	5	6.0	0.59	3.0
P-Isopropyltoluene	U	3.0	ug/Kgdrywt	1	5	6.0	0.91	3.0
4-Methyl-2-Pentanone	U	15	ug/Kgdrywt	1	25	30.	7.1	15.
Acetone	U	15	ug/Kgdrywt	1	25	30.	6.1	15.
Benzene	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
Bromobenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.89	3.0
Bromochloromethane	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
Bromodichloromethane	U	3.0	ug/Kgdrywt	1	5	6.0	0.72	3.0
Bromoform	U	3.0	ug/Kgdrywt	1	5	6.0	0.84	3.0
Bromomethane	U	6.0	ug/Kgdrywt	1	10	12.	1.3	6.0

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-17
Client ID: CHAAP-21B-DS-SS111
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4073.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 21-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228751

Analysis Date: 21-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 80.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Carbon Disulfide	U	3.0	ug/Kgdrywt	1	5	6.0	0.94	3.0
Carbon Tetrachloride	U	3.0	ug/Kgdrywt	1	5	6.0	1.6	3.0
Chlorobenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.61	3.0
Dibromochloromethane	U	3.0	ug/Kgdrywt	1	5	6.0	8.4	3.0
Chloroethane	U	6.0	ug/Kgdrywt	1	10	12.	1.6	6.0
Chloroform	U	3.0	ug/Kgdrywt	1	5	6.0	0.42	3.0
Chloromethane	U	6.0	ug/Kgdrywt	1	10	12.	1.7	6.0
cis-1,2-Dichloroethene	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
cis-1,3-Dichloropropene	U	3.0	ug/Kgdrywt	1	5	6.0	0.86	3.0
Dibromomethane	U	3.0	ug/Kgdrywt	1	5	6.0	0.61	3.0
Dichlorodifluoromethane	U	6.0	ug/Kgdrywt	1	10	12.	1.1	6.0
Ethylbenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.78	3.0
Hexachlorobutadiene	U	3.0	ug/Kgdrywt	1	5	6.0	0.89	3.0
Isopropylbenzene	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
m+p-Xylenes	U	6.0	ug/Kgdrywt	1	10	12.	2.0	6.0
Methyl tert-butyl Ether	U	3.0	ug/Kgdrywt	1	5	6.0	1.3	3.0
Methylene Chloride	U	15	ug/Kgdrywt	1	25	30.	9.5	15.
N-Butylbenzene	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
N-Propylbenzene	U	3.0	ug/Kgdrywt	1	5	6.0	1.0	3.0
Naphthalene	J	1.2	ug/Kgdrywt	1	5	6.0	1.0	3.0
o-Xylene	U	3.0	ug/Kgdrywt	1	5	6.0	1.6	3.0
sec-Butylbenzene	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
Styrene	U	3.0	ug/Kgdrywt	1	5	6.0	0.61	3.0
tert-Butylbenzene	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
Tetrachloroethene	U	3.0	ug/Kgdrywt	1	5	6.0	1.4	3.0
Toluene	U	3.0	ug/Kgdrywt	1	5	6.0	1.7	3.0
trans-1,2-Dichloroethene	U	3.0	ug/Kgdrywt	1	5	6.0	0.85	3.0
trans-1,3-Dichloropropene	U	3.0	ug/Kgdrywt	1	5	6.0	1.0	3.0
Trichloroethene	U	3.0	ug/Kgdrywt	1	5	6.0	0.71	3.0
Trichlorofluoromethane	U	6.0	ug/Kgdrywt	1	10	12.	1.1	6.0
Vinyl Chloride	U	6.0	ug/Kgdrywt	1	10	12.	1.0	6.0
1,2-Dichloroethane-D4		99.3	%					
p-Bromofluorobenzene	*	76.1	%					
Dibromofluoromethane		102.	%					
Toluene-D8		101.	%					

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-17RA
Client ID: CHAAP-21B-DS-SS111
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4107.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 22-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228846

Analysis Date: 22-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 80.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,1,1,2-Tetrachloroethane	U	3.2	ug/Kgdrywt	1	5	6.5	0.91	3.2
1,1,1-Trichloroethane	U	3.2	ug/Kgdrywt	1	5	6.5	0.55	3.2
1,1,2,2-Tetrachloroethane	U	3.2	ug/Kgdrywt	1	5	6.5	1.1	3.2
Freon-113	U	3.2	ug/Kgdrywt	1	5	6.5	1.2	3.2
1,1,2-Trichloroethane	U	3.2	ug/Kgdrywt	1	5	6.5	1.3	3.2
1,1-Dichloroethane	U	3.2	ug/Kgdrywt	1	5	6.5	2.2	3.2
1,1-Dichloroethene	U	3.2	ug/Kgdrywt	1	5	6.5	1.2	3.2
1,1-Dichloropropene	U	3.2	ug/Kgdrywt	1	5	6.5	1.2	3.2
1,2,3-Trichlorobenzene	U	3.2	ug/Kgdrywt	1	5	6.5	0.99	3.2
1,2,3-Trichloropropane	U	3.2	ug/Kgdrywt	1	5	6.5	1.6	3.2
1,2,4-Trichlorobenzene	U	3.2	ug/Kgdrywt	1	5	6.5	1.0	3.2
1,2,4-Trimethylbenzene	U	3.2	ug/Kgdrywt	1	5	6.5	1.1	3.2
1,2-Dibromo-3-Chloropropane	U	3.2	ug/Kgdrywt	1	5	6.5	2.0	3.2
1,2-Dibromoethane	U	3.2	ug/Kgdrywt	1	5	6.5	1.6	3.2
1,2-Dichlorobenzene	U	3.2	ug/Kgdrywt	1	5	6.5	1.0	3.2
1,2-Dichloroethane	U	3.2	ug/Kgdrywt	1	5	6.5	1.3	3.2
1,2-Dichloropropane	U	3.2	ug/Kgdrywt	1	5	6.5	1.8	3.2
1,3,5-Trimethylbenzene	U	3.2	ug/Kgdrywt	1	5	6.5	0.87	3.2
1,3-Dichlorobenzene	U	3.2	ug/Kgdrywt	1	5	6.5	0.81	3.2
1,3-Dichloropropane	U	3.2	ug/Kgdrywt	1	5	6.5	1.2	3.2
1,4-Dichlorobenzene	U	3.2	ug/Kgdrywt	1	5	6.5	0.57	3.2
2,2-Dichloropropane	U	3.2	ug/Kgdrywt	1	5	6.5	0.65	3.2
2-Butanone	U	16	ug/Kgdrywt	1	25	32.	7.7	16.
2-Chlorotoluene	U	3.2	ug/Kgdrywt	1	5	6.5	1.4	3.2
2-Hexanone	U	16	ug/Kgdrywt	1	25	32.	6.2	16.
4-Chlorotoluene	U	3.2	ug/Kgdrywt	1	5	6.5	0.64	3.2
P-Isopropyltoluene	U	3.2	ug/Kgdrywt	1	5	6.5	0.99	3.2
4-Methyl-2-Pentanone	U	16	ug/Kgdrywt	1	25	32.	7.7	16.
Acetone	U	16	ug/Kgdrywt	1	25	32.	6.6	16.
Benzene	U	3.2	ug/Kgdrywt	1	5	6.5	1.2	3.2
Bromobenzene	U	3.2	ug/Kgdrywt	1	5	6.5	0.96	3.2
Bromochloromethane	U	3.2	ug/Kgdrywt	1	5	6.5	1.2	3.2
Bromodichloromethane	U	3.2	ug/Kgdrywt	1	5	6.5	0.78	3.2
Bromoform	U	3.2	ug/Kgdrywt	1	5	6.5	0.91	3.2
Bromomethane	U	6.5	ug/Kgdrywt	1	10	13.	1.4	6.5

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-17RA
Client ID: CHAAP-21B-DS-SS111
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4107.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 22-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228846

Analysis Date: 22-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 80.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Carbon Disulfide	U	3.2	ug/Kgdrywt	1	5	6.5	1.0	3.2
Carbon Tetrachloride	U	3.2	ug/Kgdrywt	1	5	6.5	1.7	3.2
Chlorobenzene	U	3.2	ug/Kgdrywt	1	5	6.5	0.66	3.2
Dibromochloromethane	U	3.2	ug/Kgdrywt	1	5	6.5	9.1	3.2
Chloroethane	U	6.5	ug/Kgdrywt	1	10	13.	1.7	6.5
Chloroform	U	3.2	ug/Kgdrywt	1	5	6.5	0.46	3.2
Chloromethane	U	6.5	ug/Kgdrywt	1	10	13.	1.8	6.5
cis-1,2-Dichloroethene	U	3.2	ug/Kgdrywt	1	5	6.5	1.2	3.2
cis-1,3-Dichloropropene	U	3.2	ug/Kgdrywt	1	5	6.5	0.94	3.2
Dibromomethane	U	3.2	ug/Kgdrywt	1	5	6.5	0.66	3.2
Dichlorodifluoromethane	U	6.5	ug/Kgdrywt	1	10	13.	1.2	6.5
Ethylbenzene	U	3.2	ug/Kgdrywt	1	5	6.5	0.84	3.2
Hexachlorobutadiene	U	3.2	ug/Kgdrywt	1	5	6.5	0.96	3.2
Isopropylbenzene	U	3.2	ug/Kgdrywt	1	5	6.5	1.2	3.2
m+p-Xylenes	U	6.5	ug/Kgdrywt	1	10	13.	2.2	6.5
Methyl tert-butyl Ether	U	3.2	ug/Kgdrywt	1	5	6.5	1.4	3.2
Methylene Chloride	U	16	ug/Kgdrywt	1	25	32.	10.	16.
N-Butylbenzene	U	3.2	ug/Kgdrywt	1	5	6.5	1.2	3.2
N-Propylbenzene	U	3.2	ug/Kgdrywt	1	5	6.5	1.1	3.2
Naphthalene	U	3.2	ug/Kgdrywt	1	5	6.5	1.1	3.2
o-Xylene	U	3.2	ug/Kgdrywt	1	5	6.5	1.7	3.2
sec-Butylbenzene	U	3.2	ug/Kgdrywt	1	5	6.5	1.2	3.2
Styrene	U	3.2	ug/Kgdrywt	1	5	6.5	0.66	3.2
tert-Butylbenzene	U	3.2	ug/Kgdrywt	1	5	6.5	1.2	3.2
Tetrachloroethene	U	3.2	ug/Kgdrywt	1	5	6.5	1.6	3.2
Toluene	U	3.2	ug/Kgdrywt	1	5	6.5	1.8	3.2
trans-1,2-Dichloroethene	U	3.2	ug/Kgdrywt	1	5	6.5	0.92	3.2
trans-1,3-Dichloropropene	U	3.2	ug/Kgdrywt	1	5	6.5	1.1	3.2
Trichloroethene	U	3.2	ug/Kgdrywt	1	5	6.5	0.77	3.2
Trichlorofluoromethane	U	6.5	ug/Kgdrywt	1	10	13.	1.2	6.5
Vinyl Chloride	U	6.5	ug/Kgdrywt	1	10	13.	1.1	6.5
1,2-Dichloroethane-D4		111.	%					
p-Bromofluorobenzene	*	76.8	%					
Dibromofluoromethane		111.	%					
Toluene-D8		98.3	%					

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Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-18
Client ID: CHAAP-21B-DS-SB11-5
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4105.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 22-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228846

Analysis Date: 22-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 80.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,1,1,2-Tetrachloroethane	UM	3.0	ug/Kgdrywt	1	5	6.0	0.84	3.0
1,1,1-Trichloroethane	U	3.0	ug/Kgdrywt	1	5	6.0	0.50	3.0
1,1,2,2-Tetrachloroethane	UM	3.0	ug/Kgdrywt	1	5	6.0	1.0	3.0
Freon-113	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
1,1,2-Trichloroethane	UMM	3.0	ug/Kgdrywt	1	5	6.0	1.2	3.0
1,1-Dichloroethane	UM	3.0	ug/Kgdrywt	1	5	6.0	2.0	3.0
1,1-Dichloroethene	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
1,1-Dichloropropene	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
1,2,3-Trichlorobenzene	UM	3.0	ug/Kgdrywt	1	5	6.0	0.91	3.0
1,2,3-Trichloropropane	UM	3.0	ug/Kgdrywt	1	5	6.0	1.4	3.0
1,2,4-Trichlorobenzene	UM	3.0	ug/Kgdrywt	1	5	6.0	0.95	3.0
1,2,4-Trimethylbenzene	UM	3.0	ug/Kgdrywt	1	5	6.0	1.0	3.0
1,2-Dibromo-3-Chloropropane	UM	3.0	ug/Kgdrywt	1	5	6.0	1.8	3.0
1,2-Dibromoethane	UMM	3.0	ug/Kgdrywt	1	5	6.0	1.4	3.0
1,2-Dichlorobenzene	UM	3.0	ug/Kgdrywt	1	5	6.0	0.94	3.0
1,2-Dichloroethane	UM	3.0	ug/Kgdrywt	1	5	6.0	1.2	3.0
1,2-Dichloropropane	UM	3.0	ug/Kgdrywt	1	5	6.0	1.7	3.0
1,3,5-Trimethylbenzene	UM	3.0	ug/Kgdrywt	1	5	6.0	0.80	3.0
1,3-Dichlorobenzene	UM	3.0	ug/Kgdrywt	1	5	6.0	0.74	3.0
1,3-Dichloropropane	UMM	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
1,4-Dichlorobenzene	UM	3.0	ug/Kgdrywt	1	5	6.0	0.53	3.0
2,2-Dichloropropane	U	3.0	ug/Kgdrywt	1	5	6.0	0.60	3.0
2-Butanone	UM	15	ug/Kgdrywt	1	25	30.	7.1	15.
2-Chlorotoluene	UM	3.0	ug/Kgdrywt	1	5	6.0	1.3	3.0
2-Hexanone	UM	15	ug/Kgdrywt	1	25	30.	5.8	15.
4-Chlorotoluene	UM	3.0	ug/Kgdrywt	1	5	6.0	0.59	3.0
P-Isopropyltoluene	UM	3.0	ug/Kgdrywt	1	5	6.0	0.91	3.0
4-Methyl-2-Pentanone	UM	15	ug/Kgdrywt	1	25	30.	7.1	15.
Acetone	U	15	ug/Kgdrywt	1	25	30.	6.1	15.
Benzene	UM	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
Bromobenzene	UMM	3.0	ug/Kgdrywt	1	5	6.0	0.89	3.0
Bromochloromethane	UM	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
Bromodichloromethane	UM	3.0	ug/Kgdrywt	1	5	6.0	0.72	3.0
Bromoform	UM	3.0	ug/Kgdrywt	1	5	6.0	0.84	3.0
Bromomethane	U	6.0	ug/Kgdrywt	1	10	12.	1.3	6.0

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-18
Client ID: CHAAP-21B-DS-SB11-5
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4105.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 22-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228846

Analysis Date: 22-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 80.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Carbon Disulfide	U	3.0	ug/Kgdrywt	1	5	6.0	0.94	3.0
Carbon Tetrachloride	U	3.0	ug/Kgdrywt	1	5	6.0	1.6	3.0
Chlorobenzene	UMM	3.0	ug/Kgdrywt	1	5	6.0	0.61	3.0
Dibromochloromethane	UM	3.0	ug/Kgdrywt	1	5	6.0	8.4	3.0
Chloroethane	U	6.0	ug/Kgdrywt	1	10	12.	1.6	6.0
Chloroform	UM	3.0	ug/Kgdrywt	1	5	6.0	0.42	3.0
Chloromethane	U	6.0	ug/Kgdrywt	1	10	12.	1.7	6.0
cis-1,2-Dichloroethene	UM	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
cis-1,3-Dichloropropene	UMM	3.0	ug/Kgdrywt	1	5	6.0	0.86	3.0
Dibromomethane	UM	3.0	ug/Kgdrywt	1	5	6.0	0.61	3.0
Dichlorodifluoromethane	U	6.0	ug/Kgdrywt	1	10	12.	1.1	6.0
Ethylbenzene	UMM	3.0	ug/Kgdrywt	1	5	6.0	0.78	3.0
Hexachlorobutadiene	UM	3.0	ug/Kgdrywt	1	5	6.0	0.89	3.0
Isopropylbenzene	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
m+p-Xylenes	UM	6.0	ug/Kgdrywt	1	10	12.	2.0	6.0
Methyl tert-butyl Ether	UM	3.0	ug/Kgdrywt	1	5	6.0	1.3	3.0
Methylene Chloride	UM	15	ug/Kgdrywt	1	25	30.	9.5	15.
N-Butylbenzene	UM	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
N-Propylbenzene	UM	3.0	ug/Kgdrywt	1	5	6.0	1.0	3.0
Naphthalene	UM	3.0	ug/Kgdrywt	1	5	6.0	1.0	3.0
o-Xylene	UM	3.0	ug/Kgdrywt	1	5	6.0	1.6	3.0
sec-Butylbenzene	UM	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
Styrene	UM	3.0	ug/Kgdrywt	1	5	6.0	0.61	3.0
tert-Butylbenzene	UMM	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
Tetrachloroethene	UM	3.0	ug/Kgdrywt	1	5	6.0	1.4	3.0
Toluene	UM	3.0	ug/Kgdrywt	1	5	6.0	1.7	3.0
trans-1,2-Dichloroethene	UM	3.0	ug/Kgdrywt	1	5	6.0	0.85	3.0
trans-1,3-Dichloropropene	UM	3.0	ug/Kgdrywt	1	5	6.0	1.0	3.0
Trichloroethene	UM	3.0	ug/Kgdrywt	1	5	6.0	0.71	3.0
Trichlorofluoromethane	U	6.0	ug/Kgdrywt	1	10	12.	1.1	6.0
Vinyl Chloride	U	6.0	ug/Kgdrywt	1	10	12.	1.0	6.0
1,2-Dichloroethane-D4		108.	%					
p-Bromofluorobenzene		90.4	%					
Dibromofluoromethane		106.	%					
Toluene-D8		102.	%					

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-19
Client ID: CHAAP-21B-DS-SS10
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4074.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 21-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228751

Analysis Date: 21-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 69.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,1,1,2-Tetrachloroethane	U	3.5	ug/Kgdrywt	1	5	7.0	0.98	3.5
1,1,1-Trichloroethane	U	3.5	ug/Kgdrywt	1	5	7.0	0.59	3.5
1,1,2,2-Tetrachloroethane	U	3.5	ug/Kgdrywt	1	5	7.0	1.2	3.5
Freon-113	U	3.5	ug/Kgdrywt	1	5	7.0	1.3	3.5
1,1,2-Trichloroethane	U	3.5	ug/Kgdrywt	1	5	7.0	1.4	3.5
1,1-Dichloroethane	U	3.5	ug/Kgdrywt	1	5	7.0	2.4	3.5
1,1-Dichloroethene	U	3.5	ug/Kgdrywt	1	5	7.0	1.3	3.5
1,1-Dichloropropene	U	3.5	ug/Kgdrywt	1	5	7.0	1.3	3.5
1,2,3-Trichlorobenzene	U	3.5	ug/Kgdrywt	1	5	7.0	1.1	3.5
1,2,3-Trichloropropane	U	3.5	ug/Kgdrywt	1	5	7.0	1.7	3.5
1,2,4-Trichlorobenzene	U	3.5	ug/Kgdrywt	1	5	7.0	1.1	3.5
1,2,4-Trimethylbenzene	U	3.5	ug/Kgdrywt	1	5	7.0	1.2	3.5
1,2-Dibromo-3-Chloropropane	U	3.5	ug/Kgdrywt	1	5	7.0	2.1	3.5
1,2-Dibromoethane	U	3.5	ug/Kgdrywt	1	5	7.0	1.7	3.5
1,2-Dichlorobenzene	U	3.5	ug/Kgdrywt	1	5	7.0	1.1	3.5
1,2-Dichloroethane	U	3.5	ug/Kgdrywt	1	5	7.0	1.4	3.5
1,2-Dichloropropane	U	3.5	ug/Kgdrywt	1	5	7.0	2.0	3.5
1,3,5-Trimethylbenzene	U	3.5	ug/Kgdrywt	1	5	7.0	0.94	3.5
1,3-Dichlorobenzene	U	3.5	ug/Kgdrywt	1	5	7.0	0.87	3.5
1,3-Dichloropropane	U	3.5	ug/Kgdrywt	1	5	7.0	1.3	3.5
1,4-Dichlorobenzene	U	3.5	ug/Kgdrywt	1	5	7.0	0.62	3.5
2,2-Dichloropropane	U	3.5	ug/Kgdrywt	1	5	7.0	0.70	3.5
2-Butanone	U	18	ug/Kgdrywt	1	25	35.	8.3	18.
2-Chlorotoluene	U	3.5	ug/Kgdrywt	1	5	7.0	1.5	3.5
2-Hexanone	U	18	ug/Kgdrywt	1	25	35.	6.7	18.
4-Chlorotoluene	U	3.5	ug/Kgdrywt	1	5	7.0	0.69	3.5
P-Isopropyltoluene	U	3.5	ug/Kgdrywt	1	5	7.0	1.1	3.5
4-Methyl-2-Pentanone	U	18	ug/Kgdrywt	1	25	35.	8.3	18.
Acetone	U	18	ug/Kgdrywt	1	25	35.	7.1	18.
Benzene	U	3.5	ug/Kgdrywt	1	5	7.0	1.3	3.5
Bromobenzene	U	3.5	ug/Kgdrywt	1	5	7.0	1.0	3.5
Bromochloromethane	U	3.5	ug/Kgdrywt	1	5	7.0	1.3	3.5
Bromodichloromethane	U	3.5	ug/Kgdrywt	1	5	7.0	0.84	3.5
Bromoform	U	3.5	ug/Kgdrywt	1	5	7.0	0.98	3.5
Bromomethane	U	7.0	ug/Kgdrywt	1	10	14.	1.5	7.0

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-19
Client ID: CHAAP-21B-DS-SS10
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4074.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 21-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228751

Analysis Date: 21-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 69.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Carbon Disulfide	U	3.5	ug/Kgdrywt	1	5	7.0	1.1	3.5
Carbon Tetrachloride	U	3.5	ug/Kgdrywt	1	5	7.0	1.8	3.5
Chlorobenzene	U	3.5	ug/Kgdrywt	1	5	7.0	0.71	3.5
Dibromochloromethane	U	3.5	ug/Kgdrywt	1	5	7.0	9.8	3.5
Chloroethane	U	7.0	ug/Kgdrywt	1	10	14.	1.8	7.0
Chloroform	U	3.5	ug/Kgdrywt	1	5	7.0	0.49	3.5
Chloromethane	U	7.0	ug/Kgdrywt	1	10	14.	2.0	7.0
cis-1,2-Dichloroethene	U	3.5	ug/Kgdrywt	1	5	7.0	1.3	3.5
cis-1,3-Dichloropropene	U	3.5	ug/Kgdrywt	1	5	7.0	1.0	3.5
Dibromomethane	U	3.5	ug/Kgdrywt	1	5	7.0	0.71	3.5
Dichlorodifluoromethane	U	7.0	ug/Kgdrywt	1	10	14.	1.3	7.0
Ethylbenzene	U	3.5	ug/Kgdrywt	1	5	7.0	0.91	3.5
Hexachlorobutadiene	U	3.5	ug/Kgdrywt	1	5	7.0	1.0	3.5
Isopropylbenzene	U	3.5	ug/Kgdrywt	1	5	7.0	1.3	3.5
m+p-Xylenes	U	7.0	ug/Kgdrywt	1	10	14.	2.4	7.0
Methyl tert-butyl Ether	U	3.5	ug/Kgdrywt	1	5	7.0	1.5	3.5
Methylene Chloride	U	18	ug/Kgdrywt	1	25	35.	11.	18.
N-Butylbenzene	U	3.5	ug/Kgdrywt	1	5	7.0	1.3	3.5
N-Propylbenzene	U	3.5	ug/Kgdrywt	1	5	7.0	1.2	3.5
Naphthalene	U	3.5	ug/Kgdrywt	1	5	7.0	1.2	3.5
o-Xylene	U	3.5	ug/Kgdrywt	1	5	7.0	1.8	3.5
sec-Butylbenzene	U	3.5	ug/Kgdrywt	1	5	7.0	1.3	3.5
Styrene	U	3.5	ug/Kgdrywt	1	5	7.0	0.71	3.5
tert-Butylbenzene	U	3.5	ug/Kgdrywt	1	5	7.0	1.3	3.5
Tetrachloroethene	U	3.5	ug/Kgdrywt	1	5	7.0	1.7	3.5
Toluene	U	3.5	ug/Kgdrywt	1	5	7.0	2.0	3.5
trans-1,2-Dichloroethene	U	3.5	ug/Kgdrywt	1	5	7.0	0.99	3.5
trans-1,3-Dichloropropene	U	3.5	ug/Kgdrywt	1	5	7.0	1.2	3.5
Trichloroethene	U	3.5	ug/Kgdrywt	1	5	7.0	0.83	3.5
Trichlorofluoromethane	U	7.0	ug/Kgdrywt	1	10	14.	1.3	7.0
Vinyl Chloride	U	7.0	ug/Kgdrywt	1	10	14.	1.2	7.0
1,2-Dichloroethane-D4		102.	%					
p-Bromofluorobenzene		90.9	%					
Dibromofluoromethane		103.	%					
Toluene-D8		96.7	%					

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-20
Client ID: CHAAP-21B-DS-SB10-5
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4075.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 21-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228751

Analysis Date: 21-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 82.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,1,1,2-Tetrachloroethane	U	2.4	ug/Kgdrywt	1	5	4.8	0.68	2.4
1,1,1-Trichloroethane	U	2.4	ug/Kgdrywt	1	5	4.8	0.41	2.4
1,1,2,2-Tetrachloroethane	U	2.4	ug/Kgdrywt	1	5	4.8	0.81	2.4
Freon-113	U	2.4	ug/Kgdrywt	1	5	4.8	0.87	2.4
1,1,2-Trichloroethane	U	2.4	ug/Kgdrywt	1	5	4.8	0.94	2.4
1,1-Dichloroethane	U	2.4	ug/Kgdrywt	1	5	4.8	1.6	2.4
1,1-Dichloroethene	U	2.4	ug/Kgdrywt	1	5	4.8	0.90	2.4
1,1-Dichloropropene	U	2.4	ug/Kgdrywt	1	5	4.8	0.88	2.4
1,2,3-Trichlorobenzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.74	2.4
1,2,3-Trichloropropane	U	2.4	ug/Kgdrywt	1	5	4.8	1.2	2.4
1,2,4-Trichlorobenzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.77	2.4
1,2,4-Trimethylbenzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.84	2.4
1,2-Dibromo-3-Chloropropane	U	2.4	ug/Kgdrywt	1	5	4.8	1.4	2.4
1,2-Dibromoethane	U	2.4	ug/Kgdrywt	1	5	4.8	1.2	2.4
1,2-Dichlorobenzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.76	2.4
1,2-Dichloroethane	U	2.4	ug/Kgdrywt	1	5	4.8	0.97	2.4
1,2-Dichloropropane	U	2.4	ug/Kgdrywt	1	5	4.8	1.4	2.4
1,3,5-Trimethylbenzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.65	2.4
1,3-Dichlorobenzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.60	2.4
1,3-Dichloropropane	U	2.4	ug/Kgdrywt	1	5	4.8	0.91	2.4
1,4-Dichlorobenzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.43	2.4
2,2-Dichloropropane	U	2.4	ug/Kgdrywt	1	5	4.8	0.48	2.4
2-Butanone	U	12	ug/Kgdrywt	1	25	24.	5.7	12.
2-Chlorotoluene	U	2.4	ug/Kgdrywt	1	5	4.8	1.1	2.4
2-Hexanone	U	12	ug/Kgdrywt	1	25	24.	4.6	12.
4-Chlorotoluene	U	2.4	ug/Kgdrywt	1	5	4.8	0.48	2.4
P-Isopropyltoluene	U	2.4	ug/Kgdrywt	1	5	4.8	0.74	2.4
4-Methyl-2-Pentanone	U	12	ug/Kgdrywt	1	25	24.	5.7	12.
Acetone	U	12	ug/Kgdrywt	1	25	24.	4.9	12.
Benzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.89	2.4
Bromobenzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.72	2.4
Bromochloromethane	U	2.4	ug/Kgdrywt	1	5	4.8	0.88	2.4
Bromodichloromethane	U	2.4	ug/Kgdrywt	1	5	4.8	0.58	2.4
Bromoform	U	2.4	ug/Kgdrywt	1	5	4.8	0.68	2.4
Bromomethane	U	4.8	ug/Kgdrywt	1	10	9.7	1.1	4.8

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-20
Client ID: CHAAP-21B-DS-SB10-5
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4075.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 21-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228751

Analysis Date: 21-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 82.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Carbon Disulfide	U	2.4	ug/Kgdrywt	1	5	4.8	0.76	2.4
Carbon Tetrachloride	U	2.4	ug/Kgdrywt	1	5	4.8	1.3	2.4
Chlorobenzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.49	2.4
Dibromochloromethane	U	2.4	ug/Kgdrywt	1	5	4.8	6.8	2.4
Chloroethane	U	4.8	ug/Kgdrywt	1	10	9.7	1.3	4.8
Chloroform	U	2.4	ug/Kgdrywt	1	5	4.8	0.34	2.4
Chloromethane	U	4.8	ug/Kgdrywt	1	10	9.7	1.4	4.8
cis-1,2-Dichloroethene	U	2.4	ug/Kgdrywt	1	5	4.8	0.88	2.4
cis-1,3-Dichloropropene	U	2.4	ug/Kgdrywt	1	5	4.8	0.70	2.4
Dibromomethane	U	2.4	ug/Kgdrywt	1	5	4.8	0.49	2.4
Dichlorodifluoromethane	U	4.8	ug/Kgdrywt	1	10	9.7	0.89	4.8
Ethylbenzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.63	2.4
Hexachlorobutadiene	U	2.4	ug/Kgdrywt	1	5	4.8	0.72	2.4
Isopropylbenzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.89	2.4
m+p-Xylenes	U	4.8	ug/Kgdrywt	1	10	9.7	1.6	4.8
Methyl tert-butyl Ether	U	2.4	ug/Kgdrywt	1	5	4.8	1.1	2.4
Methylene Chloride	U	12	ug/Kgdrywt	1	25	24.	7.7	12.
N-Butylbenzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.89	2.4
N-Propylbenzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.80	2.4
Naphthalene	U	2.4	ug/Kgdrywt	1	5	4.8	0.85	2.4
o-Xylene	U	2.4	ug/Kgdrywt	1	5	4.8	1.3	2.4
sec-Butylbenzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.88	2.4
Styrene	U	2.4	ug/Kgdrywt	1	5	4.8	0.49	2.4
tert-Butylbenzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.87	2.4
Tetrachloroethene	U	2.4	ug/Kgdrywt	1	5	4.8	1.2	2.4
Toluene	U	2.4	ug/Kgdrywt	1	5	4.8	1.4	2.4
trans-1,2-Dichloroethene	U	2.4	ug/Kgdrywt	1	5	4.8	0.69	2.4
trans-1,3-Dichloropropene	U	2.4	ug/Kgdrywt	1	5	4.8	0.83	2.4
Trichloroethene	U	2.4	ug/Kgdrywt	1	5	4.8	0.57	2.4
Trichlorofluoromethane	U	4.8	ug/Kgdrywt	1	10	9.7	0.88	4.8
Vinyl Chloride	U	4.8	ug/Kgdrywt	1	10	9.7	0.84	4.8
1,2-Dichloroethane-D4		99.3	%					
p-Bromofluorobenzene		89.4	%					
Dibromofluoromethane		103.	%					
Toluene-D8		98.2	%					

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-21
Client ID: CHAAP-21B-DS-SS04
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4076.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 21-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228751

Analysis Date: 21-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 74.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,1,1,2-Tetrachloroethane	U	3.2	ug/Kgdrywt	1	5	6.5	0.91	3.2
1,1,1-Trichloroethane	U	3.2	ug/Kgdrywt	1	5	6.5	0.55	3.2
1,1,2,2-Tetrachloroethane	U	3.2	ug/Kgdrywt	1	5	6.5	1.1	3.2
Freon-113	U	3.2	ug/Kgdrywt	1	5	6.5	1.2	3.2
1,1,2-Trichloroethane	U	3.2	ug/Kgdrywt	1	5	6.5	1.3	3.2
1,1-Dichloroethane	U	3.2	ug/Kgdrywt	1	5	6.5	2.2	3.2
1,1-Dichloroethene	U	3.2	ug/Kgdrywt	1	5	6.5	1.2	3.2
1,1-Dichloropropene	U	3.2	ug/Kgdrywt	1	5	6.5	1.2	3.2
1,2,3-Trichlorobenzene	U	3.2	ug/Kgdrywt	1	5	6.5	0.99	3.2
1,2,3-Trichloropropane	U	3.2	ug/Kgdrywt	1	5	6.5	1.6	3.2
1,2,4-Trichlorobenzene	U	3.2	ug/Kgdrywt	1	5	6.5	1.0	3.2
1,2,4-Trimethylbenzene	U	3.2	ug/Kgdrywt	1	5	6.5	1.1	3.2
1,2-Dibromo-3-Chloropropane	U	3.2	ug/Kgdrywt	1	5	6.5	2.0	3.2
1,2-Dibromoethane	U	3.2	ug/Kgdrywt	1	5	6.5	1.6	3.2
1,2-Dichlorobenzene	U	3.2	ug/Kgdrywt	1	5	6.5	1.0	3.2
1,2-Dichloroethane	U	3.2	ug/Kgdrywt	1	5	6.5	1.3	3.2
1,2-Dichloropropane	U	3.2	ug/Kgdrywt	1	5	6.5	1.8	3.2
1,3,5-Trimethylbenzene	U	3.2	ug/Kgdrywt	1	5	6.5	0.87	3.2
1,3-Dichlorobenzene	U	3.2	ug/Kgdrywt	1	5	6.5	0.81	3.2
1,3-Dichloropropane	U	3.2	ug/Kgdrywt	1	5	6.5	1.2	3.2
1,4-Dichlorobenzene	U	3.2	ug/Kgdrywt	1	5	6.5	0.57	3.2
2,2-Dichloropropane	U	3.2	ug/Kgdrywt	1	5	6.5	0.65	3.2
2-Butanone	U	16	ug/Kgdrywt	1	25	32.	7.7	16.
2-Chlorotoluene	U	3.2	ug/Kgdrywt	1	5	6.5	1.4	3.2
2-Hexanone	U	16	ug/Kgdrywt	1	25	32.	6.2	16.
4-Chlorotoluene	U	3.2	ug/Kgdrywt	1	5	6.5	0.64	3.2
P-Isopropyltoluene	U	3.2	ug/Kgdrywt	1	5	6.5	0.99	3.2
4-Methyl-2-Pentanone	U	16	ug/Kgdrywt	1	25	32.	7.7	16.
Acetone	U	16	ug/Kgdrywt	1	25	32.	6.6	16.
Benzene	U	3.2	ug/Kgdrywt	1	5	6.5	1.2	3.2
Bromobenzene	U	3.2	ug/Kgdrywt	1	5	6.5	0.96	3.2
Bromochloromethane	U	3.2	ug/Kgdrywt	1	5	6.5	1.2	3.2
Bromodichloromethane	U	3.2	ug/Kgdrywt	1	5	6.5	0.78	3.2
Bromoform	U	3.2	ug/Kgdrywt	1	5	6.5	0.91	3.2
Bromomethane	U	6.5	ug/Kgdrywt	1	10	13.	1.4	6.5

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-21
Client ID: CHAAP-21B-DS-SS04
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4076.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 21-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228751

Analysis Date: 21-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 74.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Carbon Disulfide	U	3.2	ug/Kgdrywt	1	5	6.5	1.0	3.2
Carbon Tetrachloride	U	3.2	ug/Kgdrywt	1	5	6.5	1.7	3.2
Chlorobenzene	U	3.2	ug/Kgdrywt	1	5	6.5	0.66	3.2
Dibromochloromethane	U	3.2	ug/Kgdrywt	1	5	6.5	9.1	3.2
Chloroethane	U	6.5	ug/Kgdrywt	1	10	13.	1.7	6.5
Chloroform	U	3.2	ug/Kgdrywt	1	5	6.5	0.46	3.2
Chloromethane	U	6.5	ug/Kgdrywt	1	10	13.	1.8	6.5
cis-1,2-Dichloroethene	U	3.2	ug/Kgdrywt	1	5	6.5	1.2	3.2
cis-1,3-Dichloropropene	U	3.2	ug/Kgdrywt	1	5	6.5	0.94	3.2
Dibromomethane	U	3.2	ug/Kgdrywt	1	5	6.5	0.66	3.2
Dichlorodifluoromethane	U	6.5	ug/Kgdrywt	1	10	13.	1.2	6.5
Ethylbenzene	U	3.2	ug/Kgdrywt	1	5	6.5	0.84	3.2
Hexachlorobutadiene	U	3.2	ug/Kgdrywt	1	5	6.5	0.96	3.2
Isopropylbenzene	U	3.2	ug/Kgdrywt	1	5	6.5	1.2	3.2
m+p-Xylenes	U	6.5	ug/Kgdrywt	1	10	13.	2.2	6.5
Methyl tert-butyl Ether	U	3.2	ug/Kgdrywt	1	5	6.5	1.4	3.2
Methylene Chloride	U	16	ug/Kgdrywt	1	25	32.	10.	16.
N-Butylbenzene	U	3.2	ug/Kgdrywt	1	5	6.5	1.2	3.2
N-Propylbenzene	U	3.2	ug/Kgdrywt	1	5	6.5	1.1	3.2
Naphthalene	J	1.2	ug/Kgdrywt	1	5	6.5	1.1	3.2
o-Xylene	U	3.2	ug/Kgdrywt	1	5	6.5	1.7	3.2
sec-Butylbenzene	U	3.2	ug/Kgdrywt	1	5	6.5	1.2	3.2
Styrene	U	3.2	ug/Kgdrywt	1	5	6.5	0.66	3.2
tert-Butylbenzene	U	3.2	ug/Kgdrywt	1	5	6.5	1.2	3.2
Tetrachloroethene	U	3.2	ug/Kgdrywt	1	5	6.5	1.6	3.2
Toluene	U	3.2	ug/Kgdrywt	1	5	6.5	1.8	3.2
trans-1,2-Dichloroethene	U	3.2	ug/Kgdrywt	1	5	6.5	0.92	3.2
trans-1,3-Dichloropropene	U	3.2	ug/Kgdrywt	1	5	6.5	1.1	3.2
Trichloroethene	U	3.2	ug/Kgdrywt	1	5	6.5	0.77	3.2
Trichlorofluoromethane	U	6.5	ug/Kgdrywt	1	10	13.	1.2	6.5
Vinyl Chloride	U	6.5	ug/Kgdrywt	1	10	13.	1.1	6.5
1,2-Dichloroethane-D4		98.7	%					
p-Bromofluorobenzene	*	76.7	%					
Dibromofluoromethane		104.	%					
Toluene-D8		99.6	%					

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-21RA
Client ID: CHAAP-21B-DS-SS04
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4108.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 22-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228846

Analysis Date: 22-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 74.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,1,1,2-Tetrachloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.77	2.8
1,1,1-Trichloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.46	2.8
1,1,2,2-Tetrachloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.92	2.8
Freon-113	U	2.8	ug/Kgdrywt	1	5	5.5	0.99	2.8
1,1,2-Trichloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.1	2.8
1,1-Dichloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.9	2.8
1,1-Dichloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
1,1-Dichloropropene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
1,2,3-Trichlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.84	2.8
1,2,3-Trichloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	1.3	2.8
1,2,4-Trichlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.87	2.8
1,2,4-Trimethylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.96	2.8
1,2-Dibromo-3-Chloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	1.6	2.8
1,2-Dibromoethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.3	2.8
1,2-Dichlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.86	2.8
1,2-Dichloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.1	2.8
1,2-Dichloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	1.5	2.8
1,3,5-Trimethylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.74	2.8
1,3-Dichlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.68	2.8
1,3-Dichloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
1,4-Dichlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.48	2.8
2,2-Dichloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	0.55	2.8
2-Butanone	U	14	ug/Kgdrywt	1	25	28.	6.5	14.
2-Chlorotoluene	U	2.8	ug/Kgdrywt	1	5	5.5	1.2	2.8
2-Hexanone	U	14	ug/Kgdrywt	1	25	28.	5.3	14.
4-Chlorotoluene	U	2.8	ug/Kgdrywt	1	5	5.5	0.54	2.8
P-Isopropyltoluene	U	2.8	ug/Kgdrywt	1	5	5.5	0.84	2.8
4-Methyl-2-Pentanone	U	14	ug/Kgdrywt	1	25	28.	6.5	14.
Acetone	U	14	ug/Kgdrywt	1	25	28.	5.6	14.
Benzene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
Bromobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.81	2.8
Bromochloromethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
Bromodichloromethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.66	2.8
Bromoform	U	2.8	ug/Kgdrywt	1	5	5.5	0.77	2.8
Bromomethane	U	5.5	ug/Kgdrywt	1	10	11.	1.2	5.5

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-21RA
Client ID: CHAAP-21B-DS-SS04
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4108.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 22-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228846

Analysis Date: 22-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 74.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Carbon Disulfide	U	2.8	ug/Kgdrywt	1	5	5.5	0.86	2.8
Carbon Tetrachloride	U	2.8	ug/Kgdrywt	1	5	5.5	1.4	2.8
Chlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.56	2.8
Dibromochloromethane	U	2.8	ug/Kgdrywt	1	5	5.5	7.7	2.8
Chloroethane	U	5.5	ug/Kgdrywt	1	10	11.	1.4	5.5
Chloroform	U	2.8	ug/Kgdrywt	1	5	5.5	0.38	2.8
Chloromethane	U	5.5	ug/Kgdrywt	1	10	11.	1.5	5.5
cis-1,2-Dichloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
cis-1,3-Dichloropropene	U	2.8	ug/Kgdrywt	1	5	5.5	0.79	2.8
Dibromomethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.56	2.8
Dichlorodifluoromethane	U	5.5	ug/Kgdrywt	1	10	11.	1.0	5.5
Ethylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.72	2.8
Hexachlorobutadiene	U	2.8	ug/Kgdrywt	1	5	5.5	0.81	2.8
Isopropylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
m+p-Xylenes	U	5.5	ug/Kgdrywt	1	10	11.	1.9	5.5
Methyl tert-butyl Ether	U	2.8	ug/Kgdrywt	1	5	5.5	1.2	2.8
Methylene Chloride	U	14	ug/Kgdrywt	1	25	28.	8.7	14.
N-Butylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
N-Propylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.91	2.8
Naphthalene	U	2.8	ug/Kgdrywt	1	5	5.5	0.97	2.8
o-Xylene	U	2.8	ug/Kgdrywt	1	5	5.5	1.4	2.8
sec-Butylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
Styrene	U	2.8	ug/Kgdrywt	1	5	5.5	0.56	2.8
tert-Butylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.99	2.8
Tetrachloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	1.3	2.8
Toluene	U	2.8	ug/Kgdrywt	1	5	5.5	1.5	2.8
trans-1,2-Dichloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	0.78	2.8
trans-1,3-Dichloropropene	U	2.8	ug/Kgdrywt	1	5	5.5	0.95	2.8
Trichloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	0.65	2.8
Trichlorofluoromethane	U	5.5	ug/Kgdrywt	1	10	11.	1.0	5.5
Vinyl Chloride	U	5.5	ug/Kgdrywt	1	10	11.	0.96	5.5
1,2-Dichloroethane-D4		110.	%					
p-Bromofluorobenzene	*	70.1	%					
Dibromofluoromethane		115.	%					
Toluene-D8		99.4	%					

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-22
Client ID: CHAAP-21B-DS-SB04-5
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4077.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 21-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228751

Analysis Date: 21-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 74.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,1,1,2-Tetrachloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.77	2.8
1,1,1-Trichloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.46	2.8
1,1,2,2-Tetrachloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.92	2.8
Freon-113	U	2.8	ug/Kgdrywt	1	5	5.5	0.99	2.8
1,1,2-Trichloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.1	2.8
1,1-Dichloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.9	2.8
1,1-Dichloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
1,1-Dichloropropene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
1,2,3-Trichlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.84	2.8
1,2,3-Trichloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	1.3	2.8
1,2,4-Trichlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.87	2.8
1,2,4-Trimethylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.96	2.8
1,2-Dibromo-3-Chloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	1.6	2.8
1,2-Dibromoethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.3	2.8
1,2-Dichlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.86	2.8
1,2-Dichloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.1	2.8
1,2-Dichloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	1.5	2.8
1,3,5-Trimethylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.74	2.8
1,3-Dichlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.68	2.8
1,3-Dichloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
1,4-Dichlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.48	2.8
2,2-Dichloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	0.55	2.8
2-Butanone	U	14	ug/Kgdrywt	1	25	28.	6.5	14.
2-Chlorotoluene	U	2.8	ug/Kgdrywt	1	5	5.5	1.2	2.8
2-Hexanone	U	14	ug/Kgdrywt	1	25	28.	5.3	14.
4-Chlorotoluene	U	2.8	ug/Kgdrywt	1	5	5.5	0.54	2.8
P-Isopropyltoluene	U	2.8	ug/Kgdrywt	1	5	5.5	0.84	2.8
4-Methyl-2-Pentanone	U	14	ug/Kgdrywt	1	25	28.	6.5	14.
Acetone	U	14	ug/Kgdrywt	1	25	28.	5.6	14.
Benzene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
Bromobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.81	2.8
Bromochloromethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
Bromodichloromethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.66	2.8
Bromoform	U	2.8	ug/Kgdrywt	1	5	5.5	0.77	2.8
Bromomethane	U	5.5	ug/Kgdrywt	1	10	11.	1.2	5.5

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-22
Client ID: CHAAP-21B-DS-SB04-5
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4077.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 21-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228751

Analysis Date: 21-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 74.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Carbon Disulfide	U	2.8	ug/Kgdrywt	1	5	5.5	0.86	2.8
Carbon Tetrachloride	U	2.8	ug/Kgdrywt	1	5	5.5	1.4	2.8
Chlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.56	2.8
Dibromochloromethane	U	2.8	ug/Kgdrywt	1	5	5.5	7.7	2.8
Chloroethane	U	5.5	ug/Kgdrywt	1	10	11.	1.4	5.5
Chloroform	U	2.8	ug/Kgdrywt	1	5	5.5	0.38	2.8
Chloromethane	U	5.5	ug/Kgdrywt	1	10	11.	1.5	5.5
cis-1,2-Dichloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
cis-1,3-Dichloropropene	U	2.8	ug/Kgdrywt	1	5	5.5	0.79	2.8
Dibromomethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.56	2.8
Dichlorodifluoromethane	U	5.5	ug/Kgdrywt	1	10	11.	1.0	5.5
Ethylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.72	2.8
Hexachlorobutadiene	U	2.8	ug/Kgdrywt	1	5	5.5	0.81	2.8
Isopropylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
m+p-Xylenes	U	5.5	ug/Kgdrywt	1	10	11.	1.9	5.5
Methyl tert-butyl Ether	U	2.8	ug/Kgdrywt	1	5	5.5	1.2	2.8
Methylene Chloride	U	14	ug/Kgdrywt	1	25	28.	8.7	14.
N-Butylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
N-Propylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.91	2.8
Naphthalene	U	2.8	ug/Kgdrywt	1	5	5.5	0.97	2.8
o-Xylene	U	2.8	ug/Kgdrywt	1	5	5.5	1.4	2.8
sec-Butylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
Styrene	U	2.8	ug/Kgdrywt	1	5	5.5	0.56	2.8
tert-Butylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.99	2.8
Tetrachloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	1.3	2.8
Toluene	U	2.8	ug/Kgdrywt	1	5	5.5	1.5	2.8
trans-1,2-Dichloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	0.78	2.8
trans-1,3-Dichloropropene	U	2.8	ug/Kgdrywt	1	5	5.5	0.95	2.8
Trichloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	0.65	2.8
Trichlorofluoromethane	U	5.5	ug/Kgdrywt	1	10	11.	1.0	5.5
Vinyl Chloride	U	5.5	ug/Kgdrywt	1	10	11.	0.96	5.5
1,2-Dichloroethane-D4		99.9	%					
p-Bromofluorobenzene		90.5	%					
Dibromofluoromethane		104.	%					
Toluene-D8		98.2	%					

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-23
Client ID: CHAAP-21B-DS-SB04-10
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4078.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 21-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228751

Analysis Date: 21-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 78.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,1,1,2-Tetrachloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.70	2.5
1,1,1-Trichloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.42	2.5
1,1,2,2-Tetrachloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.84	2.5
Freon-113	U	2.5	ug/Kgdrywt	1	5	5.0	0.90	2.5
1,1,2-Trichloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.97	2.5
1,1-Dichloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	1.7	2.5
1,1-Dichloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	0.93	2.5
1,1-Dichloropropene	U	2.5	ug/Kgdrywt	1	5	5.0	0.91	2.5
1,2,3-Trichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.76	2.5
1,2,3-Trichloropropane	U	2.5	ug/Kgdrywt	1	5	5.0	1.2	2.5
1,2,4-Trichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.79	2.5
1,2,4-Trimethylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.87	2.5
1,2-Dibromo-3-Chloropropane	U	2.5	ug/Kgdrywt	1	5	5.0	1.5	2.5
1,2-Dibromoethane	U	2.5	ug/Kgdrywt	1	5	5.0	1.2	2.5
1,2-Dichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.78	2.5
1,2-Dichloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	1.0	2.5
1,2-Dichloropropane	U	2.5	ug/Kgdrywt	1	5	5.0	1.4	2.5
1,3,5-Trimethylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.67	2.5
1,3-Dichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.62	2.5
1,3-Dichloropropane	U	2.5	ug/Kgdrywt	1	5	5.0	0.94	2.5
1,4-Dichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.44	2.5
2,2-Dichloropropane	U	2.5	ug/Kgdrywt	1	5	5.0	0.50	2.5
2-Butanone	U	12	ug/Kgdrywt	1	25	25.	5.9	12.
2-Chlorotoluene	U	2.5	ug/Kgdrywt	1	5	5.0	1.1	2.5
2-Hexanone	U	12	ug/Kgdrywt	1	25	25.	4.8	12.
4-Chlorotoluene	U	2.5	ug/Kgdrywt	1	5	5.0	0.49	2.5
P-Isopropyltoluene	U	2.5	ug/Kgdrywt	1	5	5.0	0.76	2.5
4-Methyl-2-Pentanone	U	12	ug/Kgdrywt	1	25	25.	5.9	12.
Acetone	U	12	ug/Kgdrywt	1	25	25.	5.1	12.
Benzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.92	2.5
Bromobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.74	2.5
Bromochloromethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.91	2.5
Bromodichloromethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.60	2.5
Bromoform	U	2.5	ug/Kgdrywt	1	5	5.0	0.70	2.5
Bromomethane	U	5.0	ug/Kgdrywt	1	10	10.	1.1	5.0

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-23
Client ID: CHAAP-21B-DS-SB04-10
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4078.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 21-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228751

Analysis Date: 21-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 78.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Carbon Disulfide	U	2.5	ug/Kgdrywt	1	5	5.0	0.78	2.5
Carbon Tetrachloride	U	2.5	ug/Kgdrywt	1	5	5.0	1.3	2.5
Chlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.51	2.5
Dibromochloromethane	U	2.5	ug/Kgdrywt	1	5	5.0	7.0	2.5
Chloroethane	U	5.0	ug/Kgdrywt	1	10	10.	1.3	5.0
Chloroform	U	2.5	ug/Kgdrywt	1	5	5.0	0.35	2.5
Chloromethane	U	5.0	ug/Kgdrywt	1	10	10.	1.4	5.0
cis-1,2-Dichloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	0.91	2.5
cis-1,3-Dichloropropene	U	2.5	ug/Kgdrywt	1	5	5.0	0.72	2.5
Dibromomethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.51	2.5
Dichlorodifluoromethane	U	5.0	ug/Kgdrywt	1	10	10.	0.92	5.0
Ethylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.65	2.5
Hexachlorobutadiene	U	2.5	ug/Kgdrywt	1	5	5.0	0.74	2.5
Isopropylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.92	2.5
m+p-Xylenes	U	5.0	ug/Kgdrywt	1	10	10.	1.7	5.0
Methyl tert-butyl Ether	U	2.5	ug/Kgdrywt	1	5	5.0	1.1	2.5
Methylene Chloride	U	12	ug/Kgdrywt	1	25	25.	7.9	12.
N-Butylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.92	2.5
N-Propylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.83	2.5
Naphthalene	U	2.5	ug/Kgdrywt	1	5	5.0	0.88	2.5
o-Xylene	U	2.5	ug/Kgdrywt	1	5	5.0	1.3	2.5
sec-Butylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.91	2.5
Styrene	U	2.5	ug/Kgdrywt	1	5	5.0	0.51	2.5
tert-Butylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.90	2.5
Tetrachloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	1.2	2.5
Toluene	U	2.5	ug/Kgdrywt	1	5	5.0	1.4	2.5
trans-1,2-Dichloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	0.71	2.5
trans-1,3-Dichloropropene	U	2.5	ug/Kgdrywt	1	5	5.0	0.86	2.5
Trichloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	0.59	2.5
Trichlorofluoromethane	U	5.0	ug/Kgdrywt	1	10	10.	0.91	5.0
Vinyl Chloride	U	5.0	ug/Kgdrywt	1	10	10.	0.87	5.0
1,2-Dichloroethane-D4		100.	%					
p-Bromofluorobenzene		92.4	%					
Dibromofluoromethane		106.	%					
Toluene-D8		100.	%					

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-24RA
Client ID: CHAAP-21B-DS-SS03
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4109.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 22-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228846

Analysis Date: 22-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 81.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,1,1,2-Tetrachloroethane	U	3.5	ug/Kgdrywt	1	5	7.0	0.98	3.5
1,1,1-Trichloroethane	U	3.5	ug/Kgdrywt	1	5	7.0	0.59	3.5
1,1,2,2-Tetrachloroethane	U	3.5	ug/Kgdrywt	1	5	7.0	1.2	3.5
Freon-113	U	3.5	ug/Kgdrywt	1	5	7.0	1.3	3.5
1,1,2-Trichloroethane	U	3.5	ug/Kgdrywt	1	5	7.0	1.4	3.5
1,1-Dichloroethane	U	3.5	ug/Kgdrywt	1	5	7.0	2.4	3.5
1,1-Dichloroethene	U	3.5	ug/Kgdrywt	1	5	7.0	1.3	3.5
1,1-Dichloropropene	U	3.5	ug/Kgdrywt	1	5	7.0	1.3	3.5
1,2,3-Trichlorobenzene	U	3.5	ug/Kgdrywt	1	5	7.0	1.1	3.5
1,2,3-Trichloropropane	U	3.5	ug/Kgdrywt	1	5	7.0	1.7	3.5
1,2,4-Trichlorobenzene	U	3.5	ug/Kgdrywt	1	5	7.0	1.1	3.5
1,2,4-Trimethylbenzene	U	3.5	ug/Kgdrywt	1	5	7.0	1.2	3.5
1,2-Dibromo-3-Chloropropane	U	3.5	ug/Kgdrywt	1	5	7.0	2.1	3.5
1,2-Dibromoethane	U	3.5	ug/Kgdrywt	1	5	7.0	1.7	3.5
1,2-Dichlorobenzene	U	3.5	ug/Kgdrywt	1	5	7.0	1.1	3.5
1,2-Dichloroethane	U	3.5	ug/Kgdrywt	1	5	7.0	1.4	3.5
1,2-Dichloropropane	U	3.5	ug/Kgdrywt	1	5	7.0	2.0	3.5
1,3,5-Trimethylbenzene	U	3.5	ug/Kgdrywt	1	5	7.0	0.94	3.5
1,3-Dichlorobenzene	U	3.5	ug/Kgdrywt	1	5	7.0	0.87	3.5
1,3-Dichloropropane	U	3.5	ug/Kgdrywt	1	5	7.0	1.3	3.5
1,4-Dichlorobenzene	U	3.5	ug/Kgdrywt	1	5	7.0	0.62	3.5
2,2-Dichloropropane	U	3.5	ug/Kgdrywt	1	5	7.0	0.70	3.5
2-Butanone	U	18	ug/Kgdrywt	1	25	35.	8.3	18.
2-Chlorotoluene	U	3.5	ug/Kgdrywt	1	5	7.0	1.5	3.5
2-Hexanone	U	18	ug/Kgdrywt	1	25	35.	6.7	18.
4-Chlorotoluene	U	3.5	ug/Kgdrywt	1	5	7.0	0.69	3.5
P-Isopropyltoluene	U	3.5	ug/Kgdrywt	1	5	7.0	1.1	3.5
4-Methyl-2-Pentanone	U	18	ug/Kgdrywt	1	25	35.	8.3	18.
Acetone	J	17	ug/Kgdrywt	1	25	35.	7.1	18.
Benzene	U	3.5	ug/Kgdrywt	1	5	7.0	1.3	3.5
Bromobenzene	U	3.5	ug/Kgdrywt	1	5	7.0	1.0	3.5
Bromochloromethane	U	3.5	ug/Kgdrywt	1	5	7.0	1.3	3.5
Bromodichloromethane	U	3.5	ug/Kgdrywt	1	5	7.0	0.84	3.5
Bromoform	U	3.5	ug/Kgdrywt	1	5	7.0	0.98	3.5
Bromomethane	U	7.0	ug/Kgdrywt	1	10	14.	1.5	7.0

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-24RA
Client ID: CHAAP-21B-DS-SS03
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4109.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 22-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228846

Analysis Date: 22-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 81.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Carbon Disulfide	U	3.5	ug/Kgdrywt	1	5	7.0	1.1	3.5
Carbon Tetrachloride	U	3.5	ug/Kgdrywt	1	5	7.0	1.8	3.5
Chlorobenzene	U	3.5	ug/Kgdrywt	1	5	7.0	0.71	3.5
Dibromochloromethane	U	3.5	ug/Kgdrywt	1	5	7.0	9.8	3.5
Chloroethane	U	7.0	ug/Kgdrywt	1	10	14.	1.8	7.0
Chloroform	U	3.5	ug/Kgdrywt	1	5	7.0	0.49	3.5
Chloromethane	U	7.0	ug/Kgdrywt	1	10	14.	2.0	7.0
cis-1,2-Dichloroethene	U	3.5	ug/Kgdrywt	1	5	7.0	1.3	3.5
cis-1,3-Dichloropropene	U	3.5	ug/Kgdrywt	1	5	7.0	1.0	3.5
Dibromomethane	U	3.5	ug/Kgdrywt	1	5	7.0	0.71	3.5
Dichlorodifluoromethane	U	7.0	ug/Kgdrywt	1	10	14.	1.3	7.0
Ethylbenzene	U	3.5	ug/Kgdrywt	1	5	7.0	0.91	3.5
Hexachlorobutadiene	U	3.5	ug/Kgdrywt	1	5	7.0	1.0	3.5
Isopropylbenzene	U	3.5	ug/Kgdrywt	1	5	7.0	1.3	3.5
m+p-Xylenes	U	7.0	ug/Kgdrywt	1	10	14.	2.4	7.0
Methyl tert-butyl Ether	U	3.5	ug/Kgdrywt	1	5	7.0	1.5	3.5
Methylene Chloride	U	18	ug/Kgdrywt	1	25	35.	11.	18.
N-Butylbenzene	U	3.5	ug/Kgdrywt	1	5	7.0	1.3	3.5
N-Propylbenzene	U	3.5	ug/Kgdrywt	1	5	7.0	1.2	3.5
Naphthalene	U	3.5	ug/Kgdrywt	1	5	7.0	1.2	3.5
o-Xylene	U	3.5	ug/Kgdrywt	1	5	7.0	1.8	3.5
sec-Butylbenzene	U	3.5	ug/Kgdrywt	1	5	7.0	1.3	3.5
Styrene	U	3.5	ug/Kgdrywt	1	5	7.0	0.71	3.5
tert-Butylbenzene	U	3.5	ug/Kgdrywt	1	5	7.0	1.3	3.5
Tetrachloroethene	U	3.5	ug/Kgdrywt	1	5	7.0	1.7	3.5
Toluene	U	3.5	ug/Kgdrywt	1	5	7.0	2.0	3.5
trans-1,2-Dichloroethene	U	3.5	ug/Kgdrywt	1	5	7.0	0.99	3.5
trans-1,3-Dichloropropene	U	3.5	ug/Kgdrywt	1	5	7.0	1.2	3.5
Trichloroethene	U	3.5	ug/Kgdrywt	1	5	7.0	0.83	3.5
Trichlorofluoromethane	U	7.0	ug/Kgdrywt	1	10	14.	1.3	7.0
Vinyl Chloride	U	7.0	ug/Kgdrywt	1	10	14.	1.2	7.0
1,2-Dichloroethane-D4		110.	%					
p-Bromofluorobenzene		87.3	%					
Dibromofluoromethane		110.	%					
Toluene-D8		101.	%					

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-25
Client ID: CHAAP-21B-DS-SS103
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4085.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 21-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228825

Analysis Date: 21-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 81.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,1,1,2-Tetrachloroethane	U	3.0	ug/Kgdrywt	1	5	6.0	0.84	3.0
1,1,1-Trichloroethane	U	3.0	ug/Kgdrywt	1	5	6.0	0.50	3.0
1,1,2,2-Tetrachloroethane	U	3.0	ug/Kgdrywt	1	5	6.0	1.0	3.0
Freon-113	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
1,1,2-Trichloroethane	U	3.0	ug/Kgdrywt	1	5	6.0	1.2	3.0
1,1-Dichloroethane	U	3.0	ug/Kgdrywt	1	5	6.0	2.0	3.0
1,1-Dichloroethene	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
1,1-Dichloropropene	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
1,2,3-Trichlorobenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.91	3.0
1,2,3-Trichloropropane	U	3.0	ug/Kgdrywt	1	5	6.0	1.4	3.0
1,2,4-Trichlorobenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.95	3.0
1,2,4-Trimethylbenzene	U	3.0	ug/Kgdrywt	1	5	6.0	1.0	3.0
1,2-Dibromo-3-Chloropropane	U	3.0	ug/Kgdrywt	1	5	6.0	1.8	3.0
1,2-Dibromoethane	U	3.0	ug/Kgdrywt	1	5	6.0	1.4	3.0
1,2-Dichlorobenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.94	3.0
1,2-Dichloroethane	U	3.0	ug/Kgdrywt	1	5	6.0	1.2	3.0
1,2-Dichloropropane	U	3.0	ug/Kgdrywt	1	5	6.0	1.7	3.0
1,3,5-Trimethylbenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.80	3.0
1,3-Dichlorobenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.74	3.0
1,3-Dichloropropane	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
1,4-Dichlorobenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.53	3.0
2,2-Dichloropropane	U	3.0	ug/Kgdrywt	1	5	6.0	0.60	3.0
2-Butanone	U	15	ug/Kgdrywt	1	25	30.	7.1	15.
2-Chlorotoluene	U	3.0	ug/Kgdrywt	1	5	6.0	1.3	3.0
2-Hexanone	U	15	ug/Kgdrywt	1	25	30.	5.8	15.
4-Chlorotoluene	U	3.0	ug/Kgdrywt	1	5	6.0	0.59	3.0
P-Isopropyltoluene	U	3.0	ug/Kgdrywt	1	5	6.0	0.91	3.0
4-Methyl-2-Pentanone	U	15	ug/Kgdrywt	1	25	30.	7.1	15.
Acetone	U	15	ug/Kgdrywt	1	25	30.	6.1	15.
Benzene	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
Bromobenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.89	3.0
Bromochloromethane	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
Bromodichloromethane	U	3.0	ug/Kgdrywt	1	5	6.0	0.72	3.0
Bromoform	U	3.0	ug/Kgdrywt	1	5	6.0	0.84	3.0
Bromomethane	U	6.0	ug/Kgdrywt	1	10	12.	1.3	6.0

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-25
Client ID: CHAAP-21B-DS-SS103
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4085.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 21-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228825

Analysis Date: 21-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 81.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Carbon Disulfide	U	3.0	ug/Kgdrywt	1	5	6.0	0.94	3.0
Carbon Tetrachloride	U	3.0	ug/Kgdrywt	1	5	6.0	1.6	3.0
Chlorobenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.61	3.0
Dibromochloromethane	U	3.0	ug/Kgdrywt	1	5	6.0	8.4	3.0
Chloroethane	U	6.0	ug/Kgdrywt	1	10	12.	1.6	6.0
Chloroform	U	3.0	ug/Kgdrywt	1	5	6.0	0.42	3.0
Chloromethane	U	6.0	ug/Kgdrywt	1	10	12.	1.7	6.0
cis-1,2-Dichloroethene	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
cis-1,3-Dichloropropene	U	3.0	ug/Kgdrywt	1	5	6.0	0.86	3.0
Dibromomethane	U	3.0	ug/Kgdrywt	1	5	6.0	0.61	3.0
Dichlorodifluoromethane	U	6.0	ug/Kgdrywt	1	10	12.	1.1	6.0
Ethylbenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.78	3.0
Hexachlorobutadiene	U	3.0	ug/Kgdrywt	1	5	6.0	0.89	3.0
Isopropylbenzene	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
m+p-Xylenes	U	6.0	ug/Kgdrywt	1	10	12.	2.0	6.0
Methyl tert-butyl Ether	U	3.0	ug/Kgdrywt	1	5	6.0	1.3	3.0
Methylene Chloride	U	15	ug/Kgdrywt	1	25	30.	9.5	15.
N-Butylbenzene	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
N-Propylbenzene	U	3.0	ug/Kgdrywt	1	5	6.0	1.0	3.0
Naphthalene	U	3.0	ug/Kgdrywt	1	5	6.0	1.0	3.0
o-Xylene	U	3.0	ug/Kgdrywt	1	5	6.0	1.6	3.0
sec-Butylbenzene	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
Styrene	U	3.0	ug/Kgdrywt	1	5	6.0	0.61	3.0
tert-Butylbenzene	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
Tetrachloroethene	U	3.0	ug/Kgdrywt	1	5	6.0	1.4	3.0
Toluene	U	3.0	ug/Kgdrywt	1	5	6.0	1.7	3.0
trans-1,2-Dichloroethene	U	3.0	ug/Kgdrywt	1	5	6.0	0.85	3.0
trans-1,3-Dichloropropene	U	3.0	ug/Kgdrywt	1	5	6.0	1.0	3.0
Trichloroethene	U	3.0	ug/Kgdrywt	1	5	6.0	0.71	3.0
Trichlorofluoromethane	U	6.0	ug/Kgdrywt	1	10	12.	1.1	6.0
Vinyl Chloride	U	6.0	ug/Kgdrywt	1	10	12.	1.0	6.0
1,2-Dichloroethane-D4		103.	%					
p-Bromofluorobenzene	*	74.3	%					
Dibromofluoromethane		106.	%					
Toluene-D8		96.9	%					

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-25RA
Client ID: CHAAP-21B-DS-SS103
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4110.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 22-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228846

Analysis Date: 22-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 81.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,1,1,2-Tetrachloroethane	U	3.2	ug/Kgdrywt	1	5	6.5	0.91	3.2
1,1,1-Trichloroethane	U	3.2	ug/Kgdrywt	1	5	6.5	0.55	3.2
1,1,2,2-Tetrachloroethane	U	3.2	ug/Kgdrywt	1	5	6.5	1.1	3.2
Freon-113	U	3.2	ug/Kgdrywt	1	5	6.5	1.2	3.2
1,1,2-Trichloroethane	U	3.2	ug/Kgdrywt	1	5	6.5	1.3	3.2
1,1-Dichloroethane	U	3.2	ug/Kgdrywt	1	5	6.5	2.2	3.2
1,1-Dichloroethene	U	3.2	ug/Kgdrywt	1	5	6.5	1.2	3.2
1,1-Dichloropropene	U	3.2	ug/Kgdrywt	1	5	6.5	1.2	3.2
1,2,3-Trichlorobenzene	U	3.2	ug/Kgdrywt	1	5	6.5	0.99	3.2
1,2,3-Trichloropropane	U	3.2	ug/Kgdrywt	1	5	6.5	1.6	3.2
1,2,4-Trichlorobenzene	U	3.2	ug/Kgdrywt	1	5	6.5	1.0	3.2
1,2,4-Trimethylbenzene	U	3.2	ug/Kgdrywt	1	5	6.5	1.1	3.2
1,2-Dibromo-3-Chloropropane	U	3.2	ug/Kgdrywt	1	5	6.5	2.0	3.2
1,2-Dibromoethane	U	3.2	ug/Kgdrywt	1	5	6.5	1.6	3.2
1,2-Dichlorobenzene	U	3.2	ug/Kgdrywt	1	5	6.5	1.0	3.2
1,2-Dichloroethane	U	3.2	ug/Kgdrywt	1	5	6.5	1.3	3.2
1,2-Dichloropropane	U	3.2	ug/Kgdrywt	1	5	6.5	1.8	3.2
1,3,5-Trimethylbenzene	U	3.2	ug/Kgdrywt	1	5	6.5	0.87	3.2
1,3-Dichlorobenzene	U	3.2	ug/Kgdrywt	1	5	6.5	0.81	3.2
1,3-Dichloropropane	U	3.2	ug/Kgdrywt	1	5	6.5	1.2	3.2
1,4-Dichlorobenzene	U	3.2	ug/Kgdrywt	1	5	6.5	0.57	3.2
2,2-Dichloropropane	U	3.2	ug/Kgdrywt	1	5	6.5	0.65	3.2
2-Butanone	U	16	ug/Kgdrywt	1	25	32.	7.7	16.
2-Chlorotoluene	U	3.2	ug/Kgdrywt	1	5	6.5	1.4	3.2
2-Hexanone	U	16	ug/Kgdrywt	1	25	32.	6.2	16.
4-Chlorotoluene	U	3.2	ug/Kgdrywt	1	5	6.5	0.64	3.2
P-Isopropyltoluene	U	3.2	ug/Kgdrywt	1	5	6.5	0.99	3.2
4-Methyl-2-Pentanone	U	16	ug/Kgdrywt	1	25	32.	7.7	16.
Acetone	U	16	ug/Kgdrywt	1	25	32.	6.6	16.
Benzene	U	3.2	ug/Kgdrywt	1	5	6.5	1.2	3.2
Bromobenzene	U	3.2	ug/Kgdrywt	1	5	6.5	0.96	3.2
Bromochloromethane	U	3.2	ug/Kgdrywt	1	5	6.5	1.2	3.2
Bromodichloromethane	U	3.2	ug/Kgdrywt	1	5	6.5	0.78	3.2
Bromoform	U	3.2	ug/Kgdrywt	1	5	6.5	0.91	3.2
Bromomethane	U	6.5	ug/Kgdrywt	1	10	13.	1.4	6.5

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-25RA
Client ID: CHAAP-21B-DS-SS103
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4110.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 22-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228846

Analysis Date: 22-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 81.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Carbon Disulfide	U	3.2	ug/Kgdrywt	1	5	6.5	1.0	3.2
Carbon Tetrachloride	U	3.2	ug/Kgdrywt	1	5	6.5	1.7	3.2
Chlorobenzene	U	3.2	ug/Kgdrywt	1	5	6.5	0.66	3.2
Dibromochloromethane	U	3.2	ug/Kgdrywt	1	5	6.5	9.1	3.2
Chloroethane	U	6.5	ug/Kgdrywt	1	10	13.	1.7	6.5
Chloroform	U	3.2	ug/Kgdrywt	1	5	6.5	0.46	3.2
Chloromethane	U	6.5	ug/Kgdrywt	1	10	13.	1.8	6.5
cis-1,2-Dichloroethene	U	3.2	ug/Kgdrywt	1	5	6.5	1.2	3.2
cis-1,3-Dichloropropene	U	3.2	ug/Kgdrywt	1	5	6.5	0.94	3.2
Dibromomethane	U	3.2	ug/Kgdrywt	1	5	6.5	0.66	3.2
Dichlorodifluoromethane	U	6.5	ug/Kgdrywt	1	10	13.	1.2	6.5
Ethylbenzene	U	3.2	ug/Kgdrywt	1	5	6.5	0.84	3.2
Hexachlorobutadiene	U	3.2	ug/Kgdrywt	1	5	6.5	0.96	3.2
Isopropylbenzene	U	3.2	ug/Kgdrywt	1	5	6.5	1.2	3.2
m+p-Xylenes	U	6.5	ug/Kgdrywt	1	10	13.	2.2	6.5
Methyl tert-butyl Ether	U	3.2	ug/Kgdrywt	1	5	6.5	1.4	3.2
Methylene Chloride	U	16	ug/Kgdrywt	1	25	32.	10.	16.
N-Butylbenzene	U	3.2	ug/Kgdrywt	1	5	6.5	1.2	3.2
N-Propylbenzene	U	3.2	ug/Kgdrywt	1	5	6.5	1.1	3.2
Naphthalene	J	1.2	ug/Kgdrywt	1	5	6.5	1.1	3.2
o-Xylene	U	3.2	ug/Kgdrywt	1	5	6.5	1.7	3.2
sec-Butylbenzene	U	3.2	ug/Kgdrywt	1	5	6.5	1.2	3.2
Styrene	U	3.2	ug/Kgdrywt	1	5	6.5	0.66	3.2
tert-Butylbenzene	U	3.2	ug/Kgdrywt	1	5	6.5	1.2	3.2
Tetrachloroethene	U	3.2	ug/Kgdrywt	1	5	6.5	1.6	3.2
Toluene	U	3.2	ug/Kgdrywt	1	5	6.5	1.8	3.2
trans-1,2-Dichloroethene	U	3.2	ug/Kgdrywt	1	5	6.5	0.92	3.2
trans-1,3-Dichloropropene	U	3.2	ug/Kgdrywt	1	5	6.5	1.1	3.2
Trichloroethene	U	3.2	ug/Kgdrywt	1	5	6.5	0.77	3.2
Trichlorofluoromethane	U	6.5	ug/Kgdrywt	1	10	13.	1.2	6.5
Vinyl Chloride	U	6.5	ug/Kgdrywt	1	10	13.	1.1	6.5
1,2-Dichloroethane-D4		119.	%					
p-Bromofluorobenzene		80.6	%					
Dibromofluoromethane		120.	%					
Toluene-D8		100.	%					

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-26
Client ID: CHAAP-21B-DS-SB03-5
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4086.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 21-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228825

Analysis Date: 21-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 78.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,1,1,2-Tetrachloroethane	U	2.4	ug/Kgdrywt	1	5	4.8	0.68	2.4
1,1,1-Trichloroethane	U	2.4	ug/Kgdrywt	1	5	4.8	0.41	2.4
1,1,2,2-Tetrachloroethane	U	2.4	ug/Kgdrywt	1	5	4.8	0.81	2.4
Freon-113	U	2.4	ug/Kgdrywt	1	5	4.8	0.87	2.4
1,1,2-Trichloroethane	U	2.4	ug/Kgdrywt	1	5	4.8	0.94	2.4
1,1-Dichloroethane	U	2.4	ug/Kgdrywt	1	5	4.8	1.6	2.4
1,1-Dichloroethene	U	2.4	ug/Kgdrywt	1	5	4.8	0.90	2.4
1,1-Dichloropropene	U	2.4	ug/Kgdrywt	1	5	4.8	0.88	2.4
1,2,3-Trichlorobenzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.74	2.4
1,2,3-Trichloropropane	U	2.4	ug/Kgdrywt	1	5	4.8	1.2	2.4
1,2,4-Trichlorobenzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.77	2.4
1,2,4-Trimethylbenzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.84	2.4
1,2-Dibromo-3-Chloropropane	U	2.4	ug/Kgdrywt	1	5	4.8	1.4	2.4
1,2-Dibromoethane	U	2.4	ug/Kgdrywt	1	5	4.8	1.2	2.4
1,2-Dichlorobenzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.76	2.4
1,2-Dichloroethane	U	2.4	ug/Kgdrywt	1	5	4.8	0.97	2.4
1,2-Dichloropropane	U	2.4	ug/Kgdrywt	1	5	4.8	1.4	2.4
1,3,5-Trimethylbenzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.65	2.4
1,3-Dichlorobenzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.60	2.4
1,3-Dichloropropane	U	2.4	ug/Kgdrywt	1	5	4.8	0.91	2.4
1,4-Dichlorobenzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.43	2.4
2,2-Dichloropropane	U	2.4	ug/Kgdrywt	1	5	4.8	0.48	2.4
2-Butanone	U	12	ug/Kgdrywt	1	25	24.	5.7	12.
2-Chlorotoluene	U	2.4	ug/Kgdrywt	1	5	4.8	1.1	2.4
2-Hexanone	U	12	ug/Kgdrywt	1	25	24.	4.6	12.
4-Chlorotoluene	U	2.4	ug/Kgdrywt	1	5	4.8	0.48	2.4
P-Isopropyltoluene	U	2.4	ug/Kgdrywt	1	5	4.8	0.74	2.4
4-Methyl-2-Pentanone	U	12	ug/Kgdrywt	1	25	24.	5.7	12.
Acetone	U	12	ug/Kgdrywt	1	25	24.	4.9	12.
Benzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.89	2.4
Bromobenzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.72	2.4
Bromochloromethane	U	2.4	ug/Kgdrywt	1	5	4.8	0.88	2.4
Bromodichloromethane	U	2.4	ug/Kgdrywt	1	5	4.8	0.58	2.4
Bromoform	U	2.4	ug/Kgdrywt	1	5	4.8	0.68	2.4
Bromomethane	U	4.8	ug/Kgdrywt	1	10	9.7	1.1	4.8

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-26
Client ID: CHAAP-21B-DS-SB03-5
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4086.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 21-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228825

Analysis Date: 21-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 78.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Carbon Disulfide	U	2.4	ug/Kgdrywt	1	5	4.8	0.76	2.4
Carbon Tetrachloride	U	2.4	ug/Kgdrywt	1	5	4.8	1.3	2.4
Chlorobenzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.49	2.4
Dibromochloromethane	U	2.4	ug/Kgdrywt	1	5	4.8	6.8	2.4
Chloroethane	U	4.8	ug/Kgdrywt	1	10	9.7	1.3	4.8
Chloroform	U	2.4	ug/Kgdrywt	1	5	4.8	0.34	2.4
Chloromethane	U	4.8	ug/Kgdrywt	1	10	9.7	1.4	4.8
cis-1,2-Dichloroethene	U	2.4	ug/Kgdrywt	1	5	4.8	0.88	2.4
cis-1,3-Dichloropropene	U	2.4	ug/Kgdrywt	1	5	4.8	0.70	2.4
Dibromomethane	U	2.4	ug/Kgdrywt	1	5	4.8	0.49	2.4
Dichlorodifluoromethane	U	4.8	ug/Kgdrywt	1	10	9.7	0.89	4.8
Ethylbenzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.63	2.4
Hexachlorobutadiene	U	2.4	ug/Kgdrywt	1	5	4.8	0.72	2.4
Isopropylbenzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.89	2.4
m+p-Xylenes	U	4.8	ug/Kgdrywt	1	10	9.7	1.6	4.8
Methyl tert-butyl Ether	U	2.4	ug/Kgdrywt	1	5	4.8	1.1	2.4
Methylene Chloride	U	12	ug/Kgdrywt	1	25	24.	7.7	12.
N-Butylbenzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.89	2.4
N-Propylbenzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.80	2.4
Naphthalene	U	2.4	ug/Kgdrywt	1	5	4.8	0.85	2.4
o-Xylene	U	2.4	ug/Kgdrywt	1	5	4.8	1.3	2.4
sec-Butylbenzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.88	2.4
Styrene	U	2.4	ug/Kgdrywt	1	5	4.8	0.49	2.4
tert-Butylbenzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.87	2.4
Tetrachloroethene	U	2.4	ug/Kgdrywt	1	5	4.8	1.2	2.4
Toluene	U	2.4	ug/Kgdrywt	1	5	4.8	1.4	2.4
trans-1,2-Dichloroethene	U	2.4	ug/Kgdrywt	1	5	4.8	0.69	2.4
trans-1,3-Dichloropropene	U	2.4	ug/Kgdrywt	1	5	4.8	0.83	2.4
Trichloroethene	U	2.4	ug/Kgdrywt	1	5	4.8	0.57	2.4
Trichlorofluoromethane	U	4.8	ug/Kgdrywt	1	10	9.7	0.88	4.8
Vinyl Chloride	U	4.8	ug/Kgdrywt	1	10	9.7	0.84	4.8
1,2-Dichloroethane-D4		106.	%					
p-Bromofluorobenzene		89.0	%					
Dibromofluoromethane		108.	%					
Toluene-D8		95.7	%					

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-27
Client ID: CHAAP-21B-DS-SB03-10
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4087.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 22-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228825

Analysis Date: 22-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 73.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,1,1,2-Tetrachloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.77	2.8
1,1,1-Trichloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.46	2.8
1,1,2,2-Tetrachloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.92	2.8
Freon-113	U	2.8	ug/Kgdrywt	1	5	5.5	0.99	2.8
1,1,2-Trichloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.1	2.8
1,1-Dichloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.9	2.8
1,1-Dichloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
1,1-Dichloropropene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
1,2,3-Trichlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.84	2.8
1,2,3-Trichloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	1.3	2.8
1,2,4-Trichlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.87	2.8
1,2,4-Trimethylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.96	2.8
1,2-Dibromo-3-Chloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	1.6	2.8
1,2-Dibromoethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.3	2.8
1,2-Dichlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.86	2.8
1,2-Dichloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.1	2.8
1,2-Dichloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	1.5	2.8
1,3,5-Trimethylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.74	2.8
1,3-Dichlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.68	2.8
1,3-Dichloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
1,4-Dichlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.48	2.8
2,2-Dichloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	0.55	2.8
2-Butanone	U	14	ug/Kgdrywt	1	25	28.	6.5	14.
2-Chlorotoluene	U	2.8	ug/Kgdrywt	1	5	5.5	1.2	2.8
2-Hexanone	U	14	ug/Kgdrywt	1	25	28.	5.3	14.
4-Chlorotoluene	U	2.8	ug/Kgdrywt	1	5	5.5	0.54	2.8
P-Isopropyltoluene	U	2.8	ug/Kgdrywt	1	5	5.5	0.84	2.8
4-Methyl-2-Pentanone	U	14	ug/Kgdrywt	1	25	28.	6.5	14.
Acetone	U	14	ug/Kgdrywt	1	25	28.	5.6	14.
Benzene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
Bromobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.81	2.8
Bromochloromethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
Bromodichloromethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.66	2.8
Bromoform	U	2.8	ug/Kgdrywt	1	5	5.5	0.77	2.8
Bromomethane	U	5.5	ug/Kgdrywt	1	10	11.	1.2	5.5

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-27
Client ID: CHAAP-21B-DS-SB03-10
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4087.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 22-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228825

Analysis Date: 22-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 73.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Carbon Disulfide	U	2.8	ug/Kgdrywt	1	5	5.5	0.86	2.8
Carbon Tetrachloride	U	2.8	ug/Kgdrywt	1	5	5.5	1.4	2.8
Chlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.56	2.8
Dibromochloromethane	U	2.8	ug/Kgdrywt	1	5	5.5	7.7	2.8
Chloroethane	U	5.5	ug/Kgdrywt	1	10	11.	1.4	5.5
Chloroform	U	2.8	ug/Kgdrywt	1	5	5.5	0.38	2.8
Chloromethane	U	5.5	ug/Kgdrywt	1	10	11.	1.5	5.5
cis-1,2-Dichloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
cis-1,3-Dichloropropene	U	2.8	ug/Kgdrywt	1	5	5.5	0.79	2.8
Dibromomethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.56	2.8
Dichlorodifluoromethane	U	5.5	ug/Kgdrywt	1	10	11.	1.0	5.5
Ethylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.72	2.8
Hexachlorobutadiene	U	2.8	ug/Kgdrywt	1	5	5.5	0.81	2.8
Isopropylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
m+p-Xylenes	U	5.5	ug/Kgdrywt	1	10	11.	1.9	5.5
Methyl tert-butyl Ether	U	2.8	ug/Kgdrywt	1	5	5.5	1.2	2.8
Methylene Chloride	U	14	ug/Kgdrywt	1	25	28.	8.7	14.
N-Butylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
N-Propylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.91	2.8
Naphthalene	U	2.8	ug/Kgdrywt	1	5	5.5	0.97	2.8
o-Xylene	U	2.8	ug/Kgdrywt	1	5	5.5	1.4	2.8
sec-Butylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
Styrene	U	2.8	ug/Kgdrywt	1	5	5.5	0.56	2.8
tert-Butylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.99	2.8
Tetrachloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	1.3	2.8
Toluene	U	2.8	ug/Kgdrywt	1	5	5.5	1.5	2.8
trans-1,2-Dichloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	0.78	2.8
trans-1,3-Dichloropropene	U	2.8	ug/Kgdrywt	1	5	5.5	0.95	2.8
Trichloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	0.65	2.8
Trichlorofluoromethane	U	5.5	ug/Kgdrywt	1	10	11.	1.0	5.5
Vinyl Chloride	U	5.5	ug/Kgdrywt	1	10	11.	0.96	5.5
1,2-Dichloroethane-D4		99.9	%					
p-Bromofluorobenzene		89.4	%					
Dibromofluoromethane		102.	%					
Toluene-D8		99.8	%					

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-28
Client ID: CHAAP-TB-051418
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: D1451.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 21-MAY-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG228752

Analysis Date: 21-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,1,1,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.19	0.50
1,1,1-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1,2,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.38	0.50
Freon-113	U	0.50	ug/L	1	1	1.0	0.31	0.50
1,1,2-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
1,1-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
1,1-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.35	0.50
1,1-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.21	0.50
1,2,3-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.27	0.50
1,2,3-Trichloropropane	U	0.50	ug/L	1	1	1.0	0.19	0.50
1,2,4-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.37	0.50
1,2,4-Trimethylbenzene	U	0.50	ug/L	1	1	1.0	0.19	0.50
1,2-Dibromo-3-Chloropropane	U	0.50	ug/L	1	1	1.0	0.50	0.50
1,2-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.15	0.50
1,2-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
1,3,5-Trimethylbenzene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,3-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,3-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.22	0.50
1,4-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.24	0.50
2,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
2-Butanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
2-Chlorotoluene	U	0.50	ug/L	1	1	1.0	0.20	0.50
2-Hexanone	U	2.5	ug/L	1	5	5.0	1.7	2.5
4-Chlorotoluene	U	0.50	ug/L	1	1	1.0	0.26	0.50
P-Isopropyltoluene	U	0.50	ug/L	1	1	1.0	0.25	0.50
4-Methyl-2-Pentanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Acetone	U	2.5	ug/L	1	5	5.0	2.2	2.5
Benzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
Bromobenzene	U	0.50	ug/L	1	1	1.0	0.24	0.50
Bromoform	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromomethane	U	1.0	ug/L	1	2	2.0	0.49	1.0
Carbon Disulfide	U	0.50	ug/L	1	1	1.0	0.25	0.50
Carbon Tetrachloride	U	0.50	ug/L	1	1	1.0	0.22	0.50
Chlorobenzene	U	0.50	ug/L	1	1	1.0	0.22	0.50

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-28
Client ID: CHAAP-TB-051418
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: D1451.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 21-MAY-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG228752

Analysis Date: 21-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Bromochloromethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
Dibromochloromethane	U	0.50	ug/L	1	1	1.0	0.30	0.50
Chloroethane	U	1.0	ug/L	1	2	2.0	0.55	1.0
Chloroform	U	0.50	ug/L	1	1	1.0	0.32	0.50
Chloromethane	U	1.0	ug/L	1	2	2.0	0.36	1.0
cis-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.21	0.50
cis-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.19	0.50
Dibromomethane	U	0.50	ug/L	1	1	1.0	0.46	0.50
Bromodichloromethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
Dichlorodifluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
Ethylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50
1,2-Dibromoethane	U	0.50	ug/L	1	1	1.0	0.22	0.50
Hexachlorobutadiene	U	0.75	ug/L	1	1	1.0	0.52	0.75
Isopropylbenzene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Methyl tert-butyl Ether	U	0.50	ug/L	1	1	1.0	0.36	0.50
Methylene Chloride	U	2.5	ug/L	1	5	5.0	1.1	2.5
m+p-Xylenes	U	1.0	ug/L	1	2	2.0	0.59	1.0
Naphthalene	U	0.50	ug/L	1	1	1.0	0.30	0.50
N-Butylbenzene	U	0.50	ug/L	1	1	1.0	0.23	0.50
N-Propylbenzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
o-Xylene	U	0.50	ug/L	1	1	1.0	0.25	0.50
sec-Butylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50
Styrene	U	0.50	ug/L	1	1	1.0	0.23	0.50
tert-Butylbenzene	U	0.50	ug/L	1	1	1.0	0.31	0.50
Tetrachloroethene	U	0.50	ug/L	1	1	1.0	0.40	0.50
Toluene	J	0.32	ug/L	1	1	1.0	0.27	0.50
trans-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.25	0.50
trans-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.20	0.50
Trichloroethene	U	0.50	ug/L	1	1	1.0	0.28	0.50
Trichlorofluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
Vinyl Chloride	U	1.0	ug/L	1	2	2.0	0.25	1.0
Dibromofluoromethane		104.	%					
1,2-Dichloroethane-d4		118.	%					
Toluene-d8		100.	%					
P-Bromofluorobenzene		98.3	%					

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Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-29
Client ID: CHAAP-EB-051418
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: D1453.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 21-MAY-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG228752

Analysis Date: 21-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,1,1,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.19	0.50
1,1,1-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1,2,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.38	0.50
Freon-113	U	0.50	ug/L	1	1	1.0	0.31	0.50
1,1,2-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
1,1-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
1,1-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.35	0.50
1,1-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.21	0.50
1,2,3-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.27	0.50
1,2,3-Trichloropropane	U	0.50	ug/L	1	1	1.0	0.19	0.50
1,2,4-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.37	0.50
1,2,4-Trimethylbenzene	U	0.50	ug/L	1	1	1.0	0.19	0.50
1,2-Dibromo-3-Chloropropane	U	0.50	ug/L	1	1	1.0	0.50	0.50
1,2-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.15	0.50
1,2-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
1,3,5-Trimethylbenzene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,3-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,3-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.22	0.50
1,4-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.24	0.50
2,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
2-Butanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
2-Chlorotoluene	U	0.50	ug/L	1	1	1.0	0.20	0.50
2-Hexanone	U	2.5	ug/L	1	5	5.0	1.7	2.5
4-Chlorotoluene	U	0.50	ug/L	1	1	1.0	0.26	0.50
P-Isopropyltoluene	U	0.50	ug/L	1	1	1.0	0.25	0.50
4-Methyl-2-Pentanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Acetone	U	2.5	ug/L	1	5	5.0	2.2	2.5
Benzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
Bromobenzene	U	0.50	ug/L	1	1	1.0	0.24	0.50
Bromoform	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromomethane	U	1.0	ug/L	1	2	2.0	0.49	1.0
Carbon Disulfide	U	0.50	ug/L	1	1	1.0	0.25	0.50
Carbon Tetrachloride	U	0.50	ug/L	1	1	1.0	0.22	0.50
Chlorobenzene	U	0.50	ug/L	1	1	1.0	0.22	0.50

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Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-29
Client ID: CHAAP-EB-051418
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: D1453.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 21-MAY-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG228752

Analysis Date: 21-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Bromochloromethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
Dibromochloromethane	U	0.50	ug/L	1	1	1.0	0.30	0.50
Chloroethane	U	1.0	ug/L	1	2	2.0	0.55	1.0
Chloroform	U	0.50	ug/L	1	1	1.0	0.32	0.50
Chloromethane	U	1.0	ug/L	1	2	2.0	0.36	1.0
cis-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.21	0.50
cis-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.19	0.50
Dibromomethane	U	0.50	ug/L	1	1	1.0	0.46	0.50
Bromodichloromethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
Dichlorodifluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
Ethylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50
1,2-Dibromoethane	U	0.50	ug/L	1	1	1.0	0.22	0.50
Hexachlorobutadiene	U	0.75	ug/L	1	1	1.0	0.52	0.75
Isopropylbenzene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Methyl tert-butyl Ether	U	0.50	ug/L	1	1	1.0	0.36	0.50
Methylene Chloride	U	2.5	ug/L	1	5	5.0	1.1	2.5
m+p-Xylenes	U	1.0	ug/L	1	2	2.0	0.59	1.0
Naphthalene	U	0.50	ug/L	1	1	1.0	0.30	0.50
N-Butylbenzene	U	0.50	ug/L	1	1	1.0	0.23	0.50
N-Propylbenzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
o-Xylene	U	0.50	ug/L	1	1	1.0	0.25	0.50
sec-Butylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50
Styrene	U	0.50	ug/L	1	1	1.0	0.23	0.50
tert-Butylbenzene	U	0.50	ug/L	1	1	1.0	0.31	0.50
Tetrachloroethene	U	0.50	ug/L	1	1	1.0	0.40	0.50
Toluene	J	0.31	ug/L	1	1	1.0	0.27	0.50
trans-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.25	0.50
trans-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.20	0.50
Trichloroethene	U	0.50	ug/L	1	1	1.0	0.28	0.50
Trichlorofluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
Vinyl Chloride	U	1.0	ug/L	1	2	2.0	0.25	1.0
Dibromofluoromethane		106.	%					
1,2-Dichloroethane-d4	*	122.	%					
Toluene-d8		101.	%					
P-Bromofluorobenzene		101.	%					

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Report of Analytical Results

Client:
Lab ID: WG228752-2
Client ID: Method Blank Sample
Project:
SDG: SL4180
Lab File ID: D1450.D

Sample Date:
Received Date:
Extract Date: 21-MAY-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG228752

Analysis Date: 21-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 29-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,1,1,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.19	0.50
1,1,1-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1,2,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.38	0.50
Freon-113	U	0.50	ug/L	1	1	1.0	0.31	0.50
1,1,2-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
1,1-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
1,1-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.35	0.50
1,1-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.21	0.50
1,2,3-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.27	0.50
1,2,3-Trichloropropane	U	0.50	ug/L	1	1	1.0	0.19	0.50
1,2,4-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.37	0.50
1,2,4-Trimethylbenzene	U	0.50	ug/L	1	1	1.0	0.19	0.50
1,2-Dibromo-3-Chloropropane	U	0.50	ug/L	1	1	1.0	0.50	0.50
1,2-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.15	0.50
1,2-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
1,3,5-Trimethylbenzene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,3-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,3-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.22	0.50
1,4-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.24	0.50
2,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
2-Butanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
2-Chlorotoluene	U	0.50	ug/L	1	1	1.0	0.20	0.50
2-Hexanone	U	2.5	ug/L	1	5	5.0	1.7	2.5
4-Chlorotoluene	U	0.50	ug/L	1	1	1.0	0.26	0.50
P-Isopropyltoluene	U	0.50	ug/L	1	1	1.0	0.25	0.50
4-Methyl-2-Pentanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Acetone	U	2.5	ug/L	1	5	5.0	2.2	2.5
Benzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
Bromobenzene	U	0.50	ug/L	1	1	1.0	0.24	0.50
Bromoform	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromomethane	U	1.0	ug/L	1	2	2.0	0.49	1.0
Carbon Disulfide	U	0.50	ug/L	1	1	1.0	0.25	0.50
Carbon Tetrachloride	U	0.50	ug/L	1	1	1.0	0.22	0.50

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Report of Analytical Results

Client:
Lab ID: WG228752-2
Client ID: Method Blank Sample
Project:
SDG: SL4180
Lab File ID: D1450.D

Sample Date:
Received Date:
Extract Date: 21-MAY-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG228752

Analysis Date: 21-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 29-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Chlorobenzene	U	0.50	ug/L	1	1	1.0	0.22	0.50
Bromochloromethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
Dibromochloromethane	U	0.50	ug/L	1	1	1.0	0.30	0.50
Chloroethane	U	1.0	ug/L	1	2	2.0	0.55	1.0
Chloroform	U	0.50	ug/L	1	1	1.0	0.32	0.50
Chloromethane	U	1.0	ug/L	1	2	2.0	0.36	1.0
cis-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.21	0.50
cis-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.19	0.50
Dibromomethane	U	0.50	ug/L	1	1	1.0	0.46	0.50
Bromodichloromethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
Dichlorodifluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
Ethylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50
1,2-Dibromoethane	U	0.50	ug/L	1	1	1.0	0.22	0.50
Hexachlorobutadiene	U	0.75	ug/L	1	1	1.0	0.52	0.75
Isopropylbenzene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Methyl tert-butyl Ether	U	0.50	ug/L	1	1	1.0	0.36	0.50
Methylene Chloride	U	2.5	ug/L	1	5	5.0	1.1	2.5
m+p-Xylenes	U	1.0	ug/L	1	2	2.0	0.59	1.0
Naphthalene	U	0.50	ug/L	1	1	1.0	0.30	0.50
N-Butylbenzene	U	0.50	ug/L	1	1	1.0	0.23	0.50
N-Propylbenzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
o-Xylene	U	0.50	ug/L	1	1	1.0	0.25	0.50
sec-Butylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50
Styrene	U	0.50	ug/L	1	1	1.0	0.23	0.50
tert-Butylbenzene	U	0.50	ug/L	1	1	1.0	0.31	0.50
Tetrachloroethene	U	0.50	ug/L	1	1	1.0	0.40	0.50
Toluene	U	0.50	ug/L	1	1	1.0	0.27	0.50
trans-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.25	0.50
trans-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.20	0.50
Trichloroethene	U	0.50	ug/L	1	1	1.0	0.28	0.50
Trichlorofluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
Vinyl Chloride	U	1.0	ug/L	1	2	2.0	0.25	1.0
Dibromofluoromethane		102.	%					
1,2-Dichloroethane-d4		114.	%					

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Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client:
Lab ID: WG228752-2
Client ID: Method Blank Sample
Project:
SDG: SL4180
Lab File ID: D1450.D

Sample Date:
Received Date:
Extract Date: 21-MAY-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG228752

Analysis Date: 21-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 29-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Toluene-d8		101.	%					
P-Bromofluorobenzene		99.3	%					

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ANALYTICAL SERVICES

Report of Analytical Results

Client:
Lab ID: WG228693-2
Client ID: Method Blank Sample
Project:
SDG: SL4180
Lab File ID: W4037.D

Sample Date:
Received Date:
Extract Date: 19-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228693

Analysis Date: 19-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: NA
Report Date: 29-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,1,1,2-Tetrachloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.70	2.5
1,1,1-Trichloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.42	2.5
1,1,2,2-Tetrachloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.84	2.5
Freon-113	U	2.5	ug/Kgdrywt	1	5	5.0	0.90	2.5
1,1,2-Trichloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.97	2.5
1,1-Dichloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	1.7	2.5
1,1-Dichloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	0.93	2.5
1,1-Dichloropropene	U	2.5	ug/Kgdrywt	1	5	5.0	0.91	2.5
1,2,3-Trichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.76	2.5
1,2,3-Trichloropropane	U	2.5	ug/Kgdrywt	1	5	5.0	1.2	2.5
1,2,4-Trichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.79	2.5
1,2,4-Trimethylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.87	2.5
1,2-Dibromo-3-Chloropropane	U	2.5	ug/Kgdrywt	1	5	5.0	1.5	2.5
1,2-Dibromoethane	U	2.5	ug/Kgdrywt	1	5	5.0	1.2	2.5
1,2-Dichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.78	2.5
1,2-Dichloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	1.0	2.5
1,2-Dichloropropane	U	2.5	ug/Kgdrywt	1	5	5.0	1.4	2.5
1,3,5-Trimethylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.67	2.5
1,3-Dichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.62	2.5
1,3-Dichloropropane	U	2.5	ug/Kgdrywt	1	5	5.0	0.94	2.5
1,4-Dichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.44	2.5
2,2-Dichloropropane	U	2.5	ug/Kgdrywt	1	5	5.0	0.50	2.5
2-Butanone	U	12	ug/Kgdrywt	1	25	25.	5.9	12.
2-Chlorotoluene	U	2.5	ug/Kgdrywt	1	5	5.0	1.1	2.5
2-Hexanone	U	12	ug/Kgdrywt	1	25	25.	4.8	12.
4-Chlorotoluene	U	2.5	ug/Kgdrywt	1	5	5.0	0.49	2.5
P-Isopropyltoluene	U	2.5	ug/Kgdrywt	1	5	5.0	0.76	2.5
4-Methyl-2-Pentanone	U	12	ug/Kgdrywt	1	25	25.	5.9	12.
Acetone	U	12	ug/Kgdrywt	1	25	25.	5.1	12.
Benzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.92	2.5
Bromobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.74	2.5
Bromochloromethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.91	2.5
Bromodichloromethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.60	2.5
Bromoform	U	2.5	ug/Kgdrywt	1	5	5.0	0.70	2.5

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ANALYTICAL SERVICES

Report of Analytical Results

Client:
Lab ID: WG228693-2
Client ID: Method Blank Sample
Project:
SDG: SL4180
Lab File ID: W4037.D

Sample Date:
Received Date:
Extract Date: 19-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228693

Analysis Date: 19-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: NA
Report Date: 29-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Bromomethane	U	5.0	ug/Kgdrywt	1	10	10.	1.1	5.0
Carbon Disulfide	U	2.5	ug/Kgdrywt	1	5	5.0	0.78	2.5
Carbon Tetrachloride	U	2.5	ug/Kgdrywt	1	5	5.0	1.3	2.5
Chlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.51	2.5
Dibromochloromethane	U	2.5	ug/Kgdrywt	1	5	5.0	7.0	2.5
Chloroethane	U	5.0	ug/Kgdrywt	1	10	10.	1.3	5.0
Chloroform	U	2.5	ug/Kgdrywt	1	5	5.0	0.35	2.5
Chloromethane	U	5.0	ug/Kgdrywt	1	10	10.	1.4	5.0
cis-1,2-Dichloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	0.91	2.5
cis-1,3-Dichloropropene	U	2.5	ug/Kgdrywt	1	5	5.0	0.72	2.5
Dibromomethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.51	2.5
Dichlorodifluoromethane	U	5.0	ug/Kgdrywt	1	10	10.	0.92	5.0
Ethylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.65	2.5
Hexachlorobutadiene	U	2.5	ug/Kgdrywt	1	5	5.0	0.74	2.5
Isopropylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.92	2.5
m+p-Xylenes	U	5.0	ug/Kgdrywt	1	10	10.	1.7	5.0
Methyl tert-butyl Ether	U	2.5	ug/Kgdrywt	1	5	5.0	1.1	2.5
Methylene Chloride	U	12	ug/Kgdrywt	1	25	25.	7.9	12.
N-Butylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.92	2.5
N-Propylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.83	2.5
Naphthalene	J	1.0	ug/Kgdrywt	1	5	5.0	0.88	2.5
o-Xylene	U	2.5	ug/Kgdrywt	1	5	5.0	1.3	2.5
sec-Butylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.91	2.5
Styrene	U	2.5	ug/Kgdrywt	1	5	5.0	0.51	2.5
tert-Butylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.90	2.5
Tetrachloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	1.2	2.5
Toluene	U	2.5	ug/Kgdrywt	1	5	5.0	1.4	2.5
trans-1,2-Dichloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	0.71	2.5
trans-1,3-Dichloropropene	U	2.5	ug/Kgdrywt	1	5	5.0	0.86	2.5
Trichloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	0.59	2.5
Trichlorofluoromethane	U	5.0	ug/Kgdrywt	1	10	10.	0.91	5.0
Vinyl Chloride	U	5.0	ug/Kgdrywt	1	10	10.	0.87	5.0
1,2-Dichloroethane-D4		102.	%					
p-Bromofluorobenzene		96.1	%					

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ANALYTICAL SERVICES

Report of Analytical Results

Client:
Lab ID: WG228693-2
Client ID: Method Blank Sample
Project:
SDG: SL4180
Lab File ID: W4037.D

Sample Date:
Received Date:
Extract Date: 19-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228693

Analysis Date: 19-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: NA
Report Date: 29-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dibromofluoromethane		103.	%					
Toluene-D8		100.	%					

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Report of Analytical Results

Client:
Lab ID: WG228751-9
Client ID: Method Blank Sample
Project:
SDG: SL4180
Lab File ID: W4071.D

Sample Date:
Received Date:
Extract Date: 21-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228751

Analysis Date: 21-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: NA
Report Date: 29-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,1,1,2-Tetrachloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.70	2.5
1,1,1-Trichloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.42	2.5
1,1,2,2-Tetrachloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.84	2.5
Freon-113	U	2.5	ug/Kgdrywt	1	5	5.0	0.90	2.5
1,1,2-Trichloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.97	2.5
1,1-Dichloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	1.7	2.5
1,1-Dichloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	0.93	2.5
1,1-Dichloropropene	U	2.5	ug/Kgdrywt	1	5	5.0	0.91	2.5
1,2,3-Trichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.76	2.5
1,2,3-Trichloropropane	U	2.5	ug/Kgdrywt	1	5	5.0	1.2	2.5
1,2,4-Trichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.79	2.5
1,2,4-Trimethylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.87	2.5
1,2-Dibromo-3-Chloropropane	U	2.5	ug/Kgdrywt	1	5	5.0	1.5	2.5
1,2-Dibromoethane	U	2.5	ug/Kgdrywt	1	5	5.0	1.2	2.5
1,2-Dichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.78	2.5
1,2-Dichloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	1.0	2.5
1,2-Dichloropropane	U	2.5	ug/Kgdrywt	1	5	5.0	1.4	2.5
1,3,5-Trimethylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.67	2.5
1,3-Dichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.62	2.5
1,3-Dichloropropane	U	2.5	ug/Kgdrywt	1	5	5.0	0.94	2.5
1,4-Dichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.44	2.5
2,2-Dichloropropane	U	2.5	ug/Kgdrywt	1	5	5.0	0.50	2.5
2-Butanone	U	12	ug/Kgdrywt	1	25	25.	5.9	12.
2-Chlorotoluene	U	2.5	ug/Kgdrywt	1	5	5.0	1.1	2.5
2-Hexanone	U	12	ug/Kgdrywt	1	25	25.	4.8	12.
4-Chlorotoluene	U	2.5	ug/Kgdrywt	1	5	5.0	0.49	2.5
P-Isopropyltoluene	U	2.5	ug/Kgdrywt	1	5	5.0	0.76	2.5
4-Methyl-2-Pentanone	U	12	ug/Kgdrywt	1	25	25.	5.9	12.
Acetone	U	12	ug/Kgdrywt	1	25	25.	5.1	12.
Benzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.92	2.5
Bromobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.74	2.5
Bromochloromethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.91	2.5
Bromodichloromethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.60	2.5
Bromoform	U	2.5	ug/Kgdrywt	1	5	5.0	0.70	2.5

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ANALYTICAL SERVICES

Report of Analytical Results

Client:
Lab ID: WG228751-9
Client ID: Method Blank Sample
Project:
SDG: SL4180
Lab File ID: W4071.D

Sample Date:
Received Date:
Extract Date: 21-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228751

Analysis Date: 21-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: NA
Report Date: 29-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Bromomethane	U	5.0	ug/Kgdrywt	1	10	10.	1.1	5.0
Carbon Disulfide	U	2.5	ug/Kgdrywt	1	5	5.0	0.78	2.5
Carbon Tetrachloride	U	2.5	ug/Kgdrywt	1	5	5.0	1.3	2.5
Chlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.51	2.5
Dibromochloromethane	U	2.5	ug/Kgdrywt	1	5	5.0	7.0	2.5
Chloroethane	U	5.0	ug/Kgdrywt	1	10	10.	1.3	5.0
Chloroform	U	2.5	ug/Kgdrywt	1	5	5.0	0.35	2.5
Chloromethane	U	5.0	ug/Kgdrywt	1	10	10.	1.4	5.0
cis-1,2-Dichloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	0.91	2.5
cis-1,3-Dichloropropene	U	2.5	ug/Kgdrywt	1	5	5.0	0.72	2.5
Dibromomethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.51	2.5
Dichlorodifluoromethane	U	5.0	ug/Kgdrywt	1	10	10.	0.92	5.0
Ethylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.65	2.5
Hexachlorobutadiene	U	2.5	ug/Kgdrywt	1	5	5.0	0.74	2.5
Isopropylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.92	2.5
m+p-Xylenes	U	5.0	ug/Kgdrywt	1	10	10.	1.7	5.0
Methyl tert-butyl Ether	U	2.5	ug/Kgdrywt	1	5	5.0	1.1	2.5
Methylene Chloride	U	12	ug/Kgdrywt	1	25	25.	7.9	12.
N-Butylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.92	2.5
N-Propylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.83	2.5
Naphthalene	J	1.0	ug/Kgdrywt	1	5	5.0	0.88	2.5
o-Xylene	U	2.5	ug/Kgdrywt	1	5	5.0	1.3	2.5
sec-Butylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.91	2.5
Styrene	U	2.5	ug/Kgdrywt	1	5	5.0	0.51	2.5
tert-Butylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.90	2.5
Tetrachloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	1.2	2.5
Toluene	U	2.5	ug/Kgdrywt	1	5	5.0	1.4	2.5
trans-1,2-Dichloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	0.71	2.5
trans-1,3-Dichloropropene	U	2.5	ug/Kgdrywt	1	5	5.0	0.86	2.5
Trichloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	0.59	2.5
Trichlorofluoromethane	U	5.0	ug/Kgdrywt	1	10	10.	0.91	5.0
Vinyl Chloride	U	5.0	ug/Kgdrywt	1	10	10.	0.87	5.0
1,2-Dichloroethane-D4		101.	%					
p-Bromofluorobenzene		93.4	%					

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Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client:
Lab ID: WG228751-9
Client ID: Method Blank Sample
Project:
SDG: SL4180
Lab File ID: W4071.D

Sample Date:
Received Date:
Extract Date: 21-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228751

Analysis Date: 21-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: NA
Report Date: 29-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dibromofluoromethane		101.	%					
Toluene-D8		98.5	%					

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Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client:
Lab ID: WG228825-2
Client ID: Method Blank Sample
Project:
SDG: SL4180
Lab File ID: W4083.D

Sample Date:
Received Date:
Extract Date: 21-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228825

Analysis Date: 21-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: NA
Report Date: 29-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,1,1,2-Tetrachloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.70	2.5
1,1,1-Trichloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.42	2.5
1,1,2,2-Tetrachloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.84	2.5
Freon-113	U	2.5	ug/Kgdrywt	1	5	5.0	0.90	2.5
1,1,2-Trichloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.97	2.5
1,1-Dichloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	1.7	2.5
1,1-Dichloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	0.93	2.5
1,1-Dichloropropene	U	2.5	ug/Kgdrywt	1	5	5.0	0.91	2.5
1,2,3-Trichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.76	2.5
1,2,3-Trichloropropane	U	2.5	ug/Kgdrywt	1	5	5.0	1.2	2.5
1,2,4-Trichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.79	2.5
1,2,4-Trimethylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.87	2.5
1,2-Dibromo-3-Chloropropane	U	2.5	ug/Kgdrywt	1	5	5.0	1.5	2.5
1,2-Dibromoethane	U	2.5	ug/Kgdrywt	1	5	5.0	1.2	2.5
1,2-Dichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.78	2.5
1,2-Dichloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	1.0	2.5
1,2-Dichloropropane	U	2.5	ug/Kgdrywt	1	5	5.0	1.4	2.5
1,3,5-Trimethylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.67	2.5
1,3-Dichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.62	2.5
1,3-Dichloropropane	U	2.5	ug/Kgdrywt	1	5	5.0	0.94	2.5
1,4-Dichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.44	2.5
2,2-Dichloropropane	U	2.5	ug/Kgdrywt	1	5	5.0	0.50	2.5
2-Butanone	U	12	ug/Kgdrywt	1	25	25.	5.9	12.
2-Chlorotoluene	U	2.5	ug/Kgdrywt	1	5	5.0	1.1	2.5
2-Hexanone	U	12	ug/Kgdrywt	1	25	25.	4.8	12.
4-Chlorotoluene	U	2.5	ug/Kgdrywt	1	5	5.0	0.49	2.5
P-Isopropyltoluene	U	2.5	ug/Kgdrywt	1	5	5.0	0.76	2.5
4-Methyl-2-Pentanone	U	12	ug/Kgdrywt	1	25	25.	5.9	12.
Acetone	U	12	ug/Kgdrywt	1	25	25.	5.1	12.
Benzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.92	2.5
Bromobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.74	2.5
Bromochloromethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.91	2.5
Bromodichloromethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.60	2.5
Bromoform	U	2.5	ug/Kgdrywt	1	5	5.0	0.70	2.5

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Report of Analytical Results

Client:
Lab ID: WG228825-2
Client ID: Method Blank Sample
Project:
SDG: SL4180
Lab File ID: W4083.D

Sample Date:
Received Date:
Extract Date: 21-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228825

Analysis Date: 21-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: NA
Report Date: 29-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Bromomethane	U	5.0	ug/Kgdrywt	1	10	10.	1.1	5.0
Carbon Disulfide	U	2.5	ug/Kgdrywt	1	5	5.0	0.78	2.5
Carbon Tetrachloride	U	2.5	ug/Kgdrywt	1	5	5.0	1.3	2.5
Chlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.51	2.5
Dibromochloromethane	U	2.5	ug/Kgdrywt	1	5	5.0	7.0	2.5
Chloroethane	U	5.0	ug/Kgdrywt	1	10	10.	1.3	5.0
Chloroform	U	2.5	ug/Kgdrywt	1	5	5.0	0.35	2.5
Chloromethane	U	5.0	ug/Kgdrywt	1	10	10.	1.4	5.0
cis-1,2-Dichloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	0.91	2.5
cis-1,3-Dichloropropene	U	2.5	ug/Kgdrywt	1	5	5.0	0.72	2.5
Dibromomethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.51	2.5
Dichlorodifluoromethane	U	5.0	ug/Kgdrywt	1	10	10.	0.92	5.0
Ethylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.65	2.5
Hexachlorobutadiene	U	2.5	ug/Kgdrywt	1	5	5.0	0.74	2.5
Isopropylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.92	2.5
m+p-Xylenes	U	5.0	ug/Kgdrywt	1	10	10.	1.7	5.0
Methyl tert-butyl Ether	U	2.5	ug/Kgdrywt	1	5	5.0	1.1	2.5
Methylene Chloride	U	12	ug/Kgdrywt	1	25	25.	7.9	12.
N-Butylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.92	2.5
N-Propylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.83	2.5
Naphthalene	J	0.88	ug/Kgdrywt	1	5	5.0	0.88	2.5
o-Xylene	U	2.5	ug/Kgdrywt	1	5	5.0	1.3	2.5
sec-Butylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.91	2.5
Styrene	U	2.5	ug/Kgdrywt	1	5	5.0	0.51	2.5
tert-Butylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.90	2.5
Tetrachloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	1.2	2.5
Toluene	U	2.5	ug/Kgdrywt	1	5	5.0	1.4	2.5
trans-1,2-Dichloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	0.71	2.5
trans-1,3-Dichloropropene	U	2.5	ug/Kgdrywt	1	5	5.0	0.86	2.5
Trichloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	0.59	2.5
Trichlorofluoromethane	U	5.0	ug/Kgdrywt	1	10	10.	0.91	5.0
Vinyl Chloride	U	5.0	ug/Kgdrywt	1	10	10.	0.87	5.0
1,2-Dichloroethane-D4		101.	%					
p-Bromofluorobenzene		90.0	%					

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ANALYTICAL SERVICES

Report of Analytical Results

Client:
Lab ID: WG228825-2
Client ID: Method Blank Sample
Project:
SDG: SL4180
Lab File ID: W4083.D

Sample Date:
Received Date:
Extract Date: 21-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228825

Analysis Date: 21-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: NA
Report Date: 29-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dibromofluoromethane		104.	%					
Toluene-D8		99.4	%					

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ANALYTICAL SERVICES

Report of Analytical Results

Client:
Lab ID: WG228846-2
Client ID: Method Blank Sample
Project:
SDG: SL4180
Lab File ID: W4103.D

Sample Date:
Received Date:
Extract Date: 22-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228846

Analysis Date: 22-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: NA
Report Date: 29-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,1,1,2-Tetrachloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.70	2.5
1,1,1-Trichloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.42	2.5
1,1,2,2-Tetrachloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.84	2.5
Freon-113	U	2.5	ug/Kgdrywt	1	5	5.0	0.90	2.5
1,1,2-Trichloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.97	2.5
1,1-Dichloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	1.7	2.5
1,1-Dichloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	0.93	2.5
1,1-Dichloropropene	U	2.5	ug/Kgdrywt	1	5	5.0	0.91	2.5
1,2,3-Trichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.76	2.5
1,2,3-Trichloropropane	U	2.5	ug/Kgdrywt	1	5	5.0	1.2	2.5
1,2,4-Trichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.79	2.5
1,2,4-Trimethylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.87	2.5
1,2-Dibromo-3-Chloropropane	U	2.5	ug/Kgdrywt	1	5	5.0	1.5	2.5
1,2-Dibromoethane	U	2.5	ug/Kgdrywt	1	5	5.0	1.2	2.5
1,2-Dichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.78	2.5
1,2-Dichloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	1.0	2.5
1,2-Dichloropropane	U	2.5	ug/Kgdrywt	1	5	5.0	1.4	2.5
1,3,5-Trimethylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.67	2.5
1,3-Dichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.62	2.5
1,3-Dichloropropane	U	2.5	ug/Kgdrywt	1	5	5.0	0.94	2.5
1,4-Dichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.44	2.5
2,2-Dichloropropane	U	2.5	ug/Kgdrywt	1	5	5.0	0.50	2.5
2-Butanone	U	12	ug/Kgdrywt	1	25	25.	5.9	12.
2-Chlorotoluene	U	2.5	ug/Kgdrywt	1	5	5.0	1.1	2.5
2-Hexanone	U	12	ug/Kgdrywt	1	25	25.	4.8	12.
4-Chlorotoluene	U	2.5	ug/Kgdrywt	1	5	5.0	0.49	2.5
P-Isopropyltoluene	U	2.5	ug/Kgdrywt	1	5	5.0	0.76	2.5
4-Methyl-2-Pentanone	U	12	ug/Kgdrywt	1	25	25.	5.9	12.
Acetone	U	12	ug/Kgdrywt	1	25	25.	5.1	12.
Benzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.92	2.5
Bromobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.74	2.5
Bromochloromethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.91	2.5
Bromodichloromethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.60	2.5
Bromoform	U	2.5	ug/Kgdrywt	1	5	5.0	0.70	2.5

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ANALYTICAL SERVICES

Report of Analytical Results

Client:
Lab ID: WG228846-2
Client ID: Method Blank Sample
Project:
SDG: SL4180
Lab File ID: W4103.D

Sample Date:
Received Date:
Extract Date: 22-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228846

Analysis Date: 22-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: NA
Report Date: 29-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Bromomethane	U	5.0	ug/Kgdrywt	1	10	10.	1.1	5.0
Carbon Disulfide	U	2.5	ug/Kgdrywt	1	5	5.0	0.78	2.5
Carbon Tetrachloride	U	2.5	ug/Kgdrywt	1	5	5.0	1.3	2.5
Chlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.51	2.5
Dibromochloromethane	U	2.5	ug/Kgdrywt	1	5	5.0	7.0	2.5
Chloroethane	U	5.0	ug/Kgdrywt	1	10	10.	1.3	5.0
Chloroform	U	2.5	ug/Kgdrywt	1	5	5.0	0.35	2.5
Chloromethane	U	5.0	ug/Kgdrywt	1	10	10.	1.4	5.0
cis-1,2-Dichloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	0.91	2.5
cis-1,3-Dichloropropene	U	2.5	ug/Kgdrywt	1	5	5.0	0.72	2.5
Dibromomethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.51	2.5
Dichlorodifluoromethane	U	5.0	ug/Kgdrywt	1	10	10.	0.92	5.0
Ethylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.65	2.5
Hexachlorobutadiene	U	2.5	ug/Kgdrywt	1	5	5.0	0.74	2.5
Isopropylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.92	2.5
m+p-Xylenes	U	5.0	ug/Kgdrywt	1	10	10.	1.7	5.0
Methyl tert-butyl Ether	U	2.5	ug/Kgdrywt	1	5	5.0	1.1	2.5
Methylene Chloride	U	12	ug/Kgdrywt	1	25	25.	7.9	12.
N-Butylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.92	2.5
N-Propylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.83	2.5
Naphthalene	U	2.5	ug/Kgdrywt	1	5	5.0	0.88	2.5
o-Xylene	U	2.5	ug/Kgdrywt	1	5	5.0	1.3	2.5
sec-Butylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.91	2.5
Styrene	U	2.5	ug/Kgdrywt	1	5	5.0	0.51	2.5
tert-Butylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.90	2.5
Tetrachloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	1.2	2.5
Toluene	U	2.5	ug/Kgdrywt	1	5	5.0	1.4	2.5
trans-1,2-Dichloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	0.71	2.5
trans-1,3-Dichloropropene	U	2.5	ug/Kgdrywt	1	5	5.0	0.86	2.5
Trichloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	0.59	2.5
Trichlorofluoromethane	U	5.0	ug/Kgdrywt	1	10	10.	0.91	5.0
Vinyl Chloride	U	5.0	ug/Kgdrywt	1	10	10.	0.87	5.0
1,2-Dichloroethane-D4		106.	%					
p-Bromofluorobenzene		92.2	%					

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ANALYTICAL SERVICES

Report of Analytical Results

Client:
Lab ID: WG228846-2
Client ID: Method Blank Sample
Project:
SDG: SL4180
Lab File ID: W4103.D

Sample Date:
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Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228846

Analysis Date: 22-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: NA
Report Date: 29-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dibromofluoromethane		109.	%					
Toluene-D8		99.8	%					

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Form 2
System Monitoring Compound Recovery

Lab Name: Katahdin Analytical Services **Project:** Cornhusker Army Ammunition Plant **Matrix:** AQ
Lab Code: KAS **SDG:** SL4180

Client Sample ID	Lab Sample ID	Col. ID	BFB	#	DBF	#	DCA	#	TOL	#
CHAAP-TB-051418	SL4180-28		98.3		104.		118.		100.	
CHAAP-EB-051418	SL4180-29		101.		106.		122.	*	101.	
Laboratory Control S	WG228752-1		102.		99.9		105.		102.	
Method Blank Sample	WG228752-2		99.3		102.		114.		101.	

		QC Limits
TOL	TOLUENE-D8	89-120
DCA	1,2-DICHLOROETHANE-D4	81-120
DBF	DIBROMOFLUOROMETHANE	80-120
BFB	P-BROMOFLUOROBENZENE	85-120

= Column to be used to flag recovery limits.
* = Values outside of contract required QC limits.
D= System Monitoring Compound diluted out.

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Form 2
System Monitoring Compound Recovery

Lab Name: Katahdin Analytical Services **Project:** Cornhusker Army Ammunition Plant **Matrix:** SL
Lab Code: KAS **SDG:** SL4180

Client Sample ID	Lab Sample ID	Col. ID	BFB	#	DBF	#	DCA	#	TOL	#
CHAAP-21B-DS-SS02	SL4180-1		83.4		103.		105.		102.	
CHAAP-21B-DS-SB107-5	SL4180-10		95.4		106.		106.		100.	
CHAAP-21B-DS-SB07-10	SL4180-11		95.5		107.		106.		103.	
CHAAP-21B-DS-SS08	SL4180-12		80.3		105.		107.		103.	
CHAAP-21B-DS-SS08	SL4180-12RA		76.4	*	109.		104.		98.9	
CHAAP-21B-DS-SB08-5	SL4180-13		94.0		104.		107.		101.	
CHAAP-21B-DS-SS09	SL4180-14		85.1		108.		107.		101.	
CHAAP-21B-DS-SS09	SL4180-14RA		75.6	*	110.		106.		98.5	
CHAAP-21B-DS-SB09-5	SL4180-15		96.2		105.		108.		103.	
CHAAP-21B-DS-SS11	SL4180-16		76.2	*	104.		101.		98.8	
CHAAP-21B-DS-SS11	SL4180-16RA		73.5	*	111.		106.		96.6	
CHAAP-21B-DS-SS111	SL4180-17		76.1	*	102.		99.3		101.	
CHAAP-21B-DS-SS111	SL4180-17RA		76.8	*	111.		111.		98.3	
CHAAP-21B-DS-SB11-5	SL4180-18		90.4		106.		108.		102.	
CHAAP-21B-DS-SS10	SL4180-19		90.9		103.		102.		96.7	
CHAAP-21B-DS-SB10-5	SL4180-20		89.4		103.		99.3		98.2	
CHAAP-21B-DS-SS04	SL4180-21		76.7	*	104.		98.7		99.6	
CHAAP-21B-DS-SS04	SL4180-21RA		70.1	*	115.		110.		99.4	
CHAAP-21B-DS-SB04-5	SL4180-22		90.5		104.		99.9		98.2	
CHAAP-21B-DS-SB04-10	SL4180-23		92.4		106.		100.		100.	
CHAAP-21B-DS-SS03	SL4180-24RA		87.3		110.		110.		101.	
CHAAP-21B-DS-SS103	SL4180-25		74.3	*	106.		103.		96.9	
CHAAP-21B-DS-SS103	SL4180-25RA		80.6		120.		119.		100.	
CHAAP-21B-DS-SB03-5	SL4180-26		89.0		108.		106.		95.7	
CHAAP-21B-DS-SB03-10	SL4180-27		89.4		102.		99.9		99.8	
CHAAP-21B-DS-SS102	SL4180-2RA		80.9		103.		101.		100.	
CHAAP-21B-DS-SB02-5	SL4180-3		95.8		103.		103.		99.5	
CHAAP-21B-DS-SB02-10	SL4180-4		95.9		105.		105.		102.	
CHAAP-21B-DS-SS06	SL4180-5		85.1		102.		107.		101.	
CHAAP-21B-DS-SS06	SL4180-5RA		77.9	*	106.		105.		99.6	
CHAAP-21B-DS-SB06-5	SL4180-6		96.3		108.		106.		104.	
CHAAP-21B-DS-SB06-10	SL4180-7		96.4		106.		106.		100.	
CHAAP-21B-DS-SS07	SL4180-8		77.2	*	108.		106.		102.	
CHAAP-21B-DS-SS07	SL4180-8RA		74.4	*	114.		109.		99.2	
CHAAP-21B-DS-SB07-5	SL4180-9		96.7		106.		106.		104.	
Laboratory Control S	WG228693-1		100.		101.		100.		99.6	

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Form 2
System Monitoring Compound Recovery

Lab Name: Katahdin Analytical Services **Project:** Cornhusker Army Ammunition Plant **Matrix:** SL
Lab Code: KAS **SDG:** SL4180

Client Sample ID	Lab Sample ID	Col. ID	BFB	#	DBF	#	DCA	#	TOL	#
Method Blank Sample	WG228693-2		96.1		103.		102.		100.	
Laboratory Control S	WG228751-8		96.7		98.6		97.7		100.	
Method Blank Sample	WG228751-9		93.4		101.		101.		98.5	
Laboratory Control S	WG228825-1		95.8		102.		103.		99.3	
Method Blank Sample	WG228825-2		90.0		104.		101.		99.4	
Laboratory Control S	WG228846-1		96.6		105.		103.		99.2	
Method Blank Sample	WG228846-2		92.2		109.		106.		99.8	
Matrix Spike	WG228846-6		92.9		105.		105.		99.9	
Matrix Spike Duplica	WG228846-7		96.0		108.		111.		101.	
Matrix Spike	WG228846-8		81.4		106.		104.		99.6	
Matrix Spike Duplica	WG228846-9		81.2		107.		103.		98.0	

		QC Limits
TOL	TOLUENE-D8	85-125
DCA	1,2-DICHLOROETHANE-D4	71-136
DBF	DIBROMOFLUOROMETHANE	78-125
BFB	P-BROMOFLUOROBENZENE	79-125

= Column to be used to flag recovery limits.
* = Values outside of contract required QC limits.
D= System Monitoring Compound diluted out.

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Katahdin
ANALYTICAL SERVICES

LCS Recovery Report

Client:
Lab ID: WG228752-1
Client ID: LCS
Project:
SDG: SL4180
LCS File ID: D1448.D

Sample Date:
Received Date:
Extract Date: 21-MAY-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG228752

Analysis Date: 21-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-MAY-18

Compound	Recovery (%)	Conc Added	Conc Recovered	Conc Units	Limits
1,1,1,2-Tetrachloroethane	108.	50.0	54.2	ug/L	78-125
1,1,1-Trichloroethane	102.	50.0	51.2	ug/L	74-131
1,1,2,2-Tetrachloroethane	107.	50.0	53.4	ug/L	71-121
Freon-113	103.	50.0	51.3	ug/L	70-136
1,1,2-Trichloroethane	105.	50.0	52.7	ug/L	80-120
1,1-Dichloroethane	107.	50.0	53.6	ug/L	77-125
1,1-Dichloroethene	102.	50.0	51.0	ug/L	71-131
1,1-Dichloropropene	106.	50.0	53.2	ug/L	79-125
1,2,3-Trichlorobenzene	102.	50.0	51.0	ug/L	69-129
1,2,3-Trichloropropane	106.	50.0	52.8	ug/L	73-122
1,2,4-Trichlorobenzene	106.	50.0	53.2	ug/L	69-130
1,2,4-Trimethylbenzene	107.	50.0	53.3	ug/L	76-124
1,2-Dibromo-3-Chloropropane	107.	50.0	53.6	ug/L	62-128
1,2-Dichlorobenzene	104.	50.0	52.0	ug/L	80-120
1,2-Dichloroethane	104.	50.0	51.8	ug/L	73-128
1,2-Dichloropropane	104.	50.0	52.0	ug/L	78-122
1,3,5-Trimethylbenzene	108.	50.0	53.8	ug/L	75-124
1,3-Dichlorobenzene	101.	50.0	50.6	ug/L	80-120
1,3-Dichloropropane	103.	50.0	51.3	ug/L	80-120
1,4-Dichlorobenzene	98.8	50.0	49.4	ug/L	79-120
2,2-Dichloropropane	115.	50.0	57.4	ug/L	60-139
2-Butanone	110.	50.0	55.0	ug/L	56-143
2-Chlorotoluene	103.	50.0	51.5	ug/L	79-122
2-Hexanone	117.	50.0	58.6	ug/L	57-139
4-Chlorotoluene	104.	50.0	51.8	ug/L	78-122
P-Isopropyltoluene	108.	50.0	54.0	ug/L	77-127
4-Methyl-2-Pentanone	115.	50.0	57.5	ug/L	67-130
Acetone	106.	50.0	53.1	ug/L	39-160
Benzene	103.	50.0	51.5	ug/L	79-120
Bromobenzene	100.	50.0	50.1	ug/L	80-120
Bromoform	118.	50.0	58.9	ug/L	66-130
Bromomethane	93.6	50.0	46.8	ug/L	53-141
Carbon Disulfide	99.4	50.0	49.7	ug/L	64-133
Carbon Tetrachloride	107.	50.0	53.4	ug/L	72-136
Chlorobenzene	100.	50.0	50.1	ug/L	82-120

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Katahdin
ANALYTICAL SERVICES

LCS Recovery Report

Client:
Lab ID: WG228752-1
Client ID: LCS
Project:
SDG: SL4180
LCS File ID: D1448.D

Sample Date:
Received Date:
Extract Date: 21-MAY-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG228752

Analysis Date: 21-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-MAY-18

Compound	Recovery (%)	Conc Added	Conc Recovered	Conc Units	Limits
Bromochloromethane	103.	50.0	51.6	ug/L	78-123
Dibromochloromethane	114.	50.0	57.2	ug/L	74-126
Chloroethane	104.	50.0	51.8	ug/L	60-138
Chloroform	103.	50.0	51.7	ug/L	79-124
Chloromethane	96.4	50.0	48.2	ug/L	50-139
cis-1,2-Dichloroethene	102.	50.0	50.9	ug/L	78-123
cis-1,3-Dichloropropene	99.2	50.0	49.6	ug/L	75-124
Dibromomethane	108.	50.0	54.2	ug/L	79-123
Bromodichloromethane	112.	50.0	56.0	ug/L	79-125
Dichlorodifluoromethane	106.	50.0	53.1	ug/L	32-152
Ethylbenzene	101.	50.0	50.6	ug/L	79-121
1,2-Dibromoethane	105.	50.0	52.7	ug/L	77-121
Hexachlorobutadiene	94.2	50.0	47.1	ug/L	66-134
Isopropylbenzene	112.	50.0	56.0	ug/L	72-131
Methyl tert-butyl Ether	112.	50.0	56.0	ug/L	71-124
Methylene Chloride	99.2	50.0	49.6	ug/L	74-124
m+p-Xylenes	105.	100.	105.	ug/L	80-121
Naphthalene	98.2	50.0	49.1	ug/L	61-128
N-Butylbenzene	109.	50.0	54.3	ug/L	75-128
N-Propylbenzene	103.	50.0	51.3	ug/L	76-126
o-Xylene	109.	50.0	54.4	ug/L	78-122
sec-Butylbenzene	105.	50.0	52.7	ug/L	77-126
Styrene	110.	50.0	54.9	ug/L	78-123
tert-Butylbenzene	106.	50.0	52.8	ug/L	78-124
Tetrachloroethene	100.	50.0	50.0	ug/L	74-129
Toluene	102.	50.0	50.9	ug/L	80-121
trans-1,2-Dichloroethene	100.	50.0	50.2	ug/L	75-124
trans-1,3-Dichloropropene	119.	50.0	59.6	ug/L	73-127
Trichloroethene	101.	50.0	50.6	ug/L	79-123
Trichlorofluoromethane	99.0	50.0	49.5	ug/L	65-141
Vinyl Chloride	100.	50.0	50.0	ug/L	58-137
Dibromofluoromethane	99.9				80-120
1,2-Dichloroethane-d4	105.				81-120
Toluene-d8	102.				89-120
P-Bromofluorobenzene	102.				85-120

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LCS Recovery Report

Client:
Lab ID: WG228693-1
Client ID: LCS
Project:
SDG: SL4180
LCS File ID: W4035.D

Sample Date:
Received Date:
Extract Date: 19-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228693

Analysis Date: 19-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: NA
Report Date: 25-MAY-18

Compound	Recovery (%)	Conc Added	Conc Recovered	Conc Units	Limits
1,1,1,2-Tetrachloroethane	110.	50.0	54.9	ug/Kgdrywt	78-125
1,1,1-Trichloroethane	109.	50.0	54.7	ug/Kgdrywt	73-130
1,1,2,2-Tetrachloroethane	107.	50.0	53.4	ug/Kgdrywt	70-125
Freon-113	117.	50.0	58.4	ug/Kgdrywt	66-136
1,1,2-Trichloroethane	105.	50.0	52.7	ug/Kgdrywt	78-125
1,1-Dichloroethane	114.	50.0	56.9	ug/Kgdrywt	76-125
1,1-Dichloroethene	103.	50.0	51.5	ug/Kgdrywt	70-131
1,1-Dichloropropene	110.	50.0	54.8	ug/Kgdrywt	76-125
1,2,3-Trichlorobenzene	118.	50.0	58.8	ug/Kgdrywt	66-130
1,2,3-Trichloropropane	105.	50.0	52.4	ug/Kgdrywt	73-125
1,2,4-Trichlorobenzene	121.	50.0	60.4	ug/Kgdrywt	67-129
1,2,4-Trimethylbenzene	109.	50.0	54.6	ug/Kgdrywt	75-125
1,2-Dibromo-3-Chloropropane	118.	50.0	59.1	ug/Kgdrywt	61-132
1,2-Dibromoethane	109.	50.0	54.4	ug/Kgdrywt	78-125
1,2-Dichlorobenzene	110.	50.0	54.8	ug/Kgdrywt	78-125
1,2-Dichloroethane	106.	50.0	53.1	ug/Kgdrywt	73-128
1,2-Dichloropropane	106.	50.0	53.2	ug/Kgdrywt	76-125
1,3,5-Trimethylbenzene	111.	50.0	55.3	ug/Kgdrywt	73-125
1,3-Dichlorobenzene	112.	50.0	55.9	ug/Kgdrywt	77-125
1,3-Dichloropropane	104.	50.0	52.1	ug/Kgdrywt	77-125
1,4-Dichlorobenzene	111.	50.0	55.6	ug/Kgdrywt	75-120
2,2-Dichloropropane	122.	50.0	60.9	ug/Kgdrywt	67-133
2-Butanone	126.	50.0	63.0	ug/Kgdrywt	51-148
2-Chlorotoluene	107.	50.0	53.5	ug/Kgdrywt	75-125
2-Hexanone	121.	50.0	60.6	ug/Kgdrywt	53-145
4-Chlorotoluene	109.	50.0	54.3	ug/Kgdrywt	72-125
P-Isopropyltoluene	112.	50.0	55.9	ug/Kgdrywt	73-127
4-Methyl-2-Pentanone	115.	50.0	57.4	ug/Kgdrywt	65-135
Acetone	142.	50.0	71.2	ug/Kgdrywt	36-164
Benzene	108.	50.0	54.0	ug/Kgdrywt	77-125
Bromobenzene	104.	50.0	51.9	ug/Kgdrywt	78-125
Bromochloromethane	112.	50.0	55.9	ug/Kgdrywt	78-125
Bromodichloromethane	114.	50.0	57.2	ug/Kgdrywt	75-127
Bromoform	111.	50.0	55.3	ug/Kgdrywt	67-132
Bromomethane	116.	50.0	57.8	ug/Kgdrywt	53-143

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ANALYTICAL SERVICES

LCS Recovery Report

Client:
Lab ID: WG228693-1
Client ID: LCS
Project:
SDG: SL4180
LCS File ID: W4035.D

Sample Date:
Received Date:
Extract Date: 19-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228693

Analysis Date: 19-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: NA
Report Date: 25-MAY-18

Compound	Recovery (%)	Conc Added	Conc Recovered	Conc Units	Limits
Carbon Disulfide	109.	50.0	54.4	ug/Kgdrywt	63-132
Carbon Tetrachloride	109.	50.0	54.3	ug/Kgdrywt	70-135
Chlorobenzene	108.	50.0	53.8	ug/Kgdrywt	79-125
Dibromochloromethane	110.	50.0	54.8	ug/Kgdrywt	74-126
Chloroethane	138.	50.0	68.8	ug/Kgdrywt	59-139
Chloroform	109.	50.0	54.5	ug/Kgdrywt	78-125
Chloromethane	132.	50.0	65.9	ug/Kgdrywt	50-136
cis-1,2-Dichloroethene	106.	50.0	53.0	ug/Kgdrywt	77-125
cis-1,3-Dichloropropene	106.	50.0	53.2	ug/Kgdrywt	74-126
Dibromomethane	107.	50.0	53.3	ug/Kgdrywt	78-125
Dichlorodifluoromethane	* 155.	50.0	77.3	ug/Kgdrywt	29-149
Ethylbenzene	107.	50.0	53.6	ug/Kgdrywt	76-125
Hexachlorobutadiene	114.	50.0	56.9	ug/Kgdrywt	61-135
Isopropylbenzene	112.	50.0	56.0	ug/Kgdrywt	68-134
m+p-Xylenes	109.	100.	109.	ug/Kgdrywt	77-125
Methyl tert-butyl Ether	110.	50.0	54.8	ug/Kgdrywt	73-125
Methylene Chloride	103.	50.0	51.4	ug/Kgdrywt	70-128
N-Butylbenzene	119.	50.0	59.5	ug/Kgdrywt	70-128
N-Propylbenzene	110.	50.0	55.2	ug/Kgdrywt	73-125
Naphthalene	116.	50.0	57.8	ug/Kgdrywt	62-129
o-Xylene	108.	50.0	54.2	ug/Kgdrywt	77-125
sec-Butylbenzene	112.	50.0	55.8	ug/Kgdrywt	73-126
Styrene	108.	50.0	54.2	ug/Kgdrywt	76-125
tert-Butylbenzene	106.	50.0	53.1	ug/Kgdrywt	73-125
Tetrachloroethene	126.	50.0	63.1	ug/Kgdrywt	73-128
Toluene	106.	50.0	53.2	ug/Kgdrywt	77-125
trans-1,2-Dichloroethene	107.	50.0	53.6	ug/Kgdrywt	74-125
trans-1,3-Dichloropropene	119.	50.0	59.3	ug/Kgdrywt	71-130
Trichloroethene	110.	50.0	54.9	ug/Kgdrywt	77-125
Trichlorofluoromethane	119.	50.0	59.6	ug/Kgdrywt	62-140
Vinyl Chloride	129.	50.0	64.6	ug/Kgdrywt	56-135
1,2-Dichloroethane-D4	100.				71-136
p-Bromofluorobenzene	100.				79-125
Dibromofluoromethane	101.				78-125
Toluene-D8	99.6				85-125

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ANALYTICAL SERVICES

LCS Recovery Report

Client:
Lab ID: WG228751-8
Client ID: LCS
Project:
SDG: SL4180
LCS File ID: W4069.D

Sample Date:
Received Date:
Extract Date: 21-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228751

Analysis Date: 21-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: NA
Report Date: 25-MAY-18

Compound	Recovery (%)	Conc Added	Conc Recovered	Conc Units	Limits
1,1,1,2-Tetrachloroethane	98.2	50.0	49.1	ug/Kgdrywt	78-125
1,1,1-Trichloroethane	92.8	50.0	46.4	ug/Kgdrywt	73-130
1,1,2,2-Tetrachloroethane	94.8	50.0	47.4	ug/Kgdrywt	70-125
Freon-113	95.6	50.0	47.8	ug/Kgdrywt	66-136
1,1,2-Trichloroethane	88.4	50.0	44.2	ug/Kgdrywt	78-125
1,1-Dichloroethane	95.8	50.0	47.9	ug/Kgdrywt	76-125
1,1-Dichloroethene	87.8	50.0	43.9	ug/Kgdrywt	70-131
1,1-Dichloropropene	91.2	50.0	45.6	ug/Kgdrywt	76-125
1,2,3-Trichlorobenzene	95.2	50.0	47.6	ug/Kgdrywt	66-130
1,2,3-Trichloropropane	89.2	50.0	44.6	ug/Kgdrywt	73-125
1,2,4-Trichlorobenzene	95.8	50.0	47.9	ug/Kgdrywt	67-129
1,2,4-Trimethylbenzene	94.4	50.0	47.2	ug/Kgdrywt	75-125
1,2-Dibromo-3-Chloropropane	90.8	50.0	45.4	ug/Kgdrywt	61-132
1,2-Dibromoethane	88.4	50.0	44.2	ug/Kgdrywt	78-125
1,2-Dichlorobenzene	93.0	50.0	46.5	ug/Kgdrywt	78-125
1,2-Dichloroethane	91.6	50.0	45.8	ug/Kgdrywt	73-128
1,2-Dichloropropane	91.0	50.0	45.5	ug/Kgdrywt	76-125
1,3,5-Trimethylbenzene	94.4	50.0	47.2	ug/Kgdrywt	73-125
1,3-Dichlorobenzene	94.6	50.0	47.3	ug/Kgdrywt	77-125
1,3-Dichloropropane	93.4	50.0	46.7	ug/Kgdrywt	77-125
1,4-Dichlorobenzene	91.8	50.0	45.9	ug/Kgdrywt	75-120
2,2-Dichloropropane	101.	50.0	50.6	ug/Kgdrywt	67-133
2-Butanone	88.6	50.0	44.3	ug/Kgdrywt	51-148
2-Chlorotoluene	94.0	50.0	47.0	ug/Kgdrywt	75-125
2-Hexanone	100.	50.0	50.2	ug/Kgdrywt	53-145
4-Chlorotoluene	92.8	50.0	46.4	ug/Kgdrywt	72-125
P-Isopropyltoluene	95.0	50.0	47.5	ug/Kgdrywt	73-127
4-Methyl-2-Pentanone	91.4	50.0	45.7	ug/Kgdrywt	65-135
Acetone	92.2	50.0	46.1	ug/Kgdrywt	36-164
Benzene	92.0	50.0	46.0	ug/Kgdrywt	77-125
Bromobenzene	94.2	50.0	47.1	ug/Kgdrywt	78-125
Bromochloromethane	94.4	50.0	47.2	ug/Kgdrywt	78-125
Bromodichloromethane	97.2	50.0	48.6	ug/Kgdrywt	75-127
Bromoform	97.6	50.0	48.8	ug/Kgdrywt	67-132
Bromomethane	97.8	50.0	48.9	ug/Kgdrywt	53-143

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Katahdin
ANALYTICAL SERVICES

LCS Recovery Report

Client:
Lab ID: WG228751-8
Client ID: LCS
Project:
SDG: SL4180
LCS File ID: W4069.D

Sample Date:
Received Date:
Extract Date: 21-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228751

Analysis Date: 21-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: NA
Report Date: 25-MAY-18

Compound	Recovery (%)	Conc Added	Conc Recovered	Conc Units	Limits
Carbon Disulfide	92.6	50.0	46.3	ug/Kgdrywt	63-132
Carbon Tetrachloride	98.4	50.0	49.2	ug/Kgdrywt	70-135
Chlorobenzene	95.8	50.0	47.9	ug/Kgdrywt	79-125
Dibromochloromethane	101.	50.0	50.5	ug/Kgdrywt	74-126
Chloroethane	113.	50.0	56.3	ug/Kgdrywt	59-139
Chloroform	90.8	50.0	45.4	ug/Kgdrywt	78-125
Chloromethane	111.	50.0	55.5	ug/Kgdrywt	50-136
cis-1,2-Dichloroethene	90.6	50.0	45.3	ug/Kgdrywt	77-125
cis-1,3-Dichloropropene	93.0	50.0	46.5	ug/Kgdrywt	74-126
Dibromomethane	92.2	50.0	46.1	ug/Kgdrywt	78-125
Dichlorodifluoromethane	114.	50.0	57.0	ug/Kgdrywt	29-149
Ethylbenzene	93.2	50.0	46.6	ug/Kgdrywt	76-125
Hexachlorobutadiene	92.8	50.0	46.4	ug/Kgdrywt	61-135
Isopropylbenzene	97.6	50.0	48.8	ug/Kgdrywt	68-134
m+p-Xylenes	94.6	100.	94.6	ug/Kgdrywt	77-125
Methyl tert-butyl Ether	98.6	50.0	49.3	ug/Kgdrywt	73-125
Methylene Chloride	89.8	50.0	44.9	ug/Kgdrywt	70-128
N-Butylbenzene	96.4	50.0	48.2	ug/Kgdrywt	70-128
N-Propylbenzene	94.2	50.0	47.1	ug/Kgdrywt	73-125
Naphthalene	97.2	50.0	48.6	ug/Kgdrywt	62-129
o-Xylene	96.2	50.0	48.1	ug/Kgdrywt	77-125
sec-Butylbenzene	93.8	50.0	46.9	ug/Kgdrywt	73-126
Styrene	96.6	50.0	48.3	ug/Kgdrywt	76-125
tert-Butylbenzene	94.8	50.0	47.4	ug/Kgdrywt	73-125
Tetrachloroethene	93.4	50.0	46.7	ug/Kgdrywt	73-128
Toluene	90.8	50.0	45.4	ug/Kgdrywt	77-125
trans-1,2-Dichloroethene	90.8	50.0	45.4	ug/Kgdrywt	74-125
trans-1,3-Dichloropropene	94.2	50.0	47.1	ug/Kgdrywt	71-130
Trichloroethene	89.8	50.0	44.9	ug/Kgdrywt	77-125
Trichlorofluoromethane	87.2	50.0	43.6	ug/Kgdrywt	62-140
Vinyl Chloride	100.	50.0	50.1	ug/Kgdrywt	56-135
1,2-Dichloroethane-D4	97.7				71-136
p-Bromofluorobenzene	96.7				79-125
Dibromofluoromethane	98.6				78-125
Toluene-D8	100.				85-125

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Katahdin
ANALYTICAL SERVICES

LCS Recovery Report

Client:
Lab ID: WG228825-1
Client ID: LCS
Project:
SDG: SL4180
LCS File ID: W4081.D

Sample Date:
Received Date:
Extract Date: 21-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228825

Analysis Date: 21-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: NA
Report Date: 25-MAY-18

Compound	Recovery (%)	Conc Added	Conc Recovered	Conc Units	Limits
1,1,1,2-Tetrachloroethane	92.4	50.0	46.2	ug/Kgdrywt	78-125
1,1,1-Trichloroethane	88.6	50.0	44.3	ug/Kgdrywt	73-130
1,1,2,2-Tetrachloroethane	92.6	50.0	46.3	ug/Kgdrywt	70-125
Freon-113	88.4	50.0	44.2	ug/Kgdrywt	66-136
1,1,2-Trichloroethane	86.8	50.0	43.4	ug/Kgdrywt	78-125
1,1-Dichloroethane	92.8	50.0	46.4	ug/Kgdrywt	76-125
1,1-Dichloroethene	82.4	50.0	41.2	ug/Kgdrywt	70-131
1,1-Dichloropropene	86.8	50.0	43.4	ug/Kgdrywt	76-125
1,2,3-Trichlorobenzene	93.2	50.0	46.6	ug/Kgdrywt	66-130
1,2,3-Trichloropropane	89.0	50.0	44.5	ug/Kgdrywt	73-125
1,2,4-Trichlorobenzene	97.2	50.0	48.6	ug/Kgdrywt	67-129
1,2,4-Trimethylbenzene	95.4	50.0	47.7	ug/Kgdrywt	75-125
1,2-Dibromo-3-Chloropropane	87.2	50.0	43.6	ug/Kgdrywt	61-132
1,2-Dibromoethane	85.2	50.0	42.6	ug/Kgdrywt	78-125
1,2-Dichlorobenzene	92.0	50.0	46.0	ug/Kgdrywt	78-125
1,2-Dichloroethane	87.0	50.0	43.5	ug/Kgdrywt	73-128
1,2-Dichloropropane	87.4	50.0	43.7	ug/Kgdrywt	76-125
1,3,5-Trimethylbenzene	95.4	50.0	47.7	ug/Kgdrywt	73-125
1,3-Dichlorobenzene	95.2	50.0	47.6	ug/Kgdrywt	77-125
1,3-Dichloropropane	87.2	50.0	43.6	ug/Kgdrywt	77-125
1,4-Dichlorobenzene	94.0	50.0	47.0	ug/Kgdrywt	75-120
2,2-Dichloropropane	95.6	50.0	47.8	ug/Kgdrywt	67-133
2-Butanone	91.0	50.0	45.5	ug/Kgdrywt	51-148
2-Chlorotoluene	92.2	50.0	46.1	ug/Kgdrywt	75-125
2-Hexanone	98.8	50.0	49.4	ug/Kgdrywt	53-145
4-Chlorotoluene	92.6	50.0	46.3	ug/Kgdrywt	72-125
P-Isopropyltoluene	99.0	50.0	49.5	ug/Kgdrywt	73-127
4-Methyl-2-Pentanone	90.0	50.0	45.0	ug/Kgdrywt	65-135
Acetone	89.2	50.0	44.6	ug/Kgdrywt	36-164
Benzene	86.8	50.0	43.4	ug/Kgdrywt	77-125
Bromobenzene	91.8	50.0	45.9	ug/Kgdrywt	78-125
Bromochloromethane	91.6	50.0	45.8	ug/Kgdrywt	78-125
Bromodichloromethane	91.6	50.0	45.8	ug/Kgdrywt	75-127
Bromoform	91.0	50.0	45.5	ug/Kgdrywt	67-132
Bromomethane	99.4	50.0	49.7	ug/Kgdrywt	53-143

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Katahdin
ANALYTICAL SERVICES

LCS Recovery Report

Client:
Lab ID: WG228825-1
Client ID: LCS
Project:
SDG: SL4180
LCS File ID: W4081.D

Sample Date:
Received Date:
Extract Date: 21-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228825

Analysis Date: 21-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: NA
Report Date: 25-MAY-18

Compound	Recovery (%)	Conc Added	Conc Recovered	Conc Units	Limits
Carbon Disulfide	89.8	50.0	44.9	ug/Kgdrywt	63-132
Carbon Tetrachloride	93.4	50.0	46.7	ug/Kgdrywt	70-135
Chlorobenzene	89.0	50.0	44.5	ug/Kgdrywt	79-125
Dibromochloromethane	93.6	50.0	46.8	ug/Kgdrywt	74-126
Chloroethane	116.	50.0	58.1	ug/Kgdrywt	59-139
Chloroform	88.4	50.0	44.2	ug/Kgdrywt	78-125
Chloromethane	107.	50.0	53.3	ug/Kgdrywt	50-136
cis-1,2-Dichloroethene	86.4	50.0	43.2	ug/Kgdrywt	77-125
cis-1,3-Dichloropropene	85.4	50.0	42.7	ug/Kgdrywt	74-126
Dibromomethane	88.2	50.0	44.1	ug/Kgdrywt	78-125
Dichlorodifluoromethane	115.	50.0	57.7	ug/Kgdrywt	29-149
Ethylbenzene	89.8	50.0	44.9	ug/Kgdrywt	76-125
Hexachlorobutadiene	94.8	50.0	47.4	ug/Kgdrywt	61-135
Isopropylbenzene	97.8	50.0	48.9	ug/Kgdrywt	68-134
m+p-Xylenes	92.0	100.	92.0	ug/Kgdrywt	77-125
Methyl tert-butyl Ether	90.0	50.0	45.0	ug/Kgdrywt	73-125
Methylene Chloride	87.2	50.0	43.6	ug/Kgdrywt	70-128
N-Butylbenzene	102.	50.0	51.2	ug/Kgdrywt	70-128
N-Propylbenzene	95.6	50.0	47.8	ug/Kgdrywt	73-125
Naphthalene	91.8	50.0	45.9	ug/Kgdrywt	62-129
o-Xylene	91.6	50.0	45.8	ug/Kgdrywt	77-125
sec-Butylbenzene	96.0	50.0	48.0	ug/Kgdrywt	73-126
Styrene	93.0	50.0	46.5	ug/Kgdrywt	76-125
tert-Butylbenzene	93.4	50.0	46.7	ug/Kgdrywt	73-125
Tetrachloroethene	92.6	50.0	46.3	ug/Kgdrywt	73-128
Toluene	88.4	50.0	44.2	ug/Kgdrywt	77-125
trans-1,2-Dichloroethene	87.6	50.0	43.8	ug/Kgdrywt	74-125
trans-1,3-Dichloropropene	94.0	50.0	47.0	ug/Kgdrywt	71-130
Trichloroethene	88.2	50.0	44.1	ug/Kgdrywt	77-125
Trichlorofluoromethane	91.0	50.0	45.5	ug/Kgdrywt	62-140
Vinyl Chloride	100.	50.0	50.0	ug/Kgdrywt	56-135
1,2-Dichloroethane-D4	103.				71-136
p-Bromofluorobenzene	95.8				79-125
Dibromofluoromethane	102.				78-125
Toluene-D8	99.3				85-125

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ANALYTICAL SERVICES

LCS Recovery Report

Client:
Lab ID: WG228846-1
Client ID: LCS
Project:
SDG: SL4180
LCS File ID: W4101.D

Sample Date:
Received Date:
Extract Date: 22-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228846

Analysis Date: 22-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: NA
Report Date: 25-MAY-18

Compound	Recovery (%)	Conc Added	Conc Recovered	Conc Units	Limits
1,1,1,2-Tetrachloroethane	99.4	50.0	49.7	ug/Kgdrywt	78-125
1,1,1-Trichloroethane	96.0	50.0	48.0	ug/Kgdrywt	73-130
1,1,2,2-Tetrachloroethane	97.4	50.0	48.7	ug/Kgdrywt	70-125
Freon-113	97.4	50.0	48.7	ug/Kgdrywt	66-136
1,1,2-Trichloroethane	90.0	50.0	45.0	ug/Kgdrywt	78-125
1,1-Dichloroethane	102.	50.0	51.2	ug/Kgdrywt	76-125
1,1-Dichloroethene	90.6	50.0	45.3	ug/Kgdrywt	70-131
1,1-Dichloropropene	93.6	50.0	46.8	ug/Kgdrywt	76-125
1,2,3-Trichlorobenzene	84.8	50.0	42.4	ug/Kgdrywt	66-130
1,2,3-Trichloropropane	92.2	50.0	46.1	ug/Kgdrywt	73-125
1,2,4-Trichlorobenzene	93.0	50.0	46.5	ug/Kgdrywt	67-129
1,2,4-Trimethylbenzene	99.6	50.0	49.8	ug/Kgdrywt	75-125
1,2-Dibromo-3-Chloropropane	93.2	50.0	46.6	ug/Kgdrywt	61-132
1,2-Dibromoethane	88.4	50.0	44.2	ug/Kgdrywt	78-125
1,2-Dichlorobenzene	95.8	50.0	47.9	ug/Kgdrywt	78-125
1,2-Dichloroethane	94.2	50.0	47.1	ug/Kgdrywt	73-128
1,2-Dichloropropane	90.0	50.0	45.0	ug/Kgdrywt	76-125
1,3,5-Trimethylbenzene	100.	50.0	50.1	ug/Kgdrywt	73-125
1,3-Dichlorobenzene	97.4	50.0	48.7	ug/Kgdrywt	77-125
1,3-Dichloropropane	92.4	50.0	46.2	ug/Kgdrywt	77-125
1,4-Dichlorobenzene	96.8	50.0	48.4	ug/Kgdrywt	75-120
2,2-Dichloropropane	104.	50.0	51.9	ug/Kgdrywt	67-133
2-Butanone	90.4	50.0	45.2	ug/Kgdrywt	51-148
2-Chlorotoluene	97.2	50.0	48.6	ug/Kgdrywt	75-125
2-Hexanone	94.4	50.0	47.2	ug/Kgdrywt	53-145
4-Chlorotoluene	97.6	50.0	48.8	ug/Kgdrywt	72-125
P-Isopropyltoluene	99.6	50.0	49.8	ug/Kgdrywt	73-127
4-Methyl-2-Pentanone	89.2	50.0	44.6	ug/Kgdrywt	65-135
Acetone	92.0	50.0	46.0	ug/Kgdrywt	36-164
Benzene	92.6	50.0	46.3	ug/Kgdrywt	77-125
Bromobenzene	96.4	50.0	48.2	ug/Kgdrywt	78-125
Bromochloromethane	100.	50.0	50.1	ug/Kgdrywt	78-125
Bromodichloromethane	96.2	50.0	48.1	ug/Kgdrywt	75-127
Bromoform	97.0	50.0	48.5	ug/Kgdrywt	67-132
Bromomethane	115.	50.0	57.6	ug/Kgdrywt	53-143

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ANALYTICAL SERVICES

LCS Recovery Report

Client:
Lab ID: WG228846-1
Client ID: LCS
Project:
SDG: SL4180
LCS File ID: W4101.D

Sample Date:
Received Date:
Extract Date: 22-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228846

Analysis Date: 22-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: NA
Report Date: 25-MAY-18

Compound	Recovery (%)	Conc Added	Conc Recovered	Conc Units	Limits
Carbon Disulfide	96.2	50.0	48.1	ug/Kgdrywt	63-132
Carbon Tetrachloride	96.8	50.0	48.4	ug/Kgdrywt	70-135
Chlorobenzene	95.4	50.0	47.7	ug/Kgdrywt	79-125
Dibromochloromethane	97.6	50.0	48.8	ug/Kgdrywt	74-126
Chloroethane	132.	50.0	65.8	ug/Kgdrywt	59-139
Chloroform	97.8	50.0	48.9	ug/Kgdrywt	78-125
Chloromethane	111.	50.0	55.3	ug/Kgdrywt	50-136
cis-1,2-Dichloroethene	95.4	50.0	47.7	ug/Kgdrywt	77-125
cis-1,3-Dichloropropene	88.4	50.0	44.2	ug/Kgdrywt	74-126
Dibromomethane	91.4	50.0	45.7	ug/Kgdrywt	78-125
Dichlorodifluoromethane	121.	50.0	60.3	ug/Kgdrywt	29-149
Ethylbenzene	98.0	50.0	49.0	ug/Kgdrywt	76-125
Hexachlorobutadiene	90.4	50.0	45.2	ug/Kgdrywt	61-135
Isopropylbenzene	102.	50.0	50.9	ug/Kgdrywt	68-134
m+p-Xylenes	97.4	100.	97.4	ug/Kgdrywt	77-125
Methyl tert-butyl Ether	102.	50.0	50.8	ug/Kgdrywt	73-125
Methylene Chloride	95.0	50.0	47.5	ug/Kgdrywt	70-128
N-Butylbenzene	101.	50.0	50.4	ug/Kgdrywt	70-128
N-Propylbenzene	98.8	50.0	49.4	ug/Kgdrywt	73-125
Naphthalene	85.4	50.0	42.7	ug/Kgdrywt	62-129
o-Xylene	96.4	50.0	48.2	ug/Kgdrywt	77-125
sec-Butylbenzene	98.8	50.0	49.4	ug/Kgdrywt	73-126
Styrene	99.2	50.0	49.6	ug/Kgdrywt	76-125
tert-Butylbenzene	97.8	50.0	48.9	ug/Kgdrywt	73-125
Tetrachloroethene	92.4	50.0	46.2	ug/Kgdrywt	73-128
Toluene	93.0	50.0	46.5	ug/Kgdrywt	77-125
trans-1,2-Dichloroethene	96.8	50.0	48.4	ug/Kgdrywt	74-125
trans-1,3-Dichloropropene	97.0	50.0	48.5	ug/Kgdrywt	71-130
Trichloroethene	90.4	50.0	45.2	ug/Kgdrywt	77-125
Trichlorofluoromethane	98.8	50.0	49.4	ug/Kgdrywt	62-140
Vinyl Chloride	108.	50.0	54.2	ug/Kgdrywt	56-135
1,2-Dichloroethane-D4	103.				71-136
p-Bromofluorobenzene	96.6				79-125
Dibromofluoromethane	105.				78-125
Toluene-D8	99.2				85-125

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ANALYTICAL SERVICES

MS/MSD Recovery Report

MS ID: WG228846-6
MSD ID: WG228846-7
Sample ID: SL4180-18
Client ID: CHAAP-21B-DS-SB11-5
Project:
SDG: SL4180
MS File ID: W4112.D

Received Date:
Extract Date: 22-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228846
Report Date: 25-MAY-18
MSD File ID: W4113.D

Analysis Date: 22-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 80.

Compound	MS Spike	MSD Spike	Conc Units	Samp Conc	MS Conc	MSD Conc	MS Rec (%)	MSD Rec (%)	RPD (%)	RPD Limit	Limits
1,1,1,2-Tetrachloroethane	67.0	49.0	ug/Kgdrywt	UM3.0	53.	24.	79.7	48.8*	76*	20	78-125
1,1,1-Trichloroethane	67.0	49.0	ug/Kgdrywt	U3.0	56.	37.	84.0	76.3	40*	20	73-130
1,1,2,2-Tetrachloroethane	67.0	49.0	ug/Kgdrywt	UM3.0	49.	17.	72.5	35.3*	95*	20	70-125
Freon-113	67.0	49.0	ug/Kgdrywt	U3.0	72.	54.	107.	110.	29*	20	66-136
1,1,2-Trichloroethane	67.0	49.0	ug/Kgdrywt	UMM3.0	50.	20.	75.1*	41.2*	85*	20	78-125
1,1-Dichloroethane	67.0	49.0	ug/Kgdrywt	UM3.0	60.	34.	90.0	69.4*	56*	20	76-125
1,1-Dichloroethene	67.0	49.0	ug/Kgdrywt	U3.0	57.	38.	85.1	78.6	39*	20	70-131
1,1-Dichloropropene	67.0	49.0	ug/Kgdrywt	U3.0	54.	38.	80.4	76.5	36*	20	76-125
1,2,3-Trichlorobenzene	67.0	49.0	ug/Kgdrywt	UM3.0	50.	16.	75.1	31.6*	106*	20	66-130
1,2,3-Trichloropropane	67.0	49.0	ug/Kgdrywt	UM3.0	49.	18.	73.7	36.5*	94*	20	73-125
1,2,4-Trichlorobenzene	67.0	49.0	ug/Kgdrywt	UM3.0	50.	17.	74.3	34.3*	99*	20	67-129
1,2,4-Trimethylbenzene	67.0	49.0	ug/Kgdrywt	UM3.0	52.	27.	78.4	55.9*	63*	20	75-125
1,2-Dibromo-3-Chloropropane	67.0	49.0	ug/Kgdrywt	UM3.0	48.	17.	71.5	33.9*	97*	20	61-132
1,2-Dibromoethane	67.0	49.0	ug/Kgdrywt	UMM3.0	47.	18.	70.6*	37.3*	88*	20	78-125
1,2-Dichlorobenzene	67.0	49.0	ug/Kgdrywt	UM3.0	53.	20.	78.8	41.4*	89*	20	78-125
1,2-Dichloroethane	67.0	49.0	ug/Kgdrywt	UM3.0	52.	21.	76.9	42.4*	85*	20	73-128
1,2-Dichloropropane	67.0	49.0	ug/Kgdrywt	UM3.0	52.	25.	78.0	50.2*	72*	20	76-125
1,3,5-Trimethylbenzene	67.0	49.0	ug/Kgdrywt	UM3.0	52.	30.	78.2	61.8*	53*	20	73-125
1,3-Dichlorobenzene	67.0	49.0	ug/Kgdrywt	UM3.0	54.	24.	80.4	48.2*	78*	20	77-125
1,3-Dichloropropane	67.0	49.0	ug/Kgdrywt	UMM3.0	50.	19.	75.1*	39.0*	90*	20	77-125
1,4-Dichlorobenzene	67.0	49.0	ug/Kgdrywt	UM3.0	52.	22.	76.9	45.5*	79*	20	75-120
2,2-Dichloropropane	67.0	49.0	ug/Kgdrywt	U3.0	55.	36.	81.9	73.5	42*	20	67-133
2-Butanone	67.0	49.0	ug/Kgdrywt	UM15	52.	21.	77.3	42.8*	85*	20	51-148
2-Chlorotoluene	67.0	49.0	ug/Kgdrywt	UM3.0	52.	27.	77.8	55.9*	62*	20	75-125
2-Hexanone	67.0	49.0	ug/Kgdrywt	UM15	48.	16.	71.8	33.1*	99*	20	53-145
4-Chlorotoluene	67.0	49.0	ug/Kgdrywt	UM3.0	51.	26.	76.6	53.1*	65*	20	72-125
P-Isopropyltoluene	67.0	49.0	ug/Kgdrywt	UM3.0	53.	33.	79.1	67.3*	46*	20	73-127
4-Methyl-2-Pentanone	67.0	49.0	ug/Kgdrywt	UM15	47.	16.	69.7	33.5*	96*	20	65-135
Acetone	67.0	49.0	ug/Kgdrywt	U15	89.	32.	132.	65.1	94*	20	36-164
Benzene	67.0	49.0	ug/Kgdrywt	UM3.0	53.	30.	79.6	61.2*	56*	20	77-125
Bromobenzene	67.0	49.0	ug/Kgdrywt	UMM3.0	51.	22.	76.3*	45.5*	78*	20	78-125
Bromochloromethane	67.0	49.0	ug/Kgdrywt	UM3.0	57.	24.	84.8	48.2*	82*	20	78-125
Bromodichloromethane	67.0	49.0	ug/Kgdrywt	UM3.0	55.	24.	82.4	49.2*	78*	20	75-127

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Katahdin
ANALYTICAL SERVICES

MS/MSD Recovery Report

MS ID: WG228846-6
MSD ID: WG228846-7
Sample ID: SL4180-18
Client ID: CHAAP-21B-DS-SB11-5
Project:
SDG: SL4180
MS File ID: W4112.D

Received Date:
Extract Date: 22-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228846
Report Date: 25-MAY-18
MSD File ID: W4113.D

Analysis Date: 22-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 80.

Compound	MS Spike	MSD Spike	Conc Units	Samp Conc	MS Conc	MSD Conc	MS Rec (%)	MSD Rec (%)	RPD (%)	RPD Limit	Limits
Bromoform	67.0	49.0	ug/Kgdrywt	UM3.0	51.	18.	76.3	36.7*	96*	20	67-132
Bromomethane	67.0	49.0	ug/Kgdrywt	U6.0	63.	40.	94.6	80.6	46*	20	53-143
Carbon Disulfide	67.0	49.0	ug/Kgdrywt	U3.0	57.	38.	84.5	77.6	39*	20	63-132
Carbon Tetrachloride	67.0	49.0	ug/Kgdrywt	U3.0	54.	41.	81.0	83.3	28*	20	70-135
Chlorobenzene	67.0	49.0	ug/Kgdrywt	UMM3.0	52.	26.	77.8*	53.5*	66*	20	79-125
Dibromochloromethane	67.0	49.0	ug/Kgdrywt	UM3.0	54.	21.	80.3	42.6*	88*	20	74-126
Chloroethane	67.0	49.0	ug/Kgdrywt	U6.0	87.	55.	130.	113.	44*	20	59-139
Chloroform	67.0	49.0	ug/Kgdrywt	UM3.0	57.	29.	85.2	59.4*	65*	20	78-125
Chloromethane	67.0	49.0	ug/Kgdrywt	U6.0	72.	46.	108.	93.5	45*	20	50-136
cis-1,2-Dichloroethene	67.0	49.0	ug/Kgdrywt	UM3.0	56.	28.	83.9	57.6*	66*	20	77-125
cis-1,3-Dichloropropene	67.0	49.0	ug/Kgdrywt	UMM3.0	48.	20.	72.2*	41.6*	81*	20	74-126
Dibromomethane	67.0	49.0	ug/Kgdrywt	UM3.0	52.	19.	78.2	39.6*	92*	20	78-125
Dichlorodifluoromethane	67.0	49.0	ug/Kgdrywt	U6.0	77.	58.	115.	119.	27*	20	29-149
Ethylbenzene	67.0	49.0	ug/Kgdrywt	UMM3.0	51.	30.	76.0*	61.2*	52*	20	76-125
Hexachlorobutadiene	67.0	49.0	ug/Kgdrywt	UM3.0	48.	29.	71.5	58.4*	50*	20	61-135
Isopropylbenzene	67.0	49.0	ug/Kgdrywt	U3.0	56.	34.	83.3	70.4	47*	20	68-134
m+p-Xylenes	130.	98.0	ug/Kgdrywt	UM6.0	110	62.	82.3	63.2*	53*	20	77-125
Methyl tert-butyl Ether	67.0	49.0	ug/Kgdrywt	UM3.0	51.	19.	76.4	38.0*	93*	20	73-125
Methylene Chloride	67.0	49.0	ug/Kgdrywt	UM15	55.	26.	81.6	52.2*	72*	20	70-128
N-Butylbenzene	67.0	49.0	ug/Kgdrywt	UM3.0	54.	34.	79.8	69.6*	44*	20	70-128
N-Propylbenzene	67.0	49.0	ug/Kgdrywt	UM3.0	53.	33.	79.2	67.6*	46*	20	73-125
Naphthalene	67.0	49.0	ug/Kgdrywt	UM3.0	50.	15.	74.2	30.6*	107*	20	62-129
o-Xylene	67.0	49.0	ug/Kgdrywt	UM3.0	52.	27.	77.6	55.9*	62*	20	77-125
sec-Butylbenzene	67.0	49.0	ug/Kgdrywt	UM3.0	53.	35.	79.0	71.4*	41*	20	73-126
Styrene	67.0	49.0	ug/Kgdrywt	UM3.0	53.	25.	79.1	51.8*	70*	20	76-125
tert-Butylbenzene	67.0	49.0	ug/Kgdrywt	UMM3.0	47.	29.	70.6*	59.8*	47*	20	73-125
Tetrachloroethene	67.0	49.0	ug/Kgdrywt	UM3.0	96.	44.	143.*	90.6	74*	20	73-128
Toluene	67.0	49.0	ug/Kgdrywt	UM3.0	53.	30.	78.8	62.0*	54*	20	77-125
trans-1,2-Dichloroethene	67.0	49.0	ug/Kgdrywt	UM3.0	57.	35.	84.5	71.4*	47*	20	74-125
trans-1,3-Dichloropropene	67.0	49.0	ug/Kgdrywt	UM3.0	50.	19.	74.9	39.0*	90*	20	71-130
Trichloroethene	67.0	49.0	ug/Kgdrywt	UM3.0	57.	34.	84.9	69.6*	50*	20	77-125
Trichlorofluoromethane	67.0	49.0	ug/Kgdrywt	U6.0	68.	50.	101.	102.	30*	20	62-140
Vinyl Chloride	67.0	49.0	ug/Kgdrywt	U6.0	70.	49.	104.	99.4	36*	20	56-135

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ANALYTICAL SERVICES

MS/MSD Recovery Report

MS ID: WG228846-6
MSD ID: WG228846-7
Sample ID: SL4180-18
Client ID: CHAAP-21B-DS-SB11-5
Project:
SDG: SL4180
MS File ID: W4112.D

Received Date:
Extract Date: 22-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228846
Report Date: 25-MAY-18
MSD File ID: W4113.D

Analysis Date: 22-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 80.

1,2-Dichloroethane-D4	105.	111.	71-136
p-Bromofluorobenzene	92.9	96.0	79-125
Dibromofluoromethane	105.	108.	78-125
Toluene-D8	99.9	101.	85-125

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MS/MSD Recovery Report

MS ID: WG228846-8
MSD ID: WG228846-9
Sample ID: SL4180-8
Client ID: CHAAP-21B-DS-SS07
Project:
SDG: SL4180
MS File ID: W4114.D

Received Date:
Extract Date: 22-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228846
Report Date: 25-MAY-18
MSD File ID: W4115.D

Analysis Date: 22-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 81.

Compound	MS Spike	MSD Spike	Conc Units	Samp Conc	MS Conc	MSD Conc	MS Rec (%)	MSD Rec (%)	RPD (%)	RPD Limit	Limits
1,1,1,2-Tetrachloroethane	54.0	61.0	ug/Kgdrywt	UM2.8	47.	47.	86.3	77.5*	1	20	78-125
1,1,1-Trichloroethane	54.0	61.0	ug/Kgdrywt	U2.8	51.	48.	94.4	79.0	6	20	73-130
1,1,2,2-Tetrachloroethane	54.0	61.0	ug/Kgdrywt	U2.8	51.	50.	94.4	82.6	1	20	70-125
Freon-113	54.0	61.0	ug/Kgdrywt	U2.8	58.	73.	106.	119.	23*	20	66-136
1,1,2-Trichloroethane	54.0	61.0	ug/Kgdrywt	UM2.8	43.	42.	79.1	68.4*	2	20	78-125
1,1-Dichloroethane	54.0	61.0	ug/Kgdrywt	U2.8	55.	52.	101.	85.4	5	20	76-125
1,1-Dichloroethene	54.0	61.0	ug/Kgdrywt	U2.8	50.	50.	92.8	81.5	1	20	70-131
1,1-Dichloropropene	54.0	61.0	ug/Kgdrywt	UM2.8	44.	45.	81.7	74.3*	3	20	76-125
1,2,3-Trichlorobenzene	54.0	61.0	ug/Kgdrywt	UMM2.8	20.	20.	37.0*	33.6*	2	20	66-130
1,2,3-Trichloropropane	54.0	61.0	ug/Kgdrywt	U2.8	49.	48.	90.7	78.7	2	20	73-125
1,2,4-Trichlorobenzene	54.0	61.0	ug/Kgdrywt	UMM2.8	22.	22.	41.1*	36.7*	1	20	67-129
1,2,4-Trimethylbenzene	54.0	61.0	ug/Kgdrywt	U2.8	44.	49.	81.7	80.0	10	20	75-125
1,2-Dibromo-3-Chloropropane	54.0	61.0	ug/Kgdrywt	U2.8	40.	41.	74.1	67.2	2	20	61-132
1,2-Dibromoethane	54.0	61.0	ug/Kgdrywt	UMM2.8	38.	38.	71.1*	62.0*	2	20	78-125
1,2-Dichlorobenzene	54.0	61.0	ug/Kgdrywt	UMM2.8	38.	39.	70.0*	63.6*	3	20	78-125
1,2-Dichloroethane	54.0	61.0	ug/Kgdrywt	UM2.8	46.	43.	85.2	70.6*	6	20	73-128
1,2-Dichloropropane	54.0	61.0	ug/Kgdrywt	UM2.8	46.	45.	84.8	73.3*	2	20	76-125
1,3,5-Trimethylbenzene	54.0	61.0	ug/Kgdrywt	U2.8	45.	52.	83.9	85.9	14	20	73-125
1,3-Dichlorobenzene	54.0	61.0	ug/Kgdrywt	UMM2.8	38.	41.	70.6*	66.9*	7	20	77-125
1,3-Dichloropropane	54.0	61.0	ug/Kgdrywt	UM2.8	45.	45.	83.5	73.8*	0	20	77-125
1,4-Dichlorobenzene	54.0	61.0	ug/Kgdrywt	UMM2.8	36.	38.	66.8*	63.0*	6	20	75-120
2,2-Dichloropropane	54.0	61.0	ug/Kgdrywt	U2.8	51.	48.	94.1	78.7	6	20	67-133
2-Butanone	54.0	61.0	ug/Kgdrywt	UM14	32.	30.	59.4	48.7*	8	20	51-148
2-Chlorotoluene	54.0	61.0	ug/Kgdrywt	U2.8	45.	50.	83.3	81.3	10	20	75-125
2-Hexanone	54.0	61.0	ug/Kgdrywt	UMM14	20.	16.	37.8*	25.7*	26*	20	53-145
4-Chlorotoluene	54.0	61.0	ug/Kgdrywt	U2.8	42.	46.	77.4	75.2	9	20	72-125
P-Isopropyltoluene	54.0	61.0	ug/Kgdrywt	U2.8	40.	50.	73.7	82.3	23*	20	73-127
4-Methyl-2-Pentanone	54.0	61.0	ug/Kgdrywt	UMM14	30.	27.	56.5*	43.8*	13	20	65-135
Acetone	54.0	61.0	ug/Kgdrywt	U14	40.	38.	74.2	62.1	6	20	36-164
Benzene	54.0	61.0	ug/Kgdrywt	UM2.8	44.	45.	82.2	73.6*	1	20	77-125
Bromobenzene	54.0	61.0	ug/Kgdrywt	UM2.8	43.	45.	80.2	73.6*	4	20	78-125
Bromochloromethane	54.0	61.0	ug/Kgdrywt	U2.8	54.	50.	99.2	82.3	6	20	78-125
Bromodichloromethane	54.0	61.0	ug/Kgdrywt	UM2.8	45.	44.	82.6	72.4*	1	20	75-127

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MS/MSD Recovery Report

MS ID: WG228846-8
MSD ID: WG228846-9
Sample ID: SL4180-8
Client ID: CHAAP-21B-DS-SS07
Project:
SDG: SL4180
MS File ID: W4114.D

Received Date:
Extract Date: 22-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228846
Report Date: 25-MAY-18
MSD File ID: W4115.D

Analysis Date: 22-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 81.

Compound	MS Spike	MSD Spike	Conc Units	Samp Conc	MS Conc	MSD Conc	MS Rec (%)	MSD Rec (%)	RPD (%)	RPD Limit	Limits
Bromoform	54.0	61.0	ug/Kgdrywt	UMM2.8	34.	31.	62.2*	51.3*	7	20	67-132
Bromomethane	54.0	61.0	ug/Kgdrywt	U5.5	35.	38.	65.4	62.4	8	20	53-143
Carbon Disulfide	54.0	61.0	ug/Kgdrywt	U2.8	50.	49.	92.0	80.2	2	20	63-132
Carbon Tetrachloride	54.0	61.0	ug/Kgdrywt	U2.8	47.	46.	87.0	76.1	1	20	70-135
Chlorobenzene	54.0	61.0	ug/Kgdrywt	UMM2.8	41.	44.	75.6*	72.0*	7	20	79-125
Dibromochloromethane	54.0	61.0	ug/Kgdrywt	UM2.8	43.	43.	78.9	70.5*	1	20	74-126
Chloroethane	54.0	61.0	ug/Kgdrywt	UM5.5	77.	74.	142.*	121.	4	20	59-139
Chloroform	54.0	61.0	ug/Kgdrywt	U2.8	50.	49.	93.5	80.8	2	20	78-125
Chloromethane	54.0	61.0	ug/Kgdrywt	U5.5	66.	63.	123.	103.	6	20	50-136
cis-1,2-Dichloroethene	54.0	61.0	ug/Kgdrywt	U2.8	49.	47.	91.1	77.7	4	20	77-125
cis-1,3-Dichloropropene	54.0	61.0	ug/Kgdrywt	UMM2.8	32.	32.	59.1*	52.4*	0	20	74-126
Dibromomethane	54.0	61.0	ug/Kgdrywt	UM2.8	50.	47.	91.8	76.9*	6	20	78-125
Dichlorodifluoromethane	54.0	61.0	ug/Kgdrywt	U5.5	73.	68.	135.	112.	6	20	29-149
Ethylbenzene	54.0	61.0	ug/Kgdrywt	UMM2.8	40.	45.	74.6*	73.3*	10	20	76-125
Hexachlorobutadiene	54.0	61.0	ug/Kgdrywt	UMM2.8	25.	32.	45.9*	52.1*	25*	20	61-135
Isopropylbenzene	54.0	61.0	ug/Kgdrywt	U2.8	49.	58.	91.5	95.2	16	20	68-134
m+p-Xylenes	110.	120.	ug/Kgdrywt	UMM5.5	79.	91.	71.9*	75.8*	14	20	77-125
Methyl tert-butyl Ether	54.0	61.0	ug/Kgdrywt	U2.8	49.	48.	90.9	77.9	3	20	73-125
Methylene Chloride	54.0	61.0	ug/Kgdrywt	U14	52.	49.	95.9	80.8	5	20	70-128
N-Butylbenzene	54.0	61.0	ug/Kgdrywt	UM2.8	35.	46.	65.2*	75.9	27*	20	70-128
N-Propylbenzene	54.0	61.0	ug/Kgdrywt	U2.8	42.	52.	78.7	85.6	20	20	73-125
Naphthalene	54.0	61.0	ug/Kgdrywt	UMM2.8	18.	18.	34.1*	29.3*	3	20	62-129
o-Xylene	54.0	61.0	ug/Kgdrywt	UMM2.8	40.	45.	74.1*	73.6*	12	20	77-125
sec-Butylbenzene	54.0	61.0	ug/Kgdrywt	U2.8	40.	51.	73.7	83.8	25*	20	73-126
Styrene	54.0	61.0	ug/Kgdrywt	UMM2.8	34.	36.	62.2*	59.7*	8	20	76-125
tert-Butylbenzene	54.0	61.0	ug/Kgdrywt	U2.8	44.	53.	81.1	87.2	19	20	73-125
Tetrachloroethene	54.0	61.0	ug/Kgdrywt	U2.8	44.	50.	81.1	82.0	13	20	73-128
Toluene	54.0	61.0	ug/Kgdrywt	UMM2.8	40.	41.	74.2*	67.9*	3	20	77-125
trans-1,2-Dichloroethene	54.0	61.0	ug/Kgdrywt	U2.8	50.	50.	92.4	81.5	0	20	74-125
trans-1,3-Dichloropropene	54.0	61.0	ug/Kgdrywt	UMM2.8	36.	34.	67.6*	56.6*	6	20	71-130
Trichloroethene	54.0	61.0	ug/Kgdrywt	UM2.8	43.	45.	79.4	73.1*	4	20	77-125
Trichlorofluoromethane	54.0	61.0	ug/Kgdrywt	U5.5	62.	59.	114.	97.4	4	20	62-140
Vinyl Chloride	54.0	61.0	ug/Kgdrywt	U5.5	66.	62.	121.	102.	5	20	56-135

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ANALYTICAL SERVICES

MS/MSD Recovery Report

MS ID: WG228846-8
MSD ID: WG228846-9
Sample ID: SL4180-8
Client ID: CHAAP-21B-DS-SS07
Project:
SDG: SL4180
MS File ID: W4114.D

Received Date:
Extract Date: 22-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228846
Report Date: 25-MAY-18
MSD File ID: W4115.D

Analysis Date: 22-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 81.

1,2-Dichloroethane-D4	104.	103.	71-136
p-Bromofluorobenzene	81.4	81.2	79-125
Dibromofluoromethane	106.	107.	78-125
Toluene-D8	99.6	98.0	85-125

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Form 4
Method Blank Summary - VOA

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
Lab File ID : D1450.D
Instrument ID : GCMS-D
Heated Purge : No

SDG : SL4180
Lab Sample ID : WG228752-2
Date Analyzed : 21-MAY-18
Time Analyzed : 10:22

This Method Blank applies to the following samples, LCS, MS and MSD:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
Laboratory Control S	WG228752-1	D1448.D	05/21/18	09:06
CHAAP-TB-051418	SL4180-28	D1451.D	05/21/18	10:57
CHAAP-EB-051418	SL4180-29	D1453.D	05/21/18	12:08

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Form 4
Method Blank Summary - VOA

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
Lab File ID : W4037.D
Instrument ID : GCMS-W
Heated Purge : Yes

SDG : SL4180
Lab Sample ID : WG228693-2
Date Analyzed : 19-MAY-18
Time Analyzed : 10:02

This Method Blank applies to the following samples, LCS, MS and MSD:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
Laboratory Control S	WG228693-1	W4035.D	05/19/18	08:36
CHAAP-21B-DS-SS02	SL4180-1	W4038.D	05/19/18	10:39
CHAAP-21B-DS-SB02-5	SL4180-3	W4040.D	05/19/18	11:53
CHAAP-21B-DS-SB02-10	SL4180-4	W4041.D	05/19/18	12:31
CHAAP-21B-DS-SS06	SL4180-5	W4042.D	05/19/18	13:08
CHAAP-21B-DS-SB06-5	SL4180-6	W4043.D	05/19/18	13:45
CHAAP-21B-DS-SB06-10	SL4180-7	W4044.D	05/19/18	14:22
CHAAP-21B-DS-SB07-5	SL4180-9	W4045.D	05/19/18	15:00
CHAAP-21B-DS-SB107-5	SL4180-10	W4046.D	05/19/18	15:37
CHAAP-21B-DS-SB07-10	SL4180-11	W4047.D	05/19/18	16:14
CHAAP-21B-DS-SS08	SL4180-12	W4048.D	05/19/18	16:51
CHAAP-21B-DS-SB08-5	SL4180-13	W4049.D	05/19/18	17:29
CHAAP-21B-DS-SS09	SL4180-14	W4050.D	05/19/18	18:06
CHAAP-21B-DS-SB09-5	SL4180-15	W4051.D	05/19/18	18:43

Form 4
Method Blank Summary - VOA

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
Lab File ID : W4071.D
Instrument ID : GCMS-W
Heated Purge : Yes

SDG : SL4180
Lab Sample ID : WG228751-9
Date Analyzed : 21-MAY-18
Time Analyzed : 13:45

This Method Blank applies to the following samples, LCS, MS and MSD:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
Laboratory Control S	WG228751-8	W4069.D	05/21/18	12:31
CHAAP-21B-DS-SS11	SL4180-16	W4072.D	05/21/18	14:22
CHAAP-21B-DS-SS111	SL4180-17	W4073.D	05/21/18	14:59
CHAAP-21B-DS-SS10	SL4180-19	W4074.D	05/21/18	15:36
CHAAP-21B-DS-SB10-5	SL4180-20	W4075.D	05/21/18	16:13
CHAAP-21B-DS-SS04	SL4180-21	W4076.D	05/21/18	16:51
CHAAP-21B-DS-SB04-5	SL4180-22	W4077.D	05/21/18	17:28
CHAAP-21B-DS-SB04-10	SL4180-23	W4078.D	05/21/18	18:05

Form 4
Method Blank Summary - VOA

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
Lab File ID : W4083.D
Instrument ID : GCMS-W
Heated Purge : Yes

SDG : SL4180
Lab Sample ID : WG228825-2
Date Analyzed : 21-MAY-18
Time Analyzed : 21:42

This Method Blank applies to the following samples, LCS, MS and MSD:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
Laboratory Control S	WG228825-1	W4081.D	05/21/18	20:21
CHAAP-21B-DS-SS103	SL4180-25	W4085.D	05/21/18	22:56
CHAAP-21B-DS-SB03-5	SL4180-26	W4086.D	05/21/18	23:34
CHAAP-21B-DS-SB03-10	SL4180-27	W4087.D	05/22/18	00:11
CHAAP-21B-DS-SS07	SL4180-8	W4088.D	05/22/18	00:48
CHAAP-21B-DS-SS102	SL4180-2RA	W4091.D	05/22/18	02:40
CHAAP-21B-DS-SS06	SL4180-5RA	W4092.D	05/22/18	03:17
CHAAP-21B-DS-SS08	SL4180-12RA	W4093.D	05/22/18	03:54
CHAAP-21B-DS-SS09	SL4180-14RA	W4094.D	05/22/18	04:32

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Form 4
Method Blank Summary - VOA

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
Lab File ID : W4103.D
Instrument ID : GCMS-W
Heated Purge : Yes

SDG : SL4180
Lab Sample ID : WG228846-2
Date Analyzed : 22-MAY-18
Time Analyzed : 10:40

This Method Blank applies to the following samples, LCS, MS and MSD:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
Laboratory Control S	WG228846-1	W4101.D	05/22/18	09:19
CHAAP-21B-DS-SB11-5	SL4180-18	W4105.D	05/22/18	11:54
CHAAP-21B-DS-SS11	SL4180-16RA	W4106.D	05/22/18	12:31
CHAAP-21B-DS-SS111	SL4180-17RA	W4107.D	05/22/18	13:08
CHAAP-21B-DS-SS04	SL4180-21RA	W4108.D	05/22/18	13:45
CHAAP-21B-DS-SS03	SL4180-24RA	W4109.D	05/22/18	14:22
CHAAP-21B-DS-SS103	SL4180-25RA	W4110.D	05/22/18	14:59
CHAAP-21B-DS-SS07	SL4180-8RA	W4111.D	05/22/18	15:36
Matrix Spike	WG228846-6	W4112.D	05/22/18	16:14
Matrix Spike Duplica	WG228846-7	W4113.D	05/22/18	16:51
Matrix Spike	WG228846-8	W4114.D	05/22/18	17:28
Matrix Spike Duplica	WG228846-9	W4115.D	05/22/18	18:05

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Form 5
Volatile Organic Instrument Performance Check

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
Lab File ID : DB180A.D
Instrument ID : GCMS-D

SDG : SL4180
Date Analyzed : 17-MAY-18
Time Analyzed : 07:31
Heated Purge : No

m/e	Ion Abundance Criteria	% Relative Abundance		
50	15.0 - 40.0% of mass 95	22.7		
75	30.0 - 60.0% of mass 95	57.3		
95	Base Peak, 100% relative abundance	100		
96	5.0 - 9.0% of mass 95	6.8		
173	Less than 2.0% of mass 174	0.2	0.34	1
174	Greater than 50.0% of mass 95	70.7		
175	5.0 - 9.0% of mass 174	5.4	7.60	1
176	95.0 - 101.0% of mass 174	68.0	96.27	1
177	5.0 - 9.0% of mass 176	4.1	6.06	2

1-Value is % mass 174 2-Value is % mass 176

This check applies to the following samples, LCS, MS, MSD and standards:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
Initial Calibration	WG228547-4	D1351.D	05/17/18	08:11
Initial Calibration	WG228547-3	D1352.D	05/17/18	08:47
Initial Calibration	WG228547-2	D1353.D	05/17/18	09:22
Initial Calibration	WG228547-1	D1354.D	05/17/18	09:58
Initial Calibration	WG228547-6	D1355.D	05/17/18	10:34
Initial Calibration	WG228547-5	D1356.D	05/17/18	11:09

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Form 5
Volatile Organic Instrument Performance Check

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
Lab File ID : DB186A.D
Instrument ID : GCMS-D

SDG : SL4180
Date Analyzed : 21-MAY-18
Time Analyzed : 07:08
Heated Purge : No

m/e	Ion Abundance Criteria	% Relative Abundance		
50	15.0 - 40.0% of mass 95	23.4		
75	30.0 - 60.0% of mass 95	56.1		
95	Base Peak, 100% relative abundance	100		
96	5.0 - 9.0% of mass 95	8.1		
173	Less than 2.0% of mass 174	0.0	0.0	1
174	Greater than 50.0% of mass 95	67.4		
175	5.0 - 9.0% of mass 174	5.1	7.59	1
176	95.0 - 101.0% of mass 174	65.8	97.60	1
177	5.0 - 9.0% of mass 176	3.7	5.55	2

1-Value is % mass 174 2-Value is % mass 176

This check applies to the following samples, LCS, MS, MSD and standards:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
Continuing Calibrati	WG228752-4	D1447.D	05/21/18	08:18
Laboratory Control S	WG228752-1	D1448.D	05/21/18	09:06
Method Blank Sample	WG228752-2	D1450.D	05/21/18	10:22
CHAAP-TB-051418	SL4180-28	D1451.D	05/21/18	10:57
CHAAP-EB-051418	SL4180-29	D1453.D	05/21/18	12:08
Continuing Calibrati	WG228752-5	D1463.D	05/21/18	18:04

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Form 5
Volatile Organic Instrument Performance Check

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
Lab File ID : WB842A.D
Instrument ID : GCMS-W

SDG : SL4180
Date Analyzed : 18-MAY-18
Time Analyzed : 13:00
Heated Purge : Yes

m/e	Ion Abundance Criteria	% Relative Abundance		
50	15.0 - 40.0% of mass 95	20.5		
75	30.0 - 60.0% of mass 95	51.8		
95	Base Peak, 100% relative abundance	100		
96	5.0 - 9.0% of mass 95	6.7		
173	Less than 2.0% of mass 174	0.4	0.51	1
174	Greater than 50.0% of mass 95	73.6		
175	5.0 - 9.0% of mass 174	5.6	7.59	1
176	95.0 - 101.0% of mass 174	73.4	99.68	1
177	5.0 - 9.0% of mass 176	4.7	6.34	2

1-Value is % mass 174 2-Value is % mass 176

This check applies to the following samples, LCS, MS, MSD and standards:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
Initial Calibration	WG228635-3	W4024.D	05/18/18	14:27
Initial Calibration	WG228635-2	W4025.D	05/18/18	15:04
Initial Calibration	WG228635-1	W4026.D	05/18/18	15:41
Initial Calibration	WG228635-6	W4027.D	05/18/18	16:19
Initial Calibration	WG228635-5	W4028.D	05/18/18	16:56
Initial Calibration	WG228635-4	W4029.D	05/18/18	17:33
Independent Source	WG228635-7	W4030.D	05/18/18	18:10

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Form 5
Volatile Organic Instrument Performance Check

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
Lab File ID : WB843A.D
Instrument ID : GCMS-W

SDG : SL4180
Date Analyzed : 19-MAY-18
Time Analyzed : 07:25
Heated Purge : Yes

m/e	Ion Abundance Criteria	% Relative Abundance		
50	15.0 - 40.0% of mass 95	19.5		
75	30.0 - 60.0% of mass 95	46.9		
95	Base Peak, 100% relative abundance	100		
96	5.0 - 9.0% of mass 95	6.7		
173	Less than 2.0% of mass 174	0.0	0.0	1
174	Greater than 50.0% of mass 95	70.8		
175	5.0 - 9.0% of mass 174	4.3	6.03	1
176	95.0 - 101.0% of mass 174	70.5	99.52	1
177	5.0 - 9.0% of mass 176	4.9	6.90	2

1-Value is % mass 174 2-Value is % mass 176

This check applies to the following samples, LCS, MS, MSD and standards:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
Continuing Calibrati	WG228693-4	W4034.D	05/19/18	07:53
Laboratory Control S	WG228693-1	W4035.D	05/19/18	08:36
Method Blank Sample	WG228693-2	W4037.D	05/19/18	10:02
CHAAP-21B-DS-SS02	SL4180-1	W4038.D	05/19/18	10:39
CHAAP-21B-DS-SB02-5	SL4180-3	W4040.D	05/19/18	11:53
CHAAP-21B-DS-SB02-10	SL4180-4	W4041.D	05/19/18	12:31
CHAAP-21B-DS-SS06	SL4180-5	W4042.D	05/19/18	13:08
CHAAP-21B-DS-SB06-5	SL4180-6	W4043.D	05/19/18	13:45
CHAAP-21B-DS-SB06-10	SL4180-7	W4044.D	05/19/18	14:22
CHAAP-21B-DS-SB07-5	SL4180-9	W4045.D	05/19/18	15:00
CHAAP-21B-DS-SB107-5	SL4180-10	W4046.D	05/19/18	15:37
CHAAP-21B-DS-SB07-10	SL4180-11	W4047.D	05/19/18	16:14
CHAAP-21B-DS-SS08	SL4180-12	W4048.D	05/19/18	16:51
CHAAP-21B-DS-SB08-5	SL4180-13	W4049.D	05/19/18	17:29
CHAAP-21B-DS-SS09	SL4180-14	W4050.D	05/19/18	18:06
CHAAP-21B-DS-SB09-5	SL4180-15	W4051.D	05/19/18	18:43
Continuing Calibrati	WG228693-5	W4052.D	05/19/18	19:20

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Form 5
Volatile Organic Instrument Performance Check

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
Lab File ID : WB845A.D
Instrument ID : GCMS-W

SDG : SL4180
Date Analyzed : 21-MAY-18
Time Analyzed : 07:30
Heated Purge : Yes

m/e	Ion Abundance Criteria	% Relative Abundance		
50	15.0 - 40.0% of mass 95	18.6		
75	30.0 - 60.0% of mass 95	50.6		
95	Base Peak, 100% relative abundance	100		
96	5.0 - 9.0% of mass 95	6.8		
173	Less than 2.0% of mass 174	0.4	0.48	1
174	Greater than 50.0% of mass 95	80.5		
175	5.0 - 9.0% of mass 174	6.7	8.30	1
176	95.0 - 101.0% of mass 174	78.1	97.02	1
177	5.0 - 9.0% of mass 176	4.6	5.85	2

1-Value is % mass 174 2-Value is % mass 176

This check applies to the following samples, LCS, MS, MSD and standards:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
Initial Calibration	WG228751-4	W4063.D	05/21/18	08:39
Initial Calibration	WG228751-3	W4064.D	05/21/18	09:16
Initial Calibration	WG228751-2	W4065.D	05/21/18	09:53
Initial Calibration	WG228751-1	W4066.D	05/21/18	10:30
Initial Calibration	WG228751-6	W4067.D	05/21/18	11:07
Initial Calibration	WG228751-5	W4068.D	05/21/18	11:44
Laboratory Control S	WG228751-8	W4069.D	05/21/18	12:31
Independent Source	WG228751-7	W4069A.D	05/21/18	12:31
Method Blank Sample	WG228751-9	W4071.D	05/21/18	13:45
CHAAP-21B-DS-SS11	SL4180-16	W4072.D	05/21/18	14:22
CHAAP-21B-DS-SS111	SL4180-17	W4073.D	05/21/18	14:59
CHAAP-21B-DS-SS10	SL4180-19	W4074.D	05/21/18	15:36
CHAAP-21B-DS-SB10-5	SL4180-20	W4075.D	05/21/18	16:13
CHAAP-21B-DS-SS04	SL4180-21	W4076.D	05/21/18	16:51
CHAAP-21B-DS-SB04-5	SL4180-22	W4077.D	05/21/18	17:28
CHAAP-21B-DS-SB04-10	SL4180-23	W4078.D	05/21/18	18:05
Continuing Calibrati	WG228751-11	W4079.D	05/21/18	18:42

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Form 5
Volatile Organic Instrument Performance Check

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
Lab File ID : WB846A.D
Instrument ID : GCMS-W

SDG : SL4180
Date Analyzed : 21-MAY-18
Time Analyzed : 19:07
Heated Purge : Yes

m/e	Ion Abundance Criteria	% Relative Abundance		
50	15.0 - 40.0% of mass 95	21.2		
75	30.0 - 60.0% of mass 95	48.2		
95	Base Peak, 100% relative abundance	100		
96	5.0 - 9.0% of mass 95	5.9		
173	Less than 2.0% of mass 174	0.8	0.98	1
174	Greater than 50.0% of mass 95	80.3		
175	5.0 - 9.0% of mass 174	5.7	7.06	1
176	95.0 - 101.0% of mass 174	76.6	95.35	1
177	5.0 - 9.0% of mass 176	5.1	6.72	2

1-Value is % mass 174 2-Value is % mass 176

This check applies to the following samples, LCS, MS, MSD and standards:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
Continuing Calibrati	WG228825-4	W4080.D	05/21/18	19:35
Laboratory Control S	WG228825-1	W4081.D	05/21/18	20:21
Method Blank Sample	WG228825-2	W4083.D	05/21/18	21:42
CHAAP-21B-DS-SS103	SL4180-25	W4085.D	05/21/18	22:56
CHAAP-21B-DS-SB03-5	SL4180-26	W4086.D	05/21/18	23:34
CHAAP-21B-DS-SB03-10	SL4180-27	W4087.D	05/22/18	00:11
CHAAP-21B-DS-SS07	SL4180-8	W4088.D	05/22/18	00:48
CHAAP-21B-DS-SS102	SL4180-2RA	W4091.D	05/22/18	02:40
CHAAP-21B-DS-SS06	SL4180-5RA	W4092.D	05/22/18	03:17
CHAAP-21B-DS-SS08	SL4180-12RA	W4093.D	05/22/18	03:54
CHAAP-21B-DS-SS09	SL4180-14RA	W4094.D	05/22/18	04:32
Continuing Calibrati	WG228825-5	W4098.D	05/22/18	07:01

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Form 5
Volatile Organic Instrument Performance Check

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
Lab File ID : WB847A.D
Instrument ID : GCMS-W

SDG : SL4180
Date Analyzed : 22-MAY-18
Time Analyzed : 08:03
Heated Purge : Yes

m/e	Ion Abundance Criteria	% Relative Abundance		
50	15.0 - 40.0% of mass 95	19.8		
75	30.0 - 60.0% of mass 95	50.1		
95	Base Peak, 100% relative abundance	100		
96	5.0 - 9.0% of mass 95	7.2		
173	Less than 2.0% of mass 174	0.4	0.46	1
174	Greater than 50.0% of mass 95	82.8		
175	5.0 - 9.0% of mass 174	6.3	7.61	1
176	95.0 - 101.0% of mass 174	80.3	96.94	1
177	5.0 - 9.0% of mass 176	4.9	6.16	2

1-Value is % mass 174 2-Value is % mass 176

This check applies to the following samples, LCS, MS, MSD and standards:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
Continuing Calibrati	WG228846-4	W4100.D	05/22/18	08:31
Laboratory Control S	WG228846-1	W4101.D	05/22/18	09:19
Method Blank Sample	WG228846-2	W4103.D	05/22/18	10:40
CHAAP-21B-DS-SB11-5	SL4180-18	W4105.D	05/22/18	11:54
CHAAP-21B-DS-SS11	SL4180-16RA	W4106.D	05/22/18	12:31
CHAAP-21B-DS-SS111	SL4180-17RA	W4107.D	05/22/18	13:08
CHAAP-21B-DS-SS04	SL4180-21RA	W4108.D	05/22/18	13:45
CHAAP-21B-DS-SS03	SL4180-24RA	W4109.D	05/22/18	14:22
CHAAP-21B-DS-SS103	SL4180-25RA	W4110.D	05/22/18	14:59
CHAAP-21B-DS-SS07	SL4180-8RA	W4111.D	05/22/18	15:36
Matrix Spike	WG228846-6	W4112.D	05/22/18	16:14
Matrix Spike Duplica	WG228846-7	W4113.D	05/22/18	16:51
Matrix Spike	WG228846-8	W4114.D	05/22/18	17:28
Matrix Spike Duplica	WG228846-9	W4115.D	05/22/18	18:05
Continuing Calibrati	WG228846-5	W4117.D	05/22/18	19:20

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Form 6
Initial Calibration Summary

Lab Name : Katahdin Analytical Services
SDG: SL4180
Project : Cornhusker Army Ammunition Plant
Instrument ID: GCMS-D
Lab File IDs : D1354.d D1353.d D1352.d D1351.d D1356.d D1355.d
Column ID:
Calibration Date(s): 17-MAY-18 08:11 17-MAY-18 11:09

	1.0000 Level 1	5.0000 Level 2	20.0000 Level 3	50.0000 Level 4	100.0000 Level 5	150.0000 Level 6	New Crv	b	m1	m2	%RSD	Max %RSD	
Dichlorodifluoromethane	0.79300	0.96937	0.89845	0.84663	0.87321	0.84698	AVG		0.87127		6.82672	15.00000	O
Chloromethane	0.87951	0.93660	0.78647	0.67068	0.78352	0.73924	AVG		0.79934		11.9799(	15.00000	O
Vinyl chloride	0.59946	0.71193	0.60441	0.56433	0.67146	0.60581	AVG		0.62623		8.69713	15.00000	O
Bromomethane	0.34697	0.35727	0.29267	0.28194	0.30939	0.31305	AVG		0.31688		9.37706	15.00000	O
Chloroethane	0.28651	0.34838	0.28906	0.27081	0.26281	+++++	AVG		0.29152		11.52707	15.00000	O
Trichlorofluoromethane	0.91981	1.10400	0.98417	0.97784	0.96130	0.95399	AVG		0.98352		6.42620	15.00000	O
1,1-Dichloroethene	0.42112	0.38787	0.35145	0.33495	0.35738	0.34565	AVG		0.36640		8.78477	15.00000	O
Carbon Disulfide	1.19739	1.17482	1.14792	1.14066	1.23036	1.19632	AVG		1.18124		2.85825	15.00000	O
Freon-113	0.28290	0.28850	0.31279	0.30554	0.31667	0.29672	AVG		0.30052		4.47874	15.00000	O
Methylene Chloride	0.64204	0.56279	0.52137	0.51621	0.55275	0.53602	AVG		0.55520		8.30821	15.00000	O
Acetone	0.18214	0.16029	0.16150	0.15713	0.16145	0.15245	AVG		0.16249		6.29144	15.00000	O
trans-1,2-Dichloroethene	0.54755	0.52619	0.47789	0.48204	0.51207	0.49236	AVG		0.50635		5.38735	15.00000	O
Methyl tert-butyl ether	1.16697	1.18583	1.26471	1.32111	1.51659	1.44392	AVG		1.31652		10.6562	15.00000	O
1,1-Dichloroethane	1.09130	1.04721	0.97407	0.98752	1.00826	0.99941	AVG		1.01796		4.28776	15.00000	O
cis-1,2-Dichloroethene	0.53482	0.53653	0.50982	0.52108	0.56060	0.55343	AVG		0.53605		3.55774	15.00000	O
2,2-Dichloropropane	0.66562	0.69608	0.69487	0.73014	0.72998	0.75752	AVG		0.71237		4.62243	15.00000	O
Bromochloromethane	0.25286	0.26960	0.27284	0.28086	0.28381	0.24986	AVG		0.26831		5.26824	15.00000	O
Chloroform	1.12020	1.10289	1.01132	1.03934	1.06013	1.06097	AVG		1.06581		3.76668	15.00000	O
Carbon Tetrachloride	0.49064	0.48949	0.45439	0.46014	0.47686	0.47640	AVG		0.47465		3.13209	15.00000	O
1,1,1-Trichloroethane	0.98350	0.94493	0.87313	0.88751	0.90492	0.92163	AVG		0.91927		4.38740	15.00000	O
1,1-Dichloropropene	0.48565	0.47329	0.46296	0.45351	0.47731	0.47490	AVG		0.47127		2.41038	15.00000	O
2-Butanone	0.23016	0.22526	0.24155	0.24293	0.25944	0.24986	AVG		0.24154		5.19133	15.00000	O
Benzene	1.22980	1.24322	1.18890	1.19028	1.24833	1.22889	AVG		1.22157		2.11969	15.00000	O
1,2-Dichloroethane	0.70747	0.56001	0.54504	0.54335	0.53100	0.54687	AVG		0.57229		11.6841	15.00000	O
Trichloroethene	0.38821	0.36285	0.34254	0.33584	0.33714	0.33844	AVG		0.35084		5.94675	15.00000	O
Dibromomethane	0.24117	0.21822	0.22484	0.23265	0.23501	0.23806	AVG		0.23166		3.71633	15.00000	O
1,2-Dichloropropane	0.34122	0.33334	0.33064	0.33358	0.34385	0.34980	AVG		0.33874		2.19378	15.00000	O
Bromodichloromethane	0.47390	0.45184	0.46415	0.48054	0.49438	0.51487	AVG		0.47995		4.66274	15.00000	O
cis-1,3-dichloropropene	3462	19790	94112	254013	569134	818228	LNR	0.02753	0.61582		0.99953	0.99000	O
Toluene	0.80764	0.79276	0.72461	0.72060	0.74326	0.74749	AVG		0.75606		4.76571	15.00000	O
4-methyl-2-pentanone	0.28581	0.28808	0.31418	0.32311	0.32450	0.31184	AVG		0.30792		5.51649	15.00000	O
Tetrachloroethene	0.28430	0.28535	0.25823	0.25531	0.26524	0.26074	AVG		0.26820		4.95681	15.00000	O
trans-1,3-Dichloropropene	0.39878	0.42294	0.48694	0.52254	0.53464	0.54818	AVG		0.48567		12.7434(	15.00000	O
1,1,2-Trichloroethane	0.27368	0.25744	0.25222	0.26012	0.26672	0.26458	AVG		0.26246		2.87222	15.00000	O
Dibromochloromethane	0.32331	0.33019	0.36518	0.39210	0.41232	0.41604	AVG		0.37319		10.8033(	15.00000	O
1,3-Dichloropropane	0.61095	0.56780	0.57950	0.60235	0.62039	0.60928	AVG		0.59838		3.39929	15.00000	O
1,2-Dibromoethane	0.30858	0.30034	0.31266	0.32110	0.33020	0.33039	AVG		0.31721		3.82863	15.00000	O

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ANALYTICAL SERVICES

Form 6
Initial Calibration Summary

Lab Name : Katahdin Analytical Services
SDG: SL4180
Project : Cornhusker Army Ammunition Plant
Instrument ID: GCMS-D
Lab File IDs : D1354.d D1353.d D1352.d D1351.d D1356.d D1355.d
Column ID:
Calibration Date(s): 17-MAY-18 08:11 17-MAY-18 11:09

2-Hexanone	0.17289	0.19756	0.24019	0.24508	0.25502	0.24329	AVG		0.22567		14.4747	15.00000	O
Chlorobenzene	0.97633	0.94691	0.88767	0.88684	0.90220	0.90412	AVG		0.91734		3.95117	15.00000	O
Ethylbenzene	1.68401	1.68635	1.57756	1.59542	1.60838	1.60141	AVG		1.62552		2.91192	15.00000	O
1,1,1,2-Tetrachloroethane	0.32125	0.31902	0.32734	0.33974	0.34723	0.35269	AVG		0.33454		4.19921	15.00000	O
m+p-Xylenes	1.17012	1.27771	1.21928	1.23994	1.23071	1.23192	AVG		1.22828		2.83471	15.00000	O
o-Xylene	0.96684	1.13413	1.21107	1.26099	1.29652	1.29786	AVG		1.19457		10.6720	15.00000	O
Styrene	0.69459	0.84351	0.90970	0.94140	0.97173	0.96555	AVG		0.88775		11.8925	15.00000	O
Bromoform	0.17128	0.18815	0.21190	0.23508	0.24776	0.24673	AVG		0.21682		14.7388	15.00000	O
Isopropylbenzene	2.35854	2.64724	2.71037	2.72357	2.84112	2.81203	AVG		2.68214		6.47041	15.00000	O
Bromobenzene	0.77815	0.72615	0.72712	0.71078	0.73756	0.72533	AVG		0.73418		3.15644	15.00000	O
N-Propylbenzene	3.75081	3.75523	3.63655	3.49811	3.63678	3.56998	AVG		3.64124		2.76286	15.00000	O
1,1,2,2-Tetrachloroethane	0.90272	0.79783	0.83249	0.81785	0.85386	0.82404	AVG		0.83813		4.36243	15.00000	O
1,3,5-Trimethylbenzene	1.99843	2.33288	2.39228	2.38601	2.45763	2.41413	AVG		2.33023		7.18937	15.00000	O
2-Chlorotoluene	2.11454	2.13753	2.08486	2.09895	2.17156	2.15814	AVG		2.12760		1.59825	15.00000	O
1,2,3-Trichloropropane	0.77713	0.74487	0.74435	0.73642	0.75598	0.72448	AVG		0.74720		2.40786	15.00000	O
4-Chlorotoluene	2.26474	2.29449	2.24492	2.25838	2.31067	2.29470	AVG		2.27798		1.12314	15.00000	O
tert-Butylbenzene	1.80056	2.19069	2.26715	2.27609	2.36769	2.33943	AVG		2.20694		9.44420	15.00000	O
1,2,4-Trimethylbenzene	2.01253	2.41385	2.46926	2.47024	2.54274	2.52992	AVG		2.40642		8.24986	15.00000	O
P-Isopropyltoluene	1.96665	2.27913	2.37329	2.36184	2.48102	2.46890	AVG		2.32180		8.15369	15.00000	O
1,3-Dichlorobenzene	1.38765	1.34731	1.29022	1.28388	1.32804	1.31329	AVG		1.32506		2.91700	15.00000	O
1,4-Dichlorobenzene	1.55322	1.39429	1.32920	1.30632	1.35648	1.34006	AVG		1.37993		6.51149	15.00000	O
N-Butylbenzene	1.99254	2.20685	2.31578	2.32052	2.39223	2.41191	AVG		2.27330		6.83272	15.00000	O
sec-Butylbenzene	2.57051	2.93047	2.91619	2.88891	2.99468	2.95111	AVG		2.87531		5.33821	15.00000	O
1,2-Dichlorobenzene	1.17056	1.19885	1.21299	1.23236	1.29740	1.28670	AVG		1.23314		4.05421	15.00000	O
1,2-Dibromo-3-Chloropropane	0.15455	0.11956	0.13101	0.14051	0.15731	0.15647	AVG		0.14324		10.8991	15.00000	O
Hexachlorobutadiene	0.40420	0.36184	0.33754	0.32714	0.35822	0.35861	AVG		0.35792		7.41329	15.00000	O
1,2,4-Trichlorobenzene	0.62667	0.65777	0.70921	0.74267	0.81920	0.81607	AVG		0.72860		10.9522	15.00000	O
Naphthalene	3912	22533	121258	320798	796844	1088321	LNR	0.03616	1.76798		0.99742	0.99000	O
1,2,3-Trichlorobenzene	0.56208	0.56306	0.60879	0.59408	0.67003	0.65032	AVG		0.60806		7.34028	15.00000	O
Dibromofluoromethane	0.61493	0.62075	0.60854	0.61389	0.61115	0.60645	AVG		0.61262		0.83199	15.00000	
1,2-Dichloroethane-D4	0.87100	0.84545	0.82485	0.85246	0.79020	0.83104	AVG		0.83583		3.31204	15.00000	
Toluene-D8	1.21001	1.21776	1.21802	1.21797	1.21819	1.23018	AVG		1.21869		0.53093	15.00000	
P-Bromofluorobenzene	0.49809	0.49930	0.50437	0.50603	0.49257	0.51153	AVG		0.50198		1.33443	15.00000	

Legend: O = Kept Original Curve
Y = Failed Minimum RF
W = Failed %RSD Value

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ANALYTICAL SERVICES

Form 6
Initial Calibration Summary

Lab Name : Katahdin Analytical Services
SDG: SL4180
Project : Cornhusker Army Ammunition Plant
Instrument ID: GCMS-W
Lab File IDs : W4026.D W4025.D W4024.D W4029.D W4028.D W4027.D
Column ID:
Calibration Date(s): 18-MAY-18 14:27 18-MAY-18 17:33

	Level 1 5.0000	Level 2 10.0000	Level 3 20.0000	Level 4 50.0000	Level 5 100.0000	Level 6 150.0000	Crv New	b	m1	m2	%RSD	Max %RSD	
Dichlorodifluoromethane	0.39061	0.39334	0.39158	0.37864	0.37740	0.37197	AVG		0.38392		2.34597	15.00000	O
Chloromethane	0.62314	0.57648	0.55974	0.52822	0.50309	0.49627	AVG		0.54782		8.82181	15.00000	O
Vinyl chloride	0.45909	0.45620	0.45333	0.44034	0.44993	0.44268	AVG		0.45026		1.65797	15.00000	O
Bromomethane	0.21229	0.18821	0.21201	0.18619	0.18271	0.17427	AVG		0.19261		8.23727	15.00000	O
Chloroethane	16834	31413	61084	144769	262746	346247	QUA	0.01141	3.34048	3.60775	0.99959	0.99000	O
Trichlorofluoromethane	0.56490	0.54407	0.53132	0.52794	0.53055	0.54724	AVG		0.54100		2.60527	15.00000	O
1,1-Dichloroethene	0.32169	0.33823	0.33668	0.32063	0.31869	0.32780	AVG		0.32729		2.58466	15.00000	O
Carbon Disulfide	1.17931	1.15185	1.13055	1.06473	1.07020	1.06290	AVG		1.10993		4.56371	15.00000	O
Freon-113	0.23952	0.23877	0.24175	0.23169	0.23370	0.23498	AVG		0.23674		1.63372	15.00000	O
Methylene Chloride	0.42508	0.43754	0.42226	0.41489	0.40306	0.40339	AVG		0.41770		3.20478	15.00000	O
Acetone	0.14849	0.15368	0.17064	0.17219	0.13129	0.13969	AVG		0.15266		10.7555(	15.00000	O
trans-1,2-Dichloroethene	0.34745	0.37815	0.35847	0.35620	0.34899	0.34166	AVG		0.35515		3.60686	15.00000	O
Methyl tert-butyl ether	0.88015	0.94422	0.97536	1.03177	0.97526	0.97343	AVG		0.96337		5.16056	15.00000	O
1,1-Dichloroethane	0.65029	0.68162	0.68276	0.65160	0.65957	0.64507	AVG		0.66182		2.48563	15.00000	O
cis-1,2-Dichloroethene	0.39330	0.38709	0.39047	0.38560	0.38371	0.38398	AVG		0.38736		0.98514	15.00000	O
2,2-Dichloropropane	0.28498	0.29988	0.32664	0.36479	0.38152	0.37876	AVG		0.33943		12.2568:	15.00000	O
Bromochloromethane	0.16569	0.17338	0.17440	0.17910	0.17379	0.17190	AVG		0.17304		2.51418	15.00000	O
Chloroform	0.61091	0.62836	0.62634	0.62663	0.61631	0.60267	AVG		0.61854		1.67646	15.00000	O
Carbon Tetrachloride	13719	33051	73707	218045	456558	702906	LNR	0.05717	0.22493		0.99987	0.99000	O
1,1,1-Trichloroethane	0.46566	0.51014	0.50105	0.49332	0.50587	0.50210	AVG		0.49636		3.23164	15.00000	O
1,1-Dichloropropene	0.28821	0.29685	0.30814	0.28503	0.29163	0.27977	AVG		0.29161		3.41454	15.00000	O
2-Butanone	0.22125	0.24503	0.25534	0.24765	0.21340	0.22725	AVG		0.23499		7.09540	15.00000	O
Benzene	0.92809	0.91874	0.92065	0.88892	0.88334	0.84732	AVG		0.89784		3.41982	15.00000	O
1,2-Dichloroethane	0.32950	0.32887	0.31867	0.32409	0.31004	0.30991	AVG		0.32018		2.75162	15.00000	O
Trichloroethene	0.21821	0.22227	0.22210	0.21315	0.21089	0.20360	AVG		0.21504		3.37829	15.00000	O
Dibromomethane	0.13698	0.13031	0.13887	0.13978	0.13119	0.13218	AVG		0.13488		3.07766	15.00000	O
1,2-Dichloropropane	0.22701	0.22886	0.23370	0.23637	0.23592	0.22768	AVG		0.23159		1.82903	15.00000	O
Bromodichloromethane	0.25825	0.27298	0.26907	0.28549	0.28377	0.27973	AVG		0.27488		3.74170	15.00000	O
cis-1,3-dichloropropene	0.29469	0.32826	0.33794	0.36731	0.36596	0.36229	AVG		0.34274		8.32024	15.00000	O
Toluene	0.53656	0.54488	0.54019	0.53992	0.53711	0.52337	AVG		0.53701		1.36023	15.00000	O
4-methyl-2-pentanone	0.26626	0.29528	0.29542	0.29850	0.26605	0.26868	AVG		0.28170		5.74037	15.00000	O
Tetrachloroethene	0.17046	0.16797	0.17648	0.20010	0.16324	0.15945	AVG		0.17295		8.40688	15.00000	O
trans-1,3-Dichloropropene	0.20584	0.24329	0.25337	0.29951	0.30643	0.30264	AVG		0.26851		15.22537	15.00000	W(
1,1,2-Trichloroethane	0.16564	0.17595	0.17472	0.17739	0.16624	0.16851	AVG		0.17141		3.04052	15.00000	O
Dibromochloromethane	0.19938	0.20712	0.21730	0.22742	0.22287	0.22585	AVG		0.21666		5.17528	15.00000	O
1,3-Dichloropropane	0.38035	0.41398	0.41004	0.41540	0.39310	0.39370	AVG		0.40109		3.52512	15.00000	O
1,2-Dibromoethane	0.18065	0.20241	0.20479	0.20985	0.20284	0.20299	AVG		0.20059		5.06076	15.00000	O

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ANALYTICAL SERVICES

Form 6
Initial Calibration Summary

Lab Name : Katahdin Analytical Services
SDG: SL4180
Project : Cornhusker Army Ammunition Plant
Instrument ID: GCMS-W
Lab File IDs : W4026.D W4025.D W4024.D W4029.D W4028.D W4027.D
Column ID:
Calibration Date(s): 18-MAY-18 14:27 18-MAY-18 17:33

2-Hexanone	0.20654	0.23175	0.24077	0.23549	0.20936	0.21182	AVG		0.22262		6.75079	15.00000	O
Chlorobenzene	0.63839	0.68253	0.65387	0.65298	0.64507	0.63117	AVG		0.65067		2.74347	15.00000	O
Ethylbenzene	0.33457	0.36737	0.36486	0.35403	0.35296	0.34660	AVG		0.35340		3.41435	15.00000	O
1,1,1,2-Tetrachloroethane	0.17767	0.19376	0.19972	0.21377	0.21659	0.21615	AVG		0.20294		7.66997	15.00000	O
m+p-Xylenes	0.41917	0.44753	0.44514	0.42980	0.43199	0.41774	AVG		0.43189		2.90384	15.00000	O
o-Xylene	0.42174	0.43071	0.43305	0.44129	0.43838	0.43244	AVG		0.43293		1.56714	15.00000	O
Styrene	0.69500	0.73879	0.74456	0.74664	0.74775	0.73449	AVG		0.73454		2.72509	15.00000	O
Bromoform	0.13117	0.14567	0.14586	0.16034	0.15844	0.16488	AVG		0.15106		8.28527	15.00000	O
Isopropylbenzene	1.91623	1.95865	1.95744	1.81449	1.81826	1.73543	AVG		1.86675		4.87705	15.00000	O
Bromobenzene	0.53793	0.51979	0.50458	0.50302	0.49916	0.48267	AVG		0.50786		3.72655	15.00000	O
N-Propylbenzene	2.49350	2.53214	2.54935	2.34745	2.32679	2.20540	AVG		2.40910		5.69153	15.00000	O
1,1,2,2-Tetrachloroethane	0.60654	0.61743	0.61517	0.60246	0.57187	0.57743	AVG		0.59848		3.23103	15.00000	O
1,3,5-Trimethylbenzene	1.69813	1.74327	1.73958	1.65798	1.65725	1.58692	AVG		1.68052		3.52480	15.00000	O
2-Chlorotoluene	1.50704	1.51627	1.55885	1.43713	1.44546	1.38154	AVG		1.47438		4.37459	15.00000	O
1,2,3-Trichloropropane	0.50756	0.52950	0.53332	0.51990	0.49552	0.49953	AVG		0.51422		3.06300	15.00000	O
4-Chlorotoluene	1.58106	1.59778	1.57232	1.48976	1.50947	1.44611	AVG		1.53275		3.91734	15.00000	O
tert-Butylbenzene	1.66618	1.71789	1.73427	1.61951	1.69658	1.64934	AVG		1.68063		2.58584	15.00000	O
1,2,4-Trimethylbenzene	1.81851	1.82082	1.84855	1.74099	1.74403	1.66603	AVG		1.77316		3.85594	15.00000	O
P-Isopropyltoluene	1.88427	1.90360	1.95395	1.80265	1.81583	1.74630	AVG		1.85110		4.11488	15.00000	O
1,3-Dichlorobenzene	0.98196	1.01699	1.00487	0.95702	0.95902	0.93698	AVG		0.97614		3.14776	15.00000	O
1,4-Dichlorobenzene	0.99748	1.03610	1.04898	0.97910	0.97306	0.95371	AVG		0.99807		3.74657	15.00000	O
N-Butylbenzene	1.75023	1.82534	1.93445	1.69691	1.71759	1.66101	AVG		1.76426		5.68331	15.00000	O
sec-Butylbenzene	2.25691	2.30579	2.35255	2.16467	2.15842	2.05484	AVG		2.21553		4.95693	15.00000	O
1,2-Dichlorobenzene	0.99916	1.02392	1.03160	0.97004	0.95116	0.93299	AVG		0.98481		4.05186	15.00000	O
1,2-Dibromo-3-Chloropropane	0.11192	0.12517	0.12847	0.13494	0.13289	0.13712	AVG		0.12842		7.14564	15.00000	O
Hexachlorobutadiene	0.31515	0.32637	0.33501	0.29227	0.28556	0.29455	AVG		0.30815		6.57074	15.00000	O
1,2,4-Trichlorobenzene	0.59018	0.60038	0.61644	0.56731	0.57602	0.59248	AVG		0.59047		2.95432	15.00000	O
Naphthalene	1.61818	1.77490	1.76110	1.62722	1.54620	1.61723	AVG		1.65747		5.46260	15.00000	O
1,2,3-Trichlorobenzene	0.56210	0.58819	0.61361	0.52560	0.52510	0.55254	AVG		0.56119		6.23521	15.00000	O
Dibromofluoromethane	0.49907	0.49776	0.48375	0.49547	0.47952	0.49198	AVG		0.49126		1.61735	15.00000	
1,2-Dichloroethane-D4	0.65312	0.65738	0.64468	0.64215	0.61668	0.65646	AVG		0.64508		2.36163	15.00000	
Toluene-D8	1.20008	1.20299	1.20259	1.21844	1.24513	1.21947	AVG		1.21478		1.40673	15.00000	
P-Bromofluorobenzene	0.49639	0.49660	0.48974	0.52056	0.52401	0.53293	AVG		0.51004		3.51693	15.00000	

Legend: O = Kept Original Curve
Y = Failed Minimum RF
W = Failed %RSD Value

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Katahdin
ANALYTICAL SERVICES

Form 6
Initial Calibration Summary

Lab Name : Katahdin Analytical Services
SDG: SL4180
Project : Cornhusker Army Ammunition Plant
Instrument ID: GCMS-W
Lab File IDs : W4066.D W4065.D W4064.D W4063.D W4068.D W4067.D
Column ID:
Calibration Date(s): 21-MAY-18 08:39, 21-MAY-18 11:44

	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Crv					Max	
	5.0000	10.0000	20.0000	50.0000	100.0000	150.0000	New	b	m1	m2	%RSD	%RSD	
Dichlorodifluoromethane	0.85151	0.83656	0.87044	0.78181	0.71525	0.70167	AVG		0.79287		9.06503	15.00000	O
Chloromethane	1.21665	1.02021	1.12019	0.90404	0.85994	0.85594	AVG		0.99616		14.9757	15.00000	O
Vinyl chloride	1.04730	0.94211	0.98311	0.86410	0.80341	0.82339	AVG		0.91057		10.5560	15.00000	O
Bromomethane	0.53819	0.48211	0.49451	0.40001	0.40610	0.43135	AVG		0.45871		11.9834	15.00000	O
Chloroethane	25615	41369	86051	194126	410423	558783	LNR	-0.09746	0.43367		0.99810	0.99000	O
Trichlorofluoromethane	1.15364	1.19847	1.28398	1.19730	1.06152	1.14622	AVG		1.17352		6.27062	15.00000	O
1,1-Dichloroethene	0.64985	0.58650	0.63322	0.58689	0.55895	0.58634	AVG		0.60029		5.68047	15.00000	O
Carbon Disulfide	2.11822	1.92496	2.00400	1.89977	1.84593	1.93217	AVG		1.95418		4.87659	15.00000	O
Freon-113	0.37824	0.45068	0.48036	0.43898	0.40710	0.42484	AVG		0.43003		8.23760	15.00000	O
Methylene Chloride	0.84265	0.79669	0.79909	0.70904	0.71351	0.73283	AVG		0.76563		7.15670	15.00000	O
Acetone	0.27352	0.29819	0.29954	0.29183	0.24064	0.25572	AVG		0.27657		8.80082	15.00000	O
trans-1,2-Dichloroethene	0.68270	0.64179	0.67302	0.62467	0.60760	0.62851	AVG		0.64305		4.54857	15.00000	O
Methyl tert-butyl ether	1.59562	1.71078	1.82557	1.71146	1.76371	1.77749	AVG		1.73077		4.57089	15.00000	O
1,1-Dichloroethane	1.31120	1.19602	1.25607	1.13532	1.10125	1.15688	AVG		1.19279		6.60227	15.00000	O
cis-1,2-Dichloroethene	0.73985	0.75102	0.74882	0.68555	0.67362	0.69202	AVG		0.71515		4.91042	15.00000	O
2,2-Dichloropropane	0.54531	0.56588	0.63743	0.62508	0.64805	0.68474	AVG		0.61775		8.49940	15.00000	O
Bromochloromethane	0.30923	0.33288	0.33668	0.33020	0.30735	0.32695	AVG		0.32388		3.86141	15.00000	O
Chloroform	1.25954	1.14976	1.21294	1.11468	1.07540	1.13018	AVG		1.15708		5.84411	15.00000	O
Carbon Tetrachloride	0.34727	0.37035	0.43653	0.44714	0.44760	0.44448	AVG		0.41556		10.7660	15.00000	O
1,1,1-Trichloroethane	0.95117	0.89344	0.97954	0.92863	0.88443	0.91953	AVG		0.92612		3.84389	15.00000	O
1,1-Dichloropropene	0.59963	0.56499	0.62845	0.57052	0.55042	0.54676	AVG		0.57680		5.46421	15.00000	O
2-Butanone	0.41367	0.41632	0.46348	0.45595	0.39036	0.41314	AVG		0.42549		6.63258	15.00000	O
Benzene	1.96172	1.73081	1.89254	1.69650	1.68070	1.64973	AVG		1.76867		7.20247	15.00000	O
1,2-Dichloroethane	0.58573	0.62954	0.67395	0.60614	0.58598	0.58343	AVG		0.61079		5.83685	15.00000	O
Trichloroethene	0.44411	0.43648	0.46596	0.42173	0.41367	0.40527	AVG		0.43120		5.15675	15.00000	O
Dibromomethane	0.28208	0.27134	0.28461	0.26801	0.26377	0.25850	AVG		0.27138		3.77503	15.00000	O
1,2-Dichloropropane	0.45208	0.45020	0.48391	0.44456	0.43915	0.43626	AVG		0.45103		3.82019	15.00000	O
Bromodichloromethane	0.53385	0.55518	0.59357	0.57078	0.56322	0.56044	AVG		0.56284		3.47479	15.00000	O
cis-1,3-dichloropropene	0.61811	0.65445	0.73474	0.69504	0.71645	0.72144	AVG		0.69004		6.52834	15.00000	O
Toluene	1.15507	1.04715	1.17419	1.05360	1.05129	1.05060	AVG		1.08865		5.43787	15.00000	O
4-methyl-2-pentanone	0.52501	0.58216	0.62219	0.61423	0.54821	0.53183	AVG		0.57060		7.34488	15.00000	O
Tetrachloroethene	0.36845	0.35218	0.37241	0.33561	0.32225	0.32668	AVG		0.34627		6.17277	15.00000	O
trans-1,3-Dichloropropene	0.47164	0.49300	0.57886	0.59182	0.61095	0.62398	AVG		0.56171		11.3538	15.00000	O
1,1,2-Trichloroethane	0.33373	0.35143	0.36829	0.34810	0.34053	0.33215	AVG		0.34570		3.88596	15.00000	O
Dibromochloromethane	0.41608	0.41710	0.46292	0.43396	0.44324	0.45303	AVG		0.43772		4.34348	15.00000	O
1,3-Dichloropropane	0.77320	0.74372	0.79064	0.74387	0.74228	0.73408	AVG		0.75463		2.93395	15.00000	O
1,2-Dibromoethane	0.37609	0.38681	0.44057	0.41450	0.41130	0.41000	AVG		0.40654		5.57952	15.00000	O

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Katahdin
ANALYTICAL SERVICES

Form 6
Initial Calibration Summary

Lab Name : Katahdin Analytical Services
SDG: SL4180
Project : Cornhusker Army Ammunition Plant
Instrument ID: GCMS-W
Lab File IDs : W4066.D W4065.D W4064.D W4063.D W4068.D W4067.D
Column ID:
Calibration Date(s): 21-MAY-18 08:39 21-MAY-18 11:44

2-Hexanone	0.36787	0.42351	0.47013	0.43081	0.40359	0.39726	AVG		0.41553		8.35505	15.00000	O
Chlorobenzene	1.30384	1.26492	1.34801	1.19746	1.20105	1.21613	AVG		1.25523		4.89385	15.00000	O
Ethylbenzene	0.72107	0.67747	0.72352	0.67147	0.67580	0.68202	AVG		0.69189		3.44037	15.00000	O
1,1,1,2-Tetrachloroethane	0.39029	0.38075	0.42342	0.40476	0.41796	0.42722	AVG		0.40740		4.61925	15.00000	O
m+p-Xylenes	0.87223	0.81468	0.90460	0.84543	0.82708	0.83839	AVG		0.85040		3.86569	15.00000	O
o-Xylene	0.86588	0.83456	0.88585	0.82689	0.83599	0.84946	AVG		0.84977		2.63467	15.00000	O
Styrene	1.37972	1.38123	1.51088	1.39989	1.42300	1.46110	AVG		1.42597		3.61309	15.00000	O
Bromoform	0.29202	0.32505	0.33224	0.32799	0.34260	0.35505	AVG		0.32916		6.45557	15.00000	O
Isopropylbenzene	3.57447	3.22872	3.52948	3.11131	3.03225	3.02322	AVG		3.24991		7.56118	15.00000	O
Bromobenzene	0.93019	0.91661	1.00774	0.85869	0.88300	0.89369	AVG		0.91499		5.67518	15.00000	O
N-Propylbenzene	4.66749	4.19508	4.64174	4.06373	3.86194	3.76798	AVG		4.19966		9.11823	15.00000	O
1,1,2,2-Tetrachloroethane	1.04373	1.05979	1.13482	1.02471	1.00693	1.01827	AVG		1.04804		4.43608	15.00000	O
1,3,5-Trimethylbenzene	3.23456	2.94078	3.25825	2.85848	2.81115	2.81494	AVG		2.98636		6.92825	15.00000	O
2-Chlorotoluene	2.86080	2.57131	2.74735	2.38023	2.37389	2.40098	AVG		2.55576		8.16700	15.00000	O
1,2,3-Trichloropropane	0.92601	0.92110	0.98071	0.87925	0.86375	0.88651	AVG		0.90956		4.66841	15.00000	O
4-Chlorotoluene	2.97549	2.66900	2.86155	2.54536	2.47879	2.51335	AVG		2.67392		7.60125	15.00000	O
tert-Butylbenzene	3.24940	2.92462	3.21718	2.91953	2.92146	2.93172	AVG		3.02732		5.28263	15.00000	O
1,2,4-Trimethylbenzene	3.31733	3.13035	3.52312	3.03010	2.95361	2.93878	AVG		3.14888		7.31317	15.00000	O
P-Isopropyltoluene	3.58890	3.22906	3.61516	3.24809	3.12007	3.07651	AVG		3.31297		7.03793	15.00000	O
1,3-Dichlorobenzene	1.94704	1.78448	1.98021	1.75935	1.71668	1.71405	AVG		1.81697		6.44603	15.00000	O
1,4-Dichlorobenzene	1.98598	1.85735	2.02574	1.77076	1.75197	1.76273	AVG		1.85909		6.47432	15.00000	O
N-Butylbenzene	3.25652	3.00638	3.50184	3.10919	2.90548	2.85269	AVG		3.10535		7.80408	15.00000	O
sec-Butylbenzene	4.42363	3.91438	4.33052	3.81199	3.64223	3.55886	AVG		3.94694		9.04391	15.00000	O
1,2-Dichlorobenzene	1.91165	1.82937	1.99877	1.77036	1.72380	1.70704	AVG		1.82350		6.24563	15.00000	O
1,2-Dibromo-3-Chloropropane	0.22092	0.22361	0.24985	0.23722	0.23803	0.24953	AVG		0.23653		5.21227	15.00000	O
Hexachlorobutadiene	0.59704	0.55923	0.62485	0.56396	0.51634	0.51278	AVG		0.56237		7.83075	15.00000	O
1,2,4-Trichlorobenzene	1.01766	1.02648	1.19833	1.08143	1.02880	1.03350	AVG		1.06437		6.51893	15.00000	O
Naphthalene	2.72152	2.84172	3.37965	3.00872	2.89866	2.77623	AVG		2.93775		8.11125	15.00000	O
1,2,3-Trichlorobenzene	0.94031	0.96291	1.12220	1.00090	0.95711	0.94824	AVG		0.98861		6.95101	15.00000	O
Dibromofluoromethane	0.45722	0.46120	0.44501	0.45111	0.44493	0.46201	AVG		0.45358		1.69871	15.00000	
1,2-Dichloroethane-D4	0.58699	0.61851	0.57656	0.60452	0.57736	0.61040	AVG		0.59572		2.99605	15.00000	
Toluene-D8	1.25045	1.26243	1.25518	1.24572	1.27146	1.24497	AVG		1.25503		0.82305	15.00000	
P-Bromofluorobenzene	0.51618	0.50737	0.52937	0.54939	0.54144	0.53759	AVG		0.53023		3.00281	15.00000	

Legend: O = Kept Original Curve
Y = Failed Minimum RF
W = Failed %RSD Value

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Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
SDG: SL4180
Lab ID : WG228752-4
Analytical Date: 05/21/18 08:18
Lab File ID : D1447.d
Instrument ID: GCMS-D
Initial Calibration Date(s): 05/17/18 08:11 05/17/18 11:09
Column ID:

	Compound	$\overline{RRF}$/Amount	RF50	CCAL RRF50	Min	%D/ %Drift	Max %D/ %Drift	Curve Type	
1	Dichlorodifluoromethane	0.87127	0.74608	0.74608	0.010	-14.36873	20.00000	Averaged	
2	Chloromethane	0.79934	0.67434	0.67434	0.100	-15.63791	20.00000	Averaged	
3	Vinyl chloride	0.62623	0.57068	0.57068	0.010	-8.87041	20.00000	Averaged	
4	Bromomethane	0.31688	0.29009	0.29009	0.010	-8.45349	20.00000	Averaged	
5	Chloroethane	0.29152	0.28797	0.28797	0.010	-1.21601	20.00000	Averaged	
6	Trichlorofluoromethane	0.98352	0.98740	0.98740	0.010	0.39484	20.00000	Averaged	
9	1,1-Dichloroethene	0.36640	0.40246	0.40246	0.100	9.84128	20.00000	Averaged	
10	Carbon Disulfide	1.18124	1.21326	1.21326	0.010	2.71050	20.00000	Averaged	
11	Freon-113	0.30052	0.31132	0.31132	0.010	3.59571	20.00000	Averaged	
14	Methylene Chloride	0.55520	0.58148	0.58148	0.010	4.73461	20.00000	Averaged	
15	Acetone	0.16249	0.22098	0.22098	0.010	35.99252	20.00000	Averaged	*
17	trans-1,2-Dichloroethene	0.50635	0.52549	0.52549	0.010	3.77962	20.00000	Averaged	
19	Methyl tert-butyl ether	1.31652	1.47472	1.47472	0.010	12.01608	20.00000	Averaged	
25	1,1-Dichloroethane	1.01796	1.07191	1.07191	0.100	5.29926	20.00000	Averaged	
29	cis-1,2-Dichloroethene	0.53605	0.56180	0.56180	0.010	4.80429	20.00000	Averaged	
32	2,2-Dichloropropane	0.71237	0.84380	0.84380	0.010	18.44969	20.00000	Averaged	
33	Bromochloromethane	0.26831	0.28636	0.28636	0.010	6.72712	20.00000	Averaged	
34	Chloroform	1.06581	1.11161	1.11161	0.010	4.29742	20.00000	Averaged	
35	Carbon Tetrachloride	0.47465	0.51732	0.51732	0.010	8.98969	20.00000	Averaged	
38	1,1,1-Trichloroethane	0.91927	0.98939	0.98939	0.010	7.62716	20.00000	Averaged	
39	1,1-Dichloropropene	0.47127	0.50778	0.50778	0.010	7.74683	20.00000	Averaged	
40	2-Butanone	0.24154	0.29364	0.29364	0.010	21.57266	20.00000	Averaged	*
41	Benzene	1.22157	1.28269	1.28269	0.010	5.00302	20.00000	Averaged	
47	1,2-Dichloroethane	0.57229	0.61713	0.61713	0.010	7.83436	20.00000	Averaged	
48	Trichloroethene	0.35084	0.36109	0.36109	0.010	2.92165	20.00000	Averaged	
50	Dibromomethane	0.23166	0.25593	0.25593	0.010	10.47727	20.00000	Averaged	
51	1,2-Dichloropropane	0.33874	0.35809	0.35809	0.010	5.71442	20.00000	Averaged	
52	Bromodichloromethane	0.47995	0.53219	0.53219	0.010	10.88509	20.00000	Averaged	
53	cis-1,3-dichloropropene	50.00000	52.34783	0.62778	0.010	4.69566	20.00000	Linear	
57	Toluene	0.75606	0.77629	0.77629	0.010	2.67631	20.00000	Averaged	
58	4-methyl-2-pentanone	0.30792	0.36925	0.36925	0.010	19.91771	20.00000	Averaged	
59	Tetrachloroethene	0.26820	0.26664	0.26664	0.010	-0.57887	20.00000	Averaged	
60	trans-1,3-Dichloropropene	0.48567	0.56153	0.56153	0.010	15.61934	20.00000	Averaged	
61	1,1,2-Trichloroethane	0.26246	0.28274	0.28274	0.010	7.72834	20.00000	Averaged	
62	Dibromochloromethane	0.37319	0.42351	0.42351	0.010	13.48233	20.00000	Averaged	
63	1,3-Dichloropropane	0.59838	0.65281	0.65281	0.010	9.09673	20.00000	Averaged	
64	1,2-Dibromoethane	0.31721	0.34920	0.34920	0.010	10.08402	20.00000	Averaged	
65	2-Hexanone	0.22567	0.28720	0.28720	0.010	27.26513	20.00000	Averaged	*
67	Chlorobenzene	0.91734	0.93129	0.93129	0.300	1.51997	20.00000	Averaged	
68	Ethylbenzene	1.62552	1.68052	1.68052	0.010	3.38300	20.00000	Averaged	
69	1,1,1,2-Tetrachloroethane	0.33454	0.36811	0.36811	0.010	10.03184	20.00000	Averaged	

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
SDG: SL4180
Lab ID : WG228752-4
Analytical Date: 05/21/18 08:18
Lab File ID : D1447.d
Instrument ID: GCMS-D
Initial Calibration Date(s): 05/17/18 08:11 05/17/18 11:09
Column ID:

Compound	RRF/Amount	RF50	CCAL RRF50	Min	%D/ %Drift	Max %D/ %Drift	Curve Type
71 m+p-Xylenes	1.22828	1.32058	1.32058	0.010	7.51439	20.00000	Averaged
72 o-Xylene	1.19457	1.34041	1.34041	0.010	12.20840	20.00000	Averaged
73 Styrene	0.88775	0.99885	0.99885	0.010	12.51524	20.00000	Averaged
74 Bromoform	0.21682	0.25827	0.25827	0.100	19.12164	20.00000	Averaged
75 Isopropylbenzene	2.68214	2.92828	2.92828	0.010	9.17695	20.00000	Averaged
79 Bromobenzene	0.73418	0.75346	0.75346	0.010	2.62658	20.00000	Averaged
80 N-Propylbenzene	3.64124	3.80957	3.80957	0.010	4.62281	20.00000	Averaged
81 1,1,2,2-Tetrachloroethane	0.83813	0.90788	0.90788	0.300	8.32159	20.00000	Averaged
82 1,3,5-Trimethylbenzene	2.33023	2.57546	2.57546	0.010	10.52388	20.00000	Averaged
83 2-Chlorotoluene	2.12760	2.25301	2.25301	0.010	5.89441	20.00000	Averaged
84 1,2,3-Trichloropropane	0.74720	0.84312	0.84312	0.010	12.83723	20.00000	Averaged
85 4-Chlorotoluene	2.27798	2.42820	2.42820	0.010	6.59419	20.00000	Averaged
86 tert-Butylbenzene	2.20694	2.42558	2.42558	0.010	9.90709	20.00000	Averaged
88 1,2,4-Trimethylbenzene	2.40642	2.64670	2.64670	0.010	9.98482	20.00000	Averaged
89 P-Isopropyltoluene	2.32180	2.54767	2.54767	0.010	9.72795	20.00000	Averaged
90 1,3-Dichlorobenzene	1.32506	1.36594	1.36594	0.010	3.08487	20.00000	Averaged
92 1,4-Dichlorobenzene	1.37993	1.39647	1.39647	0.010	1.19844	20.00000	Averaged
93 N-Butylbenzene	2.27330	2.50660	2.50660	0.010	10.26261	20.00000	Averaged
94 sec-Butylbenzene	2.87531	3.07983	3.07983	0.010	7.11304	20.00000	Averaged
95 1,2-Dichlorobenzene	1.23314	1.31465	1.31465	0.010	6.60957	20.00000	Averaged
96 1,2-Dibromo-3-Chloropropane	0.14324	0.16630	0.16630	0.010	16.10424	20.00000	Averaged
98 Hexachlorobutadiene	0.35792	0.36045	0.36045	0.010	0.70735	20.00000	Averaged
99 1,2,4-Trichlorobenzene	0.72860	0.81759	0.81759	0.010	12.21466	20.00000	Averaged
101 Naphthalene	50.00000	51.59385	1.76041	0.010	3.18769	20.00000	Linear
102 1,2,3-Trichlorobenzene	0.60806	0.65987	0.65987	0.010	8.52003	20.00000	Averaged
37 Dibromofluoromethane	0.61262	0.61617	0.61617	0.010	0.58057	20.00000	Averaged
45 1,2-Dichloroethane-D4	0.83583	0.89422	0.89422	0.010	6.98583	20.00000	Averaged
55 Toluene-D8	1.21869	1.22128	1.22128	0.010	0.21302	20.00000	Averaged
76 P-Bromofluorobenzene	0.50198	0.51818	0.51818	0.010	3.22775	20.00000	Averaged

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
Lab ID : WG228752-4
Lab File ID : D1447.d
Initial Calibration Date(s): 05/17/18 08:11 05/17/18 11:09

SDG: SL4180
Analytical Date: 05/21/18 08:18
Instrument ID: GCMS-D
Column ID:

*** = Compound out of QC criteria**

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Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
SDG: SL4180
Lab ID : WG228752-5
Analytical Date: 05/21/18 18:04
Lab File ID : D1463.d
Instrument ID: GCMS-D
Initial Calibration Date(s): 05/17/18 08:11 05/17/18 11:09
Column ID:

	Compound	$\overline{RRF}$/Amount	RF50	CCAL RRF50	Min	%D/ %Drift	Max %D/ %Drift	Curve Type	
1	Dichlorodifluoromethane	0.87127	0.68960	0.68960	0.010	-20.85124	20.00000	Averaged	*
2	Chloromethane	0.79934	0.71064	0.71064	0.100	-11.09584	20.00000	Averaged	
3	Vinyl chloride	0.62623	0.59001	0.59001	0.010	-5.78396	20.00000	Averaged	
4	Bromomethane	0.31688	0.28615	0.28615	0.010	-9.69907	20.00000	Averaged	
5	Chloroethane	0.29152	0.30857	0.30857	0.010	5.85125	20.00000	Averaged	
6	Trichlorofluoromethane	0.98352	1.00476	1.00476	0.010	2.15960	20.00000	Averaged	
9	1,1-Dichloroethene	0.36640	0.41364	0.41364	0.100	12.89046	20.00000	Averaged	
10	Carbon Disulfide	1.18124	1.27154	1.27154	0.010	7.64405	20.00000	Averaged	
11	Freon-113	0.30052	0.29881	0.29881	0.010	-0.56774	20.00000	Averaged	
14	Methylene Chloride	0.55520	0.57117	0.57117	0.010	2.87705	20.00000	Averaged	
15	Acetone	0.16249	0.16327	0.16327	0.010	0.47996	20.00000	Averaged	
17	trans-1,2-Dichloroethene	0.50635	0.52897	0.52897	0.010	4.46699	20.00000	Averaged	
19	Methyl tert-butyl ether	1.31652	1.39655	1.39655	0.010	6.07875	20.00000	Averaged	
25	1,1-Dichloroethane	1.01796	1.09628	1.09628	0.100	7.69357	20.00000	Averaged	
29	cis-1,2-Dichloroethene	0.53605	0.56910	0.56910	0.010	6.16698	20.00000	Averaged	
32	2,2-Dichloropropane	0.71237	0.72974	0.72974	0.010	2.43907	20.00000	Averaged	
33	Bromochloromethane	0.26831	0.28347	0.28347	0.010	5.65184	20.00000	Averaged	
34	Chloroform	1.06581	1.14004	1.14004	0.010	6.96499	20.00000	Averaged	
35	Carbon Tetrachloride	0.47465	0.50489	0.50489	0.010	6.36989	20.00000	Averaged	
38	1,1,1-Trichloroethane	0.91927	0.98022	0.98022	0.010	6.63043	20.00000	Averaged	
39	1,1-Dichloropropene	0.47127	0.50142	0.50142	0.010	6.39805	20.00000	Averaged	
40	2-Butanone	0.24154	0.24678	0.24678	0.010	2.17169	20.00000	Averaged	
41	Benzene	1.22157	1.29377	1.29377	0.010	5.91039	20.00000	Averaged	
47	1,2-Dichloroethane	0.57229	0.60702	0.60702	0.010	6.06794	20.00000	Averaged	
48	Trichloroethene	0.35084	0.36574	0.36574	0.010	4.24937	20.00000	Averaged	
50	Dibromomethane	0.23166	0.24423	0.24423	0.010	5.42555	20.00000	Averaged	
51	1,2-Dichloropropane	0.33874	0.36267	0.36267	0.010	7.06660	20.00000	Averaged	
52	Bromodichloromethane	0.47995	0.53650	0.53650	0.010	11.78358	20.00000	Averaged	
53	cis-1,3-dichloropropene	50.00000	52.20583	0.62603	0.010	4.41166	20.00000	Linear	
57	Toluene	0.75606	0.78804	0.78804	0.010	4.22949	20.00000	Averaged	
58	4-methyl-2-pentanone	0.30792	0.33144	0.33144	0.010	7.63593	20.00000	Averaged	
59	Tetrachloroethene	0.26820	0.37265	0.37265	0.010	38.94705	20.00000	Averaged	*
60	trans-1,3-Dichloropropene	0.48567	0.55127	0.55127	0.010	13.50787	20.00000	Averaged	
61	1,1,2-Trichloroethane	0.26246	0.26446	0.26446	0.010	0.76084	20.00000	Averaged	
62	Dibromochloromethane	0.37319	0.40925	0.40925	0.010	9.66269	20.00000	Averaged	
63	1,3-Dichloropropane	0.59838	0.63735	0.63735	0.010	6.51215	20.00000	Averaged	
64	1,2-Dibromoethane	0.31721	0.32597	0.32597	0.010	2.76021	20.00000	Averaged	
65	2-Hexanone	0.22567	0.24758	0.24758	0.010	9.70613	20.00000	Averaged	
67	Chlorobenzene	0.91734	0.94321	0.94321	0.300	2.81987	20.00000	Averaged	
68	Ethylbenzene	1.62552	1.69793	1.69793	0.010	4.45451	20.00000	Averaged	
69	1,1,1,2-Tetrachloroethane	0.33454	0.36090	0.36090	0.010	7.87781	20.00000	Averaged	

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
SDG: SL4180
Lab ID : WG228752-5
Analytical Date: 05/21/18 18:04
Lab File ID : D1463.d
Instrument ID: GCMS-D
Initial Calibration Date(s): 05/17/18 08:11 05/17/18 11:09
Column ID:

Compound	RRF/Amount	RF50	CCAL RRF50	Min	%D/ %Drift	Max %D/ %Drift	Curve Type
71 m+p-Xylenes	1.22828	1.33416	1.33416	0.010	8.62006	20.00000	Averaged
72 o-Xylene	1.19457	1.36122	1.36122	0.010	13.95058	20.00000	Averaged
73 Styrene	0.88775	1.00385	1.00385	0.010	13.07782	20.00000	Averaged
74 Bromoform	0.21682	0.23490	0.23490	0.100	8.34219	20.00000	Averaged
75 Isopropylbenzene	2.68214	2.90854	2.90854	0.010	8.44080	20.00000	Averaged
79 Bromobenzene	0.73418	0.75073	0.75073	0.010	2.25460	20.00000	Averaged
80 N-Propylbenzene	3.64124	3.75432	3.75432	0.010	3.10553	20.00000	Averaged
81 1,1,2,2-Tetrachloroethane	0.83813	0.80214	0.80214	0.300	-4.29427	20.00000	Averaged
82 1,3,5-Trimethylbenzene	2.33023	2.50875	2.50875	0.010	7.66129	20.00000	Averaged
83 2-Chlorotoluene	2.12760	2.25584	2.25584	0.010	6.02774	20.00000	Averaged
84 1,2,3-Trichloropropane	0.74720	0.74050	0.74050	0.010	-0.89725	20.00000	Averaged
85 4-Chlorotoluene	2.27798	2.40414	2.40414	0.010	5.53834	20.00000	Averaged
86 tert-Butylbenzene	2.20694	2.19761	2.19761	0.010	-0.42275	20.00000	Averaged
88 1,2,4-Trimethylbenzene	2.40642	2.61289	2.61289	0.010	8.57983	20.00000	Averaged
89 P-Isopropyltoluene	2.32180	2.48388	2.48388	0.010	6.98066	20.00000	Averaged
90 1,3-Dichlorobenzene	1.32506	1.34519	1.34519	0.010	1.51859	20.00000	Averaged
92 1,4-Dichlorobenzene	1.37993	1.38405	1.38405	0.010	0.29888	20.00000	Averaged
93 N-Butylbenzene	2.27330	2.40815	2.40815	0.010	5.93160	20.00000	Averaged
94 sec-Butylbenzene	2.87531	3.02605	3.02605	0.010	5.24248	20.00000	Averaged
95 1,2-Dichlorobenzene	1.23314	1.28968	1.28968	0.010	4.58489	20.00000	Averaged
96 1,2-Dibromo-3-Chloropropane	0.14324	0.13459	0.13459	0.010	-6.03574	20.00000	Averaged
98 Hexachlorobutadiene	0.35792	0.33429	0.33429	0.010	-6.60402	20.00000	Averaged
99 1,2,4-Trichlorobenzene	0.72860	0.74183	0.74183	0.010	1.81595	20.00000	Averaged
101 Naphthalene	50.00000	43.54928	1.47596	0.010	-12.90145	20.00000	Linear
102 1,2,3-Trichlorobenzene	0.60806	0.56758	0.56758	0.010	-6.65698	20.00000	Averaged
37 Dibromofluoromethane	0.61262	0.61682	0.61682	0.010	0.68668	20.00000	Averaged
45 1,2-Dichloroethane-D4	0.83583	0.90085	0.90085	0.010	7.77832	20.00000	Averaged
55 Toluene-D8	1.21869	1.24110	1.24110	0.010	1.83864	20.00000	Averaged
76 P-Bromofluorobenzene	0.50198	0.51598	0.51598	0.010	2.78903	20.00000	Averaged

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
Lab ID : WG228752-5
Lab File ID : D1463.d
Initial Calibration Date(s): 05/17/18 08:11 05/17/18 11:09

SDG: SL4180
Analytical Date: 05/21/18 18:04
Instrument ID: GCMS-D
Column ID:

*** = Compound out of QC criteria**

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Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
SDG: SL4180
Lab ID : WG228693-4
Analytical Date: 05/19/18 07:53
Lab File ID : W4034.D
Instrument ID: GCMS-W
Initial Calibration Date(s): 05/18/18 14:27 05/18/18 17:33
Column ID:

	Compound	$\overline{RRF}$/Amount	RF50	CCAL RRF50	Min	%D/ %Drift	Max %D/ %Drift	Curve Type	
1	Dichlorodifluoromethane	0.38392	0.40244	0.40244	0.010	4.82334	20.00000	Averaged	
2	Chloromethane	0.54782	0.53749	0.53749	0.100	-1.88555	20.00000	Averaged	
3	Vinyl chloride	0.45026	0.46740	0.46740	0.010	3.80606	20.00000	Averaged	
4	Bromomethane	0.19261	0.18290	0.18290	0.010	-5.04219	20.00000	Averaged	
5	Chloroethane	50.00000	51.86266	0.24321	0.010	3.72532	20.00000	Quadratic	
6	Trichlorofluoromethane	0.54100	0.59044	0.59044	0.010	9.13722	20.00000	Averaged	
9	1,1-Dichloroethene	0.32729	0.34453	0.34453	0.010	5.26856	20.00000	Averaged	
10	Carbon Disulfide	1.10993	1.15066	1.15066	0.010	3.66996	20.00000	Averaged	
11	Freon-113	0.23674	0.26205	0.26205	0.010	10.69367	20.00000	Averaged	
14	Methylene Chloride	0.41770	0.42715	0.42715	0.010	2.26215	20.00000	Averaged	
15	Acetone	0.15266	0.20679	0.20679	0.010	35.45632	20.00000	Averaged	*
17	trans-1,2-Dichloroethene	0.35515	0.37429	0.37429	0.010	5.38967	20.00000	Averaged	
19	Methyl tert-butyl ether	0.96337	0.99939	0.99939	0.010	3.73984	20.00000	Averaged	
25	1,1-Dichloroethane	0.66182	0.69415	0.69415	0.100	4.88542	20.00000	Averaged	
29	cis-1,2-Dichloroethene	0.38736	0.40226	0.40226	0.010	3.84546	20.00000	Averaged	
32	2,2-Dichloropropane	0.33943	0.38032	0.38032	0.010	12.04619	20.00000	Averaged	
33	Bromochloromethane	0.17304	0.18762	0.18762	0.010	8.42162	20.00000	Averaged	
34	Chloroform	0.61854	0.65275	0.65275	0.010	5.53151	20.00000	Averaged	
35	Carbon Tetrachloride	50.00000	53.60473	0.22829	0.010	7.20946	20.00000	Linear	
38	1,1,1-Trichloroethane	0.49636	0.52512	0.52512	0.010	5.79452	20.00000	Averaged	
39	1,1-Dichloropropene	0.29161	0.31334	0.31334	0.010	7.45470	20.00000	Averaged	
40	2-Butanone	0.23499	0.27624	0.27624	0.010	17.55535	20.00000	Averaged	
41	Benzene	0.89784	0.95976	0.95976	0.010	6.89646	20.00000	Averaged	
47	1,2-Dichloroethane	0.32018	0.33933	0.33933	0.010	5.98084	20.00000	Averaged	
48	Trichloroethene	0.21504	0.22962	0.22962	0.010	6.77910	20.00000	Averaged	
50	Dibromomethane	0.13488	0.14569	0.14569	0.010	8.01374	20.00000	Averaged	
51	1,2-Dichloropropane	0.23159	0.24994	0.24994	0.010	7.92200	20.00000	Averaged	
52	Bromodichloromethane	0.27488	0.30629	0.30629	0.010	11.42682	20.00000	Averaged	
53	cis-1,3-dichloropropene	0.34274	0.38506	0.38506	0.010	12.34535	20.00000	Averaged	
57	Toluene	0.53701	0.58163	0.58163	0.010	8.31006	20.00000	Averaged	
58	4-methyl-2-pentanone	0.28170	0.31472	0.31472	0.010	11.72090	20.00000	Averaged	
59	Tetrachloroethene	0.17295	0.17955	0.17955	0.010	3.81728	20.00000	Averaged	
60	trans-1,3-Dichloropropene	0.26851	0.31169	0.31169	0.010	16.08166	20.00000	Averaged	
61	1,1,2-Trichloroethane	0.17141	0.18185	0.18185	0.010	6.09311	20.00000	Averaged	
62	Dibromochloromethane	0.21666	0.23354	0.23354	0.010	7.79114	20.00000	Averaged	
63	1,3-Dichloropropane	0.40109	0.42380	0.42380	0.010	5.66223	20.00000	Averaged	
64	1,2-Dibromoethane	0.20059	0.22727	0.22727	0.010	13.30280	20.00000	Averaged	
65	2-Hexanone	0.22262	0.24664	0.24664	0.010	10.78921	20.00000	Averaged	
67	Chlorobenzene	0.65067	0.69588	0.69588	0.300	6.94859	20.00000	Averaged	
68	Ethylbenzene	0.35340	0.37704	0.37704	0.010	6.69001	20.00000	Averaged	
69	1,1,1,2-Tetrachloroethane	0.20294	0.22384	0.22384	0.010	10.30003	20.00000	Averaged	

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Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
SDG: SL4180
Lab ID : WG228693-4
Analytical Date: 05/19/18 07:53
Lab File ID : W4034.D
Instrument ID: GCMS-W
Initial Calibration Date(s): 05/18/18 14:27 05/18/18 17:33
Column ID:

Compound	RRF/Amount	RF50	CCAL RRF50	Min	%D/ %Drift	Max %D/ %Drift	Curve Type
71 m+p-Xylenes	0.43189	0.47075	0.47075	0.010	8.99752	20.00000	Averaged
72 o-Xylene	0.43293	0.46789	0.46789	0.010	8.07504	20.00000	Averaged
73 Styrene	0.73454	0.79550	0.79550	0.010	8.29972	20.00000	Averaged
74 Bromoform	0.15106	0.16778	0.16778	0.100	11.06982	20.00000	Averaged
75 Isopropylbenzene	1.86675	1.99972	1.99972	0.010	7.12305	20.00000	Averaged
79 Bromobenzene	0.50786	0.52770	0.52770	0.010	3.90720	20.00000	Averaged
80 N-Propylbenzene	2.40910	2.61799	2.61799	0.010	8.67084	20.00000	Averaged
81 1,1,2,2-Tetrachloroethane	0.59848	0.63064	0.63064	0.300	5.37303	20.00000	Averaged
82 1,3,5-Trimethylbenzene	1.68052	1.83069	1.83069	0.010	8.93602	20.00000	Averaged
83 2-Chlorotoluene	1.47438	1.57546	1.57546	0.010	6.85572	20.00000	Averaged
84 1,2,3-Trichloropropane	0.51422	0.54505	0.54505	0.010	5.99497	20.00000	Averaged
85 4-Chlorotoluene	1.53275	1.64249	1.64249	0.010	7.15992	20.00000	Averaged
86 tert-Butylbenzene	1.68063	1.80358	1.80358	0.010	7.31583	20.00000	Averaged
88 1,2,4-Trimethylbenzene	1.77316	1.92982	1.92982	0.010	8.83526	20.00000	Averaged
89 P-Isopropyltoluene	1.85110	2.04519	2.04519	0.010	10.48533	20.00000	Averaged
90 1,3-Dichlorobenzene	0.97614	1.07365	1.07365	0.010	9.98928	20.00000	Averaged
92 1,4-Dichlorobenzene	0.99807	1.11075	1.11075	0.010	11.28910	20.00000	Averaged
93 N-Butylbenzene	1.76426	2.02121	2.02121	0.010	14.56440	20.00000	Averaged
94 sec-Butylbenzene	2.21553	2.38983	2.38983	0.010	7.86739	20.00000	Averaged
95 1,2-Dichlorobenzene	0.98481	1.07296	1.07296	0.010	8.95113	20.00000	Averaged
96 1,2-Dibromo-3-Chloropropane	0.12842	0.15190	0.15190	0.010	18.28413	20.00000	Averaged
98 Hexachlorobutadiene	0.30815	0.35289	0.35289	0.010	14.51722	20.00000	Averaged
99 1,2,4-Trichlorobenzene	0.59047	0.70079	0.70079	0.010	18.68385	20.00000	Averaged
101 Naphthalene	1.65747	1.81985	1.81985	0.010	9.79701	20.00000	Averaged
102 1,2,3-Trichlorobenzene	0.56119	0.64484	0.64484	0.010	14.90569	20.00000	Averaged
37 Dibromofluoromethane	0.49126	0.48563	0.48563	0.010	-1.14671	20.00000	Averaged
45 1,2-Dichloroethane-D4	0.64508	0.64162	0.64162	0.010	-0.53634	20.00000	Averaged
55 Toluene-D8	1.21478	1.22629	1.22629	0.010	0.94738	20.00000	Averaged
76 P-Bromofluorobenzene	0.51004	0.51875	0.51875	0.010	1.70781	20.00000	Averaged

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
Lab ID : WG228693-4
Lab File ID : W4034.D
Initial Calibration Date(s): 05/18/18 14:27 05/18/18 17:33

SDG: SL4180
Analytical Date: 05/19/18 07:53
Instrument ID: GCMS-W
Column ID:

*** = Compound out of QC criteria**

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Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
SDG: SL4180
Lab ID : WG228751-11
Analytical Date: 05/21/18 18:42
Lab File ID : W4079.D
Instrument ID: GCMS-W
Initial Calibration Date(s): 05/21/18 08:39 05/21/18 11:44
Column ID:

	Compound	$\overline{RRF}$/Amount	RF50	CCAL RRF50	Min	%D/ %Drift	Max %D/ %Drift	Curve Type
1	Dichlorodifluoromethane	0.79287	0.69928	0.69928	0.010	-11.80458	20.00000	Averaged
2	Chloromethane	0.99616	0.88607	0.88607	0.100	-11.05130	20.00000	Averaged
3	Vinyl chloride	0.91057	0.82349	0.82349	0.010	-9.56312	20.00000	Averaged
4	Bromomethane	0.45871	0.39898	0.39898	0.010	-13.02168	20.00000	Averaged
5	Chloroethane	50.00000	52.03329	0.49357	0.010	4.06659	20.00000	Linear
6	Trichlorofluoromethane	1.17352	1.11912	1.11912	0.010	-4.63581	20.00000	Averaged
9	1,1-Dichloroethene	0.60029	0.53910	0.53910	0.010	-10.19363	20.00000	Averaged
10	Carbon Disulfide	1.95418	1.79131	1.79131	0.010	-8.33406	20.00000	Averaged
11	Freon-113	0.43003	0.38717	0.38717	0.010	-9.96645	20.00000	Averaged
14	Methylene Chloride	0.76563	0.67754	0.67754	0.010	-11.50628	20.00000	Averaged
15	Acetone	0.27657	0.25073	0.25073	0.010	-9.34552	20.00000	Averaged
17	trans-1,2-Dichloroethene	0.64305	0.58097	0.58097	0.010	-9.65358	20.00000	Averaged
19	Methyl tert-butyl ether	1.73077	1.51095	1.51095	0.010	-12.70093	20.00000	Averaged
25	1,1-Dichloroethane	1.19279	1.07221	1.07221	0.100	-10.10932	20.00000	Averaged
29	cis-1,2-Dichloroethene	0.71515	0.64625	0.64625	0.010	-9.63459	20.00000	Averaged
32	2,2-Dichloropropane	0.61775	0.49893	0.49893	0.010	-19.23395	20.00000	Averaged
33	Bromochloromethane	0.32388	0.30530	0.30530	0.010	-5.73667	20.00000	Averaged
34	Chloroform	1.15708	1.02646	1.02646	0.010	-11.28905	20.00000	Averaged
35	Carbon Tetrachloride	0.41556	0.37767	0.37767	0.010	-9.11763	20.00000	Averaged
38	1,1,1-Trichloroethane	0.92612	0.81085	0.81085	0.010	-12.44740	20.00000	Averaged
39	1,1-Dichloropropene	0.57680	0.50648	0.50648	0.010	-12.19134	20.00000	Averaged
40	2-Butanone	0.42549	0.40703	0.40703	0.010	-4.33797	20.00000	Averaged
41	Benzene	1.76867	1.59560	1.59560	0.010	-9.78494	20.00000	Averaged
47	1,2-Dichloroethane	0.61079	0.56912	0.56912	0.010	-6.82326	20.00000	Averaged
48	Trichloroethene	0.43120	0.38485	0.38485	0.010	-10.74992	20.00000	Averaged
50	Dibromomethane	0.27138	0.24703	0.24703	0.010	-8.97584	20.00000	Averaged
51	1,2-Dichloropropane	0.45103	0.40104	0.40104	0.010	-11.08393	20.00000	Averaged
52	Bromodichloromethane	0.56284	0.51616	0.51616	0.010	-8.29322	20.00000	Averaged
53	cis-1,3-dichloropropene	0.69004	0.60310	0.60310	0.010	-12.59956	20.00000	Averaged
57	Toluene	1.08865	0.96167	0.96167	0.010	-11.66425	20.00000	Averaged
58	4-methyl-2-pentanone	0.57060	0.54818	0.54818	0.010	-3.92969	20.00000	Averaged
59	Tetrachloroethene	0.34627	0.30653	0.30653	0.010	-11.47607	20.00000	Averaged
60	trans-1,3-Dichloropropene	0.56171	0.52272	0.52272	0.010	-6.94052	20.00000	Averaged
61	1,1,2-Trichloroethane	0.34570	0.31923	0.31923	0.010	-7.65842	20.00000	Averaged
62	Dibromochloromethane	0.43772	0.40619	0.40619	0.010	-7.20416	20.00000	Averaged
63	1,3-Dichloropropane	0.75463	0.70245	0.70245	0.010	-6.91507	20.00000	Averaged
64	1,2-Dibromoethane	0.40654	0.37473	0.37473	0.010	-7.82536	20.00000	Averaged
65	2-Hexanone	0.41553	0.40089	0.40089	0.010	-3.52451	20.00000	Averaged
67	Chlorobenzene	1.25523	1.14073	1.14073	0.300	-9.12209	20.00000	Averaged
68	Ethylbenzene	0.69189	0.62367	0.62367	0.010	-9.86072	20.00000	Averaged
69	1,1,1,2-Tetrachloroethane	0.40740	0.37626	0.37626	0.010	-7.64298	20.00000	Averaged

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Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
SDG: SL4180
Lab ID : WG228751-11
Analytical Date: 05/21/18 18:42
Lab File ID : W4079.D
Instrument ID: GCMS-W
Initial Calibration Date(s): 05/21/18 08:39 05/21/18 11:44
Column ID:

	Compound	$\overline{RRF}$/Amount	RF50	CCAL RRF50	Min	%D/ %Drift	Max %D/ %Drift	Curve Type
71	m+p-Xylenes	0.85040	0.77114	0.77114	0.010	-9.32072	20.00000	Averaged
72	o-Xylene	0.84977	0.79267	0.79267	0.010	-6.71916	20.00000	Averaged
73	Styrene	1.42597	1.31134	1.31134	0.010	-8.03842	20.00000	Averaged
74	Bromoform	0.32916	0.30920	0.30920	0.100	-6.06467	20.00000	Averaged
75	Isopropylbenzene	3.24991	3.10701	3.10701	0.010	-4.39692	20.00000	Averaged
79	Bromobenzene	0.91499	0.85392	0.85392	0.010	-6.67458	20.00000	Averaged
80	N-Propylbenzene	4.19966	3.99616	3.99616	0.010	-4.84570	20.00000	Averaged
81	1,1,2,2-Tetrachloroethane	1.04804	1.03862	1.03862	0.300	-0.89953	20.00000	Averaged
82	1,3,5-Trimethylbenzene	2.98636	2.84787	2.84787	0.010	-4.63764	20.00000	Averaged
83	2-Chlorotoluene	2.55576	2.37157	2.37157	0.010	-7.20674	20.00000	Averaged
84	1,2,3-Trichloropropane	0.90956	0.88206	0.88206	0.010	-3.02324	20.00000	Averaged
85	4-Chlorotoluene	2.67392	2.45751	2.45751	0.010	-8.09346	20.00000	Averaged
86	tert-Butylbenzene	3.02732	2.89110	2.89110	0.010	-4.49974	20.00000	Averaged
88	1,2,4-Trimethylbenzene	3.14888	2.99777	2.99777	0.010	-4.79871	20.00000	Averaged
89	P-Isopropyltoluene	3.31297	3.15871	3.15871	0.010	-4.65622	20.00000	Averaged
90	1,3-Dichlorobenzene	1.81697	1.67583	1.67583	0.010	-7.76765	20.00000	Averaged
92	1,4-Dichlorobenzene	1.85909	1.70623	1.70623	0.010	-8.22223	20.00000	Averaged
93	N-Butylbenzene	3.10535	2.94754	2.94754	0.010	-5.08194	20.00000	Averaged
94	sec-Butylbenzene	3.94694	3.78881	3.78881	0.010	-4.00621	20.00000	Averaged
95	1,2-Dichlorobenzene	1.82350	1.71644	1.71644	0.010	-5.87117	20.00000	Averaged
96	1,2-Dibromo-3-Chloropropane	0.23653	0.21732	0.21732	0.010	-8.12147	20.00000	Averaged
98	Hexachlorobutadiene	0.56237	0.48937	0.48937	0.010	-12.98010	20.00000	Averaged
99	1,2,4-Trichlorobenzene	1.06437	0.93619	0.93619	0.010	-12.04229	20.00000	Averaged
101	Naphthalene	2.93775	2.80184	2.80184	0.010	-4.62642	20.00000	Averaged
102	1,2,3-Trichlorobenzene	0.98861	0.89893	0.89893	0.010	-9.07115	20.00000	Averaged
37	Dibromofluoromethane	0.45358	0.44923	0.44923	0.010	-0.95920	20.00000	Averaged
45	1,2-Dichloroethane-D4	0.59572	0.61045	0.61045	0.010	2.47196	20.00000	Averaged
55	Toluene-D8	1.25503	1.22485	1.22485	0.010	-2.40481	20.00000	Averaged
76	P-Bromofluorobenzene	0.53023	0.51124	0.51124	0.010	-3.58025	20.00000	Averaged

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
Lab ID : WG228751-11
Lab File ID : W4079.D
Initial Calibration Date(s): 05/21/18 08:39 05/21/18 11:44

SDG: SL4180
Analytical Date: 05/21/18 18:42
Instrument ID: GCMS-W
Column ID:

*** = Compound out of QC criteria**

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Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
SDG: SL4180
Lab ID : WG228825-4
Analytical Date: 05/21/18 19:35
Lab File ID : W4080.D
Instrument ID: GCMS-W
Initial Calibration Date(s): 05/21/18 08:39 05/21/18 11:44
Column ID:

	Compound	$\overline{RRF}$/Amount	RF50	CCAL RRF50	Min	%D/ %Drift	Max %D/ %Drift	Curve Type
1	Dichlorodifluoromethane	0.79287	0.66270	0.66270	0.010	-16.41727	20.00000	Averaged
2	Chloromethane	0.99616	0.87112	0.87112	0.100	-12.55228	20.00000	Averaged
3	Vinyl chloride	0.91057	0.81962	0.81962	0.010	-9.98832	20.00000	Averaged
4	Bromomethane	0.45871	0.43333	0.43333	0.010	-5.53373	20.00000	Averaged
5	Chloroethane	50.00000	54.61028	0.51592	0.010	9.22056	20.00000	Linear
6	Trichlorofluoromethane	1.17352	1.03930	1.03930	0.010	-11.43725	20.00000	Averaged
9	1,1-Dichloroethene	0.60029	0.52167	0.52167	0.010	-13.09673	20.00000	Averaged
10	Carbon Disulfide	1.95418	1.79751	1.79751	0.010	-8.01688	20.00000	Averaged
11	Freon-113	0.43003	0.38330	0.38330	0.010	-10.86777	20.00000	Averaged
14	Methylene Chloride	0.76563	0.63954	0.63954	0.010	-16.46948	20.00000	Averaged
15	Acetone	0.27657	0.25830	0.25830	0.010	-6.60616	20.00000	Averaged
17	trans-1,2-Dichloroethene	0.64305	0.58296	0.58296	0.010	-9.34489	20.00000	Averaged
19	Methyl tert-butyl ether	1.73077	1.48648	1.48648	0.010	-14.11450	20.00000	Averaged
25	1,1-Dichloroethane	1.19279	1.05025	1.05025	0.100	-11.95003	20.00000	Averaged
29	cis-1,2-Dichloroethene	0.71515	0.59818	0.59818	0.010	-16.35553	20.00000	Averaged
32	2,2-Dichloropropane	0.61775	0.56097	0.56097	0.010	-9.19162	20.00000	Averaged
33	Bromochloromethane	0.32388	0.28867	0.28867	0.010	-10.87110	20.00000	Averaged
34	Chloroform	1.15708	1.01706	1.01706	0.010	-12.10163	20.00000	Averaged
35	Carbon Tetrachloride	0.41556	0.38827	0.38827	0.010	-6.56681	20.00000	Averaged
38	1,1,1-Trichloroethane	0.92612	0.82739	0.82739	0.010	-10.66083	20.00000	Averaged
39	1,1-Dichloropropene	0.57680	0.53201	0.53201	0.010	-7.76400	20.00000	Averaged
40	2-Butanone	0.42549	0.38029	0.38029	0.010	-10.62150	20.00000	Averaged
41	Benzene	1.76867	1.57422	1.57422	0.010	-10.99410	20.00000	Averaged
47	1,2-Dichloroethane	0.61079	0.53330	0.53330	0.010	-12.68745	20.00000	Averaged
48	Trichloroethene	0.43120	0.39544	0.39544	0.010	-8.29458	20.00000	Averaged
50	Dibromomethane	0.27138	0.23797	0.23797	0.010	-12.31272	20.00000	Averaged
51	1,2-Dichloropropane	0.45103	0.40324	0.40324	0.010	-10.59498	20.00000	Averaged
52	Bromodichloromethane	0.56284	0.49943	0.49943	0.010	-11.26678	20.00000	Averaged
53	cis-1,3-dichloropropene	0.69004	0.63144	0.63144	0.010	-8.49260	20.00000	Averaged
57	Toluene	1.08865	0.98692	0.98692	0.010	-9.34464	20.00000	Averaged
58	4-methyl-2-pentanone	0.57060	0.51662	0.51662	0.010	-9.46068	20.00000	Averaged
59	Tetrachloroethene	0.34627	0.31110	0.31110	0.010	-10.15506	20.00000	Averaged
60	trans-1,3-Dichloropropene	0.56171	0.50177	0.50177	0.010	-10.67000	20.00000	Averaged
61	1,1,2-Trichloroethane	0.34570	0.30644	0.30644	0.010	-11.35706	20.00000	Averaged
62	Dibromochloromethane	0.43772	0.40198	0.40198	0.010	-8.16637	20.00000	Averaged
63	1,3-Dichloropropane	0.75463	0.68469	0.68469	0.010	-9.26796	20.00000	Averaged
64	1,2-Dibromoethane	0.40654	0.35534	0.35534	0.010	-12.59443	20.00000	Averaged
65	2-Hexanone	0.41553	0.38411	0.38411	0.010	-7.56045	20.00000	Averaged
67	Chlorobenzene	1.25523	1.16145	1.16145	0.300	-7.47166	20.00000	Averaged
68	Ethylbenzene	0.69189	0.64908	0.64908	0.010	-6.18759	20.00000	Averaged
69	1,1,1,2-Tetrachloroethane	0.40740	0.37397	0.37397	0.010	-8.20537	20.00000	Averaged

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
SDG: SL4180
Lab ID : WG228825-4
Analytical Date: 05/21/18 19:35
Lab File ID : W4080.D
Instrument ID: GCMS-W
Initial Calibration Date(s): 05/21/18 08:39 05/21/18 11:44
Column ID:

	Compound	RRF/Amount	RF50	CCAL RRF50	Min	%D/ %Drift	Max %D/ %Drift	Curve Type
71	m+p-Xylenes	0.85040	0.81594	0.81594	0.010	-4.05291	20.00000	Averaged
72	o-Xylene	0.84977	0.80113	0.80113	0.010	-5.72436	20.00000	Averaged
73	Styrene	1.42597	1.34463	1.34463	0.010	-5.70417	20.00000	Averaged
74	Bromoform	0.32916	0.29810	0.29810	0.100	-9.43499	20.00000	Averaged
75	Isopropylbenzene	3.24991	3.16250	3.16250	0.010	-2.68968	20.00000	Averaged
79	Bromobenzene	0.91499	0.86168	0.86168	0.010	-5.82635	20.00000	Averaged
80	N-Propylbenzene	4.19966	4.15107	4.15107	0.010	-1.15706	20.00000	Averaged
81	1,1,2,2-Tetrachloroethane	1.04804	0.94605	0.94605	0.300	-9.73150	20.00000	Averaged
82	1,3,5-Trimethylbenzene	2.98636	2.92791	2.92791	0.010	-1.95728	20.00000	Averaged
83	2-Chlorotoluene	2.55576	2.46964	2.46964	0.010	-3.36952	20.00000	Averaged
84	1,2,3-Trichloropropane	0.90956	0.82415	0.82415	0.010	-9.38939	20.00000	Averaged
85	4-Chlorotoluene	2.67392	2.58551	2.58551	0.010	-3.30637	20.00000	Averaged
86	tert-Butylbenzene	3.02732	2.94508	2.94508	0.010	-2.71645	20.00000	Averaged
88	1,2,4-Trimethylbenzene	3.14888	3.08889	3.08889	0.010	-1.90508	20.00000	Averaged
89	P-Isopropyltoluene	3.31297	3.35915	3.35915	0.010	1.39393	20.00000	Averaged
90	1,3-Dichlorobenzene	1.81697	1.73693	1.73693	0.010	-4.40501	20.00000	Averaged
92	1,4-Dichlorobenzene	1.85909	1.76347	1.76347	0.010	-5.14346	20.00000	Averaged
93	N-Butylbenzene	3.10535	3.23264	3.23264	0.010	4.09908	20.00000	Averaged
94	sec-Butylbenzene	3.94694	3.89583	3.89583	0.010	-1.29488	20.00000	Averaged
95	1,2-Dichlorobenzene	1.82350	1.69886	1.69886	0.010	-6.83493	20.00000	Averaged
96	1,2-Dibromo-3-Chloropropane	0.23653	0.21908	0.21908	0.010	-7.37507	20.00000	Averaged
98	Hexachlorobutadiene	0.56237	0.53837	0.53837	0.010	-4.26741	20.00000	Averaged
99	1,2,4-Trichlorobenzene	1.06437	1.05161	1.05161	0.010	-1.19905	20.00000	Averaged
101	Naphthalene	2.93775	2.70732	2.70732	0.010	-7.84380	20.00000	Averaged
102	1,2,3-Trichlorobenzene	0.98861	0.91601	0.91601	0.010	-7.34375	20.00000	Averaged
37	Dibromofluoromethane	0.45358	0.45533	0.45533	0.010	0.38575	20.00000	Averaged
45	1,2-Dichloroethane-D4	0.59572	0.59504	0.59504	0.010	-0.11517	20.00000	Averaged
55	Toluene-D8	1.25503	1.24324	1.24324	0.010	-0.93997	20.00000	Averaged
76	P-Bromofluorobenzene	0.53023	0.53038	0.53038	0.010	0.02861	20.00000	Averaged

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Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
Lab ID : WG228825-4
Lab File ID : W4080.D
Initial Calibration Date(s): 05/21/18 08:39 05/21/18 11:44

SDG: SL4180
Analytical Date: 05/21/18 19:35
Instrument ID: GCMS-W
Column ID:

*** = Compound out of QC criteria**

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Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
SDG: SL4180
Lab ID : WG228825-5
Analytical Date: 05/22/18 06:23
Lab File ID : W4097.D
Instrument ID: GCMS-W
Initial Calibration Date(s): 05/21/18 08:39 05/21/18 11:44
Column ID:

	Compound	$\overline{RRF}$/Amount	RF50	CCAL RRF50	Min	%D/ %Drift	Max %D/ %Drift	Curve Type	
1	Dichlorodifluoromethane	0.79287	0.00473	0.00473	0.010	-99	20.00000	Averaged	*
2	Chloromethane	0.99616	++++	++++	0.100	++++	20.00000	Averaged	*
3	Vinyl chloride	0.91057	0.00410	0.00410	0.010	-100	20.00000	Averaged	*
4	Bromomethane	0.45871	0.00513	0.00513	0.010	-98.88257	20.00000	Averaged	*
5	Chloroethane	++++	++++	++++	0.010	++++	20.00000	Linear	*
6	Trichlorofluoromethane	1.17352	0.01165	0.01165	0.010	-99	20.00000	Averaged	*
9	1,1-Dichloroethene	0.60029	0.00614	0.00614	0.010	-98.97794	20.00000	Averaged	*
10	Carbon Disulfide	1.95418	0.02887	0.02887	0.010	-98.52253	20.00000	Averaged	*
11	Freon-113	0.43003	0.00723	0.00723	0.010	-98.31809	20.00000	Averaged	*
14	Methylene Chloride	0.76563	0.02813	0.02813	0.010	-96.32550	20.00000	Averaged	*
15	Acetone	0.27657	0.12852	0.12852	0.010	-53.52980	20.00000	Averaged	*
17	trans-1,2-Dichloroethene	0.64305	0.00887	0.00887	0.010	-98.62051	20.00000	Averaged	*
19	Methyl tert-butyl ether	1.73077	0.18811	0.18811	0.010	-89.13142	20.00000	Averaged	*
25	1,1-Dichloroethane	1.19279	0.01510	0.01510	0.100	-98.73374	20.00000	Averaged	*
29	cis-1,2-Dichloroethene	0.71515	0.01242	0.01242	0.010	-98.26369	20.00000	Averaged	*
32	2,2-Dichloropropane	0.61775	++++	++++	0.010	++++	20.00000	Averaged	*
33	Bromochloromethane	0.32388	0.02027	0.02027	0.010	-93.74194	20.00000	Averaged	*
34	Chloroform	1.15708	0.02054	0.02054	0.010	-98.22466	20.00000	Averaged	*
35	Carbon Tetrachloride	0.41556	0.00033	0.00033	0.010	-100	20.00000	Averaged	*
38	1,1,1-Trichloroethane	0.92612	0.00465	0.00465	0.010	-99	20.00000	Averaged	*
39	1,1-Dichloropropene	0.57680	0.00868	0.00868	0.010	-98.49558	20.00000	Averaged	*
40	2-Butanone	0.42549	0.19280	0.19280	0.010	-54.68645	20.00000	Averaged	*
41	Benzene	1.76867	0.02470	0.02470	0.010	-98.60326	20.00000	Averaged	*
47	1,2-Dichloroethane	0.61079	0.05091	0.05091	0.010	-91.66423	20.00000	Averaged	*
48	Trichloroethene	0.43120	0.01431	0.01431	0.010	-96.68253	20.00000	Averaged	*
50	Dibromomethane	0.27138	0.02706	0.02706	0.010	-90.02838	20.00000	Averaged	*
51	1,2-Dichloropropane	0.45103	0.01117	0.01117	0.010	-97.52299	20.00000	Averaged	*
52	Bromodichloromethane	0.56284	0.01792	0.01792	0.010	-96.81615	20.00000	Averaged	*
53	cis-1,3-dichloropropene	0.69004	0.02327	0.02327	0.010	-96.62744	20.00000	Averaged	*
57	Toluene	1.08865	0.01889	0.01889	0.010	-98.26449	20.00000	Averaged	*
58	4-methyl-2-pentanone	0.57060	0.19056	0.19056	0.010	-66.60322	20.00000	Averaged	*
59	Tetrachloroethene	0.34627	0.01527	0.01527	0.010	-95.59060	20.00000	Averaged	*
60	trans-1,3-Dichloropropene	0.56171	0.02946	0.02946	0.010	-94.75480	20.00000	Averaged	*
61	1,1,2-Trichloroethane	0.34570	0.03565	0.03565	0.010	-89.68842	20.00000	Averaged	*
62	Dibromochloromethane	0.43772	0.03093	0.03093	0.010	-92.93312	20.00000	Averaged	*
63	1,3-Dichloropropane	0.75463	0.07710	0.07710	0.010	-89.78273	20.00000	Averaged	*
64	1,2-Dibromoethane	0.40654	0.05200	0.05200	0.010	-87.20854	20.00000	Averaged	*
65	2-Hexanone	0.41553	0.16243	0.16243	0.010	-60.91053	20.00000	Averaged	*
67	Chlorobenzene	1.25523	0.03249	0.03249	0.300	-97.41158	20.00000	Averaged	*
68	Ethylbenzene	0.69189	0.01204	0.01204	0.010	-98.25922	20.00000	Averaged	*
69	1,1,1,2-Tetrachloroethane	0.40740	0.00922	0.00922	0.010	-97.73703	20.00000	Averaged	*

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
SDG: SL4180
Lab ID : WG228825-5
Analytical Date: 05/22/18 06:23
Lab File ID : W4097.D
Instrument ID: GCMS-W
Initial Calibration Date(s): 05/21/18 08:39 05/21/18 11:44
Column ID:

Compound	RRF/Amount	RF50	CCAL RRF50	Min	%D/ %Drift	Max %D/ %Drift	Curve Type	
71 m+p-Xylenes	0.85040	0.01767	0.01767	0.010	-97.92183	20.00000	Averaged	*
72 o-Xylene	0.84977	0.01568	0.01568	0.010	-98.15529	20.00000	Averaged	*
73 Styrene	1.42597	0.03535	0.03535	0.010	-97.52099	20.00000	Averaged	*
74 Bromoform	0.32916	0.04071	0.04071	0.100	-87.63066	20.00000	Averaged	*
75 Isopropylbenzene	3.24991	0.05038	0.05038	0.010	-98.44983	20.00000	Averaged	*
79 Bromobenzene	0.91499	0.03417	0.03417	0.010	-96.26534	20.00000	Averaged	*
80 N-Propylbenzene	4.19966	0.10572	0.10572	0.010	-97.48274	20.00000	Averaged	*
81 1,1,2,2-Tetrachloroethane	1.04804	0.20710	0.20710	0.300	-80.23917	20.00000	Averaged	*
82 1,3,5-Trimethylbenzene	2.98636	0.07038	0.07038	0.010	-97.64338	20.00000	Averaged	*
83 2-Chlorotoluene	2.55576	0.06443	0.06443	0.010	-97.47913	20.00000	Averaged	*
84 1,2,3-Trichloropropane	0.90956	0.23139	0.23139	0.010	-74.56027	20.00000	Averaged	*
85 4-Chlorotoluene	2.67392	0.08785	0.08785	0.010	-96.71439	20.00000	Averaged	*
86 tert-Butylbenzene	3.02732	0.04275	0.04275	0.010	-98.58790	20.00000	Averaged	*
88 1,2,4-Trimethylbenzene	3.14888	0.08687	0.08687	0.010	-97.24124	20.00000	Averaged	*
89 P-Isopropyltoluene	3.31297	0.08719	0.08719	0.010	-97.36824	20.00000	Averaged	*
90 1,3-Dichlorobenzene	1.81697	0.07518	0.07518	0.010	-95.86238	20.00000	Averaged	*
92 1,4-Dichlorobenzene	1.85909	0.08760	0.08760	0.010	-95.28780	20.00000	Averaged	*
93 N-Butylbenzene	3.10535	0.11220	0.11220	0.010	-96.38693	20.00000	Averaged	*
94 sec-Butylbenzene	3.94694	0.07652	0.07652	0.010	-98.06135	20.00000	Averaged	*
95 1,2-Dichlorobenzene	1.82350	0.08728	0.08728	0.010	-95.21335	20.00000	Averaged	*
96 1,2-Dibromo-3-Chloropropane	0.23653	0.07999	0.07999	0.010	-66.18204	20.00000	Averaged	*
98 Hexachlorobutadiene	0.56237	0.02075	0.02075	0.010	-96.31076	20.00000	Averaged	*
99 1,2,4-Trichlorobenzene	1.06437	0.06015	0.06015	0.010	-94.34838	20.00000	Averaged	*
101 Naphthalene	2.93775	0.38158	0.38158	0.010	-87.01102	20.00000	Averaged	*
102 1,2,3-Trichlorobenzene	0.98861	0.07024	0.07024	0.010	-92.89466	20.00000	Averaged	*
37 Dibromofluoromethane	0.45358	0.47243	0.47243	0.010	4.15519	20.00000	Averaged	
45 1,2-Dichloroethane-D4	0.59572	0.59204	0.59204	0.010	-0.61873	20.00000	Averaged	
55 Toluene-D8	1.25503	1.20186	1.20186	0.010	-4.23673	20.00000	Averaged	
76 P-Bromofluorobenzene	0.53023	0.46032	0.46032	0.010	-13.18388	20.00000	Averaged	

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
Lab ID : WG228825-5
Lab File ID : W4097.D
Initial Calibration Date(s): 05/21/18 08:39 05/21/18 11:44

SDG: SL4180
Analytical Date: 05/22/18 06:23
Instrument ID: GCMS-W
Column ID:

*** = Compound out of QC criteria**

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Katahdin
ANALYTICAL SERVICES

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
SDG: SL4180
Lab ID : WG228846-4
Analytical Date: 05/22/18 08:31
Lab File ID : W4100.D
Instrument ID: GCMS-W
Initial Calibration Date(s): 05/21/18 08:39 05/21/18 11:44
Column ID:

	Compound	$\overline{RRF}$/Amount	RF50	CCAL RRF50	Min	%D/ %Drift	Max %D/ %Drift	Curve Type	
1	Dichlorodifluoromethane	0.79287	0.72258	0.72258	0.010	-8.86561	20.00000	Averaged	
2	Chloromethane	0.99616	1.02426	1.02426	0.100	2.82020	20.00000	Averaged	
3	Vinyl chloride	0.91057	0.89936	0.89936	0.010	-1.23106	20.00000	Averaged	
4	Bromomethane	0.45871	0.50873	0.50873	0.010	10.90394	20.00000	Averaged	
5	Chloroethane	50.00000	58.86404	0.55282	0.010	17.72807	20.00000	Linear	
6	Trichlorofluoromethane	1.17352	1.23096	1.23096	0.010	4.89498	20.00000	Averaged	
9	1,1-Dichloroethene	0.60029	0.59018	0.59018	0.010	-1.68419	20.00000	Averaged	
10	Carbon Disulfide	1.95418	1.91529	1.91529	0.010	-1.98973	20.00000	Averaged	
11	Freon-113	0.43003	0.41222	0.41222	0.010	-4.14262	20.00000	Averaged	
14	Methylene Chloride	0.76563	0.79429	0.79429	0.010	3.74285	20.00000	Averaged	
15	Acetone	0.27657	0.33375	0.33375	0.010	20.67335	20.00000	Averaged	*
17	trans-1,2-Dichloroethene	0.64305	0.63570	0.63570	0.010	-1.14343	20.00000	Averaged	
19	Methyl tert-butyl ether	1.73077	1.92798	1.92798	0.010	11.39439	20.00000	Averaged	
25	1,1-Dichloroethane	1.19279	1.19837	1.19837	0.100	0.46794	20.00000	Averaged	
29	cis-1,2-Dichloroethene	0.71515	0.71616	0.71616	0.010	0.14129	20.00000	Averaged	
32	2,2-Dichloropropane	0.61775	0.59846	0.59846	0.010	-3.12279	20.00000	Averaged	
33	Bromochloromethane	0.32388	0.33915	0.33915	0.010	4.71567	20.00000	Averaged	
34	Chloroform	1.15708	1.15789	1.15789	0.010	0.06970	20.00000	Averaged	
35	Carbon Tetrachloride	0.41556	0.39931	0.39931	0.010	-3.91027	20.00000	Averaged	
38	1,1,1-Trichloroethane	0.92612	0.91025	0.91025	0.010	-1.71452	20.00000	Averaged	
39	1,1-Dichloropropene	0.57680	0.54632	0.54632	0.010	-5.28292	20.00000	Averaged	
40	2-Butanone	0.42549	0.50521	0.50521	0.010	18.73575	20.00000	Averaged	
41	Benzene	1.76867	1.68403	1.68403	0.010	-4.78557	20.00000	Averaged	
47	1,2-Dichloroethane	0.61079	0.62003	0.62003	0.010	1.51229	20.00000	Averaged	
48	Trichloroethene	0.43120	0.40626	0.40626	0.010	-5.78385	20.00000	Averaged	
50	Dibromomethane	0.27138	0.28228	0.28228	0.010	4.01647	20.00000	Averaged	
51	1,2-Dichloropropane	0.45103	0.45516	0.45516	0.010	0.91547	20.00000	Averaged	
52	Bromodichloromethane	0.56284	0.57658	0.57658	0.010	2.44042	20.00000	Averaged	
53	cis-1,3-dichloropropene	0.69004	0.70200	0.70200	0.010	1.73293	20.00000	Averaged	
57	Toluene	1.08865	1.05193	1.05193	0.010	-3.37264	20.00000	Averaged	
58	4-methyl-2-pentanone	0.57060	0.63044	0.63044	0.010	10.48604	20.00000	Averaged	
59	Tetrachloroethene	0.34627	0.33157	0.33157	0.010	-4.24476	20.00000	Averaged	
60	trans-1,3-Dichloropropene	0.56171	0.61518	0.61518	0.010	9.51955	20.00000	Averaged	
61	1,1,2-Trichloroethane	0.34570	0.35121	0.35121	0.010	1.59363	20.00000	Averaged	
62	Dibromochloromethane	0.43772	0.46579	0.46579	0.010	6.41107	20.00000	Averaged	
63	1,3-Dichloropropane	0.75463	0.80548	0.80548	0.010	6.73800	20.00000	Averaged	
64	1,2-Dibromoethane	0.40654	0.43260	0.43260	0.010	6.40945	20.00000	Averaged	
65	2-Hexanone	0.41553	0.48971	0.48971	0.010	17.85065	20.00000	Averaged	
67	Chlorobenzene	1.25523	1.26082	1.26082	0.300	0.44539	20.00000	Averaged	
68	Ethylbenzene	0.69189	0.69769	0.69769	0.010	0.83831	20.00000	Averaged	
69	1,1,1,2-Tetrachloroethane	0.40740	0.41595	0.41595	0.010	2.09980	20.00000	Averaged	

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Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
SDG: SL4180
Lab ID : WG228846-4
Analytical Date: 05/22/18 08:31
Lab File ID : W4100.D
Instrument ID: GCMS-W
Initial Calibration Date(s): 05/21/18 08:39 05/21/18 11:44
Column ID:

	Compound	RRF/Amount	RF50	CCAL RRF50	Min	%D/ %Drift	Max %D/ %Drift	Curve Type	
71	m+p-Xylenes	0.85040	0.86050	0.86050	0.010	1.18751	20.00000	Averaged	
72	o-Xylene	0.84977	0.85086	0.85086	0.010	0.12814	20.00000	Averaged	
73	Styrene	1.42597	1.47176	1.47176	0.010	3.21082	20.00000	Averaged	
74	Bromoform	0.32916	0.34944	0.34944	0.100	6.16300	20.00000	Averaged	
75	Isopropylbenzene	3.24991	3.27446	3.27446	0.010	0.75552	20.00000	Averaged	
79	Bromobenzene	0.91499	0.94170	0.94170	0.010	2.91898	20.00000	Averaged	
80	N-Propylbenzene	4.19966	4.27800	4.27800	0.010	1.86534	20.00000	Averaged	
81	1,1,2,2-Tetrachloroethane	1.04804	1.16957	1.16957	0.300	11.59599	20.00000	Averaged	
82	1,3,5-Trimethylbenzene	2.98636	3.03404	3.03404	0.010	1.59661	20.00000	Averaged	
83	2-Chlorotoluene	2.55576	2.57175	2.57175	0.010	0.62558	20.00000	Averaged	
84	1,2,3-Trichloropropane	0.90956	1.01314	1.01314	0.010	11.38855	20.00000	Averaged	
85	4-Chlorotoluene	2.67392	2.72621	2.72621	0.010	1.95555	20.00000	Averaged	
86	tert-Butylbenzene	3.02732	3.04770	3.04770	0.010	0.67333	20.00000	Averaged	
88	1,2,4-Trimethylbenzene	3.14888	3.25128	3.25128	0.010	3.25196	20.00000	Averaged	
89	P-Isopropyltoluene	3.31297	3.37953	3.37953	0.010	2.00915	20.00000	Averaged	
90	1,3-Dichlorobenzene	1.81697	1.89975	1.89975	0.010	4.55606	20.00000	Averaged	
92	1,4-Dichlorobenzene	1.85909	1.95597	1.95597	0.010	5.21111	20.00000	Averaged	
93	N-Butylbenzene	3.10535	3.23561	3.23561	0.010	4.19455	20.00000	Averaged	
94	sec-Butylbenzene	3.94694	3.92293	3.92293	0.010	-0.60833	20.00000	Averaged	
95	1,2-Dichlorobenzene	1.82350	1.93938	1.93938	0.010	6.35494	20.00000	Averaged	
96	1,2-Dibromo-3-Chloropropane	0.23653	0.28601	0.28601	0.010	20.91855	20.00000	Averaged	*
98	Hexachlorobutadiene	0.56237	0.56708	0.56708	0.010	0.83787	20.00000	Averaged	
99	1,2,4-Trichlorobenzene	1.06437	1.20969	1.20969	0.010	13.65336	20.00000	Averaged	
101	Naphthalene	2.93775	3.51489	3.51489	0.010	19.64575	20.00000	Averaged	
102	1,2,3-Trichlorobenzene	0.98861	1.14889	1.14889	0.010	16.21239	20.00000	Averaged	
37	Dibromofluoromethane	0.45358	0.47772	0.47772	0.010	5.32082	20.00000	Averaged	
45	1,2-Dichloroethane-D4	0.59572	0.62313	0.62313	0.010	4.60030	20.00000	Averaged	
55	Toluene-D8	1.25503	1.22351	1.22351	0.010	-2.51211	20.00000	Averaged	
76	P-Bromofluorobenzene	0.53023	0.50490	0.50490	0.010	-4.77642	20.00000	Averaged	

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
Lab ID : WG228846-4
Lab File ID : W4100.D
Initial Calibration Date(s): 05/21/18 08:39 05/21/18 11:44

SDG: SL4180
Analytical Date: 05/22/18 08:31
Instrument ID: GCMS-W
Column ID:

*** = Compound out of QC criteria**

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Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
SDG: SL4180
Lab ID : WG228846-5
Analytical Date: 05/22/18 19:20
Lab File ID : W4117.D
Instrument ID: GCMS-W
Initial Calibration Date(s): 05/21/18 08:39 05/21/18 11:44
Column ID:

	Compound	$\overline{RRF}$/Amount	RF50	CCAL RRF50	Min	%D/ %Drift	Max %D/ %Drift	Curve Type
1	Dichlorodifluoromethane	0.79287	0.63649	0.63649	0.010	-19.72381	20.00000	Averaged
2	Chloromethane	0.99616	0.90914	0.90914	0.100	-8.73538	20.00000	Averaged
3	Vinyl chloride	0.91057	0.82966	0.82966	0.010	-8.88545	20.00000	Averaged
4	Bromomethane	0.45871	0.44475	0.44475	0.010	-3.04277	20.00000	Averaged
5	Chloroethane	50.00000	58.20207	0.54707	0.010	16.40414	20.00000	Linear
6	Trichlorofluoromethane	1.17352	1.13597	1.13597	0.010	-3.20028	20.00000	Averaged
9	1,1-Dichloroethene	0.60029	0.53710	0.53710	0.010	-10.52653	20.00000	Averaged
10	Carbon Disulfide	1.95418	1.80062	1.80062	0.010	-7.85805	20.00000	Averaged
11	Freon-113	0.43003	0.38999	0.38999	0.010	-9.31099	20.00000	Averaged
14	Methylene Chloride	0.76563	0.71671	0.71671	0.010	-6.38990	20.00000	Averaged
15	Acetone	0.27657	0.23398	0.23398	0.010	-15.40184	20.00000	Averaged
17	trans-1,2-Dichloroethene	0.64305	0.57853	0.57853	0.010	-10.03389	20.00000	Averaged
19	Methyl tert-butyl ether	1.73077	1.64289	1.64289	0.010	-5.07785	20.00000	Averaged
25	1,1-Dichloroethane	1.19279	1.09178	1.09178	0.100	-8.46839	20.00000	Averaged
29	cis-1,2-Dichloroethene	0.71515	0.65018	0.65018	0.010	-9.08440	20.00000	Averaged
32	2,2-Dichloropropane	0.61775	0.54745	0.54745	0.010	-11.38030	20.00000	Averaged
33	Bromochloromethane	0.32388	0.31270	0.31270	0.010	-3.45137	20.00000	Averaged
34	Chloroform	1.15708	1.06494	1.06494	0.010	-7.96305	20.00000	Averaged
35	Carbon Tetrachloride	0.41556	0.37106	0.37106	0.010	-10.70911	20.00000	Averaged
38	1,1,1-Trichloroethane	0.92612	0.82193	0.82193	0.010	-11.25098	20.00000	Averaged
39	1,1-Dichloropropene	0.57680	0.48879	0.48879	0.010	-15.25792	20.00000	Averaged
40	2-Butanone	0.42549	0.38268	0.38268	0.010	-10.06027	20.00000	Averaged
41	Benzene	1.76867	1.56967	1.56967	0.010	-11.25136	20.00000	Averaged
47	1,2-Dichloroethane	0.61079	0.54951	0.54951	0.010	-10.03265	20.00000	Averaged
48	Trichloroethene	0.43120	0.37211	0.37211	0.010	-13.70397	20.00000	Averaged
50	Dibromomethane	0.27138	0.24272	0.24272	0.010	-10.56168	20.00000	Averaged
51	1,2-Dichloropropane	0.45103	0.41720	0.41720	0.010	-7.49919	20.00000	Averaged
52	Bromodichloromethane	0.56284	0.50342	0.50342	0.010	-10.55695	20.00000	Averaged
53	cis-1,3-dichloropropene	0.69004	0.62302	0.62302	0.010	-9.71192	20.00000	Averaged
57	Toluene	1.08865	0.95246	0.95246	0.010	-12.51026	20.00000	Averaged
58	4-methyl-2-pentanone	0.57060	0.51061	0.51061	0.010	-10.51486	20.00000	Averaged
59	Tetrachloroethene	0.34627	0.29958	0.29958	0.010	-13.48137	20.00000	Averaged
60	trans-1,3-Dichloropropene	0.56171	0.51649	0.51649	0.010	-8.05004	20.00000	Averaged
61	1,1,2-Trichloroethane	0.34570	0.30044	0.30044	0.010	-13.09292	20.00000	Averaged
62	Dibromochloromethane	0.43772	0.40662	0.40662	0.010	-7.10557	20.00000	Averaged
63	1,3-Dichloropropane	0.75463	0.70255	0.70255	0.010	-6.90173	20.00000	Averaged
64	1,2-Dibromoethane	0.40654	0.35988	0.35988	0.010	-11.47787	20.00000	Averaged
65	2-Hexanone	0.41553	0.38840	0.38840	0.010	-6.52953	20.00000	Averaged
67	Chlorobenzene	1.25523	1.15341	1.15341	0.300	-8.11218	20.00000	Averaged
68	Ethylbenzene	0.69189	0.61033	0.61033	0.010	-11.78842	20.00000	Averaged
69	1,1,1,2-Tetrachloroethane	0.40740	0.38186	0.38186	0.010	-6.26846	20.00000	Averaged

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
SDG: SL4180
Lab ID : WG228846-5
Analytical Date: 05/22/18 19:20
Lab File ID : W4117.D
Instrument ID: GCMS-W
Initial Calibration Date(s): 05/21/18 08:39 05/21/18 11:44
Column ID:

Compound	$\overline{RRF}$/Amount	RF50	CCAL RRF50	Min	%D/ %Drift	Max %D/ %Drift	Curve Type
71 m+p-Xylenes	0.85040	0.75900	0.75900	0.010	-10.74793	20.00000	Averaged
72 o-Xylene	0.84977	0.76092	0.76092	0.010	-10.45534	20.00000	Averaged
73 Styrene	1.42597	1.31042	1.31042	0.010	-8.10294	20.00000	Averaged
74 Bromoform	0.32916	0.29310	0.29310	0.100	-10.95487	20.00000	Averaged
75 Isopropylbenzene	3.24991	2.98990	2.98990	0.010	-8.00054	20.00000	Averaged
79 Bromobenzene	0.91499	0.84117	0.84117	0.010	-8.06719	20.00000	Averaged
80 N-Propylbenzene	4.19966	3.82733	3.82733	0.010	-8.86562	20.00000	Averaged
81 1,1,2,2-Tetrachloroethane	1.04804	0.98079	0.98079	0.300	-6.41674	20.00000	Averaged
82 1,3,5-Trimethylbenzene	2.98636	2.74624	2.74624	0.010	-8.04068	20.00000	Averaged
83 2-Chlorotoluene	2.55576	2.33849	2.33849	0.010	-8.50136	20.00000	Averaged
84 1,2,3-Trichloropropane	0.90956	0.85233	0.85233	0.010	-6.29117	20.00000	Averaged
85 4-Chlorotoluene	2.67392	2.42856	2.42856	0.010	-9.17606	20.00000	Averaged
86 tert-Butylbenzene	3.02732	2.82552	2.82552	0.010	-6.66589	20.00000	Averaged
88 1,2,4-Trimethylbenzene	3.14888	2.91854	2.91854	0.010	-7.31494	20.00000	Averaged
89 P-Isopropyltoluene	3.31297	3.04915	3.04915	0.010	-7.96320	20.00000	Averaged
90 1,3-Dichlorobenzene	1.81697	1.65650	1.65650	0.010	-8.83152	20.00000	Averaged
92 1,4-Dichlorobenzene	1.85909	1.70757	1.70757	0.010	-8.15024	20.00000	Averaged
93 N-Butylbenzene	3.10535	2.83124	2.83124	0.010	-8.82695	20.00000	Averaged
94 sec-Butylbenzene	3.94694	3.62910	3.62910	0.010	-8.05271	20.00000	Averaged
95 1,2-Dichlorobenzene	1.82350	1.70191	1.70191	0.010	-6.66783	20.00000	Averaged
96 1,2-Dibromo-3-Chloropropane	0.23653	0.22823	0.22823	0.010	-3.50770	20.00000	Averaged
98 Hexachlorobutadiene	0.56237	0.48221	0.48221	0.010	-14.25425	20.00000	Averaged
99 1,2,4-Trichlorobenzene	1.06437	0.96834	0.96834	0.010	-9.02201	20.00000	Averaged
101 Naphthalene	2.93775	2.84474	2.84474	0.010	-3.16587	20.00000	Averaged
102 1,2,3-Trichlorobenzene	0.98861	0.94293	0.94293	0.010	-4.62123	20.00000	Averaged
37 Dibromofluoromethane	0.45358	0.46600	0.46600	0.010	2.73693	20.00000	Averaged
45 1,2-Dichloroethane-D4	0.59572	0.61344	0.61344	0.010	2.97388	20.00000	Averaged
55 Toluene-D8	1.25503	1.22587	1.22587	0.010	-2.32351	20.00000	Averaged
76 P-Bromofluorobenzene	0.53023	0.51088	0.51088	0.010	-3.64770	20.00000	Averaged

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
Lab ID : WG228846-5
Lab File ID : W4117.D
Initial Calibration Date(s): 05/21/18 08:39 05/21/18 11:44

SDG: SL4180
Analytical Date: 05/22/18 19:20
Instrument ID: GCMS-W
Column ID:

*** = Compound out of QC criteria**

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Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant **SDG:** SL4180
Lab ID : WG228693-5 **Analytical Date:** 05/19/18 19:20
Lab File ID : W4052.D **Instrument ID:** GCMS-W
Initial Calibration Date(s): 05/18/18 14:27 05/18/18 17:33 **Column ID:**

	Compound	$\overline{RRF}$/Amount	RF50	CCAL RRF50	Min	%D/ %Drift	Max %D/ %Drift	Curve Type	
1	Dichlorodifluoromethane	0.38392	0.37290	0.37290	0.010	-2.87017	20.00000	Averaged	
2	Chloromethane	0.54782	0.56052	0.56052	0.100	2.31709	20.00000	Averaged	
3	Vinyl chloride	0.45026	0.51686	0.51686	0.010	14.78988	20.00000	Averaged	
4	Bromomethane	0.19261	0.19513	0.19513	0.010	1.30632	20.00000	Averaged	
5	Chloroethane	50.00000	65.38117	0.29442	0.010	30.76234	20.00000	Quadratic	*
6	Trichlorofluoromethane	0.54100	0.63713	0.63713	0.010	17.76834	20.00000	Averaged	
9	1,1-Dichloroethene	0.32729	0.32826	0.32826	0.010	0.29652	20.00000	Averaged	
10	Carbon Disulfide	1.10993	1.14138	1.14138	0.010	2.83359	20.00000	Averaged	
11	Freon-113	0.23674	0.22876	0.22876	0.010	-3.36847	20.00000	Averaged	
14	Methylene Chloride	0.41770	0.44741	0.44741	0.010	7.11256	20.00000	Averaged	
15	Acetone	0.15266	0.15974	0.15974	0.010	4.63399	20.00000	Averaged	
17	trans-1,2-Dichloroethene	0.35515	0.37402	0.37402	0.010	5.31381	20.00000	Averaged	
19	Methyl tert-butyl ether	0.96337	0.92834	0.92834	0.010	-3.63601	20.00000	Averaged	
25	1,1-Dichloroethane	0.66182	0.68713	0.68713	0.100	3.82483	20.00000	Averaged	
29	cis-1,2-Dichloroethene	0.38736	0.39834	0.39834	0.010	2.83425	20.00000	Averaged	
32	2,2-Dichloropropane	0.33943	0.28857	0.28857	0.010	-14.98340	20.00000	Averaged	
33	Bromochloromethane	0.17304	0.18245	0.18245	0.010	5.43670	20.00000	Averaged	
34	Chloroform	0.61854	0.65928	0.65928	0.010	6.58761	20.00000	Averaged	
35	Carbon Tetrachloride	50.00000	46.38022	0.19579	0.010	-7.23955	20.00000	Linear	
38	1,1,1-Trichloroethane	0.49636	0.48621	0.48621	0.010	-2.04348	20.00000	Averaged	
39	1,1-Dichloropropene	0.29161	0.28944	0.28944	0.010	-0.74285	20.00000	Averaged	
40	2-Butanone	0.23499	0.25735	0.25735	0.010	9.51864	20.00000	Averaged	
41	Benzene	0.89784	0.91607	0.91607	0.010	2.02986	20.00000	Averaged	
47	1,2-Dichloroethane	0.32018	0.34299	0.34299	0.010	7.12502	20.00000	Averaged	
48	Trichloroethene	0.21504	0.22374	0.22374	0.010	4.04467	20.00000	Averaged	
50	Dibromomethane	0.13488	0.14884	0.14884	0.010	10.34951	20.00000	Averaged	
51	1,2-Dichloropropane	0.23159	0.24986	0.24986	0.010	7.89065	20.00000	Averaged	
52	Bromodichloromethane	0.27488	0.30137	0.30137	0.010	9.63739	20.00000	Averaged	
53	cis-1,3-dichloropropene	0.34274	0.34697	0.34697	0.010	1.23294	20.00000	Averaged	
57	Toluene	0.53701	0.54420	0.54420	0.010	1.34036	20.00000	Averaged	
58	4-methyl-2-pentanone	0.28170	0.32644	0.32644	0.010	15.88239	20.00000	Averaged	
59	Tetrachloroethene	0.17295	0.16262	0.16262	0.010	-5.97210	20.00000	Averaged	
60	trans-1,3-Dichloropropene	0.26851	0.28236	0.28236	0.010	5.15737	20.00000	Averaged	
61	1,1,2-Trichloroethane	0.17141	0.18422	0.18422	0.010	7.47142	20.00000	Averaged	
62	Dibromochloromethane	0.21666	0.23277	0.23277	0.010	7.43720	20.00000	Averaged	
63	1,3-Dichloropropane	0.40109	0.43336	0.43336	0.010	8.04530	20.00000	Averaged	
64	1,2-Dibromoethane	0.20059	0.21928	0.21928	0.010	9.31887	20.00000	Averaged	
65	2-Hexanone	0.22262	0.24111	0.24111	0.010	8.30510	20.00000	Averaged	
67	Chlorobenzene	0.65067	0.65295	0.65295	0.300	0.35015	20.00000	Averaged	
68	Ethylbenzene	0.35340	0.34497	0.34497	0.010	-2.38553	20.00000	Averaged	
69	1,1,1,2-Tetrachloroethane	0.20294	0.21319	0.21319	0.010	5.04928	20.00000	Averaged	

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
SDG: SL4180
Lab ID : WG228693-5
Analytical Date: 05/19/18 19:20
Lab File ID : W4052.D
Instrument ID: GCMS-W
Initial Calibration Date(s): 05/18/18 14:27 05/18/18 17:33
Column ID:

Compound	$\overline{RRF}$/Amount	RF50	CCAL RRF50	Min	%D/ %Drift	Max %D/ %Drift	Curve Type
71 m+p-Xylenes	0.43189	0.42053	0.42053	0.010	-2.63049	20.00000	Averaged
72 o-Xylene	0.43293	0.43686	0.43686	0.010	0.90622	20.00000	Averaged
73 Styrene	0.73454	0.74028	0.74028	0.010	0.78198	20.00000	Averaged
74 Bromoform	0.15106	0.16367	0.16367	0.100	8.34465	20.00000	Averaged
75 Isopropylbenzene	1.86675	1.77310	1.77310	0.010	-5.01675	20.00000	Averaged
79 Bromobenzene	0.50786	0.48909	0.48909	0.010	-3.69542	20.00000	Averaged
80 N-Propylbenzene	2.40910	2.32111	2.32111	0.010	-3.65244	20.00000	Averaged
81 1,1,2,2-Tetrachloroethane	0.59848	0.63476	0.63476	0.300	6.06171	20.00000	Averaged
82 1,3,5-Trimethylbenzene	1.68052	1.63312	1.63312	0.010	-2.82041	20.00000	Averaged
83 2-Chlorotoluene	1.47438	1.40892	1.40892	0.010	-4.43981	20.00000	Averaged
84 1,2,3-Trichloropropane	0.51422	0.55095	0.55095	0.010	7.14169	20.00000	Averaged
85 4-Chlorotoluene	1.53275	1.48541	1.48541	0.010	-3.08814	20.00000	Averaged
86 tert-Butylbenzene	1.68063	1.63238	1.63238	0.010	-2.87069	20.00000	Averaged
88 1,2,4-Trimethylbenzene	1.77316	1.72671	1.72671	0.010	-2.61931	20.00000	Averaged
89 P-Isopropyltoluene	1.85110	1.74113	1.74113	0.010	-5.94059	20.00000	Averaged
90 1,3-Dichlorobenzene	0.97614	0.92944	0.92944	0.010	-4.78396	20.00000	Averaged
92 1,4-Dichlorobenzene	0.99807	0.97171	0.97171	0.010	-2.64119	20.00000	Averaged
93 N-Butylbenzene	1.76426	1.66684	1.66684	0.010	-5.52149	20.00000	Averaged
94 sec-Butylbenzene	2.21553	2.11319	2.11319	0.010	-4.61908	20.00000	Averaged
95 1,2-Dichlorobenzene	0.98481	0.97339	0.97339	0.010	-1.15936	20.00000	Averaged
96 1,2-Dibromo-3-Chloropropane	0.12842	0.13847	0.13847	0.010	7.82601	20.00000	Averaged
98 Hexachlorobutadiene	0.30815	0.26624	0.26624	0.010	-13.60283	20.00000	Averaged
99 1,2,4-Trichlorobenzene	0.59047	0.52245	0.52245	0.010	-11.51903	20.00000	Averaged
101 Naphthalene	1.65747	1.64338	1.64338	0.010	-0.84996	20.00000	Averaged
102 1,2,3-Trichlorobenzene	0.56119	0.51580	0.51580	0.010	-8.08908	20.00000	Averaged
37 Dibromofluoromethane	0.49126	0.48637	0.48637	0.010	-0.99503	20.00000	Averaged
45 1,2-Dichloroethane-D4	0.64508	0.65786	0.65786	0.010	1.98206	20.00000	Averaged
55 Toluene-D8	1.21478	1.23450	1.23450	0.010	1.62263	20.00000	Averaged
76 P-Bromofluorobenzene	0.51004	0.51133	0.51133	0.010	0.25323	20.00000	Averaged

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
Lab ID : WG228693-5
Lab File ID : W4052.D
Initial Calibration Date(s): 05/18/18 14:27 05/18/18 17:33

SDG: SL4180
Analytical Date: 05/19/18 19:20
Instrument ID: GCMS-W
Column ID:

*** = Compound out of QC criteria**

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Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant **SDG:** SL4180
Lab ID : WG228825-5 **Analytical Date:** 05/22/18 07:01
Lab File ID : W4098.D **Instrument ID:** GCMS-W
Initial Calibration Date(s): 05/21/18 08:39 05/21/18 11:44 **Column ID:**

	Compound	$\overline{\text{RRF}}$/Amount	RF50	CCAL RRF50	Min	%D/ %Drift	Max %D/ %Drift	Curve Type
1	Dichlorodifluoromethane	0.79287	0.70067	0.70067	0.010	-11.62849	20.00000	Averaged
2	Chloromethane	0.99616	0.95270	0.95270	0.100	-4.36289	20.00000	Averaged
3	Vinyl chloride	0.91057	0.86283	0.86283	0.010	-5.24271	20.00000	Averaged
4	Bromomethane	0.45871	0.46954	0.46954	0.010	2.36052	20.00000	Averaged
5	Chloroethane	50.00000	59.49736	0.55831	0.010	18.99471	20.00000	Linear
6	Trichlorofluoromethane	1.17352	1.21572	1.21572	0.010	3.59556	20.00000	Averaged
9	1,1-Dichloroethene	0.60029	0.56880	0.56880	0.010	-5.24569	20.00000	Averaged
10	Carbon Disulfide	1.95418	1.91819	1.91819	0.010	-1.84148	20.00000	Averaged
11	Freon-113	0.43003	0.39762	0.39762	0.010	-7.53639	20.00000	Averaged
14	Methylene Chloride	0.76563	0.78094	0.78094	0.010	1.99934	20.00000	Averaged
15	Acetone	0.27657	0.29025	0.29025	0.010	4.94593	20.00000	Averaged
17	trans-1,2-Dichloroethene	0.64305	0.64364	0.64364	0.010	0.09178	20.00000	Averaged
19	Methyl tert-butyl ether	1.73077	1.76448	1.76448	0.010	1.94766	20.00000	Averaged
25	1,1-Dichloroethane	1.19279	1.19387	1.19387	0.100	0.09025	20.00000	Averaged
29	cis-1,2-Dichloroethene	0.71515	0.71706	0.71706	0.010	0.26684	20.00000	Averaged
32	2,2-Dichloropropane	0.61775	0.53927	0.53927	0.010	-12.70354	20.00000	Averaged
33	Bromochloromethane	0.32388	0.33630	0.33630	0.010	3.83307	20.00000	Averaged
34	Chloroform	1.15708	1.16584	1.16584	0.010	0.75690	20.00000	Averaged
35	Carbon Tetrachloride	0.41556	0.39279	0.39279	0.010	-5.48024	20.00000	Averaged
38	1,1,1-Trichloroethane	0.92612	0.91012	0.91012	0.010	-1.72815	20.00000	Averaged
39	1,1-Dichloropropene	0.57680	0.52903	0.52903	0.010	-8.28179	20.00000	Averaged
40	2-Butanone	0.42549	0.46746	0.46746	0.010	9.86359	20.00000	Averaged
41	Benzene	1.76867	1.66336	1.66336	0.010	-5.95384	20.00000	Averaged
47	1,2-Dichloroethane	0.61079	0.62313	0.62313	0.010	2.02012	20.00000	Averaged
48	Trichloroethene	0.43120	0.40857	0.40857	0.010	-5.24997	20.00000	Averaged
50	Dibromomethane	0.27138	0.26827	0.26827	0.010	-1.14641	20.00000	Averaged
51	1,2-Dichloropropane	0.45103	0.45432	0.45432	0.010	0.73055	20.00000	Averaged
52	Bromodichloromethane	0.56284	0.56664	0.56664	0.010	0.67513	20.00000	Averaged
53	cis-1,3-dichloropropene	0.69004	0.66827	0.66827	0.010	-3.15401	20.00000	Averaged
57	Toluene	1.08865	1.05334	1.05334	0.010	-3.24325	20.00000	Averaged
58	4-methyl-2-pentanone	0.57060	0.62402	0.62402	0.010	9.36083	20.00000	Averaged
59	Tetrachloroethene	0.34627	0.33953	0.33953	0.010	-1.94473	20.00000	Averaged
60	trans-1,3-Dichloropropene	0.56171	0.55626	0.55626	0.010	-0.96984	20.00000	Averaged
61	1,1,2-Trichloroethane	0.34570	0.35253	0.35253	0.010	1.97366	20.00000	Averaged
62	Dibromochloromethane	0.43772	0.48507	0.48507	0.010	10.81596	20.00000	Averaged
63	1,3-Dichloropropane	0.75463	0.82475	0.82475	0.010	9.29222	20.00000	Averaged
64	1,2-Dibromoethane	0.40654	0.41623	0.41623	0.010	2.38354	20.00000	Averaged
65	2-Hexanone	0.41553	0.47374	0.47374	0.010	14.00804	20.00000	Averaged
67	Chlorobenzene	1.25523	1.28711	1.28711	0.300	2.53951	20.00000	Averaged
68	Ethylbenzene	0.69189	0.67612	0.67612	0.010	-2.27918	20.00000	Averaged
69	1,1,1,2-Tetrachloroethane	0.40740	0.42750	0.42750	0.010	4.93507	20.00000	Averaged

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
SDG: SL4180
Lab ID : WG228825-5
Analytical Date: 05/22/18 07:01
Lab File ID : W4098.D
Instrument ID: GCMS-W
Initial Calibration Date(s): 05/21/18 08:39 05/21/18 11:44
Column ID:

	Compound	RRF/Amount	RF50	CCAL RRF50	Min	%D/ %Drift	Max %D/ %Drift	Curve Type
71	m+p-Xylenes	0.85040	0.85888	0.85888	0.010	0.99734	20.00000	Averaged
72	o-Xylene	0.84977	0.86165	0.86165	0.010	1.39767	20.00000	Averaged
73	Styrene	1.42597	1.46465	1.46465	0.010	2.71238	20.00000	Averaged
74	Bromoform	0.32916	0.36250	0.36250	0.100	10.12896	20.00000	Averaged
75	Isopropylbenzene	3.24991	3.21540	3.21540	0.010	-1.06180	20.00000	Averaged
79	Bromobenzene	0.91499	0.92658	0.92658	0.010	1.26669	20.00000	Averaged
80	N-Propylbenzene	4.19966	4.11475	4.11475	0.010	-2.02170	20.00000	Averaged
81	1,1,2,2-Tetrachloroethane	1.04804	1.16404	1.16404	0.300	11.06836	20.00000	Averaged
82	1,3,5-Trimethylbenzene	2.98636	2.95163	2.95163	0.010	-1.16305	20.00000	Averaged
83	2-Chlorotoluene	2.55576	2.53421	2.53421	0.010	-0.84328	20.00000	Averaged
84	1,2,3-Trichloropropane	0.90956	0.99228	0.99228	0.010	9.09526	20.00000	Averaged
85	4-Chlorotoluene	2.67392	2.54160	2.54160	0.010	-4.94876	20.00000	Averaged
86	tert-Butylbenzene	3.02732	3.04645	3.04645	0.010	0.63206	20.00000	Averaged
88	1,2,4-Trimethylbenzene	3.14888	3.11878	3.11878	0.010	-0.95604	20.00000	Averaged
89	P-Isopropyltoluene	3.31297	3.21637	3.21637	0.010	-2.91570	20.00000	Averaged
90	1,3-Dichlorobenzene	1.81697	1.74741	1.74741	0.010	-3.82831	20.00000	Averaged
92	1,4-Dichlorobenzene	1.85909	1.76706	1.76706	0.010	-4.95025	20.00000	Averaged
93	N-Butylbenzene	3.10535	2.92829	2.92829	0.010	-5.70172	20.00000	Averaged
94	sec-Butylbenzene	3.94694	3.84388	3.84388	0.010	-2.61114	20.00000	Averaged
95	1,2-Dichlorobenzene	1.82350	1.83363	1.83363	0.010	0.55550	20.00000	Averaged
96	1,2-Dibromo-3-Chloropropane	0.23653	0.27285	0.27285	0.010	15.35549	20.00000	Averaged
98	Hexachlorobutadiene	0.56237	0.51240	0.51240	0.010	-8.88474	20.00000	Averaged
99	1,2,4-Trichlorobenzene	1.06437	0.95151	0.95151	0.010	-10.60327	20.00000	Averaged
101	Naphthalene	2.93775	3.21165	3.21165	0.010	9.32347	20.00000	Averaged
102	1,2,3-Trichlorobenzene	0.98861	0.98050	0.98050	0.010	-0.82059	20.00000	Averaged
37	Dibromofluoromethane	0.45358	0.46291	0.46291	0.010	2.05668	20.00000	Averaged
45	1,2-Dichloroethane-D4	0.59572	0.62232	0.62232	0.010	4.46375	20.00000	Averaged
55	Toluene-D8	1.25503	1.22592	1.22592	0.010	-2.31969	20.00000	Averaged
76	P-Bromofluorobenzene	0.53023	0.49946	0.49946	0.010	-5.80158	20.00000	Averaged

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
Lab ID : WG228825-5
Lab File ID : W4098.D
Initial Calibration Date(s): 05/21/18 08:39 05/21/18 11:44

SDG: SL4180
Analytical Date: 05/22/18 07:01
Instrument ID: GCMS-W
Column ID:

*** = Compound out of QC criteria**

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Form 8
Internal Standard Area and RT Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition I
Lab ID : WG228547-4
Lab File ID : D1351.d

SDG: SL4180
Analytical Date: 05/17/18 08:11
Instrument ID: GCMS-D

		PENTAFLUOROBENZENE			1,4-DIFLUOROBENZENE			CHLOROBENZENE-D5		
		Area	#	RT	#	Area	#	RT	#	Area	#	RT	#
	Std .	265598		7.32		436302		8.10		399232		11.54	
	Upper Limit	531196		7.48		872604		8.26		798464		11.70	
	Lower Limit	132799		7.15		218151		7.93		199616		11.37	
Client Sample ID	Lab Sample ID												
Continuing Calibrati	WG228752-4	258245		7.32		419786		8.10		386658		11.54	
Laboratory Control S	WG228752-1	269099		7.32		430190		8.10		394685		11.54	
Method Blank Sample	WG228752-2	239905		7.32		394566		8.11		362057		11.55	
CHAAP-TB-051418	SL4180-28	233315		7.32		393016		8.11		357213		11.55	
CHAAP-EB-051418	SL4180-29	210476		7.32		351955		8.11		327459		11.55	
Continuing Calibrati	WG228752-5	245997		7.32		400356		8.11		369995		11.55	

Area Upper Limit = +100% of internal standard area
Area Lower Limit = - 50% of internal standard area
RT Upper Limit = + 10 seconds of internal standard RT
RT Lower Limit = - 10 seconds of internal standard RT

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Form 8
Internal Standard Area and RT Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition I
Lab ID : WG228547-4
Lab File ID : D1351.d

SDG: SL4180
Analytical Date: 05/17/18 08:11
Instrument ID: GCMS-D

		1,4-DICHLOROBENZENE-D4			
		Area	#	RT	#
	Std .	207228		13.88	
	Upper Limit	414456		14.04	
	Lower Limit	103614		13.71	
Client Sample ID	Lab Sample ID				
Continuing Calibrati	WG228752-4	198710		13.88	
Laboratory Control S	WG228752-1	202437		13.88	
Method Blank Sample	WG228752-2	178792		13.89	
CHAAP-TB-051418	SL4180-28	175629		13.89	
CHAAP-EB-051418	SL4180-29	161524		13.89	
Continuing Calibrati	WG228752-5	192473		13.89	

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Form 8
Internal Standard Area and RT Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition I
Lab ID : WG228635-4
Lab File ID : W4029.D

SDG: SL4180
Analytical Date: 05/18/18 17:33
Instrument ID: GCMS-W

		PENTAFLUOROBENZENE		1,4-DIFLUOROBENZENE		CHLOROBENZENE-D5	
		Area #	RT #	Area #	RT #	Area #	RT #
	Std .	628350	8.04	1040947	8.91	988122	13.37
	Upper Limit	1256700	8.21	2081894	9.08	1976244	13.53
	Lower Limit	314175	7.87	520473.5	8.75	494061	13.20
Client Sample ID	Lab Sample ID						
Continuing Calibrati	WG228693-4	514857	8.07	846366	8.95	814318	13.39
Laboratory Control S	WG228693-1	494918	8.08	836447	8.95	797147	13.39
Method Blank Sample	WG228693-2	478723	8.07	837210	8.95	779819	13.39
CHAAP-21B-DS-SS02	SL4180-1	440925	8.08	760758	8.95	678407	13.39
CHAAP-21B-DS-SB02	SL4180-3	420842	8.08	736965	8.95	687976	13.39
CHAAP-21B-DS-SB02	SL4180-4	415134	8.08	724595	8.95	687532	13.39
CHAAP-21B-DS-SS06	SL4180-5	393550	8.08	693473	8.95	615298	13.39
CHAAP-21B-DS-SB06	SL4180-6	386928	8.08	690385	8.95	665014	13.39
CHAAP-21B-DS-SB06	SL4180-7	400380	8.08	712362	8.95	676881	13.39
CHAAP-21B-DS-SB07	SL4180-9	373489	8.08	659921	8.95	634417	13.39
CHAAP-21B-DS-SB10	SL4180-10	361479	8.08	654381	8.95	609375	13.39
CHAAP-21B-DS-SB07	SL4180-11	335796	8.09	601620	8.96	569674	13.40
CHAAP-21B-DS-SS08	SL4180-12	366746	8.09	631340	8.96	568034	13.40
CHAAP-21B-DS-SB08	SL4180-13	341688	8.09	620464	8.96	579494	13.40
CHAAP-21B-DS-SS09	SL4180-14	361358	8.09	647897	8.96	575418	13.40
CHAAP-21B-DS-SB09	SL4180-15	340333	8.09	608584	8.97	579839	13.41
Continuing Calibrati	WG228693-5	402861	8.10	673349	8.96	649222	13.40

Area Upper Limit = +100% of internal standard area
Area Lower Limit = - 50% of internal standard area
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Form 8
Internal Standard Area and RT Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition I
Lab ID : WG228635-4
Lab File ID : W4029.D

SDG: SL4180
Analytical Date: 05/18/18 17:33
Instrument ID: GCMS-W

		1,4-DICHLOROBENZENE-D4			
		Area	#	RT	#
	Std .	571189		16.43	
	Upper Limit	1142378		16.59	
	Lower Limit	285594.5		16.26	
Client Sample ID	Lab Sample ID				
Continuing Calibrati	WG228693-4	467975		16.44	
Laboratory Control S	WG228693-1	454675		16.45	
Method Blank Sample	WG228693-2	414167		16.44	
CHAAP-21B-DS-SS02	SL4180-1	290001		16.44	
CHAAP-21B-DS-SB02	SL4180-3	361254		16.44	
CHAAP-21B-DS-SB02	SL4180-4	356652		16.45	
CHAAP-21B-DS-SS06	SL4180-5	275241	*	16.45	
CHAAP-21B-DS-SB06	SL4180-6	334934		16.45	
CHAAP-21B-DS-SB06	SL4180-7	344464		16.44	
CHAAP-21B-DS-SB07	SL4180-9	325178		16.44	
CHAAP-21B-DS-SB10	SL4180-10	309550		16.45	
CHAAP-21B-DS-SB07	SL4180-11	290124		16.45	
CHAAP-21B-DS-SS08	SL4180-12	218402	*	16.45	
CHAAP-21B-DS-SB08	SL4180-13	293981		16.45	
CHAAP-21B-DS-SS09	SL4180-14	242958	*	16.45	
CHAAP-21B-DS-SB09	SL4180-15	296141		16.45	
Continuing Calibrati	WG228693-5	374315		16.45	

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Form 8
Internal Standard Area and RT Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition I
Lab ID : WG228751-4
Lab File ID : W4063.D

SDG: SL4180
Analytical Date: 05/21/18 08:39
Instrument ID: GCMS-W

		PENTAFLUOROBENZENE				1,4-DIFLUOROBENZENE				CHLOROBENZENE-D5			
		Area	#	RT	#	Area	#	RT	#	Area	#	RT	#
	Std .	380844		8.08		588295		8.95		600272		13.39	
	Upper Limit	761688		8.24		1176590		9.12		1200544		13.55	
	Lower Limit	190422		7.91		294147.5		8.78		300136		13.22	
Client Sample ID	Lab Sample ID												
Laboratory Control S	WG228751-8	444730		8.07		686221		8.94		650742		13.39	
Method Blank Sample	WG228751-9	401216		8.07		632949		8.94		601922		13.38	
CHAAP-21B-DS-SS11	SL4180-16	389338		8.07		596563		8.94		532785		13.39	
CHAAP-21B-DS-SS11	SL4180-17	360247		8.07		563691		8.94		502345		13.38	
CHAAP-21B-DS-SS10	SL4180-19	351539		8.08		562444		8.94		530845		13.39	
CHAAP-21B-DS-SB10	SL4180-20	361901		8.06		580272		8.94		553384		13.38	
CHAAP-21B-DS-SS04	SL4180-21	311803		8.07		484375		8.94		436490		13.39	
CHAAP-21B-DS-SB04	SL4180-22	333017		8.07		542952		8.94		515232		13.39	
CHAAP-21B-DS-SB04	SL4180-23	331742		8.07		536092		8.94		523599		13.39	
Continuing Calibrati	WG228751-11	368027		8.07		575565		8.94		565804		13.39	
Continuing Calibrati	WG228825-4	398879		8.06		614970		8.93		605498		13.38	
Laboratory Control S	WG228825-1	385621		8.06		611156		8.93		589845		13.38	
Method Blank Sample	WG228825-2	344444		8.07		553354		8.95		522980		13.39	
CHAAP-21B-DS-SS10	SL4180-25	315598		8.08		509193		8.95		456371		13.39	
CHAAP-21B-DS-SB03	SL4180-26	307818		8.08		521375		8.95		493637		13.39	
CHAAP-21B-DS-SB03	SL4180-27	313806		8.08		506847		8.95		485765		13.39	
CHAAP-21B-DS-SS07	SL4180-8	301744		8.08		489195		8.95		438267		13.39	
CHAAP-21B-DS-SS10	SL4180-2RA	304774		8.07		492288		8.95		454185		13.39	
CHAAP-21B-DS-SS06	SL4180-5RA	284327		8.07		476694		8.95		427638		13.39	
CHAAP-21B-DS-SS08	SL4180-12RA	273309		8.08		447963		8.95		397106		13.39	
CHAAP-21B-DS-SS09	SL4180-14RA	267595		8.07		450572		8.95		407483		13.38	
Continuing Calibrati	WG228825-5	343665		8.07		554961		8.95		529614		13.38	

Area Upper Limit = +100% of internal standard area
Area Lower Limit = - 50% of internal standard area
RT Upper Limit = + 10 seconds of internal standard RT
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Form 8
Internal Standard Area and RT Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition I
Lab ID : WG228751-4
Lab File ID : W4063.D

SDG: SL4180
Analytical Date: 05/21/18 08:39
Instrument ID: GCMS-W

		1,4-DICHLOROBENZENE-D4			
		Area	#	RT	#
	Std .	392259		16.44	
	Upper Limit	784518		16.61	
	Lower Limit	196129.5		16.27	
Client Sample ID	Lab Sample ID				
Laboratory Control S	WG228751-8	414422		16.44	
Method Blank Sample	WG228751-9	340065		16.44	
CHAAP-21B-DS-SS11	SL4180-16	222009		16.44	
CHAAP-21B-DS-SS11	SL4180-17	214595		16.44	
CHAAP-21B-DS-SS10	SL4180-19	295394		16.44	
CHAAP-21B-DS-SB10	SL4180-20	296221		16.44	
CHAAP-21B-DS-SS04	SL4180-21	183514	*	16.44	
CHAAP-21B-DS-SB04	SL4180-22	276131		16.44	
CHAAP-21B-DS-SB04	SL4180-23	279515		16.44	
Continuing Calibrati	WG228751-11	345950		16.44	
Continuing Calibrati	WG228825-4	377405		16.44	
Laboratory Control S	WG228825-1	369449		16.44	
Method Blank Sample	WG228825-2	293617		16.44	
CHAAP-21B-DS-SS10	SL4180-25	193500	*	16.44	
CHAAP-21B-DS-SB03	SL4180-26	260029		16.44	
CHAAP-21B-DS-SB03	SL4180-27	265885		16.45	
CHAAP-21B-DS-SS07	SL4180-8	194962	*	16.44	
CHAAP-21B-DS-SS10	SL4180-2RA	199834		16.44	
CHAAP-21B-DS-SS06	SL4180-5RA	193486	*	16.44	
CHAAP-21B-DS-SS08	SL4180-12RA	162852	*	16.44	
CHAAP-21B-DS-SS09	SL4180-14RA	166197	*	16.44	
Continuing Calibrati	WG228825-5	335221		16.44	

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Form 8
Internal Standard Area and RT Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition I
Lab ID : WG228751-4
Lab File ID : W4063.D

SDG: SL4180
Analytical Date: 05/21/18 08:39
Instrument ID: GCMS-W

		PENTAFLUOROBENZENE			1,4-DIFLUOROBENZENE			CHLOROBENZENE-D5		
		Area	#	RT	#	Area	#	RT	#	Area	#	RT	#
	Std .	380844		8.08		588295		8.95		600272		13.39	
	Upper Limit	761688		8.24		1176590		9.12		1200544		13.55	
	Lower Limit	190422		7.91		294147.5		8.78		300136		13.22	
Client Sample ID	Lab Sample ID												
Continuing Calibrati	WG228846-4	346633		8.07		562908		8.95		548901		13.39	
Laboratory Control S	WG228846-1	362805		8.06		598661		8.93		574971		13.38	
Method Blank Sample	WG228846-2	319442		8.06		534268		8.93		507656		13.38	
CHAAP-21B-DS-SB11	SL4180-18	284487		8.06		473030		8.93		458619		13.38	
CHAAP-21B-DS-SS11	SL4180-16RA	275838		8.06		475089		8.93		418275		13.38	
CHAAP-21B-DS-SS11	SL4180-17RA	277942		8.06		474045		8.93		426417		13.38	
CHAAP-21B-DS-SS04	SL4180-21RA	263676		8.06		454508		8.93		398515		13.38	
CHAAP-21B-DS-SS03	SL4180-24RA	280572		8.07		474513		8.94		451506		13.39	
CHAAP-21B-DS-SS10	SL4180-25RA	205041		8.08		353996		8.95		327819		13.39	
CHAAP-21B-DS-SS07	SL4180-8RA	262278		8.08		455865		8.95		409794		13.39	
Matrix Spike	WG228846-6	304433		8.08		503047		8.95		482253		13.39	
Matrix Spike Duplica	WG228846-7	291520		8.08		473985		8.96		459563		13.40	
Matrix Spike	WG228846-8	294946		8.09		493622		8.95		445134		13.39	
Matrix Spike Duplica	WG228846-9	302850		8.09		504490		8.96		450134		13.40	
Continuing Calibrati	WG228846-5	343323		8.09		562229		8.96		541336		13.40	

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ANALYTICAL SERVICES

Form 8
Internal Standard Area and RT Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition I
Lab ID : WG228751-4
Lab File ID : W4063.D

SDG: SL4180
Analytical Date: 05/21/18 08:39
Instrument ID: GCMS-W

		1,4-DICHLOROBENZENE-D4			
		Area	#	RT	#
	Std .	392259		16.44	
	Upper Limit	784518		16.61	
	Lower Limit	196129.5		16.27	
Client Sample ID	Lab Sample ID				
Continuing Calibrati	WG228846-4	341515		16.45	
Laboratory Control S	WG228846-1	363110		16.43	
Method Blank Sample	WG228846-2	276375		16.44	
CHAAP-21B-DS-SB11	SL4180-18	239250		16.43	
CHAAP-21B-DS-SS11	SL4180-16RA	167283	*	16.43	
CHAAP-21B-DS-SS11	SL4180-17RA	179225	*	16.43	
CHAAP-21B-DS-SS04	SL4180-21RA	141024	*	16.44	
CHAAP-21B-DS-SS03	SL4180-24RA	227912		16.44	
CHAAP-21B-DS-SS10	SL4180-25RA	140637	*	16.45	
CHAAP-21B-DS-SS07	SL4180-8RA	172067	*	16.44	
Matrix Spike	WG228846-6	300026		16.45	
Matrix Spike Duplica	WG228846-7	292193		16.45	
Matrix Spike	WG228846-8	226724		16.45	
Matrix Spike Duplica	WG228846-9	234127		16.45	
Continuing Calibrati	WG228846-5	332217		16.45	

Area Upper Limit = +100% of internal standard area
Area Lower Limit = - 50% of internal standard area
RT Upper Limit = + 10 seconds of internal standard RT
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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-1
Client ID: CHAAP-21B-DS-SS02
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: HLE10532.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 15-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228439

Analysis Date: 17-MAY-18
Analyst: AAB
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 85.
Report Date: 30-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	56	ug/Kgdrywt	1	100	110	9.6	56.
RDX	U	56	ug/Kgdrywt	1	100	110	7.6	56.
1,3,5-Trinitrobenzene	U	56	ug/Kgdrywt	1	100	110	7.5	56.
1,3-Dinitrobenzene	U	56	ug/Kgdrywt	1	100	110	6.9	56.
Tetryl	U	56	ug/Kgdrywt	1	100	110	6.0	56.
Nitrobenzene	U	56	ug/Kgdrywt	1	100	110	25.	56.
2,4,6-Trinitrotoluene	U	56	ug/Kgdrywt	1	100	110	7.5	56.
2-Am-DNT	U	56	ug/Kgdrywt	1	100	110	24.	56.
4-Am-DNT	U	56	ug/Kgdrywt	1	100	110	19.	56.
2,6-Dinitrotoluene	U	56	ug/Kgdrywt	1	100	110	30.	56.
2,4-Dinitrotoluene	U	56	ug/Kgdrywt	1	100	110	17.	56.
2-Nitrotoluene	U	56	ug/Kgdrywt	1	100	110	13.	56.
3-Nitrotoluene	U	56	ug/Kgdrywt	1	100	110	8.8	56.
4-Nitrotoluene	U	56	ug/Kgdrywt	1	100	110	30.	56.
Nitroglycerin	U	450	ug/Kgdrywt	1	800	900	140	450
PETN	U	450	ug/Kgdrywt	1	800	900	120	450
1,2-Dinitrobenzene		94.8	%					

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Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-2
Client ID: CHAAP-21B-DS-SS102
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: HLE10533.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 15-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228439

Analysis Date: 17-MAY-18
Analyst: AAB
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 83.
Report Date: 30-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	58	ug/Kgdrywt	1	100	120	10.	58.
RDX	U	58	ug/Kgdrywt	1	100	120	7.9	58.
1,3,5-Trinitrobenzene	U	58	ug/Kgdrywt	1	100	120	7.8	58.
1,3-Dinitrobenzene	U	58	ug/Kgdrywt	1	100	120	7.2	58.
Tetryl	U	58	ug/Kgdrywt	1	100	120	6.3	58.
Nitrobenzene	U	58	ug/Kgdrywt	1	100	120	26.	58.
2,4,6-Trinitrotoluene	U	58	ug/Kgdrywt	1	100	120	7.8	58.
2-Am-DNT	U	58	ug/Kgdrywt	1	100	120	24.	58.
4-Am-DNT	U	58	ug/Kgdrywt	1	100	120	20.	58.
2,6-Dinitrotoluene	U	58	ug/Kgdrywt	1	100	120	32.	58.
2,4-Dinitrotoluene	U	58	ug/Kgdrywt	1	100	120	18.	58.
2-Nitrotoluene	U	58	ug/Kgdrywt	1	100	120	14.	58.
3-Nitrotoluene	U	58	ug/Kgdrywt	1	100	120	9.2	58.
4-Nitrotoluene	U	58	ug/Kgdrywt	1	100	120	32.	58.
Nitroglycerin	U	470	ug/Kgdrywt	1	800	930	140	470
PETN	U	470	ug/Kgdrywt	1	800	930	130	470
1,2-Dinitrobenzene		94.7	%					

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Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-3
Client ID: CHAAP-21B-DS-SB02-5
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: HLE10534.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 15-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228439

Analysis Date: 17-MAY-18
Analyst: AAB
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 82.
Report Date: 30-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	58	ug/Kgdrywt	1	100	120	10.	58.
RDX	U	58	ug/Kgdrywt	1	100	120	7.9	58.
1,3,5-Trinitrobenzene	U	58	ug/Kgdrywt	1	100	120	7.8	58.
1,3-Dinitrobenzene	U	58	ug/Kgdrywt	1	100	120	7.2	58.
Tetryl	U	58	ug/Kgdrywt	1	100	120	6.3	58.
Nitrobenzene	U	58	ug/Kgdrywt	1	100	120	26.	58.
2,4,6-Trinitrotoluene	U	58	ug/Kgdrywt	1	100	120	7.8	58.
2-Am-DNT	U	58	ug/Kgdrywt	1	100	120	24.	58.
4-Am-DNT	U	58	ug/Kgdrywt	1	100	120	20.	58.
2,6-Dinitrotoluene	U	58	ug/Kgdrywt	1	100	120	32.	58.
2,4-Dinitrotoluene	U	58	ug/Kgdrywt	1	100	120	18.	58.
2-Nitrotoluene	U	58	ug/Kgdrywt	1	100	120	14.	58.
3-Nitrotoluene	U	58	ug/Kgdrywt	1	100	120	9.2	58.
4-Nitrotoluene	U	58	ug/Kgdrywt	1	100	120	32.	58.
Nitroglycerin	U	470	ug/Kgdrywt	1	800	930	140	470
PETN	U	470	ug/Kgdrywt	1	800	930	130	470
1,2-Dinitrobenzene		94.3	%					

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Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-4RE
Client ID: CHAAP-21B-DS-SB02-10
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: HLE10688.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 22-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228857

Analysis Date: 23-MAY-18
Analyst: AC
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 77.
Report Date: 30-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	62	ug/Kgdrywt	1	100	120	11.	62.
RDX	U	62	ug/Kgdrywt	1	100	120	8.5	62.
1,3,5-Trinitrobenzene	U	62	ug/Kgdrywt	1	100	120	8.4	62.
1,3-Dinitrobenzene	U	62	ug/Kgdrywt	1	100	120	7.8	62.
Tetryl	U	62	ug/Kgdrywt	1	100	120	6.8	62.
Nitrobenzene	U	62	ug/Kgdrywt	1	100	120	28.	62.
2,4,6-Trinitrotoluene	U	62	ug/Kgdrywt	1	100	120	8.4	62.
2-Am-DNT	U	62	ug/Kgdrywt	1	100	120	26.	62.
4-Am-DNT	U	62	ug/Kgdrywt	1	100	120	21.	62.
2,6-Dinitrotoluene	U	62	ug/Kgdrywt	1	100	120	34.	62.
2,4-Dinitrotoluene	U	62	ug/Kgdrywt	1	100	120	19.	62.
2-Nitrotoluene	U	62	ug/Kgdrywt	1	100	120	15.	62.
3-Nitrotoluene	U	62	ug/Kgdrywt	1	100	120	9.9	62.
4-Nitrotoluene	U	62	ug/Kgdrywt	1	100	120	34.	62.
Nitroglycerin	U	500	ug/Kgdrywt	1	800	1000	160	500
PETN	U	500	ug/Kgdrywt	1	800	1000	140	500
1,2-Dinitrobenzene		96.0	%					

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Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-5
Client ID: CHAAP-21B-DS-SS06
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: HLE10536.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 15-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228439

Analysis Date: 17-MAY-18
Analyst: AAB
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 83.
Report Date: 30-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX		190	ug/Kgdrywt	1	100	110	9.3	54.
RDX	U	54	ug/Kgdrywt	1	100	110	7.4	54.
1,3,5-Trinitrobenzene	U	54	ug/Kgdrywt	1	100	110	7.3	54.
1,3-Dinitrobenzene	U	54	ug/Kgdrywt	1	100	110	6.7	54.
Tetryl	U	54	ug/Kgdrywt	1	100	110	5.8	54.
Nitrobenzene	U	54	ug/Kgdrywt	1	100	110	24.	54.
2,4,6-Trinitrotoluene	U	54	ug/Kgdrywt	1	100	110	7.3	54.
2-Am-DNT	U	54	ug/Kgdrywt	1	100	110	23.	54.
4-Am-DNT	U	54	ug/Kgdrywt	1	100	110	18.	54.
2,6-Dinitrotoluene	U	54	ug/Kgdrywt	1	100	110	29.	54.
2,4-Dinitrotoluene	U	54	ug/Kgdrywt	1	100	110	16.	54.
2-Nitrotoluene	U	54	ug/Kgdrywt	1	100	110	13.	54.
3-Nitrotoluene	U	54	ug/Kgdrywt	1	100	110	8.6	54.
4-Nitrotoluene	U	54	ug/Kgdrywt	1	100	110	29.	54.
Nitroglycerin	U	430	ug/Kgdrywt	1	800	870	130	430
PETN	U	430	ug/Kgdrywt	1	800	870	120	430
1,2-Dinitrobenzene		92.8	%					

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Form 10
Explosives Identification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant

SDG : SL4180
Lab Sample ID : SL4180-5
Client Sample ID : CHAAP-21B-DS-SS06

Column A
Instrument ID : HPLC02
Date Analyzed : 05/17/18
Time Analyzed : 08:06

Column B
Instrument ID : HPLC02
Date Analyzed : 05/26/18
Time Analyzed : 08:28

Analyte	Column	RT	Concentration	RPD
HMX	A	4.53	188	
	B	6.6	187	.5

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Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-6
Client ID: CHAAP-21B-DS-SB06-5
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: HLE10538.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 15-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228439

Analysis Date: 17-MAY-18
Analyst: AAB
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 76.
Report Date: 30-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	49	ug/Kgdrywt	1	100	99.	8.5	49.
RDX	U	49	ug/Kgdrywt	1	100	99.	6.7	49.
1,3,5-Trinitrobenzene	U	49	ug/Kgdrywt	1	100	99.	6.6	49.
1,3-Dinitrobenzene	U	49	ug/Kgdrywt	1	100	99.	6.1	49.
Tetryl	U	49	ug/Kgdrywt	1	100	99.	5.3	49.
Nitrobenzene	U	49	ug/Kgdrywt	1	100	99.	22.	49.
2,4,6-Trinitrotoluene	U	49	ug/Kgdrywt	1	100	99.	6.6	49.
2-Am-DNT	U	49	ug/Kgdrywt	1	100	99.	21.	49.
4-Am-DNT	U	49	ug/Kgdrywt	1	100	99.	17.	49.
2,6-Dinitrotoluene	U	49	ug/Kgdrywt	1	100	99.	27.	49.
2,4-Dinitrotoluene	U	49	ug/Kgdrywt	1	100	99.	15.	49.
2-Nitrotoluene	U	49	ug/Kgdrywt	1	100	99.	12.	49.
3-Nitrotoluene	U	49	ug/Kgdrywt	1	100	99.	7.8	49.
4-Nitrotoluene	U	49	ug/Kgdrywt	1	100	99.	27.	49.
Nitroglycerin	U	400	ug/Kgdrywt	1	800	790	120	400
PETN	U	400	ug/Kgdrywt	1	800	790	110	400
1,2-Dinitrobenzene		81.4	%					

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Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-7
Client ID: CHAAP-21B-DS-SB06-10
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: HLE10539.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 15-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228439

Analysis Date: 17-MAY-18
Analyst: AAB
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 80.
Report Date: 30-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	50	ug/Kgdrywt	1	100	100	8.7	50.
RDX	U	50	ug/Kgdrywt	1	100	100	6.9	50.
1,3,5-Trinitrobenzene	U	50	ug/Kgdrywt	1	100	100	6.8	50.
1,3-Dinitrobenzene	U	50	ug/Kgdrywt	1	100	100	6.3	50.
Tetryl	U	50	ug/Kgdrywt	1	100	100	5.4	50.
Nitrobenzene	U	50	ug/Kgdrywt	1	100	100	22.	50.
2,4,6-Trinitrotoluene	U	50	ug/Kgdrywt	1	100	100	6.8	50.
2-Am-DNT	U	50	ug/Kgdrywt	1	100	100	21.	50.
4-Am-DNT	U	50	ug/Kgdrywt	1	100	100	17.	50.
2,6-Dinitrotoluene	U	50	ug/Kgdrywt	1	100	100	27.	50.
2,4-Dinitrotoluene	U	50	ug/Kgdrywt	1	100	100	15.	50.
2-Nitrotoluene	U	50	ug/Kgdrywt	1	100	100	12.	50.
3-Nitrotoluene	U	50	ug/Kgdrywt	1	100	100	8.0	50.
4-Nitrotoluene	U	50	ug/Kgdrywt	1	100	100	27.	50.
Nitroglycerin	U	400	ug/Kgdrywt	1	800	810	120	400
PETN	U	400	ug/Kgdrywt	1	800	810	110	400
1,2-Dinitrobenzene		91.3	%					

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Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-8
Client ID: CHAAP-21B-DS-SS07
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: HLE10540.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 15-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228439

Analysis Date: 17-MAY-18
Analyst: AAB
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 81.
Report Date: 30-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	55	ug/Kgdrywt	1	100	110	9.5	55.
RDX	U	55	ug/Kgdrywt	1	100	110	7.5	55.
1,3,5-Trinitrobenzene	U	55	ug/Kgdrywt	1	100	110	7.4	55.
1,3-Dinitrobenzene	U	55	ug/Kgdrywt	1	100	110	6.8	55.
Tetryl	U	55	ug/Kgdrywt	1	100	110	5.9	55.
Nitrobenzene	U	55	ug/Kgdrywt	1	100	110	24.	55.
2,4,6-Trinitrotoluene	U	55	ug/Kgdrywt	1	100	110	7.4	55.
2-Am-DNT	U	55	ug/Kgdrywt	1	100	110	23.	55.
4-Am-DNT	U	55	ug/Kgdrywt	1	100	110	19.	55.
2,6-Dinitrotoluene	U	55	ug/Kgdrywt	1	100	110	30.	55.
2,4-Dinitrotoluene	U	55	ug/Kgdrywt	1	100	110	16.	55.
2-Nitrotoluene	U	55	ug/Kgdrywt	1	100	110	13.	55.
3-Nitrotoluene	U	55	ug/Kgdrywt	1	100	110	8.7	55.
4-Nitrotoluene	U	55	ug/Kgdrywt	1	100	110	30.	55.
Nitroglycerin	U	440	ug/Kgdrywt	1	800	880	140	440
PETN	U	440	ug/Kgdrywt	1	800	880	120	440
1,2-Dinitrobenzene		90.5	%					

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Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-9
Client ID: CHAAP-21B-DS-SB07-5
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: HLE10541.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 15-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228439

Analysis Date: 17-MAY-18
Analyst: AAB
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 81.
Report Date: 30-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	54	ug/Kgdrywt	1	100	110	9.3	54.
RDX	U	54	ug/Kgdrywt	1	100	110	7.3	54.
1,3,5-Trinitrobenzene	U	54	ug/Kgdrywt	1	100	110	7.2	54.
1,3-Dinitrobenzene	U	54	ug/Kgdrywt	1	100	110	6.7	54.
Tetryl	U	54	ug/Kgdrywt	1	100	110	5.8	54.
Nitrobenzene	U	54	ug/Kgdrywt	1	100	110	24.	54.
2,4,6-Trinitrotoluene	U	54	ug/Kgdrywt	1	100	110	7.2	54.
2-Am-DNT	U	54	ug/Kgdrywt	1	100	110	23.	54.
4-Am-DNT	U	54	ug/Kgdrywt	1	100	110	18.	54.
2,6-Dinitrotoluene	U	54	ug/Kgdrywt	1	100	110	29.	54.
2,4-Dinitrotoluene	U	54	ug/Kgdrywt	1	100	110	16.	54.
2-Nitrotoluene	U	54	ug/Kgdrywt	1	100	110	13.	54.
3-Nitrotoluene	U	54	ug/Kgdrywt	1	100	110	8.5	54.
4-Nitrotoluene	U	54	ug/Kgdrywt	1	100	110	29.	54.
Nitroglycerin	U	430	ug/Kgdrywt	1	800	860	130	430
PETN	U	430	ug/Kgdrywt	1	800	860	120	430
1,2-Dinitrobenzene		93.7	%					

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Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-10
Client ID: CHAAP-21B-DS-SB107-5
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: HLE10542.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 15-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228439

Analysis Date: 17-MAY-18
Analyst: AAB
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 81.
Report Date: 30-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	59	ug/Kgdrywt	1	100	120	10.	59.
RDX	U	59	ug/Kgdrywt	1	100	120	8.1	59.
1,3,5-Trinitrobenzene	U	59	ug/Kgdrywt	1	100	120	8.0	59.
1,3-Dinitrobenzene	U	59	ug/Kgdrywt	1	100	120	7.4	59.
Tetryl	U	59	ug/Kgdrywt	1	100	120	6.4	59.
Nitrobenzene	U	59	ug/Kgdrywt	1	100	120	26.	59.
2,4,6-Trinitrotoluene	U	59	ug/Kgdrywt	1	100	120	8.0	59.
2-Am-DNT	U	59	ug/Kgdrywt	1	100	120	25.	59.
4-Am-DNT	U	59	ug/Kgdrywt	1	100	120	20.	59.
2,6-Dinitrotoluene	U	59	ug/Kgdrywt	1	100	120	32.	59.
2,4-Dinitrotoluene	U	59	ug/Kgdrywt	1	100	120	18.	59.
2-Nitrotoluene	U	59	ug/Kgdrywt	1	100	120	14.	59.
3-Nitrotoluene	U	59	ug/Kgdrywt	1	100	120	9.4	59.
4-Nitrotoluene	U	59	ug/Kgdrywt	1	100	120	32.	59.
Nitroglycerin	U	480	ug/Kgdrywt	1	800	950	150	480
PETN	U	480	ug/Kgdrywt	1	800	950	130	480
1,2-Dinitrobenzene		87.9	%					

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-11
Client ID: CHAAP-21B-DS-SB07-10
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: HLE10543.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 15-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228439

Analysis Date: 17-MAY-18
Analyst: AAB
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 76.
Report Date: 30-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	54	ug/Kgdrywt	1	100	110	9.4	54.
RDX	U	54	ug/Kgdrywt	1	100	110	7.4	54.
1,3,5-Trinitrobenzene	U	54	ug/Kgdrywt	1	100	110	7.3	54.
1,3-Dinitrobenzene	U	54	ug/Kgdrywt	1	100	110	6.7	54.
Tetryl	U	54	ug/Kgdrywt	1	100	110	5.9	54.
Nitrobenzene	U	54	ug/Kgdrywt	1	100	110	24.	54.
2,4,6-Trinitrotoluene	U	54	ug/Kgdrywt	1	100	110	7.3	54.
2-Am-DNT	U	54	ug/Kgdrywt	1	100	110	23.	54.
4-Am-DNT	U	54	ug/Kgdrywt	1	100	110	18.	54.
2,6-Dinitrotoluene	U	54	ug/Kgdrywt	1	100	110	29.	54.
2,4-Dinitrotoluene	U	54	ug/Kgdrywt	1	100	110	16.	54.
2-Nitrotoluene	U	54	ug/Kgdrywt	1	100	110	13.	54.
3-Nitrotoluene	U	54	ug/Kgdrywt	1	100	110	8.6	54.
4-Nitrotoluene	U	54	ug/Kgdrywt	1	100	110	29.	54.
Nitroglycerin	U	440	ug/Kgdrywt	1	800	870	130	440
PETN	U	440	ug/Kgdrywt	1	800	870	120	440
1,2-Dinitrobenzene		88.8	%					

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Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-12
Client ID: CHAAP-21B-DS-SS08
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: HLE10544.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 15-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228439

Analysis Date: 17-MAY-18
Analyst: AAB
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 87.
Report Date: 30-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	55	ug/Kgdrywt	1	100	110	9.4	55.
RDX	U	55	ug/Kgdrywt	1	100	110	7.4	55.
1,3,5-Trinitrobenzene	U	55	ug/Kgdrywt	1	100	110	7.3	55.
1,3-Dinitrobenzene	U	55	ug/Kgdrywt	1	100	110	6.8	55.
Tetryl	U	55	ug/Kgdrywt	1	100	110	5.9	55.
Nitrobenzene	U	55	ug/Kgdrywt	1	100	110	24.	55.
2,4,6-Trinitrotoluene	U	55	ug/Kgdrywt	1	100	110	7.3	55.
2-Am-DNT	U	55	ug/Kgdrywt	1	100	110	23.	55.
4-Am-DNT	U	55	ug/Kgdrywt	1	100	110	18.	55.
2,6-Dinitrotoluene	U	55	ug/Kgdrywt	1	100	110	30.	55.
2,4-Dinitrotoluene	U	55	ug/Kgdrywt	1	100	110	16.	55.
2-Nitrotoluene	U	55	ug/Kgdrywt	1	100	110	13.	55.
3-Nitrotoluene	U	55	ug/Kgdrywt	1	100	110	8.6	55.
4-Nitrotoluene	U	55	ug/Kgdrywt	1	100	110	30.	55.
Nitroglycerin	U	440	ug/Kgdrywt	1	800	870	140	440
PETN	U	440	ug/Kgdrywt	1	800	870	120	440
1,2-Dinitrobenzene		90.5	%					

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Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-13
Client ID: CHAAP-21B-DS-SB08-5
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: HLE10545.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 15-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228439

Analysis Date: 17-MAY-18
Analyst: AAB
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 80.
Report Date: 30-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	56	ug/Kgdrywt	1	100	110	9.7	56.
RDX	U	56	ug/Kgdrywt	1	100	110	7.7	56.
1,3,5-Trinitrobenzene	U	56	ug/Kgdrywt	1	100	110	7.6	56.
1,3-Dinitrobenzene	U	56	ug/Kgdrywt	1	100	110	7.0	56.
Tetryl	U	56	ug/Kgdrywt	1	100	110	6.1	56.
Nitrobenzene	U	56	ug/Kgdrywt	1	100	110	25.	56.
2,4,6-Trinitrotoluene	U	56	ug/Kgdrywt	1	100	110	7.6	56.
2-Am-DNT	U	56	ug/Kgdrywt	1	100	110	24.	56.
4-Am-DNT	U	56	ug/Kgdrywt	1	100	110	19.	56.
2,6-Dinitrotoluene	U	56	ug/Kgdrywt	1	100	110	30.	56.
2,4-Dinitrotoluene	U	56	ug/Kgdrywt	1	100	110	17.	56.
2-Nitrotoluene	U	56	ug/Kgdrywt	1	100	110	14.	56.
3-Nitrotoluene	U	56	ug/Kgdrywt	1	100	110	8.9	56.
4-Nitrotoluene	U	56	ug/Kgdrywt	1	100	110	30.	56.
Nitroglycerin	U	450	ug/Kgdrywt	1	800	900	140	450
PETN	U	450	ug/Kgdrywt	1	800	900	120	450
1,2-Dinitrobenzene		93.3	%					

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Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-14
Client ID: CHAAP-21B-DS-SS09
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: HLE10546.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 15-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228439

Analysis Date: 17-MAY-18
Analyst: AAB
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 83.
Report Date: 30-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	58	ug/Kgdrywt	1	100	120	10.	58.
RDX	U	58	ug/Kgdrywt	1	100	120	7.9	58.
1,3,5-Trinitrobenzene	U	58	ug/Kgdrywt	1	100	120	7.8	58.
1,3-Dinitrobenzene	U	58	ug/Kgdrywt	1	100	120	7.2	58.
Tetryl	U	58	ug/Kgdrywt	1	100	120	6.3	58.
Nitrobenzene	U	58	ug/Kgdrywt	1	100	120	26.	58.
2,4,6-Trinitrotoluene	U	58	ug/Kgdrywt	1	100	120	7.8	58.
2-Am-DNT	U	58	ug/Kgdrywt	1	100	120	24.	58.
4-Am-DNT	U	58	ug/Kgdrywt	1	100	120	20.	58.
2,6-Dinitrotoluene	U	58	ug/Kgdrywt	1	100	120	31.	58.
2,4-Dinitrotoluene	U	58	ug/Kgdrywt	1	100	120	17.	58.
2-Nitrotoluene	U	58	ug/Kgdrywt	1	100	120	14.	58.
3-Nitrotoluene	U	58	ug/Kgdrywt	1	100	120	9.2	58.
4-Nitrotoluene	U	58	ug/Kgdrywt	1	100	120	31.	58.
Nitroglycerin	U	460	ug/Kgdrywt	1	800	930	140	460
PETN	U	460	ug/Kgdrywt	1	800	930	120	460
1,2-Dinitrobenzene		96.7	%					

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Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-15
Client ID: CHAAP-21B-DS-SB09-5
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: HLE10547.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 15-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228439

Analysis Date: 17-MAY-18
Analyst: AAB
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 80.
Report Date: 30-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	57	ug/Kgdrywt	1	100	110	9.7	57.
RDX	U	57	ug/Kgdrywt	1	100	110	7.7	57.
1,3,5-Trinitrobenzene	U	57	ug/Kgdrywt	1	100	110	7.6	57.
1,3-Dinitrobenzene	U	57	ug/Kgdrywt	1	100	110	7.0	57.
Tetryl	U	57	ug/Kgdrywt	1	100	110	6.1	57.
Nitrobenzene	U	57	ug/Kgdrywt	1	100	110	25.	57.
2,4,6-Trinitrotoluene	U	57	ug/Kgdrywt	1	100	110	7.6	57.
2-Am-DNT	U	57	ug/Kgdrywt	1	100	110	24.	57.
4-Am-DNT	U	57	ug/Kgdrywt	1	100	110	19.	57.
2,6-Dinitrotoluene	U	57	ug/Kgdrywt	1	100	110	31.	57.
2,4-Dinitrotoluene	U	57	ug/Kgdrywt	1	100	110	17.	57.
2-Nitrotoluene	U	57	ug/Kgdrywt	1	100	110	14.	57.
3-Nitrotoluene	U	57	ug/Kgdrywt	1	100	110	9.0	57.
4-Nitrotoluene	U	57	ug/Kgdrywt	1	100	110	31.	57.
Nitroglycerin	U	450	ug/Kgdrywt	1	800	910	140	450
PETN	U	450	ug/Kgdrywt	1	800	910	120	450
1,2-Dinitrobenzene		95.4	%					

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Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-16
Client ID: CHAAP-21B-DS-SS11
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: HLE10640.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 15-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228439

Analysis Date: 22-MAY-18
Analyst: AAB
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 82.
Report Date: 30-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	57	ug/Kgdrywt	1	100	110	9.7	57.
RDX	U	57	ug/Kgdrywt	1	100	110	7.7	57.
1,3,5-Trinitrobenzene	U	57	ug/Kgdrywt	1	100	110	7.6	57.
1,3-Dinitrobenzene	U	57	ug/Kgdrywt	1	100	110	7.0	57.
Tetryl	U	57	ug/Kgdrywt	1	100	110	6.1	57.
Nitrobenzene	U	57	ug/Kgdrywt	1	100	110	25.	57.
2,4,6-Trinitrotoluene	U	57	ug/Kgdrywt	1	100	110	7.6	57.
2-Am-DNT	U	57	ug/Kgdrywt	1	100	110	24.	57.
4-Am-DNT	U	57	ug/Kgdrywt	1	100	110	19.	57.
2,6-Dinitrotoluene	U	57	ug/Kgdrywt	1	100	110	30.	57.
2,4-Dinitrotoluene	U	57	ug/Kgdrywt	1	100	110	17.	57.
2-Nitrotoluene	U	57	ug/Kgdrywt	1	100	110	14.	57.
3-Nitrotoluene	U	57	ug/Kgdrywt	1	100	110	8.9	57.
4-Nitrotoluene	U	57	ug/Kgdrywt	1	100	110	30.	57.
Nitroglycerin	U	450	ug/Kgdrywt	1	800	900	140	450
PETN	U	450	ug/Kgdrywt	1	800	900	120	450
1,2-Dinitrobenzene		92.6	%					

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Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-17
Client ID: CHAAP-21B-DS-SS111
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: HLE10641.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 15-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228439

Analysis Date: 22-MAY-18
Analyst: AAB
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 80.
Report Date: 30-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	52	ug/Kgdrywt	1	100	100	9.0	52.
RDX	U	52	ug/Kgdrywt	1	100	100	7.1	52.
1,3,5-Trinitrobenzene	U	52	ug/Kgdrywt	1	100	100	7.0	52.
1,3-Dinitrobenzene	U	52	ug/Kgdrywt	1	100	100	6.5	52.
Tetryl	U	52	ug/Kgdrywt	1	100	100	5.6	52.
Nitrobenzene	U	52	ug/Kgdrywt	1	100	100	23.	52.
2,4,6-Trinitrotoluene	U	52	ug/Kgdrywt	1	100	100	7.0	52.
2-Am-DNT	U	52	ug/Kgdrywt	1	100	100	22.	52.
4-Am-DNT	U	52	ug/Kgdrywt	1	100	100	18.	52.
2,6-Dinitrotoluene	U	52	ug/Kgdrywt	1	100	100	28.	52.
2,4-Dinitrotoluene	U	52	ug/Kgdrywt	1	100	100	16.	52.
2-Nitrotoluene	U	52	ug/Kgdrywt	1	100	100	12.	52.
3-Nitrotoluene	U	52	ug/Kgdrywt	1	100	100	8.2	52.
4-Nitrotoluene	U	52	ug/Kgdrywt	1	100	100	28.	52.
Nitroglycerin	U	420	ug/Kgdrywt	1	800	840	130	420
PETN	U	420	ug/Kgdrywt	1	800	840	110	420
1,2-Dinitrobenzene		92.1	%					

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Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-18
Client ID: CHAAP-21B-DS-SB11-5
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: HLE10642.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 15-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228439

Analysis Date: 22-MAY-18
Analyst: AAB
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 80.
Report Date: 30-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	53	ug/Kgdrywt	1	100	100	9.1	53.
RDX	U	53	ug/Kgdrywt	1	100	100	7.2	53.
1,3,5-Trinitrobenzene	U	53	ug/Kgdrywt	1	100	100	7.1	53.
1,3-Dinitrobenzene	U	53	ug/Kgdrywt	1	100	100	6.6	53.
Tetryl	U	53	ug/Kgdrywt	1	100	100	5.7	53.
Nitrobenzene	U	53	ug/Kgdrywt	1	100	100	23.	53.
2,4,6-Trinitrotoluene	U	53	ug/Kgdrywt	1	100	100	7.1	53.
2-Am-DNT	U	53	ug/Kgdrywt	1	100	100	22.	53.
4-Am-DNT	U	53	ug/Kgdrywt	1	100	100	18.	53.
2,6-Dinitrotoluene	U	53	ug/Kgdrywt	1	100	100	28.	53.
2,4-Dinitrotoluene	U	53	ug/Kgdrywt	1	100	100	16.	53.
2-Nitrotoluene	U	53	ug/Kgdrywt	1	100	100	13.	53.
3-Nitrotoluene	U	53	ug/Kgdrywt	1	100	100	8.3	53.
4-Nitrotoluene	U	53	ug/Kgdrywt	1	100	100	28.	53.
Nitroglycerin	U	420	ug/Kgdrywt	1	800	840	130	420
PETN	U	420	ug/Kgdrywt	1	800	840	110	420
1,2-Dinitrobenzene		85.8	%					

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Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-19
Client ID: CHAAP-21B-DS-SS10
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: HLE10643.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 15-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228439

Analysis Date: 22-MAY-18
Analyst: AAB
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 69.
Report Date: 30-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	60	ug/Kgdrywt	1	100	120	10.	60.
RDX	U	60	ug/Kgdrywt	1	100	120	8.2	60.
1,3,5-Trinitrobenzene	U	60	ug/Kgdrywt	1	100	120	8.0	60.
1,3-Dinitrobenzene	U	60	ug/Kgdrywt	1	100	120	7.4	60.
Tetryl	U	60	ug/Kgdrywt	1	100	120	6.5	60.
Nitrobenzene	U	60	ug/Kgdrywt	1	100	120	26.	60.
2,4,6-Trinitrotoluene	U	60	ug/Kgdrywt	1	100	120	8.0	60.
2-Am-DNT	U	60	ug/Kgdrywt	1	100	120	25.	60.
4-Am-DNT	U	60	ug/Kgdrywt	1	100	120	20.	60.
2,6-Dinitrotoluene	U	60	ug/Kgdrywt	1	100	120	32.	60.
2,4-Dinitrotoluene	U	60	ug/Kgdrywt	1	100	120	18.	60.
2-Nitrotoluene	U	60	ug/Kgdrywt	1	100	120	14.	60.
3-Nitrotoluene	U	60	ug/Kgdrywt	1	100	120	9.5	60.
4-Nitrotoluene	U	60	ug/Kgdrywt	1	100	120	32.	60.
Nitroglycerin	U	480	ug/Kgdrywt	1	800	960	150	480
PETN	U	480	ug/Kgdrywt	1	800	960	130	480
1,2-Dinitrobenzene		88.2	%					

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Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-20
Client ID: CHAAP-21B-DS-SB10-5
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: HLE10644.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 15-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228439

Analysis Date: 22-MAY-18
Analyst: AAB
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 82.
Report Date: 30-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	55	ug/Kgdrywt	1	100	110	9.4	55.
RDX	U	55	ug/Kgdrywt	1	100	110	7.4	55.
1,3,5-Trinitrobenzene	U	55	ug/Kgdrywt	1	100	110	7.3	55.
1,3-Dinitrobenzene	U	55	ug/Kgdrywt	1	100	110	6.8	55.
Tetryl	U	55	ug/Kgdrywt	1	100	110	5.9	55.
Nitrobenzene	U	55	ug/Kgdrywt	1	100	110	24.	55.
2,4,6-Trinitrotoluene	U	55	ug/Kgdrywt	1	100	110	7.3	55.
2-Am-DNT	U	55	ug/Kgdrywt	1	100	110	23.	55.
4-Am-DNT	U	55	ug/Kgdrywt	1	100	110	19.	55.
2,6-Dinitrotoluene	U	55	ug/Kgdrywt	1	100	110	30.	55.
2,4-Dinitrotoluene	U	55	ug/Kgdrywt	1	100	110	16.	55.
2-Nitrotoluene	U	55	ug/Kgdrywt	1	100	110	13.	55.
3-Nitrotoluene	U	55	ug/Kgdrywt	1	100	110	8.6	55.
4-Nitrotoluene	U	55	ug/Kgdrywt	1	100	110	30.	55.
Nitroglycerin	U	440	ug/Kgdrywt	1	800	880	140	440
PETN	U	440	ug/Kgdrywt	1	800	880	120	440
1,2-Dinitrobenzene		88.1	%					

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Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-21
Client ID: CHAAP-21B-DS-SS04
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: HLE10645.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 15-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228437

Analysis Date: 22-MAY-18
Analyst: AAB
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 74.
Report Date: 30-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	J	61	ug/Kgdrywt	1	100	120	10.	60.
RDX	U	60	ug/Kgdrywt	1	100	120	8.1	60.
1,3,5-Trinitrobenzene	U	60	ug/Kgdrywt	1	100	120	8.0	60.
1,3-Dinitrobenzene	U	60	ug/Kgdrywt	1	100	120	7.4	60.
Tetryl	U	60	ug/Kgdrywt	1	100	120	6.4	60.
Nitrobenzene	U	60	ug/Kgdrywt	1	100	120	26.	60.
2,4,6-Trinitrotoluene	U	60	ug/Kgdrywt	1	100	120	8.0	60.
2-Am-DNT	U	60	ug/Kgdrywt	1	100	120	25.	60.
4-Am-DNT	U	60	ug/Kgdrywt	1	100	120	20.	60.
2,6-Dinitrotoluene	U	60	ug/Kgdrywt	1	100	120	32.	60.
2,4-Dinitrotoluene	U	60	ug/Kgdrywt	1	100	120	18.	60.
2-Nitrotoluene	U	60	ug/Kgdrywt	1	100	120	14.	60.
3-Nitrotoluene	U	60	ug/Kgdrywt	1	100	120	9.4	60.
4-Nitrotoluene	U	60	ug/Kgdrywt	1	100	120	32.	60.
Nitroglycerin	U	480	ug/Kgdrywt	1	800	950	150	480
PETN	U	480	ug/Kgdrywt	1	800	950	130	480
1,2-Dinitrobenzene		87.9	%					

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Form 10
Explosives Identification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant

SDG : SL4180
Lab Sample ID : SL4180-21
Client Sample ID : CHAAP-21B-DS-SS04

Column A
Instrument ID : HPLC02
Date Analyzed : 05/22/18
Time Analyzed : 18:53

Column B
Instrument ID : HPLC02
Date Analyzed : 05/26/18
Time Analyzed : 17:29

Analyte	Column	RT	Concentration	RPD
HMX	A	4.56	60.6	
	B	6.6	56.7	6.6

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Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-22
Client ID: CHAAP-21B-DS-SB04-5
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: HLE10646.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 15-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228437

Analysis Date: 22-MAY-18
Analyst: AAB
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 74.
Report Date: 30-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	67	ug/Kgdrywt	1	100	130	11.	67.
RDX	U	67	ug/Kgdrywt	1	100	130	9.0	67.
1,3,5-Trinitrobenzene	U	67	ug/Kgdrywt	1	100	130	8.9	67.
1,3-Dinitrobenzene	U	67	ug/Kgdrywt	1	100	130	8.3	67.
Tetryl	U	67	ug/Kgdrywt	1	100	130	7.2	67.
Nitrobenzene	U	67	ug/Kgdrywt	1	100	130	29.	67.
2,4,6-Trinitrotoluene	U	67	ug/Kgdrywt	1	100	130	8.9	67.
2-Am-DNT	U	67	ug/Kgdrywt	1	100	130	28.	67.
4-Am-DNT	U	67	ug/Kgdrywt	1	100	130	23.	67.
2,6-Dinitrotoluene	U	67	ug/Kgdrywt	1	100	130	36.	67.
2,4-Dinitrotoluene	U	67	ug/Kgdrywt	1	100	130	20.	67.
2-Nitrotoluene	U	67	ug/Kgdrywt	1	100	130	16.	67.
3-Nitrotoluene	U	67	ug/Kgdrywt	1	100	130	10.	67.
4-Nitrotoluene	U	67	ug/Kgdrywt	1	100	130	36.	67.
Nitroglycerin	U	530	ug/Kgdrywt	1	800	1100	160	530
PETN	U	530	ug/Kgdrywt	1	800	1100	140	530
1,2-Dinitrobenzene		91.3	%					

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Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-23
Client ID: CHAAP-21B-DS-SB04-10
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: HLE10647.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 15-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228437

Analysis Date: 22-MAY-18
Analyst: AAB
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 78.
Report Date: 30-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	57	ug/Kgdrywt	1	100	110	9.8	57.
RDX	U	57	ug/Kgdrywt	1	100	110	7.7	57.
1,3,5-Trinitrobenzene	U	57	ug/Kgdrywt	1	100	110	7.6	57.
1,3-Dinitrobenzene	U	57	ug/Kgdrywt	1	100	110	7.0	57.
Tetryl	U	57	ug/Kgdrywt	1	100	110	6.1	57.
Nitrobenzene	U	57	ug/Kgdrywt	1	100	110	25.	57.
2,4,6-Trinitrotoluene	U	57	ug/Kgdrywt	1	100	110	7.6	57.
2-Am-DNT	U	57	ug/Kgdrywt	1	100	110	24.	57.
4-Am-DNT	U	57	ug/Kgdrywt	1	100	110	19.	57.
2,6-Dinitrotoluene	U	57	ug/Kgdrywt	1	100	110	31.	57.
2,4-Dinitrotoluene	U	57	ug/Kgdrywt	1	100	110	17.	57.
2-Nitrotoluene	U	57	ug/Kgdrywt	1	100	110	14.	57.
3-Nitrotoluene	U	57	ug/Kgdrywt	1	100	110	9.0	57.
4-Nitrotoluene	U	57	ug/Kgdrywt	1	100	110	31.	57.
Nitroglycerin	U	460	ug/Kgdrywt	1	800	910	140	460
PETN	U	460	ug/Kgdrywt	1	800	910	120	460
1,2-Dinitrobenzene		90.5	%					

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Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-24
Client ID: CHAAP-21B-DS-SS03
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: HLE10648.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 15-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228437

Analysis Date: 22-MAY-18
Analyst: AAB
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 81.
Report Date: 30-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	61	ug/Kgdrywt	1	100	120	10.	61.
RDX	U	61	ug/Kgdrywt	1	100	120	8.3	61.
1,3,5-Trinitrobenzene	U	61	ug/Kgdrywt	1	100	120	8.2	61.
1,3-Dinitrobenzene	U	61	ug/Kgdrywt	1	100	120	7.6	61.
Tetryl	U	61	ug/Kgdrywt	1	100	120	6.6	61.
Nitrobenzene	U	61	ug/Kgdrywt	1	100	120	27.	61.
2,4,6-Trinitrotoluene	U	61	ug/Kgdrywt	1	100	120	8.2	61.
2-Am-DNT	U	61	ug/Kgdrywt	1	100	120	26.	61.
4-Am-DNT	U	61	ug/Kgdrywt	1	100	120	21.	61.
2,6-Dinitrotoluene	U	61	ug/Kgdrywt	1	100	120	33.	61.
2,4-Dinitrotoluene	U	61	ug/Kgdrywt	1	100	120	18.	61.
2-Nitrotoluene	U	61	ug/Kgdrywt	1	100	120	15.	61.
3-Nitrotoluene	U	61	ug/Kgdrywt	1	100	120	9.7	61.
4-Nitrotoluene	U	61	ug/Kgdrywt	1	100	120	33.	61.
Nitroglycerin	U	490	ug/Kgdrywt	1	800	980	150	490
PETN	U	490	ug/Kgdrywt	1	800	980	130	490
1,2-Dinitrobenzene		91.5	%					

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Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-25
Client ID: CHAAP-21B-DS-SS103
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: HLE10649.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 15-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228437

Analysis Date: 22-MAY-18
Analyst: AAB
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 81.
Report Date: 30-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	57	ug/Kgdrywt	1	100	110	9.8	57.
RDX	U	57	ug/Kgdrywt	1	100	110	7.7	57.
1,3,5-Trinitrobenzene	U	57	ug/Kgdrywt	1	100	110	7.6	57.
1,3-Dinitrobenzene	U	57	ug/Kgdrywt	1	100	110	7.0	57.
Tetryl	U	57	ug/Kgdrywt	1	100	110	6.1	57.
Nitrobenzene	U	57	ug/Kgdrywt	1	100	110	25.	57.
2,4,6-Trinitrotoluene	U	57	ug/Kgdrywt	1	100	110	7.6	57.
2-Am-DNT	U	57	ug/Kgdrywt	1	100	110	24.	57.
4-Am-DNT	U	57	ug/Kgdrywt	1	100	110	19.	57.
2,6-Dinitrotoluene	U	57	ug/Kgdrywt	1	100	110	31.	57.
2,4-Dinitrotoluene	U	57	ug/Kgdrywt	1	100	110	17.	57.
2-Nitrotoluene	U	57	ug/Kgdrywt	1	100	110	14.	57.
3-Nitrotoluene	U	57	ug/Kgdrywt	1	100	110	9.0	57.
4-Nitrotoluene	U	57	ug/Kgdrywt	1	100	110	31.	57.
Nitroglycerin	U	450	ug/Kgdrywt	1	800	910	140	450
PETN	U	450	ug/Kgdrywt	1	800	910	120	450
1,2-Dinitrobenzene		92.1	%					

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Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-26
Client ID: CHAAP-21B-DS-SB03-5
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: HLE10651.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 15-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228437

Analysis Date: 22-MAY-18
Analyst: AAB
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 78.
Report Date: 30-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	55	ug/Kgdrywt	1	100	110	9.4	55.
RDX	U	55	ug/Kgdrywt	1	100	110	7.4	55.
1,3,5-Trinitrobenzene	U	55	ug/Kgdrywt	1	100	110	7.3	55.
1,3-Dinitrobenzene	U	55	ug/Kgdrywt	1	100	110	6.8	55.
Tetryl	U	55	ug/Kgdrywt	1	100	110	5.9	55.
Nitrobenzene	U	55	ug/Kgdrywt	1	100	110	24.	55.
2,4,6-Trinitrotoluene	U	55	ug/Kgdrywt	1	100	110	7.3	55.
2-Am-DNT	U	55	ug/Kgdrywt	1	100	110	23.	55.
4-Am-DNT	U	55	ug/Kgdrywt	1	100	110	19.	55.
2,6-Dinitrotoluene	U	55	ug/Kgdrywt	1	100	110	30.	55.
2,4-Dinitrotoluene	U	55	ug/Kgdrywt	1	100	110	16.	55.
2-Nitrotoluene	U	55	ug/Kgdrywt	1	100	110	13.	55.
3-Nitrotoluene	U	55	ug/Kgdrywt	1	100	110	8.7	55.
4-Nitrotoluene	U	55	ug/Kgdrywt	1	100	110	30.	55.
Nitroglycerin	U	440	ug/Kgdrywt	1	800	880	140	440
PETN	U	440	ug/Kgdrywt	1	800	880	120	440
1,2-Dinitrobenzene		90.9	%					

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Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-27
Client ID: CHAAP-21B-DS-SB03-10
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: HLE10652.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 15-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228437

Analysis Date: 22-MAY-18
Analyst: AAB
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 73.
Report Date: 30-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	65	ug/Kgdrywt	1	100	130	11.	65.
RDX	U	65	ug/Kgdrywt	1	100	130	8.9	65.
1,3,5-Trinitrobenzene	U	65	ug/Kgdrywt	1	100	130	8.8	65.
1,3-Dinitrobenzene	U	65	ug/Kgdrywt	1	100	130	8.1	65.
Tetryl	U	65	ug/Kgdrywt	1	100	130	7.0	65.
Nitrobenzene	U	65	ug/Kgdrywt	1	100	130	29.	65.
2,4,6-Trinitrotoluene	U	65	ug/Kgdrywt	1	100	130	8.8	65.
2-Am-DNT	U	65	ug/Kgdrywt	1	100	130	27.	65.
4-Am-DNT	U	65	ug/Kgdrywt	1	100	130	22.	65.
2,6-Dinitrotoluene	U	65	ug/Kgdrywt	1	100	130	35.	65.
2,4-Dinitrotoluene	U	65	ug/Kgdrywt	1	100	130	20.	65.
2-Nitrotoluene	U	65	ug/Kgdrywt	1	100	130	16.	65.
3-Nitrotoluene	U	65	ug/Kgdrywt	1	100	130	10.	65.
4-Nitrotoluene	U	65	ug/Kgdrywt	1	100	130	35.	65.
Nitroglycerin	U	520	ug/Kgdrywt	1	800	1000	160	520
PETN	U	520	ug/Kgdrywt	1	800	1000	140	520
1,2-Dinitrobenzene		87.4	%					

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Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-29
Client ID: CHAAP-EB-051418
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: HLE10470.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 15-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330
Lab Prep Batch: WG228334

Analysis Date: 15-MAY-18
Analyst: AAB
Analysis Method: SW846 8330B
Matrix: AQ
% Solids: NA
Report Date: 30-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	0.12	ug/L	1	.25	0.25	0.043	0.12
RDX	U	0.12	ug/L	1	.25	0.25	0.046	0.12
1,3,5-Trinitrobenzene	U	0.12	ug/L	1	.25	0.25	0.040	0.12
1,3-Dinitrobenzene	U	0.12	ug/L	1	.25	0.25	0.045	0.12
Tetryl	U	0.12	ug/L	1	.25	0.25	0.060	0.12
Nitrobenzene	U	0.12	ug/L	1	.25	0.25	0.071	0.12
2,4,6-Trinitrotoluene	U	0.12	ug/L	1	.25	0.25	0.064	0.12
4-Am-DNT	U	0.12	ug/L	1	.25	0.25	0.053	0.12
2-Am-DNT	U	0.12	ug/L	1	.25	0.25	0.038	0.12
2,6-Dinitrotoluene	U	0.12	ug/L	1	.25	0.25	0.056	0.12
2,4-Dinitrotoluene	U	0.12	ug/L	1	.25	0.25	0.052	0.12
2-Nitrotoluene	U	0.12	ug/L	1	.25	0.25	0.071	0.12
4-Nitrotoluene	U	0.12	ug/L	1	.25	0.25	0.060	0.12
3-Nitrotoluene	U	0.12	ug/L	1	.25	0.25	0.063	0.12
Nitroglycerin	U	2.0	ug/L	1	4	4.0	0.67	2.0
PETN	U	2.0	ug/L	1	4	4.0	0.58	2.0
1,2-Dinitrobenzene		96.0	%					

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Report of Analytical Results

Client:
Lab ID: WG228334-1
Client ID: Method Blank Sample
Project:
SDG: SL4180
Lab File ID: HLE10467.D

Sample Date:
Received Date:
Extract Date: 15-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330
Lab Prep Batch: WG228334

Analysis Date: 15-MAY-18
Analyst: AAB
Analysis Method: SW846 8330B
Matrix: AQ
% Solids: NA
Report Date: 30-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	0.12	ug/L	1	.25	0.25	0.043	0.12
RDX	U	0.12	ug/L	1	.25	0.25	0.046	0.12
1,3,5-Trinitrobenzene	U	0.12	ug/L	1	.25	0.25	0.040	0.12
1,3-Dinitrobenzene	U	0.12	ug/L	1	.25	0.25	0.045	0.12
Tetryl	U	0.12	ug/L	1	.25	0.25	0.060	0.12
Nitrobenzene	U	0.12	ug/L	1	.25	0.25	0.071	0.12
2,4,6-Trinitrotoluene	U	0.12	ug/L	1	.25	0.25	0.064	0.12
4-Am-DNT	U	0.12	ug/L	1	.25	0.25	0.053	0.12
2-Am-DNT	U	0.12	ug/L	1	.25	0.25	0.038	0.12
2,6-Dinitrotoluene	U	0.12	ug/L	1	.25	0.25	0.056	0.12
2,4-Dinitrotoluene	U	0.12	ug/L	1	.25	0.25	0.052	0.12
2-Nitrotoluene	U	0.12	ug/L	1	.25	0.25	0.071	0.12
4-Nitrotoluene	U	0.12	ug/L	1	.25	0.25	0.060	0.12
3-Nitrotoluene	U	0.12	ug/L	1	.25	0.25	0.063	0.12
Nitroglycerin	U	2.0	ug/L	1	4	4.0	0.67	2.0
PETN	U	2.0	ug/L	1	4	4.0	0.58	2.0
1,2-Dinitrobenzene		90.2	%					

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Report of Analytical Results

Client:
Lab ID: WG228437-1
Client ID: Method Blank Sample
Project:
SDG: SL4180
Lab File ID: HLE10518.D

Sample Date:
Received Date:
Extract Date: 15-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228437

Analysis Date: 16-MAY-18
Analyst: AAB
Analysis Method: SW846 8330B
Matrix: SL
% Solids: NA
Report Date: 30-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	50	ug/Kgdrywt	1	100	100	8.6	50.
RDX	U	50	ug/Kgdrywt	1	100	100	6.8	50.
1,3,5-Trinitrobenzene	U	50	ug/Kgdrywt	1	100	100	6.7	50.
1,3-Dinitrobenzene	U	50	ug/Kgdrywt	1	100	100	6.2	50.
Tetryl	U	50	ug/Kgdrywt	1	100	100	5.4	50.
Nitrobenzene	U	50	ug/Kgdrywt	1	100	100	22.	50.
2,4,6-Trinitrotoluene	U	50	ug/Kgdrywt	1	100	100	6.7	50.
2-Am-DNT	U	50	ug/Kgdrywt	1	100	100	21.	50.
4-Am-DNT	U	50	ug/Kgdrywt	1	100	100	17.	50.
2,6-Dinitrotoluene	U	50	ug/Kgdrywt	1	100	100	27.	50.
2,4-Dinitrotoluene	U	50	ug/Kgdrywt	1	100	100	15.	50.
2-Nitrotoluene	U	50	ug/Kgdrywt	1	100	100	12.	50.
3-Nitrotoluene	U	50	ug/Kgdrywt	1	100	100	7.9	50.
4-Nitrotoluene	U	50	ug/Kgdrywt	1	100	100	27.	50.
Nitroglycerin	U	400	ug/Kgdrywt	1	800	800	120	400
PETN	U	400	ug/Kgdrywt	1	800	800	110	400
1,2-Dinitrobenzene		94.0	%					

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ANALYTICAL SERVICES

Report of Analytical Results

Client:
Lab ID: WG228439-1
Client ID: Method Blank Sample
Project:
SDG: SL4180
Lab File ID: HLE10525.D

Sample Date:
Received Date:
Extract Date: 15-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228439

Analysis Date: 17-MAY-18
Analyst: AAB
Analysis Method: SW846 8330B
Matrix: SL
% Solids: NA
Report Date: 30-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	50	ug/Kgdrywt	1	100	100	8.6	50.
RDX	U	50	ug/Kgdrywt	1	100	100	6.8	50.
1,3,5-Trinitrobenzene	U	50	ug/Kgdrywt	1	100	100	6.7	50.
1,3-Dinitrobenzene	U	50	ug/Kgdrywt	1	100	100	6.2	50.
Tetryl	U	50	ug/Kgdrywt	1	100	100	5.4	50.
Nitrobenzene	U	50	ug/Kgdrywt	1	100	100	22.	50.
2,4,6-Trinitrotoluene	U	50	ug/Kgdrywt	1	100	100	6.7	50.
2-Am-DNT	U	50	ug/Kgdrywt	1	100	100	21.	50.
4-Am-DNT	U	50	ug/Kgdrywt	1	100	100	17.	50.
2,6-Dinitrotoluene	U	50	ug/Kgdrywt	1	100	100	27.	50.
2,4-Dinitrotoluene	U	50	ug/Kgdrywt	1	100	100	15.	50.
2-Nitrotoluene	U	50	ug/Kgdrywt	1	100	100	12.	50.
3-Nitrotoluene	U	50	ug/Kgdrywt	1	100	100	7.9	50.
4-Nitrotoluene	U	50	ug/Kgdrywt	1	100	100	27.	50.
Nitroglycerin	U	400	ug/Kgdrywt	1	800	800	120	400
PETN	U	400	ug/Kgdrywt	1	800	800	110	400
1,2-Dinitrobenzene		94.8	%					

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Report of Analytical Results

Client:
Lab ID: WG228857-1
Client ID: Method Blank Sample
Project:
SDG: SL4180
Lab File ID: HLE10686.D

Sample Date:
Received Date:
Extract Date: 22-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228857

Analysis Date: 23-MAY-18
Analyst: AC
Analysis Method: SW846 8330B
Matrix: SL
% Solids: NA
Report Date: 30-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	50	ug/Kgdrywt	1	100	100	8.6	50.
RDX	U	50	ug/Kgdrywt	1	100	100	6.8	50.
1,3,5-Trinitrobenzene	U	50	ug/Kgdrywt	1	100	100	6.7	50.
1,3-Dinitrobenzene	U	50	ug/Kgdrywt	1	100	100	6.2	50.
Tetryl	U	50	ug/Kgdrywt	1	100	100	5.4	50.
Nitrobenzene	U	50	ug/Kgdrywt	1	100	100	22.	50.
2,4,6-Trinitrotoluene	U	50	ug/Kgdrywt	1	100	100	6.7	50.
2-Am-DNT	U	50	ug/Kgdrywt	1	100	100	21.	50.
4-Am-DNT	U	50	ug/Kgdrywt	1	100	100	17.	50.
2,6-Dinitrotoluene	U	50	ug/Kgdrywt	1	100	100	27.	50.
2,4-Dinitrotoluene	U	50	ug/Kgdrywt	1	100	100	15.	50.
2-Nitrotoluene	U	50	ug/Kgdrywt	1	100	100	12.	50.
3-Nitrotoluene	U	50	ug/Kgdrywt	1	100	100	7.9	50.
4-Nitrotoluene	U	50	ug/Kgdrywt	1	100	100	27.	50.
Nitroglycerin	U	400	ug/Kgdrywt	1	800	800	120	400
PETN	U	400	ug/Kgdrywt	1	800	800	110	400
1,2-Dinitrobenzene		96.6	%					

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Form 2
System Monitoring Compound Recovery

Lab Name: Katahdin Analytical Services **Project:** Cornhusker Army Ammunition Plant **Matrix:** SL
Lab Code: KAS **SDG:** SL4180

Client Sample ID	Lab Sample ID	Col. ID	DNB #
CHAAP-21B-DS-SS02	SL4180-1	B	94.8
CHAAP-21B-DS-SB107-5	SL4180-10	B	87.9
CHAAP-21B-DS-SB07-10	SL4180-11	B	88.8
CHAAP-21B-DS-SS08	SL4180-12	B	90.5
CHAAP-21B-DS-SB08-5	SL4180-13	B	93.3
CHAAP-21B-DS-SS09	SL4180-14	B	96.7
CHAAP-21B-DS-SB09-5	SL4180-15	B	95.4
CHAAP-21B-DS-SS11	SL4180-16	B	92.6
CHAAP-21B-DS-SS111	SL4180-17	B	92.1
CHAAP-21B-DS-SB11-5	SL4180-18	B	85.8
CHAAP-21B-DS-SS10	SL4180-19	B	88.2
CHAAP-21B-DS-SS102	SL4180-2	B	94.7
CHAAP-21B-DS-SB10-5	SL4180-20	B	88.1
CHAAP-21B-DS-SS04	SL4180-21	B	87.9
CHAAP-21B-DS-SB04-5	SL4180-22	B	91.3
CHAAP-21B-DS-SB04-10	SL4180-23	B	90.5
CHAAP-21B-DS-SS03	SL4180-24	B	91.5
CHAAP-21B-DS-SS103	SL4180-25	B	92.1
CHAAP-21B-DS-SB03-5	SL4180-26	B	90.9
CHAAP-21B-DS-SB03-10	SL4180-27	B	87.4
CHAAP-21B-DS-SB02-5	SL4180-3	B	94.3
CHAAP-21B-DS-SB02-10	SL4180-4RE	B	96.0
CHAAP-21B-DS-SS06	SL4180-5	B	92.8
CHAAP-21B-DS-SB06-5	SL4180-6	B	81.4
CHAAP-21B-DS-SB06-10	SL4180-7	B	91.3
CHAAP-21B-DS-SS07	SL4180-8	B	90.5
CHAAP-21B-DS-SB07-5	SL4180-9	B	93.7
Method Blank Sample	WG228437-1	B	94.0
Laboratory Control S	WG228437-2	B	104.
Method Blank Sample	WG228439-1	B	94.8
Laboratory Control S	WG228439-2	B	105.
Matrix Spike	WG228439-3	B	99.6
Matrix Spike Duplica	WG228439-4	B	104.
Matrix Spike	WG228439-5	B	104.
Matrix Spike Duplica	WG228439-6	B	100.
Method Blank Sample	WG228857-1	B	96.6

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Form 2
System Monitoring Compound Recovery

Lab Name: Katahdin Analytical Services **Project:** Cornhusker Army Ammunition Plant **Matrix:** SL
Lab Code: KAS **SDG:** SL4180

Client Sample ID	Lab Sample ID	Col. ID	DNB	#
Laboratory Control S	WG228857-2	B	97.8	

		QC Limits
DNB	1,2-DINITROBENZENE	78-125

= Column to be used to flag recovery limits.
* = Values outside of contract required QC limits.
D= System Monitoring Compound diluted out.

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Form 2
System Monitoring Compound Recovery

Lab Name: Katahdin Analytical Services **Project:** Cornhusker Army Ammunition Plant **Matrix:** AQ
Lab Code: KAS **SDG:** SL4180

Client Sample ID	Lab Sample ID	Col. ID	DNB	#
CHAAP-EB-051418	SL4180-29	B	96.0	
Method Blank Sample	WG228334-1	B	90.2	
Laboratory Control S	WG228334-2	B	92.4	

		QC Limits
DNB	1,2-DINITROBENZENE	83-120

= Column to be used to flag recovery limits.
* = Values outside of contract required QC limits.
D= System Monitoring Compound diluted out.

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ANALYTICAL SERVICES

LCS Recovery Report

Client:
Lab ID: WG228334-2
Client ID: LCS
Project:
SDG: SL4180
LCS File ID: HLE10468.D

Sample Date:
Received Date:
Extract Date: 15-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330
Lab Prep Batch: WG228334

Analysis Date: 15-MAY-18
Analyst: AAB
Analysis Method: SW846 8330B
Matrix: AQ
% Solids: NA
Report Date: 30-MAY-18

Compound	Recovery (%)	Conc Added	Conc Recovered	Conc Units	Limits
HMX	99.6	5.00	4.98	ug/L	65-135
RDX	101.	5.00	5.06	ug/L	68-130
1,3,5-Trinitrobenzene	104.	5.00	5.20	ug/L	73-125
1,3-Dinitrobenzene	103.	5.00	5.16	ug/L	78-120
Tetryl	121.	5.00	6.04	ug/L	64-128
Nitrobenzene	96.0	5.00	4.80	ug/L	65-134
2,4,6-Trinitrotoluene	105.	5.00	5.26	ug/L	71-123
4-Am-DNT	108.	5.00	5.40	ug/L	76-125
2-Am-DNT	104.	5.00	5.19	ug/L	79-120
2,6-Dinitrotoluene	99.6	5.00	4.98	ug/L	77-127
2,4-Dinitrotoluene	104.	5.00	5.22	ug/L	78-120
2-Nitrotoluene	98.8	5.00	4.94	ug/L	70-127
4-Nitrotoluene	102.	5.00	5.09	ug/L	71-127
3-Nitrotoluene	95.4	5.00	4.77	ug/L	73-125
Nitroglycerin	98.5	20.0	19.7	ug/L	74-127
PETN	102.	20.0	20.3	ug/L	73-127
1,2-Dinitrobenzene	92.4				83-120

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ANALYTICAL SERVICES

LCS Recovery Report

Client:
Lab ID: WG228437-2
Client ID: LCS
Project:
SDG: SL4180
LCS File ID: HLE10519.D

Sample Date:
Received Date:
Extract Date: 15-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228437

Analysis Date: 16-MAY-18
Analyst: AAB
Analysis Method: SW846 8330B
Matrix: SL
% Solids: NA
Report Date: 30-MAY-18

Compound	Recovery (%)	Conc Added	Conc Recovered	Conc Units	Limits
HMX	106.	1000	1060	ug/Kgdrywt	74-125
RDX	104.	1000	1040	ug/Kgdrywt	67-129
1,3,5-Trinitrobenzene	109.	1000	1090	ug/Kgdrywt	80-125
1,3-Dinitrobenzene	109.	1000	1090	ug/Kgdrywt	73-125
Tetryl	122.	1000	1220	ug/Kgdrywt	68-135
Nitrobenzene	104.	1000	1040	ug/Kgdrywt	67-129
2,4,6-Trinitrotoluene	110.	1000	1100	ug/Kgdrywt	71-125
2-Am-DNT	109.	1000	1090	ug/Kgdrywt	71-125
4-Am-DNT	114.	1000	1140	ug/Kgdrywt	64-127
2,6-Dinitrotoluene	106.	1000	1060	ug/Kgdrywt	79-125
2,4-Dinitrotoluene	110.	1000	1100	ug/Kgdrywt	75-125
2-Nitrotoluene	110.	1000	1100	ug/Kgdrywt	70-125
3-Nitrotoluene	107.	1000	1070	ug/Kgdrywt	67-129
4-Nitrotoluene	110.	1000	1100	ug/Kgdrywt	71-125
Nitroglycerin	91.4	1000	914.	ug/Kgdrywt	73-125
PETN	104.	1000	1040	ug/Kgdrywt	72-128
1,2-Dinitrobenzene	104.				78-125

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ANALYTICAL SERVICES

LCS Recovery Report

Client:
Lab ID: WG228439-2
Client ID: LCS
Project:
SDG: SL4180
LCS File ID: HLE10527.D

Sample Date:
Received Date:
Extract Date: 15-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228439

Analysis Date: 17-MAY-18
Analyst: AAB
Analysis Method: SW846 8330B
Matrix: SL
% Solids: NA
Report Date: 30-MAY-18

Compound	Recovery (%)	Conc Added	Conc Recovered	Conc Units	Limits
HMX	109.	1000	1090	ug/Kgdrywt	74-125
RDX	106.	1000	1060	ug/Kgdrywt	67-129
1,3,5-Trinitrobenzene	113.	1000	1130	ug/Kgdrywt	80-125
1,3-Dinitrobenzene	111.	1000	1110	ug/Kgdrywt	73-125
Tetryl	119.	1000	1190	ug/Kgdrywt	68-135
Nitrobenzene	106.	1000	1060	ug/Kgdrywt	67-129
2,4,6-Trinitrotoluene	112.	1000	1120	ug/Kgdrywt	71-125
2-Am-DNT	112.	1000	1120	ug/Kgdrywt	71-125
4-Am-DNT	117.	1000	1170	ug/Kgdrywt	64-127
2,6-Dinitrotoluene	109.	1000	1090	ug/Kgdrywt	79-125
2,4-Dinitrotoluene	114.	1000	1140	ug/Kgdrywt	75-125
2-Nitrotoluene	112.	1000	1120	ug/Kgdrywt	70-125
3-Nitrotoluene	109.	1000	1090	ug/Kgdrywt	67-129
4-Nitrotoluene	112.	1000	1120	ug/Kgdrywt	71-125
Nitroglycerin	90.6	1000	906.	ug/Kgdrywt	73-125
PETN	99.6	1000	996.	ug/Kgdrywt	72-128
1,2-Dinitrobenzene	105.				78-125

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LCS Recovery Report

Client:
Lab ID: WG228857-2
Client ID: LCS
Project:
SDG: SL4180
LCS File ID: HLE10687.D

Sample Date:
Received Date:
Extract Date: 22-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228857

Analysis Date: 23-MAY-18
Analyst: AC
Analysis Method: SW846 8330B
Matrix: SL
% Solids: NA
Report Date: 30-MAY-18

Compound	Recovery (%)	Conc Added	Conc Recovered	Conc Units	Limits
HMX	103.	1000	1030	ug/Kgdrywt	74-125
RDX	102.	1000	1020	ug/Kgdrywt	67-129
1,3,5-Trinitrobenzene	106.	1000	1060	ug/Kgdrywt	80-125
1,3-Dinitrobenzene	106.	1000	1060	ug/Kgdrywt	73-125
Tetryl	122.	1000	1220	ug/Kgdrywt	68-135
Nitrobenzene	104.	1000	1040	ug/Kgdrywt	67-129
2,4,6-Trinitrotoluene	108.	1000	1080	ug/Kgdrywt	71-125
2-Am-DNT	107.	1000	1070	ug/Kgdrywt	71-125
4-Am-DNT	111.	1000	1110	ug/Kgdrywt	64-127
2,6-Dinitrotoluene	104.	1000	1040	ug/Kgdrywt	79-125
2,4-Dinitrotoluene	108.	1000	1080	ug/Kgdrywt	75-125
2-Nitrotoluene	110.	1000	1100	ug/Kgdrywt	70-125
3-Nitrotoluene	107.	1000	1070	ug/Kgdrywt	67-129
4-Nitrotoluene	110.	1000	1100	ug/Kgdrywt	71-125
Nitroglycerin	84.7	1000	847.	ug/Kgdrywt	73-125
PETN	96.3	1000	963.	ug/Kgdrywt	72-128
1,2-Dinitrobenzene	97.8				78-125

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MS/MSD Recovery Report

MS ID: WG228439-3
MSD ID: WG228439-4
Sample ID: SL4180-8
Client ID: CHAAP-21B-DS-SS07
Project:
SDG: SL4180
MS File ID: HLE10528.D

Received Date:
Extract Date: 15-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228439
Report Date: 30-MAY-18
MSD File ID: HLE10529.D

Analysis Date: 17-MAY-18
Analyst: AAB
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 81.

Compound	MS Spike	MSD Spike	Conc Units	Samp Conc	MS Conc	MSD Conc	MS Rec (%)	MSD Rec (%)	RPD (%)	RPD Limit	Limits
HMX	1040	1200	ug/Kgdrywt	U55	1100	1300	102.	106.	18	20	74-125
RDX	1040	1200	ug/Kgdrywt	U55	980	1200	94.5	97.8	18	20	67-129
1,3,5-Trinitrobenzene	1040	1200	ug/Kgdrywt	U55	1100	1300	104.	108.	18	20	80-125
1,3-Dinitrobenzene	1040	1200	ug/Kgdrywt	U55	1100	1300	106.	110.	18	20	73-125
Tetryl	1040	1200	ug/Kgdrywt	U55	1000	1100	97.5	94.4	11	20	68-135
Nitrobenzene	1040	1200	ug/Kgdrywt	U55	1000	1300	101.	105.	18	20	67-129
2,4,6-Trinitrotoluene	1040	1200	ug/Kgdrywt	U55	1100	1300	104.	109.	19	20	71-125
2-Am-DNT	1040	1200	ug/Kgdrywt	U55	1100	1300	106.	110.	18	20	71-125
4-Am-DNT	1040	1200	ug/Kgdrywt	U55	1200	1400	111.	115.	18	20	64-127
2,6-Dinitrotoluene	1040	1200	ug/Kgdrywt	U55	1100	1300	103.	107.	18	20	79-125
2,4-Dinitrotoluene	1040	1200	ug/Kgdrywt	U55	1100	1300	106.	111.	19	20	75-125
2-Nitrotoluene	1040	1200	ug/Kgdrywt	U55	1100	1300	106.	112.	20	20	70-125
3-Nitrotoluene	1040	1200	ug/Kgdrywt	U55	1100	1300	102.	108.	20	20	67-129
4-Nitrotoluene	1040	1200	ug/Kgdrywt	U55	1100	1300	106.	111.	19	20	71-125
Nitroglycerin	1040	1200	ug/Kgdrywt	U440	880	1100	84.9	89.4	20	20	73-125
PETN	1040	1200	ug/Kgdrywt	U440	1000	1200	100.	104.	18	20	72-128
1,2-Dinitrobenzene							99.6	104.			78-125

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MS/MSD Recovery Report

MS ID: WG228439-5
MSD ID: WG228439-6
Sample ID: SL4180-18
Client ID: CHAAP-21B-DS-SB11-5
Project:
SDG: SL4180
MS File ID: HLE10530.D

Received Date:
Extract Date: 15-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228439
Report Date: 30-MAY-18
MSD File ID: HLE10531.D

Analysis Date: 17-MAY-18
Analyst: AAB
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 80.

Compound	MS Spike	MSD Spike	Conc Units	Samp Conc	MS Conc	MSD Conc	MS Rec (%)	MSD Rec (%)	RPD (%)	RPD Limit	Limits
HMX	1060	1220	ug/Kgdrywt	U53	1100	1300	106.	103.	12	20	74-125
RDX	1060	1220	ug/Kgdrywt	U53	1000	1200	98.4	96.5	13	20	67-129
1,3,5-Trinitrobenzene	1060	1220	ug/Kgdrywt	U53	1200	1300	109.	106.	12	20	80-125
1,3-Dinitrobenzene	1060	1220	ug/Kgdrywt	U53	1200	1300	111.	107.	11	20	73-125
Tetryl	1060	1220	ug/Kgdrywt	U53	1100	1400	104.	113.	22*	20	68-135
Nitrobenzene	1060	1220	ug/Kgdrywt	U53	1100	1300	106.	103.	12	20	67-129
2,4,6-Trinitrotoluene	1060	1220	ug/Kgdrywt	U53	1200	1300	112.	106.	9	20	71-125
2-Am-DNT	1060	1220	ug/Kgdrywt	U53	1200	1300	110.	107.	12	20	71-125
4-Am-DNT	1060	1220	ug/Kgdrywt	U53	1200	1400	115.	113.	12	20	64-127
2,6-Dinitrotoluene	1060	1220	ug/Kgdrywt	U53	1100	1300	108.	104.	11	20	79-125
2,4-Dinitrotoluene	1060	1220	ug/Kgdrywt	U53	1200	1300	112.	108.	11	20	75-125
2-Nitrotoluene	1060	1220	ug/Kgdrywt	U53	1200	1300	112.	108.	10	20	70-125
3-Nitrotoluene	1060	1220	ug/Kgdrywt	U53	1100	1300	108.	103.	10	20	67-129
4-Nitrotoluene	1060	1220	ug/Kgdrywt	U53	1200	1300	112.	106.	10	20	71-125
Nitroglycerin	1060	1220	ug/Kgdrywt	U420	980	1100	92.4	87.5	9	20	73-125
PETN	1060	1220	ug/Kgdrywt	U420	1100	1200	108.	100.	8	20	72-128
1,2-Dinitrobenzene							104.	100.			78-125

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Katahdin
ANALYTICAL SERVICES

Method Blank Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
Lab File ID : HLE10467.D
Instrument ID : HPLC02
Matrix : AQ

SDG : SL4180
Lab Sample ID : WG228334-1
Date Extracted : 15-MAY-18
Date Analyzed : 15-MAY-18
Time Analyzed : 19:01

This Method Blank applies to the following samples, LCS, MS and MSD:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
Laboratory Control S	WG228334-2	HLE10468.	05/15/18	19:32
CHAAP-EB-051418	SL4180-29	HLE10470.	05/15/18	20:34

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Method Blank Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
Lab File ID : HLE10518.D
Instrument ID : HPLC02
Matrix : SL

SDG : SL4180
Lab Sample ID : WG228437-1
Date Extracted : 15-MAY-18
Date Analyzed : 16-MAY-18
Time Analyzed : 22:48

This Method Blank applies to the following samples, LCS, MS and MSD:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
Laboratory Control S	WG228437-2	HLE10519.	05/16/18	23:19
CHAAP-21B-DS-SS04	SL4180-21	HLE10645.	05/22/18	18:53
CHAAP-21B-DS-SB04-5	SL4180-22	HLE10646.	05/22/18	19:24
CHAAP-21B-DS-SB04-10	SL4180-23	HLE10647.	05/22/18	19:55
CHAAP-21B-DS-SS03	SL4180-24	HLE10648.	05/22/18	20:26
CHAAP-21B-DS-SS103	SL4180-25	HLE10649.	05/22/18	20:57
CHAAP-21B-DS-SB03-5	SL4180-26	HLE10651.	05/22/18	21:59
CHAAP-21B-DS-SB03-10	SL4180-27	HLE10652.	05/22/18	22:30

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Method Blank Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
Lab File ID : HLE10525.D
Instrument ID : HPLC02
Matrix : SL

SDG : SL4180
Lab Sample ID : WG228439-1
Date Extracted : 15-MAY-18
Date Analyzed : 17-MAY-18
Time Analyzed : 02:25

This Method Blank applies to the following samples, LCS, MS and MSD:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
Laboratory Control S	WG228439-2	HLE10527.	05/17/18	03:27
Matrix Spike	WG228439-3	HLE10528.	05/17/18	03:58
Matrix Spike Duplica	WG228439-4	HLE10529.	05/17/18	04:29
Matrix Spike	WG228439-5	HLE10530.	05/17/18	05:00
Matrix Spike Duplica	WG228439-6	HLE10531.	05/17/18	05:31
CHAAP-21B-DS-SS02	SL4180-1	HLE10532.	05/17/18	06:02
CHAAP-21B-DS-SS102	SL4180-2	HLE10533.	05/17/18	06:33
CHAAP-21B-DS-SB02-5	SL4180-3	HLE10534.	05/17/18	07:04
CHAAP-21B-DS-SS06	SL4180-5	HLE10536.	05/17/18	08:06
CHAAP-21B-DS-SB06-5	SL4180-6	HLE10538.	05/17/18	09:08
CHAAP-21B-DS-SB06-10	SL4180-7	HLE10539.	05/17/18	09:39
CHAAP-21B-DS-SS07	SL4180-8	HLE10540.	05/17/18	10:10
CHAAP-21B-DS-SB07-5	SL4180-9	HLE10541.	05/17/18	10:41
CHAAP-21B-DS-SB107-5	SL4180-10	HLE10542.	05/17/18	11:12
CHAAP-21B-DS-SB07-10	SL4180-11	HLE10543.	05/17/18	11:43
CHAAP-21B-DS-SS08	SL4180-12	HLE10544.	05/17/18	12:14
CHAAP-21B-DS-SB08-5	SL4180-13	HLE10545.	05/17/18	12:45
CHAAP-21B-DS-SS09	SL4180-14	HLE10546.	05/17/18	13:16
CHAAP-21B-DS-SB09-5	SL4180-15	HLE10547.	05/17/18	13:47
CHAAP-21B-DS-SS11	SL4180-16	HLE10640.	05/22/18	16:18
CHAAP-21B-DS-SS111	SL4180-17	HLE10641.	05/22/18	16:49
CHAAP-21B-DS-SB11-5	SL4180-18	HLE10642.	05/22/18	17:20
CHAAP-21B-DS-SS10	SL4180-19	HLE10643.	05/22/18	17:51
CHAAP-21B-DS-SB10-5	SL4180-20	HLE10644.	05/22/18	18:22

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Method Blank Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
Lab File ID : HLE10686.D
Instrument ID : HPLC02
Matrix : SL

SDG : SL4180
Lab Sample ID : WG228857-1
Date Extracted : 22-MAY-18
Date Analyzed : 23-MAY-18
Time Analyzed : 17:21

This Method Blank applies to the following samples, LCS, MS and MSD:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
Laboratory Control S	WG228857-2	HLE10687.	05/23/18	17:52
CHAAP-21B-DS-SB02-10	SL4180-4RE	HLE10688.	05/23/18	18:23

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Method Blank Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
Lab File ID : HLE10791.D
Instrument ID : HPLC02
Matrix : SL

SDG : SL4180
Lab Sample ID : WG228439-1C
Date Extracted : 15-MAY-18
Date Analyzed : 26-MAY-18
Time Analyzed : 07:39

This Method Blank applies to the following samples, LCS, MS and MSD:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
CHAAP-21B-DS-SS06	SL4180-5C	HLE10792.	05/26/18	08:28
CHAAP-21B-DS-SB06-5	SL4180-6C	HLE10793.	05/26/18	09:18
CHAAP-21B-DS-SB06-10	SL4180-7C	HLE10794.	05/26/18	10:07

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Method Blank Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
Lab File ID : HLE10802.D
Instrument ID : HPLC02
Matrix : SL

SDG : SL4180
Lab Sample ID : WG228437-1C
Date Extracted : 15-MAY-18
Date Analyzed : 26-MAY-18
Time Analyzed : 16:40

This Method Blank applies to the following samples, LCS, MS and MSD:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
CHAAP-21B-DS-SS04	SL4180-21C	HLE10803.	05/26/18	17:29

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Form 6
Initial Calibration Summary

Lab Name : Katahdin Analytical Services
SDG: SL4180
Project : Cornhusker Army Ammunition Plant
Instrument ID: HPLC02
Lab File IDs : HKH10014.I HKH10013.I HKH10012.I HKH10011.I HKH10010.I HKH10009.I HKH10008.I
Calibration Date(s): 01-AUG-17 09:37, 01-AUG-17 14:33

	0.025000(Level 1	0.050000(Level 2	0.100000(Level 3	0.250000(Level 4	0.5000000 Level 5	1.0000 Level 6	2.0000 Level 7		New Crv	b	m1	%RSD	Max %RSD	
HMX	143	204	424	1108	2190	4103	8448		LNR	-0.00406	4200	0.99963	0.99000	O
RDX	92.00000	202	389	1038	2084	3920	8183		LNR	0.00215	4071	0.99952	0.99000	O
1,3,5-trinitrobenzene	222	508	1024	2674	5383	10154	20806		LNR	-0.00071	10372	0.99973	0.99000	O
1,3-dinitrobenzene	264	581	1148	2994	6045	11405	23270		LNR	-0.00176	11603	0.99976	0.99000	O
TETRYL	98.00000	244	482	1267	2545	4803	9244		LNR	-0.01222	4644	0.99914	0.99000	O
nitrobenzene	142	331	655	1720	3466	6563	13345		LNR	-0.00158	6659	0.99979	0.99000	O
2,4,6-trinitrotoluene	135	313	627	1624	3260	6187	12320		LNR	-0.00578	6161	0.99976	0.99000	O
2-AM-DNT	65.00000	171	311	854	1698	3193	6303		LNR	-0.00832	3155	0.99955	0.99000	O
4-AM-DNT	63.00000	118	244	663	1299	2450	4682		LNR	-0.01508	2353	0.99890	0.99000	O
2,6-dinitrotoluene	76.00000	172	369	981	1970	3749	7493		LNR	-0.00306	3750	0.99978	0.99000	O
2,4-dinitrotoluene	136	329	692	1809	3639	6925	13785		LNR	-0.00420	6900	0.99976	0.99000	O
2-nitrotoluene	63.00000	115	257	686	1382	2659	5246		LNR	-0.00402	2630	0.99976	0.99000	O
3-nitrotoluene	72.00000	124	256	701	1390	2617	5111		LNR	-0.01061	2561	0.99942	0.99000	O
4-nitrotoluene	101	120	227	531	1075	2023	3902		LNR	-0.02177	1947	0.99936	0.99000	O
1,2-dinitrobenzene	117	263	530	1379	2756	5196	10604		LNR	-0.00227	5286	0.99974	0.99000	

Legend: O = Kept Original Curve
Y = Failed Minimum RF
W = Failed %RSD Value

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Form 6
Initial Calibration Summary

Lab Name : Katahdin Analytical Services
SDG: SL4180
Project : Cornhusker Army Ammunition Plant
Instrument ID: HPLC02
Lab File IDs : HLC10037.D HLC10036.D HLC10035.D HLC10034.D HLC10033.D HLC10032.D HLC10031.D
Calibration Date(s): 20-MAR-18 14:54 20-MAR-18 18:05

	0.025000(Level 1	0.050000(Level 2	0.100000(Level 3	0.250000(Level 4	0.500000(Level 5	1.0000 Level 6	2.0000 Level 7		New Crv	b	m1	%RSD	Max %RSD	
NITROGLYCERIN	5440	5685	5280	5392	5454	5917	5425		AVG		5513	3.90686	20.00000	O
PETN	3020	2970	2465	3064	2834	3010	2768		AVG		2876	7.31282	15.00000	O

Legend: O = Kept Original Curve
Y = Failed Minimum RF
W = Failed %RSD Value

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Form 6
Initial Calibration Summary

Lab Name : Katahdin Analytical Services
SDG: SL4180
Project : Cornhusker Army Ammunition Plant
Instrument ID: HPLC02
Lab File IDs : HLC10037.D HLC10036.D HLC10035.D HLC10034.D HLC10033.D HLC10032.D HLC10031.D
Calibration Date(s): 20-MAR-18 14:54 20-MAR-18 18:05

	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 7		Crv				Max	
	0.025000(	0.050000(	0.100000(	0.250000(	0.500000(	1.0000	2.0000		New	b	m1	%RSD	%RSD	
HMX	5320	5440	5140	5296	5378	5810	5351		AVG		5391	3.83807	20.00000	O
RDX	75.00000	225	466	1287	2694	5888	10895		LNR	0.00587	5552	0.99828	0.99000	O
1,3,5-trinitrobenzene	3240	3680	3770	3628	3744	4074	3686		AVG		3689	6.66990	20.00000	O
1,3-dinitrobenzene	6680	7280	7410	7508	7512	8198	7518		AVG		7444	5.99405	20.00000	O
TETRYL	2240	2660	2530	2424	2550	2797	2541		AVG		2535	6.90733	20.00000	O
nitrobenzene	6760	6820	6610	6736	6892	7418	6831		AVG		6867	3.77157	20.00000	O
2,4,6-trinitrotoluene	2600	2520	2510	2460	2478	2672	2445		AVG		2526	3.24744	20.00000	O
2-AM-DNT	5360	5700	5640	5720	5838	6280	5787		AVG		5761	4.78978	20.00000	O
4-AM-DNT	4200	4040	4240	4260	4366	4695	4318		AVG		4303	4.68155	20.00000	O
2,6-dinitrotoluene	101	175	345	733	1390	3147	5661		LNR	-0.01275	2869	0.99714	0.99000	O
2,4-dinitrotoluene	4280	4700	4560	4552	4620	5008	4610		AVG		4619	4.68458	20.00000	O
2-nitrotoluene	2520	2760	2900	2944	2952	3214	2937		AVG		2890	7.31192	20.00000	O
3-nitrotoluene	3360	3180	3390	3404	3136	3585	3225		AVG		3326	4.69272	20.00000	O
4-nitrotoluene	2280	1980	2350	2484	2298	2635	2370		AVG		2342	8.60342	20.00000	O
1,2-dinitrobenzene	4680	4500	4480	4532	4640	4978	4582		AVG		4627	3.69030	20.00000	

Legend: O = Kept Original Curve
Y = Failed Minimum RF
W = Failed %RSD Value

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Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition F
Lab ID : WG228756-2
Lab File ID : HLE10462.D
Initial Calibration Date(s): 03/20/18 14:54 03/20/18 18:05

SDG: SL4180
Analytical Date: 05/15/18 16:26
Instrument ID: HPLC02
Column ID: A

Compound	$\overline{\text{RRF}}$/Amount	RF0.250	Min RRF	%D/ %Drift	Max %D/ %Drift	Curve Type
150 NITROGLYCERIN	5513	5258	0.010	-4.62883	20.00000	Averaged
155 PETN	2876	3031	0.010	5.39532	20.00000	Averaged

*** = Compound out of QC criteria**

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Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
SDG: SL4180
Lab ID : WG228756-2
Analytical Date: 05/15/18 16:26
Lab File ID : HLE10462.D
Instrument ID: HPLC02
Initial Calibration Date(s): 03/20/18 14:54 03/20/18 18:05
Column ID: B

	Compound	$\overline{RRF}$/Amount	RF0.250	CCAL RRF0.250	Min	%D/ %Drift	Max %D/ %Drift	Curve Type
1	HMX	5391	5224	5224	0.010	-3.09134	20.00000	Averaged
4	RDX	0.25000	0.24525	5316	0.010	-1.89834	20.00000	Linear
5	1,3,5-trinitrobenzene	3689	3760	3760	0.010	1.92859	20.00000	Averaged
6	1,3-dinitrobenzene	7444	7528	7528	0.010	1.13231	20.00000	Averaged
7	nitrobenzene	6867	6652	6652	0.010	-3.12588	20.00000	Averaged
9	TETRYL	2535	2872	2872	0.010	13.31304	20.00000	Averaged
10	2,4,6-trinitrotoluene	2526	2524	2524	0.010	-0.09330	20.00000	Averaged
11	4-AM-DNT	4303	4312	4312	0.010	0.21581	20.00000	Averaged
12	2-AM-DNT	5761	5728	5728	0.010	-0.56789	20.00000	Averaged
13	2,6-dinitrotoluene	0.25000	0.23859	2884	0.010	-4.56349	20.00000	Linear
14	2,4-dinitrotoluene	4619	4600	4600	0.010	-0.40056	20.00000	Averaged
15	2-nitrotoluene	2890	2904	2904	0.010	0.49933	20.00000	Averaged
16	4-nitrotoluene	2342	2396	2396	0.010	2.28700	20.00000	Averaged
17	3-nitrotoluene	3326	3284	3284	0.010	-1.25217	20.00000	Averaged
2	1,2-dinitrobenzene	4627	4780	4780	0.010	3.29711	20.00000	Averaged

*** = Compound out of QC criteria**

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Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition F
Lab ID : WG228756-3
Lab File ID : HLE10473.D
Initial Calibration Date(s): 03/20/18 14:54 03/20/18 18:05

SDG: SL4180
Analytical Date: 05/15/18 22:07
Instrument ID: HPLC02
Column ID: A

Compound	RRF/Amount	RF0.500	Min RRF	%D/ %Drift	Max %D/ %Drift	Curve Type
150 NITROGLYCERIN	5513	5307	0.010	-3.74912	20.00000	Averaged
155 PETN	2876	3122	0.010	8.54223	20.00000	Averaged

*** = Compound out of QC criteria**

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Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
SDG: SL4180
Lab ID : WG228756-3
Analytical Date: 05/15/18 22:07
Lab File ID : HLE10473.D
Instrument ID: HPLC02
Initial Calibration Date(s): 03/20/18 14:54 03/20/18 18:05
Column ID: B

	Compound	$\overline{\text{RRF}}$/Amount	RF0.500	CCAL RRF0.500	Min	%D/ %Drift	Max %D/ %Drift	Curve Type
1	HMX	5391	5318	5318	0.010	-1.34757	20.00000	Averaged
4	RDX	0.50000	0.49292	5408	0.010	-1.41570	20.00000	Linear
5	1,3,5-trinitrobenzene	3689	3878	3878	0.010	5.12741	20.00000	Averaged
6	1,3-dinitrobenzene	7444	7648	7648	0.010	2.74441	20.00000	Averaged
7	nitrobenzene	6867	6704	6704	0.010	-2.36859	20.00000	Averaged
9	TETRYL	2535	2828	2828	0.010	11.57705	20.00000	Averaged
10	2,4,6-trinitrotoluene	2526	2528	2528	0.010	0.06503	20.00000	Averaged
11	4-AM-DNT	4303	4350	4350	0.010	1.09897	20.00000	Averaged
12	2-AM-DNT	5761	5854	5854	0.010	1.61934	20.00000	Averaged
13	2,6-dinitrotoluene	0.50000	0.49411	2908	0.010	-1.17780	20.00000	Linear
14	2,4-dinitrotoluene	4619	4744	4744	0.010	2.71733	20.00000	Averaged
15	2-nitrotoluene	2890	2964	2964	0.010	2.57577	20.00000	Averaged
16	4-nitrotoluene	2342	2428	2428	0.010	3.65311	20.00000	Averaged
17	3-nitrotoluene	3326	3328	3328	0.010	0.07088	20.00000	Averaged
2	1,2-dinitrobenzene	4627	4816	4816	0.010	4.07508	20.00000	Averaged

*** = Compound out of QC criteria**

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Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition F
Lab ID : WG228756-7
Lab File ID : HLE10515.D
Initial Calibration Date(s): 03/20/18 14:54 03/20/18 18:05

SDG: SL4180
Analytical Date: 05/16/18 21:15
Instrument ID: HPLC02
Column ID: A

	Compound	$\overline{RRF}$/Amount	RF0.500	Min RRF	%D/ %Drift	Max %D/ %Drift	Curve Type
130	NITROGLYCERIN	5513	5319	0.010	-3.52239	20.00000	Averaged
140	PETN	2876	3031	0.010	5.37793	20.00000	Averaged

*** = Compound out of QC criteria**

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Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
SDG: SL4180
Lab ID : WG228756-7
Analytical Date: 05/16/18 21:15
Lab File ID : HLE10515.D
Instrument ID: HPLC02
Initial Calibration Date(s): 03/20/18 14:54 03/20/18 18:05
Column ID: B

	Compound	$\overline{\text{RRF}}$/Amount	RF0.500	CCAL RRF0.500	Min	%D/ %Drift	Max %D/ %Drift	Curve Type
1	HMX	5391	5334	5334	0.010	-1.05076	20.00000	Averaged
4	RDX	0.50000	0.49346	5414	0.010	-1.30763	20.00000	Linear
5	1,3,5-trinitrobenzene	3689	3902	3902	0.010	5.77802	20.00000	Averaged
6	1,3-dinitrobenzene	7444	7676	7676	0.010	3.12056	20.00000	Averaged
7	nitrobenzene	6867	6726	6726	0.010	-2.04820	20.00000	Averaged
9	TETRYL	2535	2874	2874	0.010	13.39195	20.00000	Averaged
10	2,4,6-trinitrotoluene	2526	2584	2584	0.010	2.28166	20.00000	Averaged
11	4-AM-DNT	4303	4350	4350	0.010	1.09897	20.00000	Averaged
12	2-AM-DNT	5761	5874	5874	0.010	1.96652	20.00000	Averaged
13	2,6-dinitrotoluene	0.50000	0.49690	2924	0.010	-0.62005	20.00000	Linear
14	2,4-dinitrotoluene	4619	4748	4748	0.010	2.80394	20.00000	Averaged
15	2-nitrotoluene	2890	2976	2976	0.010	2.99105	20.00000	Averaged
16	4-nitrotoluene	2342	2460	2460	0.010	5.01921	20.00000	Averaged
17	3-nitrotoluene	3326	3338	3338	0.010	0.37157	20.00000	Averaged
2	1,2-dinitrobenzene	4627	4818	4818	0.010	4.11830	20.00000	Averaged

*** = Compound out of QC criteria**

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Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition F
Lab ID : WG228756-8
Lab File ID : HLE10526.D
Initial Calibration Date(s): 03/20/18 14:54 03/20/18 18:05

SDG: SL4180
Analytical Date: 05/17/18 02:56
Instrument ID: HPLC02
Column ID: A

	Compound	$\overline{\text{RRF}}$/Amount	RF0.250	Min RRF	%D/ %Drift	Max %D/ %Drift	Curve Type
130	NITROGLYCERIN	5513	5237	0.010	-5.00973	20.00000	Averaged
140	PETN	2876	2980	0.010	3.62192	20.00000	Averaged

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Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
SDG: SL4180
Lab ID : WG228756-8
Analytical Date: 05/17/18 02:56
Lab File ID : HLE10526.D
Instrument ID: HPLC02
Initial Calibration Date(s): 03/20/18 14:54 03/20/18 18:05
Column ID: B

	Compound	$\overline{RRF}$/Amount	RF0.250	CCAL RRF0.250	Min	%D/ %Drift	Max %D/ %Drift	Curve Type
1	HMX	5391	5264	5264	0.010	-2.34931	20.00000	Averaged
4	RDX	0.25000	0.24327	5272	0.010	-2.69087	20.00000	Linear
5	1,3,5-trinitrobenzene	3689	3820	3820	0.010	3.55511	20.00000	Averaged
6	1,3-dinitrobenzene	7444	7532	7532	0.010	1.18604	20.00000	Averaged
7	nitrobenzene	6867	6596	6596	0.010	-3.94141	20.00000	Averaged
9	TETRYL	2535	2836	2836	0.010	11.89268	20.00000	Averaged
10	2,4,6-trinitrotoluene	2526	2516	2516	0.010	-0.40996	20.00000	Averaged
11	4-AM-DNT	4303	4308	4308	0.010	0.12285	20.00000	Averaged
12	2-AM-DNT	5761	5792	5792	0.010	0.54309	20.00000	Averaged
13	2,6-dinitrotoluene	0.25000	0.23720	2868	0.010	-5.12124	20.00000	Linear
14	2,4-dinitrotoluene	4619	4676	4676	0.010	1.24499	20.00000	Averaged
15	2-nitrotoluene	2890	2904	2904	0.010	0.49933	20.00000	Averaged
16	4-nitrotoluene	2342	2388	2388	0.010	1.94548	20.00000	Averaged
17	3-nitrotoluene	3326	3220	3220	0.010	-3.17661	20.00000	Averaged
2	1,2-dinitrobenzene	4627	4764	4764	0.010	2.95135	20.00000	Averaged

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Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition F
Lab ID : WG228756-9
Lab File ID : HLE10537.D
Initial Calibration Date(s): 03/20/18 14:54 03/20/18 18:05

SDG: SL4180
Analytical Date: 05/17/18 08:37
Instrument ID: HPLC02
Column ID: A

Compound	RRF/Amount	RF0.500	Min RRF	%D/ %Drift	Max %D/ %Drift	Curve Type
130 NITROGLYCERIN	5513	5325	0.010	-3.41356	20.00000	Averaged
140 PETN	2876	3023	0.010	5.11714	20.00000	Averaged

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Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
SDG: SL4180
Lab ID : WG228756-9
Analytical Date: 05/17/18 08:37
Lab File ID : HLE10537.D
Instrument ID: HPLC02
Initial Calibration Date(s): 03/20/18 14:54 03/20/18 18:05
Column ID: B

	Compound	$\overline{RRF}$/Amount	RF0.500	CCAL RRF0.500	Min	%D/ %Drift	Max %D/ %Drift	Curve Type
1	HMX	5391	5336	5336	0.010	-1.01366	20.00000	Averaged
4	RDX	0.50000	0.49148	5392	0.010	-1.70389	20.00000	Linear
5	1,3,5-trinitrobenzene	3689	3860	3860	0.010	4.63945	20.00000	Averaged
6	1,3-dinitrobenzene	7444	7642	7642	0.010	2.66380	20.00000	Averaged
7	nitrobenzene	6867	6696	6696	0.010	-2.48510	20.00000	Averaged
9	TETRYL	2535	2836	2836	0.010	11.89268	20.00000	Averaged
10	2,4,6-trinitrotoluene	2526	2534	2534	0.010	0.30252	20.00000	Averaged
11	4-AM-DNT	4303	4332	4332	0.010	0.68063	20.00000	Averaged
12	2-AM-DNT	5761	5844	5844	0.010	1.44575	20.00000	Averaged
13	2,6-dinitrotoluene	0.50000	0.49097	2890	0.010	-1.80527	20.00000	Linear
14	2,4-dinitrotoluene	4619	4726	4726	0.010	2.32760	20.00000	Averaged
15	2-nitrotoluene	2890	2966	2966	0.010	2.64498	20.00000	Averaged
16	4-nitrotoluene	2342	2424	2424	0.010	3.48234	20.00000	Averaged
17	3-nitrotoluene	3326	3294	3294	0.010	-0.95148	20.00000	Averaged
2	1,2-dinitrobenzene	4627	4782	4782	0.010	3.34033	20.00000	Averaged

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Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition F
Lab ID : WG228756-10
Lab File ID : HLE10548.D
Initial Calibration Date(s): 03/20/18 14:54 03/20/18 18:05

SDG: SL4180
Analytical Date: 05/17/18 14:18
Instrument ID: HPLC02
Column ID: A

Compound	RRF/Amount	RF0.250	Min RRF	%D/ %Drift	Max %D/ %Drift	Curve Type
130 NITROGLYCERIN	5513	5192	0.010	-5.82596	20.00000	Averaged
140 PETN	2876	3002	0.010	4.38692	20.00000	Averaged

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Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
SDG: SL4180
Lab ID : WG228756-10
Analytical Date: 05/17/18 14:18
Lab File ID : HLE10548.D
Instrument ID: HPLC02
Initial Calibration Date(s): 03/20/18 14:54 03/20/18 18:05
Column ID: B

	Compound	$\overline{RRF}$/Amount	RF0.250	CCAL RRF0.250	Min	%D/ %Drift	Max %D/ %Drift	Curve Type
1	HMX	5391	5212	5212	0.010	-3.31394	20.00000	Averaged
4	RDX	0.25000	0.24291	5264	0.010	-2.83497	20.00000	Linear
5	1,3,5-trinitrobenzene	3689	3808	3808	0.010	3.22980	20.00000	Averaged
6	1,3-dinitrobenzene	7444	7448	7448	0.010	0.05757	20.00000	Averaged
7	nitrobenzene	6867	6572	6572	0.010	-4.29093	20.00000	Averaged
9	TETRYL	2535	2844	2844	0.010	12.20832	20.00000	Averaged
10	2,4,6-trinitrotoluene	2526	2480	2480	0.010	-1.83494	20.00000	Averaged
11	4-AM-DNT	4303	4228	4228	0.010	-1.73645	20.00000	Averaged
12	2-AM-DNT	5761	5720	5720	0.010	-0.70676	20.00000	Averaged
13	2,6-dinitrotoluene	0.25000	0.23685	2864	0.010	-5.26068	20.00000	Linear
14	2,4-dinitrotoluene	4619	4668	4668	0.010	1.07178	20.00000	Averaged
15	2-nitrotoluene	2890	2900	2900	0.010	0.36090	20.00000	Averaged
16	4-nitrotoluene	2342	2268	2268	0.010	-3.17741	20.00000	Averaged
17	3-nitrotoluene	3326	3108	3108	0.010	-6.54438	20.00000	Averaged
2	1,2-dinitrobenzene	4627	4664	4664	0.010	0.79032	20.00000	Averaged

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Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition F
Lab ID : WG228756-15
Lab File ID : HLE10639.D
Initial Calibration Date(s): 03/20/18 14:54 03/20/18 18:05

SDG: SL4180
Analytical Date: 05/22/18 15:47
Instrument ID: HPLC02
Column ID: A

Compound	$\overline{\text{RRF}}$/Amount	RF0.250	Min RRF	%D/ %Drift	Max %D/ %Drift	Curve Type
130 NITROGLYCERIN	5513	5211	0.010	-5.48133	20.00000	Averaged
140 PETN	2876	2970	0.010	3.27420	20.00000	Averaged

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Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
SDG: SL4180
Lab ID : WG228756-15
Analytical Date: 05/22/18 15:47
Lab File ID : HLE10639.D
Instrument ID: HPLC02
Initial Calibration Date(s): 03/20/18 14:54 03/20/18 18:05
Column ID: B

	Compound	$\overline{RRF}$/Amount	RF0.250	CCAL RRF0.250	Min	%D/ %Drift	Max %D/ %Drift	Curve Type
1	HMX	5391	5208	5208	0.010	-3.38815	20.00000	Averaged
4	RDX	0.25000	0.23949	5188	0.010	-4.20390	20.00000	Linear
5	1,3,5-trinitrobenzene	3689	3836	3836	0.010	3.98885	20.00000	Averaged
6	1,3-dinitrobenzene	7444	7468	7468	0.010	0.32626	20.00000	Averaged
7	nitrobenzene	6867	6620	6620	0.010	-3.59190	20.00000	Averaged
9	TETRYL	2535	2812	2812	0.010	10.94578	20.00000	Averaged
10	2,4,6-trinitrotoluene	2526	2528	2528	0.010	0.06503	20.00000	Averaged
11	4-AM-DNT	4303	4268	4268	0.010	-0.80680	20.00000	Averaged
12	2-AM-DNT	5761	5728	5728	0.010	-0.56789	20.00000	Averaged
13	2,6-dinitrotoluene	0.25000	0.23580	2852	0.010	-5.67899	20.00000	Linear
14	2,4-dinitrotoluene	4619	4648	4648	0.010	0.63874	20.00000	Averaged
15	2-nitrotoluene	2890	2904	2904	0.010	0.49933	20.00000	Averaged
16	4-nitrotoluene	2342	2460	2460	0.010	5.01921	20.00000	Averaged
17	3-nitrotoluene	3326	3280	3280	0.010	-1.37245	20.00000	Averaged
2	1,2-dinitrobenzene	4627	4700	4700	0.010	1.56829	20.00000	Averaged

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Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition F
Lab ID : WG228756-16
Lab File ID : HLE10650.D
Initial Calibration Date(s): 03/20/18 14:54 03/20/18 18:05

SDG: SL4180
Analytical Date: 05/22/18 21:28
Instrument ID: HPLC02
Column ID: A

	Compound	RRF/Amount	RF0.500	Min RRF	%D/ %Drift	Max %D/ %Drift	Curve Type
130	NITROGLYCERIN	5513	5300	0.010	-3.86702	20.00000	Averaged
140	PETN	2876	3037	0.010	5.58657	20.00000	Averaged

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Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
SDG: SL4180
Lab ID : WG228756-16
Analytical Date: 05/22/18 21:28
Lab File ID : HLE10650.D
Instrument ID: HPLC02
Initial Calibration Date(s): 03/20/18 14:54 03/20/18 18:05
Column ID: B

	Compound	RRF/Amount	RF0.500	CCAL RRF0.500	Min	%D/ %Drift	Max %D/ %Drift	Curve Type
1	HMX	5391	5324	5324	0.010	-1.23627	20.00000	Averaged
4	RDX	0.50000	0.48752	5348	0.010	-2.49643	20.00000	Linear
5	1,3,5-trinitrobenzene	3689	3888	3888	0.010	5.39850	20.00000	Averaged
6	1,3-dinitrobenzene	7444	7684	7684	0.010	3.22804	20.00000	Averaged
7	nitrobenzene	6867	6786	6786	0.010	-1.17441	20.00000	Averaged
9	TETRYL	2535	2758	2758	0.010	8.81524	20.00000	Averaged
10	2,4,6-trinitrotoluene	2526	2568	2568	0.010	1.64834	20.00000	Averaged
11	4-AM-DNT	4303	4334	4334	0.010	0.72712	20.00000	Averaged
12	2-AM-DNT	5761	5842	5842	0.010	1.41104	20.00000	Averaged
13	2,6-dinitrotoluene	0.50000	0.49690	2924	0.010	-0.62005	20.00000	Linear
14	2,4-dinitrotoluene	4619	4768	4768	0.010	3.23698	20.00000	Averaged
15	2-nitrotoluene	2890	2990	2990	0.010	3.47555	20.00000	Averaged
16	4-nitrotoluene	2342	2462	2462	0.010	5.10459	20.00000	Averaged
17	3-nitrotoluene	3326	3326	3326	0.010	0.01074	20.00000	Averaged
2	1,2-dinitrobenzene	4627	4792	4792	0.010	3.55643	20.00000	Averaged

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Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition F
Lab ID : WG228756-17
Lab File ID : HLE10661.D
Initial Calibration Date(s): 03/20/18 14:54 03/20/18 18:05

SDG: SL4180
Analytical Date: 05/23/18 03:09
Instrument ID: HPLC02
Column ID: A

	Compound	$\overline{RRF}$/Amount	RF0.250	Min RRF	%D/ %Drift	Max %D/ %Drift	Curve Type
130	NITROGLYCERIN	5513	5157	0.010	-6.46080	20.00000	Averaged
140	PETN	2876	2952	0.010	2.64830	20.00000	Averaged

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Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
SDG: SL4180
Lab ID : WG228756-17
Analytical Date: 05/23/18 03:09
Lab File ID : HLE10661.D
Instrument ID: HPLC02
Initial Calibration Date(s): 03/20/18 14:54 03/20/18 18:05
Column ID: B

	Compound	$\overline{\text{RRF}}$/Amount	RF0.250	CCAL RRF0.250	Min	%D/ %Drift	Max %D/ %Drift	Curve Type
1	HMX	5391	5204	5204	0.010	-3.46235	20.00000	Averaged
4	RDX	0.25000	0.23913	5180	0.010	-4.34799	20.00000	Linear
5	1,3,5-trinitrobenzene	3689	3820	3820	0.010	3.55511	20.00000	Averaged
6	1,3-dinitrobenzene	7444	7492	7492	0.010	0.64868	20.00000	Averaged
7	nitrobenzene	6867	6700	6700	0.010	-2.42685	20.00000	Averaged
9	TETRYL	2535	2800	2800	0.010	10.47233	20.00000	Averaged
10	2,4,6-trinitrotoluene	2526	2524	2524	0.010	-0.09330	20.00000	Averaged
11	4-AM-DNT	4303	4212	4212	0.010	-2.10830	20.00000	Averaged
12	2-AM-DNT	5761	5684	5684	0.010	-1.33168	20.00000	Averaged
13	2,6-dinitrotoluene	0.25000	0.23406	2832	0.010	-6.37618	20.00000	Linear
14	2,4-dinitrotoluene	4619	4680	4680	0.010	1.33160	20.00000	Averaged
15	2-nitrotoluene	2890	2892	2892	0.010	0.08405	20.00000	Averaged
16	4-nitrotoluene	2342	2332	2332	0.010	-0.44520	20.00000	Averaged
17	3-nitrotoluene	3326	3184	3184	0.010	-4.25911	20.00000	Averaged
2	1,2-dinitrobenzene	4627	4700	4700	0.010	1.56829	20.00000	Averaged

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Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition F
Lab ID : WG228942-6
Lab File ID : HLE10679.D
Initial Calibration Date(s): 03/20/18 14:54 03/20/18 18:05

SDG: SL4180
Analytical Date: 05/23/18 13:44
Instrument ID: HPLC02
Column ID: A

Compound	$\overline{\text{RRF}}$/Amount	RF0.250	Min RRF	%D/ %Drift	Max %D/ %Drift	Curve Type
130 NITROGLYCERIN	5513	5235	0.010	-5.04601	20.00000	Averaged
140 PETN	2876	3016	0.010	4.87373	20.00000	Averaged

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Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
SDG: SL4180
Lab ID : WG228942-6
Analytical Date: 05/23/18 13:44
Lab File ID : HLE10679.D
Instrument ID: HPLC02
Initial Calibration Date(s): 03/20/18 14:54 03/20/18 18:05
Column ID: B

	Compound	$\overline{RRF}$/Amount	RF0.250	CCAL RRF0.250	Min	%D/ %Drift	Max %D/ %Drift	Curve Type
1	HMX	5391	5268	5268	0.010	-2.27511	20.00000	Averaged
4	RDX	0.25000	0.24183	5240	0.010	-3.26726	20.00000	Linear
5	1,3,5-trinitrobenzene	3689	3872	3872	0.010	4.96476	20.00000	Averaged
6	1,3-dinitrobenzene	7444	7548	7548	0.010	1.40099	20.00000	Averaged
7	nitrobenzene	6867	6624	6624	0.010	-3.53365	20.00000	Averaged
9	TETRYL	2535	2872	2872	0.010	13.31304	20.00000	Averaged
10	2,4,6-trinitrotoluene	2526	2588	2588	0.010	2.43999	20.00000	Averaged
11	4-AM-DNT	4303	4240	4240	0.010	-1.45755	20.00000	Averaged
12	2-AM-DNT	5761	5716	5716	0.010	-0.77619	20.00000	Averaged
13	2,6-dinitrotoluene	0.25000	0.23789	2876	0.010	-4.84236	20.00000	Linear
14	2,4-dinitrotoluene	4619	4728	4728	0.010	2.37090	20.00000	Averaged
15	2-nitrotoluene	2890	2944	2944	0.010	1.88362	20.00000	Averaged
16	4-nitrotoluene	2342	2392	2392	0.010	2.11624	20.00000	Averaged
17	3-nitrotoluene	3326	3260	3260	0.010	-1.97384	20.00000	Averaged
2	1,2-dinitrobenzene	4627	4712	4712	0.010	1.82761	20.00000	Averaged

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Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition F
Lab ID : WG228942-7
Lab File ID : HLE10690.D
Initial Calibration Date(s): 03/20/18 14:54 03/20/18 18:05

SDG: SL4180
Analytical Date: 05/23/18 19:25
Instrument ID: HPLC02
Column ID: A

Compound	$\overline{\text{RRF}}$/Amount	RF0.500	Min RRF	%D/ %Drift	Max %D/ %Drift	Curve Type
130 NITROGLYCERIN	5513	5315	0.010	-3.59495	20.00000	Averaged
140 PETN	2876	3069	0.010	6.69929	20.00000	Averaged

*** = Compound out of QC criteria**

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Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
SDG: SL4180
Lab ID : WG228942-7
Analytical Date: 05/23/18 19:25
Lab File ID : HLE10690.D
Instrument ID: HPLC02
Initial Calibration Date(s): 03/20/18 14:54 03/20/18 18:05
Column ID: B

	Compound	$\overline{RRF}$/Amount	RF0.500	CCAL RRF0.500	Min	%D/ %Drift	Max %D/ %Drift	Curve Type
1	HMX	5391	5286	5286	0.010	-1.94119	20.00000	Averaged
4	RDX	0.50000	0.48716	5344	0.010	-2.56848	20.00000	Linear
5	1,3,5-trinitrobenzene	3689	3896	3896	0.010	5.61537	20.00000	Averaged
6	1,3-dinitrobenzene	7444	7686	7686	0.010	3.25490	20.00000	Averaged
7	nitrobenzene	6867	6744	6744	0.010	-1.78607	20.00000	Averaged
9	TETRYL	2535	2828	2828	0.010	11.57705	20.00000	Averaged
10	2,4,6-trinitrotoluene	2526	2556	2556	0.010	1.17334	20.00000	Averaged
11	4-AM-DNT	4303	4362	4362	0.010	1.37787	20.00000	Averaged
12	2-AM-DNT	5761	5856	5856	0.010	1.65406	20.00000	Averaged
13	2,6-dinitrotoluene	0.50000	0.49655	2922	0.010	-0.68977	20.00000	Linear
14	2,4-dinitrotoluene	4619	4778	4778	0.010	3.45350	20.00000	Averaged
15	2-nitrotoluene	2890	2986	2986	0.010	3.33712	20.00000	Averaged
16	4-nitrotoluene	2342	2476	2476	0.010	5.70226	20.00000	Averaged
17	3-nitrotoluene	3326	3330	3330	0.010	0.13102	20.00000	Averaged
2	1,2-dinitrobenzene	4627	4804	4804	0.010	3.81576	20.00000	Averaged

*** = Compound out of QC criteria**

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Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
SDG: SL4180
Lab ID : WG228756-12
Analytical Date: 05/26/18 01:55
Lab File ID : HLE10784.D
Instrument ID: HPLC02
Initial Calibration Date(s): 08/01/17 09:37 08/01/17 14:33
Column ID: B

	Compound	$\overline{RRF}$/Amount	RF0.250	CCAL RRF0.250	Min	%D/ %Drift	Max %D/ %Drift	Curve Type
1	HMX	0.25000	0.23501	4016	0.010	-5.99778	20.00000	Linear
4	RDX	0.25000	0.24019	3876	0.010	-3.92558	20.00000	Linear
5	1,3,5-trinitrobenzene	0.25000	0.23838	9920	0.010	-4.64708	20.00000	Linear
6	1,3-dinitrobenzene	0.25000	0.23756	11108	0.010	-4.97421	20.00000	Linear
7	nitrobenzene	0.25000	0.23974	6428	0.010	-4.10566	20.00000	Linear
9	TETRYL	0.25000	0.28556	5532	0.010	14.22510	20.00000	Linear
10	2,4,6-trinitrotoluene	0.25000	0.24987	6300	0.010	-0.05345	20.00000	Linear
11	4-AM-DNT	0.25000	0.26457	2632	0.010	5.82916	20.00000	Linear
12	2-AM-DNT	0.25000	0.23475	3068	0.010	-6.09822	20.00000	Linear
13	2,6-dinitrotoluene	0.25000	0.23135	3516	0.010	-7.45999	20.00000	Linear
14	2,4-dinitrotoluene	0.25000	0.23203	6520	0.010	-7.18986	20.00000	Linear
15	2-nitrotoluene	0.25000	0.23741	2540	0.010	-5.03722	20.00000	Linear
16	4-nitrotoluene	0.25000	0.25719	2172	0.010	2.87782	20.00000	Linear
17	3-nitrotoluene	0.25000	0.25175	2688	0.010	0.69859	20.00000	Linear
2	1,2-dinitrobenzene	0.25000	0.23759	5072	0.010	-4.96262	20.00000	Linear

*** = Compound out of QC criteria**

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Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
SDG: SL4180
Lab ID : WG228756-13
Analytical Date: 05/26/18 10:56
Lab File ID : HLE10795.D
Instrument ID: HPLC02
Initial Calibration Date(s): 08/01/17 09:37 08/01/17 14:33
Column ID: B

	Compound	$\overline{RRF}$/Amount	RF0.500	CCAL RRF0.500	Min	%D/ %Drift	Max %D/ %Drift	Curve Type
1	HMX	0.50000	0.48312	4092	0.010	-3.37514	20.00000	Linear
4	RDX	0.50000	0.48485	3930	0.010	-3.02955	20.00000	Linear
5	1,3,5-trinitrobenzene	0.50000	0.48076	9988	0.010	-3.84898	20.00000	Linear
6	1,3-dinitrobenzene	0.50000	0.48413	11276	0.010	-3.17418	20.00000	Linear
7	nitrobenzene	0.50000	0.48826	6524	0.010	-2.34802	20.00000	Linear
9	TETRYL	0.50000	0.55449	5264	0.010	10.89866	20.00000	Linear
10	2,4,6-trinitrotoluene	0.50000	0.49967	6228	0.010	-0.06515	20.00000	Linear
11	4-AM-DNT	0.50000	0.55995	2706	0.010	11.99094	20.00000	Linear
12	2-AM-DNT	0.50000	0.49114	3152	0.010	-1.77200	20.00000	Linear
13	2,6-dinitrotoluene	0.50000	0.48442	3656	0.010	-3.11504	20.00000	Linear
14	2,4-dinitrotoluene	0.50000	0.48695	6778	0.010	-2.61049	20.00000	Linear
15	2-nitrotoluene	0.50000	0.48720	2584	0.010	-2.55937	20.00000	Linear
16	4-nitrotoluene	0.50000	0.50482	2050	0.010	0.96341	20.00000	Linear
17	3-nitrotoluene	0.50000	0.52971	2768	0.010	5.94284	20.00000	Linear
2	1,2-dinitrobenzene	0.50000	0.47916	5090	0.010	-4.16862	20.00000	Linear

*** = Compound out of QC criteria**

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Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
Lab ID : WG228756-14
Lab File ID : HLE10806.D
Initial Calibration Date(s): 08/01/17 09:37 08/01/17 14:33

SDG: SL4180
Analytical Date: 05/26/18 19:57
Instrument ID: HPLC02
Column ID: B

	Compound	$\overline{RRF}$/Amount	RF0.250	CCAL RRF0.250	Min	%D/ %Drift	Max %D/ %Drift	Curve Type
1	HMX	0.25000	0.24167	4128	0.010	-3.33086	20.00000	Linear
4	RDX	0.25000	0.24338	3928	0.010	-2.64820	20.00000	Linear
5	1,3,5-trinitrobenzene	0.25000	0.24484	10188	0.010	-2.06331	20.00000	Linear
6	1,3-dinitrobenzene	0.25000	0.24024	11232	0.010	-3.90556	20.00000	Linear
7	nitrobenzene	0.25000	0.24214	6492	0.010	-3.14460	20.00000	Linear
9	TETRYL	0.25000	0.28879	5592	0.010	15.51700	20.00000	Linear
10	2,4,6-trinitrotoluene	0.25000	0.25198	6352	0.010	0.79061	20.00000	Linear
11	4-AM-DNT	0.25000	0.27392	2720	0.010	9.56925	20.00000	Linear
12	2-AM-DNT	0.25000	0.23697	3096	0.010	-5.21086	20.00000	Linear
13	2,6-dinitrotoluene	0.25000	0.24122	3664	0.010	-3.51320	20.00000	Linear
14	2,4-dinitrotoluene	0.25000	0.24116	6772	0.010	-3.53776	20.00000	Linear
15	2-nitrotoluene	0.25000	0.23969	2564	0.010	-4.12473	20.00000	Linear
16	4-nitrotoluene	0.25000	0.23819	2024	0.010	-4.72552	20.00000	Linear
17	3-nitrotoluene	0.25000	0.25799	2752	0.010	3.19718	20.00000	Linear
2	1,2-dinitrobenzene	0.25000	0.24081	5140	0.010	-3.67630	20.00000	Linear

*** = Compound out of QC criteria**

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Form 8
GC Analytical Sequence

Lab Name : Katahdin Analytical Services **SDG :** SL4180
Project : Cornhusker Army Ammunition Plant **Column ID :** B
Instrument ID : HPLC02

Client Sample ID	Lab Sample ID	Date Analyzed	Time Analyzed	DNB	DNB
Initial Calibration	WG225143-7	03/20/18	14:54	8.575	
Initial Calibration	WG225143-6	03/20/18	15:26	8.57	
Initial Calibration	WG225143-5	03/20/18	15:58	8.57	
Initial Calibration	WG225143-4	03/20/18	16:30	8.57	
Initial Calibration	WG225143-3	03/20/18	17:01	8.57	
Initial Calibration	WG225143-2	03/20/18	17:33	8.574	
Initial Calibration	WG225143-1	03/20/18	18:05	8.587	
Independent Source	WG225143-8	03/20/18	18:37		
Continuing Calibrati	WG228756-2	05/15/18	16:26	8.515	
Method Blank Sample	WG228334-1	05/15/18	19:01	8.536	
Laboratory Control S	WG228334-2	05/15/18	19:32	8.529	
CHAAP-EB-051418	SL4180-29	05/15/18	20:34	8.554	
Continuing Calibrati	WG228756-3	05/15/18	22:07	8.521	
Continuing Calibrati	WG228756-7	05/16/18	21:15	8.518	
Method Blank Sample	WG228437-1	05/16/18	22:48	8.53	
Laboratory Control S	WG228437-2	05/16/18	23:19	8.522	
Method Blank Sample	WG228439-1	05/17/18	02:25	8.536	
Continuing Calibrati	WG228756-8	05/17/18	02:56	8.525	
Laboratory Control S	WG228439-2	05/17/18	03:27	8.527	
Matrix Spike	WG228439-3	05/17/18	03:58	8.547	
Matrix Spike Duplica	WG228439-4	05/17/18	04:29	8.536	
Matrix Spike	WG228439-5	05/17/18	05:00	8.542	
Matrix Spike Duplica	WG228439-6	05/17/18	05:31	8.548	
CHAAP-21B-DS-SS02	SL4180-1	05/17/18	06:02	8.543	
CHAAP-21B-DS-SS102	SL4180-2	05/17/18	06:33	8.552	
CHAAP-21B-DS-SB02-5	SL4180-3	05/17/18	07:04	8.559	
CHAAP-21B-DS-SS06	SL4180-5	05/17/18	08:06	8.554	
Continuing Calibrati	WG228756-9	05/17/18	08:37	8.539	
CHAAP-21B-DS-SB06-5	SL4180-6	05/17/18	09:08	8.56	
CHAAP-21B-DS-SB06-10	SL4180-7	05/17/18	09:39	8.553	
CHAAP-21B-DS-SS07	SL4180-8	05/17/18	10:10	8.553	
CHAAP-21B-DS-SB07-5	SL4180-9	05/17/18	10:41	8.547	
CHAAP-21B-DS-SB107-5	SL4180-10	05/17/18	11:12	8.559	
CHAAP-21B-DS-SB07-10	SL4180-11	05/17/18	11:43	8.56	
CHAAP-21B-DS-SS08	SL4180-12	05/17/18	12:14	8.555	
CHAAP-21B-DS-SB08-5	SL4180-13	05/17/18	12:45	8.559	

Form 8
GC Analytical Sequence

Lab Name : Katahdin Analytical Services
SDG : SL4180
Project : Cornhusker Army Ammunition Plant
Column ID : B
Instrument ID : HPLC02

CHAAP-21B-DS-SS09	SL4180-14	05/17/18	13:16	8.564	
CHAAP-21B-DS-SB09-5	SL4180-15	05/17/18	13:47	8.551	
Continuing Calibrati	WG228756-10	05/17/18	14:18	8.535	
Continuing Calibrati	WG228756-15	05/22/18	15:47	8.592	
CHAAP-21B-DS-SS11	SL4180-16	05/22/18	16:18	8.611	
CHAAP-21B-DS-SS111	SL4180-17	05/22/18	16:49	8.607	
CHAAP-21B-DS-SB11-5	SL4180-18	05/22/18	17:20	8.612	
CHAAP-21B-DS-SS10	SL4180-19	05/22/18	17:51	8.602	
CHAAP-21B-DS-SB10-5	SL4180-20	05/22/18	18:22	8.624	
CHAAP-21B-DS-SS04	SL4180-21	05/22/18	18:53	8.612	
CHAAP-21B-DS-SB04-5	SL4180-22	05/22/18	19:24	8.615	
CHAAP-21B-DS-SB04-10	SL4180-23	05/22/18	19:55	8.616	
CHAAP-21B-DS-SS03	SL4180-24	05/22/18	20:26	8.587	
CHAAP-21B-DS-SS103	SL4180-25	05/22/18	20:57	8.605	
Continuing Calibrati	WG228756-16	05/22/18	21:28	8.563	
CHAAP-21B-DS-SB03-5	SL4180-26	05/22/18	21:59	8.613	
CHAAP-21B-DS-SB03-10	SL4180-27	05/22/18	22:30	8.589	
Continuing Calibrati	WG228756-17	05/23/18	03:09	8.587	
Continuing Calibrati	WG228942-6	05/23/18	13:44	8.573	
Method Blank Sample	WG228857-1	05/23/18	17:21	8.561	
Laboratory Control S	WG228857-2	05/23/18	17:52	8.586	
CHAAP-21B-DS-SB02-10	SL4180-4RE	05/23/18	18:23	8.58	
Continuing Calibrati	WG228942-7	05/23/18	19:25	8.553	

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Form 8
GC Analytical Sequence

Lab Name : Katahdin Analytical Services
SDG : SL4180
Project : Cornhusker Army Ammunition Plant
Column ID : B
Instrument ID : HPLC02

Client Sample ID	Lab Sample ID	Date Analyzed	Time Analyzed	DNB	
Initial Calibration	WG210620-15	08/01/17	09:37	13.49	
Initial Calibration	WG210620-14	08/01/17	10:27	13.48	
Initial Calibration	WG210620-13	08/01/17	11:16	13.48	
Initial Calibration	WG210620-12	08/01/17	12:05	13.47	
Initial Calibration	WG210620-11	08/01/17	12:54	13.47	
Initial Calibration	WG210620-10	08/01/17	13:44	13.47	
Initial Calibration	WG210620-9	08/01/17	14:33	13.46	
Independent Source	WG210620-16	08/01/17	17:01		
Continuing Calibrati	WG228756-12	05/26/18	01:55	13.18	
Method Blank Sample	WG228439-1C	05/26/18	07:39	13.20	
CHAAP-21B-DS-SS06	SL4180-5C	05/26/18	08:28	13.22	
CHAAP-21B-DS-SB06-5	SL4180-6C	05/26/18	09:18	13.21	
CHAAP-21B-DS-SB06-10	SL4180-7C	05/26/18	10:07	13.22	
Continuing Calibrati	WG228756-13	05/26/18	10:56	13.19	
Method Blank Sample	WG228437-1C	05/26/18	16:40	13.20	
CHAAP-21B-DS-SS04	SL4180-21C	05/26/18	17:29	13.20	
Continuing Calibrati	WG228756-14	05/26/18	19:57	13.19	

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INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** CHAAP-21B-DS-SS02

Matrix: SOIL **SDG Name:** SL4180

Percent Solids: 85.0 **Lab Sample ID:** SL4180-001

Concentration Units : mg/Kg drywt

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED LOQ	MDL	LOD
7429-90-5	ALUMINUM, TOTAL	12700			MS	5	6.8	0.34	2.7
7440-36-0	ANTIMONY, TOTAL	0.13			MS	5	0.068	0.014	0.034
7440-38-2	ARSENIC, TOTAL	2.77			MS	5	0.34	0.10	0.27
7440-39-3	BARIUM, TOTAL	144			MS	5	0.14	0.025	0.068
7440-41-7	BERYLLIUM, TOTAL	0.642			MS	5	0.068	0.0027	0.014
7440-43-9	CADMIUM, TOTAL	0.176			MS	5	0.068	0.0051	0.014
7440-70-2	CALCIUM, TOTAL	2140			MS	5	6.8	2.6	5.4
7440-47-3	CHROMIUM, TOTAL	12.8			MS	5	0.34	0.033	0.27
7440-48-4	COBALT, TOTAL	5.56			MS	5	0.068	0.0037	0.020
7440-50-8	COPPER, TOTAL	9.74		B	MS	5	0.20	0.047	0.14
7439-89-6	IRON, TOTAL	10400			MS	5	6.8	1.6	4.0
7439-92-1	LEAD, TOTAL	19.0			MS	5	0.068	0.0047	0.034
7439-95-4	MAGNESIUM, TOTAL	2980			MS	5	6.8	0.91	5.4
7439-96-5	MANGANESE, TOTAL	292			MS	5	0.14	0.028	0.068
7439-97-6	MERCURY, TOTAL	0.018	J		CV	1	0.030	0.0046	0.015
7440-02-0	NICKEL, TOTAL	9.10			MS	5	0.14	0.018	0.081
7440-09-7	POTASSIUM, TOTAL	4340			MS	5	68	3.1	27
7782-49-2	SELENIUM, TOTAL	0.568			MS	5	0.34	0.026	0.20
7440-22-4	SILVER, TOTAL	0.0714			MS	5	0.068	0.0044	0.027
7440-23-5	SODIUM, TOTAL	186			MS	5	68	1.7	27
7440-28-0	THALLIUM, TOTAL	0.240			MS	5	0.068	0.0064	0.027
7440-62-2	VANADIUM, TOTAL	23.7			MS	5	0.34	0.074	0.27
7440-66-6	ZINC, TOTAL	38.6			MS	5	0.68	0.088	0.54

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** CHAAP-21B-DS-SS102

Matrix: SOIL **SDG Name:** SL4180

Percent Solids: 83.1 **Lab Sample ID:** SL4180-002

Concentration Units : mg/Kg drywt

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED LOQ	ADJUSTED MDL	ADJUSTED LOD
7429-90-5	ALUMINUM, TOTAL	12700			MS	5	8.4	0.42	3.3
7440-36-0	ANTIMONY, TOTAL	0.12			MS	5	0.084	0.017	0.042
7440-38-2	ARSENIC, TOTAL	2.86			MS	5	0.42	0.13	0.33
7440-39-3	BARIUM, TOTAL	145			MS	5	0.17	0.030	0.084
7440-41-7	BERYLLIUM, TOTAL	0.626			MS	5	0.084	0.0034	0.017
7440-43-9	CADMIUM, TOTAL	0.150			MS	5	0.084	0.0063	0.017
7440-70-2	CALCIUM, TOTAL	2170			MS	5	8.4	3.2	6.7
7440-47-3	CHROMIUM, TOTAL	13.1			MS	5	0.42	0.041	0.33
7440-48-4	COBALT, TOTAL	6.04			MS	5	0.084	0.0046	0.025
7440-50-8	COPPER, TOTAL	9.81		B	MS	5	0.25	0.058	0.17
7439-89-6	IRON, TOTAL	10800			MS	5	8.4	2.0	5.0
7439-92-1	LEAD, TOTAL	19.1			MS	5	0.084	0.0058	0.042
7439-95-4	MAGNESIUM, TOTAL	3080			MS	5	8.4	1.1	6.7
7439-96-5	MANGANESE, TOTAL	307			MS	5	0.17	0.035	0.084
7439-97-6	MERCURY, TOTAL	0.019	J		CV	1	0.034	0.0053	0.018
7440-02-0	NICKEL, TOTAL	9.44			MS	5	0.17	0.022	0.10
7440-09-7	POTASSIUM, TOTAL	4400			MS	5	84	3.8	33
7782-49-2	SELENIUM, TOTAL	0.577			MS	5	0.42	0.033	0.25
7440-22-4	SILVER, TOTAL	0.0742	J		MS	5	0.084	0.0054	0.033
7440-23-5	SODIUM, TOTAL	196			MS	5	84	2.1	33
7440-28-0	THALLIUM, TOTAL	0.243			MS	5	0.084	0.0079	0.033
7440-62-2	VANADIUM, TOTAL	24.2			MS	5	0.42	0.092	0.33
7440-66-6	ZINC, TOTAL	39.4			MS	5	0.84	0.11	0.67

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** CHAAP-21B-DS-SB02-5

Matrix: SOIL **SDG Name:** SL4180

Percent Solids: 81.6 **Lab Sample ID:** SL4180-003

Concentration Units : mg/Kg drywt

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED LOQ	ADJUSTED MDL	ADJUSTED LOD
7429-90-5	ALUMINUM, TOTAL	18200			MS	5	6.5	0.32	2.6
7440-36-0	ANTIMONY, TOTAL	0.219			MS	5	0.065	0.013	0.032
7440-38-2	ARSENIC, TOTAL	7.81			MS	5	0.32	0.097	0.26
7440-39-3	BARIUM, TOTAL	208			MS	5	0.13	0.024	0.065
7440-41-7	BERYLLIUM, TOTAL	0.856			MS	5	0.065	0.0026	0.013
7440-43-9	CADMIUM, TOTAL	0.023	J		MS	5	0.065	0.0049	0.013
7440-70-2	CALCIUM, TOTAL	31300			MS	5	6.5	2.5	5.2
7440-47-3	CHROMIUM, TOTAL	17.6			MS	5	0.32	0.032	0.26
7440-48-4	COBALT, TOTAL	8.33			MS	5	0.065	0.0036	0.019
7440-50-8	COPPER, TOTAL	12.6		B	MS	5	0.19	0.045	0.13
7439-89-6	IRON, TOTAL	17000			MS	5	6.5	1.6	3.9
7439-92-1	LEAD, TOTAL	12.8			MS	5	0.065	0.0045	0.032
7439-95-4	MAGNESIUM, TOTAL	8100			MS	5	6.5	0.88	5.2
7439-96-5	MANGANESE, TOTAL	317			MS	5	0.13	0.027	0.065
7439-97-6	MERCURY, TOTAL	0.024	J		CV	1	0.034	0.0053	0.017
7440-02-0	NICKEL, TOTAL	15.7			MS	5	0.13	0.017	0.078
7440-09-7	POTASSIUM, TOTAL	4460			MS	5	65	3.0	26
7782-49-2	SELENIUM, TOTAL	0.400			MS	5	0.32	0.025	0.19
7440-22-4	SILVER, TOTAL	0.0852			MS	5	0.065	0.0042	0.026
7440-23-5	SODIUM, TOTAL	2050			MS	5	65	1.7	26
7440-28-0	THALLIUM, TOTAL	0.293			MS	5	0.065	0.0062	0.026
7440-62-2	VANADIUM, TOTAL	38.8			MS	5	0.32	0.071	0.26
7440-66-6	ZINC, TOTAL	47.0			MS	5	0.65	0.084	0.52

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** CHAAP-21B-DS-SB02-10

Matrix: SOIL **SDG Name:** SL4180

Percent Solids: 76.8 **Lab Sample ID:** SL4180-004

Concentration Units : mg/Kg drywt

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED LOQ	MDL	LOD
7429-90-5	ALUMINUM, TOTAL	21900			MS	5	9.4	0.47	3.7
7440-36-0	ANTIMONY, TOTAL	0.18			MS	5	0.094	0.019	0.047
7440-38-2	ARSENIC, TOTAL	4.02			MS	5	0.47	0.14	0.37
7440-39-3	BARIUM, TOTAL	301			MS	5	0.19	0.034	0.094
7440-41-7	BERYLLIUM, TOTAL	0.999			MS	5	0.094	0.0038	0.019
7440-43-9	CADMIUM, TOTAL	0.166			MS	5	0.094	0.0070	0.019
7440-70-2	CALCIUM, TOTAL	16400			MS	5	9.4	3.6	7.5
7440-47-3	CHROMIUM, TOTAL	21.7			MS	5	0.47	0.046	0.37
7440-48-4	COBALT, TOTAL	7.92			MS	5	0.094	0.0051	0.028
7440-50-8	COPPER, TOTAL	16.5		B	MS	5	0.28	0.066	0.19
7439-89-6	IRON, TOTAL	19800			MS	5	9.4	2.2	5.6
7439-92-1	LEAD, TOTAL	15.3			MS	5	0.094	0.0066	0.047
7439-95-4	MAGNESIUM, TOTAL	8560			MS	5	9.4	1.3	7.5
7439-96-5	MANGANESE, TOTAL	446			MS	5	0.19	0.039	0.094
7439-97-6	MERCURY, TOTAL	0.019	J		CV	1	0.043	0.0066	0.022
7440-02-0	NICKEL, TOTAL	20.2			MS	5	0.19	0.025	0.11
7440-09-7	POTASSIUM, TOTAL	4320			MS	5	94	4.3	37
7782-49-2	SELENIUM, TOTAL	0.34	J		MS	5	0.47	0.037	0.28
7440-22-4	SILVER, TOTAL	0.0897	J		MS	5	0.094	0.0061	0.037
7440-23-5	SODIUM, TOTAL	711			MS	5	94	2.4	37
7440-28-0	THALLIUM, TOTAL	0.360			MS	5	0.094	0.0089	0.037
7440-62-2	VANADIUM, TOTAL	43.2			MS	5	0.47	0.10	0.37
7440-66-6	ZINC, TOTAL	62.2			MS	5	0.94	0.12	0.75

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** CHAAP-21B-DS-SS06

Matrix: SOIL **SDG Name:** SL4180

Percent Solids: 83.1 **Lab Sample ID:** SL4180-005

Concentration Units : mg/Kg drywt

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED LOQ	ADJUSTED MDL	ADJUSTED LOD
7429-90-5	ALUMINUM, TOTAL	14200			MS	5	6.3	0.31	2.5
7440-36-0	ANTIMONY, TOTAL	0.161			MS	5	0.063	0.013	0.031
7440-38-2	ARSENIC, TOTAL	3.39			MS	5	0.31	0.094	0.25
7440-39-3	BARIUM, TOTAL	167			MS	5	0.12	0.023	0.063
7440-41-7	BERYLLIUM, TOTAL	0.686			MS	5	0.063	0.0025	0.012
7440-43-9	CADMIUM, TOTAL	0.155			MS	5	0.063	0.0047	0.012
7440-70-2	CALCIUM, TOTAL	3860			MS	5	6.3	2.4	5.0
7440-47-3	CHROMIUM, TOTAL	13.8			MS	5	0.31	0.031	0.25
7440-48-4	COBALT, TOTAL	5.82			MS	5	0.063	0.0034	0.019
7440-50-8	COPPER, TOTAL	9.96		B	MS	5	0.19	0.044	0.12
7439-89-6	IRON, TOTAL	11700			MS	5	6.3	1.5	3.8
7439-92-1	LEAD, TOTAL	20.6			MS	5	0.063	0.0044	0.031
7439-95-4	MAGNESIUM, TOTAL	3220			MS	5	6.3	0.85	5.0
7439-96-5	MANGANESE, TOTAL	336			MS	5	0.12	0.026	0.063
7439-97-6	MERCURY, TOTAL	0.016	J		CV	1	0.033	0.0051	0.017
7440-02-0	NICKEL, TOTAL	10.2			MS	5	0.12	0.017	0.075
7440-09-7	POTASSIUM, TOTAL	3560			MS	5	63	2.9	25
7782-49-2	SELENIUM, TOTAL	0.520			MS	5	0.31	0.024	0.19
7440-22-4	SILVER, TOTAL	0.0664			MS	5	0.063	0.0041	0.025
7440-23-5	SODIUM, TOTAL	167			MS	5	63	1.6	25
7440-28-0	THALLIUM, TOTAL	0.254			MS	5	0.063	0.0060	0.025
7440-62-2	VANADIUM, TOTAL	27.8			MS	5	0.31	0.069	0.25
7440-66-6	ZINC, TOTAL	38.8			MS	5	0.63	0.081	0.50

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** CHAAP-21B-DS-SB06-5

Matrix: SOIL **SDG Name:** SL4180

Percent Solids: 76.0 **Lab Sample ID:** SL4180-006

Concentration Units : mg/Kg drywt

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED LOQ	MDL	LOD
7429-90-5	ALUMINUM, TOTAL	29500			MS	5	11	0.55	4.4
7440-36-0	ANTIMONY, TOTAL	0.241			MS	5	0.11	0.022	0.055
7440-38-2	ARSENIC, TOTAL	6.87			MS	5	0.55	0.17	0.44
7440-39-3	BARIUM, TOTAL	357			MS	5	0.22	0.040	0.11
7440-41-7	BERYLLIUM, TOTAL	1.39			MS	5	0.11	0.0045	0.022
7440-43-9	CADMIUM, TOTAL	0.136			MS	5	0.11	0.0083	0.022
7440-70-2	CALCIUM, TOTAL	23800			MS	5	11	4.2	8.8
7440-47-3	CHROMIUM, TOTAL	29.1			MS	5	0.55	0.054	0.44
7440-48-4	COBALT, TOTAL	12.4			MS	5	0.11	0.0061	0.033
7440-50-8	COPPER, TOTAL	21.5		B	MS	5	0.33	0.077	0.22
7439-89-6	IRON, TOTAL	27400			MS	5	11	2.7	6.6
7439-92-1	LEAD, TOTAL	19.2			MS	5	0.11	0.0077	0.055
7439-95-4	MAGNESIUM, TOTAL	10400			MS	5	11	1.5	8.8
7439-96-5	MANGANESE, TOTAL	580			MS	5	0.22	0.046	0.11
7439-97-6	MERCURY, TOTAL	0.019	J		CV	1	0.031	0.0048	0.016
7440-02-0	NICKEL, TOTAL	26.0			MS	5	0.22	0.029	0.13
7440-09-7	POTASSIUM, TOTAL	5940			MS	5	110	5.0	44
7782-49-2	SELENIUM, TOTAL	0.600			MS	5	0.55	0.043	0.33
7440-22-4	SILVER, TOTAL	0.134			MS	5	0.11	0.0072	0.044
7440-23-5	SODIUM, TOTAL	1110			MS	5	110	2.8	44
7440-28-0	THALLIUM, TOTAL	0.486			MS	5	0.11	0.010	0.044
7440-62-2	VANADIUM, TOTAL	60.0			MS	5	0.55	0.12	0.44
7440-66-6	ZINC, TOTAL	87.8			MS	5	1.1	0.14	0.88

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** CHAAP-21B-DS-SB06-10

Matrix: SOIL **SDG Name:** SL4180

Percent Solids: 79.9 **Lab Sample ID:** SL4180-007

Concentration Units : mg/Kg drywt

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED LOQ	MDL	LOD
7429-90-5	ALUMINUM, TOTAL	20300			MS	5	9.8	0.49	3.9
7440-36-0	ANTIMONY, TOTAL	0.201			MS	5	0.098	0.020	0.049
7440-38-2	ARSENIC, TOTAL	4.08			MS	5	0.49	0.15	0.39
7440-39-3	BARIUM, TOTAL	199			MS	5	0.20	0.036	0.098
7440-41-7	BERYLLIUM, TOTAL	0.926			MS	5	0.098	0.0040	0.020
7440-43-9	CADMIUM, TOTAL	0.125			MS	5	0.098	0.0074	0.020
7440-70-2	CALCIUM, TOTAL	37300			MS	5	9.8	3.7	7.9
7440-47-3	CHROMIUM, TOTAL	20.1			MS	5	0.49	0.048	0.39
7440-48-4	COBALT, TOTAL	6.39			MS	5	0.098	0.0054	0.030
7440-50-8	COPPER, TOTAL	15.8		B	MS	5	0.30	0.069	0.20
7439-89-6	IRON, TOTAL	17200			MS	5	9.8	2.4	5.9
7439-92-1	LEAD, TOTAL	10.6			MS	5	0.098	0.0069	0.049
7439-95-4	MAGNESIUM, TOTAL	7780			MS	5	9.8	1.3	7.9
7439-96-5	MANGANESE, TOTAL	514			MS	5	0.20	0.041	0.098
7439-97-6	MERCURY, TOTAL	0.022	J		CV	1	0.037	0.0058	0.019
7440-02-0	NICKEL, TOTAL	22.1			MS	5	0.20	0.026	0.12
7440-09-7	POTASSIUM, TOTAL	4150			MS	5	98	4.5	39
7782-49-2	SELENIUM, TOTAL	0.522			MS	5	0.49	0.038	0.30
7440-22-4	SILVER, TOTAL	0.0921	J		MS	5	0.098	0.0064	0.039
7440-23-5	SODIUM, TOTAL	1870			MS	5	98	2.5	39
7440-28-0	THALLIUM, TOTAL	0.338			MS	5	0.098	0.0094	0.039
7440-62-2	VANADIUM, TOTAL	42.0			MS	5	0.49	0.11	0.39
7440-66-6	ZINC, TOTAL	49.0			MS	5	0.98	0.13	0.79

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** CHAAP-21B-DS-SS07

Matrix: SOIL **SDG Name:** SL4180

Percent Solids: 81.2 **Lab Sample ID:** SL4180-008

Concentration Units : mg/Kg drywt

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED LOQ	ADJUSTED MDL	ADJUSTED LOD
7429-90-5	ALUMINUM, TOTAL	25100		NA	MS	5	11	0.56	4.5
7440-36-0	ANTIMONY, TOTAL	0.20		N	MS	5	0.11	0.022	0.056
7440-38-2	ARSENIC, TOTAL	5.03			MS	5	0.56	0.17	0.45
7440-39-3	BARIUM, TOTAL	190		NA	MS	5	0.22	0.041	0.11
7440-41-7	BERYLLIUM, TOTAL	1.08			MS	5	0.11	0.0045	0.022
7440-43-9	CADMIUM, TOTAL	0.020	J		MS	5	0.11	0.0084	0.022
7440-70-2	CALCIUM, TOTAL	4100		NA	MS	5	11	4.3	9.0
7440-47-3	CHROMIUM, TOTAL	21.2			MS	5	0.56	0.055	0.45
7440-48-4	COBALT, TOTAL	8.16			MS	5	0.11	0.0062	0.034
7440-50-8	COPPER, TOTAL	15.5		B	MS	5	0.34	0.078	0.22
7439-89-6	IRON, TOTAL	18600		NA	MS	5	11	2.7	6.7
7439-92-1	LEAD, TOTAL	14.9		A	MS	5	0.11	0.0078	0.056
7439-95-4	MAGNESIUM, TOTAL	6090		NEA	MS	5	11	1.5	9.0
7439-96-5	MANGANESE, TOTAL	276		NA	MS	5	0.22	0.047	0.11
7439-97-6	MERCURY, TOTAL	0.012	J		CV	1	0.033	0.0052	0.017
7440-02-0	NICKEL, TOTAL	16.6			MS	5	0.22	0.030	0.13
7440-09-7	POTASSIUM, TOTAL	4960		N	MS	5	110	5.1	45
7782-49-2	SELENIUM, TOTAL	0.466	J		MS	5	0.56	0.044	0.34
7440-22-4	SILVER, TOTAL	0.0764	J		MS	5	0.11	0.0073	0.045
7440-23-5	SODIUM, TOTAL	181			MS	5	110	2.9	45
7440-28-0	THALLIUM, TOTAL	0.374			MS	5	0.11	0.011	0.045
7440-62-2	VANADIUM, TOTAL	36.8			MS	5	0.56	0.12	0.45
7440-66-6	ZINC, TOTAL	55.5			MS	5	1.1	0.15	0.90

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** CHAAP-21B-DS-SB07-5

Matrix: SOIL **SDG Name:** SL4180

Percent Solids: 81.2 **Lab Sample ID:** SL4180-009

Concentration Units : mg/Kg drywt

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED LOQ	ADJUSTED MDL	ADJUSTED LOD
7429-90-5	ALUMINUM, TOTAL	21000			MS	5	11	0.54	4.3
7440-36-0	ANTIMONY, TOTAL	0.256			MS	5	0.11	0.022	0.054
7440-38-2	ARSENIC, TOTAL	7.92			MS	5	0.54	0.16	0.43
7440-39-3	BARIUM, TOTAL	399			MS	5	0.22	0.039	0.11
7440-41-7	BERYLLIUM, TOTAL	0.945			MS	5	0.11	0.0044	0.022
7440-43-9	CADMIUM, TOTAL	0.047	J		MS	5	0.11	0.0081	0.022
7440-70-2	CALCIUM, TOTAL	28900			MS	5	11	4.1	8.6
7440-47-3	CHROMIUM, TOTAL	20.0			MS	5	0.54	0.053	0.43
7440-48-4	COBALT, TOTAL	8.20			MS	5	0.11	0.0059	0.032
7440-50-8	COPPER, TOTAL	15.6		B	MS	5	0.32	0.076	0.22
7439-89-6	IRON, TOTAL	18600			MS	5	11	2.6	6.5
7439-92-1	LEAD, TOTAL	12.9			MS	5	0.11	0.0076	0.054
7439-95-4	MAGNESIUM, TOTAL	7940			MS	5	11	1.5	8.6
7439-96-5	MANGANESE, TOTAL	713			MS	5	0.22	0.045	0.11
7439-97-6	MERCURY, TOTAL	0.019	J		CV	1	0.028	0.0044	0.014
7440-02-0	NICKEL, TOTAL	18.5			MS	5	0.22	0.029	0.13
7440-09-7	POTASSIUM, TOTAL	4170			MS	5	110	4.9	43
7782-49-2	SELENIUM, TOTAL	0.500	J		MS	5	0.54	0.042	0.32
7440-22-4	SILVER, TOTAL	0.0963	J		MS	5	0.11	0.0070	0.043
7440-23-5	SODIUM, TOTAL	1200			MS	5	110	2.8	43
7440-28-0	THALLIUM, TOTAL	0.354			MS	5	0.11	0.010	0.043
7440-62-2	VANADIUM, TOTAL	47.6			MS	5	0.54	0.12	0.43
7440-66-6	ZINC, TOTAL	49.1			MS	5	1.1	0.14	0.86

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** CHAAP-21B-DS-SB107-5

Matrix: SOIL **SDG Name:** SL4180

Percent Solids: 80.8 **Lab Sample ID:** SL4180-010

Concentration Units : mg/Kg drywt

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED LOQ	ADJUSTED MDL	ADJUSTED LOD
7429-90-5	ALUMINUM, TOTAL	18000			MS	5	7.9	0.39	3.2
7440-36-0	ANTIMONY, TOTAL	0.200			MS	5	0.079	0.016	0.039
7440-38-2	ARSENIC, TOTAL	4.25			MS	5	0.39	0.12	0.32
7440-39-3	BARIUM, TOTAL	293			MS	5	0.16	0.029	0.079
7440-41-7	BERYLLIUM, TOTAL	0.834			MS	5	0.079	0.0032	0.016
7440-43-9	CADMIUM, TOTAL	0.0604	J		MS	5	0.079	0.0059	0.016
7440-70-2	CALCIUM, TOTAL	33400			MS	5	7.9	3.0	6.3
7440-47-3	CHROMIUM, TOTAL	17.7			MS	5	0.39	0.039	0.32
7440-48-4	COBALT, TOTAL	8.08			MS	5	0.079	0.0043	0.024
7440-50-8	COPPER, TOTAL	13.2		B	MS	5	0.24	0.055	0.16
7439-89-6	IRON, TOTAL	16500			MS	5	7.9	1.9	4.7
7439-92-1	LEAD, TOTAL	12.9			MS	5	0.079	0.0055	0.039
7439-95-4	MAGNESIUM, TOTAL	7710			MS	5	7.9	1.1	6.3
7439-96-5	MANGANESE, TOTAL	543			MS	5	0.16	0.033	0.079
7439-97-6	MERCURY, TOTAL	0.00019	J		CV	1	0.00031	0.000049	0.00016
7440-02-0	NICKEL, TOTAL	17.3			MS	5	0.16	0.021	0.094
7440-09-7	POTASSIUM, TOTAL	3720			MS	5	79	3.6	32
7782-49-2	SELENIUM, TOTAL	0.374	J		MS	5	0.39	0.031	0.24
7440-22-4	SILVER, TOTAL	0.0817			MS	5	0.079	0.0051	0.032
7440-23-5	SODIUM, TOTAL	1280			MS	5	79	2.0	32
7440-28-0	THALLIUM, TOTAL	0.314			MS	5	0.079	0.0075	0.032
7440-62-2	VANADIUM, TOTAL	36.3			MS	5	0.39	0.087	0.32
7440-66-6	ZINC, TOTAL	46.4			MS	5	0.79	0.10	0.63

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** CHAAP-21B-DS-SB07-10

Matrix: SOIL **SDG Name:** SL4180

Percent Solids: 76.6 **Lab Sample ID:** SL4180-011

Concentration Units : mg/Kg drywt

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED LOQ	MDL	LOD
7429-90-5	ALUMINUM, TOTAL	20100			MS	5	8.7	0.44	3.5
7440-36-0	ANTIMONY, TOTAL	0.206			MS	5	0.087	0.017	0.044
7440-38-2	ARSENIC, TOTAL	6.25			MS	5	0.44	0.13	0.35
7440-39-3	BARIUM, TOTAL	219			MS	5	0.17	0.032	0.087
7440-41-7	BERYLLIUM, TOTAL	0.922			MS	5	0.087	0.0035	0.017
7440-43-9	CADMIUM, TOTAL	0.052	J		MS	5	0.087	0.0065	0.017
7440-70-2	CALCIUM, TOTAL	11600			MS	5	8.7	3.3	7.0
7440-47-3	CHROMIUM, TOTAL	20.6			MS	5	0.44	0.043	0.35
7440-48-4	COBALT, TOTAL	6.74			MS	5	0.087	0.0048	0.026
7440-50-8	COPPER, TOTAL	15.9		B	MS	5	0.26	0.061	0.17
7439-89-6	IRON, TOTAL	19000			MS	5	8.7	2.1	5.2
7439-92-1	LEAD, TOTAL	13.7			MS	5	0.087	0.0061	0.044
7439-95-4	MAGNESIUM, TOTAL	7530			MS	5	8.7	1.2	7.0
7439-96-5	MANGANESE, TOTAL	294			MS	5	0.17	0.037	0.087
7439-97-6	MERCURY, TOTAL	0.032			CV	1	0.029	0.0045	0.015
7440-02-0	NICKEL, TOTAL	16.7			MS	5	0.17	0.023	0.10
7440-09-7	POTASSIUM, TOTAL	3830			MS	5	87	4.0	35
7782-49-2	SELENIUM, TOTAL	0.442			MS	5	0.44	0.034	0.26
7440-22-4	SILVER, TOTAL	0.0958			MS	5	0.087	0.0057	0.035
7440-23-5	SODIUM, TOTAL	1020			MS	5	87	2.2	35
7440-28-0	THALLIUM, TOTAL	0.332			MS	5	0.087	0.0083	0.035
7440-62-2	VANADIUM, TOTAL	44.3			MS	5	0.44	0.096	0.35
7440-66-6	ZINC, TOTAL	56.7			MS	5	0.87	0.11	0.70

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** CHAAP-21B-DS-SS08

Matrix: SOIL **SDG Name:** SL4180

Percent Solids: 87.1 **Lab Sample ID:** SL4180-012

Concentration Units : mg/Kg drywt

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED LOQ	ADJUSTED MDL	ADJUSTED LOD
7429-90-5	ALUMINUM, TOTAL	12500			MS	5	9.0	0.45	3.6
7440-36-0	ANTIMONY, TOTAL	0.13			MS	5	0.090	0.018	0.045
7440-38-2	ARSENIC, TOTAL	2.92			MS	5	0.45	0.14	0.36
7440-39-3	BARIUM, TOTAL	137			MS	5	0.18	0.033	0.090
7440-41-7	BERYLLIUM, TOTAL	0.618			MS	5	0.090	0.0037	0.018
7440-43-9	CADMIUM, TOTAL	0.119			MS	5	0.090	0.0068	0.018
7440-70-2	CALCIUM, TOTAL	2360			MS	5	9.0	3.4	7.2
7440-47-3	CHROMIUM, TOTAL	13.3			MS	5	0.45	0.044	0.36
7440-48-4	COBALT, TOTAL	6.32			MS	5	0.090	0.0050	0.027
7440-50-8	COPPER, TOTAL	8.90		B	MS	5	0.27	0.063	0.18
7439-89-6	IRON, TOTAL	10600			MS	5	9.0	2.2	5.4
7439-92-1	LEAD, TOTAL	38.1			MS	5	0.090	0.0063	0.045
7439-95-4	MAGNESIUM, TOTAL	3010			MS	5	9.0	1.2	7.2
7439-96-5	MANGANESE, TOTAL	312			MS	5	0.18	0.038	0.090
7439-97-6	MERCURY, TOTAL	0.015	J		CV	1	0.037	0.0057	0.019
7440-02-0	NICKEL, TOTAL	9.42			MS	5	0.18	0.024	0.11
7440-09-7	POTASSIUM, TOTAL	3880			MS	5	90	4.1	36
7782-49-2	SELENIUM, TOTAL	0.626			MS	5	0.45	0.035	0.27
7440-22-4	SILVER, TOTAL	0.0635	J		MS	5	0.090	0.0059	0.036
7440-23-5	SODIUM, TOTAL	190			MS	5	90	2.3	36
7440-28-0	THALLIUM, TOTAL	0.234			MS	5	0.090	0.0086	0.036
7440-62-2	VANADIUM, TOTAL	25.5			MS	5	0.45	0.099	0.36
7440-66-6	ZINC, TOTAL	36.3			MS	5	0.90	0.12	0.72

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** CHAAP-21B-DS-SB08-5

Matrix: SOIL **SDG Name:** SL4180

Percent Solids: 80.4 **Lab Sample ID:** SL4180-013

Concentration Units : mg/Kg drywt

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED LOQ	ADJUSTED MDL	ADJUSTED LOD
7429-90-5	ALUMINUM, TOTAL	19700			MS	5	10	0.51	4.0
7440-36-0	ANTIMONY, TOTAL	0.237			MS	5	0.10	0.020	0.050
7440-38-2	ARSENIC, TOTAL	6.34			MS	5	0.50	0.15	0.40
7440-39-3	BARIUM, TOTAL	263			MS	5	0.20	0.037	0.10
7440-41-7	BERYLLIUM, TOTAL	0.878			MS	5	0.10	0.0041	0.020
7440-43-9	CADMIUM, TOTAL	0.072	J		MS	5	0.10	0.0076	0.020
7440-70-2	CALCIUM, TOTAL	39700			MS	5	10	3.8	8.1
7440-47-3	CHROMIUM, TOTAL	19.2			MS	5	0.50	0.050	0.40
7440-48-4	COBALT, TOTAL	8.67			MS	5	0.10	0.0056	0.030
7440-50-8	COPPER, TOTAL	12.6		B	MS	5	0.30	0.071	0.20
7439-89-6	IRON, TOTAL	17400			MS	5	10	2.4	6.1
7439-92-1	LEAD, TOTAL	12.5			MS	5	0.10	0.0071	0.050
7439-95-4	MAGNESIUM, TOTAL	8160			MS	5	10	1.4	8.1
7439-96-5	MANGANESE, TOTAL	454			MS	5	0.20	0.042	0.10
7439-97-6	MERCURY, TOTAL	0.016	J		CV	1	0.038	0.0058	0.019
7440-02-0	NICKEL, TOTAL	19.0			MS	5	0.20	0.027	0.12
7440-09-7	POTASSIUM, TOTAL	5200			MS	5	100	4.6	40
7782-49-2	SELENIUM, TOTAL	0.450	J		MS	5	0.50	0.039	0.30
7440-22-4	SILVER, TOTAL	0.0840	J		MS	5	0.10	0.0066	0.040
7440-23-5	SODIUM, TOTAL	1670			MS	5	100	2.6	40
7440-28-0	THALLIUM, TOTAL	0.333			MS	5	0.10	0.0096	0.040
7440-62-2	VANADIUM, TOTAL	43.6			MS	5	0.50	0.11	0.40
7440-66-6	ZINC, TOTAL	46.4			MS	5	1.0	0.13	0.81

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** CHAAP-21B-DS-SS09

Matrix: SOIL **SDG Name:** SL4180

Percent Solids: 82.9 **Lab Sample ID:** SL4180-014

Concentration Units : mg/Kg drywt

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED LOQ	ADJUSTED MDL	ADJUSTED LOD
7429-90-5	ALUMINUM, TOTAL	17600			MS	5	11	0.54	4.3
7440-36-0	ANTIMONY, TOTAL	0.18			MS	5	0.11	0.022	0.054
7440-38-2	ARSENIC, TOTAL	3.21			MS	5	0.54	0.16	0.43
7440-39-3	BARIUM, TOTAL	204			MS	5	0.22	0.040	0.11
7440-41-7	BERYLLIUM, TOTAL	0.784			MS	5	0.11	0.0044	0.022
7440-43-9	CADMIUM, TOTAL	0.0826	J		MS	5	0.11	0.0082	0.022
7440-70-2	CALCIUM, TOTAL	2100			MS	5	11	4.1	8.7
7440-47-3	CHROMIUM, TOTAL	16.9			MS	5	0.54	0.053	0.43
7440-48-4	COBALT, TOTAL	6.47			MS	5	0.11	0.0060	0.033
7440-50-8	COPPER, TOTAL	11.2		B	MS	5	0.33	0.076	0.22
7439-89-6	IRON, TOTAL	13500			MS	5	11	2.6	6.5
7439-92-1	LEAD, TOTAL	15.9			MS	5	0.11	0.0076	0.054
7439-95-4	MAGNESIUM, TOTAL	4770			MS	5	11	1.5	8.7
7439-96-5	MANGANESE, TOTAL	252			MS	5	0.22	0.046	0.11
7439-97-6	MERCURY, TOTAL	0.024	J		CV	1	0.030	0.0046	0.015
7440-02-0	NICKEL, TOTAL	12.8			MS	5	0.22	0.029	0.13
7440-09-7	POTASSIUM, TOTAL	5610			MS	5	110	4.9	43
7782-49-2	SELENIUM, TOTAL	0.560			MS	5	0.54	0.042	0.33
7440-22-4	SILVER, TOTAL	0.066	J		MS	5	0.11	0.0071	0.043
7440-23-5	SODIUM, TOTAL	343			MS	5	110	2.8	43
7440-28-0	THALLIUM, TOTAL	0.264			MS	5	0.11	0.010	0.043
7440-62-2	VANADIUM, TOTAL	31.2			MS	5	0.54	0.12	0.43
7440-66-6	ZINC, TOTAL	45.4			MS	5	1.1	0.14	0.87

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** CHAAP-21B-DS-SB09-5

Matrix: SOIL **SDG Name:** SL4180

Percent Solids: 80.2 **Lab Sample ID:** SL4180-015

Concentration Units : mg/Kg drywt

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED LOQ	MDL	LOD
7429-90-5	ALUMINUM, TOTAL	20100			MS	5	6.4	0.32	2.6
7440-36-0	ANTIMONY, TOTAL	0.190			MS	5	0.064	0.013	0.032
7440-38-2	ARSENIC, TOTAL	5.02			MS	5	0.32	0.096	0.26
7440-39-3	BARIUM, TOTAL	185			MS	5	0.13	0.023	0.064
7440-41-7	BERYLLIUM, TOTAL	0.874			MS	5	0.064	0.0026	0.013
7440-43-9	CADMIUM, TOTAL	0.013	U		MS	5	0.064	0.0048	0.013
7440-70-2	CALCIUM, TOTAL	14300			MS	5	6.4	2.4	5.1
7440-47-3	CHROMIUM, TOTAL	20.6			MS	5	0.32	0.031	0.26
7440-48-4	COBALT, TOTAL	8.24			MS	5	0.064	0.0035	0.019
7440-50-8	COPPER, TOTAL	12.9		B	MS	5	0.19	0.045	0.13
7439-89-6	IRON, TOTAL	18100			MS	5	6.4	1.5	3.8
7439-92-1	LEAD, TOTAL	14.5			MS	5	0.064	0.0045	0.032
7439-95-4	MAGNESIUM, TOTAL	9110			MS	5	6.4	0.87	5.1
7439-96-5	MANGANESE, TOTAL	345			MS	5	0.13	0.027	0.064
7439-97-6	MERCURY, TOTAL	0.016	J		CV	1	0.039	0.0060	0.020
7440-02-0	NICKEL, TOTAL	17.4			MS	5	0.13	0.017	0.077
7440-09-7	POTASSIUM, TOTAL	4930			MS	5	64	2.9	26
7782-49-2	SELENIUM, TOTAL	0.442			MS	5	0.32	0.025	0.19
7440-22-4	SILVER, TOTAL	0.0763			MS	5	0.064	0.0042	0.026
7440-23-5	SODIUM, TOTAL	1970			MS	5	64	1.6	26
7440-28-0	THALLIUM, TOTAL	0.307			MS	5	0.064	0.0061	0.026
7440-62-2	VANADIUM, TOTAL	42.1			MS	5	0.32	0.071	0.26
7440-66-6	ZINC, TOTAL	46.2			MS	5	0.64	0.084	0.51

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** CHAAP-21B-DS-SS11

Matrix: SOIL **SDG Name:** SL4180

Percent Solids: 82.5 **Lab Sample ID:** SL4180-016

Concentration Units : mg/Kg drywt

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED LOQ	MDL	LOD
7429-90-5	ALUMINUM, TOTAL	21100			MS	5	7.7	0.38	3.1
7440-36-0	ANTIMONY, TOTAL	0.186			MS	5	0.077	0.015	0.038
7440-38-2	ARSENIC, TOTAL	4.59			MS	5	0.38	0.12	0.31
7440-39-3	BARIUM, TOTAL	188			MS	5	0.15	0.028	0.077
7440-41-7	BERYLLIUM, TOTAL	0.895			MS	5	0.077	0.0031	0.015
7440-43-9	CADMIUM, TOTAL	0.043	J		MS	5	0.077	0.0058	0.015
7440-70-2	CALCIUM, TOTAL	3090			MS	5	7.7	2.9	6.1
7440-47-3	CHROMIUM, TOTAL	19.0			MS	5	0.38	0.038	0.31
7440-48-4	COBALT, TOTAL	7.56			MS	5	0.077	0.0042	0.023
7440-50-8	COPPER, TOTAL	12.3		B	MS	5	0.23	0.054	0.15
7439-89-6	IRON, TOTAL	16300			MS	5	7.7	1.8	4.6
7439-92-1	LEAD, TOTAL	12.9			MS	5	0.077	0.0054	0.038
7439-95-4	MAGNESIUM, TOTAL	5600			MS	5	7.7	1.0	6.1
7439-96-5	MANGANESE, TOTAL	364			MS	5	0.15	0.032	0.077
7439-97-6	MERCURY, TOTAL	0.016	J		CV	1	0.030	0.0046	0.015
7440-02-0	NICKEL, TOTAL	14.8			MS	5	0.15	0.020	0.092
7440-09-7	POTASSIUM, TOTAL	5290			MS	5	77	3.5	31
7782-49-2	SELENIUM, TOTAL	0.587			MS	5	0.38	0.030	0.23
7440-22-4	SILVER, TOTAL	0.0850			MS	5	0.077	0.0050	0.031
7440-23-5	SODIUM, TOTAL	163			MS	5	77	2.0	31
7440-28-0	THALLIUM, TOTAL	0.312			MS	5	0.077	0.0073	0.031
7440-62-2	VANADIUM, TOTAL	37.0			MS	5	0.38	0.084	0.31
7440-66-6	ZINC, TOTAL	49.3			MS	5	0.77	0.100	0.61

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** CHAAP-21B-DS-SS111

Matrix: SOIL **SDG Name:** SL4180

Percent Solids: 80.4 **Lab Sample ID:** SL4180-017

Concentration Units : mg/Kg drywt

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED LOQ	ADJUSTED MDL	ADJUSTED LOD
7429-90-5	ALUMINUM, TOTAL	23300			MS	5	9.9	0.49	3.9
7440-36-0	ANTIMONY, TOTAL	0.233			MS	5	0.099	0.020	0.049
7440-38-2	ARSENIC, TOTAL	5.52			MS	5	0.49	0.15	0.39
7440-39-3	BARIUM, TOTAL	226			MS	5	0.20	0.036	0.099
7440-41-7	BERYLLIUM, TOTAL	1.03			MS	5	0.099	0.0040	0.020
7440-43-9	CADMIUM, TOTAL	0.018	J		MS	5	0.099	0.0074	0.020
7440-70-2	CALCIUM, TOTAL	3420			MS	5	9.9	3.8	7.9
7440-47-3	CHROMIUM, TOTAL	20.4			MS	5	0.49	0.048	0.39
7440-48-4	COBALT, TOTAL	8.51			MS	5	0.099	0.0054	0.030
7440-50-8	COPPER, TOTAL	13.9		B	MS	5	0.30	0.069	0.20
7439-89-6	IRON, TOTAL	17600			MS	5	9.9	2.4	5.9
7439-92-1	LEAD, TOTAL	14.2			MS	5	0.099	0.0069	0.049
7439-95-4	MAGNESIUM, TOTAL	7290			MS	5	9.9	1.3	7.9
7439-96-5	MANGANESE, TOTAL	346			MS	5	0.20	0.041	0.099
7439-97-6	MERCURY, TOTAL	0.019	J		CV	1	0.030	0.0046	0.015
7440-02-0	NICKEL, TOTAL	17.2			MS	5	0.20	0.026	0.12
7440-09-7	POTASSIUM, TOTAL	5950			MS	5	99	4.5	39
7782-49-2	SELENIUM, TOTAL	0.620			MS	5	0.49	0.038	0.30
7440-22-4	SILVER, TOTAL	0.0902	J		MS	5	0.099	0.0064	0.039
7440-23-5	SODIUM, TOTAL	182			MS	5	99	2.5	39
7440-28-0	THALLIUM, TOTAL	0.352			MS	5	0.099	0.0094	0.039
7440-62-2	VANADIUM, TOTAL	41.2			MS	5	0.49	0.11	0.39
7440-66-6	ZINC, TOTAL	53.1			MS	5	0.99	0.13	0.79

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** CHAAP-21B-DS-SB11-5

Matrix: SOIL **SDG Name:** SL4180

Percent Solids: 80.2 **Lab Sample ID:** SL4180-018

Concentration Units : mg/Kg drywt

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED LOQ	ADJUSTED MDL	ADJUSTED LOD
7429-90-5	ALUMINUM, TOTAL	19100		NA	MS	5	10	0.52	4.1
7440-36-0	ANTIMONY, TOTAL	0.244		N	MS	5	0.10	0.021	0.052
7440-38-2	ARSENIC, TOTAL	4.22			MS	5	0.52	0.15	0.41
7440-39-3	BARIUM, TOTAL	308		NA	MS	5	0.21	0.038	0.10
7440-41-7	BERYLLIUM, TOTAL	0.840			MS	5	0.10	0.0042	0.021
7440-43-9	CADMIUM, TOTAL	0.014	J		MS	5	0.10	0.0077	0.021
7440-70-2	CALCIUM, TOTAL	47300		NA	MS	5	10	3.9	8.2
7440-47-3	CHROMIUM, TOTAL	18.2			MS	5	0.52	0.051	0.41
7440-48-4	COBALT, TOTAL	7.40			MS	5	0.10	0.0057	0.031
7440-50-8	COPPER, TOTAL	12.3			MS	5	0.31	0.072	0.21
7439-89-6	IRON, TOTAL	16200		NEA	MS	5	10	2.5	6.2
7439-92-1	LEAD, TOTAL	10.3		A	MS	5	0.10	0.0072	0.052
7439-95-4	MAGNESIUM, TOTAL	9230		NEA	MS	5	10	1.4	8.2
7439-96-5	MANGANESE, TOTAL	280		NEA	MS	5	0.21	0.043	0.10
7439-97-6	MERCURY, TOTAL	0.024	J		CV	1	0.029	0.0045	0.015
7440-02-0	NICKEL, TOTAL	16.0		E	MS	5	0.21	0.027	0.12
7440-09-7	POTASSIUM, TOTAL	5080		N	MS	5	100	4.7	41
7782-49-2	SELENIUM, TOTAL	0.40	J		MS	5	0.52	0.040	0.31
7440-22-4	SILVER, TOTAL	0.0866	J		MS	5	0.10	0.0067	0.041
7440-23-5	SODIUM, TOTAL	1620			MS	5	100	2.6	41
7440-28-0	THALLIUM, TOTAL	0.304			MS	5	0.10	0.0098	0.041
7440-62-2	VANADIUM, TOTAL	38.8			MS	5	0.52	0.11	0.41
7440-66-6	ZINC, TOTAL	46.2		E	MS	5	1.0	0.13	0.82

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** CHAAP-21B-DS-SS10

Matrix: SOIL **SDG Name:** SL4180

Percent Solids: 69.5 **Lab Sample ID:** SL4180-019

Concentration Units : mg/Kg drywt

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED LOQ	ADJUSTED MDL	ADJUSTED LOD
7429-90-5	ALUMINUM, TOTAL	27600			MS	5	12	0.62	5.0
7440-36-0	ANTIMONY, TOTAL	0.295			MS	5	0.12	0.025	0.062
7440-38-2	ARSENIC, TOTAL	4.82			MS	5	0.62	0.19	0.50
7440-39-3	BARIUM, TOTAL	345			MS	5	0.25	0.045	0.12
7440-41-7	BERYLLIUM, TOTAL	1.19			MS	5	0.12	0.0050	0.025
7440-43-9	CADMIUM, TOTAL	0.131			MS	5	0.12	0.0093	0.025
7440-70-2	CALCIUM, TOTAL	3350			MS	5	12	4.7	9.9
7440-47-3	CHROMIUM, TOTAL	22.2			MS	5	0.62	0.061	0.50
7440-48-4	COBALT, TOTAL	8.27			MS	5	0.12	0.0068	0.037
7440-50-8	COPPER, TOTAL	14.2			MS	5	0.37	0.087	0.25
7439-89-6	IRON, TOTAL	21400			MS	5	12	3.0	7.4
7439-92-1	LEAD, TOTAL	15.7			MS	5	0.12	0.0087	0.062
7439-95-4	MAGNESIUM, TOTAL	6610			MS	5	12	1.7	9.9
7439-96-5	MANGANESE, TOTAL	326			MS	5	0.25	0.052	0.12
7439-97-6	MERCURY, TOTAL	0.024	J		CV	1	0.032	0.0050	0.016
7440-02-0	NICKEL, TOTAL	20.7			MS	5	0.25	0.033	0.15
7440-09-7	POTASSIUM, TOTAL	8000			MS	5	120	5.6	50
7782-49-2	SELENIUM, TOTAL	0.555	J		MS	5	0.62	0.048	0.37
7440-22-4	SILVER, TOTAL	0.100	J		MS	5	0.12	0.0081	0.050
7440-23-5	SODIUM, TOTAL	176			MS	5	120	3.2	50
7440-28-0	THALLIUM, TOTAL	0.363			MS	5	0.12	0.012	0.050
7440-62-2	VANADIUM, TOTAL	43.1			MS	5	0.62	0.14	0.50
7440-66-6	ZINC, TOTAL	65.6			MS	5	1.2	0.16	0.99

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** CHAAP-21B-DS-SB10-5

Matrix: SOIL **SDG Name:** SL4180

Percent Solids: 81.6 **Lab Sample ID:** SL4180-020

Concentration Units : mg/Kg drywt

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED LOQ	ADJUSTED MDL	ADJUSTED LOD
7429-90-5	ALUMINUM, TOTAL	18700			MS	5	12	0.60	4.8
7440-36-0	ANTIMONY, TOTAL	0.21			MS	5	0.12	0.024	0.060
7440-38-2	ARSENIC, TOTAL	4.45			MS	5	0.60	0.18	0.48
7440-39-3	BARIUM, TOTAL	527			MS	5	0.24	0.043	0.12
7440-41-7	BERYLLIUM, TOTAL	0.875			MS	5	0.12	0.0048	0.024
7440-43-9	CADMIUM, TOTAL	0.024	U		MS	5	0.12	0.0089	0.024
7440-70-2	CALCIUM, TOTAL	36900			MS	5	12	4.5	9.5
7440-47-3	CHROMIUM, TOTAL	19.1			MS	5	0.60	0.058	0.48
7440-48-4	COBALT, TOTAL	6.44			MS	5	0.12	0.0065	0.036
7440-50-8	COPPER, TOTAL	13.4			MS	5	0.36	0.083	0.24
7439-89-6	IRON, TOTAL	15700			MS	5	12	2.9	7.1
7439-92-1	LEAD, TOTAL	10.8			MS	5	0.12	0.0083	0.060
7439-95-4	MAGNESIUM, TOTAL	9980			MS	5	12	1.6	9.5
7439-96-5	MANGANESE, TOTAL	237			MS	5	0.24	0.050	0.12
7439-97-6	MERCURY, TOTAL	0.019	J		CV	1	0.032	0.0049	0.016
7440-02-0	NICKEL, TOTAL	15.4			MS	5	0.24	0.032	0.14
7440-09-7	POTASSIUM, TOTAL	5630			MS	5	120	5.4	48
7782-49-2	SELENIUM, TOTAL	0.504	J		MS	5	0.60	0.046	0.36
7440-22-4	SILVER, TOTAL	0.107	J		MS	5	0.12	0.0077	0.048
7440-23-5	SODIUM, TOTAL	530			MS	5	120	3.0	48
7440-28-0	THALLIUM, TOTAL	0.324			MS	5	0.12	0.011	0.048
7440-62-2	VANADIUM, TOTAL	35.7			MS	5	0.60	0.13	0.48
7440-66-6	ZINC, TOTAL	54.2			MS	5	1.2	0.15	0.95

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** CHAAP-21B-DS-SS04

Matrix: SOIL **SDG Name:** SL4180

Percent Solids: 73.6 **Lab Sample ID:** SL4180-021

Concentration Units : mg/Kg drywt

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED LOQ	ADJUSTED MDL	ADJUSTED LOD
7429-90-5	ALUMINUM, TOTAL	25800			MS	5	11	0.53	4.2
7440-36-0	ANTIMONY, TOTAL	0.265			MS	5	0.11	0.021	0.053
7440-38-2	ARSENIC, TOTAL	6.19			MS	5	0.53	0.16	0.42
7440-39-3	BARIUM, TOTAL	225			MS	5	0.21	0.039	0.11
7440-41-7	BERYLLIUM, TOTAL	1.26			MS	5	0.11	0.0043	0.021
7440-43-9	CADMIUM, TOTAL	0.029	J		MS	5	0.11	0.0080	0.021
7440-70-2	CALCIUM, TOTAL	3890			MS	5	11	4.0	8.5
7440-47-3	CHROMIUM, TOTAL	20.8			MS	5	0.53	0.052	0.42
7440-48-4	COBALT, TOTAL	8.76			MS	5	0.11	0.0058	0.032
7440-50-8	COPPER, TOTAL	15.8			MS	5	0.32	0.074	0.21
7439-89-6	IRON, TOTAL	20200			MS	5	11	2.5	6.4
7439-92-1	LEAD, TOTAL	15.7			MS	5	0.11	0.0074	0.053
7439-95-4	MAGNESIUM, TOTAL	9410			MS	5	11	1.4	8.5
7439-96-5	MANGANESE, TOTAL	205			MS	5	0.21	0.045	0.11
7439-97-6	MERCURY, TOTAL	0.022	J		CV	1	0.038	0.0059	0.019
7440-02-0	NICKEL, TOTAL	23.5			MS	5	0.21	0.028	0.13
7440-09-7	POTASSIUM, TOTAL	7880			MS	5	110	4.8	42
7782-49-2	SELENIUM, TOTAL	0.451	J		MS	5	0.53	0.041	0.32
7440-22-4	SILVER, TOTAL	0.0955	J		MS	5	0.11	0.0069	0.042
7440-23-5	SODIUM, TOTAL	275			MS	5	110	2.7	42
7440-28-0	THALLIUM, TOTAL	0.373			MS	5	0.11	0.010	0.042
7440-62-2	VANADIUM, TOTAL	36.3			MS	5	0.53	0.12	0.42
7440-66-6	ZINC, TOTAL	61.0			MS	5	1.1	0.14	0.85

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** CHAAP-21B-DS-SB04-5

Matrix: SOIL **SDG Name:** SL4180

Percent Solids: 73.6 **Lab Sample ID:** SL4180-022

Concentration Units : mg/Kg drywt

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED LOQ	ADJUSTED MDL	ADJUSTED LOD
7429-90-5	ALUMINUM, TOTAL	24700			MS	5	13	0.67	5.3
7440-36-0	ANTIMONY, TOTAL	0.19			MS	5	0.13	0.027	0.067
7440-38-2	ARSENIC, TOTAL	2.36			MS	5	0.67	0.20	0.53
7440-39-3	BARIUM, TOTAL	296			MS	5	0.27	0.049	0.13
7440-41-7	BERYLLIUM, TOTAL	1.11			MS	5	0.13	0.0054	0.027
7440-43-9	CADMIUM, TOTAL	0.265			MS	5	0.13	0.0100	0.027
7440-70-2	CALCIUM, TOTAL	25400			MS	5	13	5.1	11
7440-47-3	CHROMIUM, TOTAL	24.7			MS	5	0.67	0.065	0.53
7440-48-4	COBALT, TOTAL	10.4			MS	5	0.13	0.0073	0.040
7440-50-8	COPPER, TOTAL	17.9			MS	5	0.40	0.093	0.27
7439-89-6	IRON, TOTAL	21800			MS	5	13	3.2	8.0
7439-92-1	LEAD, TOTAL	16.5			MS	5	0.13	0.0093	0.067
7439-95-4	MAGNESIUM, TOTAL	10200			MS	5	13	1.8	11
7439-96-5	MANGANESE, TOTAL	803			MS	5	0.27	0.056	0.13
7439-97-6	MERCURY, TOTAL	0.018	J		CV	1	0.031	0.0048	0.016
7440-02-0	NICKEL, TOTAL	27.1			MS	5	0.27	0.035	0.16
7440-09-7	POTASSIUM, TOTAL	5170			MS	5	130	6.1	53
7782-49-2	SELENIUM, TOTAL	0.38	J		MS	5	0.67	0.052	0.40
7440-22-4	SILVER, TOTAL	0.087	J		MS	5	0.13	0.0087	0.053
7440-23-5	SODIUM, TOTAL	1410			MS	5	130	3.4	53
7440-28-0	THALLIUM, TOTAL	0.492			MS	5	0.13	0.013	0.053
7440-62-2	VANADIUM, TOTAL	45.0			MS	5	0.67	0.15	0.53
7440-66-6	ZINC, TOTAL	71.1			MS	5	1.3	0.17	1.1

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** CHAAP-21B-DS-SB04-10

Matrix: SOIL **SDG Name:** SL4180

Percent Solids: 77.8 **Lab Sample ID:** SL4180-023

Concentration Units : mg/Kg drywt

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED LOQ	MDL	LOD
7429-90-5	ALUMINUM, TOTAL	20200			MS	5	9.7	0.49	3.9
7440-36-0	ANTIMONY, TOTAL	0.18			MS	5	0.097	0.019	0.049
7440-38-2	ARSENIC, TOTAL	3.24			MS	5	0.49	0.15	0.39
7440-39-3	BARIUM, TOTAL	327			MS	5	0.19	0.036	0.097
7440-41-7	BERYLLIUM, TOTAL	0.906			MS	5	0.097	0.0039	0.019
7440-43-9	CADMIUM, TOTAL	0.153			MS	5	0.097	0.0073	0.019
7440-70-2	CALCIUM, TOTAL	15600			MS	5	9.7	3.7	7.8
7440-47-3	CHROMIUM, TOTAL	20.8			MS	5	0.49	0.048	0.39
7440-48-4	COBALT, TOTAL	18.8			MS	5	0.097	0.0054	0.029
7440-50-8	COPPER, TOTAL	15.1			MS	5	0.29	0.068	0.19
7439-89-6	IRON, TOTAL	18500			MS	5	9.7	2.3	5.8
7439-92-1	LEAD, TOTAL	15.2			MS	5	0.097	0.0068	0.049
7439-95-4	MAGNESIUM, TOTAL	9420			MS	5	9.7	1.3	7.8
7439-96-5	MANGANESE, TOTAL	728			MS	5	0.19	0.041	0.097
7439-97-6	MERCURY, TOTAL	0.017	J		CV	1	0.032	0.0050	0.016
7440-02-0	NICKEL, TOTAL	24.3			MS	5	0.19	0.026	0.12
7440-09-7	POTASSIUM, TOTAL	4990			MS	5	97	4.4	39
7782-49-2	SELENIUM, TOTAL	0.390	J		MS	5	0.49	0.038	0.29
7440-22-4	SILVER, TOTAL	0.0818	J		MS	5	0.097	0.0063	0.039
7440-23-5	SODIUM, TOTAL	1870			MS	5	97	2.5	39
7440-28-0	THALLIUM, TOTAL	0.360			MS	5	0.097	0.0093	0.039
7440-62-2	VANADIUM, TOTAL	38.3			MS	5	0.49	0.11	0.39
7440-66-6	ZINC, TOTAL	60.0			MS	5	0.97	0.13	0.78

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** CHAAP-21B-DS-SS03

Matrix: SOIL **SDG Name:** SL4180

Percent Solids: 80.7 **Lab Sample ID:** SL4180-024

Concentration Units : mg/Kg drywt

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED LOQ	ADJUSTED MDL	ADJUSTED LOD
7429-90-5	ALUMINUM, TOTAL	22400			MS	5	8.0	0.40	3.2
7440-36-0	ANTIMONY, TOTAL	0.240			MS	5	0.080	0.016	0.040
7440-38-2	ARSENIC, TOTAL	4.78			MS	5	0.40	0.12	0.32
7440-39-3	BARIUM, TOTAL	232			MS	5	0.16	0.029	0.080
7440-41-7	BERYLLIUM, TOTAL	1.06			MS	5	0.080	0.0032	0.016
7440-43-9	CADMIUM, TOTAL	0.043	J		MS	5	0.080	0.0060	0.016
7440-70-2	CALCIUM, TOTAL	10900			MS	5	8.0	3.0	6.4
7440-47-3	CHROMIUM, TOTAL	19.2			MS	5	0.40	0.039	0.32
7440-48-4	COBALT, TOTAL	7.62			MS	5	0.080	0.0044	0.024
7440-50-8	COPPER, TOTAL	13.7			MS	5	0.24	0.056	0.16
7439-89-6	IRON, TOTAL	17000			MS	5	8.0	1.9	4.8
7439-92-1	LEAD, TOTAL	17.4			MS	5	0.080	0.0056	0.040
7439-95-4	MAGNESIUM, TOTAL	8220			MS	5	8.0	1.1	6.4
7439-96-5	MANGANESE, TOTAL	260			MS	5	0.16	0.034	0.080
7439-97-6	MERCURY, TOTAL	0.022	J		CV	1	0.030	0.0047	0.015
7440-02-0	NICKEL, TOTAL	17.3			MS	5	0.16	0.021	0.096
7440-09-7	POTASSIUM, TOTAL	6480			MS	5	80	3.6	32
7782-49-2	SELENIUM, TOTAL	0.445			MS	5	0.40	0.031	0.24
7440-22-4	SILVER, TOTAL	0.0876			MS	5	0.080	0.0052	0.032
7440-23-5	SODIUM, TOTAL	268			MS	5	80	2.0	32
7440-28-0	THALLIUM, TOTAL	0.339			MS	5	0.080	0.0076	0.032
7440-62-2	VANADIUM, TOTAL	40.6			MS	5	0.40	0.088	0.32
7440-66-6	ZINC, TOTAL	53.1			MS	5	0.80	0.10	0.64

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** CHAAP-21B-DS-SS103

Matrix: SOIL **SDG Name:** SL4180

Percent Solids: 81.5 **Lab Sample ID:** SL4180-025

Concentration Units : mg/Kg drywt

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED LOQ	ADJUSTED MDL	ADJUSTED LOD
7429-90-5	ALUMINUM, TOTAL	21700			MS	5	8.3	0.41	3.3
7440-36-0	ANTIMONY, TOTAL	0.260			MS	5	0.083	0.017	0.041
7440-38-2	ARSENIC, TOTAL	4.61			MS	5	0.41	0.12	0.33
7440-39-3	BARIUM, TOTAL	329			MS	5	0.16	0.030	0.083
7440-41-7	BERYLLIUM, TOTAL	1.10			MS	5	0.083	0.0034	0.016
7440-43-9	CADMIUM, TOTAL	0.030	J		MS	5	0.083	0.0062	0.016
7440-70-2	CALCIUM, TOTAL	3930			MS	5	8.3	3.2	6.6
7440-47-3	CHROMIUM, TOTAL	18.5			MS	5	0.41	0.041	0.33
7440-48-4	COBALT, TOTAL	7.62			MS	5	0.083	0.0046	0.025
7440-50-8	COPPER, TOTAL	14.1			MS	5	0.25	0.058	0.16
7439-89-6	IRON, TOTAL	17000			MS	5	8.3	2.0	5.0
7439-92-1	LEAD, TOTAL	17.0			MS	5	0.083	0.0058	0.041
7439-95-4	MAGNESIUM, TOTAL	8600			MS	5	8.3	1.1	6.6
7439-96-5	MANGANESE, TOTAL	260			MS	5	0.16	0.035	0.083
7439-97-6	MERCURY, TOTAL	0.014	J		CV	1	0.039	0.0060	0.020
7440-02-0	NICKEL, TOTAL	18.2			MS	5	0.16	0.022	0.10
7440-09-7	POTASSIUM, TOTAL	6300			MS	5	83	3.8	33
7782-49-2	SELENIUM, TOTAL	0.389	J		MS	5	0.41	0.032	0.25
7440-22-4	SILVER, TOTAL	0.0942			MS	5	0.083	0.0054	0.033
7440-23-5	SODIUM, TOTAL	266			MS	5	83	2.1	33
7440-28-0	THALLIUM, TOTAL	0.358			MS	5	0.083	0.0079	0.033
7440-62-2	VANADIUM, TOTAL	37.0			MS	5	0.41	0.091	0.33
7440-66-6	ZINC, TOTAL	53.0			MS	5	0.83	0.11	0.66

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** CHAAP-21B-DS-SB03-5

Matrix: SOIL **SDG Name:** SL4180

Percent Solids: 77.9 **Lab Sample ID:** SL4180-026

Concentration Units : mg/Kg drywt

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED LOQ	ADJUSTED MDL	ADJUSTED LOD
7429-90-5	ALUMINUM, TOTAL	18000			MS	5	10	0.51	4.1
7440-36-0	ANTIMONY, TOTAL	0.242			MS	5	0.10	0.020	0.051
7440-38-2	ARSENIC, TOTAL	5.19			MS	5	0.51	0.15	0.41
7440-39-3	BARIUM, TOTAL	281			MS	5	0.20	0.037	0.10
7440-41-7	BERYLLIUM, TOTAL	0.861			MS	5	0.10	0.0041	0.020
7440-43-9	CADMIUM, TOTAL	0.186			MS	5	0.10	0.0076	0.020
7440-70-2	CALCIUM, TOTAL	21000			MS	5	10	3.9	8.1
7440-47-3	CHROMIUM, TOTAL	22.3			MS	5	0.51	0.050	0.41
7440-48-4	COBALT, TOTAL	9.05			MS	5	0.10	0.0056	0.030
7440-50-8	COPPER, TOTAL	20.8			MS	5	0.30	0.071	0.20
7439-89-6	IRON, TOTAL	22100			MS	5	10	2.4	6.1
7439-92-1	LEAD, TOTAL	12.4			MS	5	0.10	0.0071	0.051
7439-95-4	MAGNESIUM, TOTAL	8740			MS	5	10	1.4	8.1
7439-96-5	MANGANESE, TOTAL	466			MS	5	0.20	0.043	0.10
7439-97-6	MERCURY, TOTAL	0.023	J		CV	1	0.031	0.0048	0.016
7440-02-0	NICKEL, TOTAL	19.7			MS	5	0.20	0.027	0.12
7440-09-7	POTASSIUM, TOTAL	3920			MS	5	100	4.6	41
7782-49-2	SELENIUM, TOTAL	0.439	J		MS	5	0.51	0.040	0.30
7440-22-4	SILVER, TOTAL	0.0774	J		MS	5	0.10	0.0066	0.041
7440-23-5	SODIUM, TOTAL	1050			MS	5	100	2.6	41
7440-28-0	THALLIUM, TOTAL	0.305			MS	5	0.10	0.0097	0.041
7440-62-2	VANADIUM, TOTAL	41.5			MS	5	0.51	0.11	0.41
7440-66-6	ZINC, TOTAL	55.0			MS	5	1.0	0.13	0.81

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** CHAAP-21B-DS-SB03-10

Matrix: SOIL **SDG Name:** SL4180

Percent Solids: 72.9 **Lab Sample ID:** SL4180-027

Concentration Units : mg/Kg drywt

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED LOQ	ADJUSTED MDL	ADJUSTED LOD
7429-90-5	ALUMINUM, TOTAL	21700			MS	5	10	0.51	4.1
7440-36-0	ANTIMONY, TOTAL	0.17			MS	5	0.10	0.020	0.051
7440-38-2	ARSENIC, TOTAL	5.12			MS	5	0.51	0.15	0.41
7440-39-3	BARIUM, TOTAL	274			MS	5	0.20	0.037	0.10
7440-41-7	BERYLLIUM, TOTAL	1.01			MS	5	0.10	0.0041	0.020
7440-43-9	CADMIUM, TOTAL	0.147			MS	5	0.10	0.0076	0.020
7440-70-2	CALCIUM, TOTAL	14500			MS	5	10	3.9	8.1
7440-47-3	CHROMIUM, TOTAL	23.0			MS	5	0.51	0.050	0.41
7440-48-4	COBALT, TOTAL	11.1			MS	5	0.10	0.0056	0.030
7440-50-8	COPPER, TOTAL	15.9			MS	5	0.30	0.071	0.20
7439-89-6	IRON, TOTAL	21100			MS	5	10	2.4	6.1
7439-92-1	LEAD, TOTAL	11.6			MS	5	0.10	0.0071	0.051
7439-95-4	MAGNESIUM, TOTAL	9490			MS	5	10	1.4	8.1
7439-96-5	MANGANESE, TOTAL	335			MS	5	0.20	0.043	0.10
7439-97-6	MERCURY, TOTAL	0.019	J		CV	1	0.034	0.0053	0.017
7440-02-0	NICKEL, TOTAL	20.5			MS	5	0.20	0.027	0.12
7440-09-7	POTASSIUM, TOTAL	4420			MS	5	100	4.6	41
7782-49-2	SELENIUM, TOTAL	0.416	J		MS	5	0.51	0.040	0.30
7440-22-4	SILVER, TOTAL	0.0897	J		MS	5	0.10	0.0066	0.041
7440-23-5	SODIUM, TOTAL	773			MS	5	100	2.6	41
7440-28-0	THALLIUM, TOTAL	0.345			MS	5	0.10	0.0097	0.041
7440-62-2	VANADIUM, TOTAL	44.8			MS	5	0.51	0.11	0.41
7440-66-6	ZINC, TOTAL	66.4			MS	5	1.0	0.13	0.81

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** CHAAP-EB-051418

Matrix: WATER **SDG Name:** SL4180

Percent Solids: 0.00 **Lab Sample ID:** SL4180-029

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED LOQ	ADJUSTED MDL	ADJUSTED LOD
7429-90-5	ALUMINUM, TOTAL	18	J		MS	5	100	4.4	40
7440-36-0	ANTIMONY, TOTAL	0.45	J		MS	5	1.0	0.055	0.50
7440-38-2	ARSENIC, TOTAL	4.0	U		MS	5	5.0	2.3	4.0
7440-39-3	BARIUM, TOTAL	1.0	U		MS	5	2.0	0.27	1.0
7440-41-7	BERYLLIUM, TOTAL	0.20	U		MS	5	1.0	0.034	0.20
7440-43-9	CADMIUM, TOTAL	0.20	U		MS	5	1.0	0.029	0.20
7440-70-2	CALCIUM, TOTAL	52	J		MS	5	100	21	80
7440-47-3	CHROMIUM, TOTAL	0.95	J		MS	5	5.0	0.22	4.0
7440-48-4	COBALT, TOTAL	0.30	U		MS	5	1.0	0.060	0.30
7440-50-8	COPPER, TOTAL	0.89	J		MS	5	3.0	0.19	2.0
7439-89-6	IRON, TOTAL	48	J		MS	5	100	13	60
7439-92-1	LEAD, TOTAL	0.20	J		MS	5	1.0	0.075	0.50
7439-95-4	MAGNESIUM, TOTAL	15	J		MS	5	100	8.0	80
7439-96-5	MANGANESE, TOTAL	0.50	J		MS	5	2.0	0.35	1.0
7439-97-6	MERCURY, TOTAL	0.10	U		CV	1	0.20	0.013	0.10
7440-02-0	NICKEL, TOTAL	0.34	J		MS	5	2.0	0.15	1.2
7440-09-7	POTASSIUM, TOTAL	45	J		MS	5	1000	31	400
7782-49-2	SELENIUM, TOTAL	0.34	J		MS	5	5.0	0.19	3.0
7440-22-4	SILVER, TOTAL	0.40	U		MS	5	1.0	0.050	0.40
7440-23-5	SODIUM, TOTAL	38	J		MS	5	1000	19	400
7440-28-0	THALLIUM, TOTAL	0.40	U		MS	5	1.0	0.060	0.40
7440-62-2	VANADIUM, TOTAL	4.0	U		MS	5	5.0	0.50	4.0
7440-66-6	ZINC, TOTAL	8.0	U		MS	5	10	3.9	8.0

Comments:

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Concentration Units: ug/L

SAMPLE: ICV

File: HLE17A May 17, 2018 12:47

Analyte	True	Found	%R (1)
MERCURY	6.0	6.59	109.8

SAMPLE: CCV

File: HLE17A May 17, 2018 12:54

Analyte	True	Found	%R (1)
MERCURY	5.0	5.04	100.8

(1) Control Limits: Mercury 80-120; Other Metals 90-110

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Concentration Units: ug/L

SAMPLE: CCV

File: HLE17A May 17, 2018 13:17

Analyte	True	Found	%R (1)
MERCURY	5.0	5.05	101.0

SAMPLE: CCV

File: HLE17A May 17, 2018 13:43

Analyte	True	Found	%R (1)
MERCURY	5.0	5.16	103.2

(1) Control Limits: Mercury 80-120; Other Metals 90-110

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Concentration Units: ug/L

SAMPLE: ICV

File: HLE21A May 21, 2018 11:30

Analyte	True	Found	%R (1)
MERCURY	6.0	6.42	107.0

SAMPLE: CCV

File: HLE21A May 21, 2018 11:36

Analyte	True	Found	%R (1)
MERCURY	5.0	5.09	101.8

(1) Control Limits: Mercury 80-120; Other Metals 90-110

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Concentration Units: ug/L

SAMPLE: CCV

File: HLE21A May 21, 2018 12:00

Analyte	True	Found	%R (1)
MERCURY	5.0	5.12	102.4

SAMPLE: CCV

File: HLE21A May 21, 2018 12:25

Analyte	True	Found	%R (1)
MERCURY	5.0	5.03	100.6

(1) Control Limits: Mercury 80-120; Other Metals 90-110

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Concentration Units: ug/L

SAMPLE: CCV

File: HLE21A May 21, 2018 12:51

Analyte	True	Found	%R (1)
MERCURY	5.0	4.59	91.8

SAMPLE: CCV

File: HLE21A May 21, 2018 13:17

Analyte	True	Found	%R (1)
MERCURY	5.0	4.48	89.6

(1) Control Limits: Mercury 80-120; Other Metals 90-110

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Concentration Units: ug/L

SAMPLE: CCV

File: HLE21A May 21, 2018 13:45

Analyte	True	Found	%R (1)
MERCURY	5.0	4.50	90.0

SAMPLE: CCV

File: HLE21A May 21, 2018 14:11

Analyte	True	Found	%R (1)
MERCURY	5.0	4.50	90.0

(1) Control Limits: Mercury 80-120; Other Metals 90-110

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Concentration Units: ug/L

SAMPLE: CCV

File: HLE21A May 21, 2018 14:39

Analyte	True	Found	%R (1)
MERCURY	5.0	5.01	100.2

SAMPLE: CCV

File: HLE21A May 21, 2018 15:05

Analyte	True	Found	%R (1)
MERCURY	5.0	4.84	96.8

(1) Control Limits: Mercury 80-120; Other Metals 90-110

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Concentration Units: ug/L

SAMPLE: CCV

File: HLE21A May 21, 2018 15:16

Analyte	True	Found	%R (1)
MERCURY	5.0	4.71	94.2

(1) Control Limits: Mercury 80-120; Other Metals 90-110

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Concentration Units: ug/L

SAMPLE: ICV

File: JLE21C May 21, 2018 18:41

Analyte	True	Found	%R (1)
ALUMINUM	400.0	391.90	98.0
ANTIMONY	20.0	19.69	98.5
ARSENIC	20.0	19.57	97.9
BARIUM	20.0	19.33	96.6
BERYLLIUM	20.0	19.86	99.3
CADMIUM	20.0	20.18	100.9
CALCIUM	4000.0	4049.00	101.2
CHROMIUM	20.0	19.28	96.4
COBALT	20.0	19.75	98.8
IRON	4000.0	3974.00	99.4
LEAD	20.0	19.60	98.0
MAGNESIUM	4000.0	3971.00	99.3
MANGANESE	20.0	19.39	97.0
MOLYBDENUM	40.0	38.50	96.3
NICKEL	20.0	20.22	101.1
POTASSIUM	4000.0	3960.00	99.0
SILVER	20.0	20.19	101.0
SODIUM	4000.0	3949.00	98.7
THALLIUM	20.0	20.16	100.8
VANADIUM	20.0	19.25	96.3
ZINC	20.0	20.04	100.2

SAMPLE: CCV

File: JLE21C May 21, 2018 19:27

Analyte	True	Found	%R (1)
ALUMINUM	500.0	488.40	97.7
ANTIMONY	25.0	25.14	100.6
ARSENIC	25.0	24.81	99.2
BARIUM	25.0	24.98	99.9
BERYLLIUM	25.0	25.58	102.3
CADMIUM	25.0	25.63	102.5
CALCIUM	5000.0	5073.00	101.5
CHROMIUM	25.0	24.38	97.5
COBALT	25.0	25.02	100.1
IRON	5000.0	4926.00	98.5
LEAD	25.0	24.87	99.5
MAGNESIUM	5000.0	4955.00	99.1
MANGANESE	25.0	24.58	98.3
MOLYBDENUM	25.0	25.09	100.4
NICKEL	25.0	25.38	101.5
POTASSIUM	5000.0	4868.00	97.4
SILVER	25.0	25.91	103.6
SODIUM	5000.0	4836.00	96.7
THALLIUM	25.0	25.00	100.0
VANADIUM	25.0	24.44	97.8
ZINC	25.0	25.29	101.2

(1) Control Limits: Mercury 80-120; Other Metals 90-110

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Concentration Units: ug/L

SAMPLE: CCV

File: JLE21C May 21, 2018 20:17

Analyte	True	Found	%R (1)
ALUMINUM	500.0	490.70	98.1
ANTIMONY	25.0	24.67	98.7
ARSENIC	25.0	24.72	98.9
BARIUM	25.0	24.76	99.0
BERYLLIUM	25.0	25.39	101.6
CADMIUM	25.0	26.46	105.8
CALCIUM	5000.0	5054.00	101.1
CHROMIUM	25.0	24.22	96.9
COBALT	25.0	24.79	99.2
IRON	5000.0	4889.00	97.8
LEAD	25.0	24.92	99.7
MAGNESIUM	5000.0	4915.00	98.3
MANGANESE	25.0	24.36	97.4
MOLYBDENUM	25.0	25.51	102.0
NICKEL	25.0	25.51	102.0
POTASSIUM	5000.0	5009.00	100.2
SILVER	25.0	26.40	105.6
SODIUM	5000.0	4868.00	97.4
THALLIUM	25.0	24.88	99.5
VANADIUM	25.0	23.85	95.4
ZINC	25.0	25.35	101.4

SAMPLE: CCV

File: JLE21C May 21, 2018 21:07

Analyte	True	Found	%R (1)
ALUMINUM	500.0	499.70	99.9
ANTIMONY	25.0	25.54	102.2
ARSENIC	25.0	25.31	101.2
BARIUM	25.0	25.05	100.2
BERYLLIUM	25.0	25.12	100.5
CADMIUM	25.0	25.47	101.9
CALCIUM	5000.0	5135.00	102.7
CHROMIUM	25.0	25.17	100.7
COBALT	25.0	25.31	101.2
IRON	5000.0	5062.00	101.2
LEAD	25.0	25.14	100.6
MAGNESIUM	5000.0	5025.00	100.5
MANGANESE	25.0	25.34	101.4
MOLYBDENUM	25.0	24.85	99.4
NICKEL	25.0	25.69	102.8
POTASSIUM	5000.0	4936.00	98.7
SILVER	25.0	25.50	102.0
SODIUM	5000.0	4980.00	99.6
THALLIUM	25.0	25.27	101.1
VANADIUM	25.0	25.13	100.5
ZINC	25.0	25.52	102.1

(1) Control Limits: Mercury 80-120; Other Metals 90-110

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Concentration Units: ug/L

SAMPLE: CCV

File: JLE21C May 21, 2018 21:58

Analyte	True	Found	%R (1)
ALUMINUM	500.0	498.30	99.7
ANTIMONY	25.0	25.61	102.4
ARSENIC	25.0	24.99	100.0
BARIUM	25.0	25.41	101.6
BERYLLIUM	25.0	25.20	100.8
CADMIUM	25.0	24.60	98.4
CALCIUM	5000.0	5087.00	101.7
CHROMIUM	25.0	25.31	101.2
COBALT	25.0	25.30	101.2
IRON	5000.0	5050.00	101.0
LEAD	25.0	24.81	99.2
MAGNESIUM	5000.0	5064.00	101.3
MANGANESE	25.0	25.40	101.6
MOLYBDENUM	25.0	24.28	97.1
NICKEL	25.0	25.51	102.0
POTASSIUM	5000.0	4979.00	99.6
SILVER	25.0	24.82	99.3
SODIUM	5000.0	5059.00	101.2
THALLIUM	25.0	24.73	98.9
VANADIUM	25.0	25.00	100.0
ZINC	25.0	25.07	100.3

SAMPLE: CCV

File: JLE21C May 21, 2018 22:49

Analyte	True	Found	%R (1)
ALUMINUM	500.0	509.50	101.9
ANTIMONY	25.0	25.53	102.1
ARSENIC	25.0	25.51	102.0
BARIUM	25.0	25.36	101.4
BERYLLIUM	25.0	25.25	101.0
CADMIUM	25.0	24.60	98.4
CALCIUM	5000.0	5152.00	103.0
CHROMIUM	25.0	25.55	102.2
COBALT	25.0	25.60	102.4
IRON	5000.0	5092.00	101.8
LEAD	25.0	24.95	99.8
MAGNESIUM	5000.0	5148.00	103.0
MANGANESE	25.0	25.73	102.9
MOLYBDENUM	25.0	24.47	97.9
NICKEL	25.0	26.04	104.2
POTASSIUM	5000.0	4929.00	98.6
SILVER	25.0	24.83	99.3
SODIUM	5000.0	5011.00	100.2
THALLIUM	25.0	25.14	100.6
VANADIUM	25.0	25.46	101.8
ZINC	25.0	25.28	101.1

(1) Control Limits: Mercury 80-120; Other Metals 90-110

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Concentration Units: ug/L

SAMPLE: CCV

File: JLE21C May 21, 2018 23:41

Analyte	True	Found	%R (1)
ALUMINUM	500.0	512.70	102.5
ANTIMONY	25.0	26.14	104.6
ARSENIC	25.0	25.37	101.5
BARIUM	25.0	26.01	104.0
BERYLLIUM	25.0	24.65	98.6
CADMIUM	25.0	23.91	95.6
CALCIUM	5000.0	5128.00	102.6
CHROMIUM	25.0	26.08	104.3
COBALT	25.0	25.89	103.6
IRON	5000.0	5176.00	103.5
LEAD	25.0	25.01	100.0
MAGNESIUM	5000.0	5037.00	100.7
MANGANESE	25.0	26.20	104.8
MOLYBDENUM	25.0	24.08	96.3
NICKEL	25.0	26.17	104.7
POTASSIUM	5000.0	4931.00	98.6
SILVER	25.0	24.32	97.3
SODIUM	5000.0	5010.00	100.2
THALLIUM	25.0	24.92	99.7
VANADIUM	25.0	26.13	104.5
ZINC	25.0	26.17	104.7

SAMPLE: CCV

File: JLE21C May 22, 2018 0:33

Analyte	True	Found	%R (1)
ALUMINUM	500.0	509.30	101.9
ANTIMONY	25.0	26.17	104.7
ARSENIC	25.0	25.27	101.1
BARIUM	25.0	26.06	104.2
BERYLLIUM	25.0	23.66	94.6
CADMIUM	25.0	23.13	92.5
CALCIUM	5000.0	5065.00	101.3
CHROMIUM	25.0	26.35	105.4
COBALT	25.0	26.07	104.3
IRON	5000.0	5192.00	103.8
LEAD	25.0	24.80	99.2
MAGNESIUM	5000.0	5085.00	101.7
MANGANESE	25.0	26.14	104.6
MOLYBDENUM	25.0	23.57	94.3
NICKEL	25.0	26.19	104.8
POTASSIUM	5000.0	4884.00	97.7
SILVER	25.0	23.42	93.7
SODIUM	5000.0	5061.00	101.2
THALLIUM	25.0	24.91	99.6
VANADIUM	25.0	26.25	105.0
ZINC	25.0	25.84	103.4

(1) Control Limits: Mercury 80-120; Other Metals 90-110

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Concentration Units: ug/L

SAMPLE: CCV

File: JLE21C May 22, 2018 1:25

Analyte	True	Found	%R (1)
ALUMINUM	500.0	507.50	101.5
ANTIMONY	25.0	26.34	105.4
ARSENIC	25.0	25.43	101.7
BARIUM	25.0	25.97	103.9
BERYLLIUM	25.0	23.85	95.4
CADMIUM	25.0	22.86	91.4
CALCIUM	5000.0	5129.00	102.6
CHROMIUM	25.0	26.94	107.8
COBALT	25.0	26.34	105.4
IRON	5000.0	5344.00	106.9
LEAD	25.0	24.82	99.3
MAGNESIUM	5000.0	5146.00	102.9
MANGANESE	25.0	26.59	106.4
MOLYBDENUM	25.0	23.43	93.7
NICKEL	25.0	26.53	106.1
POTASSIUM	5000.0	4932.00	98.6
SILVER	25.0	23.40	93.6
SODIUM	5000.0	5143.00	102.9
THALLIUM	25.0	25.02	100.1
VANADIUM	25.0	26.42	105.7
ZINC	25.0	26.32	105.3

SAMPLE: CCV

File: JLE21C May 22, 2018 2:17

Analyte	True	Found	%R (1)
ALUMINUM	500.0	528.10	105.6
ANTIMONY	25.0	27.04	108.2
ARSENIC	25.0	26.01	104.0
BARIUM	25.0	26.50	106.0
BERYLLIUM	25.0	24.11	96.4
CADMIUM	25.0	23.61	94.4
CALCIUM	5000.0	5273.00	105.5
CHROMIUM	25.0	26.96	107.8
COBALT	25.0	26.69	106.8
IRON	5000.0	5380.00	107.6
LEAD	25.0	25.33	101.3
MAGNESIUM	5000.0	5350.00	107.0
MANGANESE	25.0	26.91	107.6
MOLYBDENUM	25.0	24.12	96.5
NICKEL	25.0	27.04	108.2
POTASSIUM	5000.0	5000.00	100.0
SILVER	25.0	24.03	96.1
SODIUM	5000.0	5233.00	104.7
THALLIUM	25.0	25.22	100.9
VANADIUM	25.0	27.03	108.1
ZINC	25.0	26.61	106.4

(1) Control Limits: Mercury 80-120; Other Metals 90-110

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Concentration Units: ug/L

SAMPLE: CCV

File: JLE21C May 22, 2018 3:09

Analyte	True	Found	%R (1)
ALUMINUM	500.0	469.80	94.0
ANTIMONY	25.0	23.33	93.3
ARSENIC	25.0	24.32	97.3
BARIUM	25.0	23.50	94.0
BERYLLIUM	25.0	24.51	98.0
CADMIUM	25.0	29.36	117.4•
CALCIUM	5000.0	5073.00	101.5
CHROMIUM	25.0	23.63	94.5
COBALT	25.0	24.98	99.9
IRON	5000.0	4975.00	99.5
LEAD	25.0	25.15	100.6
MAGNESIUM	5000.0	4643.00	92.9
MANGANESE	25.0	24.79	99.2
MOLYBDENUM	25.0	28.73	114.9•
NICKEL	25.0	25.43	101.7
POTASSIUM	5000.0	4986.00	99.7
SILVER	25.0	29.79	119.2•
SODIUM	5000.0	4583.00	91.7
THALLIUM	25.0	24.85	99.4
VANADIUM	25.0	23.45	93.8
ZINC	25.0	26.29	105.2

(1) Control Limits: Mercury 80-120; Other Metals 90-110

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Concentration Units: ug/L

SAMPLE: ICV

File: JLE22A May 22, 2018 14:43

Analyte	True	Found	%R (1)
ALUMINUM	400.0	407.00	101.8
ARSENIC	20.0	19.46	97.3
BERYLLIUM	20.0	19.27	96.4
CADMIUM	20.0	19.67	98.4
CALCIUM	4000.0	3991.00	99.8
CHROMIUM	20.0	19.09	95.5
COBALT	20.0	19.83	99.1
COPPER	20.0	19.40	97.0
IRON	4000.0	3861.00	96.5
MAGNESIUM	4000.0	4026.00	100.6
MANGANESE	20.0	19.70	98.5
MOLYBDENUM	40.0	38.67	96.7
NICKEL	20.0	19.82	99.1
POTASSIUM	4000.0	3941.00	98.5
SELENIUM	20.0	19.79	98.9
SILVER	20.0	19.66	98.3
SODIUM	4000.0	3901.00	97.5
VANADIUM	20.0	19.35	96.8
ZINC	20.0	19.83	99.1

SAMPLE: CCV

File: JLE22A May 22, 2018 15:23

Analyte	True	Found	%R (1)
ALUMINUM	500.0	499.70	99.9
ARSENIC	25.0	24.73	98.9
BERYLLIUM	25.0	25.08	100.3
CADMIUM	25.0	24.64	98.6
CALCIUM	5000.0	4984.00	99.7
CHROMIUM	25.0	24.42	97.7
COBALT	25.0	24.78	99.1
COPPER	25.0	24.80	99.2
IRON	5000.0	4903.00	98.1
MAGNESIUM	5000.0	5075.00	101.5
MANGANESE	25.0	24.87	99.5
MOLYBDENUM	25.0	24.71	98.8
NICKEL	25.0	24.92	99.7
POTASSIUM	5000.0	4827.00	96.5
SELENIUM	25.0	25.03	100.1
SILVER	25.0	24.45	97.8
SODIUM	5000.0	4978.00	99.6
VANADIUM	25.0	24.79	99.2
ZINC	25.0	24.68	98.7

(1) Control Limits: Mercury 80-120; Other Metals 90-110

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Concentration Units: ug/L

SAMPLE: CCV

File: JLE22A May 22, 2018 16:08

Analyte	True	Found	%R (1)
ALUMINUM	500.0	510.60	102.1
ARSENIC	25.0	24.74	99.0
BERYLLIUM	25.0	25.29	101.2
CADMIUM	25.0	25.97	103.9
CALCIUM	5000.0	4998.00	100.0
CHROMIUM	25.0	24.44	97.8
COBALT	25.0	25.03	100.1
COPPER	25.0	24.83	99.3
IRON	5000.0	4906.00	98.1
MAGNESIUM	5000.0	5122.00	102.4
MANGANESE	25.0	24.93	99.7
MOLYBDENUM	25.0	25.50	102.0
NICKEL	25.0	25.26	101.0
POTASSIUM	5000.0	4920.00	98.4
SELENIUM	25.0	25.20	100.8
SILVER	25.0	25.51	102.0
SODIUM	5000.0	4955.00	99.1
VANADIUM	25.0	24.82	99.3
ZINC	25.0	25.41	101.6

SAMPLE: CCV

File: JLE22A May 22, 2018 16:55

Analyte	True	Found	%R (1)
ALUMINUM	500.0	510.00	102.0
ARSENIC	25.0	24.90	99.6
BERYLLIUM	25.0	24.73	98.9
CADMIUM	25.0	25.97	103.9
CALCIUM	5000.0	5016.00	100.3
CHROMIUM	25.0	24.60	98.4
COBALT	25.0	25.10	100.4
COPPER	25.0	24.79	99.2
IRON	5000.0	4932.00	98.6
MAGNESIUM	5000.0	5180.00	103.6
MANGANESE	25.0	24.99	100.0
MOLYBDENUM	25.0	25.04	100.2
NICKEL	25.0	25.36	101.4
POTASSIUM	5000.0	4980.00	99.6
SELENIUM	25.0	25.38	101.5
SILVER	25.0	25.44	101.8
SODIUM	5000.0	5142.00	102.8
VANADIUM	25.0	24.70	98.8
ZINC	25.0	25.38	101.5

(1) Control Limits: Mercury 80-120; Other Metals 90-110

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Concentration Units: ug/L

SAMPLE: CCV

File: JLE22A May 22, 2018 17:43

Analyte	True	Found	%R (1)
ALUMINUM	500.0	510.70	102.1
ARSENIC	25.0	24.92	99.7
BERYLLIUM	25.0	25.47	101.9
CADMIUM	25.0	25.68	102.7
CALCIUM	5000.0	5038.00	100.8
CHROMIUM	25.0	24.72	98.9
COBALT	25.0	25.35	101.4
COPPER	25.0	24.86	99.4
IRON	5000.0	4916.00	98.3
MAGNESIUM	5000.0	5182.00	103.6
MANGANESE	25.0	25.08	100.3
MOLYBDENUM	25.0	25.09	100.4
NICKEL	25.0	25.34	101.4
POTASSIUM	5000.0	4872.00	97.4
SELENIUM	25.0	25.24	101.0
SILVER	25.0	25.31	101.2
SODIUM	5000.0	5022.00	100.4
VANADIUM	25.0	24.93	99.7
ZINC	25.0	25.28	101.1

SAMPLE: CCV

File: JLE22A May 22, 2018 18:33

Analyte	True	Found	%R (1)
ALUMINUM	500.0	500.50	100.1
ARSENIC	25.0	25.12	100.5
BERYLLIUM	25.0	25.08	100.3
CADMIUM	25.0	24.10	96.4
CALCIUM	5000.0	4998.00	100.0
CHROMIUM	25.0	24.84	99.4
COBALT	25.0	25.13	100.5
COPPER	25.0	25.05	100.2
IRON	5000.0	5071.00	101.4
MAGNESIUM	5000.0	5074.00	101.5
MANGANESE	25.0	25.41	101.6
MOLYBDENUM	25.0	24.32	97.3
NICKEL	25.0	25.29	101.2
POTASSIUM	5000.0	4918.00	98.4
SELENIUM	25.0	25.48	101.9
SILVER	25.0	24.23	96.9
SODIUM	5000.0	4944.00	98.9
VANADIUM	25.0	25.54	102.2
ZINC	25.0	24.84	99.4

(1) Control Limits: Mercury 80-120; Other Metals 90-110

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Concentration Units: ug/L

SAMPLE: CCV

File: JLE22A May 22, 2018 19:24

Analyte	True	Found	%R (1)
ALUMINUM	500.0	493.60	98.7
ARSENIC	25.0	25.10	100.4
BERYLLIUM	25.0	24.49	98.0
CADMIUM	25.0	23.87	95.5
CALCIUM	5000.0	5027.00	100.5
CHROMIUM	25.0	24.99	100.0
COBALT	25.0	25.04	100.2
COPPER	25.0	25.19	100.8
IRON	5000.0	4954.00	99.1
MAGNESIUM	5000.0	5055.00	101.1
MANGANESE	25.0	25.47	101.9
MOLYBDENUM	25.0	24.13	96.5
NICKEL	25.0	25.20	100.8
POTASSIUM	5000.0	4954.00	99.1
SELENIUM	25.0	25.72	102.9
SILVER	25.0	23.69	94.8
SODIUM	5000.0	5097.00	101.9
VANADIUM	25.0	25.42	101.7
ZINC	25.0	25.04	100.2

SAMPLE: CCV

File: JLE22A May 22, 2018 20:15

Analyte	True	Found	%R (1)
ALUMINUM	500.0	508.70	101.7
ARSENIC	25.0	25.29	101.2
BERYLLIUM	25.0	24.04	96.2
CADMIUM	25.0	24.84	99.4
CALCIUM	5000.0	5028.00	100.6
CHROMIUM	25.0	25.20	100.8
COBALT	25.0	25.28	101.1
COPPER	25.0	25.10	100.4
IRON	5000.0	5037.00	100.7
MAGNESIUM	5000.0	5124.00	102.5
MANGANESE	25.0	25.50	102.0
MOLYBDENUM	25.0	24.65	98.6
NICKEL	25.0	25.51	102.0
POTASSIUM	5000.0	5037.00	100.7
SELENIUM	25.0	25.09	100.4
SILVER	25.0	24.77	99.1
SODIUM	5000.0	5070.00	101.4
VANADIUM	25.0	25.46	101.8
ZINC	25.0	25.18	100.7

(1) Control Limits: Mercury 80-120; Other Metals 90-110

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Concentration Units: ug/L

SAMPLE: CCV

File: JLE22A May 22, 2018 21:06

Analyte	True	Found	%R (1)
ALUMINUM	500.0	502.80	100.6
ARSENIC	25.0	25.31	101.2
BERYLLIUM	25.0	24.37	97.5
CADMIUM	25.0	23.60	94.4
CALCIUM	5000.0	5089.00	101.8
CHROMIUM	25.0	25.51	102.0
COBALT	25.0	25.33	101.3
COPPER	25.0	25.11	100.4
IRON	5000.0	5106.00	102.1
MAGNESIUM	5000.0	5128.00	102.6
MANGANESE	25.0	25.62	102.5
MOLYBDENUM	25.0	23.93	95.7
NICKEL	25.0	25.40	101.6
POTASSIUM	5000.0	4976.00	99.5
SELENIUM	25.0	25.14	100.6
SILVER	25.0	23.65	94.6
SODIUM	5000.0	5126.00	102.5
VANADIUM	25.0	25.81	103.2
ZINC	25.0	25.33	101.3

SAMPLE: CCV

File: JLE22A May 22, 2018 21:57

Analyte	True	Found	%R (1)
ALUMINUM	500.0	513.90	102.8
ARSENIC	25.0	25.38	101.5
BERYLLIUM	25.0	24.36	97.4
CADMIUM	25.0	23.93	95.7
CALCIUM	5000.0	5067.00	101.3
CHROMIUM	25.0	25.68	102.7
COBALT	25.0	25.60	102.4
COPPER	25.0	25.38	101.5
IRON	5000.0	5128.00	102.6
MAGNESIUM	5000.0	5283.00	105.7
MANGANESE	25.0	25.80	103.2
MOLYBDENUM	25.0	24.45	97.8
NICKEL	25.0	25.66	102.6
POTASSIUM	5000.0	4965.00	99.3
SELENIUM	25.0	25.25	101.0
SILVER	25.0	23.93	95.7
SODIUM	5000.0	5239.00	104.8
VANADIUM	25.0	26.16	104.6
ZINC	25.0	25.02	100.1

(1) Control Limits: Mercury 80-120; Other Metals 90-110

2C

PQL STANDARD FOR AA AND ICP

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Concentration Units: ug/L

SAMPLE: PQL

File: HLE17A May 17, 2018 12:51

Analyte	TRUE	FOUND	% R
MERCURY	0.2	0.22	110.0

2C

PQL STANDARD FOR AA AND ICP

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Concentration Units: ug/L

SAMPLE: PQL

File: HLE21A May 21, 2018 11:34

Analyte	TRUE	FOUND	% R
MERCURY	0.2	0.18	90.0

PQL STANDARD FOR AA AND ICP

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Concentration Units: ug/L

SAMPLE: PQL

File: JLE21C May 21, 2018 18:49

Analyte	TRUE	FOUND	% R
ALUMINUM	20.0	20.29	101.4
ANTIMONY	0.2	0.20	100.0
ARSENIC	1.0	0.89	89.0
BARIUM	0.4	0.41	102.5
BERYLLIUM	0.2	0.21	105.0
CADMIUM	0.2	0.22	110.0
CALCIUM	20.0	21.36	106.8
CHROMIUM	1.0	0.90	90.0
COBALT	0.2	0.21	105.0
IRON	20.0	19.82	99.1
LEAD	0.2	0.20	100.0
MAGNESIUM	20.0	20.11	100.6
MANGANESE	0.4	0.41	102.5
MOLYBDENUM	1.0	1.01	101.0
NICKEL	0.4	0.41	102.5
POTASSIUM	200.0	199.40	99.7
SILVER	0.2	0.21	105.0
SODIUM	200.0	204.90	102.5
THALLIUM	0.2	0.19	95.0
VANADIUM	1.0	0.98	98.0
ZINC	2.0	2.08	104.0

PQL STANDARD FOR AA AND ICP

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Concentration Units: ug/L

SAMPLE: PQL

File: JLE22A May 22, 2018 14:50

Analyte	TRUE	FOUND	% R
ALUMINUM	20.0	20.02	100.1
ARSENIC	1.0	0.93	93.0
BERYLLIUM	0.2	0.19	95.0
CADMIUM	0.2	0.21	105.0
CALCIUM	20.0	19.99	99.9
CHROMIUM	1.0	0.96	96.0
COBALT	0.2	0.21	105.0
COPPER	0.6	0.58	96.7
IRON	20.0	17.32	86.6
MAGNESIUM	20.0	19.91	99.6
MANGANESE	0.4	0.40	100.0
MOLYBDENUM	1.0	1.02	102.0
NICKEL	0.4	0.40	100.0
POTASSIUM	200.0	199.90	100.0
SELENIUM	1.0	0.97	97.0
SILVER	0.2	0.20	100.0
SODIUM	200.0	211.30	105.7
VANADIUM	1.0	1.04	104.0
ZINC	2.0	2.00	100.0

3A

INITIAL AND CONTINUING CALIBRATION BLANKS

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Concentration Units: ug/L

SAMPLE: ICB

File: HLE17A May 17, 2018 12:49

Analyte	Result	C
MERCURY	0.025	U

SAMPLE: CCB

File: HLE17A May 17, 2018 12:56

Analyte	Result	C
MERCURY	0.025	U

SAMPLE: CCB

File: HLE17A May 17, 2018 13:19

Analyte	Result	C
MERCURY	-0.028	U

INITIAL AND CONTINUING CALIBRATION BLANKS

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Concentration Units: ug/L

SAMPLE: CCB

File: HLE17A May 17, 2018 13:46

Analyte	Result	C
MERCURY	0.025	U

3A

INITIAL AND CONTINUING CALIBRATION BLANKS

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Concentration Units: ug/L

SAMPLE: ICB

File: HLE21A May 21, 2018 11:32

Analyte	Result	C
MERCURY	-0.029	U

SAMPLE: CCB

File: HLE21A May 21, 2018 11:38

Analyte	Result	C
MERCURY	-0.033	U

SAMPLE: CCB

File: HLE21A May 21, 2018 12:02

Analyte	Result	C
MERCURY	-0.030	U

3A

INITIAL AND CONTINUING CALIBRATION BLANKS

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Concentration Units: ug/L

SAMPLE: CCB

File: HLE21A May 21, 2018 12:27

Analyte	Result	C
MERCURY	0.025	U

SAMPLE: CCB

File: HLE21A May 21, 2018 12:53

Analyte	Result	C
MERCURY	-0.027	U

SAMPLE: CCB

File: HLE21A May 21, 2018 13:19

Analyte	Result	C
MERCURY	-0.028	U

INITIAL AND CONTINUING CALIBRATION BLANKS

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Concentration Units: ug/L

SAMPLE: CCB
File: HLE21A May 21, 2018 13:47

Analyte	Result	C
MERCURY	-0.027	U

SAMPLE: CCB
File: HLE21A May 21, 2018 14:13

Analyte	Result	C
MERCURY	0.025	U

SAMPLE: CCB
File: HLE21A May 21, 2018 14:41

Analyte	Result	C
MERCURY	-0.033	U

INITIAL AND CONTINUING CALIBRATION BLANKS

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Concentration Units: ug/L

SAMPLE: CCB

File: HLE21A May 21, 2018 15:07

Analyte	Result	C
MERCURY	-0.033	U

SAMPLE: CCB

File: HLE21A May 21, 2018 15:18

Analyte	Result	C
MERCURY	-0.028	U

INITIAL AND CONTINUING CALIBRATION BLANKS

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Concentration Units: ug/L

SAMPLE: ICB
File: JLE21C May 21, 2018 18:45

Analyte	Result	C
ALUMINUM	1.900	U
ANTIMONY	0.006	U
ARSENIC	0.180	U
BARIUM	0.075	U
BERYLLIUM	0.005	J
CADMIUM	0.007	U
CALCIUM	5.300	U
CHROMIUM	-0.098	U
COBALT	0.006	U
IRON	4.300	U
LEAD	0.010	U
MAGNESIUM	1.300	U
MANGANESE	0.021	U
MOLYBDENUM	0.037	J
NICKEL	0.018	U
POTASSIUM	7.900	U
SILVER	0.003	J
SODIUM	4.400	U
THALLIUM	0.008	U
VANADIUM	0.063	U
ZINC	0.270	U

SAMPLE: CCB
File: JLE21C May 21, 2018 19:31

Analyte	Result	C
ALUMINUM	1.900	U
ANTIMONY	0.021	J
ARSENIC	0.180	U
BARIUM	0.075	U
BERYLLIUM	0.004	U
CADMIUM	0.007	J
CALCIUM	5.300	U
CHROMIUM	-0.089	U
COBALT	0.006	U
IRON	4.300	U
LEAD	0.010	U
MAGNESIUM	1.331	J
MANGANESE	0.031	J
MOLYBDENUM	0.037	J
NICKEL	0.023	J
POTASSIUM	7.900	U
SILVER	0.003	U
SODIUM	4.400	U
THALLIUM	0.008	U
VANADIUM	0.063	U
ZINC	0.270	U

SAMPLE: CCB
File: JLE21C May 21, 2018 20:21

Analyte	Result	C
ALUMINUM	1.900	U
ANTIMONY	0.018	J
ARSENIC	0.180	U
BARIUM	0.075	U
BERYLLIUM	0.004	U
CADMIUM	0.007	U
CALCIUM	5.300	U
CHROMIUM	-0.081	U
COBALT	0.006	U
IRON	4.300	U
LEAD	0.010	U
MAGNESIUM	1.300	U
MANGANESE	0.021	U
MOLYBDENUM	0.034	U
NICKEL	0.019	J
POTASSIUM	7.900	U
SILVER	0.003	U
SODIUM	4.400	U
THALLIUM	0.008	U
VANADIUM	0.063	U
ZINC	0.270	U

INITIAL AND CONTINUING CALIBRATION BLANKS

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Concentration Units: ug/L

SAMPLE: CCB
File: JLE21C May 21, 2018 21:12

Analyte	Result	C
ALUMINUM	1.900	U
ANTIMONY	0.016	J
ARSENIC	0.180	U
BARIUM	0.075	U
BERYLLIUM	0.004	U
CADMIUM	0.007	U
CALCIUM	5.300	U
CHROMIUM	0.062	U
COBALT	0.007	J
IRON	4.347	J
LEAD	0.010	U
MAGNESIUM	1.300	U
MANGANESE	0.034	J
MOLYBDENUM	0.034	U
NICKEL	0.020	J
POTASSIUM	11.090	J
SILVER	0.003	U
SODIUM	4.400	U
THALLIUM	0.008	U
VANADIUM	0.063	U
ZINC	0.270	U

SAMPLE: CCB
File: JLE21C May 21, 2018 22:02

Analyte	Result	C
ALUMINUM	1.900	U
ANTIMONY	0.016	J
ARSENIC	0.180	U
BARIUM	0.075	U
BERYLLIUM	0.004	U
CADMIUM	0.007	U
CALCIUM	5.300	U
CHROMIUM	0.062	U
COBALT	0.006	U
IRON	7.181	J
LEAD	0.010	U
MAGNESIUM	1.300	U
MANGANESE	0.047	J
MOLYBDENUM	0.034	U
NICKEL	0.029	J
POTASSIUM	8.213	J
SILVER	0.003	U
SODIUM	4.400	U
THALLIUM	0.008	U
VANADIUM	0.063	U
ZINC	0.270	U

SAMPLE: CCB
File: JLE21C May 21, 2018 22:53

Analyte	Result	C
ALUMINUM	1.900	U
ANTIMONY	0.014	J
ARSENIC	0.180	U
BARIUM	0.075	U
BERYLLIUM	0.004	U
CADMIUM	0.007	U
CALCIUM	5.300	U
CHROMIUM	0.062	U
COBALT	0.006	U
IRON	6.206	J
LEAD	0.010	U
MAGNESIUM	1.300	U
MANGANESE	0.033	J
MOLYBDENUM	0.034	U
NICKEL	0.018	U
POTASSIUM	7.900	U
SILVER	0.003	U
SODIUM	4.400	U
THALLIUM	0.008	U
VANADIUM	-0.069	U
ZINC	0.270	U

INITIAL AND CONTINUING CALIBRATION BLANKS

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Concentration Units: ug/L

SAMPLE: CCB
File: JLE21C May 21, 2018 23:45

Analyte	Result	C
ALUMINUM	1.900	U
ANTIMONY	0.008	J
ARSENIC	0.180	U
BARIUM	0.075	U
BERYLLIUM	0.004	U
CADMIUM	0.007	U
CALCIUM	5.300	U
CHROMIUM	0.062	U
COBALT	0.006	U
IRON	8.957	J
LEAD	0.010	U
MAGNESIUM	1.300	U
MANGANESE	0.041	J
MOLYBDENUM	0.034	U
NICKEL	0.020	J
POTASSIUM	7.900	U
SILVER	0.003	U
SODIUM	4.400	U
THALLIUM	0.008	U
VANADIUM	0.063	U
ZINC	0.270	U

SAMPLE: CCB
File: JLE21C May 22, 2018 0:37

Analyte	Result	C
ALUMINUM	1.900	U
ANTIMONY	0.012	J
ARSENIC	0.180	U
BARIUM	0.075	U
BERYLLIUM	0.004	U
CADMIUM	0.007	U
CALCIUM	6.030	J
CHROMIUM	0.062	U
COBALT	0.006	U
IRON	11.010	J
LEAD	0.010	U
MAGNESIUM	1.300	U
MANGANESE	0.242	B
MOLYBDENUM	0.034	U
NICKEL	0.058	J
POTASSIUM	7.900	U
SILVER	0.003	U
SODIUM	4.400	U
THALLIUM	0.008	U
VANADIUM	0.063	U
ZINC	0.465	J

SAMPLE: CCB
File: JLE21C May 22, 2018 1:29

Analyte	Result	C
ALUMINUM	1.900	U
ANTIMONY	0.009	J
ARSENIC	0.180	U
BARIUM	0.075	U
BERYLLIUM	0.004	J
CADMIUM	0.009	J
CALCIUM	8.013	J
CHROMIUM	0.062	U
COBALT	0.007	J
IRON	12.440	B
LEAD	0.010	U
MAGNESIUM	1.300	U
MANGANESE	0.263	B
MOLYBDENUM	0.034	U
NICKEL	0.044	J
POTASSIUM	7.900	U
SILVER	0.004	J
SODIUM	4.400	U
THALLIUM	0.008	U
VANADIUM	0.063	U
ZINC	0.506	J

INITIAL AND CONTINUING CALIBRATION BLANKS

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Concentration Units: ug/L

SAMPLE: CCB

File: JLE21C May 22, 2018 2:21

Analyte	Result	C
ALUMINUM	1.900	U
ANTIMONY	0.014	J
ARSENIC	0.180	U
BARIUM	0.075	U
BERYLLIUM	0.005	J
CADMIUM	0.007	U
CALCIUM	9.474	J
CHROMIUM	0.062	U
COBALT	0.011	J
IRON	4.300	U
LEAD	0.010	J
MAGNESIUM	1.300	U
MANGANESE	0.282	B
MOLYBDENUM	0.034	U
NICKEL	0.056	J
POTASSIUM	12.750	J
SILVER	0.005	J
SODIUM	4.400	U
THALLIUM	0.008	U
VANADIUM	0.063	U
ZINC	0.533	J

SAMPLE: CCB

File: JLE21C May 22, 2018 3:13

Analyte	Result	C
ALUMINUM	1.900	U
ANTIMONY	0.014	J
ARSENIC	0.180	U
BARIUM	0.075	U
BERYLLIUM	0.004	U
CADMIUM	0.007	U
CALCIUM	9.723	J
CHROMIUM	-0.082	U
COBALT	0.020	J
IRON	5.897	J
LEAD	0.013	J
MAGNESIUM	1.300	U
MANGANESE	0.271	B
MOLYBDENUM	0.034	U
NICKEL	0.045	J
POTASSIUM	14.360	J
SILVER	0.004	J
SODIUM	4.400	U
THALLIUM	0.008	U
VANADIUM	0.063	U
ZINC	0.485	J

INITIAL AND CONTINUING CALIBRATION BLANKS

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Concentration Units: ug/L

SAMPLE: ICB
File: JLE22A May 22, 2018 14:47

Analyte	Result	C
ALUMINUM	1.900	U
ARSENIC	0.180	U
BERYLLIUM	0.004	U
CADMIUM	0.007	U
CALCIUM	5.300	U
CHROMIUM	0.062	U
COBALT	0.008	J
COPPER	0.030	U
IRON	4.300	U
MAGNESIUM	1.300	U
MANGANESE	0.021	U
MOLYBDENUM	0.056	J
NICKEL	0.018	U
POTASSIUM	7.900	U
SELENIUM	0.470	U
SILVER	0.004	J
SODIUM	4.400	U
VANADIUM	0.063	U
ZINC	0.270	U

SAMPLE: CCB
File: JLE22A May 22, 2018 15:27

Analyte	Result	C
ALUMINUM	1.900	U
ARSENIC	0.185	J
BERYLLIUM	0.004	J
CADMIUM	0.007	U
CALCIUM	5.300	U
CHROMIUM	0.062	U
COBALT	0.006	U
COPPER	0.093	J
IRON	-5.049	U
MAGNESIUM	1.300	U
MANGANESE	0.021	U
MOLYBDENUM	0.053	J
NICKEL	0.018	U
POTASSIUM	7.900	U
SELENIUM	0.470	U
SILVER	0.004	J
SODIUM	4.400	U
VANADIUM	0.063	U
ZINC	0.270	U

SAMPLE: CCB
File: JLE22A May 22, 2018 16:12

Analyte	Result	C
ALUMINUM	1.900	U
ARSENIC	0.180	U
BERYLLIUM	0.004	U
CADMIUM	0.007	U
CALCIUM	5.300	U
CHROMIUM	0.062	U
COBALT	0.006	U
COPPER	0.030	U
IRON	-7.580	U
MAGNESIUM	1.300	U
MANGANESE	0.021	U
MOLYBDENUM	0.034	U
NICKEL	0.018	U
POTASSIUM	8.984	J
SELENIUM	0.470	U
SILVER	0.003	U
SODIUM	4.400	U
VANADIUM	0.063	U
ZINC	0.270	U

INITIAL AND CONTINUING CALIBRATION BLANKS

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Concentration Units: ug/L

SAMPLE: CCB
File: JLE22A May 22, 2018 16:59

Analyte	Result	C
ALUMINUM	1.900	U
ARSENIC	0.180	U
BERYLLIUM	0.004	U
CADMIUM	-0.008	U
CALCIUM	5.300	U
CHROMIUM	0.062	U
COBALT	0.008	J
COPPER	0.030	U
IRON	-5.590	U
MAGNESIUM	1.300	U
MANGANESE	0.021	U
MOLYBDENUM	0.034	U
NICKEL	0.023	J
POTASSIUM	8.862	J
SELENIUM	0.470	U
SILVER	0.003	U
SODIUM	4.400	U
VANADIUM	0.063	U
ZINC	0.270	U

SAMPLE: CCB
File: JLE22A May 22, 2018 17:47

Analyte	Result	C
ALUMINUM	1.900	U
ARSENIC	0.180	U
BERYLLIUM	0.004	U
CADMIUM	-0.008	U
CALCIUM	5.300	U
CHROMIUM	0.062	U
COBALT	0.010	J
COPPER	-0.032	U
IRON	4.300	U
MAGNESIUM	1.300	U
MANGANESE	0.021	U
MOLYBDENUM	0.034	U
NICKEL	0.018	U
POTASSIUM	9.030	J
SELENIUM	0.470	U
SILVER	0.003	U
SODIUM	4.400	U
VANADIUM	0.084	J
ZINC	0.270	U

SAMPLE: CCB
File: JLE22A May 22, 2018 18:37

Analyte	Result	C
ALUMINUM	1.900	U
ARSENIC	0.180	U
BERYLLIUM	0.004	U
CADMIUM	-0.008	U
CALCIUM	5.300	U
CHROMIUM	0.062	U
COBALT	0.006	U
COPPER	0.030	U
IRON	4.300	U
MAGNESIUM	1.300	U
MANGANESE	0.021	U
MOLYBDENUM	0.034	U
NICKEL	0.018	U
POTASSIUM	7.900	U
SELENIUM	0.470	U
SILVER	0.003	U
SODIUM	4.400	U
VANADIUM	0.104	J
ZINC	0.270	U

INITIAL AND CONTINUING CALIBRATION BLANKS

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Concentration Units: ug/L

SAMPLE: CCB
File: JLE22A May 22, 2018 19:28

Analyte	Result	C
ALUMINUM	1.900	U
ARSENIC	0.180	U
BERYLLIUM	0.004	U
CADMIUM	0.007	U
CALCIUM	5.300	U
CHROMIUM	0.062	U
COBALT	0.011	J
COPPER	0.030	U
IRON	4.300	U
MAGNESIUM	1.300	U
MANGANESE	0.031	J
MOLYBDENUM	0.034	U
NICKEL	0.020	J
POTASSIUM	7.900	U
SELENIUM	0.470	U
SILVER	0.003	J
SODIUM	4.400	U
VANADIUM	0.063	U
ZINC	0.270	U

SAMPLE: CCB
File: JLE22A May 22, 2018 20:19

Analyte	Result	C
ALUMINUM	2.552	J
ARSENIC	0.180	U
BERYLLIUM	0.011	J
CADMIUM	0.007	U
CALCIUM	6.564	J
CHROMIUM	0.062	U
COBALT	0.007	J
COPPER	0.030	U
IRON	4.300	U
MAGNESIUM	2.156	J
MANGANESE	0.048	J
MOLYBDENUM	0.034	U
NICKEL	0.080	J
POTASSIUM	7.900	U
SELENIUM	0.470	U
SILVER	0.006	J
SODIUM	4.400	U
VANADIUM	0.063	U
ZINC	0.270	U

SAMPLE: CCB
File: JLE22A May 22, 2018 21:10

Analyte	Result	C
ALUMINUM	1.900	U
ARSENIC	0.182	J
BERYLLIUM	0.004	J
CADMIUM	0.007	U
CALCIUM	5.300	U
CHROMIUM	0.062	U
COBALT	0.006	U
COPPER	0.030	U
IRON	6.718	J
MAGNESIUM	1.300	U
MANGANESE	0.024	J
MOLYBDENUM	0.034	U
NICKEL	0.071	J
POTASSIUM	7.900	U
SELENIUM	0.470	U
SILVER	0.003	U
SODIUM	4.400	U
VANADIUM	0.066	J
ZINC	0.270	U

INITIAL AND CONTINUING CALIBRATION BLANKS

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Concentration Units: ug/L

SAMPLE: CCB

File: JLE22A May 22, 2018 22:01

Analyte	Result	C
ALUMINUM	1.900	U
ARSENIC	0.180	U
BERYLLIUM	0.005	J
CADMIUM	0.007	U
CALCIUM	5.300	U
CHROMIUM	0.062	U
COBALT	0.006	U
COPPER	0.049	J
IRON	4.888	J
MAGNESIUM	1.300	U
MANGANESE	0.021	U
MOLYBDENUM	0.034	U
NICKEL	0.072	J
POTASSIUM	7.900	U
SELENIUM	0.470	U
SILVER	0.003	J
SODIUM	4.400	U
VANADIUM	0.063	U
ZINC	0.270	U

3P

PREPARATION BLANKS

Lab Name: Katahdin Analytical Services **Sample ID:** PBSLE21HGS1

Matrix: SOIL **SDG Name:** SL4180

QC Batch ID: LE21HGS1

Concentration Units : mg/Kg drywt

Analyte	RESULT	C
MERCURY	0.017	U

3P

PREPARATION BLANKS

Lab Name: Katahdin Analytical Services **Sample ID:** PBSLE21HGS2

Matrix: SOIL **SDG Name:** SL4180

QC Batch ID: LE21HGS2

Concentration Units : mg/Kg drywt

Analyte	RESULT	C
MERCURY	0.017	U

PREPARATION BLANKS

Lab Name: Katahdin Analytical Services **Sample ID:** PBSLE21IMS1

Matrix: SOIL **SDG Name:** SL4180

QC Batch ID: LE21IMS1

Concentration Units : mg/Kg drywt

Analyte	RESULT	C
ALUMINUM	1.9	J
ANTIMONY	0.050	U
ARSENIC	0.40	U
BARIUM	0.047	J
BERYLLIUM	0.020	U
CADMIUM	0.020	U
CALCIUM	8.2	J
CHROMIUM	0.16	J
COBALT	0.030	U
COPPER	0.16	B
IRON	5.9	J
LEAD	0.050	U
MAGNESIUM	2.9	J
MANGANESE	0.060	J
NICKEL	0.043	J
POTASSIUM	6.3	J
SELENIUM	0.043	J
SILVER	0.040	U
SODIUM	4.1	J
THALLIUM	0.040	U
VANADIUM	0.40	U
ZINC	0.80	U

PREPARATION BLANKS

Lab Name: Katahdin Analytical Services **Sample ID:** PBSLE21IMS2

Matrix: SOIL **SDG Name:** SL4180

QC Batch ID: LE21IMS2

Concentration Units : mg/Kg drywt

Analyte	RESULT	C
ALUMINUM	1.1	J
ANTIMONY	0.050	U
ARSENIC	0.40	U
BARIUM	0.10	U
BERYLLIUM	0.020	U
CADMIUM	0.020	U
CALCIUM	7.3	J
CHROMIUM	0.18	J
COBALT	0.0077	J
COPPER	0.10	J
IRON	5.6	J
LEAD	0.050	U
MAGNESIUM	2.4	J
MANGANESE	0.058	J
NICKEL	0.034	J
POTASSIUM	4.8	J
SELENIUM	0.044	J
SILVER	0.040	U
SODIUM	2.7	J
THALLIUM	0.040	U
VANADIUM	0.12	J
ZINC	0.80	U

3P

PREPARATION BLANKS

Lab Name: Katahdin Analytical Services **Sample ID:** PBWLE17HGW2

Matrix: WATER **SDG Name:** SL4180

QC Batch ID: LE17HGW2

Concentration Units : ug/L

Analyte	RESULT	C
MERCURY	0.10	U

PREPARATION BLANKS

Lab Name: Katahdin Analytical Services **Sample ID:** PBWLE21IMW2

Matrix: WATER **SDG Name:** SL4180

QC Batch ID: LE21IMW2

Concentration Units : ug/L

Analyte	RESULT	C
ALUMINUM	9.0	J
ANTIMONY	0.42	J
ARSENIC	4.0	U
BARIUM	1.0	U
BERYLLIUM	0.20	U
CADMIUM	0.20	U
CALCIUM	80	U
CHROMIUM	0.80	J
COBALT	0.30	U
COPPER	0.80	J
IRON	27	J
LEAD	0.50	U
MAGNESIUM	13	J
MANGANESE	1.0	U
NICKEL	1.2	U
POTASSIUM	55	J
SELENIUM	0.82	J
SILVER	0.40	U
SODIUM	35	J
THALLIUM	0.40	U
VANADIUM	4.0	U
ZINC	8.0	U

ICP INTERFERENCE CHECK SAMPLE

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Concentration Units: ug/L

SAMPLE: ICSA

File: JLE21C May 21, 2018 18:58

Analyte	TRUE	FOUND	% R
ALUMINUM	100000.00	100500.00	100.5
ANTIMONY	0	0.20	
ARSENIC	0	0.34	
BARIUM	0	0.10	
BERYLLIUM	0	0.00	
CADMIUM	0	0.03	
CALCIUM	100000.00	103000.00	103.0
CHROMIUM	0	0.80	
COBALT	0	0.13	
IRON	100000.00	95700.00	95.7
LEAD	0	0.10	
MAGNESIUM	100000.00	100500.00	100.5
MANGANESE	0	0.37	
MOLYBDENUM	2000.00	2007.00	100.4
NICKEL	0	-0.11	
POTASSIUM	100000.00	103500.00	103.5
SILVER	0	0.02	
SODIUM	100000.00	101600.00	101.6
THALLIUM	0	0.00	
VANADIUM	0	0.12	
ZINC	0	2.59	

SAMPLE: ICSAB

File: JLE21C May 21, 2018 19:02

Analyte	TRUE	FOUND	% R
ALUMINUM	100000.00	102500.00	102.5
ANTIMONY	20.00	22.72	115.0
ARSENIC	20.00	22.70	115.0
BARIUM	21.00	22.59	109.5
BERYLLIUM	20.00	23.57	120.0
CADMIUM	20.00	21.39	105.0
CALCIUM	100000.00	105500.00	105.5
CHROMIUM	20.00	21.85	110.0
COBALT	20.00	21.33	105.0
IRON	100000.00	99630.00	99.6
LEAD	20.00	23.19	115.0
MAGNESIUM	100000.00	101500.00	101.5
MANGANESE	20.00	21.39	105.0
MOLYBDENUM	2000.00	2127.00	106.3
NICKEL	20.00	20.84	105.0
POTASSIUM	100000.00	106600.00	106.6
SILVER	20.00	20.93	105.0
SODIUM	100000.00	102600.00	102.6
THALLIUM	20.00	23.16	115.0
VANADIUM	20.00	21.86	110.0
ZINC	20.00	23.43	115.0

ICP INTERFERENCE CHECK SAMPLE

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Concentration Units: ug/L

SAMPLE: ICSA

File: JLE22A May 22, 2018 14:57

Analyte	TRUE	FOUND	% R
ALUMINUM	100000.00	104100.00	104.1
ARSENIC	0	0.22	
BERYLLIUM	0	0.01	
CADMIUM	0	0.04	
CALCIUM	100000.00	102300.00	102.3
CHROMIUM	0	0.78	
COBALT	0	0.11	
COPPER	0	1.16	
IRON	100000.00	98150.00	98.2
MAGNESIUM	100000.00	103000.00	103.0
MANGANESE	0	0.45	
MOLYBDENUM	2000.00	2100.00	105.0
NICKEL	0	-0.32	
POTASSIUM	100000.00	104300.00	104.3
SELENIUM	0	0.29	
SILVER	0	0.03	
SODIUM	100000.00	102900.00	102.9
VANADIUM	0	0.20	
ZINC	0	2.58	

SAMPLE: ICSAB

File: JLE22A May 22, 2018 15:01

Analyte	TRUE	FOUND	% R
ALUMINUM	100000.00	105100.00	105.1
ARSENIC	20.00	22.07	110.0
BERYLLIUM	20.00	22.91	115.0
CADMIUM	20.00	21.24	105.0
CALCIUM	100000.00	103300.00	103.3
CHROMIUM	20.00	21.62	110.0
COBALT	20.00	21.39	105.0
COPPER	20.00	21.48	105.0
IRON	100000.00	99430.00	99.4
MAGNESIUM	100000.00	104000.00	104.0
MANGANESE	20.00	21.69	110.0
MOLYBDENUM	2000.00	2152.00	107.6
NICKEL	20.00	20.61	105.0
POTASSIUM	100000.00	105000.00	105.0
SELENIUM	20.00	21.71	110.0
SILVER	20.00	20.47	100.0
SODIUM	100000.00	105000.00	105.0
VANADIUM	20.00	21.98	110.0
ZINC	20.00	22.44	110.0

5A

SPIKE SAMPLE RECOVERY

Lab Name: Katahdin Analytical Services **Client Field ID:** CHAAP-21B-DS-SS07S

Matrix: SOIL **SDG Name:** SL4180

Percent Solids: 81.2 **Lab Sample ID:** SL4180-008P

Concentration Units : mg/Kg drywt

Analyte	Spiked Sample Result	C	Sample Result	C	Spike Added	%R	Q	Control Limits (%R) Low	High	M
ALUMINUM, TOTAL	22900		25100		224.05	-980.5	N	78	124	MS
ANTIMONY, TOTAL	5.82		0.20		11.2	50.2	N	72	124	MS
ARSENIC, TOTAL	14.8		5.03		11.2	87.3		82	118	MS
BARIUM, TOTAL	353		190		224.05	72.9	N	86	116	MS
BERYLLIUM, TOTAL	6.38		1.08		5.6	94.7		80	120	MS
CADMIUM, TOTAL	26.0		0.020	J	28.01	92.6		84	116	MS
CALCIUM, TOTAL	4250		4100		280.06	55.2	N	86	118	MS
CHROMIUM, TOTAL	43.0		21.2		22.4	97.5		83	119	MS
COBALT, TOTAL	65.6		8.16		56.01	102.5		84	115	MS
COPPER, TOTAL	43.9		15.5		28.01	101.6		84	119	MS
IRON, TOTAL	17300		18600		112.02	-1128.7	N	81	124	MS
LEAD, TOTAL	24.6		14.9		11.2	86.8		84	118	MS
MAGNESIUM, TOTAL	6030		6090		560.12	-10.3	N	80	123	MS
MANGANESE, TOTAL	294		276		56.01	32.0	N	85	116	MS
MERCURY, TOTAL	0.197		0.012	J	0.16	115.8		80	124	CV
NICKEL, TOTAL	72.4		16.6		56.01	99.6		84	119	MS
POTASSIUM, TOTAL	5700		4960		1120.23	66.2	N	85	119	MS
SELENIUM, TOTAL	11.4		0.466	J	11.2	97.4		80	119	MS
SILVER, TOTAL	5.34		0.0764	J	5.6	93.9		83	118	MS
SODIUM, TOTAL	1060		181		840.17	105.0		79	125	MS
THALLIUM, TOTAL	12.2		0.374		11.2	105.8		83	118	MS
VANADIUM, TOTAL	88.8		36.8		56.01	92.9		82	116	MS
ZINC, TOTAL	108		55.5		56.01	94.1		82	119	MS

Comments:

5A

SPIKE SAMPLE RECOVERY

Lab Name: Katahdin Analytical Services **Client Field ID:** CHAAP-21B-DS-SS07S

Matrix: SOIL **SDG Name:** SL4180

Percent Solids: 81.2 **Lab Sample ID:** SL4180-008S

Concentration Units : mg/Kg drywt

Analyte	Spiked Sample Result	C	Sample Result	C	Spike Added	%R	Q	Control Limits (%R) Low	High	M
ALUMINUM, TOTAL	27000		25100		216.19	894.6	N	78	124	MS
ANTIMONY, TOTAL	5.94		0.20		10.81	53.1	N	72	124	MS
ARSENIC, TOTAL	16.2		5.03		10.81	103.6		82	118	MS
BARIUM, TOTAL	416		190		216.19	104.3		86	116	MS
BERYLLIUM, TOTAL	6.25		1.08		5.4	95.8		80	120	MS
CADMIUM, TOTAL	25.1		0.020	J	27.02	92.9		84	116	MS
CALCIUM, TOTAL	4730		4100		270.23	233.4	N	86	118	MS
CHROMIUM, TOTAL	43.7		21.2		21.62	104.1		83	119	MS
COBALT, TOTAL	63.5		8.16		54.05	102.4		84	115	MS
COPPER, TOTAL	42.2		15.5		27.02	98.7		84	119	MS
IRON, TOTAL	20100		18600		108.09	1372.6	N	81	124	MS
LEAD, TOTAL	25.9		14.9		10.81	101.6		84	118	MS
MAGNESIUM, TOTAL	7320		6090		540.46	227.2	N	80	123	MS
MANGANESE, TOTAL	306		276		54.05	55.9	N	85	116	MS
MERCURY, TOTAL	0.176		0.012	J	0.16	102.3		80	124	CV
NICKEL, TOTAL	72.6		16.6		54.05	103.6		84	119	MS
POTASSIUM, TOTAL	6140		4960		1080.93	109.1		85	119	MS
SELENIUM, TOTAL	10.9		0.466	J	10.81	96.3		80	119	MS
SILVER, TOTAL	5.13		0.0764	J	5.4	93.5		83	118	MS
SODIUM, TOTAL	1020		181		810.69	103.3		79	125	MS
THALLIUM, TOTAL	11.7		0.374		10.81	104.8		83	118	MS
VANADIUM, TOTAL	89.6		36.8		54.05	97.7		82	116	MS
ZINC, TOTAL	111		55.5		54.05	102.3		82	119	MS

Comments:

5A

SPIKE SAMPLE RECOVERY

Lab Name: Katahdin Analytical Services **Client Field ID:** CHAAP-21B-DS-SB11-5S

Matrix: SOIL **SDG Name:** SL4180

Percent Solids: 80.2 **Lab Sample ID:** SL4180-018P

Concentration Units : mg/Kg drywt

Analyte	Spiked Sample Result	C	Sample Result	C	Spike Added	%R	Q	Control Limits (%R) Low	High	M
ALUMINUM, TOTAL	18400		19100		206.15	-362.7	N	78	124	MS
ANTIMONY, TOTAL	3.78		0.244		10.31	34.3	N	72	124	MS
ARSENIC, TOTAL	13.6		4.22		10.31	90.5		82	118	MS
BARIUM, TOTAL	462		308		206.15	74.6	N	86	116	MS
BERYLLIUM, TOTAL	5.81		0.840		5.15	96.5		80	120	MS
CADMIUM, TOTAL	26.2		0.014	J	25.77	101.5		84	116	MS
CALCIUM, TOTAL	44300		47300		257.68	-1149.8	N	86	118	MS
CHROMIUM, TOTAL	37.6		18.2		20.61	94.4		83	119	MS
COBALT, TOTAL	60.1		7.40		51.54	102.2		84	115	MS
COPPER, TOTAL	36.2		12.3		25.77	92.8		84	119	MS
IRON, TOTAL	14600		16200		103.07	-1536.9	N	81	124	MS
LEAD, TOTAL	20.0		10.3		10.31	93.8		84	118	MS
MAGNESIUM, TOTAL	8740		9230		515.37	-94.9	N	80	123	MS
MANGANESE, TOTAL	308		280		51.54	53.4	N	85	116	MS
MERCURY, TOTAL	0.152		0.024	J	0.14	91.8		80	124	CV
NICKEL, TOTAL	65.2		16.0		51.54	95.4		84	119	MS
POTASSIUM, TOTAL	5590		5080		1030.74	49.1	N	85	119	MS
SELENIUM, TOTAL	10.4		0.40	J	10.31	97.4		80	119	MS
SILVER, TOTAL	5.26		0.0866	J	5.15	100.4		83	118	MS
SODIUM, TOTAL	2260		1620		773.05	83.0		79	125	MS
THALLIUM, TOTAL	10.9		0.304		10.31	103.1		83	118	MS
VANADIUM, TOTAL	89.5		38.8		51.54	98.3		82	116	MS
ZINC, TOTAL	93.8		46.2		51.54	92.4		82	119	MS

Comments:

5A

SPIKE SAMPLE RECOVERY

Lab Name: Katahdin Analytical Services **Client Field ID:** CHAAP-21B-DS-SB11-5S

Matrix: SOIL **SDG Name:** SL4180

Percent Solids: 80.2 **Lab Sample ID:** SL4180-018S

Concentration Units : mg/Kg drywt

Analyte	Spiked Sample Result	C	Sample Result	C	Spike Added	%R	Q	Control Limits (%R) Low	High	M
ALUMINUM, TOTAL	21300		19100		206.15	1064.8	N	78	124	MS
ANTIMONY, TOTAL	3.86		0.244		10.31	35.0	N	72	124	MS
ARSENIC, TOTAL	14.0		4.22		10.31	95.0		82	118	MS
BARIUM, TOTAL	509		308		206.15	97.6		86	116	MS
BERYLLIUM, TOTAL	5.65		0.840		5.15	93.5		80	120	MS
CADMIUM, TOTAL	25.5		0.014	J	25.77	98.9		84	116	MS
CALCIUM, TOTAL	49500		47300		257.68	864.2	N	86	118	MS
CHROMIUM, TOTAL	40.4		18.2		20.61	107.8		83	119	MS
COBALT, TOTAL	59.0		7.40		51.54	100.0		84	115	MS
COPPER, TOTAL	37.6		12.3		25.77	98.1		84	119	MS
IRON, TOTAL	17300		16200		103.07	1083.2	N	81	124	MS
LEAD, TOTAL	21.7		10.3		10.31	110.6		84	118	MS
MAGNESIUM, TOTAL	10300		9230		515.37	212.1	N	80	123	MS
MANGANESE, TOTAL	327		280		51.54	90.5		85	116	MS
MERCURY, TOTAL	0.151		0.024	J	0.15	84.9		80	124	CV
NICKEL, TOTAL	65.6		16.0		51.54	96.2		84	119	MS
POTASSIUM, TOTAL	6490		5080		1030.74	136.6	N	85	119	MS
SELENIUM, TOTAL	10.3		0.40	J	10.31	95.7		80	119	MS
SILVER, TOTAL	5.18		0.0866	J	5.15	99.0		83	118	MS
SODIUM, TOTAL	2560		1620		773.05	121.4		79	125	MS
THALLIUM, TOTAL	10.8		0.304		10.31	101.9		83	118	MS
VANADIUM, TOTAL	95.0		38.8		51.54	109.0		82	116	MS
ZINC, TOTAL	101		46.2		51.54	105.9		82	119	MS

Comments:

5B

POST DIGEST SPIKE SAMPLE RECOVERY

Lab Name: Katahdin Analytical Services **Client Field ID:** CHAAP-21B-DS-SS07S

Matrix: SOIL **SDG Name:** SL4180

Percent Solids: 81.2 **Lab Sample ID:** SL4180-008A

Concentration Units : ug/L

Analyte	Spiked Sample Result	C	Sample Result	C	Spike Added	%R	Q	Control Limits (%R) Low	High	M
ALUMINUM, TOTAL	43500		44800		200	-635.0	A	80	120	MS
ANTIMONY, TOTAL	2.51		0.36		2	107.4		80	120	MS
ARSENIC, TOTAL	19.4		8.99		10	104.5		80	120	MS
BARIUM, TOTAL	336		340		4	-87.5	A	80	120	MS
BERYLLIUM, TOTAL	3.87		1.92		2	97.3		80	120	MS
CADMIUM, TOTAL	1.91		0.036	J	2	93.9		80	120	MS
CALCIUM, TOTAL	7380		7320		200	28.0	A	80	120	MS
CHROMIUM, TOTAL	47.3		37.9		10	93.8		80	120	MS
COBALT, TOTAL	16.5		14.6		2	94.5		80	120	MS
COPPER, TOTAL	33.0		27.6		6	90.3		80	120	MS
IRON, TOTAL	33100		33300		200	-115.0	A	80	120	MS
LEAD, TOTAL	27.7		26.6		2	56.0	A	80	120	MS
MAGNESIUM, TOTAL	10700		10900		200	-110.0	A	80	120	MS
MANGANESE, TOTAL	490		493		4	-72.5	A	80	120	MS
MERCURY, TOTAL	0.972		0.070	J	1	90.2		80	120	CV
NICKEL, TOTAL	33.0		29.5		4	87.5		80	120	MS
POTASSIUM, TOTAL	10500		8860		2000	83.5		80	120	MS
SELENIUM, TOTAL	11.0		0.831	J	10	102.1		80	120	MS
SILVER, TOTAL	2.05		0.136	J	2	95.6		80	120	MS
SODIUM, TOTAL	2370		323		2000	102.6		80	120	MS
THALLIUM, TOTAL	2.76		0.668		2	104.6		80	120	MS
VANADIUM, TOTAL	76.5		65.7		10	107.6		80	120	MS
ZINC, TOTAL	116		99.1		20	85.0		80	120	MS

Comments:

5B

POST DIGEST SPIKE SAMPLE RECOVERY

Lab Name: Katahdin Analytical Services **Client Field ID:** CHAAP-21B-DS-SB11-5S

Matrix: SOIL **SDG Name:** SL4180

Percent Solids: 80.2 **Lab Sample ID:** SL4180-018A

Concentration Units : ug/L

Analyte	Spiked Sample Result	C	Sample Result	C	Spike Added	%R	Q	Control Limits (%R) Low	High	M
ALUMINUM, TOTAL	38000		37000		200	490.0	A	80	120	MS
ANTIMONY, TOTAL	2.54		0.473		2	103.4		80	120	MS
ARSENIC, TOTAL	19.1		8.18		10	109.2		80	120	MS
BARIUM, TOTAL	580		598		4	-440.0	A	80	120	MS
BERYLLIUM, TOTAL	3.58		1.63		2	97.3		80	120	MS
CADMIUM, TOTAL	2.10		0.028	J	2	103.6		80	120	MS
CALCIUM, TOTAL	92300		91800		200	260.0	A	80	120	MS
CHROMIUM, TOTAL	46.1		35.4		10	107.0		80	120	MS
COBALT, TOTAL	16.6		14.4		2	111.0		80	120	MS
COPPER, TOTAL	30.0		23.8		6	102.7		80	120	MS
IRON, TOTAL	32400		31400		200	485.0	A	80	120	MS
LEAD, TOTAL	21.4		19.9		2	73.5	A	80	120	MS
MAGNESIUM, TOTAL	18400		17900		200	225.0	A	80	120	MS
MANGANESE, TOTAL	557		544		4	335.0	A	80	120	MS
MERCURY, TOTAL	1.10		0.17	J	1	92.7		80	120	CV
NICKEL, TOTAL	35.6		31.1		4	112.5		80	120	MS
POTASSIUM, TOTAL	11900		9850		2000	102.0		80	120	MS
SELENIUM, TOTAL	10.9		0.77	J	10	101.7		80	120	MS
SILVER, TOTAL	2.21		0.168	J	2	102.2		80	120	MS
SODIUM, TOTAL	5240		3150		2000	104.3		80	120	MS
THALLIUM, TOTAL	2.74		0.589		2	107.6		80	120	MS
VANADIUM, TOTAL	86.8		75.2		10	116.2		80	120	MS
ZINC, TOTAL	111		89.6		20	108.0		80	120	MS

Comments:

5D

SPIKE DUPLICATES

Lab Name: Katahdin Analytical Services **Client Field ID:** CHAAP-21B-DS-SS07

Matrix: SOIL **SDG Name:** SL4180

Percent Solids: 81.2 **Lab Sample ID:** SL4180-008

Concentration Units : mg/Kg drywt

Analyte	Control Limits	Spike Result	C	Spike Dup. Result	C	RPD	Q	M
ALUMINUM, TOTAL		27000		22900		16.5		MS
ANTIMONY, TOTAL		5.94		5.82		2.1		MS
ARSENIC, TOTAL		16.2		14.8		9.1		MS
BARIUM, TOTAL		416		353		16.1		MS
BERYLLIUM, TOTAL		6.25		6.38		2.1		MS
CADMIUM, TOTAL		25.1		26.0		3.4		MS
CALCIUM, TOTAL		4730		4250		10.6		MS
CHROMIUM, TOTAL		43.7		43.0		1.5		MS
COBALT, TOTAL		63.5		65.6		3.2		MS
COPPER, TOTAL		42.2		43.9		4.1		MS
IRON, TOTAL		20100		17300		14.7		MS
LEAD, TOTAL		25.9		24.6		5.0		MS
MAGNESIUM, TOTAL		7320		6030		19.3		MS
MANGANESE, TOTAL		306		294		4.1		MS
MERCURY, TOTAL		0.176		0.197		11.6		CV
NICKEL, TOTAL		72.6		72.4		0.3		MS
POTASSIUM, TOTAL		6140		5700		7.4		MS
SELENIUM, TOTAL		10.9		11.4		4.5		MS
SILVER, TOTAL		5.13		5.34		4.0		MS
SODIUM, TOTAL		1020		1060		4.3		MS
THALLIUM, TOTAL		11.7		12.2		4.3		MS
VANADIUM, TOTAL		89.6		88.8		0.9		MS
ZINC, TOTAL		111		108		2.4		MS

Comments:

5D

SPIKE DUPLICATES

Lab Name: Katahdin Analytical Services **Client Field ID:** CHAAP-21B-DS-SB11-5

Matrix: SOIL **SDG Name:** SL4180

Percent Solids: 80.2 **Lab Sample ID:** SL4180-018

Concentration Units : mg/Kg drywt

Analyte	Control Limits	Spike Result	C	Spike Dup. Result	C	RPD	Q	M
ALUMINUM, TOTAL		21300		18400		14.8		MS
ANTIMONY, TOTAL		3.86		3.78		1.9		MS
ARSENIC, TOTAL		14.0		13.6		3.4		MS
BARIUM, TOTAL		509		462		9.8		MS
BERYLLIUM, TOTAL		5.65		5.81		2.7		MS
CADMIUM, TOTAL		25.5		26.2		2.5		MS
CALCIUM, TOTAL		49500		44300		11.1		MS
CHROMIUM, TOTAL		40.4		37.6		7.1		MS
COBALT, TOTAL		59.0		60.1		1.9		MS
COPPER, TOTAL		37.6		36.2		3.7		MS
IRON, TOTAL		17300		14600		16.9		MS
LEAD, TOTAL		21.7		20.0		8.3		MS
MAGNESIUM, TOTAL		10300		8740		16.6		MS
MANGANESE, TOTAL		327		308		6.0		MS
MERCURY, TOTAL		0.151		0.152		0.7		CV
NICKEL, TOTAL		65.6		65.2		0.6		MS
POTASSIUM, TOTAL		6490		5590		14.9		MS
SELENIUM, TOTAL		10.3		10.4		1.7		MS
SILVER, TOTAL		5.18		5.26		1.4		MS
SODIUM, TOTAL		2560		2260		12.3		MS
THALLIUM, TOTAL		10.8		10.9		1.1		MS
VANADIUM, TOTAL		95.0		89.5		6.0		MS
ZINC, TOTAL		101		93.8		7.2		MS

Comments:

LABORATORY CONTROL SAMPLES

Lab Name: Katahdin Analytical Services **Sample ID:** LCSOLE21HGS1

Matrix: SOIL **SDG Name:** SL4180

QC Batch ID: LE21HGS1

Concentration Units : mg/Kg drywt

Analyte	TRUE	FOUND	% R	LIMITS (%)	
MERCURY	0.833	0.870	104.8	80	124

LABORATORY CONTROL SAMPLES

Lab Name: Katahdin Analytical Services **Sample ID:** LCSOLE21HGS2

Matrix: SOIL **SDG Name:** SL4180

QC Batch ID: LE21HGS2

Concentration Units : mg/Kg drywt

Analyte	TRUE	FOUND	% R	LIMITS (%)	
MERCURY	0.833	0.769	92.8	80	124

LABORATORY CONTROL SAMPLES

Lab Name: Katahdin Analytical Services **Sample ID:** LCSOLE21IMS1

Matrix: SOIL **SDG Name:** SL4180

QC Batch ID: LE21IMS1

Concentration Units : mg/Kg drywt

Analyte	TRUE	FOUND	% R	LIMITS (%)	
ALUMINUM	200	214	106.8	78	124
ANTIMONY	10.0	10.2	101.5	72	124
ARSENIC	10.0	10.4	104.3	82	118
BARIUM	200	200	100.2	86	116
BERYLLIUM	5.00	5.02	100.4	80	120
CADMIUM	25.0	25.0	100.0	84	116
CALCIUM	250	262	104.6	86	118
CHROMIUM	20.0	20.5	102.3	83	119
COBALT	50.0	52.4	104.8	84	115
COPPER	25.0	25.0	99.9	84	119
IRON	100	106	106.3	81	124
LEAD	10.0	10.3	103.0	84	118
MAGNESIUM	500	550	109.9	80	123
MANGANESE	50.0	51.8	103.5	85	116
NICKEL	50.0	52.3	104.7	84	119
POTASSIUM	1000	1020	102.5	85	119
SELENIUM	10.0	10.2	101.8	80	119
SILVER	5.00	5.02	100.6	83	118
SODIUM	750	794	105.9	79	125
THALLIUM	10.0	10.3	102.9	83	118
VANADIUM	50.0	51.3	102.7	82	116
ZINC	50.0	50.5	101.0	82	119

LABORATORY CONTROL SAMPLES

Lab Name: Katahdin Analytical Services **Sample ID:** LCSOLE21IMS2

Matrix: SOIL **SDG Name:** SL4180

QC Batch ID: LE21IMS2

Concentration Units : mg/Kg drywt

Analyte	TRUE	FOUND	% R	LIMITS (%)	
ALUMINUM	200	225	112.5	78	124
ANTIMONY	10.0	10.9	109.3	72	124
ARSENIC	10.0	11.0	109.8	82	118
BARIUM	200	215	107.7	86	116
BERYLLIUM	5.00	4.80	96.0	80	120
CADMIUM	25.0	24.7	98.9	84	116
CALCIUM	250	277	110.8	86	118
CHROMIUM	20.0	22.2	110.8	83	119
COBALT	50.0	56.3	112.6	84	115
COPPER	25.0	27.3	109.3	84	119
IRON	100	109	109.2	81	124
LEAD	10.0	10.7	107.4	84	118
MAGNESIUM	500	586	117.3	80	123
MANGANESE	50.0	56.3	112.6	85	116
NICKEL	50.0	55.8	111.6	84	119
POTASSIUM	1000	1060	106.0	85	119
SELENIUM	10.0	10.9	109.1	80	119
SILVER	5.00	5.02	100.6	83	118
SODIUM	750	832	111.0	79	125
THALLIUM	10.0	10.7	107.0	83	118
VANADIUM	50.0	56.2	112.5	82	116
ZINC	50.0	52.6	105.3	82	119

LABORATORY CONTROL SAMPLES

Lab Name: Katahdin Analytical Services **Sample ID:** LCSWLE17HGW2

Matrix: WATER **SDG Name:** SL4180

QC Batch ID: LE17HGW2

Concentration Units : ug/L

Analyte	TRUE	FOUND	% R	LIMITS (%)	
MERCURY	5.00	5.04	100.8	82	119

LABORATORY CONTROL SAMPLES

Lab Name: Katahdin Analytical Services **Sample ID:** LCSWLE21IMW2

Matrix: WATER **SDG Name:** SL4180

QC Batch ID: LE21IMW2

Concentration Units : ug/L

Analyte	TRUE	FOUND	% R	LIMITS (%)	
ALUMINUM	2000	2150	107.6	84	117
ANTIMONY	100	104	104.3	85	117
ARSENIC	100	106	106.5	84	116
BARIUM	2000	2050	102.6	86	114
BERYLLIUM	50.0	50.2	100.5	83	121
CADMIUM	250	262	104.9	87	115
CALCIUM	2500	2650	106.0	87	118
CHROMIUM	200	204	102.0	85	116
COBALT	500	528	105.7	86	115
COPPER	250	258	103.3	85	118
IRON	1000	1070	106.8	87	118
LEAD	100	106	105.5	88	115
MAGNESIUM	5000	5580	111.7	83	118
MANGANESE	500	518	103.5	87	115
NICKEL	500	529	105.8	85	117
POTASSIUM	10000	10300	103.2	87	115
SELENIUM	100	106	105.9	80	120
SILVER	50.0	52.4	104.9	85	116
SODIUM	7500	7980	106.3	85	117
THALLIUM	100	106	105.6	82	116
VANADIUM	500	516	103.3	86	115
ZINC	500	509	101.8	83	119

ICP SERIAL DILUTION

Lab Name: Katahdin Analytical Services **Client Field ID:** CHAAP-21B-DS-SS07L

Matrix: SOIL **SDG Name:** SL4180

Lab Sample ID: SL4180-008L

Concentration Units: ug/L

Analyte	Sample Result	C	Dilution Result	C	% Difference	Q	M
ALUMINUM, TOTAL	44800		48000		7.1		MS
ANTIMONY, TOTAL	0.36		0.38	J	5.6		MS
ARSENIC, TOTAL	8.99		8.9		1.0		MS
BARIUM, TOTAL	340		350		2.9		MS
BERYLLIUM, TOTAL	1.92		1.99		3.6		MS
CADMIUM, TOTAL	0.036	J	0.082	J	127.8		MS
CALCIUM, TOTAL	7320		7740		5.7		MS
CHROMIUM, TOTAL	37.9		39.7		4.7		MS
COBALT, TOTAL	14.6		15.7		7.5		MS
COPPER, TOTAL	27.6		28.6		3.6		MS
IRON, TOTAL	33300		35700		7.2		MS
LEAD, TOTAL	26.6		26.8		0.8		MS
MAGNESIUM, TOTAL	10900		12000		10.1	E	MS
MANGANESE, TOTAL	493		537		8.9		MS
MERCURY, TOTAL	0.070	J	0.16	U	100.0		CV
NICKEL, TOTAL	29.5		31.4		6.4		MS
POTASSIUM, TOTAL	8860		9460		6.8		MS
SELENIUM, TOTAL	0.831	J	1.2	J	44.4		MS
SILVER, TOTAL	0.136	J	0.14	J	2.9		MS
SODIUM, TOTAL	323		355	J	9.9		MS
THALLIUM, TOTAL	0.668		0.61	J	8.7		MS
VANADIUM, TOTAL	65.7		67.2		2.3		MS
ZINC, TOTAL	99.1		105		6.0		MS

ICP SERIAL DILUTION

Lab Name: Katahdin Analytical Services **Client Field ID:** CHAAP-21B-DS-SB11-5L

Matrix: SOIL **SDG Name:** SL4180

Lab Sample ID: SL4180-018L

Concentration Units: ug/L

Analyte	Sample Result	C	Dilution Result	C	% Difference	Q	M
ALUMINUM, TOTAL	37000		40100		8.4		MS
ANTIMONY, TOTAL	0.473		0.49	J	3.6		MS
ARSENIC, TOTAL	8.18		9.2		12.5		MS
BARIUM, TOTAL	598		624		4.3		MS
BERYLLIUM, TOTAL	1.63		1.74		6.7		MS
CADMIUM, TOTAL	0.028	J	0.075	U	100.0		MS
CALCIUM, TOTAL	91800		99800		8.7		MS
CHROMIUM, TOTAL	35.4		37.6		6.2		MS
COBALT, TOTAL	14.4		15.5		7.6		MS
COPPER, TOTAL	23.8		25.9		8.8		MS
IRON, TOTAL	31400		35300		12.4	E	MS
LEAD, TOTAL	19.9		20.0		0.5		MS
MAGNESIUM, TOTAL	17900		19700		10.1	E	MS
MANGANESE, TOTAL	544		612		12.5	E	MS
MERCURY, TOTAL	0.17	J	0.16	U	100.0		CV
NICKEL, TOTAL	31.1		35.6		14.5	E	MS
POTASSIUM, TOTAL	9850		10600		7.6		MS
SELENIUM, TOTAL	0.77	J	1.2	J	55.8		MS
SILVER, TOTAL	0.168	J	0.16	J	4.8		MS
SODIUM, TOTAL	3150		3400		7.9		MS
THALLIUM, TOTAL	0.589		0.55	J	6.6		MS
VANADIUM, TOTAL	75.2		79.7		6.0		MS
ZINC, TOTAL	89.6		99.2		10.7	E	MS

INSTRUMENT DETECTION LIMITS

Lab Name: Katahdin Analytical Services **Instrument Code:** H

Instrument Name: CETAC M6100 **Date:** 4/6/2018

Concentration Units: ug/L

Analyte	PQL/LOQ	IDL	M
MERCURY	0.20	0.025	CV

INSTRUMENT DETECTION LIMITS

Lab Name: Katahdin Analytical Services **Instrument Code:** J

Instrument Name: AGILENT 7500 ICP-MS **Date:** 1/15/2018

Concentration Units: ug/L

Analyte	PQL/LOQ	IDL	M
ALUMINUM	20	1.9	MS
ANTIMONY	0.20	0.0056	MS
ARSENIC	1.0	0.18	MS
BARIUM	0.40	0.075	MS
BERYLLIUM	0.20	0.0037	MS
CADMIUM	0.20	0.0069	MS
CALCIUM	20	5.3	MS
CHROMIUM	1.0	0.062	MS
COBALT	0.20	0.0062	MS
COPPER	0.60	0.030	MS
IRON	20	4.3	MS
LEAD	0.20	0.010	MS
MAGNESIUM	20	1.3	MS
MANGANESE	0.40	0.021	MS
MOLYBDENUM	1.0	0.034	MS
NICKEL	0.40	0.018	MS
POTASSIUM	200	7.9	MS
SELENIUM	1.0	0.47	MS
SILVER	0.20	0.0030	MS
SODIUM	200	4.4	MS
THALLIUM	0.20	0.0084	MS
VANADIUM	1.0	0.063	MS
ZINC	2.0	0.27	MS

LIMITS of DETECTION

Lab Name: Katahdin Analytical Services **Instrument Code:** H

Instrument Name: CETAC M6100 **Date:** 1/7/2011

Analyte	LOD	Units	M	EPA Prep./Anal. Method
MERCURY	0.017	mg/Kg	CV	SW846 7471B / SW846 7471B

LIMITS of DETECTION

Lab Name: Katahdin Analytical Services **Instrument Code:** H

Instrument Name: CETAC M6100 **Date:** 2/9/2011

Analyte	LOD	Units	M	EPA Prep./Anal. Method
MERCURY	0.10	ug/L	CV	SW846 7470A / SW846 7470A

LIMITS of DETECTION

Lab Name: Katahdin Analytical Services **Instrument Code:** J

Instrument Name: AGILENT 7500 ICP-MS **Date:** 1/25/2011

Analyte	LOD	Units	M	EPA Prep./Anal. Method
ALUMINUM	8.0	ug/L	MS	SW846 3010A / SW846 6020A
ANTIMONY	0.10	ug/L	MS	SW846 3010A / SW846 6020A
ARSENIC	0.80	ug/L	MS	SW846 3010A / SW846 6020A
BARIUM	0.20	ug/L	MS	SW846 3010A / SW846 6020A
BERYLLIUM	0.040	ug/L	MS	SW846 3010A / SW846 6020A
CADMIUM	0.040	ug/L	MS	SW846 3010A / SW846 6020A
CALCIUM	16	ug/L	MS	SW846 3010A / SW846 6020A
CHROMIUM	0.80	ug/L	MS	SW846 3010A / SW846 6020A
COBALT	0.060	ug/L	MS	SW846 3010A / SW846 6020A
COPPER	0.40	ug/L	MS	SW846 3010A / SW846 6020A
IRON	12	ug/L	MS	SW846 3010A / SW846 6020A
LEAD	0.10	ug/L	MS	SW846 3010A / SW846 6020A
MAGNESIUM	16	ug/L	MS	SW846 3010A / SW846 6020A
MANGANESE	0.20	ug/L	MS	SW846 3010A / SW846 6020A
NICKEL	0.24	ug/L	MS	SW846 3010A / SW846 6020A
POTASSIUM	80	ug/L	MS	SW846 3010A / SW846 6020A
SELENIUM	0.60	ug/L	MS	SW846 3010A / SW846 6020A
SILVER	0.080	ug/L	MS	SW846 3010A / SW846 6020A
SODIUM	80	ug/L	MS	SW846 3010A / SW846 6020A
THALLIUM	0.080	ug/L	MS	SW846 3010A / SW846 6020A
VANADIUM	0.80	ug/L	MS	SW846 3010A / SW846 6020A
ZINC	1.6	ug/L	MS	SW846 3010A / SW846 6020A

LIMITS of DETECTION

Lab Name: Katahdin Analytical Services **Instrument Code:** J

Instrument Name: AGILENT 7500 ICP-MS **Date:** 1/26/2011

Analyte	LOD	Units	M	EPA Prep./Anal. Method
ALUMINUM	0.80	mg/kg	MS	SW846 3050B / SW846 6020A
ANTIMONY	0.010	mg/kg	MS	SW846 3050B / SW846 6020A
ARSENIC	0.080	mg/kg	MS	SW846 3050B / SW846 6020A
BARIUM	0.020	mg/kg	MS	SW846 3050B / SW846 6020A
BERYLLIUM	0.0040	mg/Kg	MS	SW846 3050B / SW846 6020A
CADMIUM	0.0040	mg/kg	MS	SW846 3050B / SW846 6020A
CALCIUM	1.6	mg/kg	MS	SW846 3050B / SW846 6020A
CHROMIUM	0.080	mg/kg	MS	SW846 3050B / SW846 6020A
COBALT	0.0060	mg/kg	MS	SW846 3050B / SW846 6020A
COPPER	0.040	mg/kg	MS	SW846 3050B / SW846 6020A
IRON	1.2	mg/kg	MS	SW846 3050B / SW846 6020A
LEAD	0.010	mg/Kg	MS	SW846 3050B / SW846 6020A
MAGNESIUM	1.6	mg/kg	MS	SW846 3050B / SW846 6020A
MANGANESE	0.020	mg/kg	MS	SW846 3050B / SW846 6020A
NICKEL	0.024	mg/kg	MS	SW846 3050B / SW846 6020A
POTASSIUM	8.0	mg/Kg	MS	SW846 3050B / SW846 6020A
SELENIUM	0.060	mg/kg	MS	SW846 3050B / SW846 6020A
SILVER	0.0080	mg/kg	MS	SW846 3050B / SW846 6020A
SODIUM	8.0	mg/kg	MS	SW846 3050B / SW846 6020A
THALLIUM	0.0080	mg/kg	MS	SW846 3050B / SW846 6020A
VANADIUM	0.080	mg/Kg	MS	SW846 3050B / SW846 6020A
ZINC	0.16	mg/kg	MS	SW846 3050B / SW846 6020A

METHOD DETECTION LIMITS

Lab Name: Katahdin Analytical Services **Instrument Code:** H

Instrument Name: CETAC M6100 **Date:** 1/7/2011

Analyte	MDL	Units	M	EPA Prep./Anal. Method
MERCURY	0.0052	mg/Kg	CV	SW846 7471B / SW846 7471B

METHOD DETECTION LIMITS

Lab Name: Katahdin Analytical Services **Instrument Code:** H

Instrument Name: CETAC M6100 **Date:** 2/9/2011

Analyte	MDL	Units	M	EPA Prep./Anal. Method
MERCURY	0.013	ug/L	CV	SW846 7470A / SW846 7470A

METHOD DETECTION LIMITS

Lab Name: Katahdin Analytical Services **Instrument Code:** J

Instrument Name: AGILENT 7500 ICP-MS **Date:** 1/25/2011

Analyte	MDL	Units	M	EPA Prep./Anal. Method
ALUMINUM	0.88	ug/L	MS	SW846 3010A / SW846 6020A
ANTIMONY	0.011	ug/L	MS	SW846 3010A / SW846 6020A
ARSENIC	0.45	ug/L	MS	SW846 3010A / SW846 6020A
BARIUM	0.054	ug/L	MS	SW846 3010A / SW846 6020A
BERYLLIUM	0.0067	ug/L	MS	SW846 3010A / SW846 6020A
CADMIUM	0.0059	ug/L	MS	SW846 3010A / SW846 6020A
CALCIUM	4.1	ug/L	MS	SW846 3010A / SW846 6020A
CHROMIUM	0.044	ug/L	MS	SW846 3010A / SW846 6020A
COBALT	0.012	ug/L	MS	SW846 3010A / SW846 6020A
COPPER	0.037	ug/L	MS	SW846 3010A / SW846 6020A
IRON	2.6	ug/L	MS	SW846 3010A / SW846 6020A
LEAD	0.015	ug/L	MS	SW846 3010A / SW846 6020A
MAGNESIUM	1.6	ug/L	MS	SW846 3010A / SW846 6020A
MANGANESE	0.070	ug/L	MS	SW846 3010A / SW846 6020A
NICKEL	0.030	ug/L	MS	SW846 3010A / SW846 6020A
POTASSIUM	6.1	ug/L	MS	SW846 3010A / SW846 6020A
SELENIUM	0.037	ug/L	MS	SW846 3010A / SW846 6020A
SILVER	0.010	ug/L	MS	SW846 3010A / SW846 6020A
SODIUM	3.7	ug/L	MS	SW846 3010A / SW846 6020A
THALLIUM	0.012	ug/L	MS	SW846 3010A / SW846 6020A
VANADIUM	0.10	ug/L	MS	SW846 3010A / SW846 6020A
ZINC	0.78	ug/L	MS	SW846 3010A / SW846 6020A

METHOD DETECTION LIMITS

Lab Name: Katahdin Analytical Services **Instrument Code:** J

Instrument Name: AGILENT 7500 ICP-MS **Date:** 1/26/2011

Analyte	MDL	Units	M	EPA Prep./Anal. Method
ALUMINUM	0.10	mg/kg	MS	SW846 3050B / SW846 6020A
ANTIMONY	0.0040	mg/kg	MS	SW846 3050B / SW846 6020A
ARSENIC	0.029	mg/kg	MS	SW846 3050B / SW846 6020A
BARIUM	0.0073	mg/kg	MS	SW846 3050B / SW846 6020A
BERYLLIUM	0.00081	mg/kg	MS	SW846 3050B / SW846 6020A
CADMIUM	0.0015	mg/kg	MS	SW846 3050B / SW846 6020A
CALCIUM	0.77	mg/kg	MS	SW846 3050B / SW846 6020A
CHROMIUM	0.0098	mg/kg	MS	SW846 3050B / SW846 6020A
COBALT	0.0011	mg/kg	MS	SW846 3050B / SW846 6020A
COPPER	0.014	mg/kg	MS	SW846 3050B / SW846 6020A
IRON	0.48	mg/kg	MS	SW846 3050B / SW846 6020A
LEAD	0.0014	mg/kg	MS	SW846 3050B / SW846 6020A
MAGNESIUM	0.27	mg/kg	MS	SW846 3050B / SW846 6020A
MANGANESE	0.0084	mg/kg	MS	SW846 3050B / SW846 6020A
NICKEL	0.0053	mg/kg	MS	SW846 3050B / SW846 6020A
POTASSIUM	0.91	mg/kg	MS	SW846 3050B / SW846 6020A
SELENIUM	0.0078	mg/kg	MS	SW846 3050B / SW846 6020A
SILVER	0.0013	mg/kg	MS	SW846 3050B / SW846 6020A
SODIUM	0.51	mg/kg	MS	SW846 3050B / SW846 6020A
THALLIUM	0.0019	mg/kg	MS	SW846 3050B / SW846 6020A
VANADIUM	0.022	mg/kg	MS	SW846 3050B / SW846 6020A
ZINC	0.026	mg/kg	MS	SW846 3050B / SW846 6020A

ICP LINEAR RANGES

Lab Name: Katahdin Analytical Services **Instrument Code:** J

Instrument Name: AGILENT 7500 ICP-MS **Date:** 1/31/2018

Concentration Units: ug/L

Analyte	Integration Time (sec)	Linear Range	M
ALUMINUM	0.01	200000	MS
ANTIMONY	0.10	1000	MS
ARSENIC	0.30	1000	MS
BARIUM	0.10	2000	MS
BERYLLIUM	0.30	100	MS
CADMIUM	0.10	1000	MS
CALCIUM	0.03	200000	MS
CHROMIUM	0.10	2000	MS
COBALT	0.10	1000	MS
COPPER	0.10	2000	MS
IRON	0.03	100000	MS
LEAD	0.10	2000	MS
MAGNESIUM	0.05	200000	MS
MANGANESE	0.10	2000	MS
MOLYBDENUM	0.10	1000	MS
NICKEL	0.10	1000	MS
POTASSIUM	0.01	200000	MS
SELENIUM	0.30	1000	MS
SILVER	0.10	100	MS
SODIUM	0.01	200000	MS
THALLIUM	0.10	1000	MS
VANADIUM	0.10	1000	MS
ZINC	0.10	2000	MS

PREPARATION LOG

Lab Name: Katahdin Analytical Services **QC Batch ID:** LE17HGW2

Matrix: WATER **SDG Name:** SL4180

Method: CV **Prep Date:** 05/17/2018

Client ID	Lab Sample ID	Initial (L)	Final (L)	Bottle ID
LCSWLE17HGW2	LCSWLE17HGW2	0.025	0.025	
PBWLE17HGW2	PBWLE17HGW2	0.025	0.025	
CHAAP-EB-051418	SL4180-029	0.025	0.025	D

PREPARATION LOG

Lab Name: Katahdin Analytical Services **QC Batch ID:** LE21HGS1

Matrix: SOIL **SDG Name:** SL4180

Method: CV **Prep Date:** 05/21/2018

Client ID	Lab Sample ID	Initial (g)	Final (L)	Bottle ID
LCSOLE21HGS1	LCSOLE21HGS1	0.6	0.1	
PBSLE21HGS1	PBSLE21HGS1	0.6	0.1	
CHAAP-21B-DS-SS02	SL4180-001	0.79	0.1	E
CHAAP-21B-DS-SS102	SL4180-002	0.7	0.1	E
CHAAP-21B-DS-SB02-5	SL4180-003	0.72	0.1	E
CHAAP-21B-DS-SB02-10	SL4180-004	0.61	0.1	E
CHAAP-21B-DS-SS06	SL4180-005	0.73	0.1	E
CHAAP-21B-DS-SB06-5	SL4180-006	0.85	0.1	E
CHAAP-21B-DS-SB06-10	SL4180-007	0.67	0.1	E
CHAAP-21B-DS-SS07	SL4180-008	0.74	0.1	O
CHAAP-21B-DS-SS07P	SL4180-008P	0.75	0.1	O
CHAAP-21B-DS-SS07S	SL4180-008S	0.76	0.1	O
CHAAP-21B-DS-SB07-5	SL4180-009	0.87	0.1	E
CHAAP-21B-DS-SB107-5	SL4180-010	79	0.1	E
CHAAP-21B-DS-SB07-10	SL4180-011	0.9	0.1	E
CHAAP-21B-DS-SS08	SL4180-012	0.62	0.1	E
CHAAP-21B-DS-SB08-5	SL4180-013	0.66	0.1	E
CHAAP-21B-DS-SS09	SL4180-014	0.81	0.1	E
CHAAP-21B-DS-SB09-5	SL4180-015	0.64	0.1	E
CHAAP-21B-DS-SS11	SL4180-016	0.81	0.1	E
CHAAP-21B-DS-SS111	SL4180-017	0.84	0.1	E
CHAAP-21B-DS-SS10	SL4180-019	0.89	0.1	E
CHAAP-21B-DS-SB10-5	SL4180-020	0.77	0.1	E
CHAAP-21B-DS-SS04	SL4180-021	0.72	0.1	E

PREPARATION LOG

Lab Name: Katahdin Analytical Services **QC Batch ID:** LE21HGS2

Matrix: SOIL **SDG Name:** SL4180

Method: CV **Prep Date:** 05/21/2018

Client ID	Lab Sample ID	Initial (g)	Final (L)	Bottle ID
LCSOLE21HGS2	LCSOLE21HGS2	0.6	0.1	
PBSLE21HGS2	PBSLE21HGS2	0.6	0.1	
CHAAP-21B-DS-SB11-5	SL4180-018	0.85	0.1	N
CHAAP-21B-DS-SB11-5P	SL4180-018P	0.87	0.1	N
CHAAP-21B-DS-SB11-5S	SL4180-018S	0.85	0.1	N
CHAAP-21B-DS-SB04-5	SL4180-022	0.87	0.1	E
CHAAP-21B-DS-SB04-10	SL4180-023	0.8	0.1	E
CHAAP-21B-DS-SS03	SL4180-024	0.82	0.1	E
CHAAP-21B-DS-SS103	SL4180-025	0.63	0.1	E
CHAAP-21B-DS-SB03-5	SL4180-026	0.83	0.1	E
CHAAP-21B-DS-SB03-10	SL4180-027	0.81	0.1	E

PREPARATION LOG

Lab Name: Katahdin Analytical Services **QC Batch ID:** LE21IMS1

Matrix: SOIL **SDG Name:** SL4180

Method: MS **Prep Date:** 05/21/2018

Client ID	Lab Sample ID	Initial (g)	Final (L)	Bottle ID
LCSOLE21IMS1	LCSOLE21IMS1	1	0.1	
PBSLE21IMS1	PBSLE21IMS1	1	0.1	
CHAAP-21B-DS-SS02	SL4180-001	1.74	0.1	E
CHAAP-21B-DS-SS102	SL4180-002	1.44	0.1	E
CHAAP-21B-DS-SB02-5	SL4180-003	1.89	0.1	E
CHAAP-21B-DS-SB02-10	SL4180-004	1.39	0.1	E
CHAAP-21B-DS-SS06	SL4180-005	1.92	0.1	E
CHAAP-21B-DS-SB06-5	SL4180-006	1.19	0.1	E
CHAAP-21B-DS-SB06-10	SL4180-007	1.27	0.1	E
CHAAP-21B-DS-SS07	SL4180-008	1.1	0.1	O
CHAAP-21B-DS-SS07P	SL4180-008P	1.1	0.1	O
CHAAP-21B-DS-SS07S	SL4180-008S	1.14	0.1	O
CHAAP-21B-DS-SB07-5	SL4180-009	1.14	0.1	E
CHAAP-21B-DS-SB107-5	SL4180-010	1.57	0.1	E
CHAAP-21B-DS-SB07-10	SL4180-011	1.5	0.1	E
CHAAP-21B-DS-SS08	SL4180-012	1.27	0.1	E
CHAAP-21B-DS-SB08-5	SL4180-013	1.23	0.1	E
CHAAP-21B-DS-SS09	SL4180-014	1.11	0.1	E
CHAAP-21B-DS-SB09-5	SL4180-015	1.94	0.1	E
CHAAP-21B-DS-SS11	SL4180-016	1.58	0.1	E
CHAAP-21B-DS-SS111	SL4180-017	1.26	0.1	E

PREPARATION LOG

Lab Name: Katahdin Analytical Services **QC Batch ID:** LE21IMS2

Matrix: SOIL **SDG Name:** SL4180

Method: MS **Prep Date:** 05/21/2018

Client ID	Lab Sample ID	Initial (g)	Final (L)	Bottle ID
LCSOLE21IMS2	LCSOLE21IMS2	1	0.1	
PBSLE21IMS2	PBSLE21IMS2	1	0.1	
CHAAP-21B-DS-SB11-5	SL4180-018	1.21	0.1	N
CHAAP-21B-DS-SB11-5P	SL4180-018P	1.21	0.1	N
CHAAP-21B-DS-SB11-5S	SL4180-018S	1.21	0.1	N
CHAAP-21B-DS-SS10	SL4180-019	1.16	0.1	E
CHAAP-21B-DS-SB10-5	SL4180-020	1.03	0.1	E
CHAAP-21B-DS-SS04	SL4180-021	1.28	0.1	E
CHAAP-21B-DS-SB04-5	SL4180-022	1.02	0.1	E
CHAAP-21B-DS-SB04-10	SL4180-023	1.32	0.1	E
CHAAP-21B-DS-SS03	SL4180-024	1.55	0.1	E
CHAAP-21B-DS-SS103	SL4180-025	1.48	0.1	E
CHAAP-21B-DS-SB03-5	SL4180-026	1.26	0.1	E
CHAAP-21B-DS-SB03-10	SL4180-027	1.35	0.1	E

PREPARATION LOG

Lab Name: Katahdin Analytical Services **QC Batch ID:** LE21IMW2

Matrix: WATER **SDG Name:** SL4180

Method: MS **Prep Date:** 05/21/2018

Client ID	Lab Sample ID	Initial (L)	Final (L)	Bottle ID
LCSWLE21IMW2	LCSWLE21IMW2	0.05	0.05	
PBWLE21IMW2	PBWLE21IMW2	0.05	0.05	
CHAAP-EB-051418	SL4180-029	0.05	0.05	D

ANALYSIS RUN LOG

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Instrument ID: CETAC M6100 **File Name:** HLE17A

Date: 5/17/2018 **Method:** CV

Lab Sample ID	Client ID	D.F.	Time	Elements
Calibration Blank		1	12:34	Hg
Standard #1 (0.2 ppb		1	12:37	Hg
Standard #2 (0.5 ppb		1	12:39	Hg
Standard #3 (1.0 ppb		1	12:41	Hg
Standard #4 (5.0 ppb		1	12:43	Hg
Standard #5 (10.0 pp		1	12:45	Hg
ICV		1	12:47	HG
ICB		1	12:49	HG
PQL		1	12:51	HG
CCV		1	12:54	HG
CCB		1	12:56	HG
ZZZZZZ		1	12:58	
ZZZZZZ		1	13:00	
ZZZZZZ		1	13:02	
ZZZZZZ		1	13:04	
ZZZZZZ		1	13:06	
ZZZZZZ		1	13:09	
ZZZZZZ		1	13:11	
ZZZZZZ		1	13:13	
ZZZZZZ		1	13:15	
CCV		1	13:17	HG
CCB		1	13:19	HG
ZZZZZZ		1	13:21	
ZZZZZZ		1	13:23	
ZZZZZZ		1	13:26	
ZZZZZZ		1	13:28	
PBWLE17HGW2		1	13:30	HG

ANALYSIS RUN LOG

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Instrument ID: CETAC M6100 **File Name:** HLE17A

Date: 5/17/2018 **Method:** CV

Lab Sample ID	Client ID	D.F.	Time	Elements
LCSWLE17HGW2		1	13:32	HG
ZZZZZZ		1	13:34	
SL4180-029	CHAAP-EB-051418	1	13:36	HG
ZZZZZZ		1	13:38	
ZZZZZZ		1	13:41	
CCV		1	13:43	HG
CCB		1	13:46	HG

ANALYSIS RUN LOG

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Instrument ID: CETAC M6100 **File Name:** HLE21A

Date: 5/21/2018 **Method:** CV

Lab Sample ID	Client ID	D.F.	Time	Elements
Calibration Blank		1	11:16	Hg
Standard #1 (0.2 ppb		1	11:18	Hg
Standard #2 (0.5 ppb		1	11:20	Hg
Standard #3 (1.0 ppb		1	11:22	Hg
Standard #4 (5.0 ppb		1	11:24	Hg
Standard #5 (10.0 pp		1	11:27	Hg
ICV		1	11:30	HG
ICB		1	11:32	HG
PQL		1	11:34	HG
CCV		1	11:36	HG
CCB		1	11:38	HG
PBSLE21HGS1		1	11:40	HG
LCSOLE21HGS1		1	11:43	HG
SL4180-001	CHAAP-21B-DS-SS02	1	11:45	HG
SL4180-002	CHAAP-21B-DS-SS102	1	11:47	HG
SL4180-003	CHAAP-21B-DS-SB02-5	1	11:49	HG
SL4180-004	CHAAP-21B-DS-SB02-10	1	11:51	HG
SL4180-005	CHAAP-21B-DS-SS06	1	11:53	HG
SL4180-006	CHAAP-21B-DS-SB06-5	1	11:55	HG
SL4180-007	CHAAP-21B-DS-SB06-10	1	11:57	HG
CCV		1	12:00	HG
CCB		1	12:02	HG
SL4180-008	CHAAP-21B-DS-SS07	1	12:04	HG
SL4180-008L	CHAAP-21B-DS-SS07L	5	12:06	HG
ZZZZZZ		1	12:08	
SL4180-008S	CHAAP-21B-DS-SS07S	1	12:10	HG
SL4180-008P	CHAAP-21B-DS-SS07P	1	12:12	HG

ANALYSIS RUN LOG

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Instrument ID: CETAC M6100 **File Name:** HLE21A

Date: 5/21/2018 **Method:** CV

Lab Sample ID	Client ID	D.F.	Time	Elements
SL4180-009	CHAAP-21B-DS-SB07-5	1	12:15	HG
SL4180-010	CHAAP-21B-DS-SB107-5	1	12:17	HG
SL4180-011	CHAAP-21B-DS-SB07-10	1	12:19	HG
SL4180-012	CHAAP-21B-DS-SS08	1	12:21	HG
SL4180-013	CHAAP-21B-DS-SB08-5	1	12:23	HG
CCV		1	12:25	HG
CCB		1	12:27	HG
SL4180-014	CHAAP-21B-DS-SS09	1	12:30	HG
SL4180-015	CHAAP-21B-DS-SB09-5	1	12:32	HG
SL4180-016	CHAAP-21B-DS-SS11	1	12:34	HG
SL4180-017	CHAAP-21B-DS-SS111	1	12:36	HG
SL4180-019	CHAAP-21B-DS-SS10	1	12:38	HG
SL4180-020	CHAAP-21B-DS-SB10-5	1	12:40	HG
SL4180-021	CHAAP-21B-DS-SS04	1	12:43	HG
PBSLE21HGS2		1	12:45	HG
LCSOLE21HGS2		1	12:47	HG
SL4180-018	CHAAP-21B-DS-SB11-5	1	12:49	HG
CCV		1	12:51	HG
CCB		1	12:53	HG
SL4180-018L	CHAAP-21B-DS-SB11-5L	5	12:55	HG
ZZZZZZ		1	12:58	
SL4180-018S	CHAAP-21B-DS-SB11-5S	1	13:00	HG
SL4180-018P	CHAAP-21B-DS-SB11-5P	1	13:02	HG
SL4180-022	CHAAP-21B-DS-SB04-5	1	13:04	HG
SL4180-023	CHAAP-21B-DS-SB04-10	1	13:06	HG
SL4180-024	CHAAP-21B-DS-SS03	1	13:08	HG
SL4180-025	CHAAP-21B-DS-SS103	1	13:11	HG

ANALYSIS RUN LOG

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Instrument ID: CETAC M6100 **File Name:** HLE21A

Date: 5/21/2018 **Method:** CV

Lab Sample ID	Client ID	D.F.	Time	Elements
SL4180-026	CHAAP-21B-DS-SB03-5	1	13:13	HG
SL4180-027	CHAAP-21B-DS-SB03-10	1	13:15	HG
CCV		1	13:17	HG
CCB		1	13:19	HG
ZZZZZZ		1	13:21	
ZZZZZZ		1	13:23	
ZZZZZZ		1	13:26	
ZZZZZZ		1	13:28	
ZZZZZZ		1	13:30	
ZZZZZZ		1	13:32	
ZZZZZZ		1	13:34	
ZZZZZZ		1	13:37	
ZZZZZZ		1	13:39	
ZZZZZZ		1	13:41	
CCV		1	13:45	HG
CCB		1	13:47	HG
ZZZZZZ		1	13:49	
ZZZZZZ		1	13:52	
ZZZZZZ		1	13:54	
ZZZZZZ		1	13:56	
ZZZZZZ		1	13:58	
ZZZZZZ		1	14:00	
ZZZZZZ		5	14:02	
ZZZZZZ		1	14:05	
ZZZZZZ		1	14:07	
ZZZZZZ		1	14:09	
CCV		1	14:11	HG

ANALYSIS RUN LOG

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Instrument ID: CETAC M6100 **File Name:** HLE21A

Date: 5/21/2018 **Method:** CV

Lab Sample ID	Client ID	D.F.	Time	Elements
CCB		1	14:13	HG
ZZZZZZ		1	14:15	
ZZZZZZ		1	14:18	
ZZZZZZ		1	14:20	
ZZZZZZ		1	14:22	
ZZZZZZ		1	14:24	
ZZZZZZ		1	14:28	
ZZZZZZ		1	14:31	
ZZZZZZ		1	14:33	
ZZZZZZ		1	14:35	
ZZZZZZ		1	14:37	
CCV		1	14:39	HG
CCB		1	14:41	HG
ZZZZZZ		1	14:43	
ZZZZZZ		1	14:46	
ZZZZZZ		1	14:48	
ZZZZZZ		5	14:50	
ZZZZZZ		1	14:52	
ZZZZZZ		1	14:54	
ZZZZZZ		1	14:56	
ZZZZZZ		1	14:58	
ZZZZZZ		1	15:01	
ZZZZZZ		1	15:03	
CCV		1	15:05	HG
CCB		1	15:07	HG
ZZZZZZ		1	15:09	
SL4180-008A	CHAAP-21B-DS-SS07A	1	15:11	HG

ANALYSIS RUN LOG

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Instrument ID: CETAC M6100 **File Name:** HLE21A

Date: 5/21/2018 **Method:** CV

Lab Sample ID	Client ID	D.F.	Time	Elements
SL4180-018A	CHAAP-21B-DS-SB11-5A	1	15:13	HG
CCV		1	15:16	HG
CCB		1	15:18	HG

ANALYSIS RUN LOG

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Instrument ID: AGILENT 7500 ICP-MS **File Name:** JLE21C

Date: 5/21/2018 **Method:** MS

Lab Sample ID	Client ID	D.F.	Time	Elements
6020 TUNE		1	14:17	
200.8 TUNE		1	14:20	
Cal Blank		1	18:33	Al Sb As Ba Be Cd Ca Cr Co Fe Pb Mg Mn Mo Ni K Ag Na Tl V Zn
Cal Std		1	18:37	Al Sb As Ba Be Cd Ca Cr Co Fe Pb Mg Mn Mo Ni K Ag Na Tl V Zn
ICV		1	18:41	Al Sb As Ba Be Cd Ca Cr Co Fe Pb Mg Mn Mo Ni K Ag Na Tl V Zn
ICB		1	18:45	Al Sb As Ba Be Cd Ca Cr Co Fe Pb Mg Mn Mo Ni K Ag Na Tl V Zn
PQL		1	18:49	Al Sb As Ba Be Cd Ca Cr Co Fe Pb Mg Mn Mo Ni K Ag Na Tl V Zn
ZZZZZZ		1	18:53	
ICSA		1	18:58	Al Sb As Ba Be Cd Ca Cr Co Fe Pb Mg Mn Mo Ni K Ag Na Tl V Zn
ICSAB		1	19:02	Al Sb As Ba Be Cd Ca Cr Co Fe Pb Mg Mn Mo Ni K Ag Na Tl V Zn
ZZZZZZ		1	19:06	
ZZZZZZ		1	19:10	
ZZZZZZ		1	19:14	
ZZZZZZ		1	19:18	
ZZZZZZ		1	19:22	
CCV		1	19:27	Al Sb As Ba Be Cd Ca Cr Co Fe Pb Mg Mn Mo Ni K Ag Na Tl V Zn
CCB		1	19:31	Al Sb As Ba Be Cd Ca Cr Co Fe Pb Mg Mn Mo Ni K Ag Na Tl V Zn
ZZZZZZ		1	19:35	
ZZZZZZ		1	19:39	
ZZZZZZ		1	19:43	
ZZZZZZ		1	19:47	
ZZZZZZ		1	19:51	
ZZZZZZ		1	19:56	
ZZZZZZ		1	20:00	
ZZZZZZ		1	20:04	
ZZZZZZ		5	20:08	
ZZZZZZ		5	20:13	

ANALYSIS RUN LOG

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Instrument ID: AGILENT 7500 ICP-MS **File Name:** JLE21C

Date: 5/21/2018 **Method:** MS

Lab Sample ID	Client ID	D.F.	Time	Elements
CCV		1	20:17	Al Sb As Ba Be Cd Ca Cr Co Fe Pb Mg Mn Mo Ni K Ag Na Tl V Zn
CCB		1	20:21	Al Sb As Ba Be Cd Ca Cr Co Fe Pb Mg Mn Mo Ni K Ag Na Tl V Zn
ZZZZZZ		5	20:25	
ZZZZZZ		5	20:29	
ZZZZZZ		5	20:33	
ZZZZZZ		5	20:38	
ZZZZZZ		5	20:42	
ZZZZZZ		5	20:46	
ZZZZZZ		25	20:50	
ZZZZZZ		5	20:55	
ZZZZZZ		5	20:59	
ZZZZZZ		5	21:03	
CCV		1	21:07	Al Sb As Ba Be Cd Ca Cr Co Fe Pb Mg Mn Mo Ni K Ag Na Tl V Zn
CCB		1	21:12	Al Sb As Ba Be Cd Ca Cr Co Fe Pb Mg Mn Mo Ni K Ag Na Tl V Zn
ZZZZZZ		5	21:16	
ZZZZZZ		5	21:20	
ZZZZZZ		5	21:24	
ZZZZZZ		5	21:29	
ZZZZZZ		5	21:33	
ZZZZZZ		5	21:37	
ZZZZZZ		5	21:41	
ZZZZZZ		1	21:46	
ZZZZZZ		1	21:50	
ZZZZZZ		5	21:54	
CCV		1	21:58	Al Sb As Ba Be Cd Ca Cr Co Fe Pb Mg Mn Mo Ni K Ag Na Tl V Zn
CCB		1	22:02	Al Sb As Ba Be Cd Ca Cr Co Fe Pb Mg Mn Mo Ni K Ag Na Tl V Zn
ZZZZZZ		1	22:07	

ANALYSIS RUN LOG

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Instrument ID: AGILENT 7500 ICP-MS **File Name:** JLE21C

Date: 5/21/2018 **Method:** MS

Lab Sample ID	Client ID	D.F.	Time	Elements
ZZZZZZ		1	22:11	
ZZZZZZ		1	22:15	
ZZZZZZ		1	22:19	
ZZZZZZ		1	22:24	
ZZZZZZ		1	22:28	
ZZZZZZ		1	22:32	
PBWLE21IMW2		5	22:37	Al Sb As Ba Be Cd Ca Cr Co Fe Pb Mg Mn Ni K Ag Na Tl V Zn
LCSWLE21IMW2		5	22:41	Al Sb As Ba Be Cd Ca Cr Co Fe Pb Mg Mn Ni K Ag Na Tl V Zn
SL4180-029	CHAAP-EB-051418	5	22:45	Al Sb As Ba Be Cd Ca Cr Co Fe Pb Mg Mn Ni K Ag Na Tl V Zn
CCV		1	22:49	Al Sb As Ba Be Cd Ca Cr Co Fe Pb Mg Mn Mo Ni K Ag Na Tl V Zn
CCB		1	22:53	Al Sb As Ba Be Cd Ca Cr Co Fe Pb Mg Mn Mo Ni K Ag Na Tl V Zn
ZZZZZZ		5	22:58	
PBSLE21IMS1		5	23:02	Al Sb As Ba Be Cd Ca Cr Co Fe Pb Mg Mn Ni K Ag Na Tl V Zn
LCSOLE21IMS1		5	23:06	Al Sb As Ba Be Cd Ca Cr Co Fe Pb Mg Mn Ni K Ag Na Tl V Zn
ZZZZZZ		5	23:10	
SL4180-001	CHAAP-21B-DS-SS02	5	23:15	Al Sb As Ba Be Cd Ca Cr Co Fe Pb Mg Mn Ni K Ag Na Tl V Zn
SL4180-002	CHAAP-21B-DS-SS102	5	23:19	Al Sb As Ba Be Cd Ca Cr Co Fe Pb Mg Mn Ni K Ag Na Tl V Zn
SL4180-003	CHAAP-21B-DS-SB02-5	5	23:23	Al Sb As Ba Be Cd Ca Cr Co Fe Pb Mg Mn Ni K Ag Na Tl V Zn
SL4180-004	CHAAP-21B-DS-SB02-10	5	23:28	Al Sb As Ba Be Cd Ca Cr Co Fe Pb Mg Mn Ni K Ag Na Tl V Zn
SL4180-005	CHAAP-21B-DS-SS06	5	23:32	Al Sb As Ba Be Cd Ca Cr Co Fe Pb Mg Mn Ni K Ag Na Tl V Zn
ZZZZZZ		1	23:37	
CCV		1	23:41	Al Sb As Ba Be Cd Ca Cr Co Fe Pb Mg Mn Mo Ni K Ag Na Tl V Zn
CCB		1	23:45	Al Sb As Ba Be Cd Ca Cr Co Fe Pb Mg Mn Mo Ni K Ag Na Tl V Zn
SL4180-006	CHAAP-21B-DS-SB06-5	5	23:49	Al Sb As Ba Be Cd Ca Cr Co Pb Mg Mn Ni K Ag Na Tl V Zn
SL4180-007	CHAAP-21B-DS-SB06-10	5	23:54	Al Sb As Ba Be Cd Ca Cr Co Pb Mg Mn Ni K Ag Na Tl V Zn
SL4180-008	CHAAP-21B-DS-SS07	5	23:58	Al Sb As Ba Be Cd Ca Cr Co Pb Mg Mn Ni K Ag Na Tl V Zn
SL4180-008L	CHAAP-21B-DS-SS07L	25	0:03	Al Sb As Ba Be Cd Ca Cr Co Pb Mg Mn Ni K Ag Na Tl V Zn

ANALYSIS RUN LOG

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Instrument ID: AGILENT 7500 ICP-MS **File Name:** JLE21C

Date: 5/22/2018 **Method:** MS

Lab Sample ID	Client ID	D.F.	Time	Elements
SL4180-008A	CHAAP-21B-DS-SS07A	5	0:07	Al Sb As Ba Be Cd Ca Cr Co Pb Mg Mn Ni K Ag Na Tl V Zn
SL4180-008S	CHAAP-21B-DS-SS07S	5	0:11	Al Sb As Ba Be Cd Ca Cr Co Pb Mg Mn Ni K Ag Na Tl V Zn
SL4180-008P	CHAAP-21B-DS-SS07P	5	0:16	Al Sb As Ba Be Cd Ca Cr Co Pb Mg Mn Ni K Ag Na Tl V Zn
SL4180-009	CHAAP-21B-DS-SB07-5	5	0:20	Al Sb As Ba Be Cd Ca Cr Co Pb Mg Mn Ni K Ag Na Tl V Zn
SL4180-010	CHAAP-21B-DS-SB107-5	5	0:24	Al Sb As Ba Be Cd Ca Cr Co Pb Mg Mn Ni K Ag Na Tl V Zn
ZZZZZZ		1	0:29	
CCV		1	0:33	Al Sb As Ba Be Cd Ca Cr Co Fe Pb Mg Mn Mo Ni K Ag Na Tl V Zn
CCB		1	0:37	Al Sb As Ba Be Cd Ca Cr Co Fe Pb Mg Mn Mo Ni K Ag Na Tl V Zn
SL4180-011	CHAAP-21B-DS-SB07-10	5	0:41	Al Sb As Ba Be Cd Ca Cr Co Pb Mg Mn Ni K Ag Na Tl V Zn
SL4180-012	CHAAP-21B-DS-SS08	5	0:46	Al Sb As Ba Be Cd Ca Cr Co Pb Mg Mn Ni K Ag Na Tl V Zn
SL4180-013	CHAAP-21B-DS-SB08-5	5	0:50	Al Sb As Ba Be Cd Ca Cr Co Pb Mg Mn Ni K Ag Na Tl V Zn
SL4180-014	CHAAP-21B-DS-SS09	5	0:55	Al Sb As Ba Be Cd Ca Cr Co Pb Mg Mn Ni K Ag Na Tl V Zn
SL4180-015	CHAAP-21B-DS-SB09-5	5	0:59	Al Sb As Ba Be Cd Ca Cr Co Pb Mg Mn Ni K Ag Na Tl V Zn
SL4180-016	CHAAP-21B-DS-SS11	5	1:03	Al Sb As Ba Be Cd Ca Cr Co Pb Mg Mn Ni K Ag Na Tl V Zn
SL4180-017	CHAAP-21B-DS-SS111	5	1:08	Al Sb As Ba Be Cd Ca Cr Co Pb Mg Mn Ni K Ag Na Tl V Zn
ZZZZZZ		1	1:12	
PBSLE21IMS2		5	1:16	Al Sb As Ba Be Cd Ca Cr Co Pb Mg Ni K Ag Na Tl V Zn
LCSOLE21IMS2		5	1:20	Al Sb As Ba Be Cd Ca Cr Co Pb Mg Ni K Ag Na Tl V Zn
CCV		1	1:25	Al Sb As Ba Be Cd Ca Cr Co Fe Pb Mg Mn Mo Ni K Ag Na Tl V Zn
CCB		1	1:29	Al Sb As Ba Be Cd Ca Cr Co Fe Pb Mg Mn Mo Ni K Ag Na Tl V Zn
SL4180-018	CHAAP-21B-DS-SB11-5	5	1:33	Sb Ba Pb Tl
SL4180-018L	CHAAP-21B-DS-SB11-5L	25	1:38	Sb Ba Pb Tl
SL4180-018A	CHAAP-21B-DS-SB11-5A	5	1:42	Sb Ba Pb Tl
SL4180-018S	CHAAP-21B-DS-SB11-5S	5	1:46	Sb Ba Pb Tl
SL4180-018P	CHAAP-21B-DS-SB11-5P	5	1:51	Sb Ba Pb Tl
SL4180-019	CHAAP-21B-DS-SS10	5	1:55	Sb Ba Pb Tl
SL4180-020	CHAAP-21B-DS-SB10-5	5	1:59	Sb Ba Pb Tl

ANALYSIS RUN LOG

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Instrument ID: AGILENT 7500 ICP-MS **File Name:** JLE21C

Date: 5/22/2018 **Method:** MS

Lab Sample ID	Client ID	D.F.	Time	Elements
SL4180-021	CHAAP-21B-DS-SS04	5	2:04	Sb Ba Pb Tl
SL4180-022	CHAAP-21B-DS-SB04-5	5	2:08	Sb Ba Pb Tl
ZZZZZZ		1	2:13	
CCV		1	2:17	Al Sb As Ba Be Cd Ca Cr Co Fe Pb Mg Mn Mo Ni K Ag Na Tl V Zn
CCB		1	2:21	Al Sb As Ba Be Cd Ca Cr Co Fe Pb Mg Mn Mo Ni K Ag Na Tl V Zn
SL4180-023	CHAAP-21B-DS-SB04-10	5	2:25	Sb Ba Pb Tl
SL4180-024	CHAAP-21B-DS-SS03	5	2:30	Sb Ba Pb Tl
SL4180-025	CHAAP-21B-DS-SS103	5	2:34	Sb Ba Pb Tl
SL4180-026	CHAAP-21B-DS-SB03-5	5	2:39	Sb Ba Pb Tl
SL4180-027	CHAAP-21B-DS-SB03-10	5	2:43	Sb Ba Pb Tl
ZZZZZZ		5	2:47	
ZZZZZZ		5	2:52	
ZZZZZZ		5	2:56	
ZZZZZZ		5	3:00	
ZZZZZZ		1	3:05	
CCV		1	3:09	Al Sb As Ba Be Cd Ca Cr Co Fe Pb Mg Mn Mo Ni K Ag Na Tl V Zn
CCB		1	3:13	Al Sb As Ba Be Cd Ca Cr Co Fe Pb Mg Mn Mo Ni K Ag Na Tl V Zn

ANALYSIS RUN LOG

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Instrument ID: AGILENT 7500 ICP-MS **File Name:** JLE22A

Date: 5/22/2018 **Method:** MS

Lab Sample ID	Client ID	D.F.	Time	Elements
6020 TUNE		1	13:47	
200.8 TUNE		1	13:50	
Cal Blank		1	14:36	Al As Be Cd Ca Cr Co Cu Fe Mg Mn Mo Ni K Se Ag Na V Zn
Cal Std		1	14:39	Al As Be Cd Ca Cr Co Cu Fe Mg Mn Mo Ni K Se Ag Na V Zn
ICV		1	14:43	Al As Be Cd Ca Cr Co Cu Fe Mg Mn Mo Ni K Se Ag Na V Zn
ICB		1	14:47	Al As Be Cd Ca Cr Co Cu Fe Mg Mn Mo Ni K Se Ag Na V Zn
PQL		1	14:50	Al As Be Cd Ca Cr Co Cu Fe Mg Mn Mo Ni K Se Ag Na V Zn
ZZZZZZ		1	14:54	
ICSA		1	14:57	Al As Be Cd Ca Cr Co Cu Fe Mg Mn Mo Ni K Se Ag Na V Zn
ICSAB		1	15:01	Al As Be Cd Ca Cr Co Cu Fe Mg Mn Mo Ni K Se Ag Na V Zn
ZZZZZZ		1	15:05	
ZZZZZZ		1	15:09	
ZZZZZZ		1	15:12	
ZZZZZZ		1	15:16	
ZZZZZZ		1	15:19	
CCV		1	15:23	Al As Be Cd Ca Cr Co Cu Fe Mg Mn Mo Ni K Se Ag Na V Zn
CCB		1	15:27	Al As Be Cd Ca Cr Co Cu Fe Mg Mn Mo Ni K Se Ag Na V Zn
ZZZZZZ		1	15:30	
PBWLE21IMW2		5	15:34	Cu Se
LCSWLE21IMW2		5	15:38	Cu Se
SL4180-029	CHAAP-EB-051418	5	15:42	Cu Se
ZZZZZZ		5	15:45	
ZZZZZZ		5	15:49	
ZZZZZZ		5	15:53	
ZZZZZZ		5	15:57	
ZZZZZZ		5	16:00	
ZZZZZZ		1	16:04	

ANALYSIS RUN LOG

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Instrument ID: AGILENT 7500 ICP-MS **File Name:** JLE22A

Date: 5/22/2018 **Method:** MS

Lab Sample ID	Client ID	D.F.	Time	Elements
CCV		1	16:08	Al As Be Cd Ca Cr Co Cu Fe Mg Mn Mo Ni K Se Ag Na V Zn
CCB		1	16:12	Al As Be Cd Ca Cr Co Cu Fe Mg Mn Mo Ni K Se Ag Na V Zn
ZZZZZZ		5	16:16	
ZZZZZZ		5	16:20	
ZZZZZZ		5	16:24	
ZZZZZZ		5	16:27	
ZZZZZZ		5	16:31	
ZZZZZZ		5	16:35	
ZZZZZZ		5	16:39	
ZZZZZZ		5	16:43	
ZZZZZZ		5	16:47	
ZZZZZZ		1	16:51	
CCV		1	16:55	Al As Be Cd Ca Cr Co Cu Fe Mg Mn Mo Ni K Se Ag Na V Zn
CCB		1	16:59	Al As Be Cd Ca Cr Co Cu Fe Mg Mn Mo Ni K Se Ag Na V Zn
ZZZZZZ		25	17:03	
ZZZZZZ		5	17:07	
ZZZZZZ		5	17:11	
ZZZZZZ		5	17:15	
ZZZZZZ		5	17:19	
ZZZZZZ		5	17:23	
ZZZZZZ		1	17:27	
ZZZZZZ		1	17:31	
PBSLE21IMS1		5	17:35	Cu Se
LCSOLE21IMS1		5	17:39	Cu Se
CCV		1	17:43	Al As Be Cd Ca Cr Co Cu Fe Mg Mn Mo Ni K Se Ag Na V Zn
CCB		1	17:47	Al As Be Cd Ca Cr Co Cu Fe Mg Mn Mo Ni K Se Ag Na V Zn
SL4180-001	CHAAP-21B-DS-SS02	5	17:51	Cu Se

ANALYSIS RUN LOG

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Instrument ID: AGILENT 7500 ICP-MS **File Name:** JLE22A

Date: 5/22/2018 **Method:** MS

Lab Sample ID	Client ID	D.F.	Time	Elements
SL4180-002	CHAAP-21B-DS-SS102	5	17:55	Cu Se
SL4180-003	CHAAP-21B-DS-SB02-5	5	18:00	Cu Se
SL4180-004	CHAAP-21B-DS-SB02-10	5	18:04	Cu Se
SL4180-005	CHAAP-21B-DS-SS06	5	18:08	Cu Se
SL4180-006	CHAAP-21B-DS-SB06-5	5	18:12	Cu Fe Se
SL4180-007	CHAAP-21B-DS-SB06-10	5	18:16	Cu Fe Se
SL4180-008	CHAAP-21B-DS-SS07	5	18:21	Cu Fe Se
SL4180-008L	CHAAP-21B-DS-SS07L	25	18:25	Cu Fe Se
ZZZZZZ		1	18:29	
CCV		1	18:33	Al As Be Cd Ca Cr Co Cu Fe Mg Mn Mo Ni K Se Ag Na V Zn
CCB		1	18:37	Al As Be Cd Ca Cr Co Cu Fe Mg Mn Mo Ni K Se Ag Na V Zn
SL4180-008A	CHAAP-21B-DS-SS07A	5	18:41	Cu Fe Se
SL4180-008S	CHAAP-21B-DS-SS07S	5	18:46	Cu Fe Se
SL4180-008P	CHAAP-21B-DS-SS07P	5	18:50	Cu Fe Se
SL4180-009	CHAAP-21B-DS-SB07-5	5	18:54	Cu Fe Se
SL4180-010	CHAAP-21B-DS-SB107-5	5	18:58	Cu Fe Se
SL4180-011	CHAAP-21B-DS-SB07-10	5	19:03	Cu Fe Se
SL4180-012	CHAAP-21B-DS-SS08	5	19:07	Cu Fe Se
SL4180-013	CHAAP-21B-DS-SB08-5	5	19:11	Cu Fe Se
SL4180-014	CHAAP-21B-DS-SS09	5	19:15	Cu Fe Se
ZZZZZZ		1	19:20	
CCV		1	19:24	Al As Be Cd Ca Cr Co Cu Fe Mg Mn Mo Ni K Se Ag Na V Zn
CCB		1	19:28	Al As Be Cd Ca Cr Co Cu Fe Mg Mn Mo Ni K Se Ag Na V Zn
SL4180-015	CHAAP-21B-DS-SB09-5	5	19:32	Cu Fe Se
SL4180-016	CHAAP-21B-DS-SS11	5	19:36	Cu Fe Se
SL4180-017	CHAAP-21B-DS-SS111	5	19:41	Cu Fe Se
ZZZZZZ		1	19:45	

ANALYSIS RUN LOG

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Instrument ID: AGILENT 7500 ICP-MS **File Name:** JLE22A

Date: 5/22/2018 **Method:** MS

Lab Sample ID	Client ID	D.F.	Time	Elements
PBSLE21IMS2		5	19:49	Cu Fe Mn Se
LCSOLE21IMS2		5	19:54	Cu Fe Mn Se
SL4180-018	CHAAP-21B-DS-SB11-5	5	19:58	Al As Be Cd Ca Cr Co Cu Fe Mg Mn Ni K Se Ag Na V Zn
SL4180-018L	CHAAP-21B-DS-SB11-5L	25	20:02	Al As Be Cd Ca Cr Co Cu Fe Mg Mn Ni K Se Ag Na V Zn
SL4180-018A	CHAAP-21B-DS-SB11-5A	5	20:06	Al As Be Cd Ca Cr Co Cu Fe Mg Mn Ni K Se Ag Na V Zn
ZZZZZZ		1	20:10	
CCV		1	20:15	Al As Be Cd Ca Cr Co Cu Fe Mg Mn Mo Ni K Se Ag Na V Zn
CCB		1	20:19	Al As Be Cd Ca Cr Co Cu Fe Mg Mn Mo Ni K Se Ag Na V Zn
SL4180-018S	CHAAP-21B-DS-SB11-5S	5	20:23	Al As Be Cd Ca Cr Co Cu Fe Mg Mn Ni K Se Ag Na V Zn
SL4180-018P	CHAAP-21B-DS-SB11-5P	5	20:27	Al As Be Cd Ca Cr Co Cu Fe Mg Mn Ni K Se Ag Na V Zn
SL4180-019	CHAAP-21B-DS-SS10	5	20:31	Al As Be Cd Ca Cr Co Cu Fe Mg Mn Ni K Se Ag Na V Zn
SL4180-020	CHAAP-21B-DS-SB10-5	5	20:36	Al As Be Cd Ca Cr Co Cu Fe Mg Mn Ni K Se Ag Na V Zn
SL4180-021	CHAAP-21B-DS-SS04	5	20:40	Al As Be Cd Ca Cr Co Cu Fe Mg Mn Ni K Se Ag Na V Zn
SL4180-022	CHAAP-21B-DS-SB04-5	5	20:44	Al As Be Cd Ca Cr Co Cu Fe Mg Mn Ni K Se Ag Na V Zn
SL4180-023	CHAAP-21B-DS-SB04-10	5	20:49	Al As Be Cd Ca Cr Co Cu Fe Mg Mn Ni K Se Ag Na V Zn
SL4180-024	CHAAP-21B-DS-SS03	5	20:53	Al As Be Cd Ca Cr Co Cu Fe Mg Mn Ni K Se Ag Na V Zn
SL4180-025	CHAAP-21B-DS-SS103	5	20:57	Al As Be Cd Ca Cr Co Cu Fe Mg Mn Ni K Se Ag Na V Zn
ZZZZZZ		1	21:02	
CCV		1	21:06	Al As Be Cd Ca Cr Co Cu Fe Mg Mn Mo Ni K Se Ag Na V Zn
CCB		1	21:10	Al As Be Cd Ca Cr Co Cu Fe Mg Mn Mo Ni K Se Ag Na V Zn
SL4180-026	CHAAP-21B-DS-SB03-5	5	21:14	Al As Be Cd Ca Cr Co Cu Fe Mg Mn Ni K Se Ag Na V Zn
SL4180-027	CHAAP-21B-DS-SB03-10	5	21:19	Al As Be Cd Ca Cr Co Cu Fe Mg Mn Ni K Se Ag Na V Zn
ZZZZZZ		5	21:23	
ZZZZZZ		5	21:27	
ZZZZZZ		10	21:31	
ZZZZZZ		5	21:36	
ZZZZZZ		5	21:40	

ANALYSIS RUN LOG

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Instrument ID: AGILENT 7500 ICP-MS **File Name:** JLE22A

Date: 5/22/2018 **Method:** MS

Lab Sample ID	Client ID	D.F.	Time	Elements
ZZZZZZ		5	21:44	
ZZZZZZ		5	21:48	
ZZZZZZ		1	21:53	
CCV		1	21:57	Al As Be Cd Ca Cr Co Cu Fe Mg Mn Mo Ni K Se Ag Na V Zn
CCB		1	22:01	Al As Be Cd Ca Cr Co Cu Fe Mg Mn Mo Ni K Se Ag Na V Zn

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: David Nelson
ATI, Inc.
9220 Rumsey Road
Columbia,MD 21045

Lab Sample ID: SL4180-1
Report Date: 04-JUN-18
Client PO: PN:16-027
Project: Cornhusker Army Ammu
SDG: SL4180

Sample Description	Matrix	Date Sampled	Date Received
CHAAP-21B-DS-SS02	SL	14-MAY-18 15:00:00	15-MAY-18

Parameter	Result	Adj LOQ	Adj MDL	Adj LOD	Anal. Method	QC.Batch	Anal. Date	Prep. Method	Prep. Date	Footnotes
Chromium, Hexavalent	J0.16 mg/Kgdrywt	0.54	0.16	0.33	SW846 7196A	WG228768	18-MAY-18 17:44:00	SW846 3060A	17-MAY-18	
Total Solids	85. %	1		N/A	SW3540C	WG228359	16-MAY-18 08:01:29	SW3540C	15-MAY-18	

Katahdin Analytical Services A0000372

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: David Nelson
ATI, Inc.
9220 Rumsey Road
Columbia,MD 21045

Lab Sample ID: SL4180-2
Report Date: 04-JUN-18
Client PO: PN:16-027
Project: Cornhusker Army Ammu
SDG: SL4180

Sample Description	Matrix	Date Sampled	Date Received
CHAAP-21B-DS-SS102	SL	14-MAY-18 12:00:00	15-MAY-18

Parameter	Result	Adj LOQ	Adj MDL	Adj LOD	Anal. Method	QC.Batch	Anal. Date	Prep. Method	Prep. Date	Footnotes
Chromium, Hexavalent	J0.25 mg/Kgdrywt	0.58	0.17	0.35	SW846 7196A	WG228768	18-MAY-18 17:44:00	SW846 3060A	17-MAY-18	
Total Solids	83. %	1		N/A	SW3540C	WG228359	16-MAY-18 08:01:39	SW3540C	15-MAY-18	

Katahdin Analytical Services A0000373

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: David Nelson
ATI, Inc.
9220 Rumsey Road
Columbia,MD 21045

Lab Sample ID: SL4180-3
Report Date: 04-JUN-18
Client PO: PN:16-027
Project: Cornhusker Army Ammu
SDG: SL4180

Sample Description	Matrix	Date Sampled	Date Received
CHAAP-21B-DS-SB02-5	SL	14-MAY-18 15:05:00	15-MAY-18

Parameter	Result	Adj LOQ	Adj MDL	Adj LOD	Anal. Method	QC.Batch	Anal. Date	Prep. Method	Prep. Date	Footnotes
Chromium, Hexavalent	J0.40 mg/Kgdrywt	0.59	0.18	0.35	SW846 7196A	WG228768	18-MAY-18 17:44:00	SW846 3060A	17-MAY-18	
Total Solids	82. %	1		N/A	SW3540C	WG228359	16-MAY-18 08:01:49	SW3540C	15-MAY-18	

Katahdin Analytical Services A0000374

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: David Nelson
ATI, Inc.
9220 Rumsey Road
Columbia,MD 21045

Lab Sample ID: SL4180-4
Report Date: 04-JUN-18
Client PO: PN:16-027
Project: Cornhusker Army Ammu
SDG: SL4180

Sample Description	Matrix	Date Sampled	Date Received
CHAAP-21B-DS-SB02-10	SL	14-MAY-18 15:10:00	15-MAY-18

Parameter	Result	Adj LOQ	Adj MDL	Adj LOD	Anal. Method	QC.Batch	Anal. Date	Prep. Method	Prep. Date	Footnotes
Total Solids	77. %	1		N/A	SW3540C	WG228359	16-MAY-18 08:01:59	SW3540C	15-MAY-18	

Katahdin Analytical Services A0000375

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: David Nelson
ATI, Inc.
9220 Rumsey Road
Columbia,MD 21045

Lab Sample ID: SL4180-5
Report Date: 04-JUN-18
Client PO: PN:16-027
Project: Cornhusker Army Ammu
SDG: SL4180

Sample Description	Matrix	Date Sampled	Date Received
CHAAP-21B-DS-SS06	SL	14-MAY-18 14:30:00	15-MAY-18

Parameter	Result	Adj LOQ	Adj MDL	Adj LOD	Anal. Method	QC.Batch	Anal. Date	Prep. Method	Prep. Date	Footnotes
Total Solids	83. %	1		N/A	SW3540C	WG228359	16-MAY-18 08:02:07	SW3540C	15-MAY-18	

Katahdin Analytical Services A0000376

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: David Nelson
ATI, Inc.
9220 Rumsey Road
Columbia,MD 21045

Lab Sample ID: SL4180-6
Report Date: 04-JUN-18
Client PO: PN:16-027
Project: Cornhusker Army Ammu
SDG: SL4180

Sample Description	Matrix	Date Sampled	Date Received
CHAAP-21B-DS-SB06-5	SL	14-MAY-18 14:35:00	15-MAY-18

Parameter	Result	Adj LOQ	Adj MDL	Adj LOD	Anal. Method	QC.Batch	Anal. Date	Prep. Method	Prep. Date	Footnotes
Total Solids	76. %	1		N/A	SW3540C	WG228359	16-MAY-18 08:02:15	SW3540C	15-MAY-18	

Katahdin Analytical Services A000377

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: David Nelson
ATI, Inc.
9220 Rumsey Road
Columbia,MD 21045

Lab Sample ID: SL4180-7
Report Date: 04-JUN-18
Client PO: PN:16-027
Project: Cornhusker Army Ammu
SDG: SL4180

Sample Description	Matrix	Date Sampled	Date Received
CHAAP-21B-DS-SB06-10	SL	14-MAY-18 14:40:00	15-MAY-18

Parameter	Result	Adj LOQ	Adj MDL	Adj LOD	Anal. Method	QC.Batch	Anal. Date	Prep. Method	Prep. Date	Footnotes
Total Solids	80. %	1		N/A	SW3540C	WG228359	16-MAY-18 08:02:24	SW3540C	15-MAY-18	

Katahdin Analytical Services A0000378

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: David Nelson
ATI, Inc.
9220 Rumsey Road
Columbia,MD 21045

Lab Sample ID: SL4180-8
Report Date: 04-JUN-18
Client PO: PN:16-027
Project: Cornhusker Army Ammu
SDG: SL4180

Sample Description	Matrix	Date Sampled	Date Received
CHAAP-21B-DS-SS07	SL	14-MAY-18 14:00:00	15-MAY-18

Parameter	Result	Adj LOQ	Adj MDL	Adj LOD	Anal. Method	QC.Batch	Anal. Date	Prep. Method	Prep. Date	Footnotes
Total Solids	81. %	1		N/A	SW3540C	WG228359	16-MAY-18 08:02:33	SW3540C	15-MAY-18	

Katahdin Analytical Services A0000379

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: David Nelson
ATI, Inc.
9220 Rumsey Road
Columbia,MD 21045

Lab Sample ID: SL4180-9
Report Date: 04-JUN-18
Client PO: PN:16-027
Project: Cornhusker Army Ammu
SDG: SL4180

Sample Description	Matrix	Date Sampled	Date Received
CHAAP-21B-DS-SB07-5	SL	14-MAY-18 14:03:00	15-MAY-18

Parameter	Result	Adj LOQ	Adj MDL	Adj LOD	Anal. Method	QC.Batch	Anal. Date	Prep. Method	Prep. Date	Footnotes
Total Solids	81. %	1		N/A	SW3540C	WG228359	16-MAY-18 08:02:43	SW3540C	15-MAY-18	

Katahdin Analytical Services A0000380

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: David Nelson
ATI, Inc.
9220 Rumsey Road
Columbia,MD 21045

Lab Sample ID: SL4180-10
Report Date: 04-JUN-18
Client PO: PN:16-027
Project: Cornhusker Army Ammu
SDG: SL4180

Sample Description	Matrix	Date Sampled	Date Received
CHAAP-21B-DS-SB107-5	SL	14-MAY-18 12:00:00	15-MAY-18

Parameter	Result	Adj LOQ	Adj MDL	Adj LOD	Anal. Method	QC.Batch	Anal. Date	Prep. Method	Prep. Date	Footnotes
Total Solids	81. %	1		N/A	SW3540C	WG228359	16-MAY-18 08:02:51	SW3540C	15-MAY-18	

Katahdin Analytical Services A0000381

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: David Nelson
ATI, Inc.
9220 Rumsey Road
Columbia,MD 21045

Lab Sample ID: SL4180-11
Report Date: 04-JUN-18
Client PO: PN:16-027
Project: Cornhusker Army Ammu
SDG: SL4180

Sample Description	Matrix	Date Sampled	Date Received
CHAAP-21B-DS-SB07-10	SL	14-MAY-18 14:05:00	15-MAY-18

Parameter	Result	Adj LOQ	Adj MDL	Adj LOD	Anal. Method	QC.Batch	Anal. Date	Prep. Method	Prep. Date	Footnotes
Total Solids	76. %	1		N/A	SW3540C	WG228359	16-MAY-18 08:03:01	SW3540C	15-MAY-18	

Katahdin Analytical Services A0000382

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: David Nelson
ATI, Inc.
9220 Rumsey Road
Columbia,MD 21045

Lab Sample ID: SL4180-12
Report Date: 04-JUN-18
Client PO: PN:16-027
Project: Cornhusker Army Ammu
SDG: SL4180

Sample Description	Matrix	Date Sampled	Date Received
CHAAP-21B-DS-SS08	SL	14-MAY-18 13:35:00	15-MAY-18

Parameter	Result	Adj LOQ	Adj MDL	Adj LOD	Anal. Method	QC.Batch	Anal. Date	Prep. Method	Prep. Date	Footnotes
Total Solids	87. %	1		N/A	SW3540C	WG228359	16-MAY-18 08:03:09	SW3540C	15-MAY-18	

Katahdin Analytical Services A0000383

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: David Nelson
ATI, Inc.
9220 Rumsey Road
Columbia,MD 21045

Lab Sample ID: SL4180-13
Report Date: 04-JUN-18
Client PO: PN:16-027
Project: Cornhusker Army Ammu
SDG: SL4180

Sample Description	Matrix	Date Sampled	Date Received
CHAAP-21B-DS-SB08-5	SL	14-MAY-18 13:40:00	15-MAY-18

Parameter	Result	Adj LOQ	Adj MDL	Adj LOD	Anal. Method	QC.Batch	Anal. Date	Prep. Method	Prep. Date	Footnotes
Total Solids	80. %	1		N/A	SW3540C	WG228359	16-MAY-18 08:03:19	SW3540C	15-MAY-18	

Katahdin Analytical Services A0000384

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: David Nelson
ATI, Inc.
9220 Rumsey Road
Columbia,MD 21045

Lab Sample ID: SL4180-14
Report Date: 04-JUN-18
Client PO: PN:16-027
Project: Cornhusker Army Ammu
SDG: SL4180

Sample Description	Matrix	Date Sampled	Date Received
CHAAP-21B-DS-SS09	SL	14-MAY-18 13:15:00	15-MAY-18

Parameter	Result	Adj LOQ	Adj MDL	Adj LOD	Anal. Method	QC.Batch	Anal. Date	Prep. Method	Prep. Date	Footnotes
Total Solids	83. %	1		N/A	SW3540C	WG228359	16-MAY-18 08:03:28	SW3540C	15-MAY-18	

Katahdin Analytical Services A0000385

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: David Nelson
ATI, Inc.
9220 Rumsey Road
Columbia,MD 21045

Lab Sample ID: SL4180-15
Report Date: 04-JUN-18
Client PO: PN:16-027
Project: Cornhusker Army Ammu
SDG: SL4180

Sample Description	Matrix	Date Sampled	Date Received
CHAAP-21B-DS-SB09-5	SL	14-MAY-18 13:20:00	15-MAY-18

Parameter	Result	Adj LOQ	Adj MDL	Adj LOD	Anal. Method	QC.Batch	Anal. Date	Prep. Method	Prep. Date	Footnotes
Total Solids	80. %	1		N/A	SW3540C	WG228359	16-MAY-18 08:03:38	SW3540C	15-MAY-18	

Katahdin Analytical Services A0000386

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: David Nelson
ATI, Inc.
9220 Rumsey Road
Columbia,MD 21045

Lab Sample ID: SL4180-16
Report Date: 04-JUN-18
Client PO: PN:16-027
Project: Cornhusker Army Ammu
SDG: SL4180

Sample Description	Matrix	Date Sampled	Date Received
CHAAP-21B-DS-SS11	SL	14-MAY-18 12:50:00	15-MAY-18

Parameter	Result	Adj LOQ	Adj MDL	Adj LOD	Anal. Method	QC.Batch	Anal. Date	Prep. Method	Prep. Date	Footnotes
Chromium, Hexavalent	J0.25 mg/Kgdrywt	0.59	0.18	0.35	SW846 7196A	WG228768	18-MAY-18 17:44:00	SW846 3060A	17-MAY-18	
Total Solids	82. %	1		N/A	SW3540C	WG228359	16-MAY-18 08:03:47	SW3540C	15-MAY-18	

Katahdin Analytical Services A0000387

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: David Nelson
ATI, Inc.
9220 Rumsey Road
Columbia,MD 21045

Lab Sample ID: SL4180-17
Report Date: 04-JUN-18
Client PO: PN:16-027
Project: Cornhusker Army Ammu
SDG: SL4180

Sample Description	Matrix	Date Sampled	Date Received
CHAAP-21B-DS-SS111	SL	14-MAY-18 12:00:00	15-MAY-18

Parameter	Result	Adj LOQ	Adj MDL	Adj LOD	Anal. Method	QC.Batch	Anal. Date	Prep. Method	Prep. Date	Footnotes
Chromium, Hexavalent	U0.35 mg/Kgdrywt	0.58	0.17	0.35	SW846 7196A	WG229295	24-MAY-18 16:15:00	SW846 3060A	23-MAY-18	
Total Solids	80. %	1		N/A	SW3540C	WG228359	16-MAY-18 08:03:56	SW3540C	15-MAY-18	

Katahdin Analytical Services A0000388

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: David Nelson
ATI, Inc.
9220 Rumsey Road
Columbia,MD 21045

Lab Sample ID: SL4180-18
Report Date: 04-JUN-18
Client PO: PN:16-027
Project: Cornhusker Army Ammu
SDG: SL4180

Sample Description	Matrix	Date Sampled	Date Received
CHAAP-21B-DS-SB11-5	SL	14-MAY-18 13:00:00	15-MAY-18

Parameter	Result	Adj LOQ	Adj MDL	Adj LOD	Anal. Method	QC.Batch	Anal. Date	Prep. Method	Prep. Date	Footnotes
Chromium, Hexavalent	J0.47 mg/Kgdrywt	0.59	0.18	0.36	SW846 7196A	WG228768	18-MAY-18 17:44:00	SW846 3060A	17-MAY-18	
Total Solids	80. %	1		N/A	SW3540C	WG228359	16-MAY-18 08:04:04	SW3540C	15-MAY-18	

Katahdin Analytical Services A0000389

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: David Nelson
ATI, Inc.
9220 Rumsey Road
Columbia,MD 21045

Lab Sample ID: SL4180-19
Report Date: 04-JUN-18
Client PO: PN:16-027
Project: Cornhusker Army Ammu
SDG: SL4180

Sample Description	Matrix	Date Sampled	Date Received
CHAAP-21B-DS-SS10	SL	14-MAY-18 12:30:00	15-MAY-18

Parameter	Result	Adj LOQ	Adj MDL	Adj LOD	Anal. Method	QC.Batch	Anal. Date	Prep. Method	Prep. Date	Footnotes
Total Solids	69. %	1		N/A	SW3540C	WG228359	16-MAY-18 08:04:13	SW3540C	15-MAY-18	

Katahdin Analytical Services A0000390

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: David Nelson
ATI, Inc.
9220 Rumsey Road
Columbia,MD 21045

Lab Sample ID: SL4180-20
Report Date: 04-JUN-18
Client PO: PN:16-027
Project: Cornhusker Army Ammu
SDG: SL4180

Sample Description	Matrix	Date Sampled	Date Received
CHAAP-21B-DS-SB10-5	SL	14-MAY-18 12:35:00	15-MAY-18

Parameter	Result	Adj LOQ	Adj MDL	Adj LOD	Anal. Method	QC.Batch	Anal. Date	Prep. Method	Prep. Date	Footnotes
Total Solids	82. %	1		N/A	SW3540C	WG228359	16-MAY-18 08:04:23	SW3540C	15-MAY-18	

Katahdin Analytical Services A0000391

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: David Nelson
ATI, Inc.
9220 Rumsey Road
Columbia,MD 21045

Lab Sample ID: SL4180-21
Report Date: 04-JUN-18
Client PO: PN:16-027
Project: Cornhusker Army Ammu
SDG: SL4180

Sample Description	Matrix	Date Sampled	Date Received
CHAAP-21B-DS-SS04	SL	14-MAY-18 12:10:00	15-MAY-18

Parameter	Result	Adj LOQ	Adj MDL	Adj LOD	Anal. Method	QC.Batch	Anal. Date	Prep. Method	Prep. Date	Footnotes
Chromium, Hexavalent	J0.44 mg/Kgdrywt	0.65	0.20	0.39	SW846 7196A	WG228768	18-MAY-18 17:44:00	SW846 3060A	17-MAY-18	
Total Solids	74. %	1		N/A	SW3540C	WG228357	16-MAY-18 07:53:53	SW3540C	15-MAY-18	

Katahdin Analytical Services A0000392

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: David Nelson
ATI, Inc.
9220 Rumsey Road
Columbia,MD 21045

Lab Sample ID: SL4180-22
Report Date: 04-JUN-18
Client PO: PN:16-027
Project: Cornhusker Army Ammu
SDG: SL4180

Sample Description	Matrix	Date Sampled	Date Received
CHAAP-21B-DS-SB04-5	SL	14-MAY-18 12:15:00	15-MAY-18

Parameter	Result	Adj LOQ	Adj MDL	Adj LOD	Anal. Method	QC.Batch	Anal. Date	Prep. Method	Prep. Date	Footnotes
Chromium, Hexavalent	J0.53 mg/Kgdrywt	0.66	0.20	0.40	SW846 7196A	WG228768	18-MAY-18 17:44:00	SW846 3060A	17-MAY-18	
Total Solids	74. %	1		N/A	SW3540C	WG228357	16-MAY-18 07:54:01	SW3540C	15-MAY-18	

Katahdin Analytical Services A0000393

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: David Nelson
ATI, Inc.
9220 Rumsey Road
Columbia,MD 21045

Lab Sample ID: SL4180-23
Report Date: 04-JUN-18
Client PO: PN:16-027
Project: Cornhusker Army Ammu
SDG: SL4180

Sample Description	Matrix	Date Sampled	Date Received
CHAAP-21B-DS-SB04-10	SL	14-MAY-18 12:20:00	15-MAY-18

Parameter	Result	Adj LOQ	Adj MDL	Adj LOD	Anal. Method	QC.Batch	Anal. Date	Prep. Method	Prep. Date	Footnotes
Total Solids	78. %	1		N/A	SW3540C	WG228357	16-MAY-18 07:54:10	SW3540C	15-MAY-18	

Katahdin Analytical Services A0000394

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: David Nelson
ATI, Inc.
9220 Rumsey Road
Columbia,MD 21045

Lab Sample ID: SL4180-24
Report Date: 04-JUN-18
Client PO: PN:16-027
Project: Cornhusker Army Ammu
SDG: SL4180

Sample Description	Matrix	Date Sampled	Date Received
CHAAP-21B-DS-SS03	SL	14-MAY-18 11:15:00	15-MAY-18

Parameter	Result	Adj LOQ	Adj MDL	Adj LOD	Anal. Method	QC.Batch	Anal. Date	Prep. Method	Prep. Date	Footnotes
Chromium, Hexavalent	J0.25 mg/Kgdrywt	0.58	0.17	0.35	SW846 7196A	WG228768	18-MAY-18 17:44:00	SW846 3060A	17-MAY-18	
Total Solids	81. %	1		N/A	SW3540C	WG228357	16-MAY-18 07:54:20	SW3540C	15-MAY-18	

Katahdin Analytical Services A0000395

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: David Nelson
ATI, Inc.
9220 Rumsey Road
Columbia,MD 21045

Lab Sample ID: SL4180-25
Report Date: 04-JUN-18
Client PO: PN:16-027
Project: Cornhusker Army Ammu
SDG: SL4180

Sample Description	Matrix	Date Sampled	Date Received
CHAAP-21B-DS-SS103	SL	14-MAY-18 12:00:00	15-MAY-18

Parameter	Result	Adj LOQ	Adj MDL	Adj LOD	Anal. Method	QC.Batch	Anal. Date	Prep. Method	Prep. Date	Footnotes
Chromium, Hexavalent	J0.17 mg/Kgdrywt	0.57	0.17	0.34	SW846 7196A	WG228768	18-MAY-18 17:44:00	SW846 3060A	17-MAY-18	
Total Solids	81. %	1		N/A	SW3540C	WG228357	16-MAY-18 07:54:28	SW3540C	15-MAY-18	

Katahdin Analytical Services A0000396

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: David Nelson
ATI, Inc.
9220 Rumsey Road
Columbia,MD 21045

Lab Sample ID: SL4180-26
Report Date: 04-JUN-18
Client PO: PN:16-027
Project: Cornhusker Army Ammu
SDG: SL4180

Sample Description	Matrix	Date Sampled	Date Received
CHAAP-21B-DS-SB03-5	SL	14-MAY-18 11:30:00	15-MAY-18

Parameter	Result	Adj LOQ	Adj MDL	Adj LOD	Anal. Method	QC.Batch	Anal. Date	Prep. Method	Prep. Date	Footnotes
Chromium, Hexavalent	J0.41 mg/Kgdrywt	0.60	0.18	0.36	SW846 7196A	WG228768	18-MAY-18 17:44:00	SW846 3060A	17-MAY-18	
Total Solids	78. %	1		N/A	SW3540C	WG228357	16-MAY-18 07:54:36	SW3540C	15-MAY-18	

Katahdin Analytical Services A0000397

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: David Nelson
ATI, Inc.
9220 Rumsey Road
Columbia,MD 21045

Lab Sample ID: SL4180-27
Report Date: 04-JUN-18
Client PO: PN:16-027
Project: Cornhusker Army Ammu
SDG: SL4180

Sample Description	Matrix	Date Sampled	Date Received
CHAAP-21B-DS-SB03-10	SL	14-MAY-18 11:45:00	15-MAY-18

Parameter	Result	Adj LOQ	Adj MDL	Adj LOD	Anal. Method	QC.Batch	Anal. Date	Prep. Method	Prep. Date	Footnotes
Total Solids	73. %	1		N/A	SW3540C	WG228357	16-MAY-18 07:54:44	SW3540C	15-MAY-18	

Katahdin Analytical Services A0000398

Quality Control Report

Blank Sample Summary Report

Chromium, Hexavalent

Samp Type	QC Batch	Anal. Method	Anal. Date	Prep. Date	Result	PQL	LOD
MBLANK	WG228768	SW846 7196A	18-MAY-18	17-MAY-18	J 0.32 mg/Kgdrywt	0.48 mg/Kgdrywt	0.29
MBLANK	WG229295	SW846 7196A	24-MAY-18	23-MAY-18	J 0.26 mg/Kgdrywt	0.48 mg/Kgdrywt	0.29

Total Solids

Samp Type	QC Batch	Anal. Method	Anal. Date	Prep. Date	Result	PQL	LOD
MBLANK	WG228357	SW3540C	16-MAY-18	15-MAY-18	100 %	1 %	N/A
MBLANK	WG228359	SW3540C	16-MAY-18	15-MAY-18	100 %	1 %	N/A

Quality Control Report

Laboratory Control Sample Summary Report

Chromium, Hexavalent

Lab Sample Id	Samp Type	QC Batch	Analysis Date	Prep Date	Units	Spike Amt.	Result	Recovery	Acceptance Range	RPD
WG228768-2	LCS	WG228768	18-MAY-18	17-MAY-18	mg/Kgdrywt	40	38.	94	80-120	
WG229295-2	LCS	WG229295	24-MAY-18	23-MAY-18	mg/Kgdrywt	40	35.	88	80-120	
WG229295-3	LCSD	WG229295	24-MAY-18	23-MAY-18	mg/Kgdrywt	40	38.	94	80-120	7

Total Solids

Lab Sample Id	Samp Type	QC Batch	Analysis Date	Prep Date	Units	Spike Amt.	Result	Recovery	Acceptance Range	RPD
WG228357-2	LCS	WG228357	16-MAY-18	15-MAY-18	%	90	90.	100	90-110	
WG228359-2	LCS	WG228359	16-MAY-18	15-MAY-18	%	90	90.	100	90-110	

Quality Control Report

Duplicate Sample Summary Report

Total Solids

Duplicate Sample ID	Original Sample ID	QC Batch	Analysis Date	Result Units	Sample Result	Duplicate Result	RPD(%)	RPD Limit
WG228359-3	SL4180-8	WG228359	16-MAY-18	%	81.	82.	0	20
WG228359-4	SL4180-18	WG228359	16-MAY-18	%	80.	81.	1	20

Quality Control Report

Matrix Spike Sample Summary Report

Chromium, Hexavalent

Matrix Spike Sample ID	Sample Type	Original Sample ID	QC Batch	Analysis Date	Result Units	Spike Amount	Sample Result	MS Result	Recovery (%)	Recovery Limit
WG228768-5	MS	SL4180-18	WG228768	18-MAY-18	mg/Kgdrywt	1376.43	J 0.47	1200	87	75 - 125
WG228768-6	MS	SL4180-18	WG228768	18-MAY-18	mg/Kgdrywt	50.81	J 0.47	48.	93	75 - 125

VOLATILES DATA

QC Summary Section

Form 2
System Monitoring Compound Recovery

Lab Name: Katahdin Analytical Services **Project:** Cornhusker Army Ammunition Plant **Matrix:** AQ
Lab Code: KAS **SDG:** SL4180

Client Sample ID	Lab Sample ID	Col. ID	BFB	#	DBF	#	DCA	#	TOL	#
CHAAP-TB-051418	SL4180-28		98.3		104.		118.		100.	
CHAAP-EB-051418	SL4180-29		101.		106.		122.	*	101.	
Laboratory Control S	WG228752-1		102.		99.9		105.		102.	
Method Blank Sample	WG228752-2		99.3		102.		114.		101.	

		QC Limits
TOL	TOLUENE-D8	89-120
DCA	1,2-DICHLOROETHANE-D4	81-120
DBF	DIBROMOFLUOROMETHANE	80-120
BFB	P-BROMOFLUOROBENZENE	85-120

= Column to be used to flag recovery limits.
* = Values outside of contract required QC limits.
D= System Monitoring Compound diluted out.

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Katahdin
ANALYTICAL SERVICES

Form 2
System Monitoring Compound Recovery

Lab Name: Katahdin Analytical Services **Project:** Cornhusker Army Ammunition Plant **Matrix:** SL
Lab Code: KAS **SDG:** SL4180

Client Sample ID	Lab Sample ID	Col. ID	BFB	#	DBF	#	DCA	#	TOL	#
CHAAP-21B-DS-SS02	SL4180-1		83.4		103.		105.		102.	
CHAAP-21B-DS-SB107-5	SL4180-10		95.4		106.		106.		100.	
CHAAP-21B-DS-SB07-10	SL4180-11		95.5		107.		106.		103.	
CHAAP-21B-DS-SS08	SL4180-12		80.3		105.		107.		103.	
CHAAP-21B-DS-SS08	SL4180-12RA		76.4	*	109.		104.		98.9	
CHAAP-21B-DS-SB08-5	SL4180-13		94.0		104.		107.		101.	
CHAAP-21B-DS-SS09	SL4180-14		85.1		108.		107.		101.	
CHAAP-21B-DS-SS09	SL4180-14RA		75.6	*	110.		106.		98.5	
CHAAP-21B-DS-SB09-5	SL4180-15		96.2		105.		108.		103.	
CHAAP-21B-DS-SS11	SL4180-16		76.2	*	104.		101.		98.8	
CHAAP-21B-DS-SS11	SL4180-16RA		73.5	*	111.		106.		96.6	
CHAAP-21B-DS-SS111	SL4180-17		76.1	*	102.		99.3		101.	
CHAAP-21B-DS-SS111	SL4180-17RA		76.8	*	111.		111.		98.3	
CHAAP-21B-DS-SB11-5	SL4180-18		90.4		106.		108.		102.	
CHAAP-21B-DS-SS10	SL4180-19		90.9		103.		102.		96.7	
CHAAP-21B-DS-SB10-5	SL4180-20		89.4		103.		99.3		98.2	
CHAAP-21B-DS-SS04	SL4180-21		76.7	*	104.		98.7		99.6	
CHAAP-21B-DS-SS04	SL4180-21RA		70.1	*	115.		110.		99.4	
CHAAP-21B-DS-SB04-5	SL4180-22		90.5		104.		99.9		98.2	
CHAAP-21B-DS-SB04-10	SL4180-23		92.4		106.		100.		100.	
CHAAP-21B-DS-SS03	SL4180-24RA		87.3		110.		110.		101.	
CHAAP-21B-DS-SS103	SL4180-25		74.3	*	106.		103.		96.9	
CHAAP-21B-DS-SS103	SL4180-25RA		80.6		120.		119.		100.	
CHAAP-21B-DS-SB03-5	SL4180-26		89.0		108.		106.		95.7	
CHAAP-21B-DS-SB03-10	SL4180-27		89.4		102.		99.9		99.8	
CHAAP-21B-DS-SS102	SL4180-2RA		80.9		103.		101.		100.	
CHAAP-21B-DS-SB02-5	SL4180-3		95.8		103.		103.		99.5	
CHAAP-21B-DS-SB02-10	SL4180-4		95.9		105.		105.		102.	
CHAAP-21B-DS-SS06	SL4180-5		85.1		102.		107.		101.	
CHAAP-21B-DS-SS06	SL4180-5RA		77.9	*	106.		105.		99.6	
CHAAP-21B-DS-SB06-5	SL4180-6		96.3		108.		106.		104.	
CHAAP-21B-DS-SB06-10	SL4180-7		96.4		106.		106.		100.	
CHAAP-21B-DS-SS07	SL4180-8		77.2	*	108.		106.		102.	
CHAAP-21B-DS-SS07	SL4180-8RA		74.4	*	114.		109.		99.2	
CHAAP-21B-DS-SB07-5	SL4180-9		96.7		106.		106.		104.	
Laboratory Control S	WG228693-1		100.		101.		100.		99.6	

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Form 2
System Monitoring Compound Recovery

Lab Name: Katahdin Analytical Services **Project:** Cornhusker Army Ammunition Plant **Matrix:** SL
Lab Code: KAS **SDG:** SL4180

Client Sample ID	Lab Sample ID	Col. ID	BFB	#	DBF	#	DCA	#	TOL	#
Method Blank Sample	WG228693-2		96.1		103.		102.		100.	
Laboratory Control S	WG228751-8		96.7		98.6		97.7		100.	
Method Blank Sample	WG228751-9		93.4		101.		101.		98.5	
Laboratory Control S	WG228825-1		95.8		102.		103.		99.3	
Method Blank Sample	WG228825-2		90.0		104.		101.		99.4	
Laboratory Control S	WG228846-1		96.6		105.		103.		99.2	
Method Blank Sample	WG228846-2		92.2		109.		106.		99.8	
Matrix Spike	WG228846-6		92.9		105.		105.		99.9	
Matrix Spike Duplica	WG228846-7		96.0		108.		111.		101.	
Matrix Spike	WG228846-8		81.4		106.		104.		99.6	
Matrix Spike Duplica	WG228846-9		81.2		107.		103.		98.0	

		QC Limits
TOL	TOLUENE-D8	85-125
DCA	1,2-DICHLOROETHANE-D4	71-136
DBF	DIBROMOFLUOROMETHANE	78-125
BFB	P-BROMOFLUOROBENZENE	79-125

= Column to be used to flag recovery limits.
* = Values outside of contract required QC limits.
D= System Monitoring Compound diluted out.

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Form 4
Method Blank Summary - VOA

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
Lab File ID : D1450.D
Instrument ID : GCMS-D
Heated Purge : No

SDG : SL4180
Lab Sample ID : WG228752-2
Date Analyzed : 21-MAY-18
Time Analyzed : 10:22

This Method Blank applies to the following samples, LCS, MS and MSD:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
Laboratory Control S	WG228752-1	D1448.D	05/21/18	09:06
CHAAP-TB-051418	SL4180-28	D1451.D	05/21/18	10:57
CHAAP-EB-051418	SL4180-29	D1453.D	05/21/18	12:08

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Form 4
Method Blank Summary - VOA

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
Lab File ID : W4037.D
Instrument ID : GCMS-W
Heated Purge : Yes

SDG : SL4180
Lab Sample ID : WG228693-2
Date Analyzed : 19-MAY-18
Time Analyzed : 10:02

This Method Blank applies to the following samples, LCS, MS and MSD:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
Laboratory Control S	WG228693-1	W4035.D	05/19/18	08:36
CHAAP-21B-DS-SS02	SL4180-1	W4038.D	05/19/18	10:39
CHAAP-21B-DS-SB02-5	SL4180-3	W4040.D	05/19/18	11:53
CHAAP-21B-DS-SB02-10	SL4180-4	W4041.D	05/19/18	12:31
CHAAP-21B-DS-SS06	SL4180-5	W4042.D	05/19/18	13:08
CHAAP-21B-DS-SB06-5	SL4180-6	W4043.D	05/19/18	13:45
CHAAP-21B-DS-SB06-10	SL4180-7	W4044.D	05/19/18	14:22
CHAAP-21B-DS-SB07-5	SL4180-9	W4045.D	05/19/18	15:00
CHAAP-21B-DS-SB107-5	SL4180-10	W4046.D	05/19/18	15:37
CHAAP-21B-DS-SB07-10	SL4180-11	W4047.D	05/19/18	16:14
CHAAP-21B-DS-SS08	SL4180-12	W4048.D	05/19/18	16:51
CHAAP-21B-DS-SB08-5	SL4180-13	W4049.D	05/19/18	17:29
CHAAP-21B-DS-SS09	SL4180-14	W4050.D	05/19/18	18:06
CHAAP-21B-DS-SB09-5	SL4180-15	W4051.D	05/19/18	18:43

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Form 4
Method Blank Summary - VOA

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
Lab File ID : W4071.D
Instrument ID : GCMS-W
Heated Purge : Yes

SDG : SL4180
Lab Sample ID : WG228751-9
Date Analyzed : 21-MAY-18
Time Analyzed : 13:45

This Method Blank applies to the following samples, LCS, MS and MSD:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
Laboratory Control S	WG228751-8	W4069.D	05/21/18	12:31
CHAAP-21B-DS-SS11	SL4180-16	W4072.D	05/21/18	14:22
CHAAP-21B-DS-SS111	SL4180-17	W4073.D	05/21/18	14:59
CHAAP-21B-DS-SS10	SL4180-19	W4074.D	05/21/18	15:36
CHAAP-21B-DS-SB10-5	SL4180-20	W4075.D	05/21/18	16:13
CHAAP-21B-DS-SS04	SL4180-21	W4076.D	05/21/18	16:51
CHAAP-21B-DS-SB04-5	SL4180-22	W4077.D	05/21/18	17:28
CHAAP-21B-DS-SB04-10	SL4180-23	W4078.D	05/21/18	18:05

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Form 4
Method Blank Summary - VOA

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
Lab File ID : W4083.D
Instrument ID : GCMS-W
Heated Purge : Yes

SDG : SL4180
Lab Sample ID : WG228825-2
Date Analyzed : 21-MAY-18
Time Analyzed : 21:42

This Method Blank applies to the following samples, LCS, MS and MSD:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
Laboratory Control S	WG228825-1	W4081.D	05/21/18	20:21
CHAAP-21B-DS-SS103	SL4180-25	W4085.D	05/21/18	22:56
CHAAP-21B-DS-SB03-5	SL4180-26	W4086.D	05/21/18	23:34
CHAAP-21B-DS-SB03-10	SL4180-27	W4087.D	05/22/18	00:11
CHAAP-21B-DS-SS07	SL4180-8	W4088.D	05/22/18	00:48
CHAAP-21B-DS-SS102	SL4180-2RA	W4091.D	05/22/18	02:40
CHAAP-21B-DS-SS06	SL4180-5RA	W4092.D	05/22/18	03:17
CHAAP-21B-DS-SS08	SL4180-12RA	W4093.D	05/22/18	03:54
CHAAP-21B-DS-SS09	SL4180-14RA	W4094.D	05/22/18	04:32

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Form 4
Method Blank Summary - VOA

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
Lab File ID : W4103.D
Instrument ID : GCMS-W
Heated Purge : Yes

SDG : SL4180
Lab Sample ID : WG228846-2
Date Analyzed : 22-MAY-18
Time Analyzed : 10:40

This Method Blank applies to the following samples, LCS, MS and MSD:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
Laboratory Control S	WG228846-1	W4101.D	05/22/18	09:19
CHAAP-21B-DS-SB11-5	SL4180-18	W4105.D	05/22/18	11:54
CHAAP-21B-DS-SS11	SL4180-16RA	W4106.D	05/22/18	12:31
CHAAP-21B-DS-SS111	SL4180-17RA	W4107.D	05/22/18	13:08
CHAAP-21B-DS-SS04	SL4180-21RA	W4108.D	05/22/18	13:45
CHAAP-21B-DS-SS03	SL4180-24RA	W4109.D	05/22/18	14:22
CHAAP-21B-DS-SS103	SL4180-25RA	W4110.D	05/22/18	14:59
CHAAP-21B-DS-SS07	SL4180-8RA	W4111.D	05/22/18	15:36
Matrix Spike	WG228846-6	W4112.D	05/22/18	16:14
Matrix Spike Duplica	WG228846-7	W4113.D	05/22/18	16:51
Matrix Spike	WG228846-8	W4114.D	05/22/18	17:28
Matrix Spike Duplica	WG228846-9	W4115.D	05/22/18	18:05

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Form 5
Volatile Organic Instrument Performance Check

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
Lab File ID : DB180A.D
Instrument ID : GCMS-D

SDG : SL4180
Date Analyzed : 17-MAY-18
Time Analyzed : 07:31
Heated Purge : No

m/e	Ion Abundance Criteria	% Relative Abundance		
50	15.0 - 40.0% of mass 95	22.7		
75	30.0 - 60.0% of mass 95	57.3		
95	Base Peak, 100% relative abundance	100		
96	5.0 - 9.0% of mass 95	6.8		
173	Less than 2.0% of mass 174	0.2	0.34	1
174	Greater than 50.0% of mass 95	70.7		
175	5.0 - 9.0% of mass 174	5.4	7.60	1
176	95.0 - 101.0% of mass 174	68.0	96.27	1
177	5.0 - 9.0% of mass 176	4.1	6.06	2

1-Value is % mass 174 2-Value is % mass 176

This check applies to the following samples, LCS, MS, MSD and standards:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
Initial Calibration	WG228547-4	D1351.D	05/17/18	08:11
Initial Calibration	WG228547-3	D1352.D	05/17/18	08:47
Initial Calibration	WG228547-2	D1353.D	05/17/18	09:22
Initial Calibration	WG228547-1	D1354.D	05/17/18	09:58
Initial Calibration	WG228547-6	D1355.D	05/17/18	10:34
Initial Calibration	WG228547-5	D1356.D	05/17/18	11:09

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Form 5
Volatile Organic Instrument Performance Check

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
Lab File ID : DB186A.D
Instrument ID : GCMS-D

SDG : SL4180
Date Analyzed : 21-MAY-18
Time Analyzed : 07:08
Heated Purge : No

m/e	Ion Abundance Criteria	% Relative Abundance		
50	15.0 - 40.0% of mass 95	23.4		
75	30.0 - 60.0% of mass 95	56.1		
95	Base Peak, 100% relative abundance	100		
96	5.0 - 9.0% of mass 95	8.1		
173	Less than 2.0% of mass 174	0.0	0.0	1
174	Greater than 50.0% of mass 95	67.4		
175	5.0 - 9.0% of mass 174	5.1	7.59	1
176	95.0 - 101.0% of mass 174	65.8	97.60	1
177	5.0 - 9.0% of mass 176	3.7	5.55	2

1-Value is % mass 174 2-Value is % mass 176

This check applies to the following samples, LCS, MS, MSD and standards:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
Continuing Calibrati	WG228752-4	D1447.D	05/21/18	08:18
Laboratory Control S	WG228752-1	D1448.D	05/21/18	09:06
Method Blank Sample	WG228752-2	D1450.D	05/21/18	10:22
CHAAP-TB-051418	SL4180-28	D1451.D	05/21/18	10:57
CHAAP-EB-051418	SL4180-29	D1453.D	05/21/18	12:08
Continuing Calibrati	WG228752-5	D1463.D	05/21/18	18:04

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Form 5
Volatile Organic Instrument Performance Check

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
Lab File ID : WB842A.D
Instrument ID : GCMS-W

SDG : SL4180
Date Analyzed : 18-MAY-18
Time Analyzed : 13:00
Heated Purge : Yes

m/e	Ion Abundance Criteria	% Relative Abundance		
50	15.0 - 40.0% of mass 95	20.5		
75	30.0 - 60.0% of mass 95	51.8		
95	Base Peak, 100% relative abundance	100		
96	5.0 - 9.0% of mass 95	6.7		
173	Less than 2.0% of mass 174	0.4	0.51	1
174	Greater than 50.0% of mass 95	73.6		
175	5.0 - 9.0% of mass 174	5.6	7.59	1
176	95.0 - 101.0% of mass 174	73.4	99.68	1
177	5.0 - 9.0% of mass 176	4.7	6.34	2

1-Value is % mass 174 2-Value is % mass 176

This check applies to the following samples, LCS, MS, MSD and standards:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
Initial Calibration	WG228635-3	W4024.D	05/18/18	14:27
Initial Calibration	WG228635-2	W4025.D	05/18/18	15:04
Initial Calibration	WG228635-1	W4026.D	05/18/18	15:41
Initial Calibration	WG228635-6	W4027.D	05/18/18	16:19
Initial Calibration	WG228635-5	W4028.D	05/18/18	16:56
Initial Calibration	WG228635-4	W4029.D	05/18/18	17:33
Independent Source	WG228635-7	W4030.D	05/18/18	18:10

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Form 5
Volatile Organic Instrument Performance Check

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
Lab File ID : WB843A.D
Instrument ID : GCMS-W

SDG : SL4180
Date Analyzed : 19-MAY-18
Time Analyzed : 07:25
Heated Purge : Yes

m/e	Ion Abundance Criteria	% Relative Abundance		
50	15.0 - 40.0% of mass 95	19.5		
75	30.0 - 60.0% of mass 95	46.9		
95	Base Peak, 100% relative abundance	100		
96	5.0 - 9.0% of mass 95	6.7		
173	Less than 2.0% of mass 174	0.0	0.0	1
174	Greater than 50.0% of mass 95	70.8		
175	5.0 - 9.0% of mass 174	4.3	6.03	1
176	95.0 - 101.0% of mass 174	70.5	99.52	1
177	5.0 - 9.0% of mass 176	4.9	6.90	2

1-Value is % mass 174 2-Value is % mass 176

This check applies to the following samples, LCS, MS, MSD and standards:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
Continuing Calibrati	WG228693-4	W4034.D	05/19/18	07:53
Laboratory Control S	WG228693-1	W4035.D	05/19/18	08:36
Method Blank Sample	WG228693-2	W4037.D	05/19/18	10:02
CHAAP-21B-DS-SS02	SL4180-1	W4038.D	05/19/18	10:39
CHAAP-21B-DS-SB02-5	SL4180-3	W4040.D	05/19/18	11:53
CHAAP-21B-DS-SB02-10	SL4180-4	W4041.D	05/19/18	12:31
CHAAP-21B-DS-SS06	SL4180-5	W4042.D	05/19/18	13:08
CHAAP-21B-DS-SB06-5	SL4180-6	W4043.D	05/19/18	13:45
CHAAP-21B-DS-SB06-10	SL4180-7	W4044.D	05/19/18	14:22
CHAAP-21B-DS-SB07-5	SL4180-9	W4045.D	05/19/18	15:00
CHAAP-21B-DS-SB107-5	SL4180-10	W4046.D	05/19/18	15:37
CHAAP-21B-DS-SB07-10	SL4180-11	W4047.D	05/19/18	16:14
CHAAP-21B-DS-SS08	SL4180-12	W4048.D	05/19/18	16:51
CHAAP-21B-DS-SB08-5	SL4180-13	W4049.D	05/19/18	17:29
CHAAP-21B-DS-SS09	SL4180-14	W4050.D	05/19/18	18:06
CHAAP-21B-DS-SB09-5	SL4180-15	W4051.D	05/19/18	18:43
Continuing Calibrati	WG228693-5	W4052.D	05/19/18	19:20

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Form 5
Volatile Organic Instrument Performance Check

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
Lab File ID : WB845A.D
Instrument ID : GCMS-W

SDG : SL4180
Date Analyzed : 21-MAY-18
Time Analyzed : 07:30
Heated Purge : Yes

m/e	Ion Abundance Criteria	% Relative Abundance		
50	15.0 - 40.0% of mass 95	18.6		
75	30.0 - 60.0% of mass 95	50.6		
95	Base Peak, 100% relative abundance	100		
96	5.0 - 9.0% of mass 95	6.8		
173	Less than 2.0% of mass 174	0.4	0.48	1
174	Greater than 50.0% of mass 95	80.5		
175	5.0 - 9.0% of mass 174	6.7	8.30	1
176	95.0 - 101.0% of mass 174	78.1	97.02	1
177	5.0 - 9.0% of mass 176	4.6	5.85	2

1-Value is % mass 174 2-Value is % mass 176

This check applies to the following samples, LCS, MS, MSD and standards:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
Initial Calibration	WG228751-4	W4063.D	05/21/18	08:39
Initial Calibration	WG228751-3	W4064.D	05/21/18	09:16
Initial Calibration	WG228751-2	W4065.D	05/21/18	09:53
Initial Calibration	WG228751-1	W4066.D	05/21/18	10:30
Initial Calibration	WG228751-6	W4067.D	05/21/18	11:07
Initial Calibration	WG228751-5	W4068.D	05/21/18	11:44
Laboratory Control S	WG228751-8	W4069.D	05/21/18	12:31
Independent Source	WG228751-7	W4069A.D	05/21/18	12:31
Method Blank Sample	WG228751-9	W4071.D	05/21/18	13:45
CHAAP-21B-DS-SS11	SL4180-16	W4072.D	05/21/18	14:22
CHAAP-21B-DS-SS111	SL4180-17	W4073.D	05/21/18	14:59
CHAAP-21B-DS-SS10	SL4180-19	W4074.D	05/21/18	15:36
CHAAP-21B-DS-SB10-5	SL4180-20	W4075.D	05/21/18	16:13
CHAAP-21B-DS-SS04	SL4180-21	W4076.D	05/21/18	16:51
CHAAP-21B-DS-SB04-5	SL4180-22	W4077.D	05/21/18	17:28
CHAAP-21B-DS-SB04-10	SL4180-23	W4078.D	05/21/18	18:05
Continuing Calibrati	WG228751-11	W4079.D	05/21/18	18:42

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Form 5
Volatile Organic Instrument Performance Check

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
Lab File ID : WB846A.D
Instrument ID : GCMS-W

SDG : SL4180
Date Analyzed : 21-MAY-18
Time Analyzed : 19:07
Heated Purge : Yes

m/e	Ion Abundance Criteria	% Relative Abundance		
50	15.0 - 40.0% of mass 95	21.2		
75	30.0 - 60.0% of mass 95	48.2		
95	Base Peak, 100% relative abundance	100		
96	5.0 - 9.0% of mass 95	5.9		
173	Less than 2.0% of mass 174	0.8	0.98	1
174	Greater than 50.0% of mass 95	80.3		
175	5.0 - 9.0% of mass 174	5.7	7.06	1
176	95.0 - 101.0% of mass 174	76.6	95.35	1
177	5.0 - 9.0% of mass 176	5.1	6.72	2

1-Value is % mass 174 2-Value is % mass 176

This check applies to the following samples, LCS, MS, MSD and standards:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
Continuing Calibrati	WG228825-4	W4080.D	05/21/18	19:35
Laboratory Control S	WG228825-1	W4081.D	05/21/18	20:21
Method Blank Sample	WG228825-2	W4083.D	05/21/18	21:42
CHAAP-21B-DS-SS103	SL4180-25	W4085.D	05/21/18	22:56
CHAAP-21B-DS-SB03-5	SL4180-26	W4086.D	05/21/18	23:34
CHAAP-21B-DS-SB03-10	SL4180-27	W4087.D	05/22/18	00:11
CHAAP-21B-DS-SS07	SL4180-8	W4088.D	05/22/18	00:48
CHAAP-21B-DS-SS102	SL4180-2RA	W4091.D	05/22/18	02:40
CHAAP-21B-DS-SS06	SL4180-5RA	W4092.D	05/22/18	03:17
CHAAP-21B-DS-SS08	SL4180-12RA	W4093.D	05/22/18	03:54
CHAAP-21B-DS-SS09	SL4180-14RA	W4094.D	05/22/18	04:32
Continuing Calibrati	WG228825-5	W4098.D	05/22/18	07:01

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Form 5
Volatile Organic Instrument Performance Check

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
Lab File ID : WB847A.D
Instrument ID : GCMS-W

SDG : SL4180
Date Analyzed : 22-MAY-18
Time Analyzed : 08:03
Heated Purge : Yes

m/e	Ion Abundance Criteria	% Relative Abundance		
50	15.0 - 40.0% of mass 95	19.8		
75	30.0 - 60.0% of mass 95	50.1		
95	Base Peak, 100% relative abundance	100		
96	5.0 - 9.0% of mass 95	7.2		
173	Less than 2.0% of mass 174	0.4	0.46	1
174	Greater than 50.0% of mass 95	82.8		
175	5.0 - 9.0% of mass 174	6.3	7.61	1
176	95.0 - 101.0% of mass 174	80.3	96.94	1
177	5.0 - 9.0% of mass 176	4.9	6.16	2

1-Value is % mass 174 2-Value is % mass 176

This check applies to the following samples, LCS, MS, MSD and standards:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
Continuing Calibrati	WG228846-4	W4100.D	05/22/18	08:31
Laboratory Control S	WG228846-1	W4101.D	05/22/18	09:19
Method Blank Sample	WG228846-2	W4103.D	05/22/18	10:40
CHAAP-21B-DS-SB11-5	SL4180-18	W4105.D	05/22/18	11:54
CHAAP-21B-DS-SS11	SL4180-16RA	W4106.D	05/22/18	12:31
CHAAP-21B-DS-SS111	SL4180-17RA	W4107.D	05/22/18	13:08
CHAAP-21B-DS-SS04	SL4180-21RA	W4108.D	05/22/18	13:45
CHAAP-21B-DS-SS03	SL4180-24RA	W4109.D	05/22/18	14:22
CHAAP-21B-DS-SS103	SL4180-25RA	W4110.D	05/22/18	14:59
CHAAP-21B-DS-SS07	SL4180-8RA	W4111.D	05/22/18	15:36
Matrix Spike	WG228846-6	W4112.D	05/22/18	16:14
Matrix Spike Duplica	WG228846-7	W4113.D	05/22/18	16:51
Matrix Spike	WG228846-8	W4114.D	05/22/18	17:28
Matrix Spike Duplica	WG228846-9	W4115.D	05/22/18	18:05
Continuing Calibrati	WG228846-5	W4117.D	05/22/18	19:20

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Form 8
Internal Standard Area and RT Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition I
Lab ID : WG228547-4
Lab File ID : D1351.d

SDG: SL4180
Analytical Date: 05/17/18 08:11
Instrument ID: GCMS-D

		PENTAFLUOROBENZENE		1,4-DIFLUOROBENZENE		CHLOROBENZENE-D5	
		Area #	RT #	Area #	RT #	Area #	RT #
	Std .	265598	7.32	436302	8.10	399232	11.54
	Upper Limit	531196	7.48	872604	8.26	798464	11.70
	Lower Limit	132799	7.15	218151	7.93	199616	11.37
Client Sample ID	Lab Sample ID						
Continuing Calibrati	WG228752-4	258245	7.32	419786	8.10	386658	11.54
Laboratory Control S	WG228752-1	269099	7.32	430190	8.10	394685	11.54
Method Blank Sample	WG228752-2	239905	7.32	394566	8.11	362057	11.55
CHAAP-TB-051418	SL4180-28	233315	7.32	393016	8.11	357213	11.55
CHAAP-EB-051418	SL4180-29	210476	7.32	351955	8.11	327459	11.55
Continuing Calibrati	WG228752-5	245997	7.32	400356	8.11	369995	11.55

Area Upper Limit = +100% of internal standard area
Area Lower Limit = - 50% of internal standard area
RT Upper Limit = + 10 seconds of internal standard RT
RT Lower Limit = - 10 seconds of internal standard RT

Column used to flag values outside QC limits with an asterisk.
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Form 8
Internal Standard Area and RT Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition I
Lab ID : WG228547-4
Lab File ID : D1351.d

SDG: SL4180
Analytical Date: 05/17/18 08:11
Instrument ID: GCMS-D

		1,4-DICHLOROBENZENE-D4			
		Area	#	RT	#
	Std .	207228		13.88	
	Upper Limit	414456		14.04	
	Lower Limit	103614		13.71	
Client Sample ID	Lab Sample ID				
Continuing Calibrati	WG228752-4	198710		13.88	
Laboratory Control S	WG228752-1	202437		13.88	
Method Blank Sample	WG228752-2	178792		13.89	
CHAAP-TB-051418	SL4180-28	175629		13.89	
CHAAP-EB-051418	SL4180-29	161524		13.89	
Continuing Calibrati	WG228752-5	192473		13.89	

Area Upper Limit = +100% of internal standard area
Area Lower Limit = - 50% of internal standard area
RT Upper Limit = + 10 seconds of internal standard RT
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Form 8
Internal Standard Area and RT Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition I
Lab ID : WG228635-4
Lab File ID : W4029.D

SDG: SL4180
Analytical Date: 05/18/18 17:33
Instrument ID: GCMS-W

		PENTAFLUOROBENZENE		1,4-DIFLUOROBENZENE		CHLOROBENZENE-D5	
		Area #	RT #	Area #	RT #	Area #	RT #
	Std .	628350	8.04	1040947	8.91	988122	13.37
	Upper Limit	1256700	8.21	2081894	9.08	1976244	13.53
	Lower Limit	314175	7.87	520473.5	8.75	494061	13.20
Client Sample ID	Lab Sample ID						
Continuing Calibrati	WG228693-4	514857	8.07	846366	8.95	814318	13.39
Laboratory Control S	WG228693-1	494918	8.08	836447	8.95	797147	13.39
Method Blank Sample	WG228693-2	478723	8.07	837210	8.95	779819	13.39
CHAAP-21B-DS-SS02	SL4180-1	440925	8.08	760758	8.95	678407	13.39
CHAAP-21B-DS-SB02	SL4180-3	420842	8.08	736965	8.95	687976	13.39
CHAAP-21B-DS-SB02	SL4180-4	415134	8.08	724595	8.95	687532	13.39
CHAAP-21B-DS-SS06	SL4180-5	393550	8.08	693473	8.95	615298	13.39
CHAAP-21B-DS-SB06	SL4180-6	386928	8.08	690385	8.95	665014	13.39
CHAAP-21B-DS-SB06	SL4180-7	400380	8.08	712362	8.95	676881	13.39
CHAAP-21B-DS-SB07	SL4180-9	373489	8.08	659921	8.95	634417	13.39
CHAAP-21B-DS-SB10	SL4180-10	361479	8.08	654381	8.95	609375	13.39
CHAAP-21B-DS-SB07	SL4180-11	335796	8.09	601620	8.96	569674	13.40
CHAAP-21B-DS-SS08	SL4180-12	366746	8.09	631340	8.96	568034	13.40
CHAAP-21B-DS-SB08	SL4180-13	341688	8.09	620464	8.96	579494	13.40
CHAAP-21B-DS-SS09	SL4180-14	361358	8.09	647897	8.96	575418	13.40
CHAAP-21B-DS-SB09	SL4180-15	340333	8.09	608584	8.97	579839	13.41
Continuing Calibrati	WG228693-5	402861	8.10	673349	8.96	649222	13.40

Area Upper Limit = +100% of internal standard area
Area Lower Limit = - 50% of internal standard area
RT Upper Limit = + 10 seconds of internal standard RT
RT Lower Limit = - 10 seconds of internal standard RT

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Form 8
Internal Standard Area and RT Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition I
Lab ID : WG228635-4
Lab File ID : W4029.D

SDG: SL4180
Analytical Date: 05/18/18 17:33
Instrument ID: GCMS-W

		1,4-DICHLOROBENZENE-D4			
		Area	#	RT	#
	Std .	571189		16.43	
	Upper Limit	1142378		16.59	
	Lower Limit	285594.5		16.26	
Client Sample ID	Lab Sample ID				
Continuing Calibrati	WG228693-4	467975		16.44	
Laboratory Control S	WG228693-1	454675		16.45	
Method Blank Sample	WG228693-2	414167		16.44	
CHAAP-21B-DS-SS02	SL4180-1	290001		16.44	
CHAAP-21B-DS-SB02	SL4180-3	361254		16.44	
CHAAP-21B-DS-SB02	SL4180-4	356652		16.45	
CHAAP-21B-DS-SS06	SL4180-5	275241	*	16.45	
CHAAP-21B-DS-SB06	SL4180-6	334934		16.45	
CHAAP-21B-DS-SB06	SL4180-7	344464		16.44	
CHAAP-21B-DS-SB07	SL4180-9	325178		16.44	
CHAAP-21B-DS-SB10	SL4180-10	309550		16.45	
CHAAP-21B-DS-SB07	SL4180-11	290124		16.45	
CHAAP-21B-DS-SS08	SL4180-12	218402	*	16.45	
CHAAP-21B-DS-SB08	SL4180-13	293981		16.45	
CHAAP-21B-DS-SS09	SL4180-14	242958	*	16.45	
CHAAP-21B-DS-SB09	SL4180-15	296141		16.45	
Continuing Calibrati	WG228693-5	374315		16.45	

Area Upper Limit = +100% of internal standard area
Area Lower Limit = - 50% of internal standard area
RT Upper Limit = + 10 seconds of internal standard RT
RT Lower Limit = - 10 seconds of internal standard RT

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Form 8
Internal Standard Area and RT Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition I
Lab ID : WG228751-4
Lab File ID : W4063.D

SDG: SL4180
Analytical Date: 05/21/18 08:39
Instrument ID: GCMS-W

		PENTAFLUOROBENZENE			1,4-DIFLUOROBENZENE			CHLOROBENZENE-D5		
		Area	#	RT	#	Area	#	RT	#	Area	#	RT	#
	Std .	380844		8.08		588295		8.95		600272		13.39	
	Upper Limit	761688		8.24		1176590		9.12		1200544		13.55	
	Lower Limit	190422		7.91		294147.5		8.78		300136		13.22	
Client Sample ID	Lab Sample ID												
Laboratory Control S	WG228751-8	444730		8.07		686221		8.94		650742		13.39	
Method Blank Sample	WG228751-9	401216		8.07		632949		8.94		601922		13.38	
CHAAP-21B-DS-SS11	SL4180-16	389338		8.07		596563		8.94		532785		13.39	
CHAAP-21B-DS-SS11	SL4180-17	360247		8.07		563691		8.94		502345		13.38	
CHAAP-21B-DS-SS10	SL4180-19	351539		8.08		562444		8.94		530845		13.39	
CHAAP-21B-DS-SB10	SL4180-20	361901		8.06		580272		8.94		553384		13.38	
CHAAP-21B-DS-SS04	SL4180-21	311803		8.07		484375		8.94		436490		13.39	
CHAAP-21B-DS-SB04	SL4180-22	333017		8.07		542952		8.94		515232		13.39	
CHAAP-21B-DS-SB04	SL4180-23	331742		8.07		536092		8.94		523599		13.39	
Continuing Calibrati	WG228751-11	368027		8.07		575565		8.94		565804		13.39	
Continuing Calibrati	WG228825-4	398879		8.06		614970		8.93		605498		13.38	
Laboratory Control S	WG228825-1	385621		8.06		611156		8.93		589845		13.38	
Method Blank Sample	WG228825-2	344444		8.07		553354		8.95		522980		13.39	
CHAAP-21B-DS-SS10	SL4180-25	315598		8.08		509193		8.95		456371		13.39	
CHAAP-21B-DS-SB03	SL4180-26	307818		8.08		521375		8.95		493637		13.39	
CHAAP-21B-DS-SB03	SL4180-27	313806		8.08		506847		8.95		485765		13.39	
CHAAP-21B-DS-SS07	SL4180-8	301744		8.08		489195		8.95		438267		13.39	
CHAAP-21B-DS-SS10	SL4180-2RA	304774		8.07		492288		8.95		454185		13.39	
CHAAP-21B-DS-SS06	SL4180-5RA	284327		8.07		476694		8.95		427638		13.39	
CHAAP-21B-DS-SS08	SL4180-12RA	273309		8.08		447963		8.95		397106		13.39	
CHAAP-21B-DS-SS09	SL4180-14RA	267595		8.07		450572		8.95		407483		13.38	
Continuing Calibrati	WG228825-5	343665		8.07		554961		8.95		529614		13.38	

Area Upper Limit = +100% of internal standard area
Area Lower Limit = - 50% of internal standard area
RT Upper Limit = + 10 seconds of internal standard RT
RT Lower Limit = - 10 seconds of internal standard RT

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Form 8
Internal Standard Area and RT Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition I
Lab ID : WG228751-4
Lab File ID : W4063.D

SDG: SL4180
Analytical Date: 05/21/18 08:39
Instrument ID: GCMS-W

		1,4-DICHLOROBENZENE-D4			
		Area	#	RT	#
	Std .	392259		16.44	
	Upper Limit	784518		16.61	
	Lower Limit	196129.5		16.27	
Client Sample ID	Lab Sample ID				
Laboratory Control S	WG228751-8	414422		16.44	
Method Blank Sample	WG228751-9	340065		16.44	
CHAAP-21B-DS-SS11	SL4180-16	222009		16.44	
CHAAP-21B-DS-SS11	SL4180-17	214595		16.44	
CHAAP-21B-DS-SS10	SL4180-19	295394		16.44	
CHAAP-21B-DS-SB10	SL4180-20	296221		16.44	
CHAAP-21B-DS-SS04	SL4180-21	183514	*	16.44	
CHAAP-21B-DS-SB04	SL4180-22	276131		16.44	
CHAAP-21B-DS-SB04	SL4180-23	279515		16.44	
Continuing Calibrati	WG228751-11	345950		16.44	
Continuing Calibrati	WG228825-4	377405		16.44	
Laboratory Control S	WG228825-1	369449		16.44	
Method Blank Sample	WG228825-2	293617		16.44	
CHAAP-21B-DS-SS10	SL4180-25	193500	*	16.44	
CHAAP-21B-DS-SB03	SL4180-26	260029		16.44	
CHAAP-21B-DS-SB03	SL4180-27	265885		16.45	
CHAAP-21B-DS-SS07	SL4180-8	194962	*	16.44	
CHAAP-21B-DS-SS10	SL4180-2RA	199834		16.44	
CHAAP-21B-DS-SS06	SL4180-5RA	193486	*	16.44	
CHAAP-21B-DS-SS08	SL4180-12RA	162852	*	16.44	
CHAAP-21B-DS-SS09	SL4180-14RA	166197	*	16.44	
Continuing Calibrati	WG228825-5	335221		16.44	

Area Upper Limit = +100% of internal standard area
Area Lower Limit = - 50% of internal standard area
RT Upper Limit = + 10 seconds of internal standard RT
RT Lower Limit = - 10 seconds of internal standard RT

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Form 8
Internal Standard Area and RT Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition I
Lab ID : WG228751-4
Lab File ID : W4063.D

SDG: SL4180
Analytical Date: 05/21/18 08:39
Instrument ID: GCMS-W

		PENTAFLUOROBENZENE		1,4-DIFLUOROBENZENE		CHLOROBENZENE-D5	
		Area #	RT #	Area #	RT #	Area #	RT #
	Std .	380844	8.08	588295	8.95	600272	13.39
	Upper Limit	761688	8.24	1176590	9.12	1200544	13.55
	Lower Limit	190422	7.91	294147.5	8.78	300136	13.22
Client Sample ID	Lab Sample ID						
Continuing Calibrati	WG228846-4	346633	8.07	562908	8.95	548901	13.39
Laboratory Control S	WG228846-1	362805	8.06	598661	8.93	574971	13.38
Method Blank Sample	WG228846-2	319442	8.06	534268	8.93	507656	13.38
CHAAP-21B-DS-SB11	SL4180-18	284487	8.06	473030	8.93	458619	13.38
CHAAP-21B-DS-SS11	SL4180-16RA	275838	8.06	475089	8.93	418275	13.38
CHAAP-21B-DS-SS11	SL4180-17RA	277942	8.06	474045	8.93	426417	13.38
CHAAP-21B-DS-SS04	SL4180-21RA	263676	8.06	454508	8.93	398515	13.38
CHAAP-21B-DS-SS03	SL4180-24RA	280572	8.07	474513	8.94	451506	13.39
CHAAP-21B-DS-SS10	SL4180-25RA	205041	8.08	353996	8.95	327819	13.39
CHAAP-21B-DS-SS07	SL4180-8RA	262278	8.08	455865	8.95	409794	13.39
Matrix Spike	WG228846-6	304433	8.08	503047	8.95	482253	13.39
Matrix Spike Duplica	WG228846-7	291520	8.08	473985	8.96	459563	13.40
Matrix Spike	WG228846-8	294946	8.09	493622	8.95	445134	13.39
Matrix Spike Duplica	WG228846-9	302850	8.09	504490	8.96	450134	13.40
Continuing Calibrati	WG228846-5	343323	8.09	562229	8.96	541336	13.40

Area Upper Limit = +100% of internal standard area
Area Lower Limit = - 50% of internal standard area
RT Upper Limit = + 10 seconds of internal standard RT
RT Lower Limit = - 10 seconds of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

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Katahdin
ANALYTICAL SERVICES

Form 8
Internal Standard Area and RT Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition I
Lab ID : WG228751-4
Lab File ID : W4063.D

SDG: SL4180
Analytical Date: 05/21/18 08:39
Instrument ID: GCMS-W

		1,4-DICHLOROBENZENE-D4			
		Area	#	RT	#
	Std .	392259		16.44	
	Upper Limit	784518		16.61	
	Lower Limit	196129.5		16.27	
Client Sample ID	Lab Sample ID				
Continuing Calibrati	WG228846-4	341515		16.45	
Laboratory Control S	WG228846-1	363110		16.43	
Method Blank Sample	WG228846-2	276375		16.44	
CHAAP-21B-DS-SB11	SL4180-18	239250		16.43	
CHAAP-21B-DS-SS11	SL4180-16RA	167283	*	16.43	
CHAAP-21B-DS-SS11	SL4180-17RA	179225	*	16.43	
CHAAP-21B-DS-SS04	SL4180-21RA	141024	*	16.44	
CHAAP-21B-DS-SS03	SL4180-24RA	227912		16.44	
CHAAP-21B-DS-SS10	SL4180-25RA	140637	*	16.45	
CHAAP-21B-DS-SS07	SL4180-8RA	172067	*	16.44	
Matrix Spike	WG228846-6	300026		16.45	
Matrix Spike Duplica	WG228846-7	292193		16.45	
Matrix Spike	WG228846-8	226724		16.45	
Matrix Spike Duplica	WG228846-9	234127		16.45	
Continuing Calibrati	WG228846-5	332217		16.45	

Area Upper Limit = +100% of internal standard area
Area Lower Limit = - 50% of internal standard area
RT Upper Limit = + 10 seconds of internal standard RT
RT Lower Limit = - 10 seconds of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

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Sample Data Section

KATAHDIN ANALYTICAL SERVICES - ORGANIC DATA QUALIFIERS

The sampled date indicated on the attached Report(s) of Analysis (ROA) is the date for which a grab sample was collected or the date for which a composite sample was completed. Beginning and start times for composite samples can be found on the Chain-of-Custody.

U Indicates the compound was analyzed for but not detected above the specified level. This level may be the Limit of Quantitation (LOQ)(previously called Practical Quantitation Level (PQL)), the Limit of Detection (LOD) or Method Detection Limit (MDL) as required by the client.

Note: All results reported as "U" MDL have a 50% rate for false negatives compared to those results reported as "U" PQL/LOQ or "U" LOD, where the rate of false negatives is <1%.

* Compound recovery or percent RPD (relative percent difference) was outside of quality control limits.

D Indicates the result was obtained from analysis of a diluted sample. Surrogate recoveries may not be calculable.

E Estimated value. This flag identifies compounds whose concentrations exceed the upper level of the calibration range of the instrument for that specific analysis.

J Estimated value. The analyte was detected in the sample at a concentration less than the laboratory Limit of Quantitation (LOQ)(previously called Practical Quantitation Limit (PQL)), but above the Method Detection Limit (MDL).

or

J Used for Pesticides, PCBs, Herbicides, Formaldehyde, Explosives and Method 504.1 analytes when there is a greater than 40% difference for detected concentrations between the two GC columns.

B Indicates the analyte was detected in the laboratory method blank analyzed concurrently with the sample.

C Indicates that the flagged compound did not meet DoD criteria in the corresponding daily calibration verification (CV).

L Indicates that the flagged compound did not meet DoD criteria in the corresponding Laboratory Control Sample (LCS) and/or Laboratory Control Sample Duplicate (LCSD) prepared and/or analyzed concurrently with the sample.

M Indicates that the flagged compound did not meet DoD criteria in the Matrix Spike and/or Matrix Spike Duplicate prepared and/or analyzed concurrently with the native sample.

N Presumptive evidence of a compound based on a mass spectral library search.

A Indicates that a tentatively identified compound is a suspected aldol-condensation product.

P Used for Pesticide/Aroclor analyte when there is a greater than 25% difference for detected concentrations between the two GC columns. (for CLP methods only).

Katahdin Analytical Services, Inc.

Manual Integration Codes For GC/MS, GC, HPLC and/or IC

M1	Peak splitting.
M2	Well defined peaks on the shoulders of the other peaks.
M3	There is additional area due to a coeluting interferant.
M4	There are negative spikes in the baseline.
M5	There are rising or falling baselines.
M6	The software has failed to detect a peak or misidentified a peak.
M7	Excessive peak tailing.
M8	Analysis such as GRO, DRO and TPH require a baseline hold.
M9	Peak was not completely integrated as in GC/MS.
M10	Primary ion was correctly integrated, but secondary or tertiary ion needed manual integration as in GC/MS.
M11	For GC analysis, when a sample is diluted by 1:10 or more, the surrogate is set to undetected and then the area under the surrogate is manually integrated.
M12	Manual integration saved in method due to TurboChrom floating point error.

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-1
Client ID: CHAAP-21B-DS-SS02
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4038.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 19-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228693

Analysis Date: 19-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 85.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,1,1,2-Tetrachloroethane	U	3.0	ug/Kgdrywt	1	5	6.0	0.84	3.0
1,1,1-Trichloroethane	U	3.0	ug/Kgdrywt	1	5	6.0	0.50	3.0
1,1,2,2-Tetrachloroethane	U	3.0	ug/Kgdrywt	1	5	6.0	1.0	3.0
Freon-113	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
1,1,2-Trichloroethane	U	3.0	ug/Kgdrywt	1	5	6.0	1.2	3.0
1,1-Dichloroethane	U	3.0	ug/Kgdrywt	1	5	6.0	2.0	3.0
1,1-Dichloroethene	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
1,1-Dichloropropene	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
1,2,3-Trichlorobenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.91	3.0
1,2,3-Trichloropropane	U	3.0	ug/Kgdrywt	1	5	6.0	1.4	3.0
1,2,4-Trichlorobenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.95	3.0
1,2,4-Trimethylbenzene	U	3.0	ug/Kgdrywt	1	5	6.0	1.0	3.0
1,2-Dibromo-3-Chloropropane	U	3.0	ug/Kgdrywt	1	5	6.0	1.8	3.0
1,2-Dibromoethane	U	3.0	ug/Kgdrywt	1	5	6.0	1.4	3.0
1,2-Dichlorobenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.94	3.0
1,2-Dichloroethane	U	3.0	ug/Kgdrywt	1	5	6.0	1.2	3.0
1,2-Dichloropropane	U	3.0	ug/Kgdrywt	1	5	6.0	1.7	3.0
1,3,5-Trimethylbenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.80	3.0
1,3-Dichlorobenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.74	3.0
1,3-Dichloropropane	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
1,4-Dichlorobenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.53	3.0
2,2-Dichloropropane	U	3.0	ug/Kgdrywt	1	5	6.0	0.60	3.0
2-Butanone	U	15	ug/Kgdrywt	1	25	30.	7.1	15.
2-Chlorotoluene	U	3.0	ug/Kgdrywt	1	5	6.0	1.3	3.0
2-Hexanone	U	15	ug/Kgdrywt	1	25	30.	5.8	15.
4-Chlorotoluene	U	3.0	ug/Kgdrywt	1	5	6.0	0.59	3.0
P-Isopropyltoluene	U	3.0	ug/Kgdrywt	1	5	6.0	0.91	3.0
4-Methyl-2-Pentanone	U	15	ug/Kgdrywt	1	25	30.	7.1	15.
Acetone	U	15	ug/Kgdrywt	1	25	30.	6.1	15.
Benzene	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
Bromobenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.89	3.0
Bromochloromethane	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
Bromodichloromethane	U	3.0	ug/Kgdrywt	1	5	6.0	0.72	3.0
Bromoform	U	3.0	ug/Kgdrywt	1	5	6.0	0.84	3.0
Bromomethane	U	6.0	ug/Kgdrywt	1	10	12.	1.3	6.0

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Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-1
Client ID: CHAAP-21B-DS-SS02
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4038.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 19-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228693

Analysis Date: 19-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 85.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Carbon Disulfide	U	3.0	ug/Kgdrywt	1	5	6.0	0.94	3.0
Carbon Tetrachloride	U	3.0	ug/Kgdrywt	1	5	6.0	1.6	3.0
Chlorobenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.61	3.0
Dibromochloromethane	U	3.0	ug/Kgdrywt	1	5	6.0	8.4	3.0
Chloroethane	U	6.0	ug/Kgdrywt	1	10	12.	1.6	6.0
Chloroform	U	3.0	ug/Kgdrywt	1	5	6.0	0.42	3.0
Chloromethane	U	6.0	ug/Kgdrywt	1	10	12.	1.7	6.0
cis-1,2-Dichloroethene	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
cis-1,3-Dichloropropene	U	3.0	ug/Kgdrywt	1	5	6.0	0.86	3.0
Dibromomethane	U	3.0	ug/Kgdrywt	1	5	6.0	0.61	3.0
Dichlorodifluoromethane	UL	6.0	ug/Kgdrywt	1	10	12.	1.1	6.0
Ethylbenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.78	3.0
Hexachlorobutadiene	U	3.0	ug/Kgdrywt	1	5	6.0	0.89	3.0
Isopropylbenzene	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
m+p-Xylenes	U	6.0	ug/Kgdrywt	1	10	12.	2.0	6.0
Methyl tert-butyl Ether	U	3.0	ug/Kgdrywt	1	5	6.0	1.3	3.0
Methylene Chloride	U	15	ug/Kgdrywt	1	25	30.	9.5	15.
N-Butylbenzene	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
N-Propylbenzene	U	3.0	ug/Kgdrywt	1	5	6.0	1.0	3.0
Naphthalene	J	1.4	ug/Kgdrywt	1	5	6.0	1.0	3.0
o-Xylene	U	3.0	ug/Kgdrywt	1	5	6.0	1.6	3.0
sec-Butylbenzene	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
Styrene	U	3.0	ug/Kgdrywt	1	5	6.0	0.61	3.0
tert-Butylbenzene	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
Tetrachloroethene	U	3.0	ug/Kgdrywt	1	5	6.0	1.4	3.0
Toluene	U	3.0	ug/Kgdrywt	1	5	6.0	1.7	3.0
trans-1,2-Dichloroethene	U	3.0	ug/Kgdrywt	1	5	6.0	0.85	3.0
trans-1,3-Dichloropropene	U	3.0	ug/Kgdrywt	1	5	6.0	1.0	3.0
Trichloroethene	U	3.0	ug/Kgdrywt	1	5	6.0	0.71	3.0
Trichlorofluoromethane	U	6.0	ug/Kgdrywt	1	10	12.	1.1	6.0
Vinyl Chloride	U	6.0	ug/Kgdrywt	1	10	12.	1.0	6.0
1,2-Dichloroethane-D4		105.	%					
p-Bromofluorobenzene		83.4	%					
Dibromofluoromethane		103.	%					
Toluene-D8		102.	%					

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Data File: \\target_server\gg\chem\gcms-w.i\W051918.b\W4038.D
Report Date: 25-May-2018 12:01

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W051918.b\W4038.D
Lab Smp Id: SL4180-1 Client Smp ID: CHAAP-21B-DS-SS02
Inj Date : 19-MAY-2018 10:39 MS Autotune Date: 10-APR-2016 11:00
Operator : JSS Inst ID: gcms-w.i
Smp Info : SL4180-1
Misc Info : WG228693,WG228635-4
Comment : SW846 5035
Method : \\target_server\gg\chem\gcms-w.i\W051918.b\W8SDI(12)D.m
Meth Date : 20-May-2018 08:58 hgould Quant Type: ISTD
Cal Date : 18-MAY-2018 15:04 Cal File: W4025.D
Als bottle: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: T6-O360

Concentration Formula: Amt * DF * (100/(100-M))*(Vt/Ws) * CpndVariable

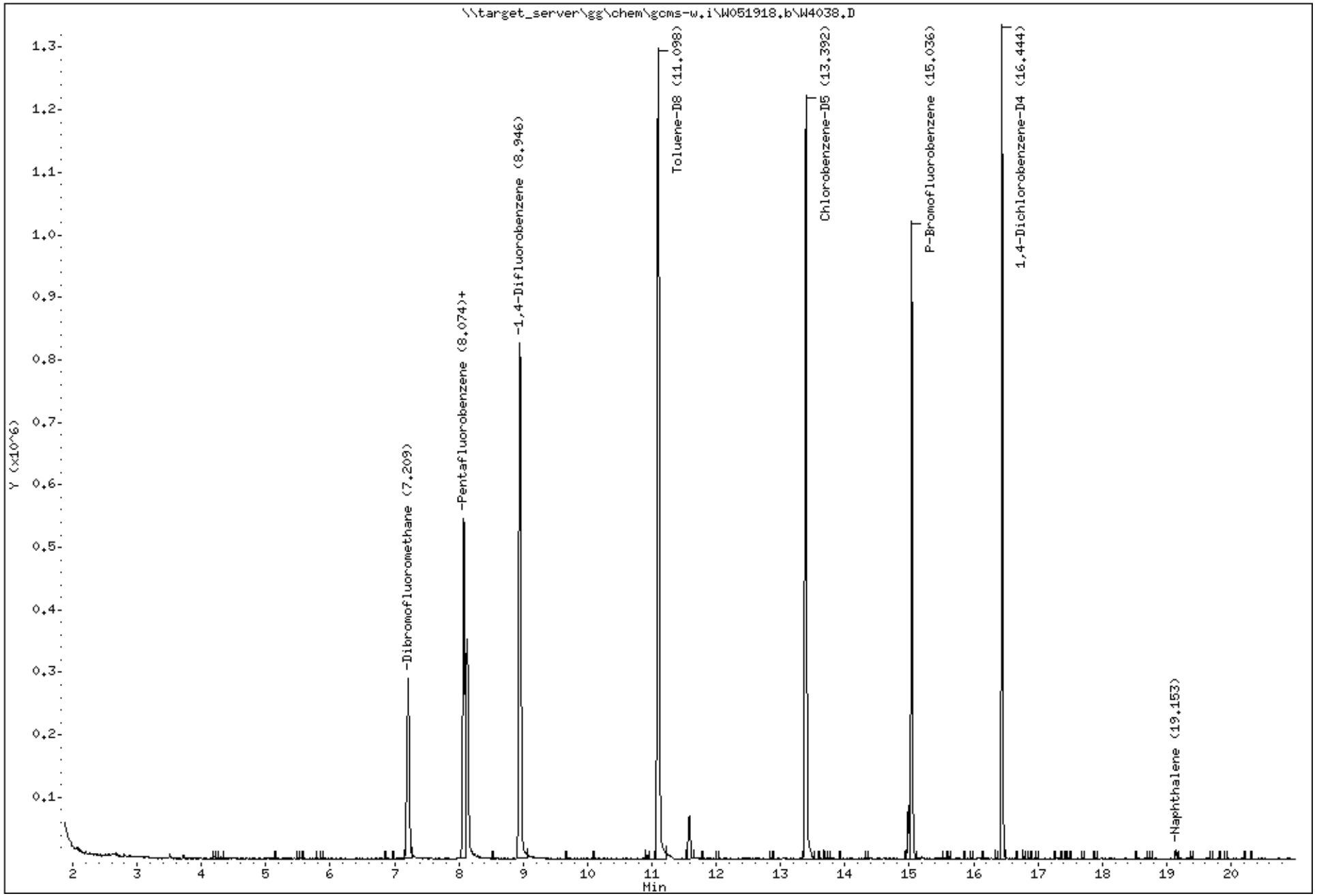
Name	Value	Description
DF	1.000	Dilution Factor
M	14.982	% Moisture
Vt	5.000	Volume of DI Water (mL)
Ws	4.810	Weight of Sample (g)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/kg)	FINAL (ug/Kgdrywt)	REVIEW COD
$ 37 Dibromofluoromethane	113	7.209	7.188	(0.892)	222964	51.4670	62.9	
* 42 Pentafluorobenzene	168	8.081	8.060	(1.000)	440925	50.0000		
$ 45 1,2-Dichloroethane-D4	65	8.124	8.109	(1.005)	298100	52.4028	64.1	
* 49 1,4-Difluorobenzene	114	8.946	8.932	(1.000)	760758	50.0000		
$ 55 Toluene-D8	98	11.097	11.084	(1.241)	938352	50.7680	62.1	
* 66 Chlorobenzene-D5	117	13.392	13.378	(1.000)	678407	50.0000		
$ 76 P-Bromofluorobenzene	95	15.036	15.022	(1.681)	323825	41.7283	51.0	
* 91 1,4-Dichlorobenzene-D4	152	16.444	16.430	(1.000)	290001	50.0000		
101 Naphthalene	128	19.153	19.139	(1.165)	10736	1.11678	1.4(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

Data File: \\target_server\gg\chem\gcms-w.i\W051918.b\W4038.D
Date : 19-MAY-2018 10:39
Client ID: CHAAP-21B-DS-SS02 Instrument: gcms-w.i
Sample Info: SL4180-1



Katahdin Analytical Services 1000032

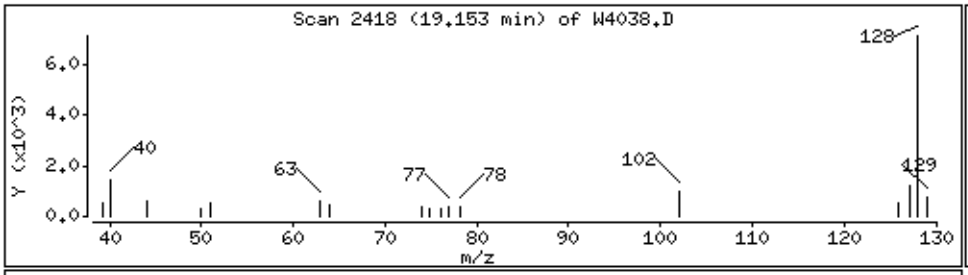
Data File: \\target_server\gg\chem\gcms-w.i\W051918.b\W4038.D

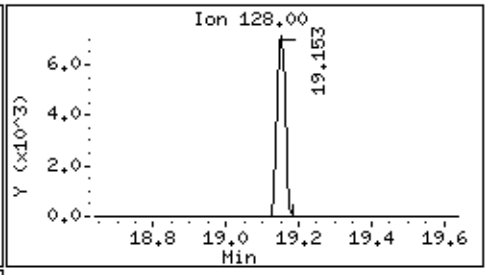
Date : 19-MAY-2018 10:39

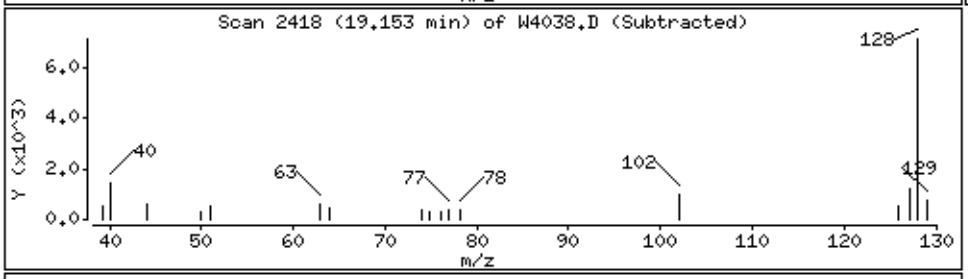
Client ID: CHAAP-21B-DS-SS02 Instrument: gcms-w.i

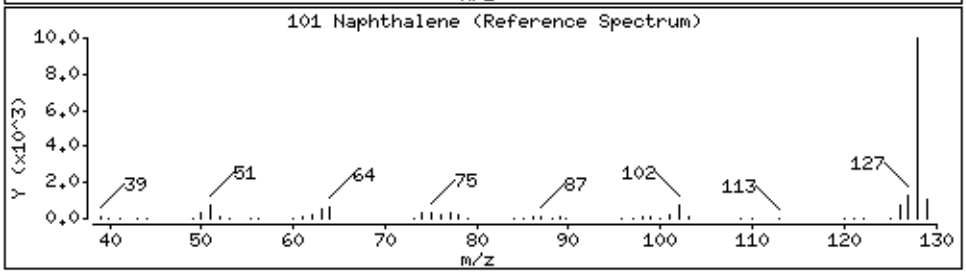
Sample Info: SL4180-1

101 Naphthalene Concentration: 1.4 ug/Kgdrywt









Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-2RA
Client ID: CHAAP-21B-DS-SS102
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4091.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 22-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228825

Analysis Date: 22-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 83.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,1,1,2-Tetrachloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.77	2.8
1,1,1-Trichloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.46	2.8
1,1,2,2-Tetrachloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.92	2.8
Freon-113	U	2.8	ug/Kgdrywt	1	5	5.5	0.99	2.8
1,1,2-Trichloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.1	2.8
1,1-Dichloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.9	2.8
1,1-Dichloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
1,1-Dichloropropene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
1,2,3-Trichlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.84	2.8
1,2,3-Trichloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	1.3	2.8
1,2,4-Trichlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.87	2.8
1,2,4-Trimethylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.96	2.8
1,2-Dibromo-3-Chloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	1.6	2.8
1,2-Dibromoethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.3	2.8
1,2-Dichlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.86	2.8
1,2-Dichloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.1	2.8
1,2-Dichloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	1.5	2.8
1,3,5-Trimethylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.74	2.8
1,3-Dichlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.68	2.8
1,3-Dichloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
1,4-Dichlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.48	2.8
2,2-Dichloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	0.55	2.8
2-Butanone	U	14	ug/Kgdrywt	1	25	28.	6.5	14.
2-Chlorotoluene	U	2.8	ug/Kgdrywt	1	5	5.5	1.2	2.8
2-Hexanone	U	14	ug/Kgdrywt	1	25	28.	5.3	14.
4-Chlorotoluene	U	2.8	ug/Kgdrywt	1	5	5.5	0.54	2.8
P-Isopropyltoluene	U	2.8	ug/Kgdrywt	1	5	5.5	0.84	2.8
4-Methyl-2-Pentanone	U	14	ug/Kgdrywt	1	25	28.	6.5	14.
Acetone	U	14	ug/Kgdrywt	1	25	28.	5.6	14.
Benzene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
Bromobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.81	2.8
Bromochloromethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
Bromodichloromethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.66	2.8
Bromoform	U	2.8	ug/Kgdrywt	1	5	5.5	0.77	2.8
Bromomethane	U	5.5	ug/Kgdrywt	1	10	11.	1.2	5.5

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-2RA
Client ID: CHAAP-21B-DS-SS102
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4091.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 22-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228825

Analysis Date: 22-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 83.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Carbon Disulfide	U	2.8	ug/Kgdrywt	1	5	5.5	0.86	2.8
Carbon Tetrachloride	U	2.8	ug/Kgdrywt	1	5	5.5	1.4	2.8
Chlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.56	2.8
Dibromochloromethane	U	2.8	ug/Kgdrywt	1	5	5.5	7.7	2.8
Chloroethane	U	5.5	ug/Kgdrywt	1	10	11.	1.4	5.5
Chloroform	U	2.8	ug/Kgdrywt	1	5	5.5	0.38	2.8
Chloromethane	U	5.5	ug/Kgdrywt	1	10	11.	1.5	5.5
cis-1,2-Dichloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
cis-1,3-Dichloropropene	U	2.8	ug/Kgdrywt	1	5	5.5	0.79	2.8
Dibromomethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.56	2.8
Dichlorodifluoromethane	U	5.5	ug/Kgdrywt	1	10	11.	1.0	5.5
Ethylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.72	2.8
Hexachlorobutadiene	U	2.8	ug/Kgdrywt	1	5	5.5	0.81	2.8
Isopropylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
m+p-Xylenes	U	5.5	ug/Kgdrywt	1	10	11.	1.9	5.5
Methyl tert-butyl Ether	U	2.8	ug/Kgdrywt	1	5	5.5	1.2	2.8
Methylene Chloride	U	14	ug/Kgdrywt	1	25	28.	8.7	14.
N-Butylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
N-Propylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.91	2.8
Naphthalene	U	2.8	ug/Kgdrywt	1	5	5.5	0.97	2.8
o-Xylene	U	2.8	ug/Kgdrywt	1	5	5.5	1.4	2.8
sec-Butylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
Styrene	U	2.8	ug/Kgdrywt	1	5	5.5	0.56	2.8
tert-Butylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.99	2.8
Tetrachloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	1.3	2.8
Toluene	U	2.8	ug/Kgdrywt	1	5	5.5	1.5	2.8
trans-1,2-Dichloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	0.78	2.8
trans-1,3-Dichloropropene	U	2.8	ug/Kgdrywt	1	5	5.5	0.95	2.8
Trichloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	0.65	2.8
Trichlorofluoromethane	U	5.5	ug/Kgdrywt	1	10	11.	1.0	5.5
Vinyl Chloride	U	5.5	ug/Kgdrywt	1	10	11.	0.96	5.5
1,2-Dichloroethane-D4		101.	%					
p-Bromofluorobenzene		80.9	%					
Dibromofluoromethane		103.	%					
Toluene-D8		100.	%					

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Data File: \\target_server\gg\chem\gcms-w.i\W052118B.b\W4091.D
Report Date: 25-May-2018 12:18

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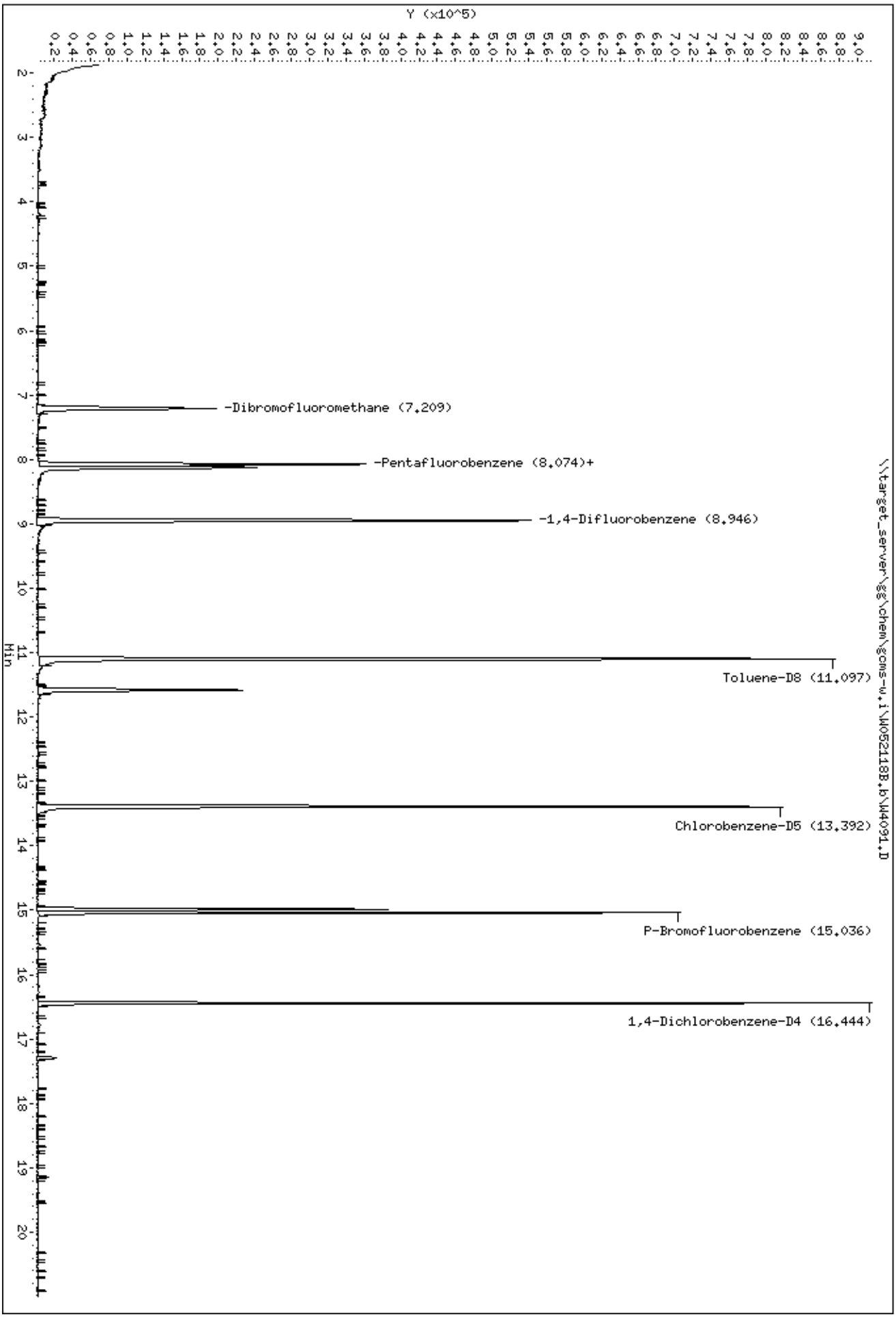
Data file : \\target_server\gg\chem\gcms-w.i\W052118B.b\W4091.D
Lab Smp Id: SL4180-2RA Client Smp ID: CHAAP-21B-DS-SS102
Inj Date : 22-MAY-2018 02:40 MS Autotune Date: 10-APR-2016 11:00
Operator : JSS Inst ID: gcms-w.i
Smp Info : SL4180-2RA
Misc Info : WG228825,WG228751-4
Comment   : SW846 5035
Method   : \\target_server\gg\chem\gcms-w.i\W052118B.b\W8SDI(13)D.m
Meth Date : 22-May-2018 08:59 jsampson Quant Type: ISTD
Cal Date : 21-MAY-2018 11:44 Cal File: W4068.D
Als bottle: 13
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: T6-O360

Concentration Formula: Amt * DF * (100/(100-M))*(Vt/Ws) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
M	16.863	% Moisture
Vt	5.000	Volume of DI Water (mL)
Ws	5.240	Weight of Sample (g)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/kg)	FINAL (ug/Kgdrywt)	REVIEW COD
$ 37 Dibromofluoromethane	113	7.208	7.198	(0.893)	142343	51.4841	59.1	
* 42 Pentafluorobenzene	168	8.073	8.070	(1.000)	304774	50.0000		
$ 45 1,2-Dichloroethane-D4	65	8.123	8.119	(1.006)	184076	50.6926	58.2	
* 49 1,4-Difluorobenzene	114	8.945	8.942	(1.000)	492288	50.0000		
$ 55 Toluene-D8	98	11.097	11.094	(1.241)	619332	50.1209	57.5	
* 66 Chlorobenzene-D5	117	13.391	13.381	(1.000)	454185	50.0000		
$ 76 P-Bromofluorobenzene	95	15.035	15.032	(1.681)	211221	40.4601	46.4	
* 91 1,4-Dichlorobenzene-D4	152	16.443	16.440	(1.000)	199834	50.0000		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Date : 22-MAY-2018 02:40
Client ID: CHAAP-21B-DS-SS102
Sample Info: SL4180-2RA
Instrument: gcms-w.i
Y (x10^5)
Min
-Dibromofluoromethane (7.209)
-Pentafluorobenzene (8.074)+
-1,4-Difluorobenzene (8.946)
Toluene-D8 (11.097)
Chlorobenzene-D5 (13.392)
P-Bromofluorobenzene (15.036)
1,4-Dichlorobenzene-D4 (16.444)
\\target_server\gg\chem\gcms-w.i\W052118B.b\W4091.D

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-3
Client ID: CHAAP-21B-DS-SB02-5
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4040.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 19-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228693

Analysis Date: 19-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 82.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,1,1,2-Tetrachloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.70	2.5
1,1,1-Trichloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.42	2.5
1,1,2,2-Tetrachloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.84	2.5
Freon-113	U	2.5	ug/Kgdrywt	1	5	5.0	0.90	2.5
1,1,2-Trichloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.97	2.5
1,1-Dichloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	1.7	2.5
1,1-Dichloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	0.93	2.5
1,1-Dichloropropene	U	2.5	ug/Kgdrywt	1	5	5.0	0.91	2.5
1,2,3-Trichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.76	2.5
1,2,3-Trichloropropane	U	2.5	ug/Kgdrywt	1	5	5.0	1.2	2.5
1,2,4-Trichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.79	2.5
1,2,4-Trimethylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.87	2.5
1,2-Dibromo-3-Chloropropane	U	2.5	ug/Kgdrywt	1	5	5.0	1.5	2.5
1,2-Dibromoethane	U	2.5	ug/Kgdrywt	1	5	5.0	1.2	2.5
1,2-Dichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.78	2.5
1,2-Dichloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	1.0	2.5
1,2-Dichloropropane	U	2.5	ug/Kgdrywt	1	5	5.0	1.4	2.5
1,3,5-Trimethylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.67	2.5
1,3-Dichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.62	2.5
1,3-Dichloropropane	U	2.5	ug/Kgdrywt	1	5	5.0	0.94	2.5
1,4-Dichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.44	2.5
2,2-Dichloropropane	U	2.5	ug/Kgdrywt	1	5	5.0	0.50	2.5
2-Butanone	U	12	ug/Kgdrywt	1	25	25.	5.9	12.
2-Chlorotoluene	U	2.5	ug/Kgdrywt	1	5	5.0	1.1	2.5
2-Hexanone	U	12	ug/Kgdrywt	1	25	25.	4.8	12.
4-Chlorotoluene	U	2.5	ug/Kgdrywt	1	5	5.0	0.49	2.5
P-Isopropyltoluene	U	2.5	ug/Kgdrywt	1	5	5.0	0.76	2.5
4-Methyl-2-Pentanone	U	12	ug/Kgdrywt	1	25	25.	5.9	12.
Acetone	U	12	ug/Kgdrywt	1	25	25.	5.1	12.
Benzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.92	2.5
Bromobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.74	2.5
Bromochloromethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.91	2.5
Bromodichloromethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.60	2.5
Bromoform	U	2.5	ug/Kgdrywt	1	5	5.0	0.70	2.5
Bromomethane	U	5.0	ug/Kgdrywt	1	10	10.	1.1	5.0

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-3
Client ID: CHAAP-21B-DS-SB02-5
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4040.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 19-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228693

Analysis Date: 19-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 82.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Carbon Disulfide	U	2.5	ug/Kgdrywt	1	5	5.0	0.78	2.5
Carbon Tetrachloride	U	2.5	ug/Kgdrywt	1	5	5.0	1.3	2.5
Chlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.51	2.5
Dibromochloromethane	U	2.5	ug/Kgdrywt	1	5	5.0	7.0	2.5
Chloroethane	U	5.0	ug/Kgdrywt	1	10	10.	1.3	5.0
Chloroform	U	2.5	ug/Kgdrywt	1	5	5.0	0.35	2.5
Chloromethane	U	5.0	ug/Kgdrywt	1	10	10.	1.4	5.0
cis-1,2-Dichloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	0.91	2.5
cis-1,3-Dichloropropene	U	2.5	ug/Kgdrywt	1	5	5.0	0.72	2.5
Dibromomethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.51	2.5
Dichlorodifluoromethane	UL	5.0	ug/Kgdrywt	1	10	10.	0.92	5.0
Ethylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.65	2.5
Hexachlorobutadiene	U	2.5	ug/Kgdrywt	1	5	5.0	0.74	2.5
Isopropylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.92	2.5
m+p-Xylenes	U	5.0	ug/Kgdrywt	1	10	10.	1.7	5.0
Methyl tert-butyl Ether	U	2.5	ug/Kgdrywt	1	5	5.0	1.1	2.5
Methylene Chloride	U	12	ug/Kgdrywt	1	25	25.	7.9	12.
N-Butylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.92	2.5
N-Propylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.83	2.5
Naphthalene	U	2.5	ug/Kgdrywt	1	5	5.0	0.88	2.5
o-Xylene	U	2.5	ug/Kgdrywt	1	5	5.0	1.3	2.5
sec-Butylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.91	2.5
Styrene	U	2.5	ug/Kgdrywt	1	5	5.0	0.51	2.5
tert-Butylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.90	2.5
Tetrachloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	1.2	2.5
Toluene	U	2.5	ug/Kgdrywt	1	5	5.0	1.4	2.5
trans-1,2-Dichloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	0.71	2.5
trans-1,3-Dichloropropene	U	2.5	ug/Kgdrywt	1	5	5.0	0.86	2.5
Trichloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	0.59	2.5
Trichlorofluoromethane	U	5.0	ug/Kgdrywt	1	10	10.	0.91	5.0
Vinyl Chloride	U	5.0	ug/Kgdrywt	1	10	10.	0.87	5.0
1,2-Dichloroethane-D4		103.	%					
p-Bromofluorobenzene		95.8	%					
Dibromofluoromethane		103.	%					
Toluene-D8		99.5	%					

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Data File: \\target_server\gg\chem\gcms-w.i\W051918.b\W4040.D
Report Date: 25-May-2018 12:01

Katahdin Analytical Services

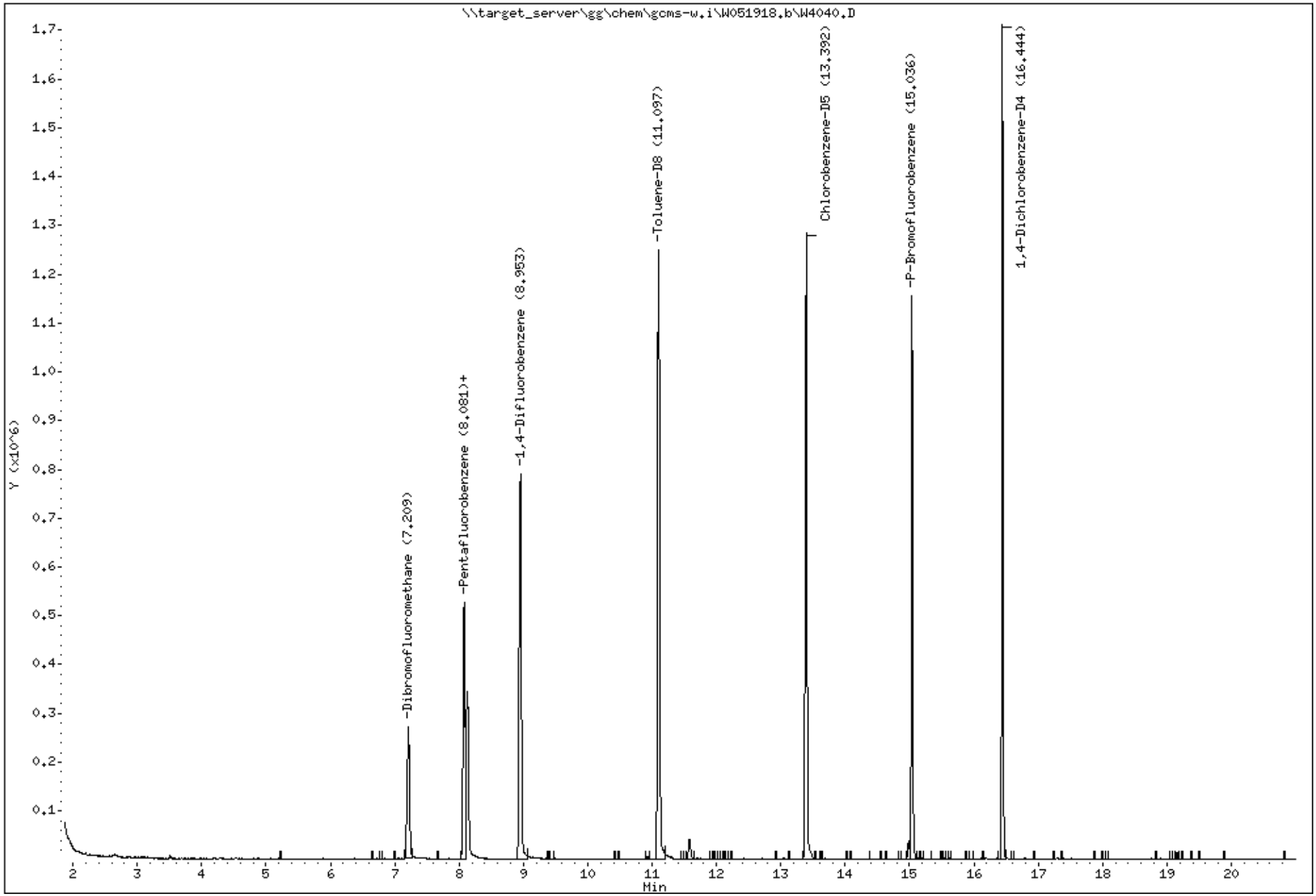
Data file : \\target_server\gg\chem\gcms-w.i\W051918.b\W4040.D
Lab Smp Id: SL4180-3 Client Smp ID: CHAAP-21B-DS-SB02-5
Inj Date : 19-MAY-2018 11:53 MS Autotune Date: 10-APR-2016 11:00
Operator : JSS Inst ID: gcms-w.i
Smp Info : SL4180-3
Misc Info : WG228693,WG228635-4
Comment : SW846 5035
Method : \\target_server\gg\chem\gcms-w.i\W051918.b\W8SDI(12)D.m
Meth Date : 20-May-2018 08:58 hgould Quant Type: ISTD
Cal Date : 18-MAY-2018 15:04 Cal File: W4025.D
Als bottle: 7
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: T6-O360

Concentration Formula: Amt * DF * (100/(100-M))*(Vt/Ws) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
M	18.411	% Moisture
Vt	5.000	Volume of DI Water (mL)
Ws	5.950	Weight of Sample (g)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/kg)	FINAL (ug/Kgdrywt)	REVIEW COD
$ 37 Dibromofluoromethane	113	7.208	7.188	(0.892)	213550	51.6463	53.2	
* 42 Pentafluorobenzene	168	8.080	8.060	(1.000)	420842	50.0000		
$ 45 1,2-Dichloroethane-D4	65	8.130	8.109	(1.006)	280585	51.6776	53.2	
* 49 1,4-Difluorobenzene	114	8.952	8.932	(1.000)	736965	50.0000		
$ 55 Toluene-D8	98	11.097	11.084	(1.240)	891078	49.7668	51.2	
* 66 Chlorobenzene-D5	117	13.391	13.378	(1.000)	687976	50.0000		
$ 76 P-Bromofluorobenzene	95	15.035	15.022	(1.679)	360058	47.8952	49.3	
* 91 1,4-Dichlorobenzene-D4	152	16.443	16.430	(1.000)	361254	50.0000		

Data File: \\target_server\gg\chem\gcms-w.i\W051918.b\W4040.D
Date : 19-MAY-2018 11:53
Client ID: CHAAP-21B-DS-SB02-5
Instrument: gcms-w.i
Sample Info: SL4180-3



Katahdin Analytical Services 1000041

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-4
Client ID: CHAAP-21B-DS-SB02-10
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4041.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 19-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228693

Analysis Date: 19-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 77.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,1,1,2-Tetrachloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.70	2.5
1,1,1-Trichloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.42	2.5
1,1,2,2-Tetrachloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.84	2.5
Freon-113	U	2.5	ug/Kgdrywt	1	5	5.0	0.90	2.5
1,1,2-Trichloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.97	2.5
1,1-Dichloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	1.7	2.5
1,1-Dichloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	0.93	2.5
1,1-Dichloropropene	U	2.5	ug/Kgdrywt	1	5	5.0	0.91	2.5
1,2,3-Trichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.76	2.5
1,2,3-Trichloropropane	U	2.5	ug/Kgdrywt	1	5	5.0	1.2	2.5
1,2,4-Trichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.79	2.5
1,2,4-Trimethylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.87	2.5
1,2-Dibromo-3-Chloropropane	U	2.5	ug/Kgdrywt	1	5	5.0	1.5	2.5
1,2-Dibromoethane	U	2.5	ug/Kgdrywt	1	5	5.0	1.2	2.5
1,2-Dichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.78	2.5
1,2-Dichloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	1.0	2.5
1,2-Dichloropropane	U	2.5	ug/Kgdrywt	1	5	5.0	1.4	2.5
1,3,5-Trimethylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.67	2.5
1,3-Dichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.62	2.5
1,3-Dichloropropane	U	2.5	ug/Kgdrywt	1	5	5.0	0.94	2.5
1,4-Dichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.44	2.5
2,2-Dichloropropane	U	2.5	ug/Kgdrywt	1	5	5.0	0.50	2.5
2-Butanone	U	12	ug/Kgdrywt	1	25	25.	5.9	12.
2-Chlorotoluene	U	2.5	ug/Kgdrywt	1	5	5.0	1.1	2.5
2-Hexanone	U	12	ug/Kgdrywt	1	25	25.	4.8	12.
4-Chlorotoluene	U	2.5	ug/Kgdrywt	1	5	5.0	0.49	2.5
P-Isopropyltoluene	U	2.5	ug/Kgdrywt	1	5	5.0	0.76	2.5
4-Methyl-2-Pentanone	U	12	ug/Kgdrywt	1	25	25.	5.9	12.
Acetone	J	7.2	ug/Kgdrywt	1	25	25.	5.1	12.
Benzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.92	2.5
Bromobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.74	2.5
Bromochloromethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.91	2.5
Bromodichloromethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.60	2.5
Bromoform	U	2.5	ug/Kgdrywt	1	5	5.0	0.70	2.5
Bromomethane	U	5.0	ug/Kgdrywt	1	10	10.	1.1	5.0

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Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-4
Client ID: CHAAP-21B-DS-SB02-10
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4041.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 19-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228693

Analysis Date: 19-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 77.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Carbon Disulfide	J	1.2	ug/Kgdrywt	1	5	5.0	0.78	2.5
Carbon Tetrachloride	U	2.5	ug/Kgdrywt	1	5	5.0	1.3	2.5
Chlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.51	2.5
Dibromochloromethane	U	2.5	ug/Kgdrywt	1	5	5.0	7.0	2.5
Chloroethane	U	5.0	ug/Kgdrywt	1	10	10.	1.3	5.0
Chloroform	U	2.5	ug/Kgdrywt	1	5	5.0	0.35	2.5
Chloromethane	U	5.0	ug/Kgdrywt	1	10	10.	1.4	5.0
cis-1,2-Dichloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	0.91	2.5
cis-1,3-Dichloropropene	U	2.5	ug/Kgdrywt	1	5	5.0	0.72	2.5
Dibromomethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.51	2.5
Dichlorodifluoromethane	UL	5.0	ug/Kgdrywt	1	10	10.	0.92	5.0
Ethylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.65	2.5
Hexachlorobutadiene	U	2.5	ug/Kgdrywt	1	5	5.0	0.74	2.5
Isopropylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.92	2.5
m+p-Xylenes	U	5.0	ug/Kgdrywt	1	10	10.	1.7	5.0
Methyl tert-butyl Ether	U	2.5	ug/Kgdrywt	1	5	5.0	1.1	2.5
Methylene Chloride	U	12	ug/Kgdrywt	1	25	25.	7.9	12.
N-Butylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.92	2.5
N-Propylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.83	2.5
Naphthalene	J	0.92	ug/Kgdrywt	1	5	5.0	0.88	2.5
o-Xylene	U	2.5	ug/Kgdrywt	1	5	5.0	1.3	2.5
sec-Butylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.91	2.5
Styrene	U	2.5	ug/Kgdrywt	1	5	5.0	0.51	2.5
tert-Butylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.90	2.5
Tetrachloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	1.2	2.5
Toluene	U	2.5	ug/Kgdrywt	1	5	5.0	1.4	2.5
trans-1,2-Dichloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	0.71	2.5
trans-1,3-Dichloropropene	U	2.5	ug/Kgdrywt	1	5	5.0	0.86	2.5
Trichloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	0.59	2.5
Trichlorofluoromethane	U	5.0	ug/Kgdrywt	1	10	10.	0.91	5.0
Vinyl Chloride	U	5.0	ug/Kgdrywt	1	10	10.	0.87	5.0
1,2-Dichloroethane-D4		105.	%					
p-Bromofluorobenzene		95.9	%					
Dibromofluoromethane		105.	%					
Toluene-D8		102.	%					

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Data File: \\target_server\gg\chem\gcms-w.i\W051918.b\W4041.D
Report Date: 25-May-2018 12:01

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W051918.b\W4041.D
Lab Smp Id: SL4180-4 Client Smp ID: HAAP-21B-DS-SB02-10
Inj Date : 19-MAY-2018 12:31 MS Autotune Date: 10-APR-2016 11:00
Operator : JSS Inst ID: gcms-w.i
Smp Info : SL4180-4
Misc Info : WG228693,WG228635-4
Comment : SW846 5035
Method : \\target_server\gg\chem\gcms-w.i\W051918.b\W8SDI(12)D.m
Meth Date : 20-May-2018 08:58 hgould Quant Type: ISTD
Cal Date : 18-MAY-2018 15:04 Cal File: W4025.D
Als bottle: 8
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: T6-O360

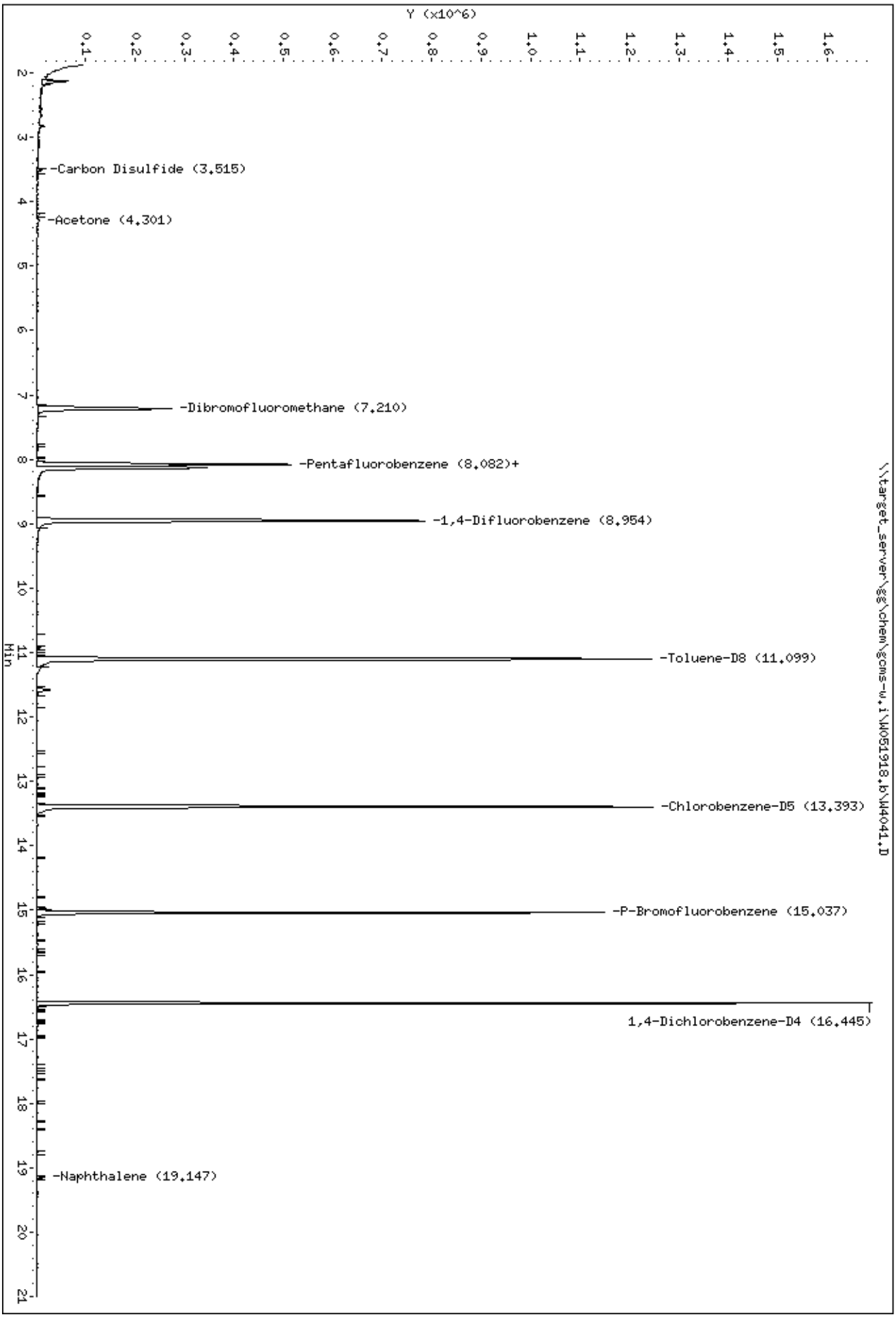
Concentration Formula: Amt * DF * (100/(100-M))*(Vt/Ws) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
M	23.141	% Moisture
Vt	5.000	Volume of DI Water (mL)
Ws	6.410	Weight of Sample (g)
Cpnd Variable		Local Compound Variable

		QUANT SIG					CONCENTRATIONS ON-COLUMN	FINAL	
Compounds		MASS	RT	EXP RT	REL RT	RESPONSE	(ug/kg)	(ug/Kgdrywt)	REVIEW COD
10	Carbon Disulfide	76	3.514	3.500	(0.435)	10745	1.16599	1.2(a)	
15	Acetone	43	4.300	4.272	(0.532)	8993	7.09493	7.2(a)	
$ 37	Dibromofluoromethane	113	7.217	7.188	(0.893)	214415	52.5685	53.4	
* 42	Pentafluorobenzene	168	8.082	8.060	(1.000)	415134	50.0000		
$ 45	1,2-Dichloroethane-D4	65	8.132	8.109	(1.006)	282388	52.7248	53.5	
* 49	1,4-Difluorobenzene	114	8.954	8.932	(1.000)	724595	50.0000		
$ 55	Toluene-D8	98	11.098	11.084	(1.239)	895518	50.8686	51.6	
* 66	Chlorobenzene-D5	117	13.393	13.378	(1.000)	687532	50.0000		
$ 76	P-Bromofluorobenzene	95	15.037	15.022	(1.679)	354541	47.9665	48.7	
* 91	1,4-Dichlorobenzene-D4	152	16.445	16.430	(1.000)	356652	50.0000		
101	Naphthalene	128	19.154	19.139	(1.165)	10662	0.90182	0.92(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).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Date : 19-MAY-2018 12:31
Client ID: HAAP-21B-DS-SB02-10
Sample Info: SL4180-4
Instrument: gcms-w.i
\\target_server\gg\chem\gcms-w.i\W051918.b\W4041.D
Y (x10^6)
Min
-Carbon Disulfide (3.515)
-Acetone (4.301)
-Dibromofluoromethane (7.210)
-Pentafluorobenzene (8.082)+
-1,4-Difluorobenzene (8.954)
-Toluene-D8 (11.099)
-Chlorobenzene-D5 (13.393)
-P-Bromofluorobenzene (15.037)
1,4-Dichlorobenzene-D4 (16.445)
-Naphthalene (19.147)

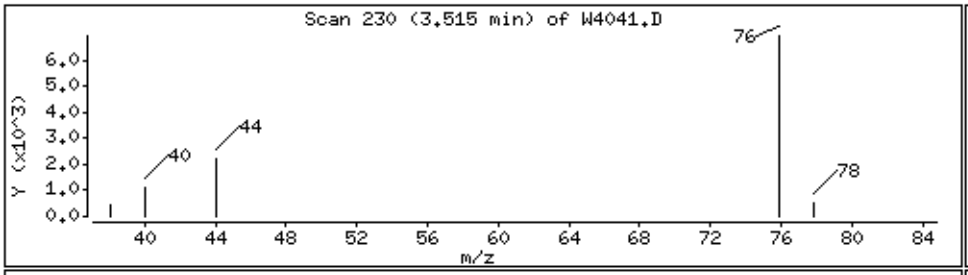
Data File: \\target_server\gg\chem\gcms-w.i\W051918.b\W4041.D

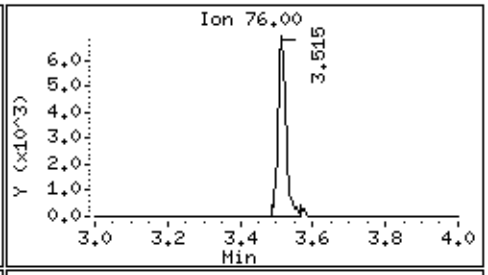
Date : 19-MAY-2018 12:31

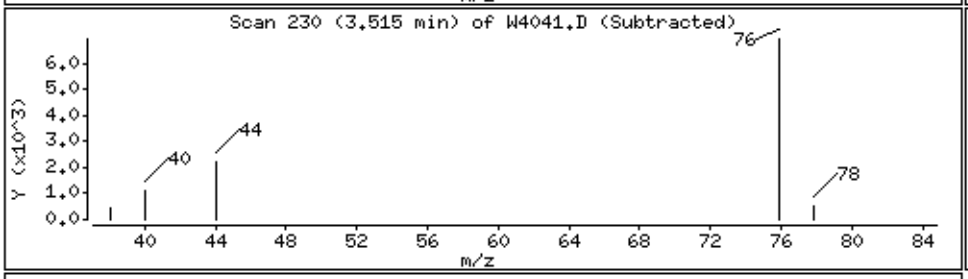
Client ID: HAAP-21B-DS-SB02-10 Instrument: gcms-w.i

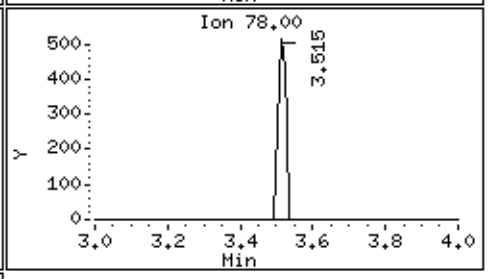
Sample Info: SL4180-4

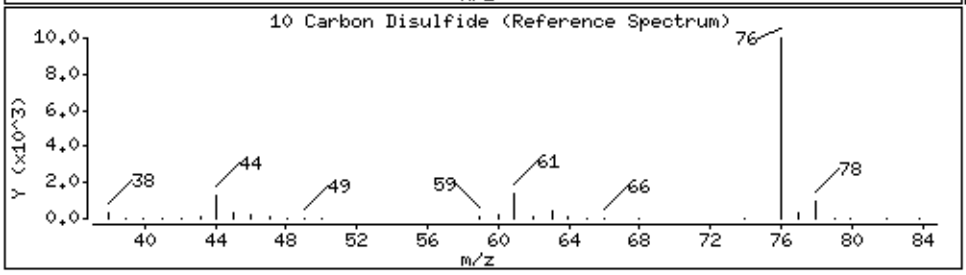
10 Carbon Disulfide Concentration: 1.2 ug/Kgdrywt



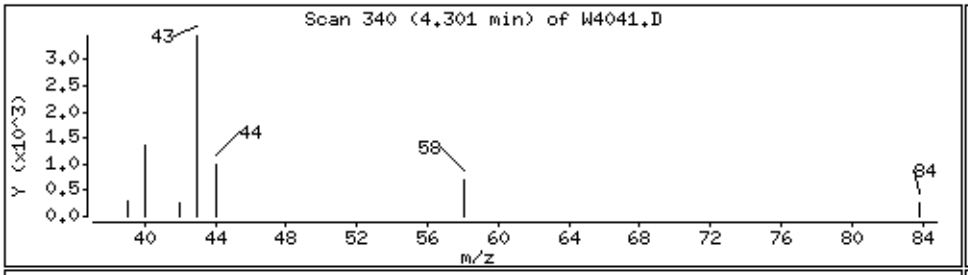


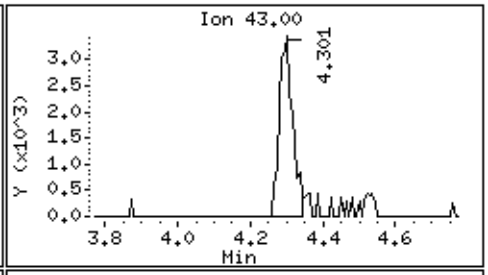


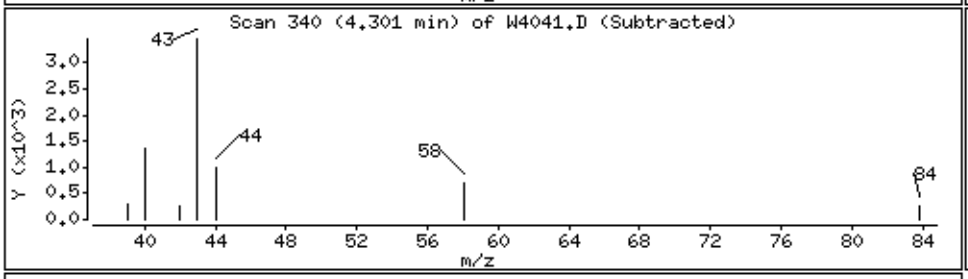


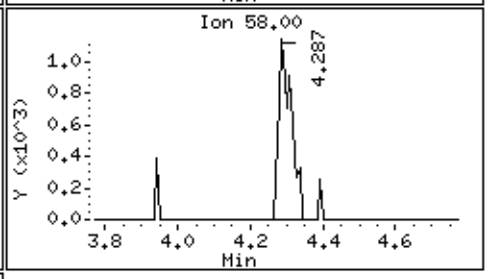


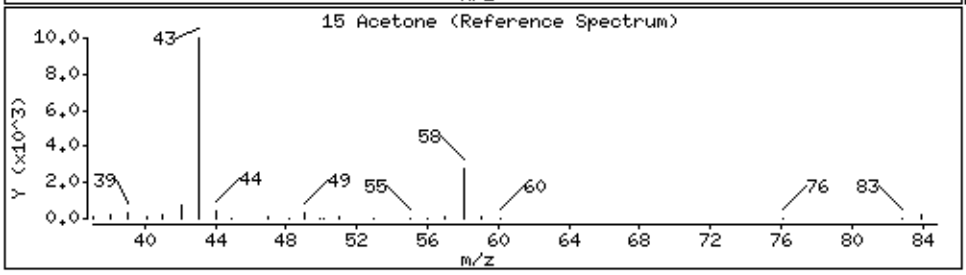
15 Acetone Concentration: 7.2 ug/Kgdrywt











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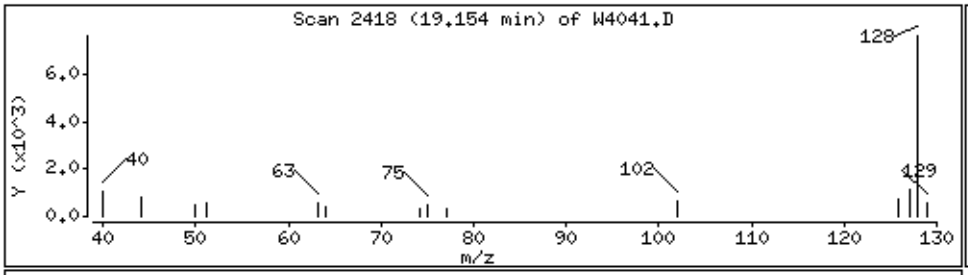
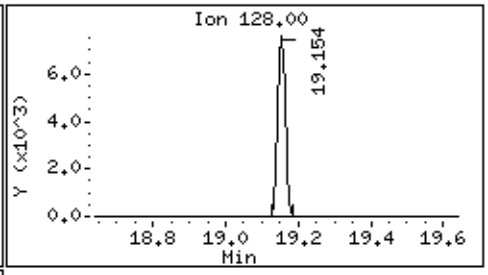
Date : 19-MAY-2018 12:31

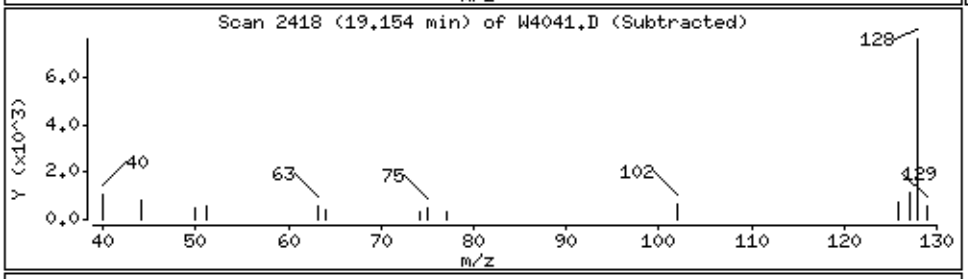
Client ID: HAAP-21B-DS-SB02-10 Instrument: gcms-w.i

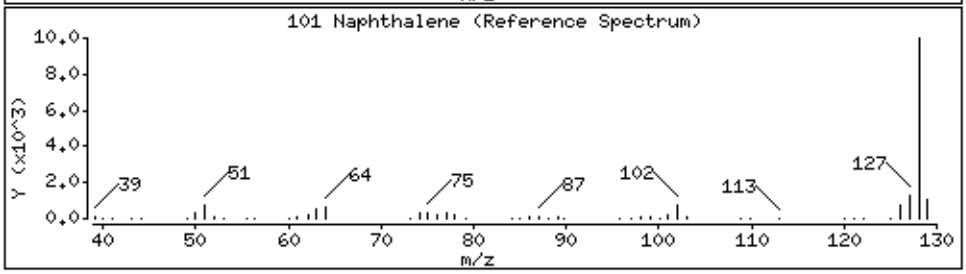
Sample Info: SL4180-4

101 Naphthalene Concentration: 0.92 ug/Kgdrywt









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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-5
Client ID: CHAAP-21B-DS-SS06
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4042.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 19-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228693

Analysis Date: 19-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 83.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,1,1,2-Tetrachloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.77	2.8
1,1,1-Trichloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.46	2.8
1,1,2,2-Tetrachloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.92	2.8
Freon-113	U	2.8	ug/Kgdrywt	1	5	5.5	0.99	2.8
1,1,2-Trichloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.1	2.8
1,1-Dichloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.9	2.8
1,1-Dichloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
1,1-Dichloropropene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
1,2,3-Trichlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.84	2.8
1,2,3-Trichloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	1.3	2.8
1,2,4-Trichlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.87	2.8
1,2,4-Trimethylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.96	2.8
1,2-Dibromo-3-Chloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	1.6	2.8
1,2-Dibromoethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.3	2.8
1,2-Dichlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.86	2.8
1,2-Dichloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.1	2.8
1,2-Dichloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	1.5	2.8
1,3,5-Trimethylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.74	2.8
1,3-Dichlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.68	2.8
1,3-Dichloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
1,4-Dichlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.48	2.8
2,2-Dichloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	0.55	2.8
2-Butanone	U	14	ug/Kgdrywt	1	25	28.	6.5	14.
2-Chlorotoluene	U	2.8	ug/Kgdrywt	1	5	5.5	1.2	2.8
2-Hexanone	U	14	ug/Kgdrywt	1	25	28.	5.3	14.
4-Chlorotoluene	U	2.8	ug/Kgdrywt	1	5	5.5	0.54	2.8
P-Isopropyltoluene	U	2.8	ug/Kgdrywt	1	5	5.5	0.84	2.8
4-Methyl-2-Pentanone	U	14	ug/Kgdrywt	1	25	28.	6.5	14.
Acetone	U	14	ug/Kgdrywt	1	25	28.	5.6	14.
Benzene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
Bromobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.81	2.8
Bromochloromethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
Bromodichloromethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.66	2.8
Bromoform	U	2.8	ug/Kgdrywt	1	5	5.5	0.77	2.8
Bromomethane	U	5.5	ug/Kgdrywt	1	10	11.	1.2	5.5

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-5
Client ID: CHAAP-21B-DS-SS06
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4042.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 19-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228693

Analysis Date: 19-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 83.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Carbon Disulfide	U	2.8	ug/Kgdrywt	1	5	5.5	0.86	2.8
Carbon Tetrachloride	U	2.8	ug/Kgdrywt	1	5	5.5	1.4	2.8
Chlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.56	2.8
Dibromochloromethane	U	2.8	ug/Kgdrywt	1	5	5.5	7.7	2.8
Chloroethane	U	5.5	ug/Kgdrywt	1	10	11.	1.4	5.5
Chloroform	U	2.8	ug/Kgdrywt	1	5	5.5	0.38	2.8
Chloromethane	U	5.5	ug/Kgdrywt	1	10	11.	1.5	5.5
cis-1,2-Dichloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
cis-1,3-Dichloropropene	U	2.8	ug/Kgdrywt	1	5	5.5	0.79	2.8
Dibromomethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.56	2.8
Dichlorodifluoromethane	UL	5.5	ug/Kgdrywt	1	10	11.	1.0	5.5
Ethylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.72	2.8
Hexachlorobutadiene	U	2.8	ug/Kgdrywt	1	5	5.5	0.81	2.8
Isopropylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
m+p-Xylenes	U	5.5	ug/Kgdrywt	1	10	11.	1.9	5.5
Methyl tert-butyl Ether	U	2.8	ug/Kgdrywt	1	5	5.5	1.2	2.8
Methylene Chloride	U	14	ug/Kgdrywt	1	25	28.	8.7	14.
N-Butylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
N-Propylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.91	2.8
Naphthalene	J	1.1	ug/Kgdrywt	1	5	5.5	0.97	2.8
o-Xylene	U	2.8	ug/Kgdrywt	1	5	5.5	1.4	2.8
sec-Butylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
Styrene	U	2.8	ug/Kgdrywt	1	5	5.5	0.56	2.8
tert-Butylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.99	2.8
Tetrachloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	1.3	2.8
Toluene	U	2.8	ug/Kgdrywt	1	5	5.5	1.5	2.8
trans-1,2-Dichloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	0.78	2.8
trans-1,3-Dichloropropene	U	2.8	ug/Kgdrywt	1	5	5.5	0.95	2.8
Trichloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	0.65	2.8
Trichlorofluoromethane	U	5.5	ug/Kgdrywt	1	10	11.	1.0	5.5
Vinyl Chloride	U	5.5	ug/Kgdrywt	1	10	11.	0.96	5.5
1,2-Dichloroethane-D4		107.	%					
p-Bromofluorobenzene		85.1	%					
Dibromofluoromethane		102.	%					
Toluene-D8		101.	%					

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Data File: \\target_server\gg\chem\gcms-w.i\W051918.b\W4042.D
Report Date: 25-May-2018 12:01

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W051918.b\W4042.D
Lab Smp Id: SL4180-5 Client Smp ID: CHAAP-21B-DS-SS06
Inj Date : 19-MAY-2018 13:08 MS Autotune Date: 10-APR-2016 11:00
Operator : JSS Inst ID: gcms-w.i
Smp Info : SL4180-5
Misc Info : WG228693,WG228635-4
Comment : SW846 5035
Method : \\target_server\gg\chem\gcms-w.i\W051918.b\W8SDI(12)D.m
Meth Date : 20-May-2018 08:58 hgould Quant Type: ISTD
Cal Date : 18-MAY-2018 15:04 Cal File: W4025.D
Als bottle: 9
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: T6-O360

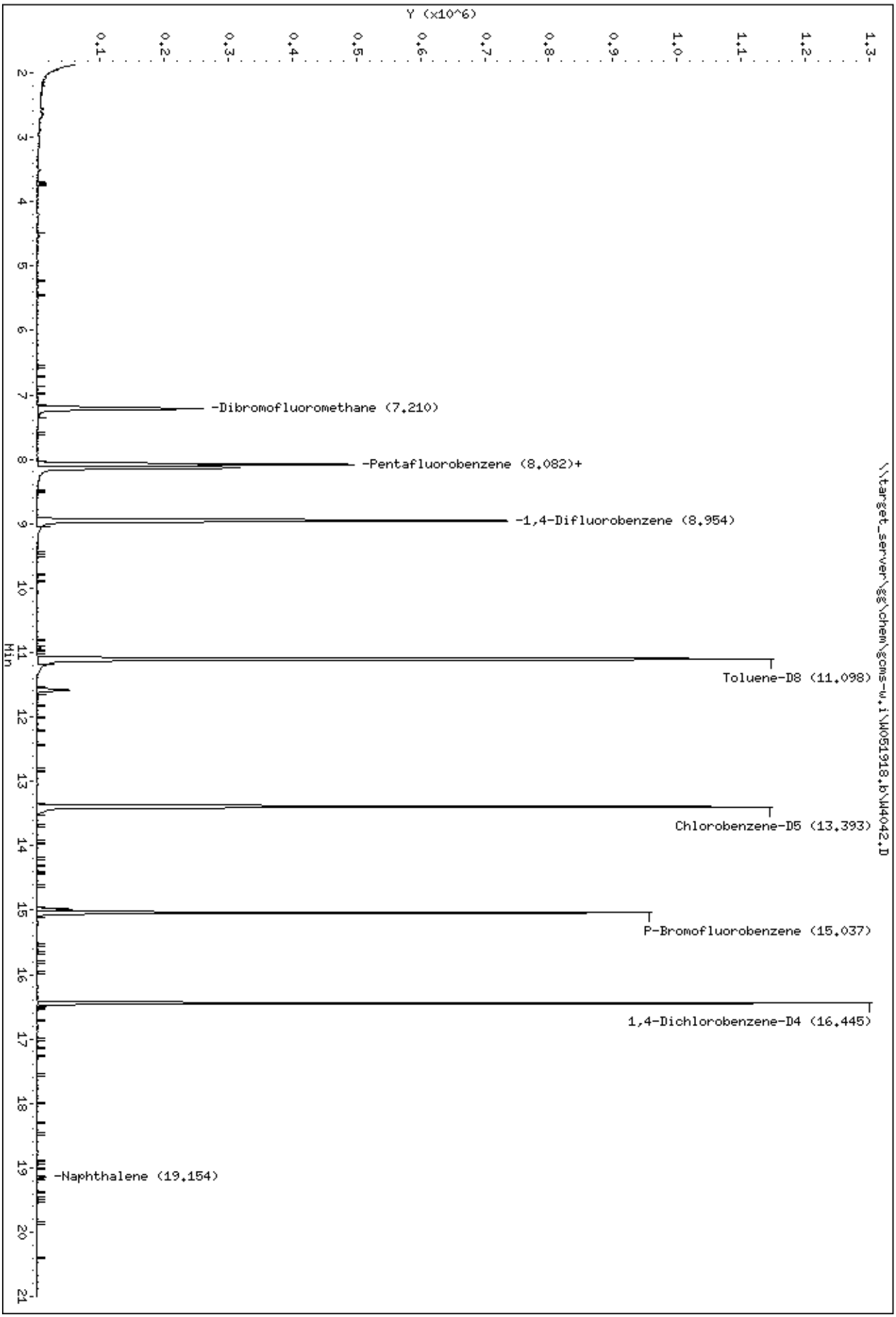
Concentration Formula: Amt * DF * (100/(100-M))*(Vt/Ws) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
M	16.891	% Moisture
Vt	5.000	Volume of DI Water (mL)
Ws	5.630	Weight of Sample (g)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/kg)	FINAL (ug/Kgdrywt)	REVIEW COD
$ 37 Dibromofluoromethane	113	7.209	7.188	(0.892)	196655	50.8586	54.3	
* 42 Pentafluorobenzene	168	8.081	8.060	(1.000)	393550	50.0000		
$ 45 1,2-Dichloroethane-D4	65	8.131	8.109	(1.006)	270893	53.3525	57.0	
* 49 1,4-Difluorobenzene	114	8.953	8.932	(1.000)	693473	50.0000		
$ 55 Toluene-D8	98	11.098	11.084	(1.239)	848179	50.3418	53.8	
* 66 Chlorobenzene-D5	117	13.392	13.378	(1.000)	615298	50.0000		
$ 76 P-Bromofluorobenzene	95	15.036	15.022	(1.679)	301042	42.5563	45.5	
* 91 1,4-Dichlorobenzene-D4	152	16.445	16.430	(1.000)	275241	50.0000		
101 Naphthalene	128	19.154	19.139	(1.165)	9386	1.02871	1.1(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).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Date : 19-MAY-2018 13:08
Client ID: CHAAP-21B-DS-SS06
Sample Info: SL4180-5
Instrument: gcms-w.i
Y (x10^6)
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1.0
1.1
1.2
1.3
Min
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
-Dibromofluoromethane (7.210)
-Pentafluorobenzene (8.082)+
-1,4-Difluorobenzene (8.954)
Toluene-D8 (11.098)
Chlorobenzene-D5 (13.393)
P-Bromofluorobenzene (15.037)
1,4-Dichlorobenzene-D4 (16.445)
-Naphthalene (19.154)
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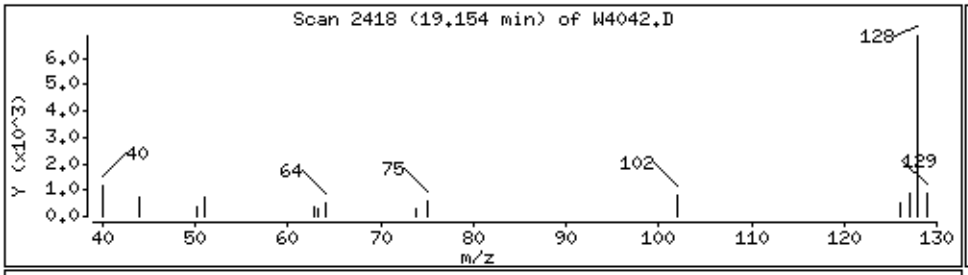
Data File: \\target_server\gg\chem\gcms-w.i\W051918.b\W4042.D

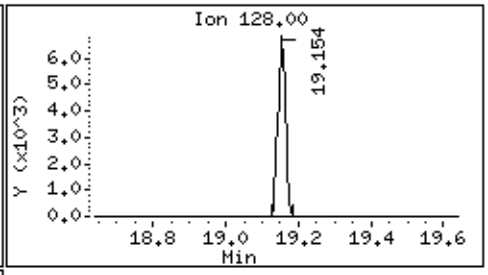
Date : 19-MAY-2018 13:08

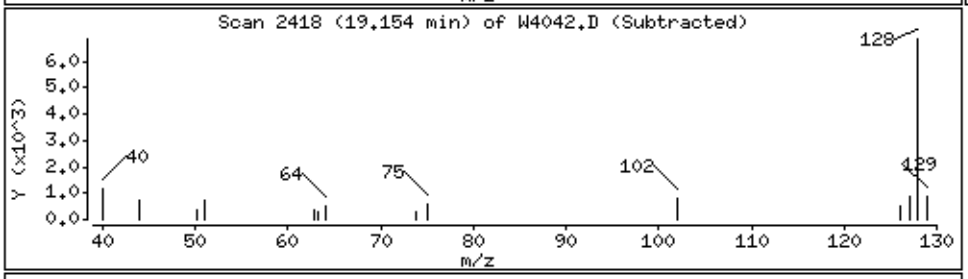
Client ID: CHAAP-21B-DS-SS06 Instrument: gcms-w.i

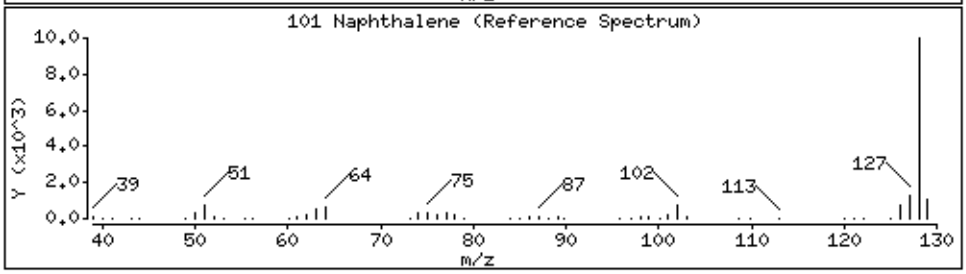
Sample Info: SL4180-5

101 Naphthalene Concentration: 1.1 ug/Kgdrywt









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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-5RA
Client ID: CHAAP-21B-DS-SS06
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4092.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 22-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228825

Analysis Date: 22-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 83.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,1,1,2-Tetrachloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.77	2.8
1,1,1-Trichloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.46	2.8
1,1,2,2-Tetrachloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.92	2.8
Freon-113	U	2.8	ug/Kgdrywt	1	5	5.5	0.99	2.8
1,1,2-Trichloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.1	2.8
1,1-Dichloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.9	2.8
1,1-Dichloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
1,1-Dichloropropene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
1,2,3-Trichlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.84	2.8
1,2,3-Trichloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	1.3	2.8
1,2,4-Trichlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.87	2.8
1,2,4-Trimethylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.96	2.8
1,2-Dibromo-3-Chloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	1.6	2.8
1,2-Dibromoethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.3	2.8
1,2-Dichlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.86	2.8
1,2-Dichloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.1	2.8
1,2-Dichloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	1.5	2.8
1,3,5-Trimethylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.74	2.8
1,3-Dichlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.68	2.8
1,3-Dichloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
1,4-Dichlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.48	2.8
2,2-Dichloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	0.55	2.8
2-Butanone	U	14	ug/Kgdrywt	1	25	28.	6.5	14.
2-Chlorotoluene	U	2.8	ug/Kgdrywt	1	5	5.5	1.2	2.8
2-Hexanone	U	14	ug/Kgdrywt	1	25	28.	5.3	14.
4-Chlorotoluene	U	2.8	ug/Kgdrywt	1	5	5.5	0.54	2.8
P-Isopropyltoluene	U	2.8	ug/Kgdrywt	1	5	5.5	0.84	2.8
4-Methyl-2-Pentanone	U	14	ug/Kgdrywt	1	25	28.	6.5	14.
Acetone	U	14	ug/Kgdrywt	1	25	28.	5.6	14.
Benzene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
Bromobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.81	2.8
Bromochloromethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
Bromodichloromethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.66	2.8
Bromoform	U	2.8	ug/Kgdrywt	1	5	5.5	0.77	2.8
Bromomethane	U	5.5	ug/Kgdrywt	1	10	11.	1.2	5.5

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Tel:(207) 874-2400 Fax:(207) 775-4029

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-5RA
Client ID: CHAAP-21B-DS-SS06
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4092.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 22-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228825

Analysis Date: 22-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 83.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Carbon Disulfide	U	2.8	ug/Kgdrywt	1	5	5.5	0.86	2.8
Carbon Tetrachloride	U	2.8	ug/Kgdrywt	1	5	5.5	1.4	2.8
Chlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.56	2.8
Dibromochloromethane	U	2.8	ug/Kgdrywt	1	5	5.5	7.7	2.8
Chloroethane	U	5.5	ug/Kgdrywt	1	10	11.	1.4	5.5
Chloroform	U	2.8	ug/Kgdrywt	1	5	5.5	0.38	2.8
Chloromethane	U	5.5	ug/Kgdrywt	1	10	11.	1.5	5.5
cis-1,2-Dichloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
cis-1,3-Dichloropropene	U	2.8	ug/Kgdrywt	1	5	5.5	0.79	2.8
Dibromomethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.56	2.8
Dichlorodifluoromethane	U	5.5	ug/Kgdrywt	1	10	11.	1.0	5.5
Ethylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.72	2.8
Hexachlorobutadiene	U	2.8	ug/Kgdrywt	1	5	5.5	0.81	2.8
Isopropylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
m+p-Xylenes	U	5.5	ug/Kgdrywt	1	10	11.	1.9	5.5
Methyl tert-butyl Ether	U	2.8	ug/Kgdrywt	1	5	5.5	1.2	2.8
Methylene Chloride	U	14	ug/Kgdrywt	1	25	28.	8.7	14.
N-Butylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
N-Propylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.91	2.8
Naphthalene	U	2.8	ug/Kgdrywt	1	5	5.5	0.97	2.8
o-Xylene	U	2.8	ug/Kgdrywt	1	5	5.5	1.4	2.8
sec-Butylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
Styrene	U	2.8	ug/Kgdrywt	1	5	5.5	0.56	2.8
tert-Butylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.99	2.8
Tetrachloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	1.3	2.8
Toluene	U	2.8	ug/Kgdrywt	1	5	5.5	1.5	2.8
trans-1,2-Dichloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	0.78	2.8
trans-1,3-Dichloropropene	U	2.8	ug/Kgdrywt	1	5	5.5	0.95	2.8
Trichloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	0.65	2.8
Trichlorofluoromethane	U	5.5	ug/Kgdrywt	1	10	11.	1.0	5.5
Vinyl Chloride	U	5.5	ug/Kgdrywt	1	10	11.	0.96	5.5
1,2-Dichloroethane-D4		105.	%					
p-Bromofluorobenzene	*	77.9	%					
Dibromofluoromethane		106.	%					
Toluene-D8		99.6	%					

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Data File: \\target_server\gg\chem\gcms-w.i\W052118B.b\W4092.D
Report Date: 25-May-2018 12:18

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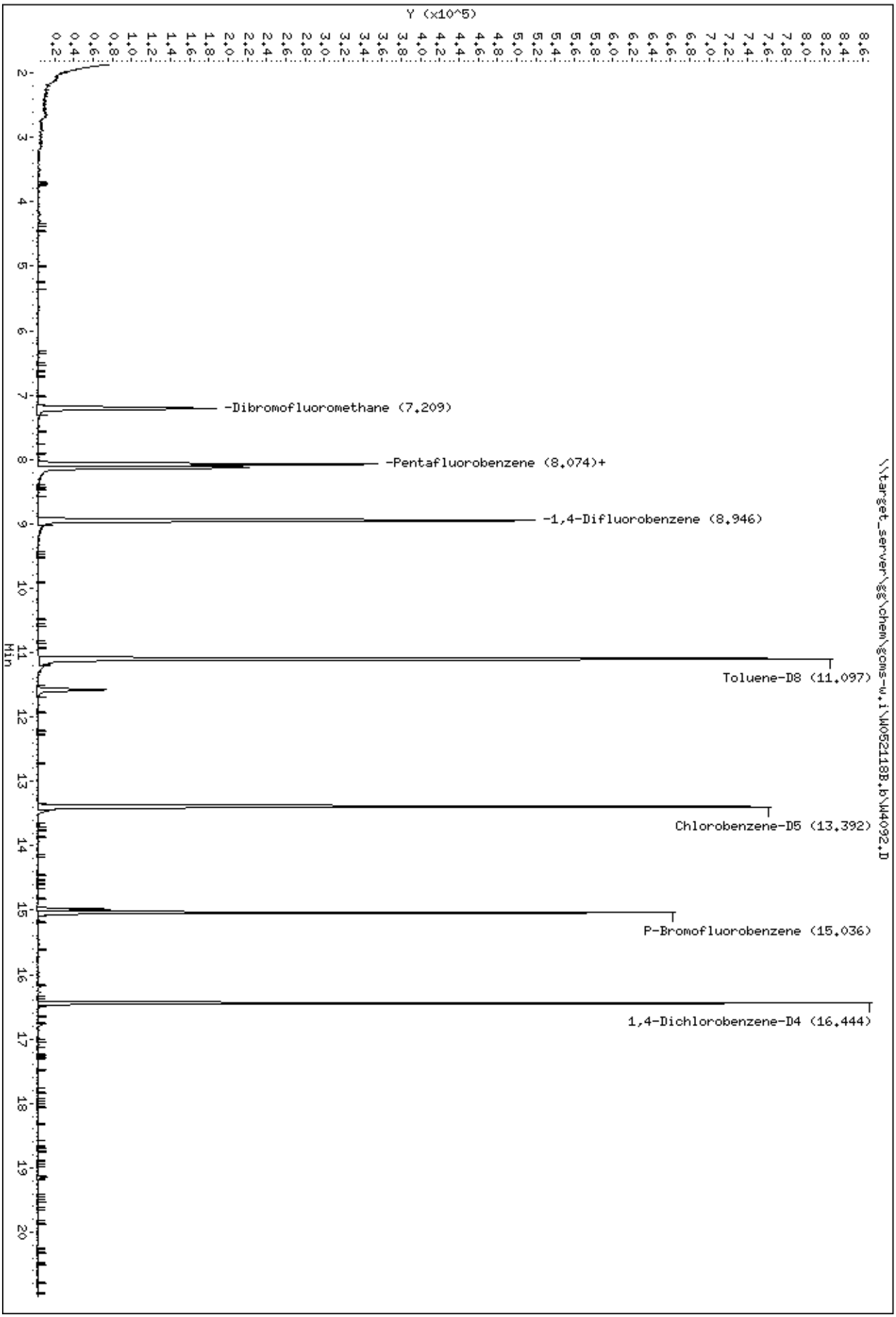
Lab Smp Id: SL4180-5RA Client Smp ID: CHAAP-21B-DS-SS06
Inj Date : 22-MAY-2018 03:17 MS Autotune Date: 10-APR-2016 11:00
Operator : JSS Inst ID: gcms-w.i
Smp Info : SL4180-5RA
Misc Info : WG228825,WG228751-4
Comment   : SW846 5035
Method   : \\target_server\gg\chem\gcms-w.i\W052118B.b\W8SDI(13)D.m
Meth Date : 22-May-2018 08:59 jsampson Quant Type: ISTD
Cal Date : 21-MAY-2018 11:44 Cal File: W4068.D
Als bottle: 14
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: T6-O360

Concentration Formula: Amt * DF * (100/(100-M))*(Vt/Ws) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
M	16.891	% Moisture
Vt	5.000	Volume of DI Water (mL)
Ws	5.520	Weight of Sample (g)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/kg)	FINAL (ug/Kgdrywt)	REVIEW COD
$ 37 Dibromofluoromethane	113	7.208	7.198	(0.893)	136966	53.1018	57.9	
* 42 Pentafluorobenzene	168	8.073	8.070	(1.000)	284327	50.0000		
$ 45 1,2-Dichloroethane-D4	65	8.123	8.119	(1.006)	177584	52.4217	57.1	
* 49 1,4-Difluorobenzene	114	8.945	8.942	(1.000)	476694	50.0000		
$ 55 Toluene-D8	98	11.097	11.094	(1.241)	595675	49.7834	54.2	
* 66 Chlorobenzene-D5	117	13.391	13.381	(1.000)	427638	50.0000		
$ 76 P-Bromofluorobenzene	95	15.035	15.032	(1.681)	196893	38.9493	42.4	
* 91 1,4-Dichlorobenzene-D4	152	16.443	16.440	(1.000)	193486	50.0000		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Min
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-Pentafluorobenzene (8.074)+
-1,4-Difluorobenzene (8.946)
Toluene-D8 (11.097)
Chlorobenzene-D5 (13.392)
P-Bromofluorobenzene (15.036)
1,4-Dichlorobenzene-D4 (16.444)
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Date : 22-MAY-2018 03:17
Client ID: CHAAP-21B-DS-SS06
Sample Info: SL4180-5RA
Instrument: gcms-w.i

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-6
Client ID: CHAAP-21B-DS-SB06-5
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4043.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 19-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228693

Analysis Date: 19-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 76.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,1,1,2-Tetrachloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.77	2.8
1,1,1-Trichloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.46	2.8
1,1,2,2-Tetrachloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.92	2.8
Freon-113	U	2.8	ug/Kgdrywt	1	5	5.5	0.99	2.8
1,1,2-Trichloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.1	2.8
1,1-Dichloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.9	2.8
1,1-Dichloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
1,1-Dichloropropene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
1,2,3-Trichlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.84	2.8
1,2,3-Trichloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	1.3	2.8
1,2,4-Trichlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.87	2.8
1,2,4-Trimethylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.96	2.8
1,2-Dibromo-3-Chloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	1.6	2.8
1,2-Dibromoethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.3	2.8
1,2-Dichlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.86	2.8
1,2-Dichloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.1	2.8
1,2-Dichloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	1.5	2.8
1,3,5-Trimethylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.74	2.8
1,3-Dichlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.68	2.8
1,3-Dichloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
1,4-Dichlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.48	2.8
2,2-Dichloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	0.55	2.8
2-Butanone	U	14	ug/Kgdrywt	1	25	28.	6.5	14.
2-Chlorotoluene	U	2.8	ug/Kgdrywt	1	5	5.5	1.2	2.8
2-Hexanone	U	14	ug/Kgdrywt	1	25	28.	5.3	14.
4-Chlorotoluene	U	2.8	ug/Kgdrywt	1	5	5.5	0.54	2.8
P-Isopropyltoluene	U	2.8	ug/Kgdrywt	1	5	5.5	0.84	2.8
4-Methyl-2-Pentanone	U	14	ug/Kgdrywt	1	25	28.	6.5	14.
Acetone	U	14	ug/Kgdrywt	1	25	28.	5.6	14.
Benzene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
Bromobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.81	2.8
Bromochloromethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
Bromodichloromethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.66	2.8
Bromoform	U	2.8	ug/Kgdrywt	1	5	5.5	0.77	2.8
Bromomethane	U	5.5	ug/Kgdrywt	1	10	11.	1.2	5.5

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-6
Client ID: CHAAP-21B-DS-SB06-5
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4043.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 19-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228693

Analysis Date: 19-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 76.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Carbon Disulfide	J	0.96	ug/Kgdrywt	1	5	5.5	0.86	2.8
Carbon Tetrachloride	U	2.8	ug/Kgdrywt	1	5	5.5	1.4	2.8
Chlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.56	2.8
Dibromochloromethane	U	2.8	ug/Kgdrywt	1	5	5.5	7.7	2.8
Chloroethane	U	5.5	ug/Kgdrywt	1	10	11.	1.4	5.5
Chloroform	U	2.8	ug/Kgdrywt	1	5	5.5	0.38	2.8
Chloromethane	U	5.5	ug/Kgdrywt	1	10	11.	1.5	5.5
cis-1,2-Dichloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
cis-1,3-Dichloropropene	U	2.8	ug/Kgdrywt	1	5	5.5	0.79	2.8
Dibromomethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.56	2.8
Dichlorodifluoromethane	UL	5.5	ug/Kgdrywt	1	10	11.	1.0	5.5
Ethylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.72	2.8
Hexachlorobutadiene	U	2.8	ug/Kgdrywt	1	5	5.5	0.81	2.8
Isopropylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
m+p-Xylenes	U	5.5	ug/Kgdrywt	1	10	11.	1.9	5.5
Methyl tert-butyl Ether	U	2.8	ug/Kgdrywt	1	5	5.5	1.2	2.8
Methylene Chloride	U	14	ug/Kgdrywt	1	25	28.	8.7	14.
N-Butylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
N-Propylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.91	2.8
Naphthalene	U	2.8	ug/Kgdrywt	1	5	5.5	0.97	2.8
o-Xylene	U	2.8	ug/Kgdrywt	1	5	5.5	1.4	2.8
sec-Butylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
Styrene	U	2.8	ug/Kgdrywt	1	5	5.5	0.56	2.8
tert-Butylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.99	2.8
Tetrachloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	1.3	2.8
Toluene	U	2.8	ug/Kgdrywt	1	5	5.5	1.5	2.8
trans-1,2-Dichloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	0.78	2.8
trans-1,3-Dichloropropene	U	2.8	ug/Kgdrywt	1	5	5.5	0.95	2.8
Trichloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	0.65	2.8
Trichlorofluoromethane	U	5.5	ug/Kgdrywt	1	10	11.	1.0	5.5
Vinyl Chloride	U	5.5	ug/Kgdrywt	1	10	11.	0.96	5.5
1,2-Dichloroethane-D4		106.	%					
p-Bromofluorobenzene		96.3	%					
Dibromofluoromethane		108.	%					
Toluene-D8		104.	%					

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Data File: \\target_server\gg\chem\gcms-w.i\W051918.b\W4043.D
Report Date: 25-May-2018 12:01

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W051918.b\W4043.D
Lab Smp Id: SL4180-6 Client Smp ID: CHAAP-21B-DS-SB06-5
Inj Date : 19-MAY-2018 13:45 MS Autotune Date: 10-APR-2016 11:00
Operator : JSS Inst ID: gcms-w.i
Smp Info : SL4180-6
Misc Info : WG228693,WG228635-4
Comment : SW846 5035
Method : \\target_server\gg\chem\gcms-w.i\W051918.b\W8SDI(12)D.m
Meth Date : 20-May-2018 08:58 hgould Quant Type: ISTD
Cal Date : 18-MAY-2018 15:04 Cal File: W4025.D
Als bottle: 10
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: T6-O360

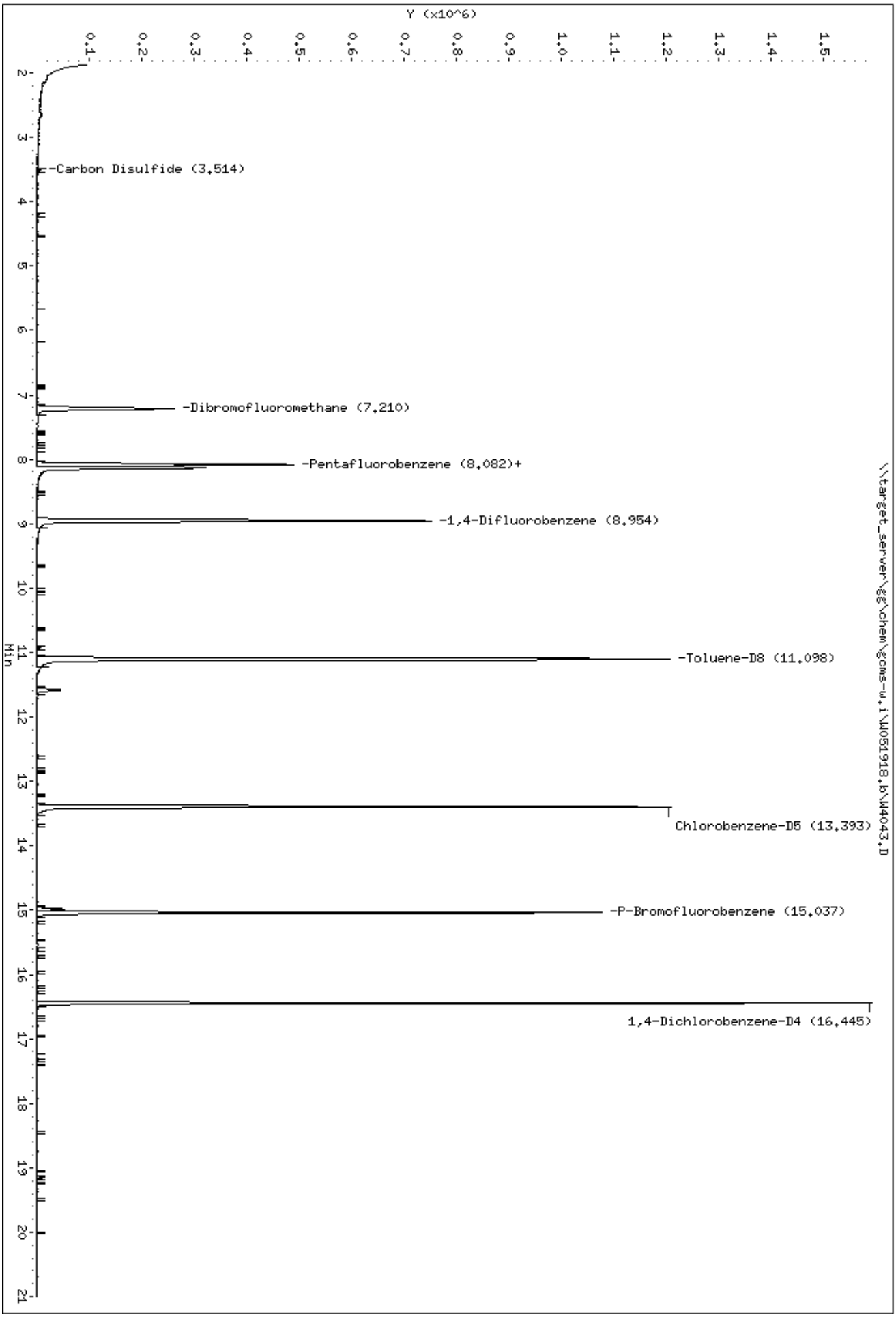
Concentration Formula: Amt * DF * (100/(100-M))*(Vt/Ws) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
M	23.962	% Moisture
Vt	5.000	Volume of DI Water (mL)
Ws	6.090	Weight of Sample (g)
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/kg)	FINAL (ug/Kgdrywt)	REVIEW COD
	10 Carbon Disulfide	76	3.514	3.500	(0.435)	7646	0.89019	0.96(a)	
$	37 Dibromofluoromethane	113	7.209	7.188	(0.892)	205378	54.0235	58.3	
*	42 Pentafluorobenzene	168	8.081	8.060	(1.000)	386928	50.0000		
$	45 1,2-Dichloroethane-D4	65	8.131	8.109	(1.006)	265292	53.1436	57.4	
*	49 1,4-Difluorobenzene	114	8.953	8.932	(1.000)	690385	50.0000		
$	55 Toluene-D8	98	11.098	11.084	(1.239)	869021	51.8096	55.9	
*	66 Chlorobenzene-D5	117	13.392	13.378	(1.000)	665014	50.0000		
$	76 P-Bromofluorobenzene	95	15.036	15.022	(1.679)	339074	48.1471	52.0	
*	91 1,4-Dichlorobenzene-D4	152	16.445	16.430	(1.000)	334934	50.0000		

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).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Date : 19-MAY-2018 13:45
Client ID: CHAAP-21B-DS-SB06-5
Sample Info: SL4180-6
Instrument: gcms-w.i
\\target_server\gg\chem\gcms-w.i\W051918.b\W4043.D
Y (x10^6)
Min
-Carbon Disulfide (3.514)
-Dibromofluoromethane (7.210)
-Pentafluorobenzene (8.082)+
-1,4-Difluorobenzene (8.954)
-Toluene-D8 (11.098)
Chlorobenzene-D5 (13.393)
-P-Bromofluorobenzene (15.037)
1,4-Dichlorobenzene-D4 (16.445)

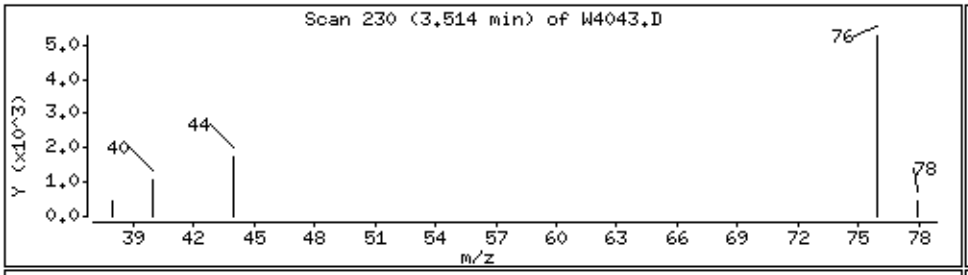
Data File: \\target_server\gg\chem\gcms-w.i\W051918.b\W4043.D

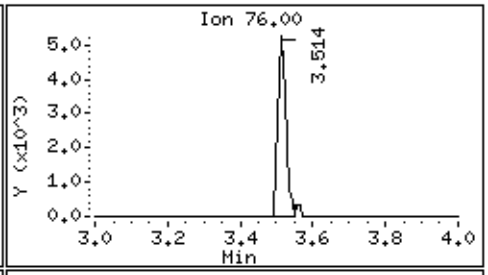
Date : 19-MAY-2018 13:45

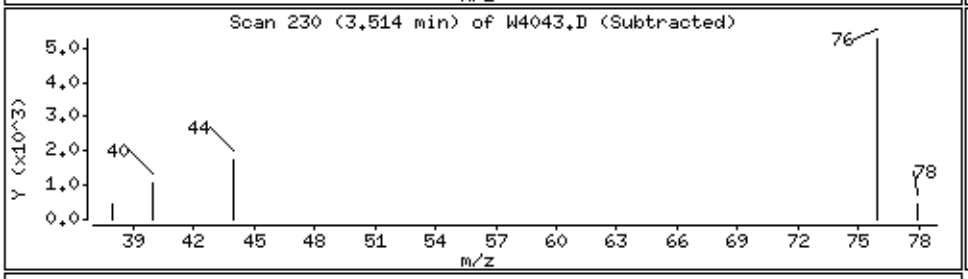
Client ID: CHAAP-21B-DS-SB06-5 Instrument: gcms-w.i

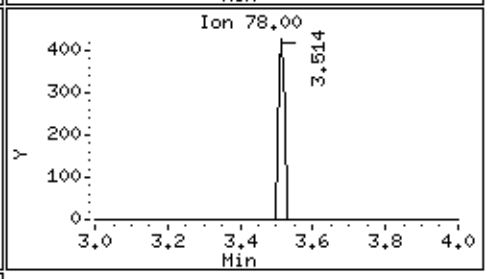
Sample Info: SL4180-6

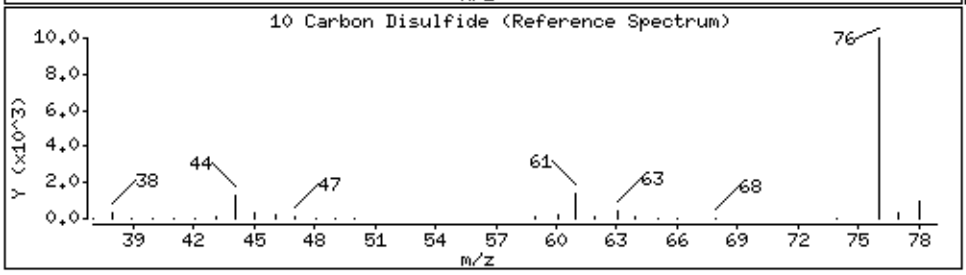
10 Carbon Disulfide Concentration: 0.96 ug/Kgdrywt











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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-7
Client ID: CHAAP-21B-DS-SB06-10
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4044.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 19-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228693

Analysis Date: 19-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 80.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,1,1,2-Tetrachloroethane	U	2.4	ug/Kgdrywt	1	5	4.8	0.67	2.4
1,1,1-Trichloroethane	U	2.4	ug/Kgdrywt	1	5	4.8	0.40	2.4
1,1,2,2-Tetrachloroethane	U	2.4	ug/Kgdrywt	1	5	4.8	0.81	2.4
Freon-113	U	2.4	ug/Kgdrywt	1	5	4.8	0.86	2.4
1,1,2-Trichloroethane	U	2.4	ug/Kgdrywt	1	5	4.8	0.93	2.4
1,1-Dichloroethane	U	2.4	ug/Kgdrywt	1	5	4.8	1.6	2.4
1,1-Dichloroethene	U	2.4	ug/Kgdrywt	1	5	4.8	0.89	2.4
1,1-Dichloropropene	U	2.4	ug/Kgdrywt	1	5	4.8	0.87	2.4
1,2,3-Trichlorobenzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.73	2.4
1,2,3-Trichloropropane	U	2.4	ug/Kgdrywt	1	5	4.8	1.2	2.4
1,2,4-Trichlorobenzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.76	2.4
1,2,4-Trimethylbenzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.84	2.4
1,2-Dibromo-3-Chloropropane	U	2.4	ug/Kgdrywt	1	5	4.8	1.4	2.4
1,2-Dibromoethane	U	2.4	ug/Kgdrywt	1	5	4.8	1.2	2.4
1,2-Dichlorobenzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.75	2.4
1,2-Dichloroethane	U	2.4	ug/Kgdrywt	1	5	4.8	0.96	2.4
1,2-Dichloropropane	U	2.4	ug/Kgdrywt	1	5	4.8	1.3	2.4
1,3,5-Trimethylbenzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.64	2.4
1,3-Dichlorobenzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.60	2.4
1,3-Dichloropropane	U	2.4	ug/Kgdrywt	1	5	4.8	0.90	2.4
1,4-Dichlorobenzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.42	2.4
2,2-Dichloropropane	U	2.4	ug/Kgdrywt	1	5	4.8	0.48	2.4
2-Butanone	U	12	ug/Kgdrywt	1	25	24.	5.7	12.
2-Chlorotoluene	U	2.4	ug/Kgdrywt	1	5	4.8	1.0	2.4
2-Hexanone	U	12	ug/Kgdrywt	1	25	24.	4.6	12.
4-Chlorotoluene	U	2.4	ug/Kgdrywt	1	5	4.8	0.47	2.4
P-Isopropyltoluene	U	2.4	ug/Kgdrywt	1	5	4.8	0.73	2.4
4-Methyl-2-Pentanone	U	12	ug/Kgdrywt	1	25	24.	5.7	12.
Acetone	U	12	ug/Kgdrywt	1	25	24.	4.9	12.
Benzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.88	2.4
Bromobenzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.71	2.4
Bromochloromethane	U	2.4	ug/Kgdrywt	1	5	4.8	0.87	2.4
Bromodichloromethane	U	2.4	ug/Kgdrywt	1	5	4.8	0.58	2.4
Bromoform	U	2.4	ug/Kgdrywt	1	5	4.8	0.67	2.4
Bromomethane	U	4.8	ug/Kgdrywt	1	10	9.6	1.0	4.8

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-7
Client ID: CHAAP-21B-DS-SB06-10
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4044.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 19-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228693

Analysis Date: 19-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 80.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Carbon Disulfide	U	2.4	ug/Kgdrywt	1	5	4.8	0.75	2.4
Carbon Tetrachloride	U	2.4	ug/Kgdrywt	1	5	4.8	1.2	2.4
Chlorobenzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.49	2.4
Dibromochloromethane	U	2.4	ug/Kgdrywt	1	5	4.8	6.7	2.4
Chloroethane	U	4.8	ug/Kgdrywt	1	10	9.6	1.2	4.8
Chloroform	U	2.4	ug/Kgdrywt	1	5	4.8	0.34	2.4
Chloromethane	U	4.8	ug/Kgdrywt	1	10	9.6	1.3	4.8
cis-1,2-Dichloroethene	U	2.4	ug/Kgdrywt	1	5	4.8	0.87	2.4
cis-1,3-Dichloropropene	U	2.4	ug/Kgdrywt	1	5	4.8	0.69	2.4
Dibromomethane	U	2.4	ug/Kgdrywt	1	5	4.8	0.49	2.4
Dichlorodifluoromethane	UL	4.8	ug/Kgdrywt	1	10	9.6	0.88	4.8
Ethylbenzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.62	2.4
Hexachlorobutadiene	U	2.4	ug/Kgdrywt	1	5	4.8	0.71	2.4
Isopropylbenzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.88	2.4
m+p-Xylenes	U	4.8	ug/Kgdrywt	1	10	9.6	1.6	4.8
Methyl tert-butyl Ether	U	2.4	ug/Kgdrywt	1	5	4.8	1.0	2.4
Methylene Chloride	U	12	ug/Kgdrywt	1	25	24.	7.6	12.
N-Butylbenzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.88	2.4
N-Propylbenzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.80	2.4
Naphthalene	U	2.4	ug/Kgdrywt	1	5	4.8	0.84	2.4
o-Xylene	U	2.4	ug/Kgdrywt	1	5	4.8	1.2	2.4
sec-Butylbenzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.87	2.4
Styrene	U	2.4	ug/Kgdrywt	1	5	4.8	0.49	2.4
tert-Butylbenzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.86	2.4
Tetrachloroethene	U	2.4	ug/Kgdrywt	1	5	4.8	1.2	2.4
Toluene	U	2.4	ug/Kgdrywt	1	5	4.8	1.3	2.4
trans-1,2-Dichloroethene	U	2.4	ug/Kgdrywt	1	5	4.8	0.68	2.4
trans-1,3-Dichloropropene	U	2.4	ug/Kgdrywt	1	5	4.8	0.82	2.4
Trichloroethene	U	2.4	ug/Kgdrywt	1	5	4.8	0.57	2.4
Trichlorofluoromethane	U	4.8	ug/Kgdrywt	1	10	9.6	0.87	4.8
Vinyl Chloride	U	4.8	ug/Kgdrywt	1	10	9.6	0.84	4.8
1,2-Dichloroethane-D4		106.	%					
p-Bromofluorobenzene		96.4	%					
Dibromofluoromethane		106.	%					
Toluene-D8		100.	%					

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Data File: \\target_server\gg\chem\gcms-w.i\W051918.b\W4044.D
Report Date: 25-May-2018 12:01

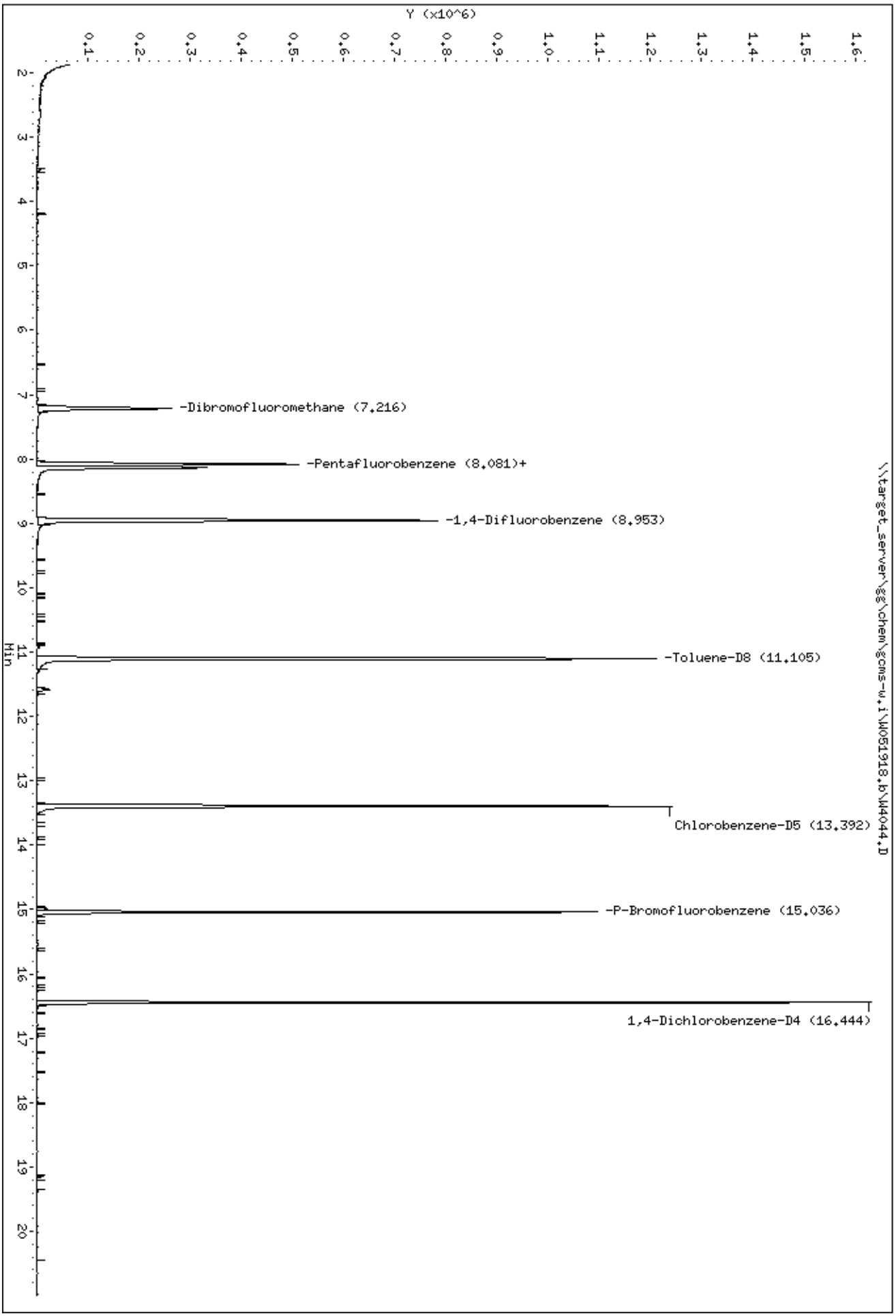
Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W051918.b\W4044.D
Lab Smp Id: SL4180-7 Client Smp ID: HAAP-21B-DS-SB06-10
Inj Date : 19-MAY-2018 14:22 MS Autotune Date: 10-APR-2016 11:00
Operator : JSS Inst ID: gcms-w.i
Smp Info : SL4180-7
Misc Info : WG228693,WG228635-4
Comment : SW846 5035
Method : \\target_server\gg\chem\gcms-w.i\W051918.b\W8SDI(12)D.m
Meth Date : 20-May-2018 08:58 hgould Quant Type: ISTD
Cal Date : 18-MAY-2018 15:04 Cal File: W4025.D
Als bottle: 11
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: T6-O360

Concentration Formula: Amt * DF * (100/(100-M))*(Vt/Ws) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
M	20.137	% Moisture
Vt	5.000	Volume of DI Water (mL)
Ws	6.540	Weight of Sample (g)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/kg)	FINAL (ug/Kgdrywt)	REVIEW COD
$ 37 Dibromofluoromethane	113	7.209	7.188	(0.892)	209454	53.2446	51.0	
* 42 Pentafluorobenzene	168	8.081	8.060	(1.000)	400380	50.0000		
$ 45 1,2-Dichloroethane-D4	65	8.131	8.109	(1.006)	273402	52.9281	50.7	
* 49 1,4-Difluorobenzene	114	8.953	8.932	(1.000)	712362	50.0000		
$ 55 Toluene-D8	98	11.104	11.084	(1.240)	867200	50.1060	48.0	
* 66 Chlorobenzene-D5	117	13.392	13.378	(1.000)	676881	50.0000		
$ 76 P-Bromofluorobenzene	95	15.036	15.022	(1.679)	350290	48.2052	46.1	
* 91 1,4-Dichlorobenzene-D4	152	16.444	16.430	(1.000)	344464	50.0000		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Date : 19-MAY-2018 14:22
Client ID: HAAP-21B-DS-SB06-10
Sample Info: SL4180-7
Instrument: gcms-w.i
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Y (x10^6)
Min
-Dibromofluoromethane (7.216)
-Pentafluorobenzene (8.081)+
-1,4-Difluorobenzene (8.953)
-Toluene-D8 (11.105)
Chlorobenzene-D5 (13.392)
-P-Bromofluorobenzene (15.036)
1,4-Dichlorobenzene-D4 (16.444)

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-8
Client ID: CHAAP-21B-DS-SS07
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4088.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 22-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228825

Analysis Date: 22-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 81.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,1,1,2-Tetrachloroethane	UM	2.8	ug/Kgdrywt	1	5	5.5	0.77	2.8
1,1,1-Trichloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.46	2.8
1,1,2,2-Tetrachloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.92	2.8
Freon-113	U	2.8	ug/Kgdrywt	1	5	5.5	0.99	2.8
1,1,2-Trichloroethane	UM	2.8	ug/Kgdrywt	1	5	5.5	1.1	2.8
1,1-Dichloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.9	2.8
1,1-Dichloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
1,1-Dichloropropene	UM	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
1,2,3-Trichlorobenzene	UMM	2.8	ug/Kgdrywt	1	5	5.5	0.84	2.8
1,2,3-Trichloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	1.3	2.8
1,2,4-Trichlorobenzene	UMM	2.8	ug/Kgdrywt	1	5	5.5	0.87	2.8
1,2,4-Trimethylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.96	2.8
1,2-Dibromo-3-Chloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	1.6	2.8
1,2-Dibromoethane	UMM	2.8	ug/Kgdrywt	1	5	5.5	1.3	2.8
1,2-Dichlorobenzene	UMM	2.8	ug/Kgdrywt	1	5	5.5	0.86	2.8
1,2-Dichloroethane	UM	2.8	ug/Kgdrywt	1	5	5.5	1.1	2.8
1,2-Dichloropropane	UM	2.8	ug/Kgdrywt	1	5	5.5	1.5	2.8
1,3,5-Trimethylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.74	2.8
1,3-Dichlorobenzene	UMM	2.8	ug/Kgdrywt	1	5	5.5	0.68	2.8
1,3-Dichloropropane	UM	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
1,4-Dichlorobenzene	UMM	2.8	ug/Kgdrywt	1	5	5.5	0.48	2.8
2,2-Dichloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	0.55	2.8
2-Butanone	UM	14	ug/Kgdrywt	1	25	28.	6.5	14.
2-Chlorotoluene	U	2.8	ug/Kgdrywt	1	5	5.5	1.2	2.8
2-Hexanone	UMM	14	ug/Kgdrywt	1	25	28.	5.3	14.
4-Chlorotoluene	U	2.8	ug/Kgdrywt	1	5	5.5	0.54	2.8
P-Isopropyltoluene	U	2.8	ug/Kgdrywt	1	5	5.5	0.84	2.8
4-Methyl-2-Pentanone	UMM	14	ug/Kgdrywt	1	25	28.	6.5	14.
Acetone	U	14	ug/Kgdrywt	1	25	28.	5.6	14.
Benzene	UM	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
Bromobenzene	UM	2.8	ug/Kgdrywt	1	5	5.5	0.81	2.8
Bromochloromethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
Bromodichloromethane	UM	2.8	ug/Kgdrywt	1	5	5.5	0.66	2.8
Bromoform	UMM	2.8	ug/Kgdrywt	1	5	5.5	0.77	2.8
Bromomethane	U	5.5	ug/Kgdrywt	1	10	11.	1.2	5.5

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-8
Client ID: CHAAP-21B-DS-SS07
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4088.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 22-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228825

Analysis Date: 22-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 81.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Carbon Disulfide	U	2.8	ug/Kgdrywt	1	5	5.5	0.86	2.8
Carbon Tetrachloride	U	2.8	ug/Kgdrywt	1	5	5.5	1.4	2.8
Chlorobenzene	UMM	2.8	ug/Kgdrywt	1	5	5.5	0.56	2.8
Dibromochloromethane	UM	2.8	ug/Kgdrywt	1	5	5.5	7.7	2.8
Chloroethane	UM	5.5	ug/Kgdrywt	1	10	11.	1.4	5.5
Chloroform	U	2.8	ug/Kgdrywt	1	5	5.5	0.38	2.8
Chloromethane	U	5.5	ug/Kgdrywt	1	10	11.	1.5	5.5
cis-1,2-Dichloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
cis-1,3-Dichloropropene	UMM	2.8	ug/Kgdrywt	1	5	5.5	0.79	2.8
Dibromomethane	UM	2.8	ug/Kgdrywt	1	5	5.5	0.56	2.8
Dichlorodifluoromethane	U	5.5	ug/Kgdrywt	1	10	11.	1.0	5.5
Ethylbenzene	UMM	2.8	ug/Kgdrywt	1	5	5.5	0.72	2.8
Hexachlorobutadiene	UMM	2.8	ug/Kgdrywt	1	5	5.5	0.81	2.8
Isopropylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
m+p-Xylenes	UMM	5.5	ug/Kgdrywt	1	10	11.	1.9	5.5
Methyl tert-butyl Ether	U	2.8	ug/Kgdrywt	1	5	5.5	1.2	2.8
Methylene Chloride	U	14	ug/Kgdrywt	1	25	28.	8.7	14.
N-Butylbenzene	UM	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
N-Propylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.91	2.8
Naphthalene	UMM	2.8	ug/Kgdrywt	1	5	5.5	0.97	2.8
o-Xylene	UMM	2.8	ug/Kgdrywt	1	5	5.5	1.4	2.8
sec-Butylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
Styrene	UMM	2.8	ug/Kgdrywt	1	5	5.5	0.56	2.8
tert-Butylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.99	2.8
Tetrachloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	1.3	2.8
Toluene	UMM	2.8	ug/Kgdrywt	1	5	5.5	1.5	2.8
trans-1,2-Dichloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	0.78	2.8
trans-1,3-Dichloropropene	UMM	2.8	ug/Kgdrywt	1	5	5.5	0.95	2.8
Trichloroethene	UM	2.8	ug/Kgdrywt	1	5	5.5	0.65	2.8
Trichlorofluoromethane	U	5.5	ug/Kgdrywt	1	10	11.	1.0	5.5
Vinyl Chloride	U	5.5	ug/Kgdrywt	1	10	11.	0.96	5.5
1,2-Dichloroethane-D4		106.	%					
p-Bromofluorobenzene	*	77.2	%					
Dibromofluoromethane		108.	%					
Toluene-D8		102.	%					

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Data File: \\target_server\gg\chem\gcms-w.i\W052118B.b\W4088.D
Report Date: 25-May-2018 12:18

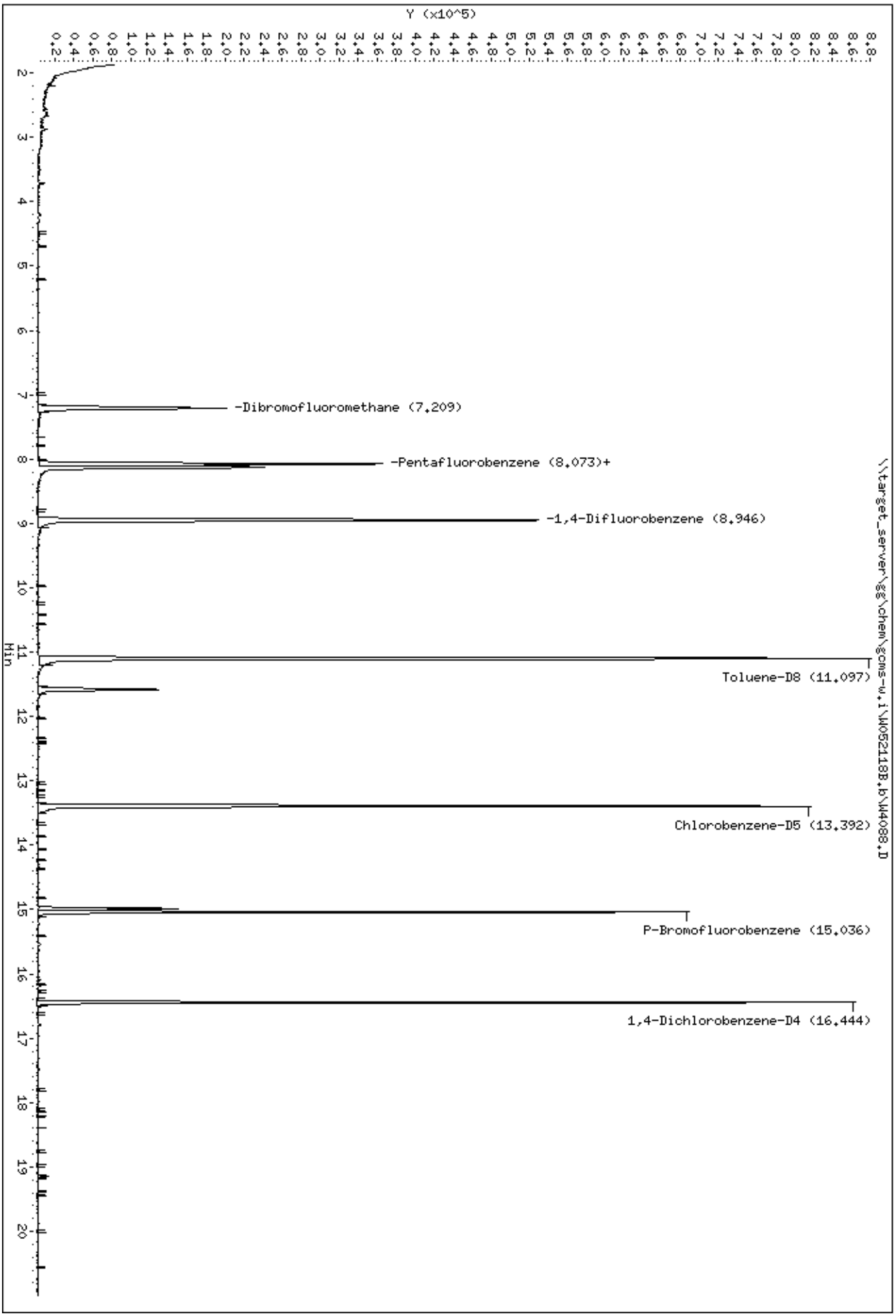
Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W052118B.b\W4088.D
Lab Smp Id: SL4180-8 Client Smp ID: CHAAP-21B-DS-SS07
Inj Date : 22-MAY-2018 00:48 MS Autotune Date: 10-APR-2016 11:00
Operator : JSS Inst ID: gcms-w.i
Smp Info : SL4180-8
Misc Info : WG228825,WG228751-4
Comment : SW846 5035
Method : \\target_server\gg\chem\gcms-w.i\W052118B.b\W8SDI(13)D.m
Meth Date : 22-May-2018 08:59 jsampson Quant Type: ISTD
Cal Date : 21-MAY-2018 11:44 Cal File: W4068.D
Als bottle: 10
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: T6-O360

Concentration Formula: Amt * DF * (100/(100-M))*(Vt/Ws) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
M	18.848	% Moisture
Vt	5.000	Volume of DI Water (mL)
Ws	5.720	Weight of Sample (g)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/kg)	FINAL (ug/Kgdrywt)	REVIEW COD
$ 37 Dibromofluoromethane	113	7.208	7.198	(0.892)	147576	53.9128	58.1	
* 42 Pentafluorobenzene	168	8.080	8.070	(1.000)	301744	50.0000		
$ 45 1,2-Dichloroethane-D4	65	8.123	8.119	(1.005)	191423	53.2452	57.4	
* 49 1,4-Difluorobenzene	114	8.952	8.942	(1.000)	489195	50.0000		
$ 55 Toluene-D8	98	11.097	11.094	(1.240)	623694	50.7931	54.7	
* 66 Chlorobenzene-D5	117	13.391	13.381	(1.000)	438267	50.0000		
$ 76 P-Bromofluorobenzene	95	15.035	15.032	(1.679)	200211	38.5936	41.6	
* 91 1,4-Dichlorobenzene-D4	152	16.443	16.440	(1.000)	194962	50.0000		


Y (x10^5)
Min
-Dibromofluoromethane (7.209)
-Pentafluorobenzene (8.073)+
-1,4-Difluorobenzene (8.946)
Toluene-D8 (11.097)
Chlorobenzene-D5 (13.392)
P-Bromofluorobenzene (15.036)
1,4-Dichlorobenzene-D4 (16.444)
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Date : 22-MAY-2018 00:48
Client ID: CHAAP-21B-DS-SS07
Sample Info: SL4180-8
Instrument: gcms-w.i

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-8RA
Client ID: CHAAP-21B-DS-SS07
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4111.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 22-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228846

Analysis Date: 22-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 81.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,1,1,2-Tetrachloroethane	UM	2.8	ug/Kgdrywt	1	5	5.5	0.77	2.8
1,1,1-Trichloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.46	2.8
1,1,2,2-Tetrachloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.92	2.8
Freon-113	U	2.8	ug/Kgdrywt	1	5	5.5	0.99	2.8
1,1,2-Trichloroethane	UM	2.8	ug/Kgdrywt	1	5	5.5	1.1	2.8
1,1-Dichloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.9	2.8
1,1-Dichloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
1,1-Dichloropropene	UM	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
1,2,3-Trichlorobenzene	UMM	2.8	ug/Kgdrywt	1	5	5.5	0.84	2.8
1,2,3-Trichloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	1.3	2.8
1,2,4-Trichlorobenzene	UMM	2.8	ug/Kgdrywt	1	5	5.5	0.87	2.8
1,2,4-Trimethylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.96	2.8
1,2-Dibromo-3-Chloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	1.6	2.8
1,2-Dibromoethane	UMM	2.8	ug/Kgdrywt	1	5	5.5	1.3	2.8
1,2-Dichlorobenzene	UMM	2.8	ug/Kgdrywt	1	5	5.5	0.86	2.8
1,2-Dichloroethane	UM	2.8	ug/Kgdrywt	1	5	5.5	1.1	2.8
1,2-Dichloropropane	UM	2.8	ug/Kgdrywt	1	5	5.5	1.5	2.8
1,3,5-Trimethylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.74	2.8
1,3-Dichlorobenzene	UMM	2.8	ug/Kgdrywt	1	5	5.5	0.68	2.8
1,3-Dichloropropane	UM	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
1,4-Dichlorobenzene	UMM	2.8	ug/Kgdrywt	1	5	5.5	0.48	2.8
2,2-Dichloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	0.55	2.8
2-Butanone	UM	14	ug/Kgdrywt	1	25	28.	6.5	14.
2-Chlorotoluene	U	2.8	ug/Kgdrywt	1	5	5.5	1.2	2.8
2-Hexanone	UMM	14	ug/Kgdrywt	1	25	28.	5.3	14.
4-Chlorotoluene	U	2.8	ug/Kgdrywt	1	5	5.5	0.54	2.8
P-Isopropyltoluene	U	2.8	ug/Kgdrywt	1	5	5.5	0.84	2.8
4-Methyl-2-Pentanone	UMM	14	ug/Kgdrywt	1	25	28.	6.5	14.
Acetone	U	14	ug/Kgdrywt	1	25	28.	5.6	14.
Benzene	UM	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
Bromobenzene	UM	2.8	ug/Kgdrywt	1	5	5.5	0.81	2.8
Bromochloromethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
Bromodichloromethane	UM	2.8	ug/Kgdrywt	1	5	5.5	0.66	2.8
Bromoform	UMM	2.8	ug/Kgdrywt	1	5	5.5	0.77	2.8
Bromomethane	U	5.5	ug/Kgdrywt	1	10	11.	1.2	5.5

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-8RA
Client ID: CHAAP-21B-DS-SS07
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4111.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 22-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228846

Analysis Date: 22-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 81.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Carbon Disulfide	U	2.8	ug/Kgdrywt	1	5	5.5	0.86	2.8
Carbon Tetrachloride	U	2.8	ug/Kgdrywt	1	5	5.5	1.4	2.8
Chlorobenzene	UMM	2.8	ug/Kgdrywt	1	5	5.5	0.56	2.8
Dibromochloromethane	UM	2.8	ug/Kgdrywt	1	5	5.5	7.7	2.8
Chloroethane	UM	5.5	ug/Kgdrywt	1	10	11.	1.4	5.5
Chloroform	U	2.8	ug/Kgdrywt	1	5	5.5	0.38	2.8
Chloromethane	U	5.5	ug/Kgdrywt	1	10	11.	1.5	5.5
cis-1,2-Dichloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
cis-1,3-Dichloropropene	UMM	2.8	ug/Kgdrywt	1	5	5.5	0.79	2.8
Dibromomethane	UM	2.8	ug/Kgdrywt	1	5	5.5	0.56	2.8
Dichlorodifluoromethane	U	5.5	ug/Kgdrywt	1	10	11.	1.0	5.5
Ethylbenzene	UMM	2.8	ug/Kgdrywt	1	5	5.5	0.72	2.8
Hexachlorobutadiene	UMM	2.8	ug/Kgdrywt	1	5	5.5	0.81	2.8
Isopropylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
m+p-Xylenes	UMM	5.5	ug/Kgdrywt	1	10	11.	1.9	5.5
Methyl tert-butyl Ether	U	2.8	ug/Kgdrywt	1	5	5.5	1.2	2.8
Methylene Chloride	U	14	ug/Kgdrywt	1	25	28.	8.7	14.
N-Butylbenzene	UM	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
N-Propylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.91	2.8
Naphthalene	UMM	2.8	ug/Kgdrywt	1	5	5.5	0.97	2.8
o-Xylene	UMM	2.8	ug/Kgdrywt	1	5	5.5	1.4	2.8
sec-Butylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
Styrene	UMM	2.8	ug/Kgdrywt	1	5	5.5	0.56	2.8
tert-Butylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.99	2.8
Tetrachloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	1.3	2.8
Toluene	UMM	2.8	ug/Kgdrywt	1	5	5.5	1.5	2.8
trans-1,2-Dichloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	0.78	2.8
trans-1,3-Dichloropropene	UMM	2.8	ug/Kgdrywt	1	5	5.5	0.95	2.8
Trichloroethene	UM	2.8	ug/Kgdrywt	1	5	5.5	0.65	2.8
Trichlorofluoromethane	U	5.5	ug/Kgdrywt	1	10	11.	1.0	5.5
Vinyl Chloride	U	5.5	ug/Kgdrywt	1	10	11.	0.96	5.5
1,2-Dichloroethane-D4		109.	%					
p-Bromofluorobenzene	*	74.4	%					
Dibromofluoromethane		114.	%					
Toluene-D8		99.2	%					

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Data File: \\target_server\gg\chem\gcms-w.i\W052218.b\W4111.D
Report Date: 25-May-2018 12:36

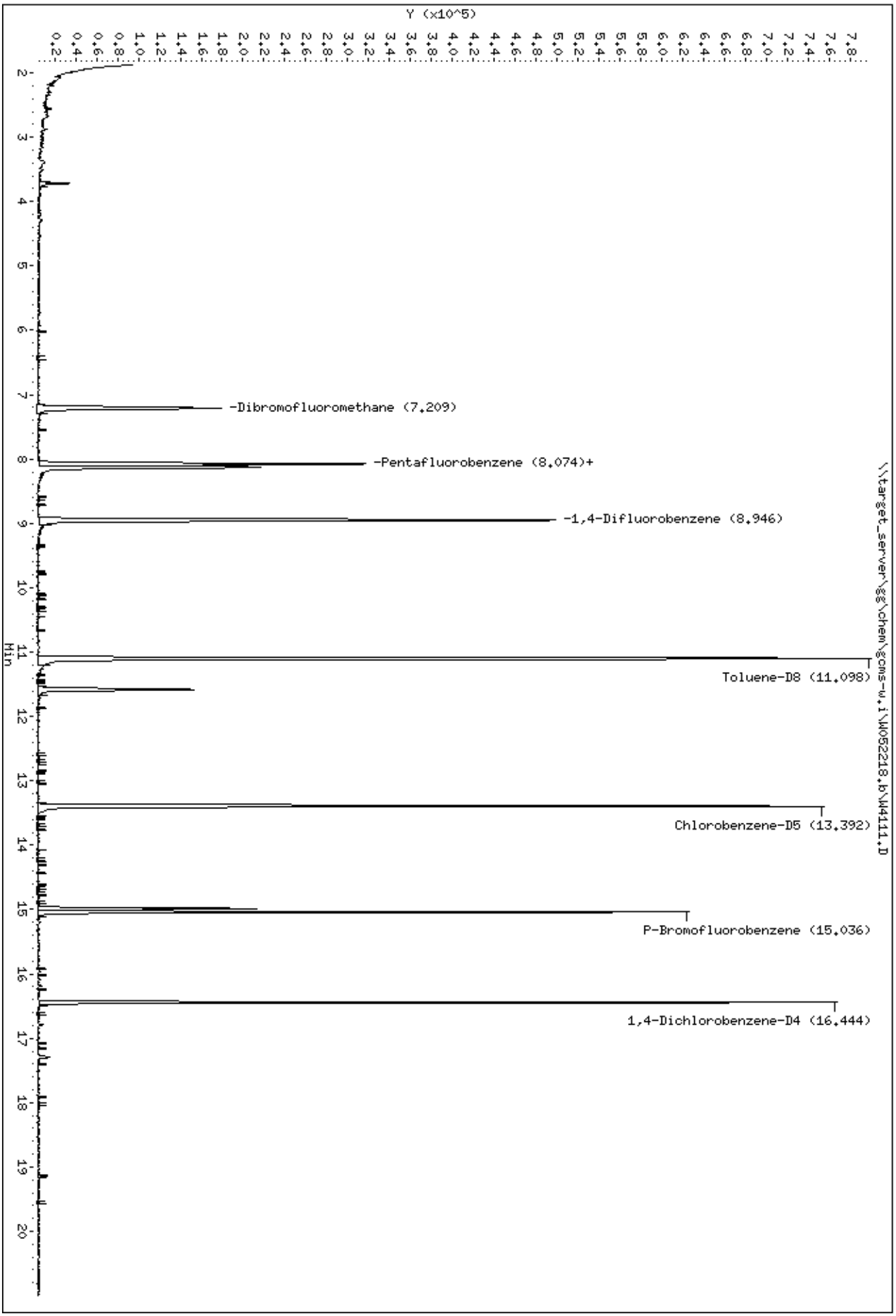
Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W052218.b\W4111.D
Lab Smp Id: SL4180-8RA Client Smp ID: CHAAP-21B-DS-SS07
Inj Date : 22-MAY-2018 15:36 MS Autotune Date: 10-APR-2016 11:00
Operator : JSS Inst ID: gcms-w.i
Smp Info : SL4180-8RA
Misc Info : WG228846,WG228751-4
Comment   : SW846 5035
Method   : \\target_server\gg\chem\gcms-w.i\W052218.b\W8SDI(13)D.m
Meth Date : 23-May-2018 07:11 jsampson Quant Type: ISTD
Cal Date : 21-MAY-2018 11:44 Cal File: W4068.D
Als bottle: 12
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: T6-O360

Concentration Formula: Amt * DF * (100/(100-M))*(Vt/Ws) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
M	18.848	% Moisture
Vt	5.000	Volume of DI Water (mL)
Ws	5.650	Weight of Sample (g)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/kg)	FINAL (ug/Kgdrywt)	REVIEW COD
$ 37 Dibromofluoromethane	113	7.209	7.198	(0.892)	135987	57.1545	62.3	
* 42 Pentafluorobenzene	168	8.081	8.070	(1.000)	262278	50.0000		
$ 45 1,2-Dichloroethane-D4	65	8.123	8.119	(1.005)	169764	54.3261	59.2	
* 49 1,4-Difluorobenzene	114	8.945	8.942	(1.000)	455865	50.0000		
$ 55 Toluene-D8	98	11.097	11.094	(1.241)	567729	49.6158	54.1	
* 66 Chlorobenzene-D5	117	13.392	13.381	(1.000)	409794	50.0000		
$ 76 P-Bromofluorobenzene	95	15.036	15.032	(1.681)	179860	37.2056	40.6	
* 91 1,4-Dichlorobenzene-D4	152	16.444	16.440	(1.000)	172067	50.0000		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Client ID: CHAAP-21B-DS-SS07
Sample Info: SL4180-8RA
Instrument: gcms-w.i
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Y (x10^5)
Min
-Dibromofluoromethane (7.209)
-Pentafluorobenzene (8.074)+
-1,4-Difluorobenzene (8.946)
Toluene-D8 (11.098)
Chlorobenzene-D5 (13.392)
P-Bromofluorobenzene (15.036)
1,4-Dichlorobenzene-D4 (16.444)

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-9
Client ID: CHAAP-21B-DS-SB07-5
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4045.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 19-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228693

Analysis Date: 19-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 81.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,1,1,2-Tetrachloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.70	2.5
1,1,1-Trichloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.42	2.5
1,1,2,2-Tetrachloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.84	2.5
Freon-113	U	2.5	ug/Kgdrywt	1	5	5.0	0.90	2.5
1,1,2-Trichloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.97	2.5
1,1-Dichloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	1.7	2.5
1,1-Dichloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	0.93	2.5
1,1-Dichloropropene	U	2.5	ug/Kgdrywt	1	5	5.0	0.91	2.5
1,2,3-Trichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.76	2.5
1,2,3-Trichloropropane	U	2.5	ug/Kgdrywt	1	5	5.0	1.2	2.5
1,2,4-Trichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.79	2.5
1,2,4-Trimethylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.87	2.5
1,2-Dibromo-3-Chloropropane	U	2.5	ug/Kgdrywt	1	5	5.0	1.5	2.5
1,2-Dibromoethane	U	2.5	ug/Kgdrywt	1	5	5.0	1.2	2.5
1,2-Dichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.78	2.5
1,2-Dichloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	1.0	2.5
1,2-Dichloropropane	U	2.5	ug/Kgdrywt	1	5	5.0	1.4	2.5
1,3,5-Trimethylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.67	2.5
1,3-Dichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.62	2.5
1,3-Dichloropropane	U	2.5	ug/Kgdrywt	1	5	5.0	0.94	2.5
1,4-Dichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.44	2.5
2,2-Dichloropropane	U	2.5	ug/Kgdrywt	1	5	5.0	0.50	2.5
2-Butanone	U	12	ug/Kgdrywt	1	25	25.	5.9	12.
2-Chlorotoluene	U	2.5	ug/Kgdrywt	1	5	5.0	1.1	2.5
2-Hexanone	U	12	ug/Kgdrywt	1	25	25.	4.8	12.
4-Chlorotoluene	U	2.5	ug/Kgdrywt	1	5	5.0	0.49	2.5
P-Isopropyltoluene	U	2.5	ug/Kgdrywt	1	5	5.0	0.76	2.5
4-Methyl-2-Pentanone	U	12	ug/Kgdrywt	1	25	25.	5.9	12.
Acetone	U	12	ug/Kgdrywt	1	25	25.	5.1	12.
Benzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.92	2.5
Bromobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.74	2.5
Bromochloromethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.91	2.5
Bromodichloromethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.60	2.5
Bromoform	U	2.5	ug/Kgdrywt	1	5	5.0	0.70	2.5
Bromomethane	U	5.0	ug/Kgdrywt	1	10	10.	1.1	5.0

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-9
Client ID: CHAAP-21B-DS-SB07-5
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4045.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 19-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228693

Analysis Date: 19-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 81.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Carbon Disulfide	U	2.5	ug/Kgdrywt	1	5	5.0	0.78	2.5
Carbon Tetrachloride	U	2.5	ug/Kgdrywt	1	5	5.0	1.3	2.5
Chlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.51	2.5
Dibromochloromethane	U	2.5	ug/Kgdrywt	1	5	5.0	7.0	2.5
Chloroethane	U	5.0	ug/Kgdrywt	1	10	10.	1.3	5.0
Chloroform	U	2.5	ug/Kgdrywt	1	5	5.0	0.35	2.5
Chloromethane	U	5.0	ug/Kgdrywt	1	10	10.	1.4	5.0
cis-1,2-Dichloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	0.91	2.5
cis-1,3-Dichloropropene	U	2.5	ug/Kgdrywt	1	5	5.0	0.72	2.5
Dibromomethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.51	2.5
Dichlorodifluoromethane	UL	5.0	ug/Kgdrywt	1	10	10.	0.92	5.0
Ethylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.65	2.5
Hexachlorobutadiene	U	2.5	ug/Kgdrywt	1	5	5.0	0.74	2.5
Isopropylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.92	2.5
m+p-Xylenes	U	5.0	ug/Kgdrywt	1	10	10.	1.7	5.0
Methyl tert-butyl Ether	U	2.5	ug/Kgdrywt	1	5	5.0	1.1	2.5
Methylene Chloride	U	12	ug/Kgdrywt	1	25	25.	7.9	12.
N-Butylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.92	2.5
N-Propylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.83	2.5
Naphthalene	U	2.5	ug/Kgdrywt	1	5	5.0	0.88	2.5
o-Xylene	U	2.5	ug/Kgdrywt	1	5	5.0	1.3	2.5
sec-Butylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.91	2.5
Styrene	U	2.5	ug/Kgdrywt	1	5	5.0	0.51	2.5
tert-Butylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.90	2.5
Tetrachloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	1.2	2.5
Toluene	U	2.5	ug/Kgdrywt	1	5	5.0	1.4	2.5
trans-1,2-Dichloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	0.71	2.5
trans-1,3-Dichloropropene	U	2.5	ug/Kgdrywt	1	5	5.0	0.86	2.5
Trichloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	0.59	2.5
Trichlorofluoromethane	U	5.0	ug/Kgdrywt	1	10	10.	0.91	5.0
Vinyl Chloride	U	5.0	ug/Kgdrywt	1	10	10.	0.87	5.0
1,2-Dichloroethane-D4		106.	%					
p-Bromofluorobenzene		96.7	%					
Dibromofluoromethane		106.	%					
Toluene-D8		104.	%					

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Data File: \\target_server\gg\chem\gcms-w.i\W051918.b\W4045.D
Report Date: 25-May-2018 12:01

Katahdin Analytical Services

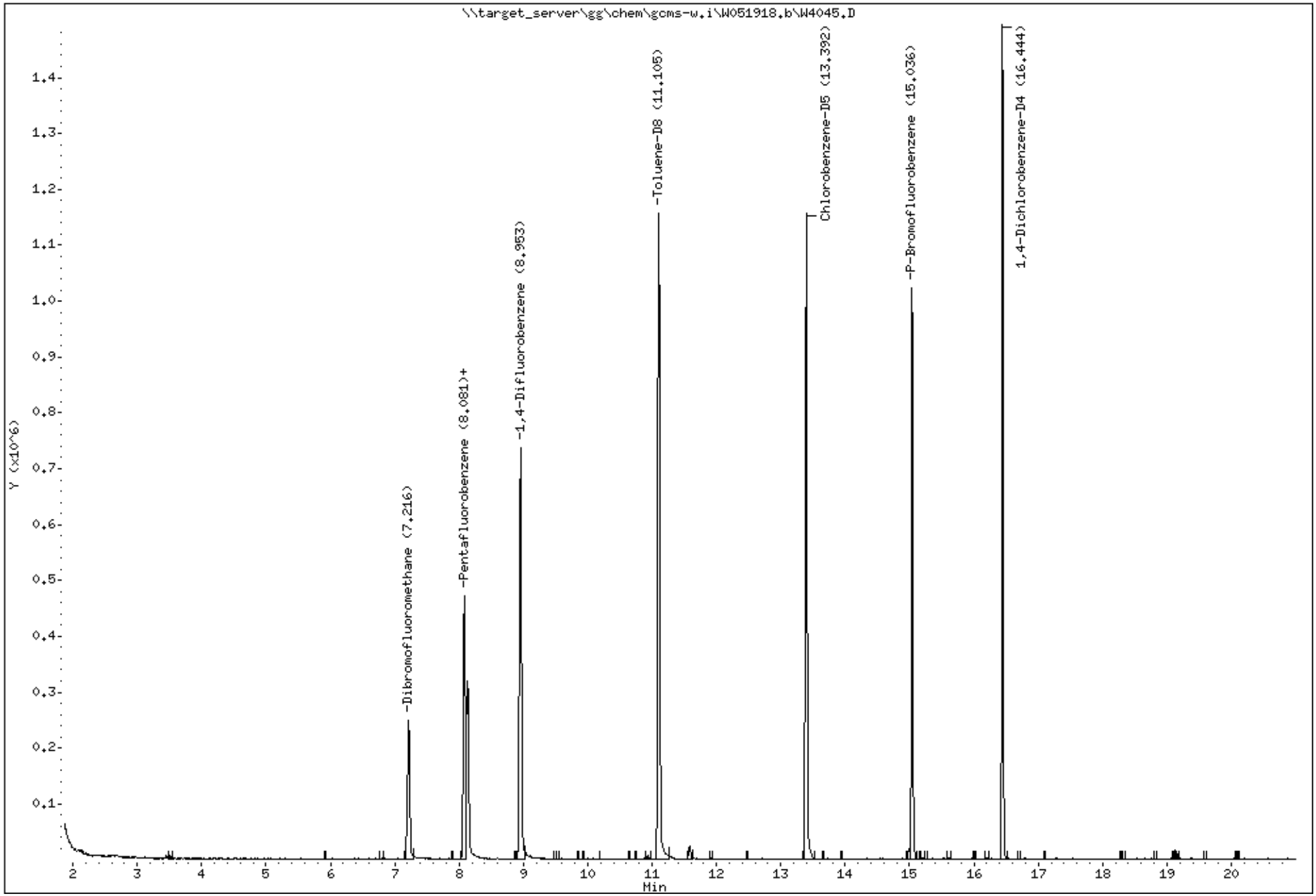
Data file : \\target_server\gg\chem\gcms-w.i\W051918.b\W4045.D
Lab Smp Id: SL4180-9 Client Smp ID: CHAAP-21B-DS-SB07-5
Inj Date : 19-MAY-2018 15:00 MS Autotune Date: 10-APR-2016 11:00
Operator : JSS Inst ID: gcms-w.i
Smp Info : SL4180-9
Misc Info : WG228693,WG228635-4
Comment : SW846 5035
Method : \\target_server\gg\chem\gcms-w.i\W051918.b\W8SDI(12)D.m
Meth Date : 20-May-2018 08:58 hgould Quant Type: ISTD
Cal Date : 18-MAY-2018 15:04 Cal File: W4025.D
Als bottle: 12
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: T6-O360

Concentration Formula: Amt * DF * (100/(100-M))*(Vt/Ws) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
M	18.810	% Moisture
Vt	5.000	Volume of DI Water (mL)
Ws	5.970	Weight of Sample (g)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/kg)	FINAL (ug/Kgdrywt)	REVIEW COD
$ 37 Dibromofluoromethane	113	7.216	7.188	(0.893)	193765	52.8028	54.5	
* 42 Pentafluorobenzene	168	8.080	8.060	(1.000)	373489	50.0000		
$ 45 1,2-Dichloroethane-D4	65	8.130	8.109	(1.006)	255149	52.9509	54.6	
* 49 1,4-Difluorobenzene	114	8.952	8.932	(1.000)	659921	50.0000		
$ 55 Toluene-D8	98	11.104	11.084	(1.240)	837339	52.2252	53.9	
* 66 Chlorobenzene-D5	117	13.391	13.378	(1.000)	634417	50.0000		
$ 76 P-Bromofluorobenzene	95	15.035	15.022	(1.679)	325451	48.3460	49.9	
* 91 1,4-Dichlorobenzene-D4	152	16.444	16.430	(1.000)	325178	50.0000		

Data File: \\target_server\gg\chem\gcms-w.i\W051918.b\W4045.D
Date : 19-MAY-2018 15:00
Client ID: CHAAP-21B-DS-SB07-5
Instrument: gcms-w.i
Sample Info: SL4180-9



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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-10
Client ID: CHAAP-21B-DS-SB107-5
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4046.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 19-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228693

Analysis Date: 19-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 81.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,1,1,2-Tetrachloroethane	U	2.3	ug/Kgdrywt	1	5	4.6	0.65	2.3
1,1,1-Trichloroethane	U	2.3	ug/Kgdrywt	1	5	4.6	0.39	2.3
1,1,2,2-Tetrachloroethane	U	2.3	ug/Kgdrywt	1	5	4.6	0.78	2.3
Freon-113	U	2.3	ug/Kgdrywt	1	5	4.6	0.84	2.3
1,1,2-Trichloroethane	U	2.3	ug/Kgdrywt	1	5	4.6	0.90	2.3
1,1-Dichloroethane	U	2.3	ug/Kgdrywt	1	5	4.6	1.6	2.3
1,1-Dichloroethene	U	2.3	ug/Kgdrywt	1	5	4.6	0.86	2.3
1,1-Dichloropropene	U	2.3	ug/Kgdrywt	1	5	4.6	0.85	2.3
1,2,3-Trichlorobenzene	U	2.3	ug/Kgdrywt	1	5	4.6	0.71	2.3
1,2,3-Trichloropropane	U	2.3	ug/Kgdrywt	1	5	4.6	1.1	2.3
1,2,4-Trichlorobenzene	U	2.3	ug/Kgdrywt	1	5	4.6	0.73	2.3
1,2,4-Trimethylbenzene	U	2.3	ug/Kgdrywt	1	5	4.6	0.81	2.3
1,2-Dibromo-3-Chloropropane	U	2.3	ug/Kgdrywt	1	5	4.6	1.4	2.3
1,2-Dibromoethane	U	2.3	ug/Kgdrywt	1	5	4.6	1.1	2.3
1,2-Dichlorobenzene	U	2.3	ug/Kgdrywt	1	5	4.6	0.72	2.3
1,2-Dichloroethane	U	2.3	ug/Kgdrywt	1	5	4.6	0.93	2.3
1,2-Dichloropropane	U	2.3	ug/Kgdrywt	1	5	4.6	1.3	2.3
1,3,5-Trimethylbenzene	U	2.3	ug/Kgdrywt	1	5	4.6	0.62	2.3
1,3-Dichlorobenzene	U	2.3	ug/Kgdrywt	1	5	4.6	0.58	2.3
1,3-Dichloropropane	U	2.3	ug/Kgdrywt	1	5	4.6	0.87	2.3
1,4-Dichlorobenzene	U	2.3	ug/Kgdrywt	1	5	4.6	0.41	2.3
2,2-Dichloropropane	U	2.3	ug/Kgdrywt	1	5	4.6	0.46	2.3
2-Butanone	U	12	ug/Kgdrywt	1	25	23.	5.5	12.
2-Chlorotoluene	U	2.3	ug/Kgdrywt	1	5	4.6	1.0	2.3
2-Hexanone	U	12	ug/Kgdrywt	1	25	23.	4.5	12.
4-Chlorotoluene	U	2.3	ug/Kgdrywt	1	5	4.6	0.46	2.3
P-Isopropyltoluene	U	2.3	ug/Kgdrywt	1	5	4.6	0.71	2.3
4-Methyl-2-Pentanone	U	12	ug/Kgdrywt	1	25	23.	5.5	12.
Acetone	U	12	ug/Kgdrywt	1	25	23.	4.7	12.
Benzene	U	2.3	ug/Kgdrywt	1	5	4.6	0.86	2.3
Bromobenzene	U	2.3	ug/Kgdrywt	1	5	4.6	0.69	2.3
Bromochloromethane	U	2.3	ug/Kgdrywt	1	5	4.6	0.85	2.3
Bromodichloromethane	U	2.3	ug/Kgdrywt	1	5	4.6	0.56	2.3
Bromoform	U	2.3	ug/Kgdrywt	1	5	4.6	0.65	2.3
Bromomethane	U	4.6	ug/Kgdrywt	1	10	9.3	1.0	4.6

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-10
Client ID: CHAAP-21B-DS-SB107-5
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4046.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 19-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228693

Analysis Date: 19-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 81.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Carbon Disulfide	U	2.3	ug/Kgdrywt	1	5	4.6	0.72	2.3
Carbon Tetrachloride	U	2.3	ug/Kgdrywt	1	5	4.6	1.2	2.3
Chlorobenzene	U	2.3	ug/Kgdrywt	1	5	4.6	0.47	2.3
Dibromochloromethane	U	2.3	ug/Kgdrywt	1	5	4.6	6.5	2.3
Chloroethane	U	4.6	ug/Kgdrywt	1	10	9.3	1.2	4.6
Chloroform	U	2.3	ug/Kgdrywt	1	5	4.6	0.32	2.3
Chloromethane	U	4.6	ug/Kgdrywt	1	10	9.3	1.3	4.6
cis-1,2-Dichloroethene	U	2.3	ug/Kgdrywt	1	5	4.6	0.85	2.3
cis-1,3-Dichloropropene	U	2.3	ug/Kgdrywt	1	5	4.6	0.67	2.3
Dibromomethane	U	2.3	ug/Kgdrywt	1	5	4.6	0.47	2.3
Dichlorodifluoromethane	UL	4.6	ug/Kgdrywt	1	10	9.3	0.86	4.6
Ethylbenzene	U	2.3	ug/Kgdrywt	1	5	4.6	0.60	2.3
Hexachlorobutadiene	U	2.3	ug/Kgdrywt	1	5	4.6	0.69	2.3
Isopropylbenzene	U	2.3	ug/Kgdrywt	1	5	4.6	0.86	2.3
m+p-Xylenes	U	4.6	ug/Kgdrywt	1	10	9.3	1.6	4.6
Methyl tert-butyl Ether	U	2.3	ug/Kgdrywt	1	5	4.6	1.0	2.3
Methylene Chloride	U	12	ug/Kgdrywt	1	25	23.	7.3	12.
N-Butylbenzene	U	2.3	ug/Kgdrywt	1	5	4.6	0.86	2.3
N-Propylbenzene	U	2.3	ug/Kgdrywt	1	5	4.6	0.77	2.3
Naphthalene	U	2.3	ug/Kgdrywt	1	5	4.6	0.82	2.3
o-Xylene	U	2.3	ug/Kgdrywt	1	5	4.6	1.2	2.3
sec-Butylbenzene	U	2.3	ug/Kgdrywt	1	5	4.6	0.85	2.3
Styrene	U	2.3	ug/Kgdrywt	1	5	4.6	0.47	2.3
tert-Butylbenzene	U	2.3	ug/Kgdrywt	1	5	4.6	0.84	2.3
Tetrachloroethene	U	2.3	ug/Kgdrywt	1	5	4.6	1.1	2.3
Toluene	U	2.3	ug/Kgdrywt	1	5	4.6	1.3	2.3
trans-1,2-Dichloroethene	U	2.3	ug/Kgdrywt	1	5	4.6	0.66	2.3
trans-1,3-Dichloropropene	U	2.3	ug/Kgdrywt	1	5	4.6	0.80	2.3
Trichloroethene	U	2.3	ug/Kgdrywt	1	5	4.6	0.55	2.3
Trichlorofluoromethane	U	4.6	ug/Kgdrywt	1	10	9.3	0.85	4.6
Vinyl Chloride	U	4.6	ug/Kgdrywt	1	10	9.3	0.81	4.6
1,2-Dichloroethane-D4		106.	%					
p-Bromofluorobenzene		95.4	%					
Dibromofluoromethane		106.	%					
Toluene-D8		100.	%					

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Data File: \\target_server\gg\chem\gcms-w.i\W051918.b\W4046.D
Report Date: 25-May-2018 12:01

Katahdin Analytical Services

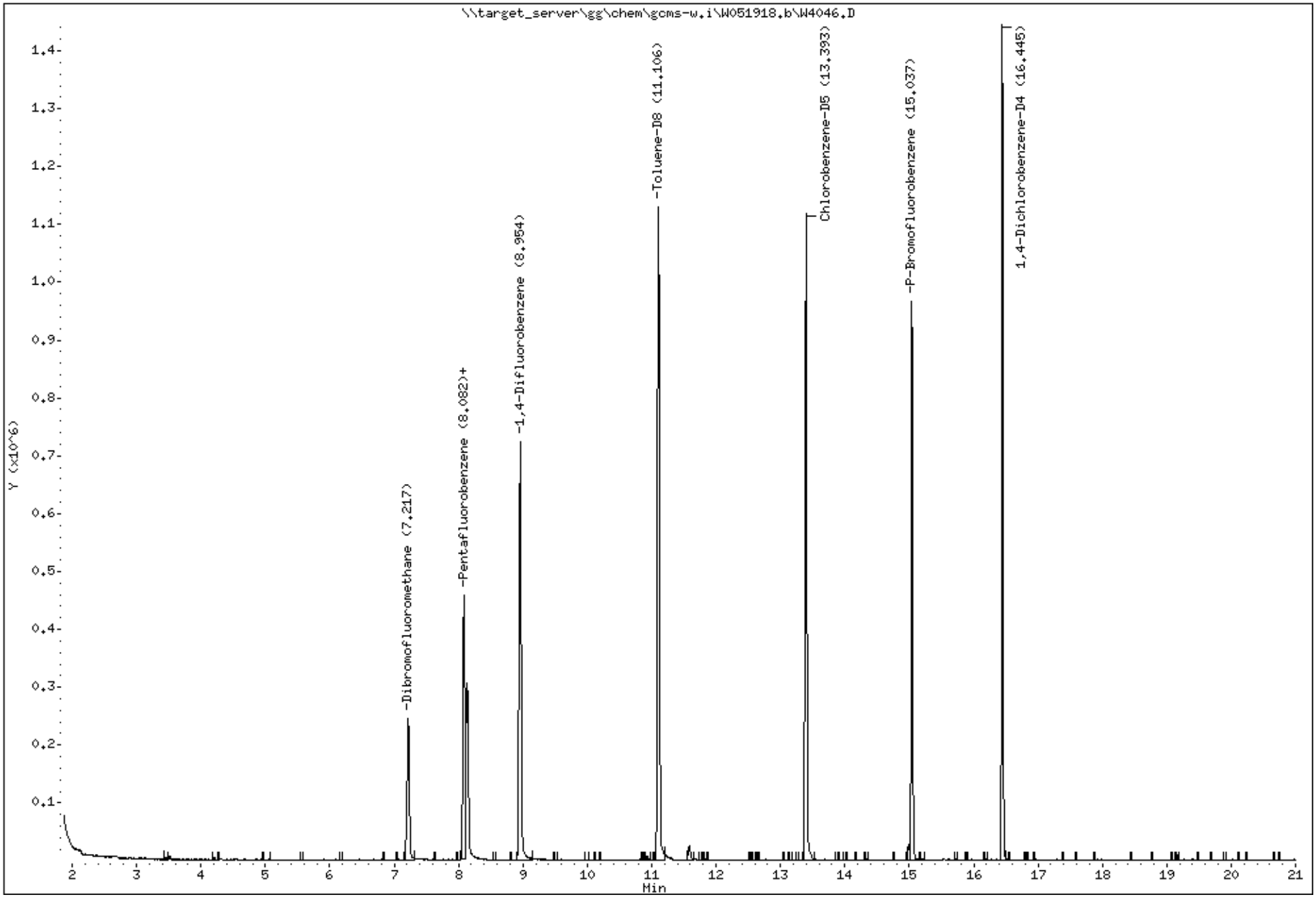
Data file : \\target_server\gg\chem\gcms-w.i\W051918.b\W4046.D
Lab Smp Id: SL4180-10 Client Smp ID: HAAP-21B-DS-SB107-5
Inj Date : 19-MAY-2018 15:37 MS Autotune Date: 10-APR-2016 11:00
Operator : JSS Inst ID: gcms-w.i
Smp Info : SL4180-10
Misc Info : WG228693,WG228635-4
Comment : SW846 5035
Method : \\target_server\gg\chem\gcms-w.i\W051918.b\W8SDI(12)D.m
Meth Date : 20-May-2018 08:58 hgould Quant Type: ISTD
Cal Date : 18-MAY-2018 15:04 Cal File: W4025.D
Als bottle: 13
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: T6-O360

Concentration Formula: Amt * DF * (100/(100-M))*(Vt/Ws) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
M	19.168	% Moisture
Vt	5.000	Volume of DI Water (mL)
Ws	6.660	Weight of Sample (g)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/kg)	FINAL (ug/Kgdrywt)	REVIEW COD
$ 37 Dibromofluoromethane	113	7.217	7.188	(0.893)	187539	52.8041	49.0	
* 42 Pentafluorobenzene	168	8.082	8.060	(1.000)	361479	50.0000		
$ 45 1,2-Dichloroethane-D4	65	8.132	8.109	(1.006)	248150	53.2094	49.4	
* 49 1,4-Difluorobenzene	114	8.954	8.932	(1.000)	654381	50.0000		
$ 55 Toluene-D8	98	11.105	11.084	(1.240)	795319	50.0244	46.5	
* 66 Chlorobenzene-D5	117	13.393	13.378	(1.000)	609375	50.0000		
$ 76 P-Bromofluorobenzene	95	15.037	15.022	(1.679)	318448	47.7062	44.3	
* 91 1,4-Dichlorobenzene-D4	152	16.445	16.430	(1.000)	309550	50.0000		

Data File: \\target_server\gg\chem\gcms-w.i\W051918.b\W4046.D
Date : 19-MAY-2018 15:37
Client ID: HAAP-21B-DS-SB107-5
Instrument: gcms-w.i
Sample Info: SL4180-10



Katahdin Analytical Services 1000081

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-11
Client ID: CHAAP-21B-DS-SB07-10
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4047.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 19-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228693

Analysis Date: 19-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 76.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,1,1,2-Tetrachloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.77	2.8
1,1,1-Trichloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.46	2.8
1,1,2,2-Tetrachloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.92	2.8
Freon-113	U	2.8	ug/Kgdrywt	1	5	5.5	0.99	2.8
1,1,2-Trichloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.1	2.8
1,1-Dichloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.9	2.8
1,1-Dichloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
1,1-Dichloropropene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
1,2,3-Trichlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.84	2.8
1,2,3-Trichloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	1.3	2.8
1,2,4-Trichlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.87	2.8
1,2,4-Trimethylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.96	2.8
1,2-Dibromo-3-Chloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	1.6	2.8
1,2-Dibromoethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.3	2.8
1,2-Dichlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.86	2.8
1,2-Dichloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.1	2.8
1,2-Dichloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	1.5	2.8
1,3,5-Trimethylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.74	2.8
1,3-Dichlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.68	2.8
1,3-Dichloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
1,4-Dichlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.48	2.8
2,2-Dichloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	0.55	2.8
2-Butanone	U	14	ug/Kgdrywt	1	25	28.	6.5	14.
2-Chlorotoluene	U	2.8	ug/Kgdrywt	1	5	5.5	1.2	2.8
2-Hexanone	U	14	ug/Kgdrywt	1	25	28.	5.3	14.
4-Chlorotoluene	U	2.8	ug/Kgdrywt	1	5	5.5	0.54	2.8
P-Isopropyltoluene	U	2.8	ug/Kgdrywt	1	5	5.5	0.84	2.8
4-Methyl-2-Pentanone	U	14	ug/Kgdrywt	1	25	28.	6.5	14.
Acetone	U	14	ug/Kgdrywt	1	25	28.	5.6	14.
Benzene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
Bromobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.81	2.8
Bromochloromethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
Bromodichloromethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.66	2.8
Bromoform	U	2.8	ug/Kgdrywt	1	5	5.5	0.77	2.8
Bromomethane	U	5.5	ug/Kgdrywt	1	10	11.	1.2	5.5

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-11
Client ID: CHAAP-21B-DS-SB07-10
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4047.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 19-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228693

Analysis Date: 19-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 76.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Carbon Disulfide	U	2.8	ug/Kgdrywt	1	5	5.5	0.86	2.8
Carbon Tetrachloride	U	2.8	ug/Kgdrywt	1	5	5.5	1.4	2.8
Chlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.56	2.8
Dibromochloromethane	U	2.8	ug/Kgdrywt	1	5	5.5	7.7	2.8
Chloroethane	U	5.5	ug/Kgdrywt	1	10	11.	1.4	5.5
Chloroform	U	2.8	ug/Kgdrywt	1	5	5.5	0.38	2.8
Chloromethane	U	5.5	ug/Kgdrywt	1	10	11.	1.5	5.5
cis-1,2-Dichloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
cis-1,3-Dichloropropene	U	2.8	ug/Kgdrywt	1	5	5.5	0.79	2.8
Dibromomethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.56	2.8
Dichlorodifluoromethane	UL	5.5	ug/Kgdrywt	1	10	11.	1.0	5.5
Ethylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.72	2.8
Hexachlorobutadiene	U	2.8	ug/Kgdrywt	1	5	5.5	0.81	2.8
Isopropylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
m+p-Xylenes	U	5.5	ug/Kgdrywt	1	10	11.	1.9	5.5
Methyl tert-butyl Ether	U	2.8	ug/Kgdrywt	1	5	5.5	1.2	2.8
Methylene Chloride	U	14	ug/Kgdrywt	1	25	28.	8.7	14.
N-Butylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
N-Propylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.91	2.8
Naphthalene	U	2.8	ug/Kgdrywt	1	5	5.5	0.97	2.8
o-Xylene	U	2.8	ug/Kgdrywt	1	5	5.5	1.4	2.8
sec-Butylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
Styrene	U	2.8	ug/Kgdrywt	1	5	5.5	0.56	2.8
tert-Butylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.99	2.8
Tetrachloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	1.3	2.8
Toluene	U	2.8	ug/Kgdrywt	1	5	5.5	1.5	2.8
trans-1,2-Dichloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	0.78	2.8
trans-1,3-Dichloropropene	U	2.8	ug/Kgdrywt	1	5	5.5	0.95	2.8
Trichloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	0.65	2.8
Trichlorofluoromethane	U	5.5	ug/Kgdrywt	1	10	11.	1.0	5.5
Vinyl Chloride	U	5.5	ug/Kgdrywt	1	10	11.	0.96	5.5
1,2-Dichloroethane-D4		106.	%					
p-Bromofluorobenzene		95.5	%					
Dibromofluoromethane		107.	%					
Toluene-D8		103.	%					

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Data File: \\target_server\gg\chem\gcms-w.i\W051918.b\W4047.D
Report Date: 25-May-2018 12:01

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Data file : \\target_server\gg\chem\gcms-w.i\W051918.b\W4047.D
Lab Smp Id: SL4180-11 Client Smp ID: HAAP-21B-DS-SB07-10
Inj Date : 19-MAY-2018 16:14 MS Autotune Date: 10-APR-2016 11:00
Operator : JSS Inst ID: gcms-w.i
Smp Info : SL4180-11
Misc Info : WG228693,WG228635-4
Comment : SW846 5035
Method : \\target_server\gg\chem\gcms-w.i\W051918.b\W8SDI(12)D.m
Meth Date : 20-May-2018 08:58 hgould Quant Type: ISTD
Cal Date : 18-MAY-2018 15:04 Cal File: W4025.D
Als bottle: 14
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: T6-O360

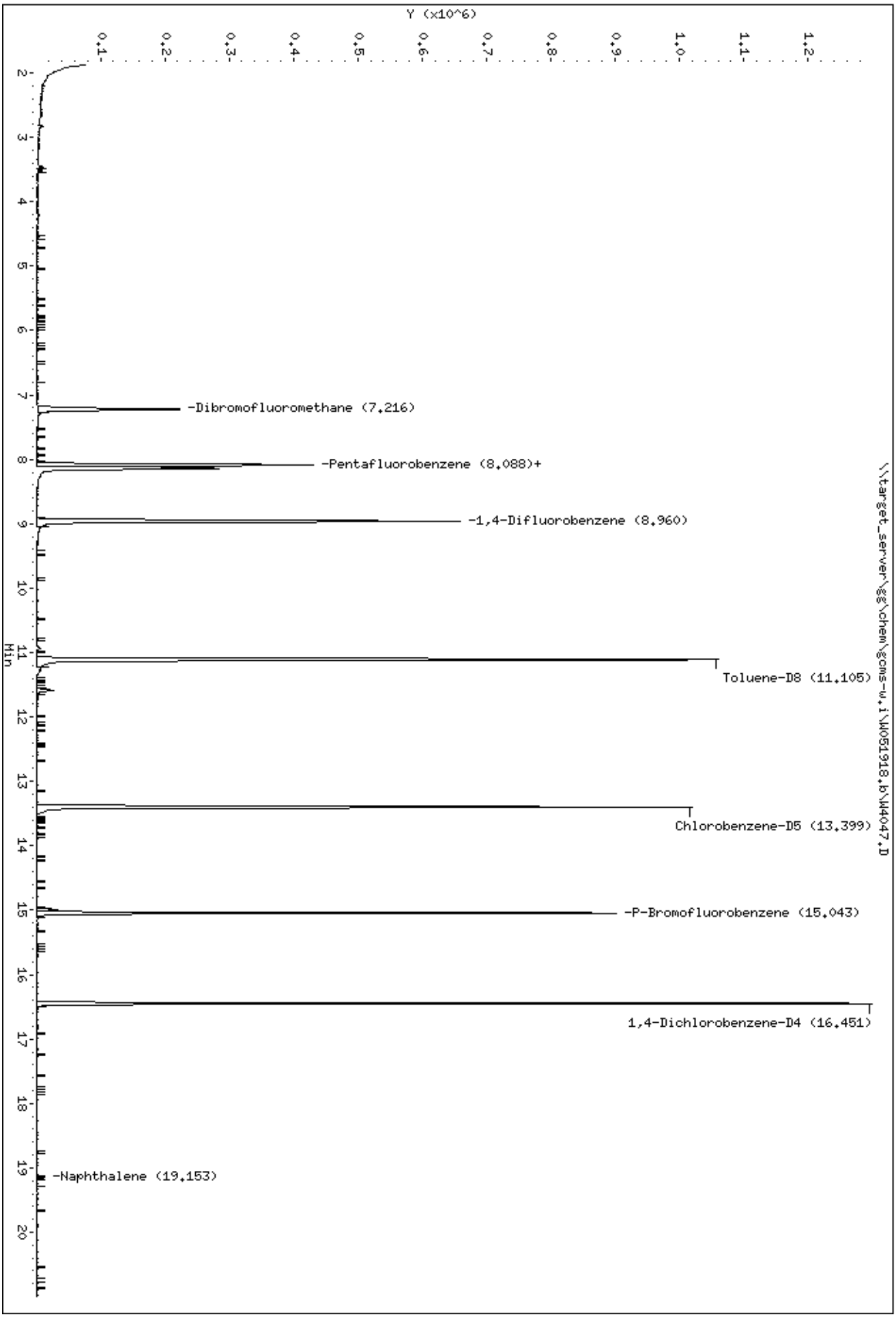
Concentration Formula: Amt * DF * (100/(100-M))*(Vt/Ws) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
M	23.436	% Moisture
Vt	5.000	Volume of DI Water (mL)
Ws	5.970	Weight of Sample (g)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/kg)	FINAL (ug/Kgdrywt)	REVIEW COD
$ 37 Dibromofluoromethane	113	7.223	7.188	(0.893)	176569	53.5178	58.5	
* 42 Pentafluorobenzene	168	8.088	8.060	(1.000)	335796	50.0000		
$ 45 1,2-Dichloroethane-D4	65	8.138	8.109	(1.006)	230149	53.1240	58.1	
* 49 1,4-Difluorobenzene	114	8.960	8.932	(1.000)	601620	50.0000		
$ 55 Toluene-D8	98	11.104	11.084	(1.239)	753631	51.5594	56.4	
* 66 Chlorobenzene-D5	117	13.399	13.378	(1.000)	569674	50.0000		
$ 76 P-Bromofluorobenzene	95	15.043	15.022	(1.679)	293081	47.7564	52.2	
* 91 1,4-Dichlorobenzene-D4	152	16.451	16.430	(1.000)	290124	50.0000		
101 Naphthalene	128	19.153	19.139	(1.164)	8471	0.88080	0.96(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).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Date : 19-MAY-2018 16:14
Client ID: HAAP-21B-DS-SB07-10
Sample Info: SL4180-11
Instrument: gcms-w,i
\\target_server\gg\chem\gcms-w,i\W051918,b\W4047.D
Y (x10^6)
Min
-Dibromofluoromethane (7.216)
-Pentafluorobenzene (8.088)+
-1,4-Difluorobenzene (8.960)
Toluene-D8 (11.105)
Chlorobenzene-D5 (13.399)
-P-Bromofluorobenzene (15.043)
1,4-Dichlorobenzene-D4 (16.451)
-Naphthalene (19.153)

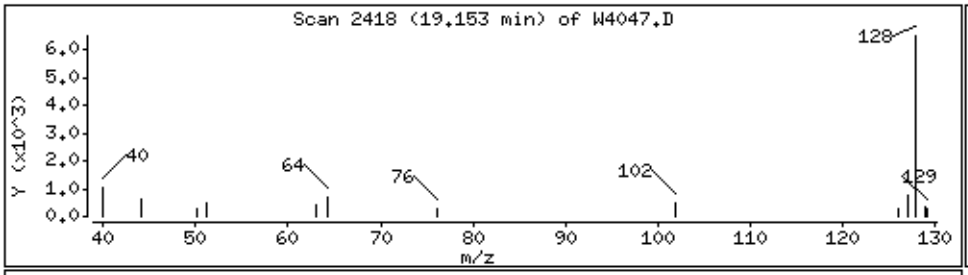
Data File: \\target_server\gg\chem\gcms-w.i\W051918.b\W4047.D

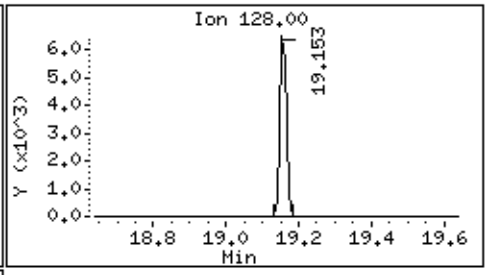
Date : 19-MAY-2018 16:14

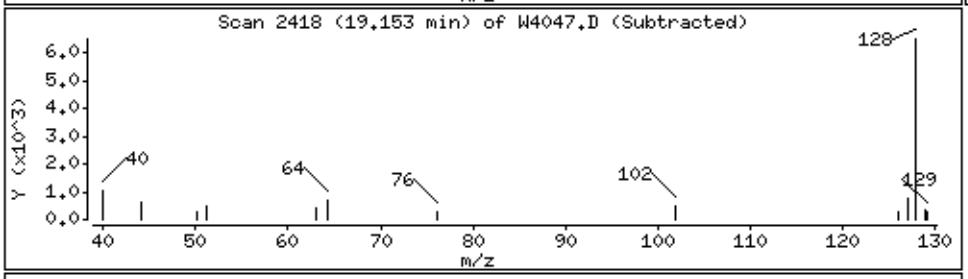
Client ID: HAAP-21B-DS-SB07-10 Instrument: gcms-w.i

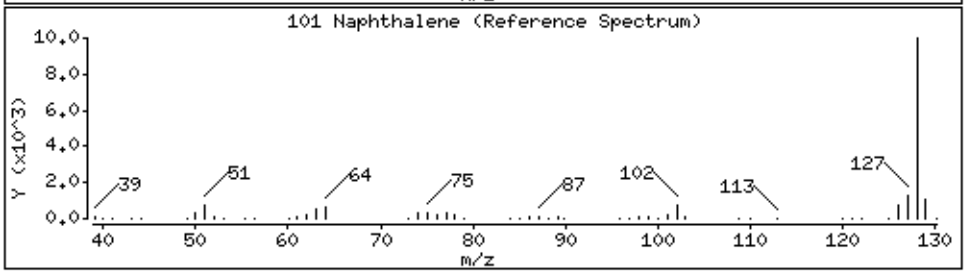
Sample Info: SL4180-11

101 Naphthalene Concentration: 0.96 ug/Kgdrywt









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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-12
Client ID: CHAAP-21B-DS-SS08
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4048.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 19-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228693

Analysis Date: 19-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 87.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,1,1,2-Tetrachloroethane	U	3.0	ug/Kgdrywt	1	5	6.0	0.84	3.0
1,1,1-Trichloroethane	U	3.0	ug/Kgdrywt	1	5	6.0	0.50	3.0
1,1,2,2-Tetrachloroethane	U	3.0	ug/Kgdrywt	1	5	6.0	1.0	3.0
Freon-113	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
1,1,2-Trichloroethane	U	3.0	ug/Kgdrywt	1	5	6.0	1.2	3.0
1,1-Dichloroethane	U	3.0	ug/Kgdrywt	1	5	6.0	2.0	3.0
1,1-Dichloroethene	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
1,1-Dichloropropene	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
1,2,3-Trichlorobenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.91	3.0
1,2,3-Trichloropropane	U	3.0	ug/Kgdrywt	1	5	6.0	1.4	3.0
1,2,4-Trichlorobenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.95	3.0
1,2,4-Trimethylbenzene	U	3.0	ug/Kgdrywt	1	5	6.0	1.0	3.0
1,2-Dibromo-3-Chloropropane	U	3.0	ug/Kgdrywt	1	5	6.0	1.8	3.0
1,2-Dibromoethane	U	3.0	ug/Kgdrywt	1	5	6.0	1.4	3.0
1,2-Dichlorobenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.94	3.0
1,2-Dichloroethane	U	3.0	ug/Kgdrywt	1	5	6.0	1.2	3.0
1,2-Dichloropropane	U	3.0	ug/Kgdrywt	1	5	6.0	1.7	3.0
1,3,5-Trimethylbenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.80	3.0
1,3-Dichlorobenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.74	3.0
1,3-Dichloropropane	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
1,4-Dichlorobenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.53	3.0
2,2-Dichloropropane	U	3.0	ug/Kgdrywt	1	5	6.0	0.60	3.0
2-Butanone	U	15	ug/Kgdrywt	1	25	30.	7.1	15.
2-Chlorotoluene	U	3.0	ug/Kgdrywt	1	5	6.0	1.3	3.0
2-Hexanone	U	15	ug/Kgdrywt	1	25	30.	5.8	15.
4-Chlorotoluene	U	3.0	ug/Kgdrywt	1	5	6.0	0.59	3.0
P-Isopropyltoluene	U	3.0	ug/Kgdrywt	1	5	6.0	0.91	3.0
4-Methyl-2-Pentanone	U	15	ug/Kgdrywt	1	25	30.	7.1	15.
Acetone	U	15	ug/Kgdrywt	1	25	30.	6.1	15.
Benzene	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
Bromobenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.89	3.0
Bromochloromethane	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
Bromodichloromethane	U	3.0	ug/Kgdrywt	1	5	6.0	0.72	3.0
Bromoform	U	3.0	ug/Kgdrywt	1	5	6.0	0.84	3.0
Bromomethane	U	6.0	ug/Kgdrywt	1	10	12.	1.3	6.0

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Tel:(207) 874-2400 Fax:(207) 775-4029

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Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-12
Client ID: CHAAP-21B-DS-SS08
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4048.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 19-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228693

Analysis Date: 19-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 87.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Carbon Disulfide	U	3.0	ug/Kgdrywt	1	5	6.0	0.94	3.0
Carbon Tetrachloride	U	3.0	ug/Kgdrywt	1	5	6.0	1.6	3.0
Chlorobenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.61	3.0
Dibromochloromethane	U	3.0	ug/Kgdrywt	1	5	6.0	8.4	3.0
Chloroethane	U	6.0	ug/Kgdrywt	1	10	12.	1.6	6.0
Chloroform	U	3.0	ug/Kgdrywt	1	5	6.0	0.42	3.0
Chloromethane	U	6.0	ug/Kgdrywt	1	10	12.	1.7	6.0
cis-1,2-Dichloroethene	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
cis-1,3-Dichloropropene	U	3.0	ug/Kgdrywt	1	5	6.0	0.86	3.0
Dibromomethane	U	3.0	ug/Kgdrywt	1	5	6.0	0.61	3.0
Dichlorodifluoromethane	UL	6.0	ug/Kgdrywt	1	10	12.	1.1	6.0
Ethylbenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.78	3.0
Hexachlorobutadiene	U	3.0	ug/Kgdrywt	1	5	6.0	0.89	3.0
Isopropylbenzene	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
m+p-Xylenes	U	6.0	ug/Kgdrywt	1	10	12.	2.0	6.0
Methyl tert-butyl Ether	U	3.0	ug/Kgdrywt	1	5	6.0	1.3	3.0
Methylene Chloride	U	15	ug/Kgdrywt	1	25	30.	9.5	15.
N-Butylbenzene	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
N-Propylbenzene	U	3.0	ug/Kgdrywt	1	5	6.0	1.0	3.0
Naphthalene	J	1.4	ug/Kgdrywt	1	5	6.0	1.0	3.0
o-Xylene	U	3.0	ug/Kgdrywt	1	5	6.0	1.6	3.0
sec-Butylbenzene	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
Styrene	U	3.0	ug/Kgdrywt	1	5	6.0	0.61	3.0
tert-Butylbenzene	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
Tetrachloroethene	U	3.0	ug/Kgdrywt	1	5	6.0	1.4	3.0
Toluene	U	3.0	ug/Kgdrywt	1	5	6.0	1.7	3.0
trans-1,2-Dichloroethene	U	3.0	ug/Kgdrywt	1	5	6.0	0.85	3.0
trans-1,3-Dichloropropene	U	3.0	ug/Kgdrywt	1	5	6.0	1.0	3.0
Trichloroethene	U	3.0	ug/Kgdrywt	1	5	6.0	0.71	3.0
Trichlorofluoromethane	U	6.0	ug/Kgdrywt	1	10	12.	1.1	6.0
Vinyl Chloride	U	6.0	ug/Kgdrywt	1	10	12.	1.0	6.0
1,2-Dichloroethane-D4		107.	%					
p-Bromofluorobenzene		80.3	%					
Dibromofluoromethane		105.	%					
Toluene-D8		103.	%					

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Data File: \\target_server\gg\chem\gcms-w.i\W051918.b\W4048.D
Report Date: 25-May-2018 12:01

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W051918.b\W4048.D
Lab Smp Id: SL4180-12 Client Smp ID: CHAAP-21B-DS-SS08
Inj Date : 19-MAY-2018 16:51 MS Autotune Date: 10-APR-2016 11:00
Operator : JSS Inst ID: gcms-w.i
Smp Info : SL4180-12
Misc Info : WG228693,WG228635-4
Comment : SW846 5035
Method : \\target_server\gg\chem\gcms-w.i\W051918.b\W8SDI(12)D.m
Meth Date : 20-May-2018 08:58 hgould Quant Type: ISTD
Cal Date : 18-MAY-2018 15:04 Cal File: W4025.D
Als bottle: 15
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: T6-O360

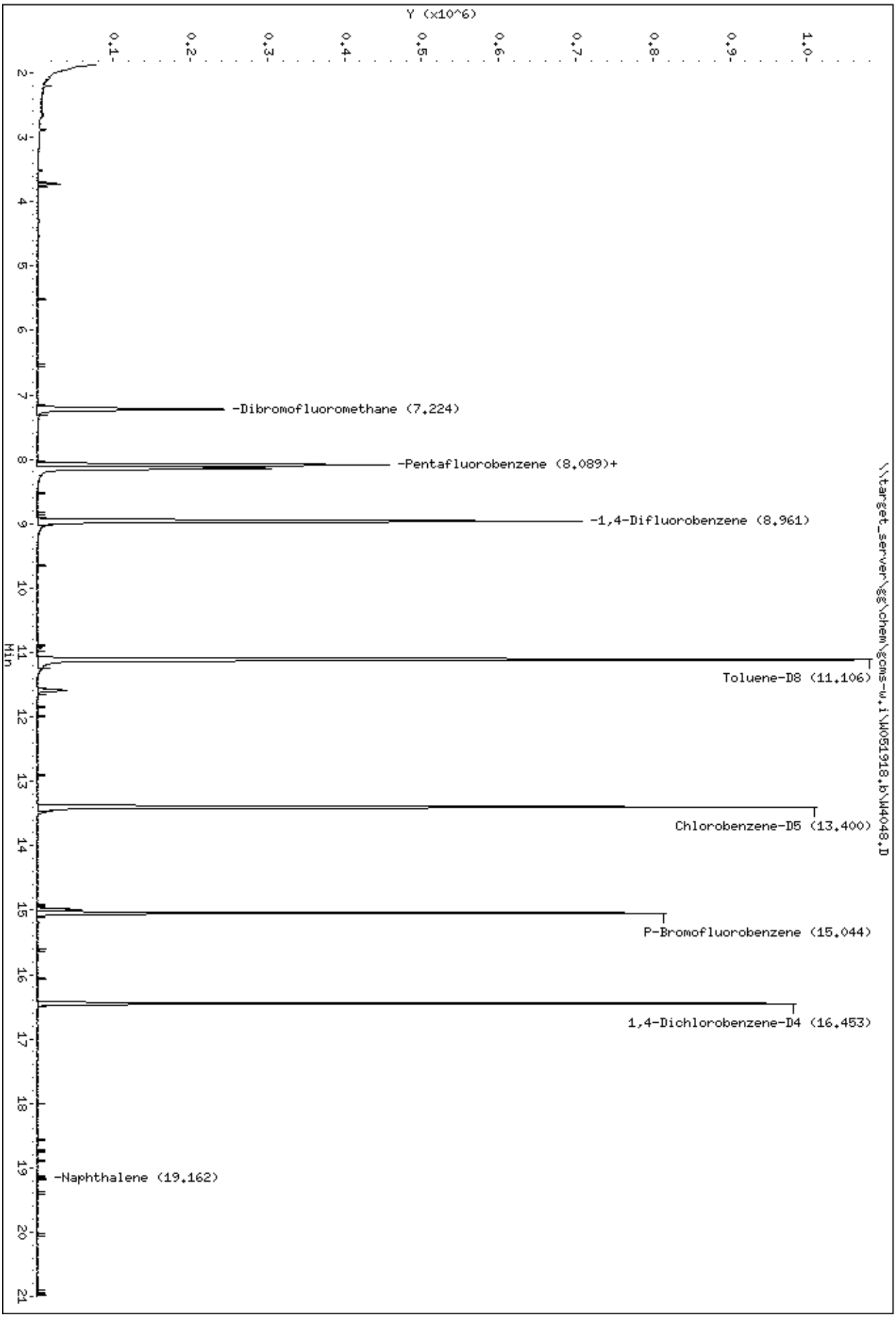
Concentration Formula: Amt * DF * (100/(100-M))*(Vt/Ws) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
M	12.922	% Moisture
Vt	5.000	Volume of DI Water (mL)
Ws	4.670	Weight of Sample (g)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/kg)	FINAL (ug/Kgdrywt)	REVIEW COD
$ 37 Dibromofluoromethane	113	7.217	7.188	(0.892)	189251	52.5209	64.6	
* 42 Pentafluorobenzene	168	8.089	8.060	(1.000)	366746	50.0000		
$ 45 1,2-Dichloroethane-D4	65	8.139	8.109	(1.006)	252480	53.3604	65.6	
* 49 1,4-Difluorobenzene	114	8.961	8.932	(1.000)	631340	50.0000		
$ 55 Toluene-D8	98	11.105	11.084	(1.239)	789997	51.5031	63.3	
* 66 Chlorobenzene-D5	117	13.400	13.378	(1.000)	568034	50.0000		
$ 76 P-Bromofluorobenzene	95	15.044	15.022	(1.679)	258579	40.1510	49.4	
* 91 1,4-Dichlorobenzene-D4	152	16.452	16.430	(1.000)	218402	50.0000		
101 Naphthalene	128	19.161	19.139	(1.165)	8018	1.10747	1.4(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).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Date : 19-MAY-2018 16:51
Client ID: CHAAP-21B-DS-SS08
Sample Info: SL4180-12
Instrument: gcms-w.i
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Y (x10^6)
Min
-Dibromofluoromethane (7.224)
-Pentafluorobenzene (8.089)+
-1,4-Difluorobenzene (8.961)
Toluene-D8 (11.106)
Chlorobenzene-D5 (13.400)
P-Bromofluorobenzene (15.044)
1,4-Dichlorobenzene-D4 (16.453)
-Naphthalene (19.162)

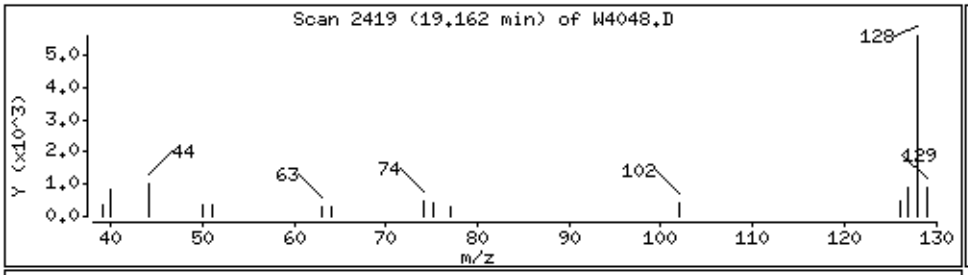
Data File: \\target_server\gg\chem\gcms-w.i\W051918.b\W4048.D

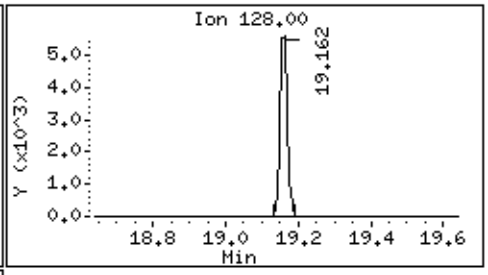
Date : 19-MAY-2018 16:51

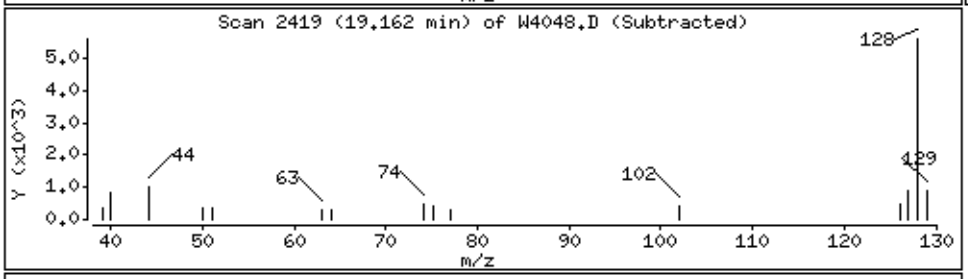
Client ID: CHAAP-21B-DS-SS08 Instrument: gcms-w.i

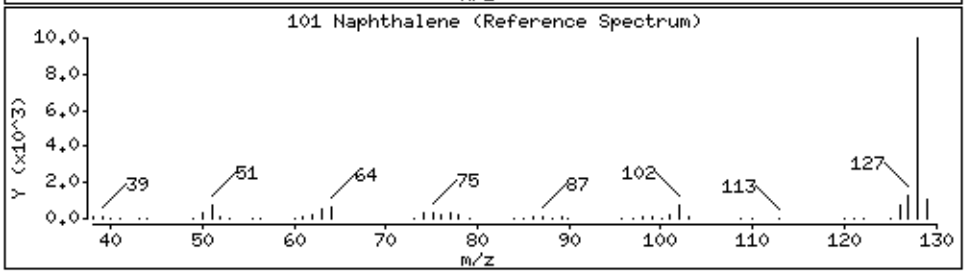
Sample Info: SL4180-12

101 Naphthalene Concentration: 1.4 ug/Kgdrywt









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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-12RA
Client ID: CHAAP-21B-DS-SS08
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4093.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 22-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228825

Analysis Date: 22-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 87.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,1,1,2-Tetrachloroethane	U	3.0	ug/Kgdrywt	1	5	6.0	0.84	3.0
1,1,1-Trichloroethane	U	3.0	ug/Kgdrywt	1	5	6.0	0.50	3.0
1,1,2,2-Tetrachloroethane	U	3.0	ug/Kgdrywt	1	5	6.0	1.0	3.0
Freon-113	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
1,1,2-Trichloroethane	U	3.0	ug/Kgdrywt	1	5	6.0	1.2	3.0
1,1-Dichloroethane	U	3.0	ug/Kgdrywt	1	5	6.0	2.0	3.0
1,1-Dichloroethene	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
1,1-Dichloropropene	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
1,2,3-Trichlorobenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.91	3.0
1,2,3-Trichloropropane	U	3.0	ug/Kgdrywt	1	5	6.0	1.4	3.0
1,2,4-Trichlorobenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.95	3.0
1,2,4-Trimethylbenzene	U	3.0	ug/Kgdrywt	1	5	6.0	1.0	3.0
1,2-Dibromo-3-Chloropropane	U	3.0	ug/Kgdrywt	1	5	6.0	1.8	3.0
1,2-Dibromoethane	U	3.0	ug/Kgdrywt	1	5	6.0	1.4	3.0
1,2-Dichlorobenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.94	3.0
1,2-Dichloroethane	U	3.0	ug/Kgdrywt	1	5	6.0	1.2	3.0
1,2-Dichloropropane	U	3.0	ug/Kgdrywt	1	5	6.0	1.7	3.0
1,3,5-Trimethylbenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.80	3.0
1,3-Dichlorobenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.74	3.0
1,3-Dichloropropane	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
1,4-Dichlorobenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.53	3.0
2,2-Dichloropropane	U	3.0	ug/Kgdrywt	1	5	6.0	0.60	3.0
2-Butanone	U	15	ug/Kgdrywt	1	25	30.	7.1	15.
2-Chlorotoluene	U	3.0	ug/Kgdrywt	1	5	6.0	1.3	3.0
2-Hexanone	U	15	ug/Kgdrywt	1	25	30.	5.8	15.
4-Chlorotoluene	U	3.0	ug/Kgdrywt	1	5	6.0	0.59	3.0
P-Isopropyltoluene	U	3.0	ug/Kgdrywt	1	5	6.0	0.91	3.0
4-Methyl-2-Pentanone	U	15	ug/Kgdrywt	1	25	30.	7.1	15.
Acetone	J	10	ug/Kgdrywt	1	25	30.	6.1	15.
Benzene	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
Bromobenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.89	3.0
Bromochloromethane	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
Bromodichloromethane	U	3.0	ug/Kgdrywt	1	5	6.0	0.72	3.0
Bromoform	U	3.0	ug/Kgdrywt	1	5	6.0	0.84	3.0
Bromomethane	U	6.0	ug/Kgdrywt	1	10	12.	1.3	6.0

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-12RA
Client ID: CHAAP-21B-DS-SS08
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4093.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 22-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228825

Analysis Date: 22-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 87.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Carbon Disulfide	U	3.0	ug/Kgdrywt	1	5	6.0	0.94	3.0
Carbon Tetrachloride	U	3.0	ug/Kgdrywt	1	5	6.0	1.6	3.0
Chlorobenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.61	3.0
Dibromochloromethane	U	3.0	ug/Kgdrywt	1	5	6.0	8.4	3.0
Chloroethane	U	6.0	ug/Kgdrywt	1	10	12.	1.6	6.0
Chloroform	U	3.0	ug/Kgdrywt	1	5	6.0	0.42	3.0
Chloromethane	U	6.0	ug/Kgdrywt	1	10	12.	1.7	6.0
cis-1,2-Dichloroethene	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
cis-1,3-Dichloropropene	U	3.0	ug/Kgdrywt	1	5	6.0	0.86	3.0
Dibromomethane	U	3.0	ug/Kgdrywt	1	5	6.0	0.61	3.0
Dichlorodifluoromethane	U	6.0	ug/Kgdrywt	1	10	12.	1.1	6.0
Ethylbenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.78	3.0
Hexachlorobutadiene	U	3.0	ug/Kgdrywt	1	5	6.0	0.89	3.0
Isopropylbenzene	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
m+p-Xylenes	U	6.0	ug/Kgdrywt	1	10	12.	2.0	6.0
Methyl tert-butyl Ether	U	3.0	ug/Kgdrywt	1	5	6.0	1.3	3.0
Methylene Chloride	U	15	ug/Kgdrywt	1	25	30.	9.5	15.
N-Butylbenzene	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
N-Propylbenzene	U	3.0	ug/Kgdrywt	1	5	6.0	1.0	3.0
Naphthalene	U	3.0	ug/Kgdrywt	1	5	6.0	1.0	3.0
o-Xylene	U	3.0	ug/Kgdrywt	1	5	6.0	1.6	3.0
sec-Butylbenzene	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
Styrene	U	3.0	ug/Kgdrywt	1	5	6.0	0.61	3.0
tert-Butylbenzene	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
Tetrachloroethene	U	3.0	ug/Kgdrywt	1	5	6.0	1.4	3.0
Toluene	U	3.0	ug/Kgdrywt	1	5	6.0	1.7	3.0
trans-1,2-Dichloroethene	U	3.0	ug/Kgdrywt	1	5	6.0	0.85	3.0
trans-1,3-Dichloropropene	U	3.0	ug/Kgdrywt	1	5	6.0	1.0	3.0
Trichloroethene	U	3.0	ug/Kgdrywt	1	5	6.0	0.71	3.0
Trichlorofluoromethane	U	6.0	ug/Kgdrywt	1	10	12.	1.1	6.0
Vinyl Chloride	U	6.0	ug/Kgdrywt	1	10	12.	1.0	6.0
1,2-Dichloroethane-D4		104.	%					
p-Bromofluorobenzene	*	76.4	%					
Dibromofluoromethane		109.	%					
Toluene-D8		98.9	%					

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Data File: \\target_server\gg\chem\gcms-w.i\W052118B.b\W4093.D
Report Date: 25-May-2018 12:18

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W052118B.b\W4093.D
Lab Smp Id: SL4180-12RA Client Smp ID: CHAAP-21B-DS-SS08
Inj Date : 22-MAY-2018 03:54 MS Autotune Date: 10-APR-2016 11:00
Operator : JSS Inst ID: gcms-w.i
Smp Info : SL4180-12RA
Misc Info : WG228825,WG228751-4
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Meth Date : 22-May-2018 08:59 jsampson Quant Type: ISTD
Cal Date : 21-MAY-2018 11:44 Cal File: W4068.D
Als bottle: 15
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: T6-O360

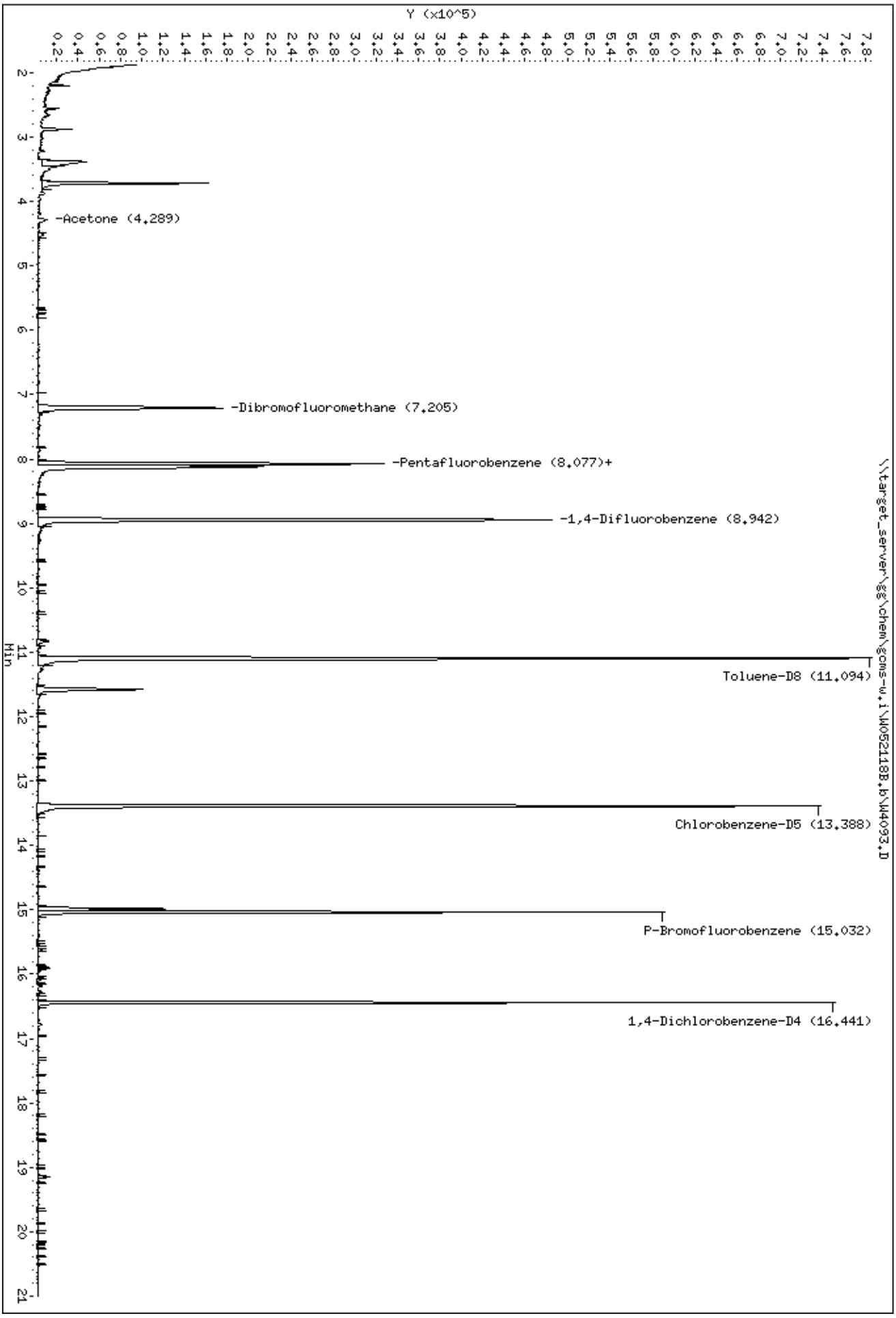
Concentration Formula: Amt * DF * (100/(100-M))*(Vt/Ws) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
M	12.922	% Moisture
Vt	5.000	Volume of DI Water (mL)
Ws	4.690	Weight of Sample (g)
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/kg)	FINAL (ug/Kgdrywt)	REVIEW COD
	15 Acetone	43	4.289	4.274	(0.531)	12713	8.40922	10.3(a)	
$	37 Dibromofluoromethane	113	7.205	7.198	(0.892)	134866	54.3955	66.6	
*	42 Pentafluorobenzene	168	8.077	8.070	(1.000)	273309	50.0000		
$	45 1,2-Dichloroethane-D4	65	8.120	8.119	(1.005)	169103	51.9305	63.6	
*	49 1,4-Difluorobenzene	114	8.949	8.942	(1.000)	447963	50.0000		
$	55 Toluene-D8	98	11.093	11.094	(1.240)	556007	49.4485	60.5	
*	66 Chlorobenzene-D5	117	13.388	13.381	(1.000)	397106	50.0000		
$	76 P-Bromofluorobenzene	95	15.032	15.032	(1.680)	181587	38.2254	46.8	
*	91 1,4-Dichlorobenzene-D4	152	16.440	16.440	(1.000)	162852	50.0000		

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).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Sample Info: SL4180-12RA
Instrument: gcms-w.i
Y (x10^5)
Min
-Acetone (4.289)
-Dibromofluoromethane (7.205)
-Pentafluorobenzene (8.077)+
-1,4-Difluorobenzene (8.942)
Toluene-D8 (11.094)
Chlorobenzene-D5 (13.388)
P-Bromofluorobenzene (15.032)
1,4-Dichlorobenzene-D4 (16.441)
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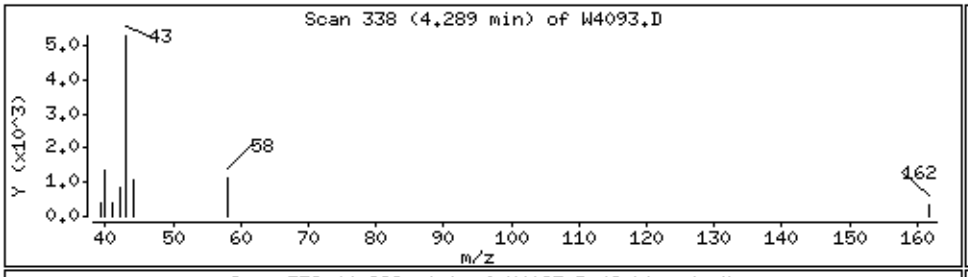
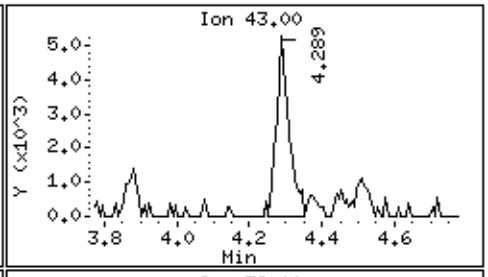
Date : 22-MAY-2018 03:54

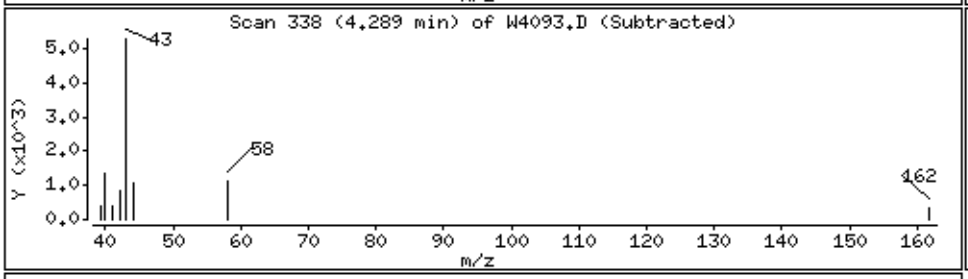
Client ID: CHAAP-21B-DS-SS08 Instrument: gcms-w.i

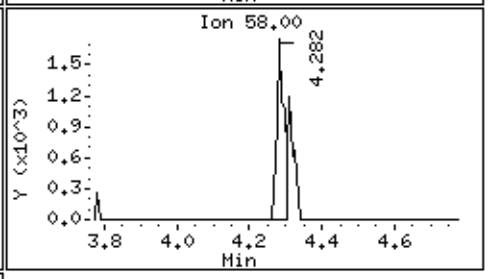
Sample Info: SL4180-12RA

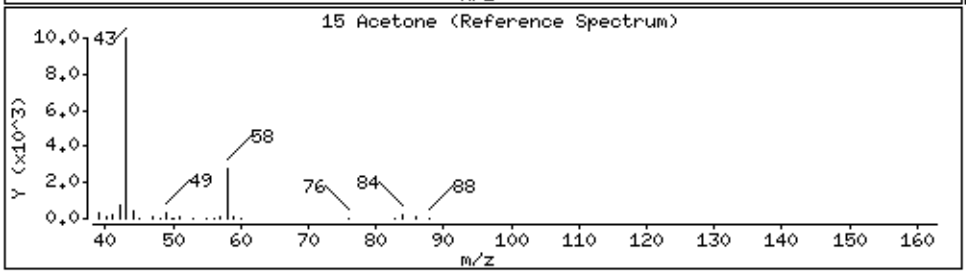
15 Acetone Concentration: 10.3 ug/Kgdrywt











Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-13
Client ID: CHAAP-21B-DS-SB08-5
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4049.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 19-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228693

Analysis Date: 19-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 80.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,1,1,2-Tetrachloroethane	U	2.3	ug/Kgdrywt	1	5	4.6	0.64	2.3
1,1,1-Trichloroethane	U	2.3	ug/Kgdrywt	1	5	4.6	0.39	2.3
1,1,2,2-Tetrachloroethane	U	2.3	ug/Kgdrywt	1	5	4.6	0.77	2.3
Freon-113	U	2.3	ug/Kgdrywt	1	5	4.6	0.83	2.3
1,1,2-Trichloroethane	U	2.3	ug/Kgdrywt	1	5	4.6	0.89	2.3
1,1-Dichloroethane	U	2.3	ug/Kgdrywt	1	5	4.6	1.6	2.3
1,1-Dichloroethene	U	2.3	ug/Kgdrywt	1	5	4.6	0.86	2.3
1,1-Dichloropropene	U	2.3	ug/Kgdrywt	1	5	4.6	0.84	2.3
1,2,3-Trichlorobenzene	U	2.3	ug/Kgdrywt	1	5	4.6	0.70	2.3
1,2,3-Trichloropropane	U	2.3	ug/Kgdrywt	1	5	4.6	1.1	2.3
1,2,4-Trichlorobenzene	U	2.3	ug/Kgdrywt	1	5	4.6	0.73	2.3
1,2,4-Trimethylbenzene	U	2.3	ug/Kgdrywt	1	5	4.6	0.80	2.3
1,2-Dibromo-3-Chloropropane	U	2.3	ug/Kgdrywt	1	5	4.6	1.4	2.3
1,2-Dibromoethane	U	2.3	ug/Kgdrywt	1	5	4.6	1.1	2.3
1,2-Dichlorobenzene	U	2.3	ug/Kgdrywt	1	5	4.6	0.72	2.3
1,2-Dichloroethane	U	2.3	ug/Kgdrywt	1	5	4.6	0.92	2.3
1,2-Dichloropropane	U	2.3	ug/Kgdrywt	1	5	4.6	1.3	2.3
1,3,5-Trimethylbenzene	U	2.3	ug/Kgdrywt	1	5	4.6	0.62	2.3
1,3-Dichlorobenzene	U	2.3	ug/Kgdrywt	1	5	4.6	0.57	2.3
1,3-Dichloropropane	U	2.3	ug/Kgdrywt	1	5	4.6	0.86	2.3
1,4-Dichlorobenzene	U	2.3	ug/Kgdrywt	1	5	4.6	0.40	2.3
2,2-Dichloropropane	U	2.3	ug/Kgdrywt	1	5	4.6	0.46	2.3
2-Butanone	U	12	ug/Kgdrywt	1	25	23.	5.4	12.
2-Chlorotoluene	U	2.3	ug/Kgdrywt	1	5	4.6	1.0	2.3
2-Hexanone	U	12	ug/Kgdrywt	1	25	23.	4.4	12.
4-Chlorotoluene	U	2.3	ug/Kgdrywt	1	5	4.6	0.45	2.3
P-Isopropyltoluene	U	2.3	ug/Kgdrywt	1	5	4.6	0.70	2.3
4-Methyl-2-Pentanone	U	12	ug/Kgdrywt	1	25	23.	5.4	12.
Acetone	U	12	ug/Kgdrywt	1	25	23.	4.7	12.
Benzene	U	2.3	ug/Kgdrywt	1	5	4.6	0.85	2.3
Bromobenzene	U	2.3	ug/Kgdrywt	1	5	4.6	0.68	2.3
Bromochloromethane	U	2.3	ug/Kgdrywt	1	5	4.6	0.84	2.3
Bromodichloromethane	U	2.3	ug/Kgdrywt	1	5	4.6	0.55	2.3
Bromoform	U	2.3	ug/Kgdrywt	1	5	4.6	0.64	2.3
Bromomethane	U	4.6	ug/Kgdrywt	1	10	9.2	1.0	4.6

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-13
Client ID: CHAAP-21B-DS-SB08-5
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4049.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 19-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228693

Analysis Date: 19-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 80.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Carbon Disulfide	U	2.3	ug/Kgdrywt	1	5	4.6	0.72	2.3
Carbon Tetrachloride	U	2.3	ug/Kgdrywt	1	5	4.6	1.2	2.3
Chlorobenzene	U	2.3	ug/Kgdrywt	1	5	4.6	0.47	2.3
Dibromochloromethane	U	2.3	ug/Kgdrywt	1	5	4.6	6.4	2.3
Chloroethane	U	4.6	ug/Kgdrywt	1	10	9.2	1.2	4.6
Chloroform	U	2.3	ug/Kgdrywt	1	5	4.6	0.32	2.3
Chloromethane	U	4.6	ug/Kgdrywt	1	10	9.2	1.3	4.6
cis-1,2-Dichloroethene	U	2.3	ug/Kgdrywt	1	5	4.6	0.84	2.3
cis-1,3-Dichloropropene	U	2.3	ug/Kgdrywt	1	5	4.6	0.66	2.3
Dibromomethane	U	2.3	ug/Kgdrywt	1	5	4.6	0.47	2.3
Dichlorodifluoromethane	UL	4.6	ug/Kgdrywt	1	10	9.2	0.85	4.6
Ethylbenzene	U	2.3	ug/Kgdrywt	1	5	4.6	0.60	2.3
Hexachlorobutadiene	U	2.3	ug/Kgdrywt	1	5	4.6	0.68	2.3
Isopropylbenzene	U	2.3	ug/Kgdrywt	1	5	4.6	0.85	2.3
m+p-Xylenes	U	4.6	ug/Kgdrywt	1	10	9.2	1.6	4.6
Methyl tert-butyl Ether	U	2.3	ug/Kgdrywt	1	5	4.6	1.0	2.3
Methylene Chloride	U	12	ug/Kgdrywt	1	25	23.	7.3	12.
N-Butylbenzene	U	2.3	ug/Kgdrywt	1	5	4.6	0.85	2.3
N-Propylbenzene	U	2.3	ug/Kgdrywt	1	5	4.6	0.76	2.3
Naphthalene	U	2.3	ug/Kgdrywt	1	5	4.6	0.81	2.3
o-Xylene	U	2.3	ug/Kgdrywt	1	5	4.6	1.2	2.3
sec-Butylbenzene	U	2.3	ug/Kgdrywt	1	5	4.6	0.84	2.3
Styrene	U	2.3	ug/Kgdrywt	1	5	4.6	0.47	2.3
tert-Butylbenzene	U	2.3	ug/Kgdrywt	1	5	4.6	0.83	2.3
Tetrachloroethene	U	2.3	ug/Kgdrywt	1	5	4.6	1.1	2.3
Toluene	U	2.3	ug/Kgdrywt	1	5	4.6	1.3	2.3
trans-1,2-Dichloroethene	U	2.3	ug/Kgdrywt	1	5	4.6	0.65	2.3
trans-1,3-Dichloropropene	U	2.3	ug/Kgdrywt	1	5	4.6	0.79	2.3
Trichloroethene	U	2.3	ug/Kgdrywt	1	5	4.6	0.54	2.3
Trichlorofluoromethane	U	4.6	ug/Kgdrywt	1	10	9.2	0.84	4.6
Vinyl Chloride	U	4.6	ug/Kgdrywt	1	10	9.2	0.80	4.6
1,2-Dichloroethane-D4		107.	%					
p-Bromofluorobenzene		94.0	%					
Dibromofluoromethane		104.	%					
Toluene-D8		101.	%					

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Data File: \\target_server\gg\chem\gcms-w.i\W051918.b\W4049.D
Report Date: 25-May-2018 12:01

Katahdin Analytical Services

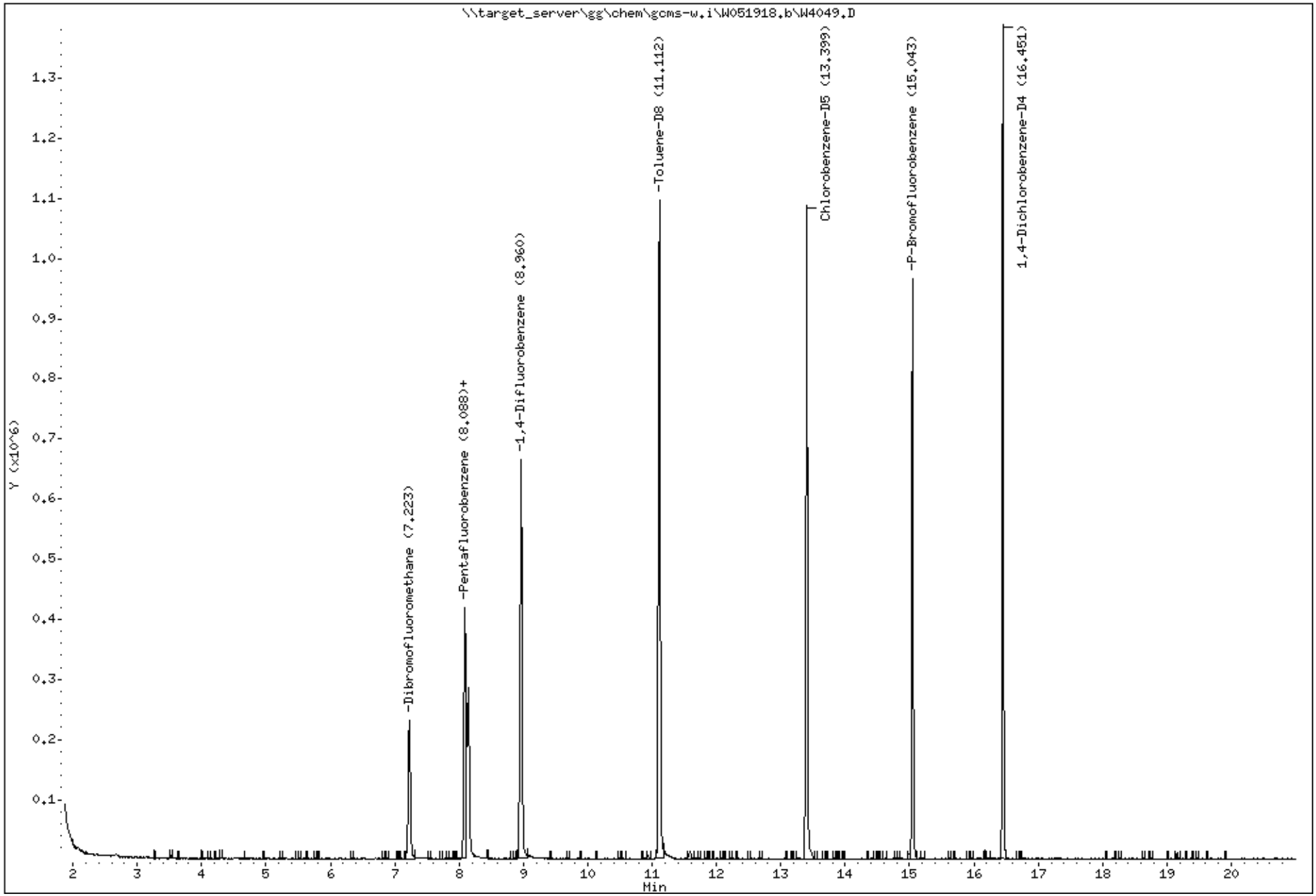
Data file : \\target_server\gg\chem\gcms-w.i\W051918.b\W4049.D
Lab Smp Id: SL4180-13 Client Smp ID: CHAAP-21B-DS-SB08-5
Inj Date : 19-MAY-2018 17:29 MS Autotune Date: 10-APR-2016 11:00
Operator : JSS Inst ID: gcms-w.i
Smp Info : SL4180-13
Misc Info : WG228693,WG228635-4
Comment : SW846 5035
Method : \\target_server\gg\chem\gcms-w.i\W051918.b\W8SDI(12)D.m
Meth Date : 20-May-2018 08:58 hgould Quant Type: ISTD
Cal Date : 18-MAY-2018 15:04 Cal File: W4025.D
Als bottle: 16
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: T6-O360

Concentration Formula: Amt * DF * (100/(100-M))*(Vt/Ws) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
M	19.613	% Moisture
Vt	5.000	Volume of DI Water (mL)
Ws	6.790	Weight of Sample (g)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/kg)	FINAL (ug/Kgdrywt)	REVIEW COD
$ 37 Dibromofluoromethane	113	7.223	7.188	(0.893)	175418	52.2521	47.9	
* 42 Pentafluorobenzene	168	8.088	8.060	(1.000)	341688	50.0000		
$ 45 1,2-Dichloroethane-D4	65	8.138	8.109	(1.006)	236942	53.7489	49.2	
* 49 1,4-Difluorobenzene	114	8.960	8.932	(1.000)	620464	50.0000		
$ 55 Toluene-D8	98	11.111	11.084	(1.240)	760310	50.4365	46.2	
* 66 Chlorobenzene-D5	117	13.399	13.378	(1.000)	579494	50.0000		
$ 76 P-Bromofluorobenzene	95	15.043	15.022	(1.679)	297387	46.9864	43.0	
* 91 1,4-Dichlorobenzene-D4	152	16.451	16.430	(1.000)	293981	50.0000		

Data File: \\target_server\gg\chem\gcms-w.i\W051918.b\W4049.D
Date : 19-MAY-2018 17:29
Client ID: CHAAP-21B-DS-SB08-5
Instrument: gcms-w.i
Sample Info: SL4180-13



Katahdin Analytical Services 1000100

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-14
Client ID: CHAAP-21B-DS-SS09
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4050.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 19-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228693

Analysis Date: 19-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 83.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,1,1,2-Tetrachloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.77	2.8
1,1,1-Trichloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.46	2.8
1,1,2,2-Tetrachloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.92	2.8
Freon-113	U	2.8	ug/Kgdrywt	1	5	5.5	0.99	2.8
1,1,2-Trichloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.1	2.8
1,1-Dichloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.9	2.8
1,1-Dichloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
1,1-Dichloropropene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
1,2,3-Trichlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.84	2.8
1,2,3-Trichloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	1.3	2.8
1,2,4-Trichlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.87	2.8
1,2,4-Trimethylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.96	2.8
1,2-Dibromo-3-Chloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	1.6	2.8
1,2-Dibromoethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.3	2.8
1,2-Dichlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.86	2.8
1,2-Dichloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.1	2.8
1,2-Dichloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	1.5	2.8
1,3,5-Trimethylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.74	2.8
1,3-Dichlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.68	2.8
1,3-Dichloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
1,4-Dichlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.48	2.8
2,2-Dichloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	0.55	2.8
2-Butanone	U	14	ug/Kgdrywt	1	25	28.	6.5	14.
2-Chlorotoluene	U	2.8	ug/Kgdrywt	1	5	5.5	1.2	2.8
2-Hexanone	U	14	ug/Kgdrywt	1	25	28.	5.3	14.
4-Chlorotoluene	U	2.8	ug/Kgdrywt	1	5	5.5	0.54	2.8
P-Isopropyltoluene	U	2.8	ug/Kgdrywt	1	5	5.5	0.84	2.8
4-Methyl-2-Pentanone	U	14	ug/Kgdrywt	1	25	28.	6.5	14.
Acetone	U	14	ug/Kgdrywt	1	25	28.	5.6	14.
Benzene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
Bromobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.81	2.8
Bromochloromethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
Bromodichloromethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.66	2.8
Bromoform	U	2.8	ug/Kgdrywt	1	5	5.5	0.77	2.8
Bromomethane	U	5.5	ug/Kgdrywt	1	10	11.	1.2	5.5

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-14
Client ID: CHAAP-21B-DS-SS09
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4050.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 19-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228693

Analysis Date: 19-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 83.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Carbon Disulfide	U	2.8	ug/Kgdrywt	1	5	5.5	0.86	2.8
Carbon Tetrachloride	U	2.8	ug/Kgdrywt	1	5	5.5	1.4	2.8
Chlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.56	2.8
Dibromochloromethane	U	2.8	ug/Kgdrywt	1	5	5.5	7.7	2.8
Chloroethane	U	5.5	ug/Kgdrywt	1	10	11.	1.4	5.5
Chloroform	U	2.8	ug/Kgdrywt	1	5	5.5	0.38	2.8
Chloromethane	U	5.5	ug/Kgdrywt	1	10	11.	1.5	5.5
cis-1,2-Dichloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
cis-1,3-Dichloropropene	U	2.8	ug/Kgdrywt	1	5	5.5	0.79	2.8
Dibromomethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.56	2.8
Dichlorodifluoromethane	UL	5.5	ug/Kgdrywt	1	10	11.	1.0	5.5
Ethylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.72	2.8
Hexachlorobutadiene	U	2.8	ug/Kgdrywt	1	5	5.5	0.81	2.8
Isopropylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
m+p-Xylenes	U	5.5	ug/Kgdrywt	1	10	11.	1.9	5.5
Methyl tert-butyl Ether	U	2.8	ug/Kgdrywt	1	5	5.5	1.2	2.8
Methylene Chloride	U	14	ug/Kgdrywt	1	25	28.	8.7	14.
N-Butylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
N-Propylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.91	2.8
Naphthalene	J	1.1	ug/Kgdrywt	1	5	5.5	0.97	2.8
o-Xylene	U	2.8	ug/Kgdrywt	1	5	5.5	1.4	2.8
sec-Butylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
Styrene	U	2.8	ug/Kgdrywt	1	5	5.5	0.56	2.8
tert-Butylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.99	2.8
Tetrachloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	1.3	2.8
Toluene	U	2.8	ug/Kgdrywt	1	5	5.5	1.5	2.8
trans-1,2-Dichloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	0.78	2.8
trans-1,3-Dichloropropene	U	2.8	ug/Kgdrywt	1	5	5.5	0.95	2.8
Trichloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	0.65	2.8
Trichlorofluoromethane	U	5.5	ug/Kgdrywt	1	10	11.	1.0	5.5
Vinyl Chloride	U	5.5	ug/Kgdrywt	1	10	11.	0.96	5.5
1,2-Dichloroethane-D4		107.	%					
p-Bromofluorobenzene		85.1	%					
Dibromofluoromethane		108.	%					
Toluene-D8		101.	%					

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Data File: \\target_server\gg\chem\gcms-w.i\W051918.b\W4050.D
Report Date: 25-May-2018 12:01

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W051918.b\W4050.D
Lab Smp Id: SL4180-14 Client Smp ID: CHAAP-21B-DS-SS09
Inj Date : 19-MAY-2018 18:06 MS Autotune Date: 10-APR-2016 11:00
Operator : JSS Inst ID: gcms-w.i
Smp Info : SL4180-14
Misc Info : WG228693,WG228635-4
Comment : SW846 5035
Method : \\target_server\gg\chem\gcms-w.i\W051918.b\W8SDI(12)D.m
Meth Date : 20-May-2018 08:58 hgould Quant Type: ISTD
Cal Date : 18-MAY-2018 15:04 Cal File: W4025.D
Als bottle: 17
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: T6-O360

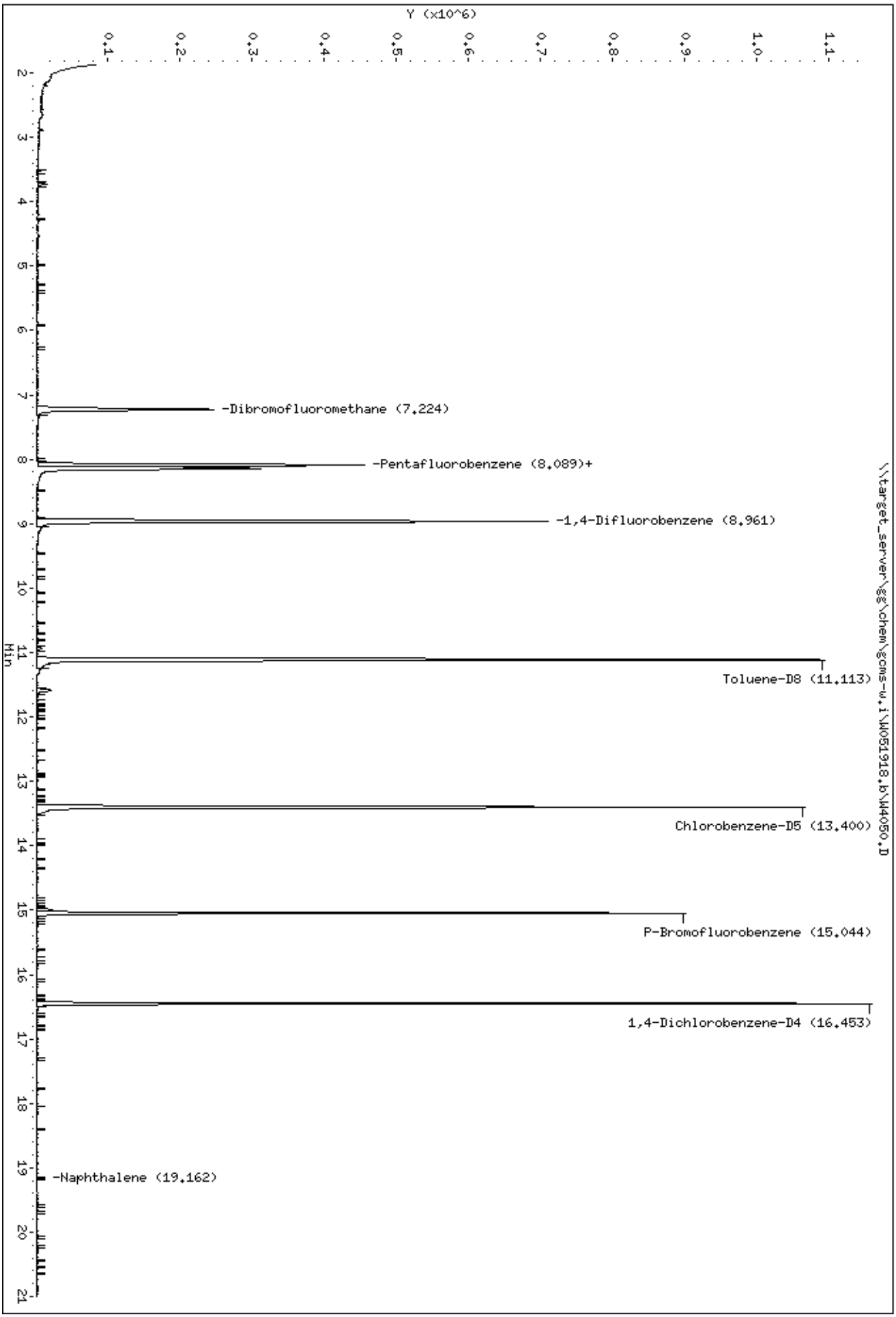
Concentration Formula: Amt * DF * (100/(100-M))*(Vt/Ws) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
M	17.124	% Moisture
Vt	5.000	Volume of DI Water (mL)
Ws	5.280	Weight of Sample (g)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/kg)	FINAL (ug/Kgdrywt)	REVIEW COD
$ 37 Dibromofluoromethane	113	7.224	7.188	(0.893)	192436	54.2011	61.9	
* 42 Pentafluorobenzene	168	8.089	8.060	(1.000)	361358	50.0000		
$ 45 1,2-Dichloroethane-D4	65	8.139	8.109	(1.006)	248897	53.3875	61.0	
* 49 1,4-Difluorobenzene	114	8.961	8.932	(1.000)	647897	50.0000		
$ 55 Toluene-D8	98	11.113	11.084	(1.240)	798558	50.7308	58.0	
* 66 Chlorobenzene-D5	117	13.400	13.378	(1.000)	575418	50.0000		
$ 76 P-Bromofluorobenzene	95	15.044	15.022	(1.679)	281190	42.5462	48.6	
* 91 1,4-Dichlorobenzene-D4	152	16.452	16.430	(1.000)	242958	50.0000		
101 Naphthalene	128	19.161	19.139	(1.165)	7473	0.92787	1.1(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).


Data File: \\target_server\gc\chem\gcms-w.i\W051918.b\W4050.D
Date : 19-MAY-2018 18:06
Client ID: CHAAP-21B-DS-SS09
Sample Info: SL4180-14
Instrument: gcms-w.i
\\target_server\gc\chem\gcms-w.i\W051918.b\W4050.D
Y (x10^6)
Min
-Dibromofluoromethane (7.224)
-Pentafluorobenzene (8.089)+
-1,4-Difluorobenzene (8.961)
Toluene-D8 (11.113)
Chlorobenzene-D5 (13.400)
P-Bromofluorobenzene (15.044)
1,4-Dichlorobenzene-D4 (16.453)
-Naphthalene (19.162)

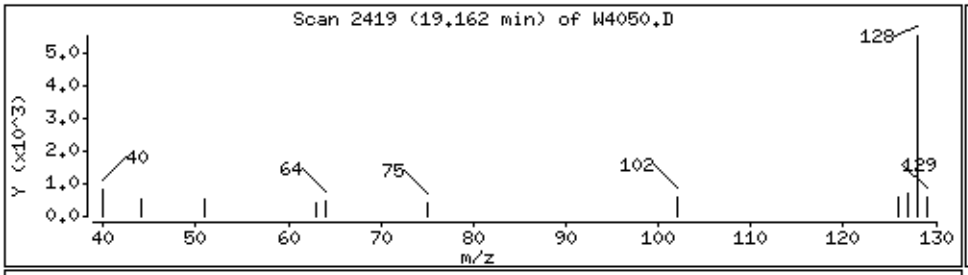
Data File: \\target_server\gg\chem\gcms-w.i\W051918.b\W4050.D

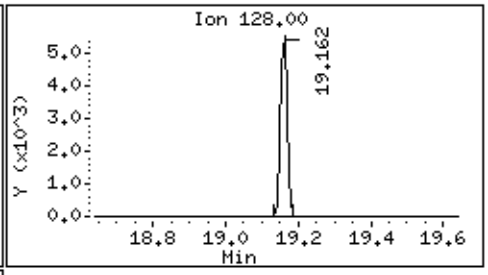
Date : 19-MAY-2018 18:06

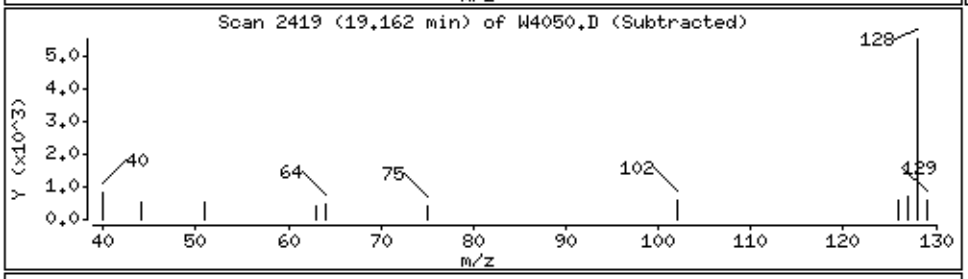
Client ID: CHAAP-21B-DS-SS09 Instrument: gcms-w.i

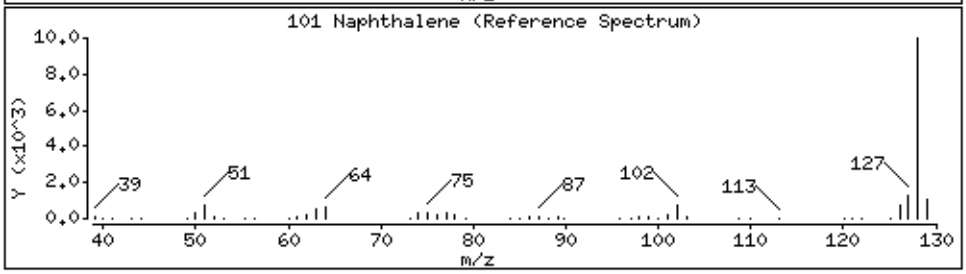
Sample Info: SL4180-14

101 Naphthalene Concentration: 1.1 ug/Kgdrywt









Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-14RA
Client ID: CHAAP-21B-DS-SS09
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4094.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 22-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228825

Analysis Date: 22-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 83.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,1,1,2-Tetrachloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.77	2.8
1,1,1-Trichloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.46	2.8
1,1,2,2-Tetrachloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.92	2.8
Freon-113	U	2.8	ug/Kgdrywt	1	5	5.5	0.99	2.8
1,1,2-Trichloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.1	2.8
1,1-Dichloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.9	2.8
1,1-Dichloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
1,1-Dichloropropene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
1,2,3-Trichlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.84	2.8
1,2,3-Trichloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	1.3	2.8
1,2,4-Trichlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.87	2.8
1,2,4-Trimethylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.96	2.8
1,2-Dibromo-3-Chloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	1.6	2.8
1,2-Dibromoethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.3	2.8
1,2-Dichlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.86	2.8
1,2-Dichloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.1	2.8
1,2-Dichloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	1.5	2.8
1,3,5-Trimethylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.74	2.8
1,3-Dichlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.68	2.8
1,3-Dichloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
1,4-Dichlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.48	2.8
2,2-Dichloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	0.55	2.8
2-Butanone	U	14	ug/Kgdrywt	1	25	28.	6.5	14.
2-Chlorotoluene	U	2.8	ug/Kgdrywt	1	5	5.5	1.2	2.8
2-Hexanone	U	14	ug/Kgdrywt	1	25	28.	5.3	14.
4-Chlorotoluene	U	2.8	ug/Kgdrywt	1	5	5.5	0.54	2.8
P-Isopropyltoluene	U	2.8	ug/Kgdrywt	1	5	5.5	0.84	2.8
4-Methyl-2-Pentanone	U	14	ug/Kgdrywt	1	25	28.	6.5	14.
Acetone	U	14	ug/Kgdrywt	1	25	28.	5.6	14.
Benzene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
Bromobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.81	2.8
Bromochloromethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
Bromodichloromethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.66	2.8
Bromoform	U	2.8	ug/Kgdrywt	1	5	5.5	0.77	2.8
Bromomethane	U	5.5	ug/Kgdrywt	1	10	11.	1.2	5.5

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Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-14RA
Client ID: CHAAP-21B-DS-SS09
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4094.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 22-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228825

Analysis Date: 22-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 83.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Carbon Disulfide	U	2.8	ug/Kgdrywt	1	5	5.5	0.86	2.8
Carbon Tetrachloride	U	2.8	ug/Kgdrywt	1	5	5.5	1.4	2.8
Chlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.56	2.8
Dibromochloromethane	U	2.8	ug/Kgdrywt	1	5	5.5	7.7	2.8
Chloroethane	U	5.5	ug/Kgdrywt	1	10	11.	1.4	5.5
Chloroform	U	2.8	ug/Kgdrywt	1	5	5.5	0.38	2.8
Chloromethane	U	5.5	ug/Kgdrywt	1	10	11.	1.5	5.5
cis-1,2-Dichloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
cis-1,3-Dichloropropene	U	2.8	ug/Kgdrywt	1	5	5.5	0.79	2.8
Dibromomethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.56	2.8
Dichlorodifluoromethane	U	5.5	ug/Kgdrywt	1	10	11.	1.0	5.5
Ethylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.72	2.8
Hexachlorobutadiene	U	2.8	ug/Kgdrywt	1	5	5.5	0.81	2.8
Isopropylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
m+p-Xylenes	U	5.5	ug/Kgdrywt	1	10	11.	1.9	5.5
Methyl tert-butyl Ether	U	2.8	ug/Kgdrywt	1	5	5.5	1.2	2.8
Methylene Chloride	U	14	ug/Kgdrywt	1	25	28.	8.7	14.
N-Butylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
N-Propylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.91	2.8
Naphthalene	U	2.8	ug/Kgdrywt	1	5	5.5	0.97	2.8
o-Xylene	U	2.8	ug/Kgdrywt	1	5	5.5	1.4	2.8
sec-Butylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
Styrene	U	2.8	ug/Kgdrywt	1	5	5.5	0.56	2.8
tert-Butylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.99	2.8
Tetrachloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	1.3	2.8
Toluene	U	2.8	ug/Kgdrywt	1	5	5.5	1.5	2.8
trans-1,2-Dichloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	0.78	2.8
trans-1,3-Dichloropropene	U	2.8	ug/Kgdrywt	1	5	5.5	0.95	2.8
Trichloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	0.65	2.8
Trichlorofluoromethane	U	5.5	ug/Kgdrywt	1	10	11.	1.0	5.5
Vinyl Chloride	U	5.5	ug/Kgdrywt	1	10	11.	0.96	5.5
1,2-Dichloroethane-D4		106.	%					
p-Bromofluorobenzene	*	75.6	%					
Dibromofluoromethane		110.	%					
Toluene-D8		98.5	%					

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Data File: \\target_server\gg\chem\gcms-w.i\W052118B.b\W4094.D
Report Date: 25-May-2018 12:18

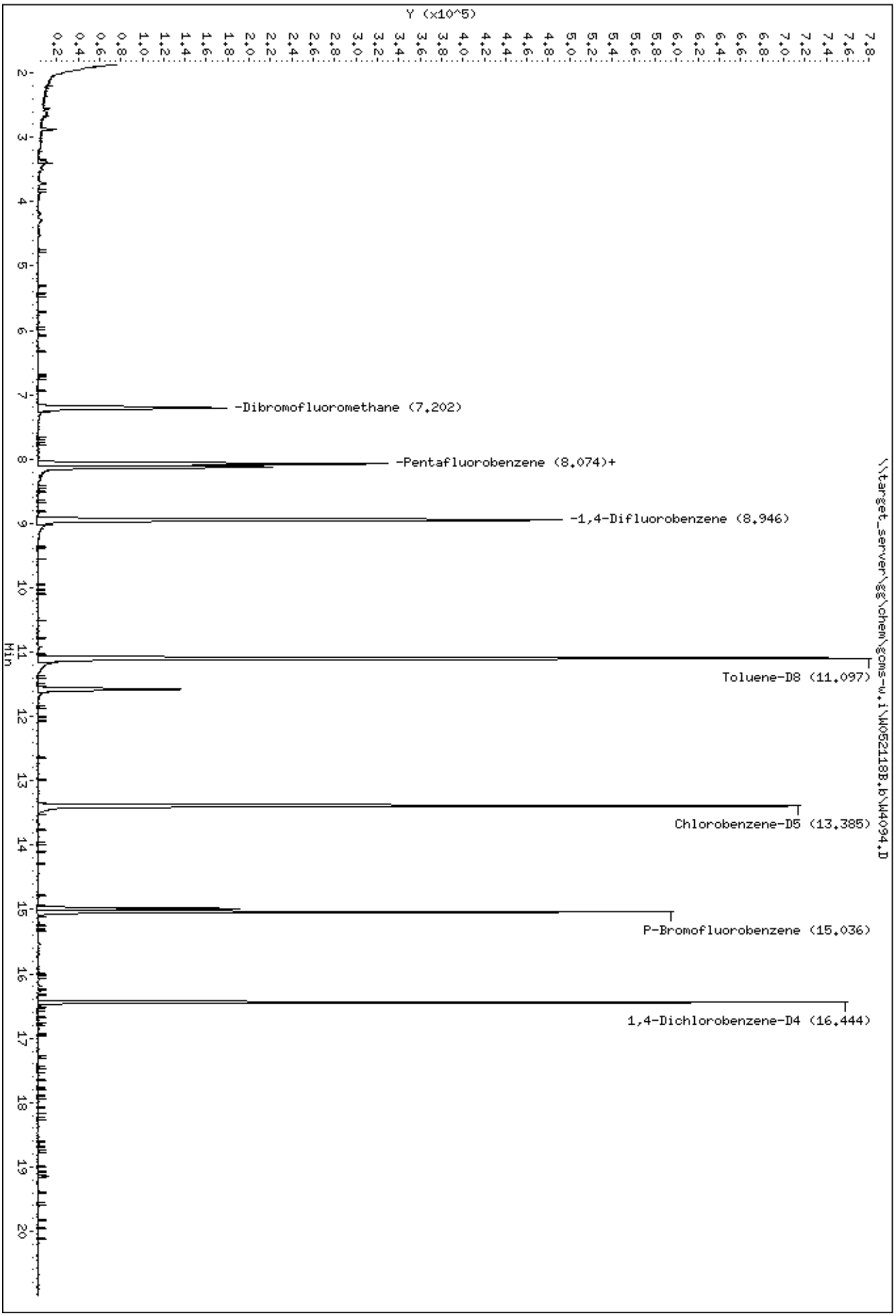
Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W052118B.b\W4094.D
Lab Smp Id: SL4180-14RA Client Smp ID: CHAAP-21B-DS-SS09
Inj Date : 22-MAY-2018 04:32 MS Autotune Date: 10-APR-2016 11:00
Operator : JSS Inst ID: gcms-w.i
Smp Info : SL4180-14RA
Misc Info : WG228825,WG228751-4
Comment   : SW846 5035
Method   : \\target_server\gg\chem\gcms-w.i\W052118B.b\W8SDI(13)D.m
Meth Date : 22-May-2018 08:59 jsampson Quant Type: ISTD
Cal Date : 21-MAY-2018 11:44 Cal File: W4068.D
Als bottle: 16
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: T6-O360

Concentration Formula: Amt * DF * (100/(100-M))*(Vt/Ws) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
M	17.124	% Moisture
Vt	5.000	Volume of DI Water (mL)
Ws	5.510	Weight of Sample (g)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/kg)	FINAL (ug/Kgdrywt)	REVIEW COD
$ 37 Dibromofluoromethane	113	7.201	7.198	(0.892)	133244	54.8889	60.1	
* 42 Pentafluorobenzene	168	8.073	8.070	(1.000)	267595	50.0000		
$ 45 1,2-Dichloroethane-D4	65	8.123	8.119	(1.006)	169667	53.2163	58.3	
* 49 1,4-Difluorobenzene	114	8.945	8.942	(1.000)	450572	50.0000		
$ 55 Toluene-D8	98	11.097	11.094	(1.241)	557263	49.2732	54.0	
* 66 Chlorobenzene-D5	117	13.384	13.381	(1.000)	407483	50.0000		
$ 76 P-Bromofluorobenzene	95	15.035	15.032	(1.681)	180747	37.8283	41.4	
* 91 1,4-Dichlorobenzene-D4	152	16.444	16.440	(1.000)	166197	50.0000		



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Date : 22-MAY-2018 04:32
Client ID: CHAAP-21B-DS-SS09
Sample Info: SL4180-14RA

Instrument: gcms-w.i

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-15
Client ID: CHAAP-21B-DS-SB09-5
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4051.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 19-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228693

Analysis Date: 19-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 80.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,1,1,2-Tetrachloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.70	2.5
1,1,1-Trichloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.42	2.5
1,1,2,2-Tetrachloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.84	2.5
Freon-113	U	2.5	ug/Kgdrywt	1	5	5.0	0.90	2.5
1,1,2-Trichloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.97	2.5
1,1-Dichloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	1.7	2.5
1,1-Dichloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	0.93	2.5
1,1-Dichloropropene	U	2.5	ug/Kgdrywt	1	5	5.0	0.91	2.5
1,2,3-Trichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.76	2.5
1,2,3-Trichloropropane	U	2.5	ug/Kgdrywt	1	5	5.0	1.2	2.5
1,2,4-Trichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.79	2.5
1,2,4-Trimethylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.87	2.5
1,2-Dibromo-3-Chloropropane	U	2.5	ug/Kgdrywt	1	5	5.0	1.5	2.5
1,2-Dibromoethane	U	2.5	ug/Kgdrywt	1	5	5.0	1.2	2.5
1,2-Dichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.78	2.5
1,2-Dichloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	1.0	2.5
1,2-Dichloropropane	U	2.5	ug/Kgdrywt	1	5	5.0	1.4	2.5
1,3,5-Trimethylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.67	2.5
1,3-Dichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.62	2.5
1,3-Dichloropropane	U	2.5	ug/Kgdrywt	1	5	5.0	0.94	2.5
1,4-Dichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.44	2.5
2,2-Dichloropropane	U	2.5	ug/Kgdrywt	1	5	5.0	0.50	2.5
2-Butanone	U	12	ug/Kgdrywt	1	25	25.	5.9	12.
2-Chlorotoluene	U	2.5	ug/Kgdrywt	1	5	5.0	1.1	2.5
2-Hexanone	U	12	ug/Kgdrywt	1	25	25.	4.8	12.
4-Chlorotoluene	U	2.5	ug/Kgdrywt	1	5	5.0	0.49	2.5
P-Isopropyltoluene	U	2.5	ug/Kgdrywt	1	5	5.0	0.76	2.5
4-Methyl-2-Pentanone	U	12	ug/Kgdrywt	1	25	25.	5.9	12.
Acetone	U	12	ug/Kgdrywt	1	25	25.	5.1	12.
Benzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.92	2.5
Bromobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.74	2.5
Bromochloromethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.91	2.5
Bromodichloromethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.60	2.5
Bromoform	U	2.5	ug/Kgdrywt	1	5	5.0	0.70	2.5
Bromomethane	U	5.0	ug/Kgdrywt	1	10	10.	1.1	5.0

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-15
Client ID: CHAAP-21B-DS-SB09-5
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4051.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 19-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228693

Analysis Date: 19-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 80.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Carbon Disulfide	J	0.83	ug/Kgdrywt	1	5	5.0	0.78	2.5
Carbon Tetrachloride	U	2.5	ug/Kgdrywt	1	5	5.0	1.3	2.5
Chlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.51	2.5
Dibromochloromethane	U	2.5	ug/Kgdrywt	1	5	5.0	7.0	2.5
Chloroethane	U	5.0	ug/Kgdrywt	1	10	10.	1.3	5.0
Chloroform	U	2.5	ug/Kgdrywt	1	5	5.0	0.35	2.5
Chloromethane	U	5.0	ug/Kgdrywt	1	10	10.	1.4	5.0
cis-1,2-Dichloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	0.91	2.5
cis-1,3-Dichloropropene	U	2.5	ug/Kgdrywt	1	5	5.0	0.72	2.5
Dibromomethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.51	2.5
Dichlorodifluoromethane	UL	5.0	ug/Kgdrywt	1	10	10.	0.92	5.0
Ethylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.65	2.5
Hexachlorobutadiene	U	2.5	ug/Kgdrywt	1	5	5.0	0.74	2.5
Isopropylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.92	2.5
m+p-Xylenes	U	5.0	ug/Kgdrywt	1	10	10.	1.7	5.0
Methyl tert-butyl Ether	U	2.5	ug/Kgdrywt	1	5	5.0	1.1	2.5
Methylene Chloride	U	12	ug/Kgdrywt	1	25	25.	7.9	12.
N-Butylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.92	2.5
N-Propylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.83	2.5
Naphthalene	U	2.5	ug/Kgdrywt	1	5	5.0	0.88	2.5
o-Xylene	U	2.5	ug/Kgdrywt	1	5	5.0	1.3	2.5
sec-Butylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.91	2.5
Styrene	U	2.5	ug/Kgdrywt	1	5	5.0	0.51	2.5
tert-Butylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.90	2.5
Tetrachloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	1.2	2.5
Toluene	U	2.5	ug/Kgdrywt	1	5	5.0	1.4	2.5
trans-1,2-Dichloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	0.71	2.5
trans-1,3-Dichloropropene	U	2.5	ug/Kgdrywt	1	5	5.0	0.86	2.5
Trichloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	0.59	2.5
Trichlorofluoromethane	U	5.0	ug/Kgdrywt	1	10	10.	0.91	5.0
Vinyl Chloride	U	5.0	ug/Kgdrywt	1	10	10.	0.87	5.0
1,2-Dichloroethane-D4		108.	%					
p-Bromofluorobenzene		96.2	%					
Dibromofluoromethane		105.	%					
Toluene-D8		103.	%					

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Data File: \\target_server\gg\chem\gcms-w.i\W051918.b\W4051.D
Report Date: 25-May-2018 12:01

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W051918.b\W4051.D
Lab Smp Id: SL4180-15 Client Smp ID: CHAAP-21B-DS-SB09-5
Inj Date : 19-MAY-2018 18:43 MS Autotune Date: 10-APR-2016 11:00
Operator : JSS Inst ID: gcms-w.i
Smp Info : SL4180-15
Misc Info : WG228693,WG228635-4
Comment : SW846 5035
Method : \\target_server\gg\chem\gcms-w.i\W051918.b\W8SDI(12)D.m
Meth Date : 20-May-2018 08:58 hgould Quant Type: ISTD
Cal Date : 18-MAY-2018 15:04 Cal File: W4025.D
Als bottle: 18
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: T6-O360

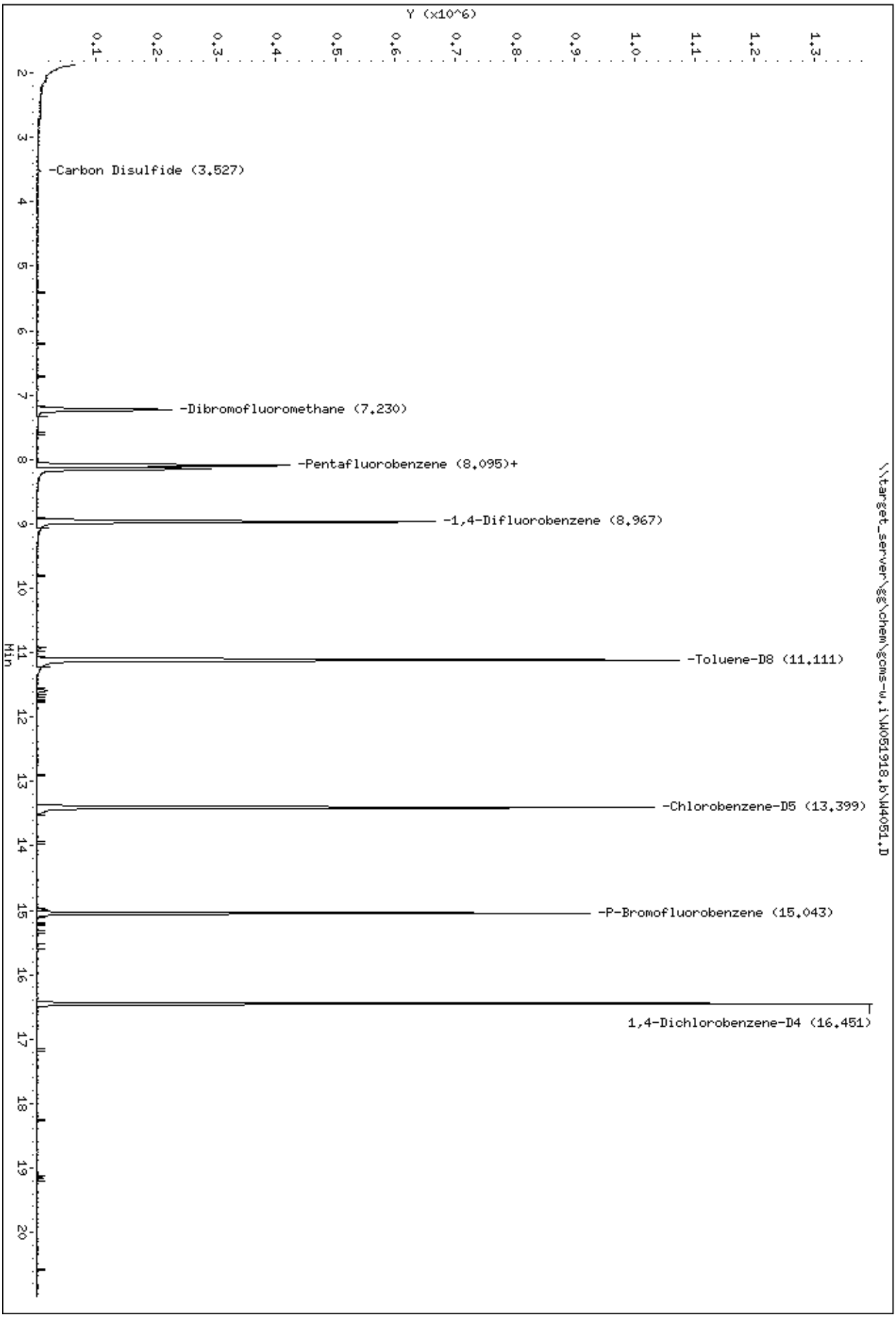
Concentration Formula: Amt * DF * (100/(100-M))*(Vt/Ws) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
M	19.809	% Moisture
Vt	5.000	Volume of DI Water (mL)
Ws	6.090	Weight of Sample (g)
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/kg)	FINAL (ug/Kgdrywt)	REVIEW COD
	10 Carbon Disulfide	76	3.527	3.500	(0.436)	6123	0.81047	0.83(a)	
$	37 Dibromofluoromethane	113	7.229	7.188	(0.893)	175585	52.5101	53.8	
*	42 Pentafluorobenzene	168	8.094	8.060	(1.000)	340333	50.0000		
$	45 1,2-Dichloroethane-D4	65	8.144	8.109	(1.006)	237843	54.1681	55.4	
*	49 1,4-Difluorobenzene	114	8.966	8.932	(1.000)	608584	50.0000		
$	55 Toluene-D8	98	11.111	11.084	(1.239)	760367	51.4249	52.6	
*	66 Chlorobenzene-D5	117	13.405	13.378	(1.000)	579839	50.0000		
$	76 P-Bromofluorobenzene	95	15.042	15.022	(1.678)	298574	48.0948	49.2	
*	91 1,4-Dichlorobenzene-D4	152	16.450	16.430	(1.000)	296141	50.0000		

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).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0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1.0
1.1
1.2
1.3
Min
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
-Carbon Disulfide (3.527)
-Dibromofluoromethane (7.230)
-Pentafluorobenzene (8.095)+
-1,4-Difluorobenzene (8.967)
-Toluene-D8 (11.111)
-Chlorobenzene-D5 (13.399)
-P-Bromofluorobenzene (15.043)
1,4-Dichlorobenzene-D4 (16.451)
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Data File: \\target_server\gg\chem\gcms-w.i\W051918.b\W4051.D
Date : 19-MAY-2018 18:43
Client ID: CHAAP-21B-DS-SB09-5
Sample Info: SL4180-15
Instrument: gcms-w.i

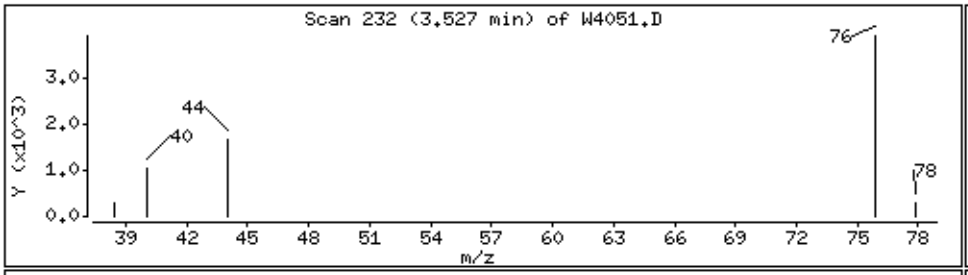
Data File: \\target_server\gg\chem\gcms-w.i\W051918.b\W4051.D

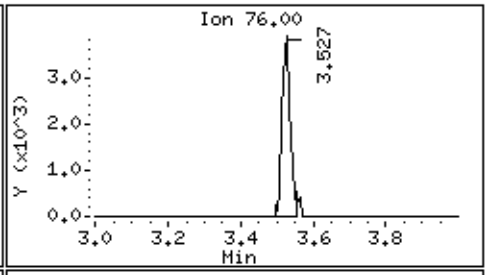
Date : 19-MAY-2018 18:43

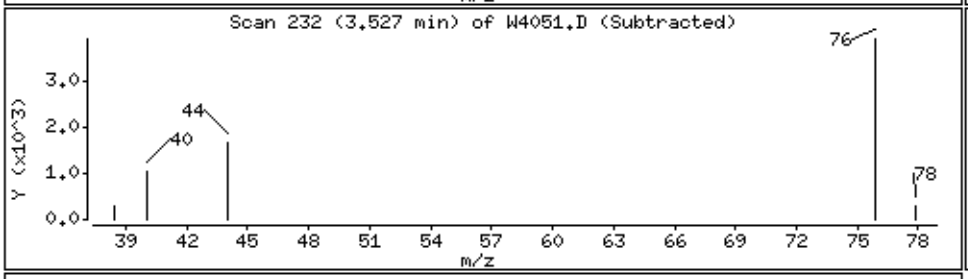
Client ID: CHAAP-21B-DS-SB09-5 Instrument: gcms-w.i

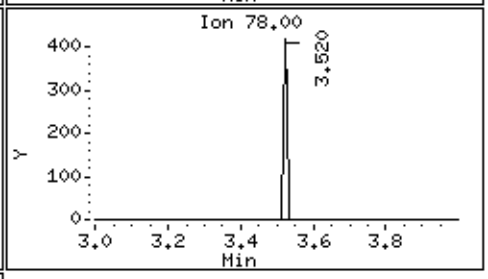
Sample Info: SL4180-15

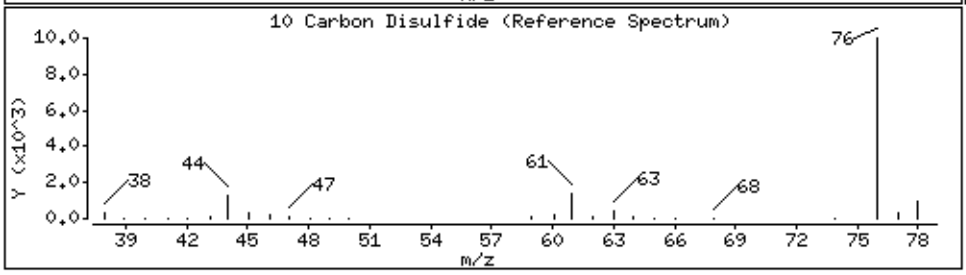
10 Carbon Disulfide Concentration: 0.83 ug/Kgdrywt











Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-16
Client ID: CHAAP-21B-DS-SS11
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4072.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 21-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228751

Analysis Date: 21-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 82.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,1,1,2-Tetrachloroethane	U	3.0	ug/Kgdrywt	1	5	6.0	0.84	3.0
1,1,1-Trichloroethane	U	3.0	ug/Kgdrywt	1	5	6.0	0.50	3.0
1,1,2,2-Tetrachloroethane	U	3.0	ug/Kgdrywt	1	5	6.0	1.0	3.0
Freon-113	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
1,1,2-Trichloroethane	U	3.0	ug/Kgdrywt	1	5	6.0	1.2	3.0
1,1-Dichloroethane	U	3.0	ug/Kgdrywt	1	5	6.0	2.0	3.0
1,1-Dichloroethene	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
1,1-Dichloropropene	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
1,2,3-Trichlorobenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.91	3.0
1,2,3-Trichloropropane	U	3.0	ug/Kgdrywt	1	5	6.0	1.4	3.0
1,2,4-Trichlorobenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.95	3.0
1,2,4-Trimethylbenzene	U	3.0	ug/Kgdrywt	1	5	6.0	1.0	3.0
1,2-Dibromo-3-Chloropropane	U	3.0	ug/Kgdrywt	1	5	6.0	1.8	3.0
1,2-Dibromoethane	U	3.0	ug/Kgdrywt	1	5	6.0	1.4	3.0
1,2-Dichlorobenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.94	3.0
1,2-Dichloroethane	U	3.0	ug/Kgdrywt	1	5	6.0	1.2	3.0
1,2-Dichloropropane	U	3.0	ug/Kgdrywt	1	5	6.0	1.7	3.0
1,3,5-Trimethylbenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.80	3.0
1,3-Dichlorobenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.74	3.0
1,3-Dichloropropane	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
1,4-Dichlorobenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.53	3.0
2,2-Dichloropropane	U	3.0	ug/Kgdrywt	1	5	6.0	0.60	3.0
2-Butanone	U	15	ug/Kgdrywt	1	25	30.	7.1	15.
2-Chlorotoluene	U	3.0	ug/Kgdrywt	1	5	6.0	1.3	3.0
2-Hexanone	U	15	ug/Kgdrywt	1	25	30.	5.8	15.
4-Chlorotoluene	U	3.0	ug/Kgdrywt	1	5	6.0	0.59	3.0
P-Isopropyltoluene	U	3.0	ug/Kgdrywt	1	5	6.0	0.91	3.0
4-Methyl-2-Pentanone	U	15	ug/Kgdrywt	1	25	30.	7.1	15.
Acetone	U	15	ug/Kgdrywt	1	25	30.	6.1	15.
Benzene	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
Bromobenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.89	3.0
Bromochloromethane	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
Bromodichloromethane	U	3.0	ug/Kgdrywt	1	5	6.0	0.72	3.0
Bromoform	U	3.0	ug/Kgdrywt	1	5	6.0	0.84	3.0
Bromomethane	U	6.0	ug/Kgdrywt	1	10	12.	1.3	6.0

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-16
Client ID: CHAAP-21B-DS-SS11
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4072.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 21-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228751

Analysis Date: 21-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 82.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Carbon Disulfide	U	3.0	ug/Kgdrywt	1	5	6.0	0.94	3.0
Carbon Tetrachloride	U	3.0	ug/Kgdrywt	1	5	6.0	1.6	3.0
Chlorobenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.61	3.0
Dibromochloromethane	U	3.0	ug/Kgdrywt	1	5	6.0	8.4	3.0
Chloroethane	U	6.0	ug/Kgdrywt	1	10	12.	1.6	6.0
Chloroform	U	3.0	ug/Kgdrywt	1	5	6.0	0.42	3.0
Chloromethane	U	6.0	ug/Kgdrywt	1	10	12.	1.7	6.0
cis-1,2-Dichloroethene	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
cis-1,3-Dichloropropene	U	3.0	ug/Kgdrywt	1	5	6.0	0.86	3.0
Dibromomethane	U	3.0	ug/Kgdrywt	1	5	6.0	0.61	3.0
Dichlorodifluoromethane	U	6.0	ug/Kgdrywt	1	10	12.	1.1	6.0
Ethylbenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.78	3.0
Hexachlorobutadiene	U	3.0	ug/Kgdrywt	1	5	6.0	0.89	3.0
Isopropylbenzene	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
m+p-Xylenes	U	6.0	ug/Kgdrywt	1	10	12.	2.0	6.0
Methyl tert-butyl Ether	U	3.0	ug/Kgdrywt	1	5	6.0	1.3	3.0
Methylene Chloride	U	15	ug/Kgdrywt	1	25	30.	9.5	15.
N-Butylbenzene	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
N-Propylbenzene	U	3.0	ug/Kgdrywt	1	5	6.0	1.0	3.0
Naphthalene	J	1.3	ug/Kgdrywt	1	5	6.0	1.0	3.0
o-Xylene	U	3.0	ug/Kgdrywt	1	5	6.0	1.6	3.0
sec-Butylbenzene	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
Styrene	U	3.0	ug/Kgdrywt	1	5	6.0	0.61	3.0
tert-Butylbenzene	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
Tetrachloroethene	U	3.0	ug/Kgdrywt	1	5	6.0	1.4	3.0
Toluene	U	3.0	ug/Kgdrywt	1	5	6.0	1.7	3.0
trans-1,2-Dichloroethene	U	3.0	ug/Kgdrywt	1	5	6.0	0.85	3.0
trans-1,3-Dichloropropene	U	3.0	ug/Kgdrywt	1	5	6.0	1.0	3.0
Trichloroethene	U	3.0	ug/Kgdrywt	1	5	6.0	0.71	3.0
Trichlorofluoromethane	U	6.0	ug/Kgdrywt	1	10	12.	1.1	6.0
Vinyl Chloride	U	6.0	ug/Kgdrywt	1	10	12.	1.0	6.0
1,2-Dichloroethane-D4		101.	%					
p-Bromofluorobenzene	*	76.2	%					
Dibromofluoromethane		104.	%					
Toluene-D8		98.8	%					

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Data File: \\target_server\gg\chem\gcms-w.i\W052118.b\W4072.D
Report Date: 25-May-2018 12:11

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W052118.b\W4072.D
Lab Smp Id: SL4180-16 Client Smp ID: CHAAP-21B-DS-SS11
Inj Date : 21-MAY-2018 14:22 MS Autotune Date: 10-APR-2016 11:00
Operator : JSS Inst ID: gcms-w.i
Smp Info : SL4180-16
Misc Info : WG228751,WG228751-4
Comment : SW846 5035
Method : \\target_server\gg\chem\gcms-w.i\W052118.b\W8SDI(13)D.m
Meth Date : 25-May-2018 12:05 gcms-w.i Quant Type: ISTD
Cal Date : 21-MAY-2018 11:44 Cal File: W4068.D
Als bottle: 11
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: T6-O360

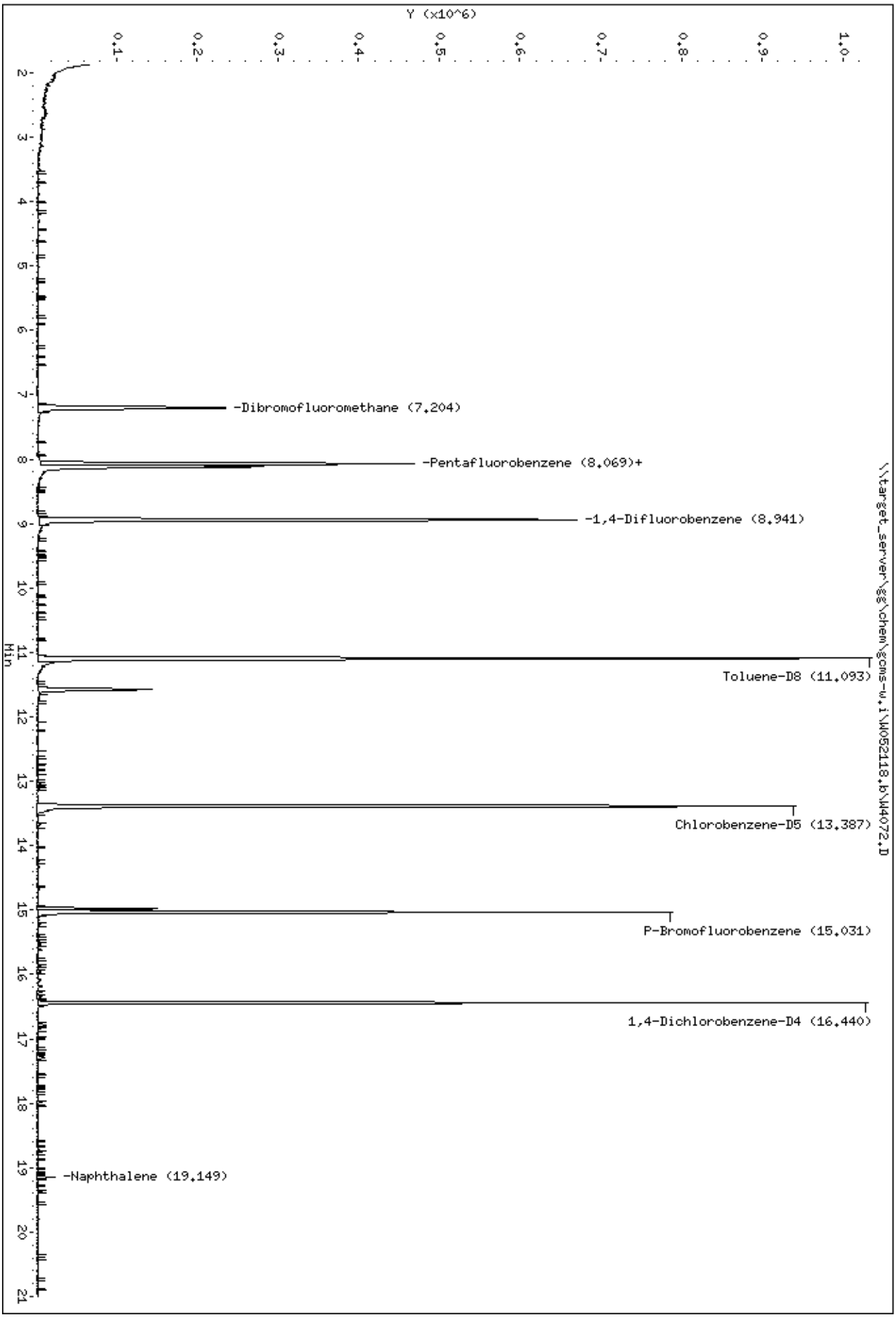
Concentration Formula: Amt * DF * (100/(100-M))*(Vt/Ws) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
M	17.476	% Moisture
Vt	5.000	Volume of DI Water (mL)
Ws	4.980	Weight of Sample (g)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/kg)	FINAL (ug/Kgdrywt)	REVIEW COD
$ 37 Dibromofluoromethane	113	7.204	7.197	(0.893)	183489	51.9515	63.2	
* 42 Pentafluorobenzene	168	8.069	8.069	(1.000)	389338	50.0000		
$ 45 1,2-Dichloroethane-D4	65	8.119	8.119	(1.006)	235097	50.6810	61.7	
* 49 1,4-Difluorobenzene	114	8.941	8.941	(1.000)	596563	50.0000		
$ 55 Toluene-D8	98	11.092	11.093	(1.241)	739900	49.4119	60.1	
* 66 Chlorobenzene-D5	117	13.387	13.380	(1.000)	532785	50.0000		
$ 76 P-Bromofluorobenzene	95	15.031	15.032	(1.681)	240892	38.0781	46.3	
* 91 1,4-Dichlorobenzene-D4	152	16.439	16.440	(1.000)	222009	50.0000		
101 Naphthalene	128	19.148	19.142	(1.165)	13865	1.06293	1.3(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).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Date : 21-MAY-2018 14:22
Client ID: CHAAP-21B-DS-SS11
Sample Info: SL4180-16
Instrument: gcms-w.i
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Y (x10^6)
Min
-Dibromofluoromethane (7.204)
-Pentafluorobenzene (8.069)+
-1,4-Difluorobenzene (8.941)
Toluene-D8 (11.093)
Chlorobenzene-D5 (13.387)
P-Bromofluorobenzene (15.031)
1,4-Dichlorobenzene-D4 (16.440)
-Naphthalene (19.149)

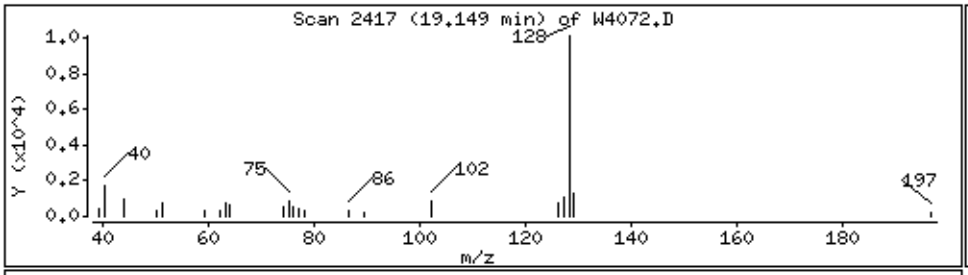
Data File: \\target_server\gg\chem\gcms-w.i\W052118.b\W4072.D

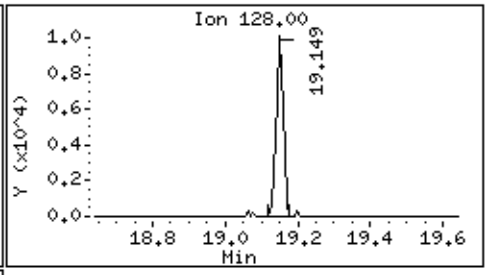
Date : 21-MAY-2018 14:22

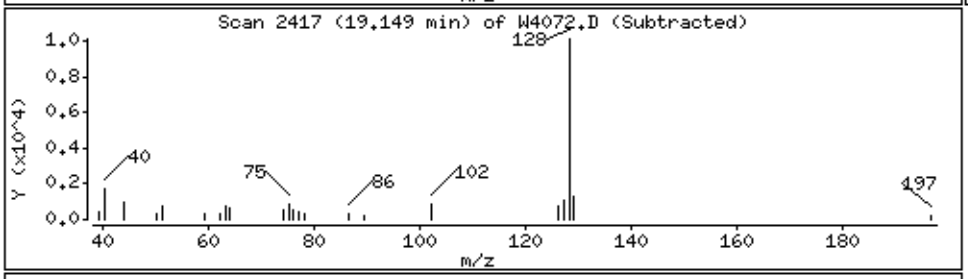
Client ID: CHAAP-21B-DS-SS11 Instrument: gcms-w.i

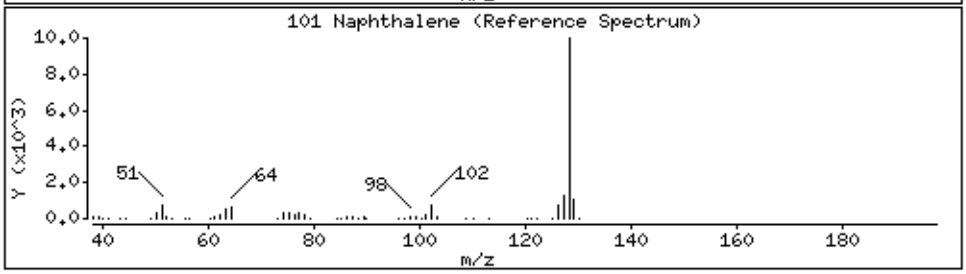
Sample Info: SL4180-16

101 Naphthalene Concentration: 1.3 ug/Kgdrywt









Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-16RA
Client ID: CHAAP-21B-DS-SS11
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4106.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 22-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228846

Analysis Date: 22-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 82.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,1,1,2-Tetrachloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.70	2.5
1,1,1-Trichloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.42	2.5
1,1,2,2-Tetrachloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.84	2.5
Freon-113	U	2.5	ug/Kgdrywt	1	5	5.0	0.90	2.5
1,1,2-Trichloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.97	2.5
1,1-Dichloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	1.7	2.5
1,1-Dichloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	0.93	2.5
1,1-Dichloropropene	U	2.5	ug/Kgdrywt	1	5	5.0	0.91	2.5
1,2,3-Trichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.76	2.5
1,2,3-Trichloropropane	U	2.5	ug/Kgdrywt	1	5	5.0	1.2	2.5
1,2,4-Trichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.79	2.5
1,2,4-Trimethylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.87	2.5
1,2-Dibromo-3-Chloropropane	U	2.5	ug/Kgdrywt	1	5	5.0	1.5	2.5
1,2-Dibromoethane	U	2.5	ug/Kgdrywt	1	5	5.0	1.2	2.5
1,2-Dichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.78	2.5
1,2-Dichloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	1.0	2.5
1,2-Dichloropropane	U	2.5	ug/Kgdrywt	1	5	5.0	1.4	2.5
1,3,5-Trimethylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.67	2.5
1,3-Dichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.62	2.5
1,3-Dichloropropane	U	2.5	ug/Kgdrywt	1	5	5.0	0.94	2.5
1,4-Dichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.44	2.5
2,2-Dichloropropane	U	2.5	ug/Kgdrywt	1	5	5.0	0.50	2.5
2-Butanone	U	12	ug/Kgdrywt	1	25	25.	5.9	12.
2-Chlorotoluene	U	2.5	ug/Kgdrywt	1	5	5.0	1.1	2.5
2-Hexanone	U	12	ug/Kgdrywt	1	25	25.	4.8	12.
4-Chlorotoluene	U	2.5	ug/Kgdrywt	1	5	5.0	0.49	2.5
P-Isopropyltoluene	U	2.5	ug/Kgdrywt	1	5	5.0	0.76	2.5
4-Methyl-2-Pentanone	U	12	ug/Kgdrywt	1	25	25.	5.9	12.
Acetone	U	12	ug/Kgdrywt	1	25	25.	5.1	12.
Benzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.92	2.5
Bromobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.74	2.5
Bromochloromethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.91	2.5
Bromodichloromethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.60	2.5
Bromoform	U	2.5	ug/Kgdrywt	1	5	5.0	0.70	2.5
Bromomethane	U	5.0	ug/Kgdrywt	1	10	10.	1.1	5.0

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-16RA
Client ID: CHAAP-21B-DS-SS11
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4106.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 22-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228846

Analysis Date: 22-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 82.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Carbon Disulfide	U	2.5	ug/Kgdrywt	1	5	5.0	0.78	2.5
Carbon Tetrachloride	U	2.5	ug/Kgdrywt	1	5	5.0	1.3	2.5
Chlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.51	2.5
Dibromochloromethane	U	2.5	ug/Kgdrywt	1	5	5.0	7.0	2.5
Chloroethane	U	5.0	ug/Kgdrywt	1	10	10.	1.3	5.0
Chloroform	U	2.5	ug/Kgdrywt	1	5	5.0	0.35	2.5
Chloromethane	U	5.0	ug/Kgdrywt	1	10	10.	1.4	5.0
cis-1,2-Dichloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	0.91	2.5
cis-1,3-Dichloropropene	U	2.5	ug/Kgdrywt	1	5	5.0	0.72	2.5
Dibromomethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.51	2.5
Dichlorodifluoromethane	U	5.0	ug/Kgdrywt	1	10	10.	0.92	5.0
Ethylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.65	2.5
Hexachlorobutadiene	U	2.5	ug/Kgdrywt	1	5	5.0	0.74	2.5
Isopropylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.92	2.5
m+p-Xylenes	U	5.0	ug/Kgdrywt	1	10	10.	1.7	5.0
Methyl tert-butyl Ether	U	2.5	ug/Kgdrywt	1	5	5.0	1.1	2.5
Methylene Chloride	U	12	ug/Kgdrywt	1	25	25.	7.9	12.
N-Butylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.92	2.5
N-Propylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.83	2.5
Naphthalene	U	2.5	ug/Kgdrywt	1	5	5.0	0.88	2.5
o-Xylene	U	2.5	ug/Kgdrywt	1	5	5.0	1.3	2.5
sec-Butylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.91	2.5
Styrene	U	2.5	ug/Kgdrywt	1	5	5.0	0.51	2.5
tert-Butylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.90	2.5
Tetrachloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	1.2	2.5
Toluene	U	2.5	ug/Kgdrywt	1	5	5.0	1.4	2.5
trans-1,2-Dichloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	0.71	2.5
trans-1,3-Dichloropropene	U	2.5	ug/Kgdrywt	1	5	5.0	0.86	2.5
Trichloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	0.59	2.5
Trichlorofluoromethane	U	5.0	ug/Kgdrywt	1	10	10.	0.91	5.0
Vinyl Chloride	U	5.0	ug/Kgdrywt	1	10	10.	0.87	5.0
1,2-Dichloroethane-D4		106.	%					
p-Bromofluorobenzene	*	73.5	%					
Dibromofluoromethane		111.	%					
Toluene-D8		96.6	%					

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Data File: \\target_server\gg\chem\gcms-w.i\W052218.b\W4106.D
Report Date: 25-May-2018 12:31

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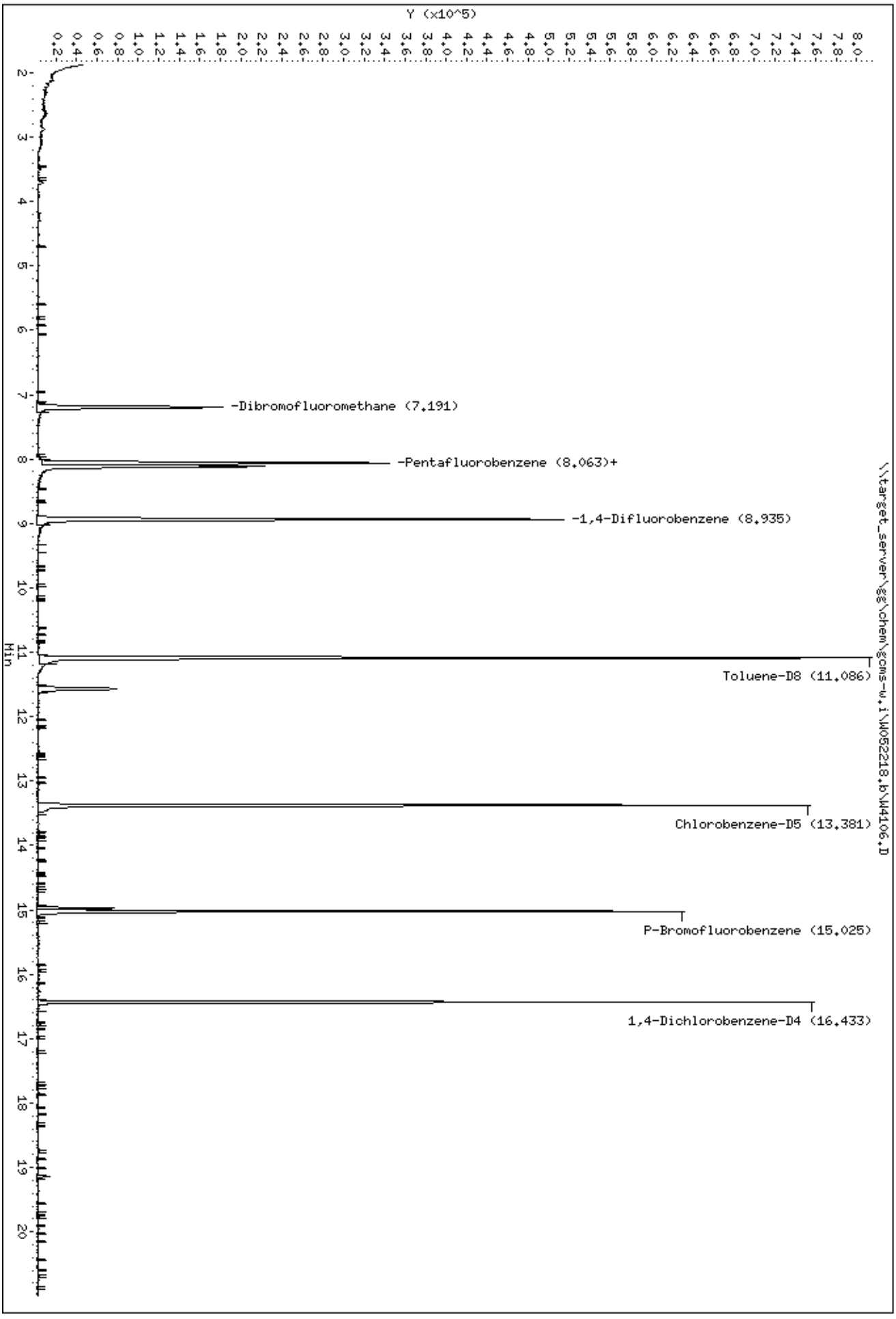
Data file : \\target_server\gg\chem\gcms-w.i\W052218.b\W4106.D
Lab Smp Id: SL4180-16RA Client Smp ID: CHAAP-21B-DS-SS11
Inj Date : 22-MAY-2018 12:31 MS Autotune Date: 10-APR-2016 11:00
Operator : JSS Inst ID: gcms-w.i
Smp Info : SL4180-16RA
Misc Info : WG228846,WG228751-4
Comment   : SW846 5035
Method   : \\target_server\gg\chem\gcms-w.i\W052218.b\W8SDI(13)D.m
Meth Date : 23-May-2018 07:11 jsampson Quant Type: ISTD
Cal Date : 21-MAY-2018 11:44 Cal File: W4068.D
Als bottle: 7
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: T6-O360

Concentration Formula: Amt * DF * (100/(100-M))*(Vt/Ws) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
M	17.476	% Moisture
Vt	5.000	Volume of DI Water (mL)
Ws	5.800	Weight of Sample (g)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/kg)	FINAL (ug/Kgdrywt)	REVIEW COD
$ 37 Dibromofluoromethane	113	7.190	7.198	(0.892)	139470	55.7367	58.2	
* 42 Pentafluorobenzene	168	8.062	8.070	(1.000)	275838	50.0000		
$ 45 1,2-Dichloroethane-D4	65	8.112	8.119	(1.006)	174670	53.1483	55.5	
* 49 1,4-Difluorobenzene	114	8.934	8.942	(1.000)	475089	50.0000		
$ 55 Toluene-D8	98	11.086	11.094	(1.241)	576236	48.3215	50.5	
* 66 Chlorobenzene-D5	117	13.380	13.381	(1.000)	418275	50.0000		
$ 76 P-Bromofluorobenzene	95	15.024	15.032	(1.682)	185144	36.7489	38.4	
* 91 1,4-Dichlorobenzene-D4	152	16.432	16.440	(1.000)	167283	50.0000		


Data File: \\target_server\gc\chem\gcms-w.i\W052218.b\W4106.D
Date : 22-MAY-2018 12:31
Client ID: CHAAP-21B-DS-SS11
Sample Info: SL4180-16RA
Instrument: gcms-w.i
\\target_server\gc\chem\gcms-w.i\W052218.b\W4106.D
Y (x10^5)
Min
-Dibromofluoromethane (7.191)
-Pentafluorobenzene (8.063)+
-1,4-Difluorobenzene (8.935)
Toluene-D8 (11.086)
Chlorobenzene-D5 (13.381)
P-Bromofluorobenzene (15.025)
1,4-Dichlorobenzene-D4 (16.433)

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-17
Client ID: CHAAP-21B-DS-SS111
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4073.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 21-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228751

Analysis Date: 21-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 80.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,1,1,2-Tetrachloroethane	U	3.0	ug/Kgdrywt	1	5	6.0	0.84	3.0
1,1,1-Trichloroethane	U	3.0	ug/Kgdrywt	1	5	6.0	0.50	3.0
1,1,2,2-Tetrachloroethane	U	3.0	ug/Kgdrywt	1	5	6.0	1.0	3.0
Freon-113	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
1,1,2-Trichloroethane	U	3.0	ug/Kgdrywt	1	5	6.0	1.2	3.0
1,1-Dichloroethane	U	3.0	ug/Kgdrywt	1	5	6.0	2.0	3.0
1,1-Dichloroethene	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
1,1-Dichloropropene	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
1,2,3-Trichlorobenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.91	3.0
1,2,3-Trichloropropane	U	3.0	ug/Kgdrywt	1	5	6.0	1.4	3.0
1,2,4-Trichlorobenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.95	3.0
1,2,4-Trimethylbenzene	U	3.0	ug/Kgdrywt	1	5	6.0	1.0	3.0
1,2-Dibromo-3-Chloropropane	U	3.0	ug/Kgdrywt	1	5	6.0	1.8	3.0
1,2-Dibromoethane	U	3.0	ug/Kgdrywt	1	5	6.0	1.4	3.0
1,2-Dichlorobenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.94	3.0
1,2-Dichloroethane	U	3.0	ug/Kgdrywt	1	5	6.0	1.2	3.0
1,2-Dichloropropane	U	3.0	ug/Kgdrywt	1	5	6.0	1.7	3.0
1,3,5-Trimethylbenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.80	3.0
1,3-Dichlorobenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.74	3.0
1,3-Dichloropropane	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
1,4-Dichlorobenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.53	3.0
2,2-Dichloropropane	U	3.0	ug/Kgdrywt	1	5	6.0	0.60	3.0
2-Butanone	U	15	ug/Kgdrywt	1	25	30.	7.1	15.
2-Chlorotoluene	U	3.0	ug/Kgdrywt	1	5	6.0	1.3	3.0
2-Hexanone	U	15	ug/Kgdrywt	1	25	30.	5.8	15.
4-Chlorotoluene	U	3.0	ug/Kgdrywt	1	5	6.0	0.59	3.0
P-Isopropyltoluene	U	3.0	ug/Kgdrywt	1	5	6.0	0.91	3.0
4-Methyl-2-Pentanone	U	15	ug/Kgdrywt	1	25	30.	7.1	15.
Acetone	U	15	ug/Kgdrywt	1	25	30.	6.1	15.
Benzene	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
Bromobenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.89	3.0
Bromochloromethane	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
Bromodichloromethane	U	3.0	ug/Kgdrywt	1	5	6.0	0.72	3.0
Bromoform	U	3.0	ug/Kgdrywt	1	5	6.0	0.84	3.0
Bromomethane	U	6.0	ug/Kgdrywt	1	10	12.	1.3	6.0

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-17
Client ID: CHAAP-21B-DS-SS111
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4073.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 21-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228751

Analysis Date: 21-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 80.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Carbon Disulfide	U	3.0	ug/Kgdrywt	1	5	6.0	0.94	3.0
Carbon Tetrachloride	U	3.0	ug/Kgdrywt	1	5	6.0	1.6	3.0
Chlorobenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.61	3.0
Dibromochloromethane	U	3.0	ug/Kgdrywt	1	5	6.0	8.4	3.0
Chloroethane	U	6.0	ug/Kgdrywt	1	10	12.	1.6	6.0
Chloroform	U	3.0	ug/Kgdrywt	1	5	6.0	0.42	3.0
Chloromethane	U	6.0	ug/Kgdrywt	1	10	12.	1.7	6.0
cis-1,2-Dichloroethene	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
cis-1,3-Dichloropropene	U	3.0	ug/Kgdrywt	1	5	6.0	0.86	3.0
Dibromomethane	U	3.0	ug/Kgdrywt	1	5	6.0	0.61	3.0
Dichlorodifluoromethane	U	6.0	ug/Kgdrywt	1	10	12.	1.1	6.0
Ethylbenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.78	3.0
Hexachlorobutadiene	U	3.0	ug/Kgdrywt	1	5	6.0	0.89	3.0
Isopropylbenzene	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
m+p-Xylenes	U	6.0	ug/Kgdrywt	1	10	12.	2.0	6.0
Methyl tert-butyl Ether	U	3.0	ug/Kgdrywt	1	5	6.0	1.3	3.0
Methylene Chloride	U	15	ug/Kgdrywt	1	25	30.	9.5	15.
N-Butylbenzene	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
N-Propylbenzene	U	3.0	ug/Kgdrywt	1	5	6.0	1.0	3.0
Naphthalene	J	1.2	ug/Kgdrywt	1	5	6.0	1.0	3.0
o-Xylene	U	3.0	ug/Kgdrywt	1	5	6.0	1.6	3.0
sec-Butylbenzene	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
Styrene	U	3.0	ug/Kgdrywt	1	5	6.0	0.61	3.0
tert-Butylbenzene	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
Tetrachloroethene	U	3.0	ug/Kgdrywt	1	5	6.0	1.4	3.0
Toluene	U	3.0	ug/Kgdrywt	1	5	6.0	1.7	3.0
trans-1,2-Dichloroethene	U	3.0	ug/Kgdrywt	1	5	6.0	0.85	3.0
trans-1,3-Dichloropropene	U	3.0	ug/Kgdrywt	1	5	6.0	1.0	3.0
Trichloroethene	U	3.0	ug/Kgdrywt	1	5	6.0	0.71	3.0
Trichlorofluoromethane	U	6.0	ug/Kgdrywt	1	10	12.	1.1	6.0
Vinyl Chloride	U	6.0	ug/Kgdrywt	1	10	12.	1.0	6.0
1,2-Dichloroethane-D4		99.3	%					
p-Bromofluorobenzene	*	76.1	%					
Dibromofluoromethane		102.	%					
Toluene-D8		101.	%					

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Data File: \\target_server\gg\chem\gcms-w.i\W052118.b\W4073.D
Report Date: 25-May-2018 12:11

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W052118.b\W4073.D
Lab Smp Id: SL4180-17 Client Smp ID: CHAAP-21B-DS-SS111
Inj Date : 21-MAY-2018 14:59 MS Autotune Date: 10-APR-2016 11:00
Operator : JSS Inst ID: gcms-w.i
Smp Info : SL4180-17
Misc Info : WG228751,WG228751-4
Comment : SW846 5035
Method : \\target_server\gg\chem\gcms-w.i\W052118.b\W8SDI(13)D.m
Meth Date : 25-May-2018 12:05 gcms-w.i Quant Type: ISTD
Cal Date : 21-MAY-2018 11:44 Cal File: W4068.D
Als bottle: 12
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: T6-O360

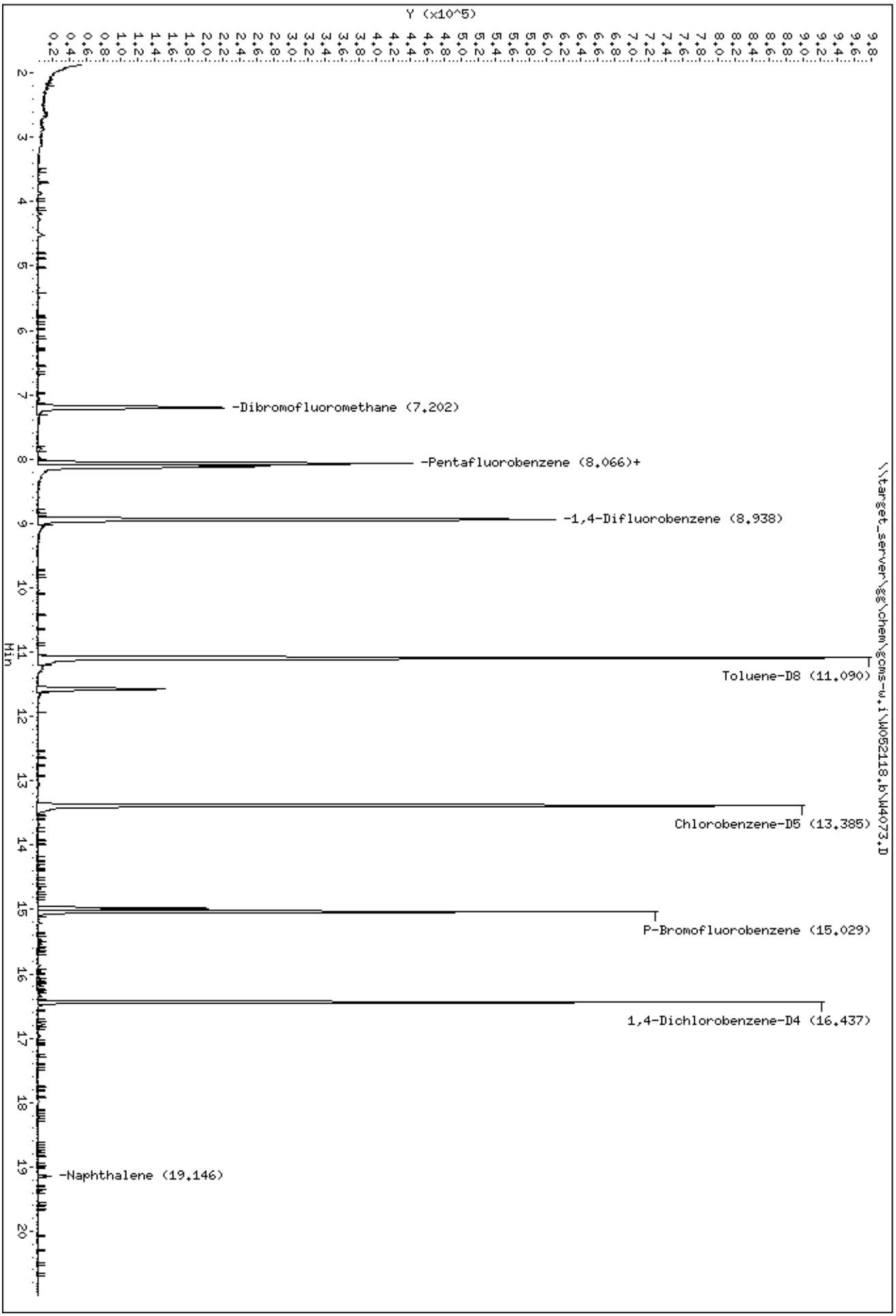
Concentration Formula: Amt * DF * (100/(100-M))*(Vt/Ws) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
M	19.598	% Moisture
Vt	5.000	Volume of DI Water (mL)
Ws	5.060	Weight of Sample (g)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/kg)	FINAL (ug/Kgdrywt)	REVIEW COD
$ 37 Dibromofluoromethane	113	7.201	7.197	(0.893)	166773	51.0317	62.7	
* 42 Pentafluorobenzene	168	8.066	8.069	(1.000)	360247	50.0000		
$ 45 1,2-Dichloroethane-D4	65	8.116	8.119	(1.006)	213195	49.6709	61.0	
* 49 1,4-Difluorobenzene	114	8.938	8.941	(1.000)	563691	50.0000		
$ 55 Toluene-D8	98	11.090	11.093	(1.241)	713819	50.4501	62.0	
* 66 Chlorobenzene-D5	117	13.384	13.380	(1.000)	502345	50.0000		
$ 76 P-Bromofluorobenzene	95	15.028	15.032	(1.681)	227427	38.0461	46.8	
* 91 1,4-Dichlorobenzene-D4	152	16.436	16.440	(1.000)	214595	50.0000		
101 Naphthalene	128	19.145	19.142	(1.165)	12298	0.97537	1.2(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).



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Date : 21-MAY-2018 14:59
Client ID: CHAAP-21B-DS-SS111
Sample Info: SL4180-17

Instrument: gcms-w.i

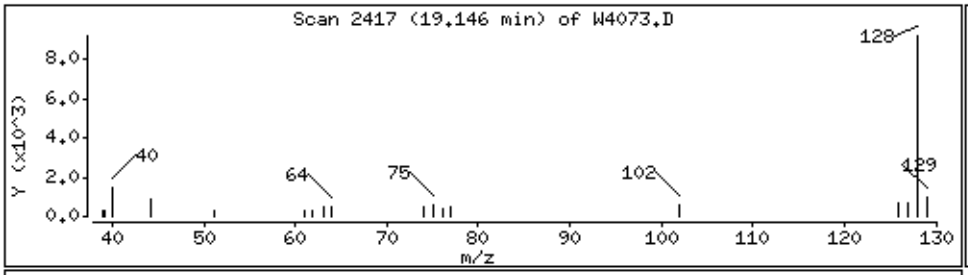
Data File: \\target_server\gg\chem\gcms-w.i\W052118.b\W4073.D

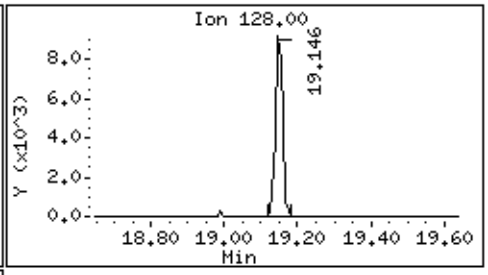
Date : 21-MAY-2018 14:59

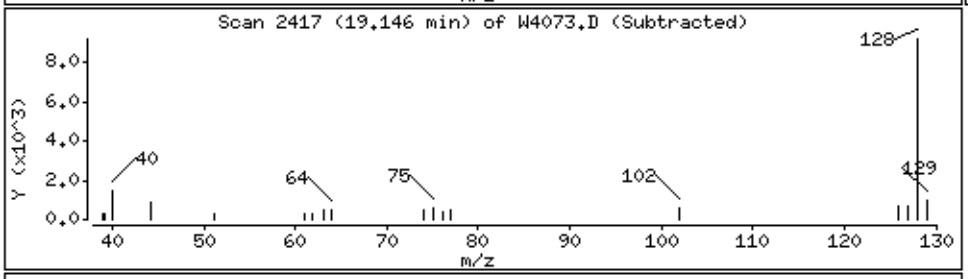
Client ID: CHAAP-21B-DS-SS111 Instrument: gcms-w.i

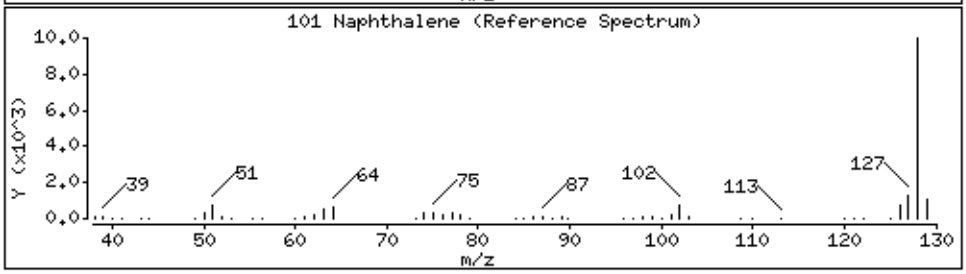
Sample Info: SL4180-17

101 Naphthalene Concentration: 1.2 ug/Kgdrywt









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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-17RA
Client ID: CHAAP-21B-DS-SS111
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4107.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 22-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228846

Analysis Date: 22-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 80.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,1,1,2-Tetrachloroethane	U	3.2	ug/Kgdrywt	1	5	6.5	0.91	3.2
1,1,1-Trichloroethane	U	3.2	ug/Kgdrywt	1	5	6.5	0.55	3.2
1,1,2,2-Tetrachloroethane	U	3.2	ug/Kgdrywt	1	5	6.5	1.1	3.2
Freon-113	U	3.2	ug/Kgdrywt	1	5	6.5	1.2	3.2
1,1,2-Trichloroethane	U	3.2	ug/Kgdrywt	1	5	6.5	1.3	3.2
1,1-Dichloroethane	U	3.2	ug/Kgdrywt	1	5	6.5	2.2	3.2
1,1-Dichloroethene	U	3.2	ug/Kgdrywt	1	5	6.5	1.2	3.2
1,1-Dichloropropene	U	3.2	ug/Kgdrywt	1	5	6.5	1.2	3.2
1,2,3-Trichlorobenzene	U	3.2	ug/Kgdrywt	1	5	6.5	0.99	3.2
1,2,3-Trichloropropane	U	3.2	ug/Kgdrywt	1	5	6.5	1.6	3.2
1,2,4-Trichlorobenzene	U	3.2	ug/Kgdrywt	1	5	6.5	1.0	3.2
1,2,4-Trimethylbenzene	U	3.2	ug/Kgdrywt	1	5	6.5	1.1	3.2
1,2-Dibromo-3-Chloropropane	U	3.2	ug/Kgdrywt	1	5	6.5	2.0	3.2
1,2-Dibromoethane	U	3.2	ug/Kgdrywt	1	5	6.5	1.6	3.2
1,2-Dichlorobenzene	U	3.2	ug/Kgdrywt	1	5	6.5	1.0	3.2
1,2-Dichloroethane	U	3.2	ug/Kgdrywt	1	5	6.5	1.3	3.2
1,2-Dichloropropane	U	3.2	ug/Kgdrywt	1	5	6.5	1.8	3.2
1,3,5-Trimethylbenzene	U	3.2	ug/Kgdrywt	1	5	6.5	0.87	3.2
1,3-Dichlorobenzene	U	3.2	ug/Kgdrywt	1	5	6.5	0.81	3.2
1,3-Dichloropropane	U	3.2	ug/Kgdrywt	1	5	6.5	1.2	3.2
1,4-Dichlorobenzene	U	3.2	ug/Kgdrywt	1	5	6.5	0.57	3.2
2,2-Dichloropropane	U	3.2	ug/Kgdrywt	1	5	6.5	0.65	3.2
2-Butanone	U	16	ug/Kgdrywt	1	25	32.	7.7	16.
2-Chlorotoluene	U	3.2	ug/Kgdrywt	1	5	6.5	1.4	3.2
2-Hexanone	U	16	ug/Kgdrywt	1	25	32.	6.2	16.
4-Chlorotoluene	U	3.2	ug/Kgdrywt	1	5	6.5	0.64	3.2
P-Isopropyltoluene	U	3.2	ug/Kgdrywt	1	5	6.5	0.99	3.2
4-Methyl-2-Pentanone	U	16	ug/Kgdrywt	1	25	32.	7.7	16.
Acetone	U	16	ug/Kgdrywt	1	25	32.	6.6	16.
Benzene	U	3.2	ug/Kgdrywt	1	5	6.5	1.2	3.2
Bromobenzene	U	3.2	ug/Kgdrywt	1	5	6.5	0.96	3.2
Bromochloromethane	U	3.2	ug/Kgdrywt	1	5	6.5	1.2	3.2
Bromodichloromethane	U	3.2	ug/Kgdrywt	1	5	6.5	0.78	3.2
Bromoform	U	3.2	ug/Kgdrywt	1	5	6.5	0.91	3.2
Bromomethane	U	6.5	ug/Kgdrywt	1	10	13.	1.4	6.5

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-17RA
Client ID: CHAAP-21B-DS-SS111
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4107.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 22-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228846

Analysis Date: 22-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 80.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Carbon Disulfide	U	3.2	ug/Kgdrywt	1	5	6.5	1.0	3.2
Carbon Tetrachloride	U	3.2	ug/Kgdrywt	1	5	6.5	1.7	3.2
Chlorobenzene	U	3.2	ug/Kgdrywt	1	5	6.5	0.66	3.2
Dibromochloromethane	U	3.2	ug/Kgdrywt	1	5	6.5	9.1	3.2
Chloroethane	U	6.5	ug/Kgdrywt	1	10	13.	1.7	6.5
Chloroform	U	3.2	ug/Kgdrywt	1	5	6.5	0.46	3.2
Chloromethane	U	6.5	ug/Kgdrywt	1	10	13.	1.8	6.5
cis-1,2-Dichloroethene	U	3.2	ug/Kgdrywt	1	5	6.5	1.2	3.2
cis-1,3-Dichloropropene	U	3.2	ug/Kgdrywt	1	5	6.5	0.94	3.2
Dibromomethane	U	3.2	ug/Kgdrywt	1	5	6.5	0.66	3.2
Dichlorodifluoromethane	U	6.5	ug/Kgdrywt	1	10	13.	1.2	6.5
Ethylbenzene	U	3.2	ug/Kgdrywt	1	5	6.5	0.84	3.2
Hexachlorobutadiene	U	3.2	ug/Kgdrywt	1	5	6.5	0.96	3.2
Isopropylbenzene	U	3.2	ug/Kgdrywt	1	5	6.5	1.2	3.2
m+p-Xylenes	U	6.5	ug/Kgdrywt	1	10	13.	2.2	6.5
Methyl tert-butyl Ether	U	3.2	ug/Kgdrywt	1	5	6.5	1.4	3.2
Methylene Chloride	U	16	ug/Kgdrywt	1	25	32.	10.	16.
N-Butylbenzene	U	3.2	ug/Kgdrywt	1	5	6.5	1.2	3.2
N-Propylbenzene	U	3.2	ug/Kgdrywt	1	5	6.5	1.1	3.2
Naphthalene	U	3.2	ug/Kgdrywt	1	5	6.5	1.1	3.2
o-Xylene	U	3.2	ug/Kgdrywt	1	5	6.5	1.7	3.2
sec-Butylbenzene	U	3.2	ug/Kgdrywt	1	5	6.5	1.2	3.2
Styrene	U	3.2	ug/Kgdrywt	1	5	6.5	0.66	3.2
tert-Butylbenzene	U	3.2	ug/Kgdrywt	1	5	6.5	1.2	3.2
Tetrachloroethene	U	3.2	ug/Kgdrywt	1	5	6.5	1.6	3.2
Toluene	U	3.2	ug/Kgdrywt	1	5	6.5	1.8	3.2
trans-1,2-Dichloroethene	U	3.2	ug/Kgdrywt	1	5	6.5	0.92	3.2
trans-1,3-Dichloropropene	U	3.2	ug/Kgdrywt	1	5	6.5	1.1	3.2
Trichloroethene	U	3.2	ug/Kgdrywt	1	5	6.5	0.77	3.2
Trichlorofluoromethane	U	6.5	ug/Kgdrywt	1	10	13.	1.2	6.5
Vinyl Chloride	U	6.5	ug/Kgdrywt	1	10	13.	1.1	6.5
1,2-Dichloroethane-D4		111.	%					
p-Bromofluorobenzene	*	76.8	%					
Dibromofluoromethane		111.	%					
Toluene-D8		98.3	%					

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Data File: \\target_server\gg\chem\gcms-w.i\W052218.b\W4107.D
Report Date: 25-May-2018 12:31

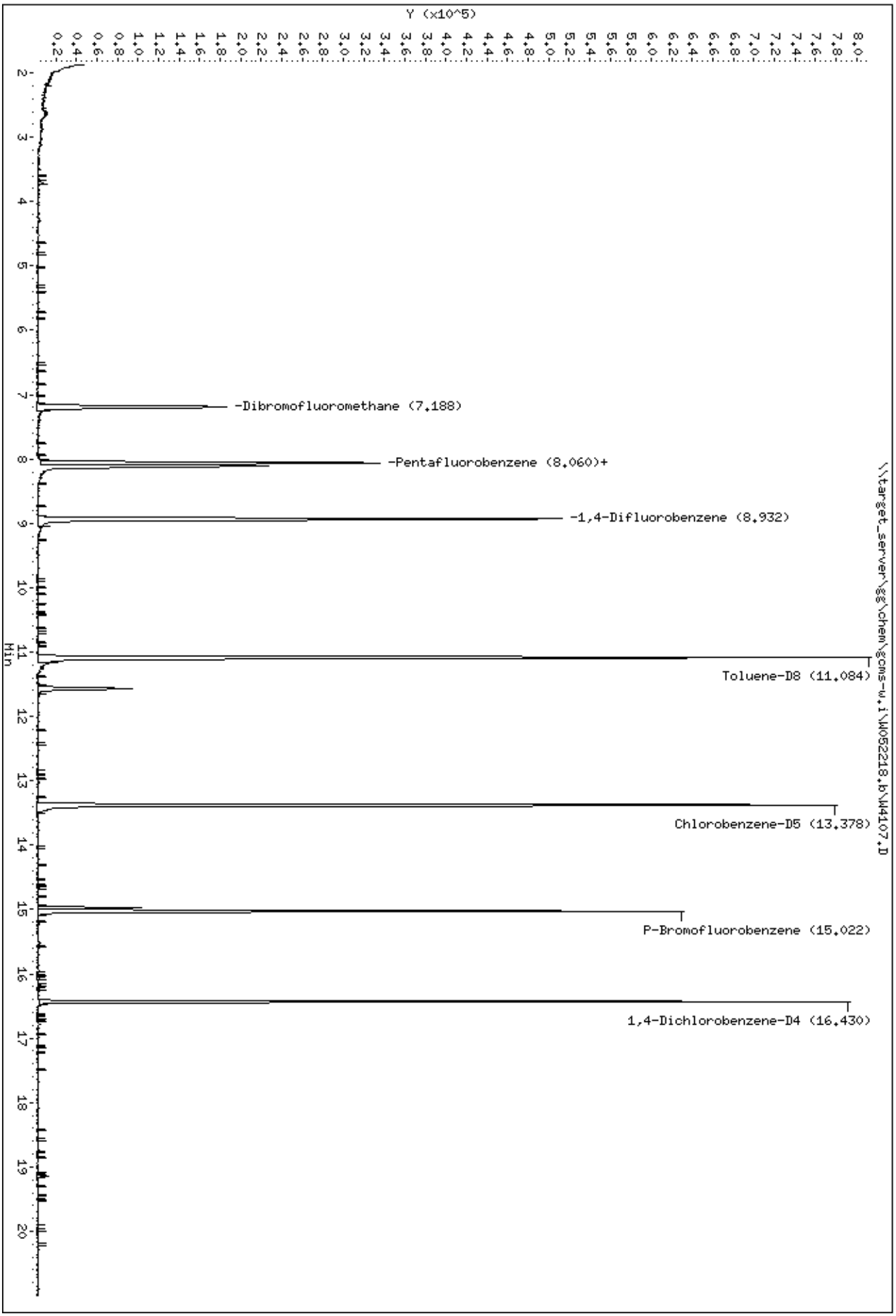
Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W052218.b\W4107.D
Lab Smp Id: SL4180-17RA Client Smp ID: CHAAP-21B-DS-SS111
Inj Date : 22-MAY-2018 13:08 MS Autotune Date: 10-APR-2016 11:00
Operator : JSS Inst ID: gcms-w.i
Smp Info : SL4180-17RA
Misc Info : WG228846,WG228751-4
Comment   : SW846 5035
Method   : \\target_server\gg\chem\gcms-w.i\W052218.b\W8SDI(13)D.m
Meth Date : 23-May-2018 07:11 jsampson Quant Type: ISTD
Cal Date : 21-MAY-2018 11:44 Cal File: W4068.D
Als bottle: 8
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: T6-O360

Concentration Formula: Amt * DF * (100/(100-M))*(Vt/Ws) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
M	19.598	% Moisture
Vt	5.000	Volume of DI Water (mL)
Ws	4.790	Weight of Sample (g)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/kg)	FINAL (ug/Kgdrywt)	REVIEW COD
$ 37 Dibromofluoromethane	113	7.195	7.198	(0.893)	139699	55.4056	71.9	
* 42 Pentafluorobenzene	168	8.059	8.070	(1.000)	277942	50.0000		
$ 45 1,2-Dichloroethane-D4	65	8.110	8.119	(1.006)	183580	55.4366	72.0	
* 49 1,4-Difluorobenzene	114	8.932	8.942	(1.000)	474045	50.0000		
$ 55 Toluene-D8	98	11.083	11.094	(1.241)	584909	49.1568	63.8	
* 66 Chlorobenzene-D5	117	13.378	13.381	(1.000)	426417	50.0000		
$ 76 P-Bromofluorobenzene	95	15.022	15.032	(1.682)	192949	38.3824	49.8	
* 91 1,4-Dichlorobenzene-D4	152	16.430	16.440	(1.000)	179225	50.0000		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Date : 22-MAY-2018 13:08
Client ID: CHAAP-21B-DS-SS111
Sample Info: SL4180-17RA
Instrument: gcms-w.i
Y (x10^5)
Min
-Dibromofluoromethane (7.188)
-Pentafluorobenzene (8.060)+
-1,4-Difluorobenzene (8.932)
Toluene-D8 (11.084)
Chlorobenzene-D5 (13.378)
P-Bromofluorobenzene (15.022)
1,4-Dichlorobenzene-D4 (16.430)
\\target_server\gg\chem\gcms-w.i\W052218.b\W4107.D

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-18
Client ID: CHAAP-21B-DS-SB11-5
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4105.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 22-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228846

Analysis Date: 22-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 80.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,1,1,2-Tetrachloroethane	UM	3.0	ug/Kgdrywt	1	5	6.0	0.84	3.0
1,1,1-Trichloroethane	U	3.0	ug/Kgdrywt	1	5	6.0	0.50	3.0
1,1,2,2-Tetrachloroethane	UM	3.0	ug/Kgdrywt	1	5	6.0	1.0	3.0
Freon-113	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
1,1,2-Trichloroethane	UMM	3.0	ug/Kgdrywt	1	5	6.0	1.2	3.0
1,1-Dichloroethane	UM	3.0	ug/Kgdrywt	1	5	6.0	2.0	3.0
1,1-Dichloroethene	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
1,1-Dichloropropene	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
1,2,3-Trichlorobenzene	UM	3.0	ug/Kgdrywt	1	5	6.0	0.91	3.0
1,2,3-Trichloropropane	UM	3.0	ug/Kgdrywt	1	5	6.0	1.4	3.0
1,2,4-Trichlorobenzene	UM	3.0	ug/Kgdrywt	1	5	6.0	0.95	3.0
1,2,4-Trimethylbenzene	UM	3.0	ug/Kgdrywt	1	5	6.0	1.0	3.0
1,2-Dibromo-3-Chloropropane	UM	3.0	ug/Kgdrywt	1	5	6.0	1.8	3.0
1,2-Dibromoethane	UMM	3.0	ug/Kgdrywt	1	5	6.0	1.4	3.0
1,2-Dichlorobenzene	UM	3.0	ug/Kgdrywt	1	5	6.0	0.94	3.0
1,2-Dichloroethane	UM	3.0	ug/Kgdrywt	1	5	6.0	1.2	3.0
1,2-Dichloropropane	UM	3.0	ug/Kgdrywt	1	5	6.0	1.7	3.0
1,3,5-Trimethylbenzene	UM	3.0	ug/Kgdrywt	1	5	6.0	0.80	3.0
1,3-Dichlorobenzene	UM	3.0	ug/Kgdrywt	1	5	6.0	0.74	3.0
1,3-Dichloropropane	UMM	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
1,4-Dichlorobenzene	UM	3.0	ug/Kgdrywt	1	5	6.0	0.53	3.0
2,2-Dichloropropane	U	3.0	ug/Kgdrywt	1	5	6.0	0.60	3.0
2-Butanone	UM	15	ug/Kgdrywt	1	25	30.	7.1	15.
2-Chlorotoluene	UM	3.0	ug/Kgdrywt	1	5	6.0	1.3	3.0
2-Hexanone	UM	15	ug/Kgdrywt	1	25	30.	5.8	15.
4-Chlorotoluene	UM	3.0	ug/Kgdrywt	1	5	6.0	0.59	3.0
P-Isopropyltoluene	UM	3.0	ug/Kgdrywt	1	5	6.0	0.91	3.0
4-Methyl-2-Pentanone	UM	15	ug/Kgdrywt	1	25	30.	7.1	15.
Acetone	U	15	ug/Kgdrywt	1	25	30.	6.1	15.
Benzene	UM	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
Bromobenzene	UMM	3.0	ug/Kgdrywt	1	5	6.0	0.89	3.0
Bromochloromethane	UM	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
Bromodichloromethane	UM	3.0	ug/Kgdrywt	1	5	6.0	0.72	3.0
Bromoform	UM	3.0	ug/Kgdrywt	1	5	6.0	0.84	3.0
Bromomethane	U	6.0	ug/Kgdrywt	1	10	12.	1.3	6.0

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-18
Client ID: CHAAP-21B-DS-SB11-5
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4105.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 22-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228846

Analysis Date: 22-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 80.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Carbon Disulfide	U	3.0	ug/Kgdrywt	1	5	6.0	0.94	3.0
Carbon Tetrachloride	U	3.0	ug/Kgdrywt	1	5	6.0	1.6	3.0
Chlorobenzene	UMM	3.0	ug/Kgdrywt	1	5	6.0	0.61	3.0
Dibromochloromethane	UM	3.0	ug/Kgdrywt	1	5	6.0	8.4	3.0
Chloroethane	U	6.0	ug/Kgdrywt	1	10	12.	1.6	6.0
Chloroform	UM	3.0	ug/Kgdrywt	1	5	6.0	0.42	3.0
Chloromethane	U	6.0	ug/Kgdrywt	1	10	12.	1.7	6.0
cis-1,2-Dichloroethene	UM	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
cis-1,3-Dichloropropene	UMM	3.0	ug/Kgdrywt	1	5	6.0	0.86	3.0
Dibromomethane	UM	3.0	ug/Kgdrywt	1	5	6.0	0.61	3.0
Dichlorodifluoromethane	U	6.0	ug/Kgdrywt	1	10	12.	1.1	6.0
Ethylbenzene	UMM	3.0	ug/Kgdrywt	1	5	6.0	0.78	3.0
Hexachlorobutadiene	UM	3.0	ug/Kgdrywt	1	5	6.0	0.89	3.0
Isopropylbenzene	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
m+p-Xylenes	UM	6.0	ug/Kgdrywt	1	10	12.	2.0	6.0
Methyl tert-butyl Ether	UM	3.0	ug/Kgdrywt	1	5	6.0	1.3	3.0
Methylene Chloride	UM	15	ug/Kgdrywt	1	25	30.	9.5	15.
N-Butylbenzene	UM	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
N-Propylbenzene	UM	3.0	ug/Kgdrywt	1	5	6.0	1.0	3.0
Naphthalene	UM	3.0	ug/Kgdrywt	1	5	6.0	1.0	3.0
o-Xylene	UM	3.0	ug/Kgdrywt	1	5	6.0	1.6	3.0
sec-Butylbenzene	UM	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
Styrene	UM	3.0	ug/Kgdrywt	1	5	6.0	0.61	3.0
tert-Butylbenzene	UMM	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
Tetrachloroethene	UM	3.0	ug/Kgdrywt	1	5	6.0	1.4	3.0
Toluene	UM	3.0	ug/Kgdrywt	1	5	6.0	1.7	3.0
trans-1,2-Dichloroethene	UM	3.0	ug/Kgdrywt	1	5	6.0	0.85	3.0
trans-1,3-Dichloropropene	UM	3.0	ug/Kgdrywt	1	5	6.0	1.0	3.0
Trichloroethene	UM	3.0	ug/Kgdrywt	1	5	6.0	0.71	3.0
Trichlorofluoromethane	U	6.0	ug/Kgdrywt	1	10	12.	1.1	6.0
Vinyl Chloride	U	6.0	ug/Kgdrywt	1	10	12.	1.0	6.0
1,2-Dichloroethane-D4		108.	%					
p-Bromofluorobenzene		90.4	%					
Dibromofluoromethane		106.	%					
Toluene-D8		102.	%					

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Data File: \\target_server\gg\chem\gcms-w.i\W052218.b\W4105.D
Report Date: 25-May-2018 12:31

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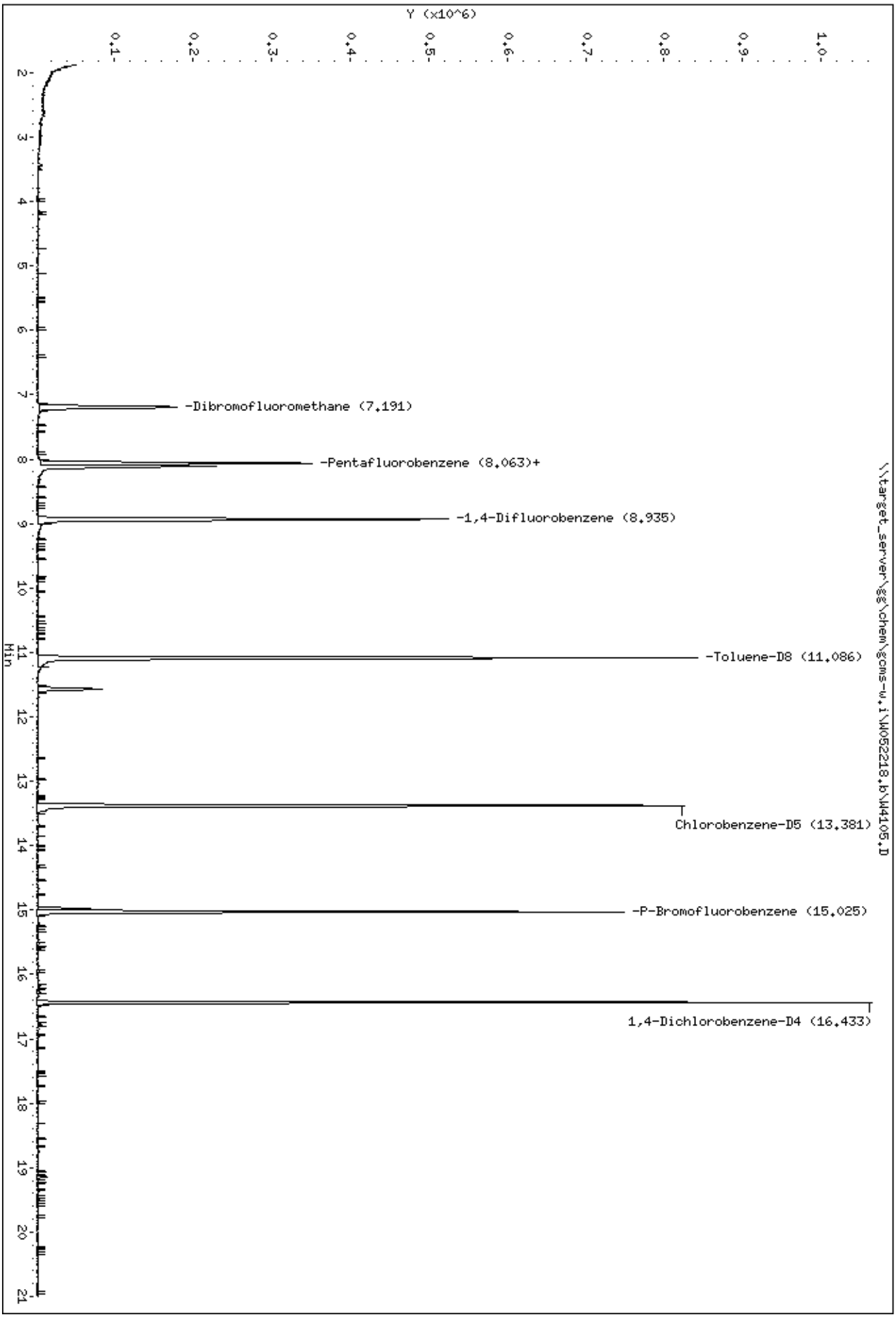
Data file : \\target_server\gg\chem\gcms-w.i\W052218.b\W4105.D
Lab Smp Id: SL4180-18 Client Smp ID: CHAAP-21B-DS-SB11-5
Inj Date : 22-MAY-2018 11:54 MS Autotune Date: 10-APR-2016 11:00
Operator : JSS Inst ID: gcms-w.i
Smp Info : SL4180-18
Misc Info : WG228846,WG228751-4
Comment : SW846 5035
Method : \\target_server\gg\chem\gcms-w.i\W052218.b\W8SDI(13)D.m
Meth Date : 23-May-2018 07:11 jsampson Quant Type: ISTD
Cal Date : 21-MAY-2018 11:44 Cal File: W4068.D
Als bottle: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: T6-O360

Concentration Formula: Amt * DF * (100/(100-M))*(Vt/Ws) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
M	19.820	% Moisture
Vt	5.000	Volume of DI Water (mL)
Ws	4.970	Weight of Sample (g)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/kg)	FINAL (ug/Kgdrywt)	REVIEW COD
$ 37 Dibromofluoromethane	113	7.190	7.198	(0.892)	136405	52.8546	66.3	
* 42 Pentafluorobenzene	168	8.062	8.070	(1.000)	284487	50.0000		
$ 45 1,2-Dichloroethane-D4	65	8.112	8.119	(1.006)	183218	54.0544	67.8	
* 49 1,4-Difluorobenzene	114	8.934	8.942	(1.000)	473030	50.0000		
$ 55 Toluene-D8	98	11.086	11.094	(1.241)	602879	50.7757	63.7	
* 66 Chlorobenzene-D5	117	13.380	13.381	(1.000)	458619	50.0000		
$ 76 P-Bromofluorobenzene	95	15.024	15.032	(1.682)	226822	45.2174	56.7	
* 91 1,4-Dichlorobenzene-D4	152	16.433	16.440	(1.000)	239250	50.0000		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Date : 22-MAY-2018 11:54
Client ID: CHAAP-21B-DS-SB11-5
Sample Info: SL4180-18
Instrument: gcms-w.i
\\target_server\gg\chem\gcms-w.i\W052218.b\W4105.D
Y (x10^6)
Min
-Dibromofluoromethane (7.191)
-Pentafluorobenzene (8.063)+
-1,4-Difluorobenzene (8.935)
-Toluene-D8 (11.086)
Chlorobenzene-D5 (13.381)
-P-Bromofluorobenzene (15.025)
1,4-Dichlorobenzene-D4 (16.433)

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-19
Client ID: CHAAP-21B-DS-SS10
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4074.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 21-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228751

Analysis Date: 21-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 69.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,1,1,2-Tetrachloroethane	U	3.5	ug/Kgdrywt	1	5	7.0	0.98	3.5
1,1,1-Trichloroethane	U	3.5	ug/Kgdrywt	1	5	7.0	0.59	3.5
1,1,2,2-Tetrachloroethane	U	3.5	ug/Kgdrywt	1	5	7.0	1.2	3.5
Freon-113	U	3.5	ug/Kgdrywt	1	5	7.0	1.3	3.5
1,1,2-Trichloroethane	U	3.5	ug/Kgdrywt	1	5	7.0	1.4	3.5
1,1-Dichloroethane	U	3.5	ug/Kgdrywt	1	5	7.0	2.4	3.5
1,1-Dichloroethene	U	3.5	ug/Kgdrywt	1	5	7.0	1.3	3.5
1,1-Dichloropropene	U	3.5	ug/Kgdrywt	1	5	7.0	1.3	3.5
1,2,3-Trichlorobenzene	U	3.5	ug/Kgdrywt	1	5	7.0	1.1	3.5
1,2,3-Trichloropropane	U	3.5	ug/Kgdrywt	1	5	7.0	1.7	3.5
1,2,4-Trichlorobenzene	U	3.5	ug/Kgdrywt	1	5	7.0	1.1	3.5
1,2,4-Trimethylbenzene	U	3.5	ug/Kgdrywt	1	5	7.0	1.2	3.5
1,2-Dibromo-3-Chloropropane	U	3.5	ug/Kgdrywt	1	5	7.0	2.1	3.5
1,2-Dibromoethane	U	3.5	ug/Kgdrywt	1	5	7.0	1.7	3.5
1,2-Dichlorobenzene	U	3.5	ug/Kgdrywt	1	5	7.0	1.1	3.5
1,2-Dichloroethane	U	3.5	ug/Kgdrywt	1	5	7.0	1.4	3.5
1,2-Dichloropropane	U	3.5	ug/Kgdrywt	1	5	7.0	2.0	3.5
1,3,5-Trimethylbenzene	U	3.5	ug/Kgdrywt	1	5	7.0	0.94	3.5
1,3-Dichlorobenzene	U	3.5	ug/Kgdrywt	1	5	7.0	0.87	3.5
1,3-Dichloropropane	U	3.5	ug/Kgdrywt	1	5	7.0	1.3	3.5
1,4-Dichlorobenzene	U	3.5	ug/Kgdrywt	1	5	7.0	0.62	3.5
2,2-Dichloropropane	U	3.5	ug/Kgdrywt	1	5	7.0	0.70	3.5
2-Butanone	U	18	ug/Kgdrywt	1	25	35.	8.3	18.
2-Chlorotoluene	U	3.5	ug/Kgdrywt	1	5	7.0	1.5	3.5
2-Hexanone	U	18	ug/Kgdrywt	1	25	35.	6.7	18.
4-Chlorotoluene	U	3.5	ug/Kgdrywt	1	5	7.0	0.69	3.5
P-Isopropyltoluene	U	3.5	ug/Kgdrywt	1	5	7.0	1.1	3.5
4-Methyl-2-Pentanone	U	18	ug/Kgdrywt	1	25	35.	8.3	18.
Acetone	U	18	ug/Kgdrywt	1	25	35.	7.1	18.
Benzene	U	3.5	ug/Kgdrywt	1	5	7.0	1.3	3.5
Bromobenzene	U	3.5	ug/Kgdrywt	1	5	7.0	1.0	3.5
Bromochloromethane	U	3.5	ug/Kgdrywt	1	5	7.0	1.3	3.5
Bromodichloromethane	U	3.5	ug/Kgdrywt	1	5	7.0	0.84	3.5
Bromoform	U	3.5	ug/Kgdrywt	1	5	7.0	0.98	3.5
Bromomethane	U	7.0	ug/Kgdrywt	1	10	14.	1.5	7.0

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-19
Client ID: CHAAP-21B-DS-SS10
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4074.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 21-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228751

Analysis Date: 21-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 69.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Carbon Disulfide	U	3.5	ug/Kgdrywt	1	5	7.0	1.1	3.5
Carbon Tetrachloride	U	3.5	ug/Kgdrywt	1	5	7.0	1.8	3.5
Chlorobenzene	U	3.5	ug/Kgdrywt	1	5	7.0	0.71	3.5
Dibromochloromethane	U	3.5	ug/Kgdrywt	1	5	7.0	9.8	3.5
Chloroethane	U	7.0	ug/Kgdrywt	1	10	14.	1.8	7.0
Chloroform	U	3.5	ug/Kgdrywt	1	5	7.0	0.49	3.5
Chloromethane	U	7.0	ug/Kgdrywt	1	10	14.	2.0	7.0
cis-1,2-Dichloroethene	U	3.5	ug/Kgdrywt	1	5	7.0	1.3	3.5
cis-1,3-Dichloropropene	U	3.5	ug/Kgdrywt	1	5	7.0	1.0	3.5
Dibromomethane	U	3.5	ug/Kgdrywt	1	5	7.0	0.71	3.5
Dichlorodifluoromethane	U	7.0	ug/Kgdrywt	1	10	14.	1.3	7.0
Ethylbenzene	U	3.5	ug/Kgdrywt	1	5	7.0	0.91	3.5
Hexachlorobutadiene	U	3.5	ug/Kgdrywt	1	5	7.0	1.0	3.5
Isopropylbenzene	U	3.5	ug/Kgdrywt	1	5	7.0	1.3	3.5
m+p-Xylenes	U	7.0	ug/Kgdrywt	1	10	14.	2.4	7.0
Methyl tert-butyl Ether	U	3.5	ug/Kgdrywt	1	5	7.0	1.5	3.5
Methylene Chloride	U	18	ug/Kgdrywt	1	25	35.	11.	18.
N-Butylbenzene	U	3.5	ug/Kgdrywt	1	5	7.0	1.3	3.5
N-Propylbenzene	U	3.5	ug/Kgdrywt	1	5	7.0	1.2	3.5
Naphthalene	U	3.5	ug/Kgdrywt	1	5	7.0	1.2	3.5
o-Xylene	U	3.5	ug/Kgdrywt	1	5	7.0	1.8	3.5
sec-Butylbenzene	U	3.5	ug/Kgdrywt	1	5	7.0	1.3	3.5
Styrene	U	3.5	ug/Kgdrywt	1	5	7.0	0.71	3.5
tert-Butylbenzene	U	3.5	ug/Kgdrywt	1	5	7.0	1.3	3.5
Tetrachloroethene	U	3.5	ug/Kgdrywt	1	5	7.0	1.7	3.5
Toluene	U	3.5	ug/Kgdrywt	1	5	7.0	2.0	3.5
trans-1,2-Dichloroethene	U	3.5	ug/Kgdrywt	1	5	7.0	0.99	3.5
trans-1,3-Dichloropropene	U	3.5	ug/Kgdrywt	1	5	7.0	1.2	3.5
Trichloroethene	U	3.5	ug/Kgdrywt	1	5	7.0	0.83	3.5
Trichlorofluoromethane	U	7.0	ug/Kgdrywt	1	10	14.	1.3	7.0
Vinyl Chloride	U	7.0	ug/Kgdrywt	1	10	14.	1.2	7.0
1,2-Dichloroethane-D4		102.	%					
p-Bromofluorobenzene		90.9	%					
Dibromofluoromethane		103.	%					
Toluene-D8		96.7	%					

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Data File: \\target_server\gg\chem\gcms-w.i\W052118.b\W4074.D
Report Date: 25-May-2018 12:11

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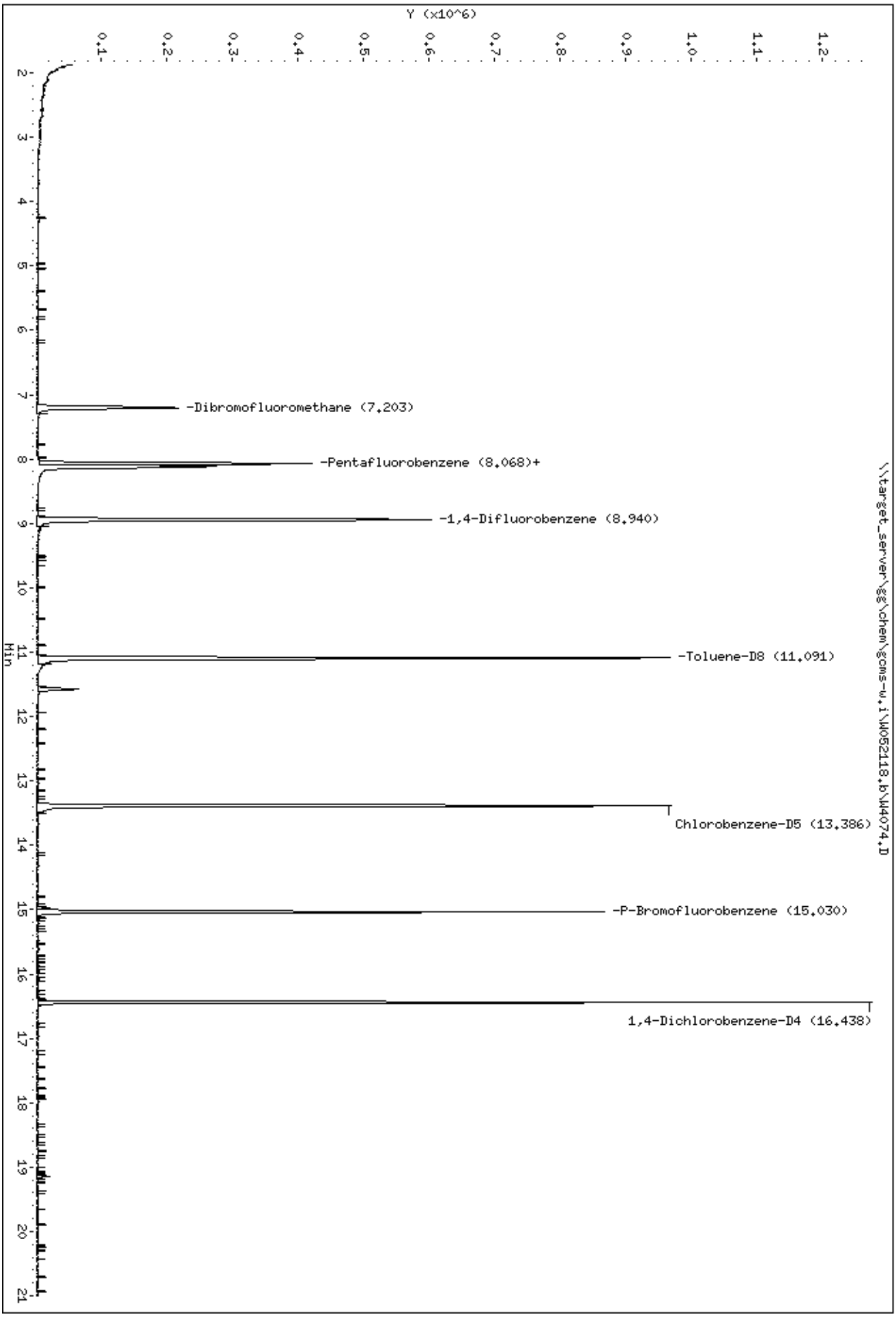
Data file : \\target_server\gg\chem\gcms-w.i\W052118.b\W4074.D
Lab Smp Id: SL4180-19 Client Smp ID: CHAAP-21B-DS-SS10
Inj Date : 21-MAY-2018 15:36 MS Autotune Date: 10-APR-2016 11:00
Operator : JSS Inst ID: gcms-w.i
Smp Info : SL4180-19
Misc Info : WG228751,WG228751-4
Comment : SW846 5035
Method : \\target_server\gg\chem\gcms-w.i\W052118.b\W8SDI(13)D.m
Meth Date : 25-May-2018 12:05 gcms-w.i Quant Type: ISTD
Cal Date : 21-MAY-2018 11:44 Cal File: W4068.D
Als bottle: 13
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: T6-O360

Concentration Formula: Amt * DF * (100/(100-M))*(Vt/Ws) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
M	30.532	% Moisture
Vt	5.000	Volume of DI Water (mL)
Ws	4.980	Weight of Sample (g)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/kg)	FINAL (ug/Kgdrywt)	REVIEW COD
$ 37 Dibromofluoromethane	113	7.202	7.197	(0.892)	164641	51.6273	74.6	
* 42 Pentafluorobenzene	168	8.075	8.069	(1.000)	351539	50.0000		
$ 45 1,2-Dichloroethane-D4	65	8.117	8.119	(1.005)	214320	51.1699	74.0	
* 49 1,4-Difluorobenzene	114	8.939	8.941	(1.000)	562444	50.0000		
$ 55 Toluene-D8	98	11.091	11.093	(1.241)	682918	48.3731	69.9	
* 66 Chlorobenzene-D5	117	13.385	13.380	(1.000)	530845	50.0000		
$ 76 P-Bromofluorobenzene	95	15.030	15.032	(1.681)	271136	45.4587	65.7	
* 91 1,4-Dichlorobenzene-D4	152	16.438	16.440	(1.000)	295394	50.0000		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Date : 21-MAY-2018 15:36
Client ID: CHAAP-21B-DS-SS10
Sample Info: SL4180-19
Instrument: gcms-w.i
\\target_server\gg\chem\gcms-w.i\W052118.b\W4074.D
Y (x10^6)
Min
-Dibromofluoromethane (7.203)
-Pentafluorobenzene (8.068)+
-1,4-Difluorobenzene (8.940)
-Toluene-D8 (11.091)
Chlorobenzene-D5 (13.386)
-P-Bromofluorobenzene (15.030)
1,4-Dichlorobenzene-D4 (16.438)

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-20
Client ID: CHAAP-21B-DS-SB10-5
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4075.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 21-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228751

Analysis Date: 21-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 82.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,1,1,2-Tetrachloroethane	U	2.4	ug/Kgdrywt	1	5	4.8	0.68	2.4
1,1,1-Trichloroethane	U	2.4	ug/Kgdrywt	1	5	4.8	0.41	2.4
1,1,2,2-Tetrachloroethane	U	2.4	ug/Kgdrywt	1	5	4.8	0.81	2.4
Freon-113	U	2.4	ug/Kgdrywt	1	5	4.8	0.87	2.4
1,1,2-Trichloroethane	U	2.4	ug/Kgdrywt	1	5	4.8	0.94	2.4
1,1-Dichloroethane	U	2.4	ug/Kgdrywt	1	5	4.8	1.6	2.4
1,1-Dichloroethene	U	2.4	ug/Kgdrywt	1	5	4.8	0.90	2.4
1,1-Dichloropropene	U	2.4	ug/Kgdrywt	1	5	4.8	0.88	2.4
1,2,3-Trichlorobenzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.74	2.4
1,2,3-Trichloropropane	U	2.4	ug/Kgdrywt	1	5	4.8	1.2	2.4
1,2,4-Trichlorobenzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.77	2.4
1,2,4-Trimethylbenzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.84	2.4
1,2-Dibromo-3-Chloropropane	U	2.4	ug/Kgdrywt	1	5	4.8	1.4	2.4
1,2-Dibromoethane	U	2.4	ug/Kgdrywt	1	5	4.8	1.2	2.4
1,2-Dichlorobenzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.76	2.4
1,2-Dichloroethane	U	2.4	ug/Kgdrywt	1	5	4.8	0.97	2.4
1,2-Dichloropropane	U	2.4	ug/Kgdrywt	1	5	4.8	1.4	2.4
1,3,5-Trimethylbenzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.65	2.4
1,3-Dichlorobenzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.60	2.4
1,3-Dichloropropane	U	2.4	ug/Kgdrywt	1	5	4.8	0.91	2.4
1,4-Dichlorobenzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.43	2.4
2,2-Dichloropropane	U	2.4	ug/Kgdrywt	1	5	4.8	0.48	2.4
2-Butanone	U	12	ug/Kgdrywt	1	25	24.	5.7	12.
2-Chlorotoluene	U	2.4	ug/Kgdrywt	1	5	4.8	1.1	2.4
2-Hexanone	U	12	ug/Kgdrywt	1	25	24.	4.6	12.
4-Chlorotoluene	U	2.4	ug/Kgdrywt	1	5	4.8	0.48	2.4
P-Isopropyltoluene	U	2.4	ug/Kgdrywt	1	5	4.8	0.74	2.4
4-Methyl-2-Pentanone	U	12	ug/Kgdrywt	1	25	24.	5.7	12.
Acetone	U	12	ug/Kgdrywt	1	25	24.	4.9	12.
Benzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.89	2.4
Bromobenzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.72	2.4
Bromochloromethane	U	2.4	ug/Kgdrywt	1	5	4.8	0.88	2.4
Bromodichloromethane	U	2.4	ug/Kgdrywt	1	5	4.8	0.58	2.4
Bromoform	U	2.4	ug/Kgdrywt	1	5	4.8	0.68	2.4
Bromomethane	U	4.8	ug/Kgdrywt	1	10	9.7	1.1	4.8

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-20
Client ID: CHAAP-21B-DS-SB10-5
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4075.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 21-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228751

Analysis Date: 21-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 82.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Carbon Disulfide	U	2.4	ug/Kgdrywt	1	5	4.8	0.76	2.4
Carbon Tetrachloride	U	2.4	ug/Kgdrywt	1	5	4.8	1.3	2.4
Chlorobenzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.49	2.4
Dibromochloromethane	U	2.4	ug/Kgdrywt	1	5	4.8	6.8	2.4
Chloroethane	U	4.8	ug/Kgdrywt	1	10	9.7	1.3	4.8
Chloroform	U	2.4	ug/Kgdrywt	1	5	4.8	0.34	2.4
Chloromethane	U	4.8	ug/Kgdrywt	1	10	9.7	1.4	4.8
cis-1,2-Dichloroethene	U	2.4	ug/Kgdrywt	1	5	4.8	0.88	2.4
cis-1,3-Dichloropropene	U	2.4	ug/Kgdrywt	1	5	4.8	0.70	2.4
Dibromomethane	U	2.4	ug/Kgdrywt	1	5	4.8	0.49	2.4
Dichlorodifluoromethane	U	4.8	ug/Kgdrywt	1	10	9.7	0.89	4.8
Ethylbenzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.63	2.4
Hexachlorobutadiene	U	2.4	ug/Kgdrywt	1	5	4.8	0.72	2.4
Isopropylbenzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.89	2.4
m+p-Xylenes	U	4.8	ug/Kgdrywt	1	10	9.7	1.6	4.8
Methyl tert-butyl Ether	U	2.4	ug/Kgdrywt	1	5	4.8	1.1	2.4
Methylene Chloride	U	12	ug/Kgdrywt	1	25	24.	7.7	12.
N-Butylbenzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.89	2.4
N-Propylbenzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.80	2.4
Naphthalene	U	2.4	ug/Kgdrywt	1	5	4.8	0.85	2.4
o-Xylene	U	2.4	ug/Kgdrywt	1	5	4.8	1.3	2.4
sec-Butylbenzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.88	2.4
Styrene	U	2.4	ug/Kgdrywt	1	5	4.8	0.49	2.4
tert-Butylbenzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.87	2.4
Tetrachloroethene	U	2.4	ug/Kgdrywt	1	5	4.8	1.2	2.4
Toluene	U	2.4	ug/Kgdrywt	1	5	4.8	1.4	2.4
trans-1,2-Dichloroethene	U	2.4	ug/Kgdrywt	1	5	4.8	0.69	2.4
trans-1,3-Dichloropropene	U	2.4	ug/Kgdrywt	1	5	4.8	0.83	2.4
Trichloroethene	U	2.4	ug/Kgdrywt	1	5	4.8	0.57	2.4
Trichlorofluoromethane	U	4.8	ug/Kgdrywt	1	10	9.7	0.88	4.8
Vinyl Chloride	U	4.8	ug/Kgdrywt	1	10	9.7	0.84	4.8
1,2-Dichloroethane-D4		99.3	%					
p-Bromofluorobenzene		89.4	%					
Dibromofluoromethane		103.	%					
Toluene-D8		98.2	%					

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Data File: \\target_server\gg\chem\gcms-w.i\W052118.b\W4075.D
Report Date: 25-May-2018 12:11

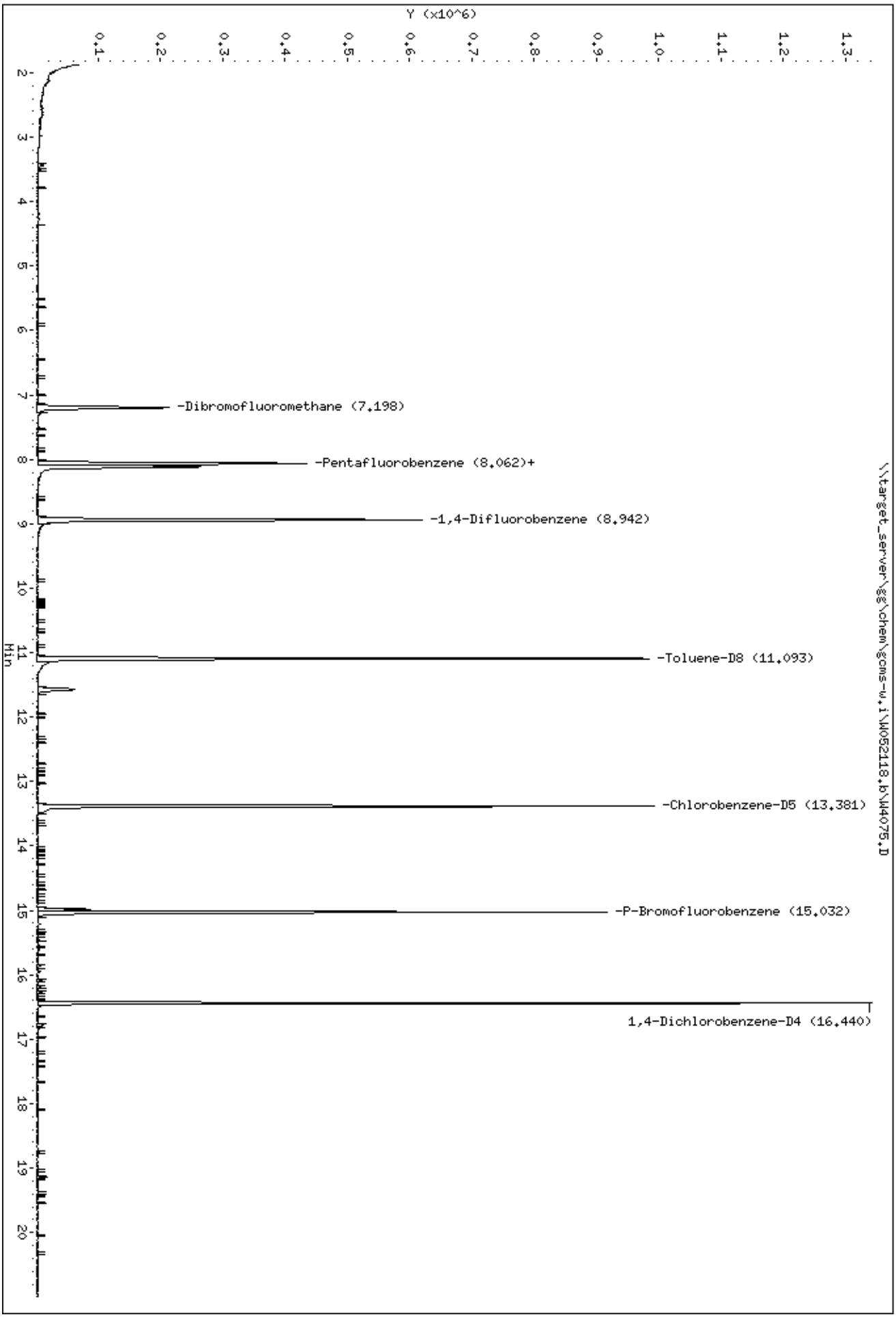
Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W052118.b\W4075.D
Lab Smp Id: SL4180-20 Client Smp ID: CHAAP-21B-DS-SB10-5
Inj Date : 21-MAY-2018 16:13 MS Autotune Date: 10-APR-2016 11:00
Operator : JSS Inst ID: gcms-w.i
Smp Info : SL4180-20
Misc Info : WG228751,WG228751-4
Comment : SW846 5035
Method : \\target_server\gg\chem\gcms-w.i\W052118.b\W8SDI(13)D.m
Meth Date : 25-May-2018 12:05 gcms-w.i Quant Type: ISTD
Cal Date : 21-MAY-2018 11:44 Cal File: W4068.D
Als bottle: 14
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: T6-O360

Concentration Formula: Amt * DF * (100/(100-M))*(Vt/Ws) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
M	18.434	% Moisture
Vt	5.000	Volume of DI Water (mL)
Ws	6.310	Weight of Sample (g)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/kg)	FINAL (ug/Kgdrywt)	REVIEW COD
$ 37 Dibromofluoromethane	113	7.197	7.197	(0.893)	168439	51.3059	49.8	
* 42 Pentafluorobenzene	168	8.062	8.069	(1.000)	361901	50.0000		
$ 45 1,2-Dichloroethane-D4	65	8.112	8.119	(1.006)	214191	49.6748	48.2	
* 49 1,4-Difluorobenzene	114	8.941	8.941	(1.000)	580272	50.0000		
$ 55 Toluene-D8	98	11.093	11.093	(1.241)	714985	49.0885	47.7	
* 66 Chlorobenzene-D5	117	13.380	13.380	(1.000)	553384	50.0000		
$ 76 P-Bromofluorobenzene	95	15.031	15.032	(1.681)	274969	44.6850	43.4	
* 91 1,4-Dichlorobenzene-D4	152	16.439	16.440	(1.000)	296221	50.0000		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Date : 21-MAY-2018 16:13
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Sample Info: SL4180-20
Instrument: gcms-w.i
\\target_server\gg\chem\gcms-w.i\W052118.b\W4075.D
Y (x10^6)
Min
-Dibromofluoromethane (7.198)
-Pentafluorobenzene (8.062)+
-1,4-Difluorobenzene (8.942)
-Toluene-D8 (11.093)
-Chlorobenzene-D5 (13.381)
-P-Bromofluorobenzene (15.032)
1,4-Dichlorobenzene-D4 (16.440)

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-21
Client ID: CHAAP-21B-DS-SS04
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4076.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 21-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228751

Analysis Date: 21-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 74.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,1,1,2-Tetrachloroethane	U	3.2	ug/Kgdrywt	1	5	6.5	0.91	3.2
1,1,1-Trichloroethane	U	3.2	ug/Kgdrywt	1	5	6.5	0.55	3.2
1,1,2,2-Tetrachloroethane	U	3.2	ug/Kgdrywt	1	5	6.5	1.1	3.2
Freon-113	U	3.2	ug/Kgdrywt	1	5	6.5	1.2	3.2
1,1,2-Trichloroethane	U	3.2	ug/Kgdrywt	1	5	6.5	1.3	3.2
1,1-Dichloroethane	U	3.2	ug/Kgdrywt	1	5	6.5	2.2	3.2
1,1-Dichloroethene	U	3.2	ug/Kgdrywt	1	5	6.5	1.2	3.2
1,1-Dichloropropene	U	3.2	ug/Kgdrywt	1	5	6.5	1.2	3.2
1,2,3-Trichlorobenzene	U	3.2	ug/Kgdrywt	1	5	6.5	0.99	3.2
1,2,3-Trichloropropane	U	3.2	ug/Kgdrywt	1	5	6.5	1.6	3.2
1,2,4-Trichlorobenzene	U	3.2	ug/Kgdrywt	1	5	6.5	1.0	3.2
1,2,4-Trimethylbenzene	U	3.2	ug/Kgdrywt	1	5	6.5	1.1	3.2
1,2-Dibromo-3-Chloropropane	U	3.2	ug/Kgdrywt	1	5	6.5	2.0	3.2
1,2-Dibromoethane	U	3.2	ug/Kgdrywt	1	5	6.5	1.6	3.2
1,2-Dichlorobenzene	U	3.2	ug/Kgdrywt	1	5	6.5	1.0	3.2
1,2-Dichloroethane	U	3.2	ug/Kgdrywt	1	5	6.5	1.3	3.2
1,2-Dichloropropane	U	3.2	ug/Kgdrywt	1	5	6.5	1.8	3.2
1,3,5-Trimethylbenzene	U	3.2	ug/Kgdrywt	1	5	6.5	0.87	3.2
1,3-Dichlorobenzene	U	3.2	ug/Kgdrywt	1	5	6.5	0.81	3.2
1,3-Dichloropropane	U	3.2	ug/Kgdrywt	1	5	6.5	1.2	3.2
1,4-Dichlorobenzene	U	3.2	ug/Kgdrywt	1	5	6.5	0.57	3.2
2,2-Dichloropropane	U	3.2	ug/Kgdrywt	1	5	6.5	0.65	3.2
2-Butanone	U	16	ug/Kgdrywt	1	25	32.	7.7	16.
2-Chlorotoluene	U	3.2	ug/Kgdrywt	1	5	6.5	1.4	3.2
2-Hexanone	U	16	ug/Kgdrywt	1	25	32.	6.2	16.
4-Chlorotoluene	U	3.2	ug/Kgdrywt	1	5	6.5	0.64	3.2
P-Isopropyltoluene	U	3.2	ug/Kgdrywt	1	5	6.5	0.99	3.2
4-Methyl-2-Pentanone	U	16	ug/Kgdrywt	1	25	32.	7.7	16.
Acetone	U	16	ug/Kgdrywt	1	25	32.	6.6	16.
Benzene	U	3.2	ug/Kgdrywt	1	5	6.5	1.2	3.2
Bromobenzene	U	3.2	ug/Kgdrywt	1	5	6.5	0.96	3.2
Bromochloromethane	U	3.2	ug/Kgdrywt	1	5	6.5	1.2	3.2
Bromodichloromethane	U	3.2	ug/Kgdrywt	1	5	6.5	0.78	3.2
Bromoform	U	3.2	ug/Kgdrywt	1	5	6.5	0.91	3.2
Bromomethane	U	6.5	ug/Kgdrywt	1	10	13.	1.4	6.5

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-21
Client ID: CHAAP-21B-DS-SS04
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4076.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 21-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228751

Analysis Date: 21-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 74.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Carbon Disulfide	U	3.2	ug/Kgdrywt	1	5	6.5	1.0	3.2
Carbon Tetrachloride	U	3.2	ug/Kgdrywt	1	5	6.5	1.7	3.2
Chlorobenzene	U	3.2	ug/Kgdrywt	1	5	6.5	0.66	3.2
Dibromochloromethane	U	3.2	ug/Kgdrywt	1	5	6.5	9.1	3.2
Chloroethane	U	6.5	ug/Kgdrywt	1	10	13.	1.7	6.5
Chloroform	U	3.2	ug/Kgdrywt	1	5	6.5	0.46	3.2
Chloromethane	U	6.5	ug/Kgdrywt	1	10	13.	1.8	6.5
cis-1,2-Dichloroethene	U	3.2	ug/Kgdrywt	1	5	6.5	1.2	3.2
cis-1,3-Dichloropropene	U	3.2	ug/Kgdrywt	1	5	6.5	0.94	3.2
Dibromomethane	U	3.2	ug/Kgdrywt	1	5	6.5	0.66	3.2
Dichlorodifluoromethane	U	6.5	ug/Kgdrywt	1	10	13.	1.2	6.5
Ethylbenzene	U	3.2	ug/Kgdrywt	1	5	6.5	0.84	3.2
Hexachlorobutadiene	U	3.2	ug/Kgdrywt	1	5	6.5	0.96	3.2
Isopropylbenzene	U	3.2	ug/Kgdrywt	1	5	6.5	1.2	3.2
m+p-Xylenes	U	6.5	ug/Kgdrywt	1	10	13.	2.2	6.5
Methyl tert-butyl Ether	U	3.2	ug/Kgdrywt	1	5	6.5	1.4	3.2
Methylene Chloride	U	16	ug/Kgdrywt	1	25	32.	10.	16.
N-Butylbenzene	U	3.2	ug/Kgdrywt	1	5	6.5	1.2	3.2
N-Propylbenzene	U	3.2	ug/Kgdrywt	1	5	6.5	1.1	3.2
Naphthalene	J	1.2	ug/Kgdrywt	1	5	6.5	1.1	3.2
o-Xylene	U	3.2	ug/Kgdrywt	1	5	6.5	1.7	3.2
sec-Butylbenzene	U	3.2	ug/Kgdrywt	1	5	6.5	1.2	3.2
Styrene	U	3.2	ug/Kgdrywt	1	5	6.5	0.66	3.2
tert-Butylbenzene	U	3.2	ug/Kgdrywt	1	5	6.5	1.2	3.2
Tetrachloroethene	U	3.2	ug/Kgdrywt	1	5	6.5	1.6	3.2
Toluene	U	3.2	ug/Kgdrywt	1	5	6.5	1.8	3.2
trans-1,2-Dichloroethene	U	3.2	ug/Kgdrywt	1	5	6.5	0.92	3.2
trans-1,3-Dichloropropene	U	3.2	ug/Kgdrywt	1	5	6.5	1.1	3.2
Trichloroethene	U	3.2	ug/Kgdrywt	1	5	6.5	0.77	3.2
Trichlorofluoromethane	U	6.5	ug/Kgdrywt	1	10	13.	1.2	6.5
Vinyl Chloride	U	6.5	ug/Kgdrywt	1	10	13.	1.1	6.5
1,2-Dichloroethane-D4		98.7	%					
p-Bromofluorobenzene	*	76.7	%					
Dibromofluoromethane		104.	%					
Toluene-D8		99.6	%					

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Data File: \\target_server\gg\chem\gcms-w.i\W052118.b\W4076.D
Report Date: 25-May-2018 12:11

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W052118.b\W4076.D
Lab Smp Id: SL4180-21 Client Smp ID: CHAAP-21B-DS-SS04
Inj Date : 21-MAY-2018 16:51 MS Autotune Date: 10-APR-2016 11:00
Operator : JSS Inst ID: gcms-w.i
Smp Info : SL4180-21
Misc Info : WG228751,WG228751-4
Comment : SW846 5035
Method : \\target_server\gg\chem\gcms-w.i\W052118.b\W8SDI(13)D.m
Meth Date : 25-May-2018 12:05 gcms-w.i Quant Type: ISTD
Cal Date : 21-MAY-2018 11:44 Cal File: W4068.D
Als bottle: 15
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: T6-O360

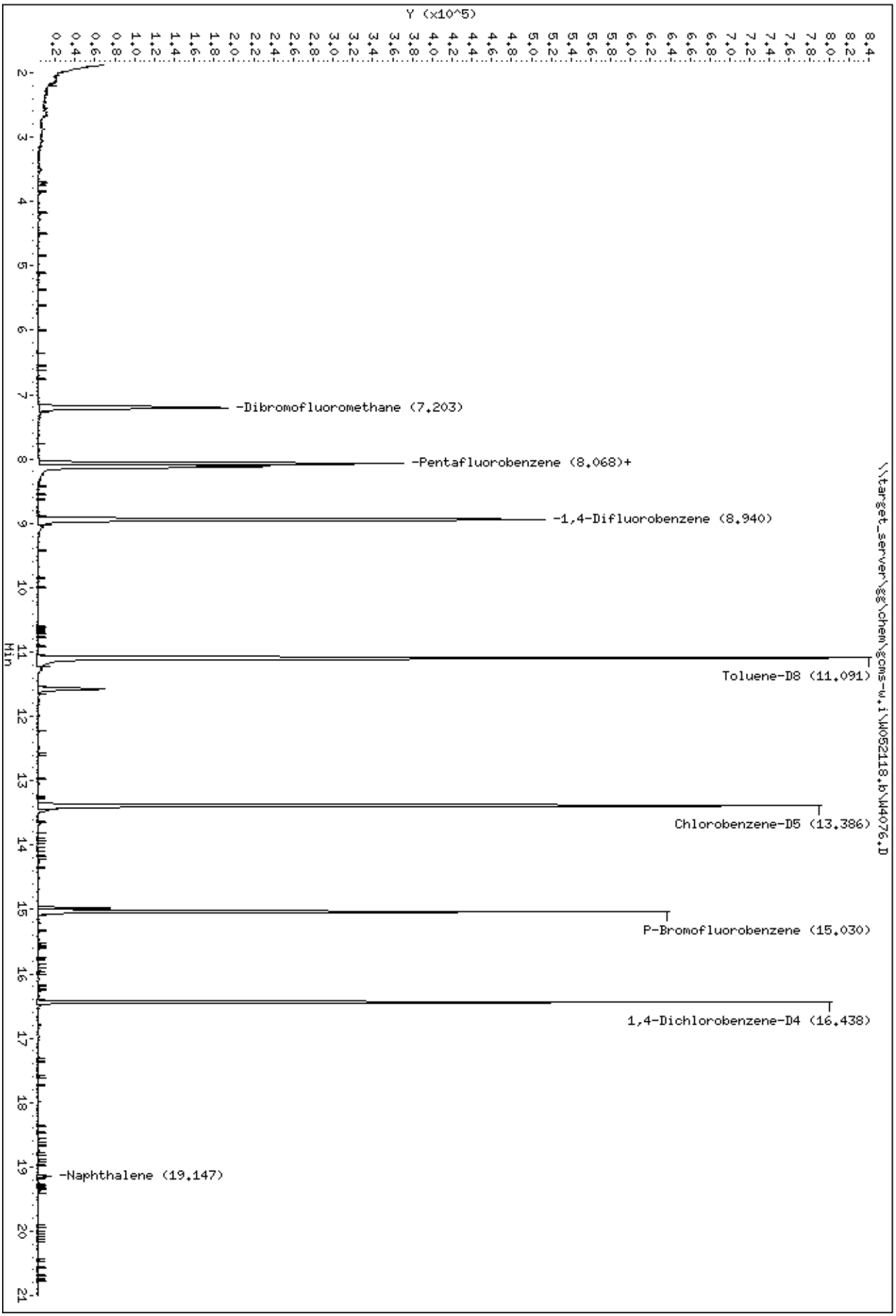
Concentration Formula: Amt * DF * (100/(100-M))*(Vt/Ws) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
M	26.436	% Moisture
Vt	5.000	Volume of DI Water (mL)
Ws	5.220	Weight of Sample (g)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/kg)	FINAL (ug/Kgdrywt)	REVIEW COD
$ 37 Dibromofluoromethane	113	7.202	7.197	(0.892)	146633	51.8401	67.5	
* 42 Pentafluorobenzene	168	8.074	8.069	(1.000)	311803	50.0000		
$ 45 1,2-Dichloroethane-D4	65	8.117	8.119	(1.005)	183313	49.3444	64.2	
* 49 1,4-Difluorobenzene	114	8.939	8.941	(1.000)	484375	50.0000		
$ 55 Toluene-D8	98	11.091	11.093	(1.241)	605172	49.7751	64.8	
* 66 Chlorobenzene-D5	117	13.385	13.380	(1.000)	436490	50.0000		
$ 76 P-Bromofluorobenzene	95	15.029	15.032	(1.681)	196961	38.3449	49.9	
* 91 1,4-Dichlorobenzene-D4	152	16.437	16.440	(1.000)	183514	50.0000		
101 Naphthalene	128	19.147	19.142	(1.165)	9986	0.92614	1.2(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).



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Date : 21-MAY-2018 16:51
Client ID: CHAAP-21B-DS-SS04
Sample Info: SL4180-21

Instrument: gcms-w.i

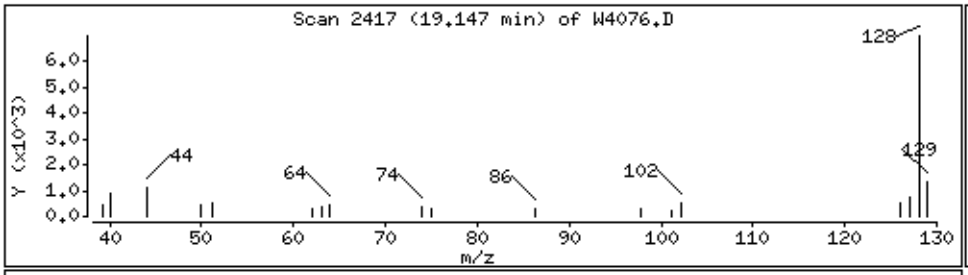
Data File: \\target_server\gg\chem\gcms-w.i\W052118.b\W4076.D

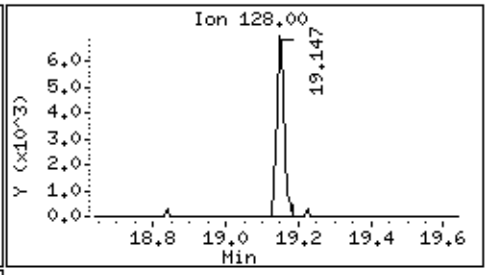
Date : 21-MAY-2018 16:51

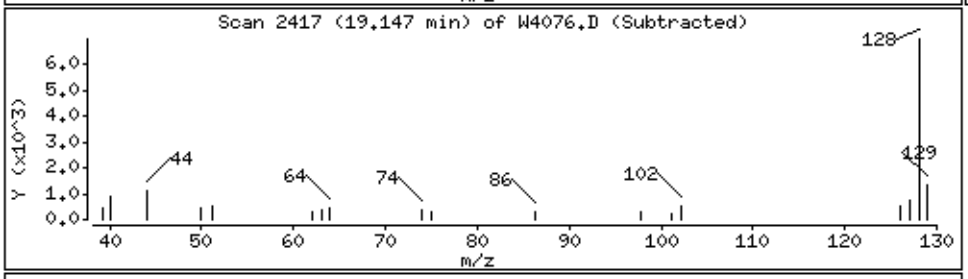
Client ID: CHAAP-21B-DS-SS04 Instrument: gcms-w.i

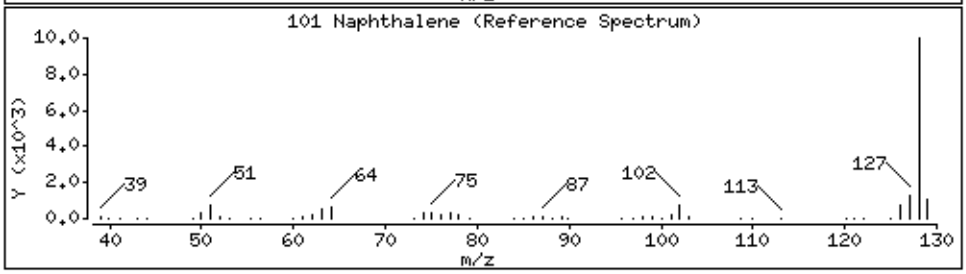
Sample Info: SL4180-21

101 Naphthalene Concentration: 1.2 ug/Kgdrywt









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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-21RA
Client ID: CHAAP-21B-DS-SS04
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4108.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 22-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228846

Analysis Date: 22-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 74.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,1,1,2-Tetrachloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.77	2.8
1,1,1-Trichloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.46	2.8
1,1,2,2-Tetrachloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.92	2.8
Freon-113	U	2.8	ug/Kgdrywt	1	5	5.5	0.99	2.8
1,1,2-Trichloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.1	2.8
1,1-Dichloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.9	2.8
1,1-Dichloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
1,1-Dichloropropene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
1,2,3-Trichlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.84	2.8
1,2,3-Trichloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	1.3	2.8
1,2,4-Trichlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.87	2.8
1,2,4-Trimethylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.96	2.8
1,2-Dibromo-3-Chloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	1.6	2.8
1,2-Dibromoethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.3	2.8
1,2-Dichlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.86	2.8
1,2-Dichloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.1	2.8
1,2-Dichloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	1.5	2.8
1,3,5-Trimethylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.74	2.8
1,3-Dichlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.68	2.8
1,3-Dichloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
1,4-Dichlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.48	2.8
2,2-Dichloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	0.55	2.8
2-Butanone	U	14	ug/Kgdrywt	1	25	28.	6.5	14.
2-Chlorotoluene	U	2.8	ug/Kgdrywt	1	5	5.5	1.2	2.8
2-Hexanone	U	14	ug/Kgdrywt	1	25	28.	5.3	14.
4-Chlorotoluene	U	2.8	ug/Kgdrywt	1	5	5.5	0.54	2.8
P-Isopropyltoluene	U	2.8	ug/Kgdrywt	1	5	5.5	0.84	2.8
4-Methyl-2-Pentanone	U	14	ug/Kgdrywt	1	25	28.	6.5	14.
Acetone	U	14	ug/Kgdrywt	1	25	28.	5.6	14.
Benzene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
Bromobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.81	2.8
Bromochloromethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
Bromodichloromethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.66	2.8
Bromoform	U	2.8	ug/Kgdrywt	1	5	5.5	0.77	2.8
Bromomethane	U	5.5	ug/Kgdrywt	1	10	11.	1.2	5.5

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-21RA
Client ID: CHAAP-21B-DS-SS04
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4108.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 22-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228846

Analysis Date: 22-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 74.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Carbon Disulfide	U	2.8	ug/Kgdrywt	1	5	5.5	0.86	2.8
Carbon Tetrachloride	U	2.8	ug/Kgdrywt	1	5	5.5	1.4	2.8
Chlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.56	2.8
Dibromochloromethane	U	2.8	ug/Kgdrywt	1	5	5.5	7.7	2.8
Chloroethane	U	5.5	ug/Kgdrywt	1	10	11.	1.4	5.5
Chloroform	U	2.8	ug/Kgdrywt	1	5	5.5	0.38	2.8
Chloromethane	U	5.5	ug/Kgdrywt	1	10	11.	1.5	5.5
cis-1,2-Dichloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
cis-1,3-Dichloropropene	U	2.8	ug/Kgdrywt	1	5	5.5	0.79	2.8
Dibromomethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.56	2.8
Dichlorodifluoromethane	U	5.5	ug/Kgdrywt	1	10	11.	1.0	5.5
Ethylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.72	2.8
Hexachlorobutadiene	U	2.8	ug/Kgdrywt	1	5	5.5	0.81	2.8
Isopropylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
m+p-Xylenes	U	5.5	ug/Kgdrywt	1	10	11.	1.9	5.5
Methyl tert-butyl Ether	U	2.8	ug/Kgdrywt	1	5	5.5	1.2	2.8
Methylene Chloride	U	14	ug/Kgdrywt	1	25	28.	8.7	14.
N-Butylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
N-Propylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.91	2.8
Naphthalene	U	2.8	ug/Kgdrywt	1	5	5.5	0.97	2.8
o-Xylene	U	2.8	ug/Kgdrywt	1	5	5.5	1.4	2.8
sec-Butylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
Styrene	U	2.8	ug/Kgdrywt	1	5	5.5	0.56	2.8
tert-Butylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.99	2.8
Tetrachloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	1.3	2.8
Toluene	U	2.8	ug/Kgdrywt	1	5	5.5	1.5	2.8
trans-1,2-Dichloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	0.78	2.8
trans-1,3-Dichloropropene	U	2.8	ug/Kgdrywt	1	5	5.5	0.95	2.8
Trichloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	0.65	2.8
Trichlorofluoromethane	U	5.5	ug/Kgdrywt	1	10	11.	1.0	5.5
Vinyl Chloride	U	5.5	ug/Kgdrywt	1	10	11.	0.96	5.5
1,2-Dichloroethane-D4		110.	%					
p-Bromofluorobenzene	*	70.1	%					
Dibromofluoromethane		115.	%					
Toluene-D8		99.4	%					

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Data File: \\target_server\gg\chem\gcms-w.i\W052218.b\W4108.D
Report Date: 25-May-2018 12:31

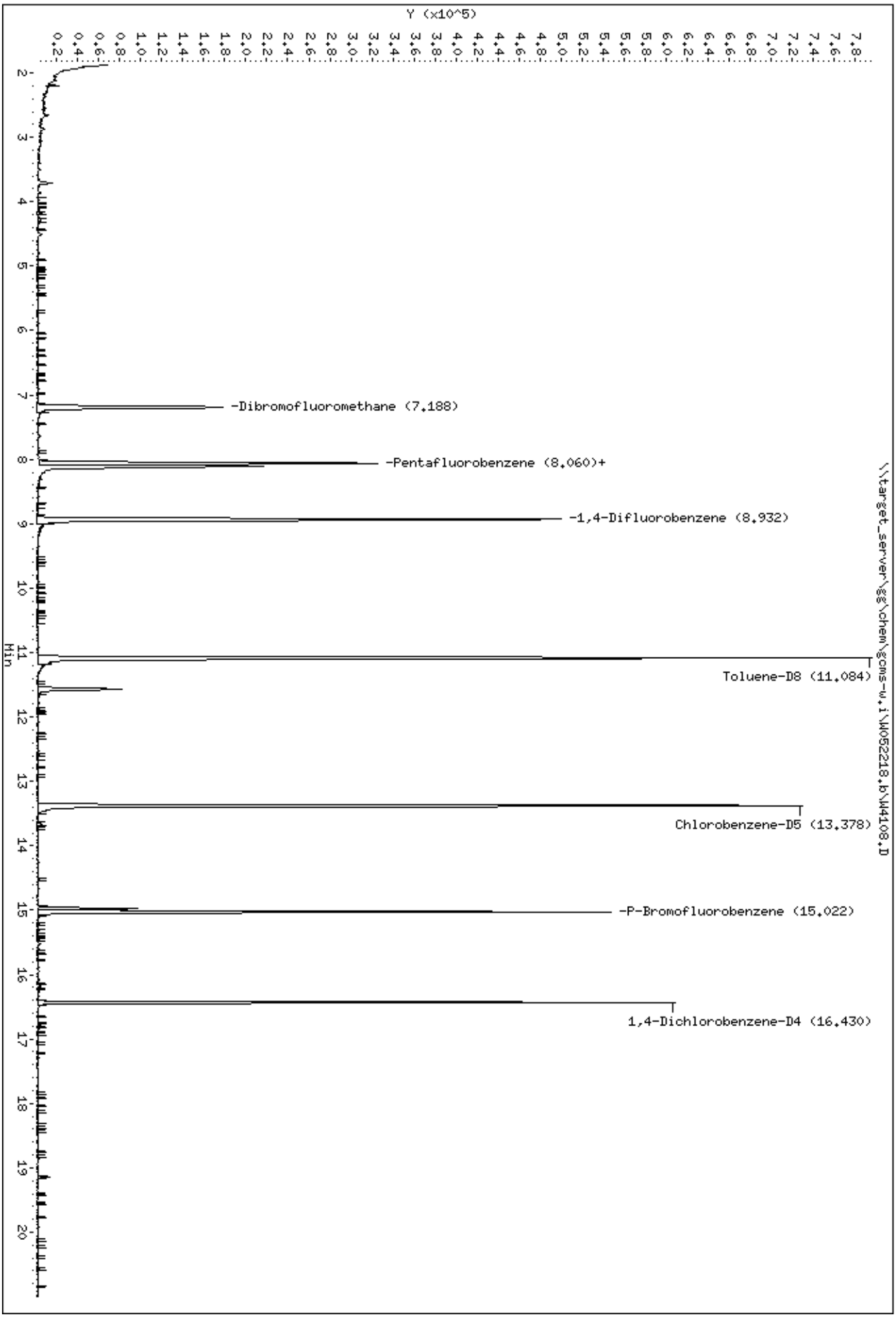
Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W052218.b\W4108.D
Lab Smp Id: SL4180-21RA Client Smp ID: CHAAP-21B-DS-SS04
Inj Date : 22-MAY-2018 13:45 MS Autotune Date: 10-APR-2016 11:00
Operator : JSS Inst ID: gcms-w.i
Smp Info : SL4180-21RA
Misc Info : WG228846,WG228751-4
Comment   : SW846 5035
Method   : \\target_server\gg\chem\gcms-w.i\W052218.b\W8SDI(13)D.m
Meth Date : 23-May-2018 07:11 jsampson Quant Type: ISTD
Cal Date : 21-MAY-2018 11:44 Cal File: W4068.D
Als bottle: 9
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: T6-O360

Concentration Formula: Amt * DF * (100/(100-M))*(Vt/Ws) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
M	26.436	% Moisture
Vt	5.000	Volume of DI Water (mL)
Ws	6.140	Weight of Sample (g)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/kg)	FINAL (ug/Kgdrywt)	REVIEW COD
$ 37 Dibromofluoromethane	113	7.188	7.198	(0.892)	137639	57.5421	63.7	
* 42 Pentafluorobenzene	168	8.060	8.070	(1.000)	263676	50.0000		
$ 45 1,2-Dichloroethane-D4	65	8.110	8.119	(1.006)	172202	54.8142	60.7	
* 49 1,4-Difluorobenzene	114	8.932	8.942	(1.000)	454508	50.0000		
$ 55 Toluene-D8	98	11.083	11.094	(1.241)	566983	49.6985	55.0	
* 66 Chlorobenzene-D5	117	13.378	13.381	(1.000)	398515	50.0000		
$ 76 P-Bromofluorobenzene	95	15.022	15.032	(1.682)	168909	35.0446	38.8	
* 91 1,4-Dichlorobenzene-D4	152	16.437	16.440	(1.000)	141024	50.0000		



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Date : 22-MAY-2018 13:45
Client ID: CHAAP-21B-DS-SS04
Sample Info: SL4180-21RA

Instrument: gcms-w.i

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-22
Client ID: CHAAP-21B-DS-SB04-5
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4077.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 21-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228751

Analysis Date: 21-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 74.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,1,1,2-Tetrachloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.77	2.8
1,1,1-Trichloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.46	2.8
1,1,2,2-Tetrachloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.92	2.8
Freon-113	U	2.8	ug/Kgdrywt	1	5	5.5	0.99	2.8
1,1,2-Trichloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.1	2.8
1,1-Dichloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.9	2.8
1,1-Dichloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
1,1-Dichloropropene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
1,2,3-Trichlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.84	2.8
1,2,3-Trichloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	1.3	2.8
1,2,4-Trichlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.87	2.8
1,2,4-Trimethylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.96	2.8
1,2-Dibromo-3-Chloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	1.6	2.8
1,2-Dibromoethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.3	2.8
1,2-Dichlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.86	2.8
1,2-Dichloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.1	2.8
1,2-Dichloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	1.5	2.8
1,3,5-Trimethylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.74	2.8
1,3-Dichlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.68	2.8
1,3-Dichloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
1,4-Dichlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.48	2.8
2,2-Dichloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	0.55	2.8
2-Butanone	U	14	ug/Kgdrywt	1	25	28.	6.5	14.
2-Chlorotoluene	U	2.8	ug/Kgdrywt	1	5	5.5	1.2	2.8
2-Hexanone	U	14	ug/Kgdrywt	1	25	28.	5.3	14.
4-Chlorotoluene	U	2.8	ug/Kgdrywt	1	5	5.5	0.54	2.8
P-Isopropyltoluene	U	2.8	ug/Kgdrywt	1	5	5.5	0.84	2.8
4-Methyl-2-Pentanone	U	14	ug/Kgdrywt	1	25	28.	6.5	14.
Acetone	U	14	ug/Kgdrywt	1	25	28.	5.6	14.
Benzene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
Bromobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.81	2.8
Bromochloromethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
Bromodichloromethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.66	2.8
Bromoform	U	2.8	ug/Kgdrywt	1	5	5.5	0.77	2.8
Bromomethane	U	5.5	ug/Kgdrywt	1	10	11.	1.2	5.5

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-22
Client ID: CHAAP-21B-DS-SB04-5
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4077.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 21-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228751

Analysis Date: 21-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 74.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Carbon Disulfide	U	2.8	ug/Kgdrywt	1	5	5.5	0.86	2.8
Carbon Tetrachloride	U	2.8	ug/Kgdrywt	1	5	5.5	1.4	2.8
Chlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.56	2.8
Dibromochloromethane	U	2.8	ug/Kgdrywt	1	5	5.5	7.7	2.8
Chloroethane	U	5.5	ug/Kgdrywt	1	10	11.	1.4	5.5
Chloroform	U	2.8	ug/Kgdrywt	1	5	5.5	0.38	2.8
Chloromethane	U	5.5	ug/Kgdrywt	1	10	11.	1.5	5.5
cis-1,2-Dichloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
cis-1,3-Dichloropropene	U	2.8	ug/Kgdrywt	1	5	5.5	0.79	2.8
Dibromomethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.56	2.8
Dichlorodifluoromethane	U	5.5	ug/Kgdrywt	1	10	11.	1.0	5.5
Ethylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.72	2.8
Hexachlorobutadiene	U	2.8	ug/Kgdrywt	1	5	5.5	0.81	2.8
Isopropylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
m+p-Xylenes	U	5.5	ug/Kgdrywt	1	10	11.	1.9	5.5
Methyl tert-butyl Ether	U	2.8	ug/Kgdrywt	1	5	5.5	1.2	2.8
Methylene Chloride	U	14	ug/Kgdrywt	1	25	28.	8.7	14.
N-Butylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
N-Propylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.91	2.8
Naphthalene	U	2.8	ug/Kgdrywt	1	5	5.5	0.97	2.8
o-Xylene	U	2.8	ug/Kgdrywt	1	5	5.5	1.4	2.8
sec-Butylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
Styrene	U	2.8	ug/Kgdrywt	1	5	5.5	0.56	2.8
tert-Butylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.99	2.8
Tetrachloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	1.3	2.8
Toluene	U	2.8	ug/Kgdrywt	1	5	5.5	1.5	2.8
trans-1,2-Dichloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	0.78	2.8
trans-1,3-Dichloropropene	U	2.8	ug/Kgdrywt	1	5	5.5	0.95	2.8
Trichloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	0.65	2.8
Trichlorofluoromethane	U	5.5	ug/Kgdrywt	1	10	11.	1.0	5.5
Vinyl Chloride	U	5.5	ug/Kgdrywt	1	10	11.	0.96	5.5
1,2-Dichloroethane-D4		99.9	%					
p-Bromofluorobenzene		90.5	%					
Dibromofluoromethane		104.	%					
Toluene-D8		98.2	%					

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Data File: \\target_server\gg\chem\gcms-w.i\W052118.b\W4077.D
Report Date: 25-May-2018 12:11

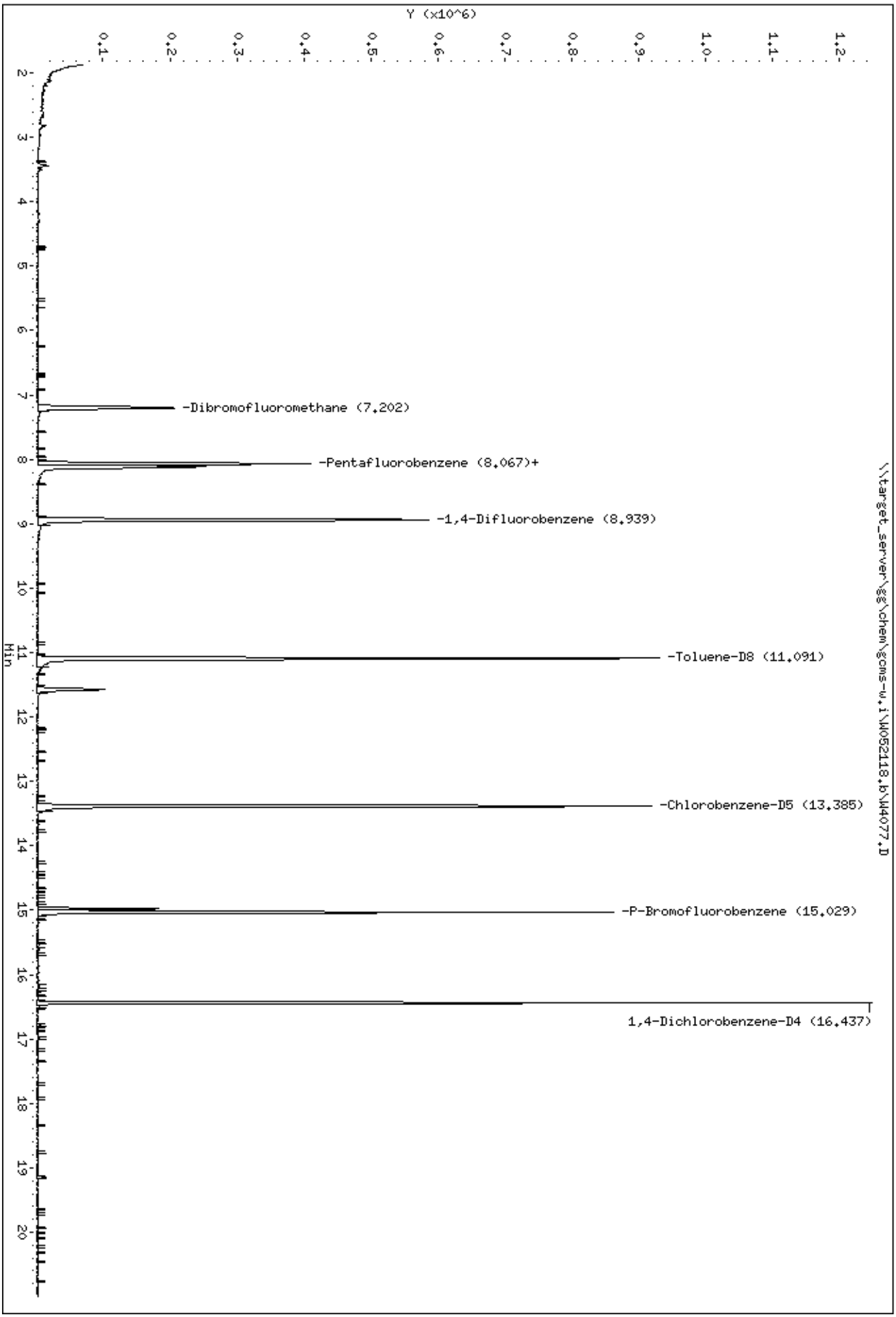
Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W052118.b\W4077.D
Lab Smp Id: SL4180-22 Client Smp ID: CHAAP-21B-DS-SB04-5
Inj Date : 21-MAY-2018 17:28 MS Autotune Date: 10-APR-2016 11:00
Operator : JSS Inst ID: gcms-w.i
Smp Info : SL4180-22
Misc Info : WG228751,WG228751-4
Comment : SW846 5035
Method : \\target_server\gg\chem\gcms-w.i\W052118.b\W8SDI(13)D.m
Meth Date : 25-May-2018 12:05 gcms-w.i Quant Type: ISTD
Cal Date : 21-MAY-2018 11:44 Cal File: W4068.D
Als bottle: 16
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: T6-O360

Concentration Formula: Amt * DF * (100/(100-M))*(Vt/Ws) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
M	26.416	% Moisture
Vt	5.000	Volume of DI Water (mL)
Ws	6.270	Weight of Sample (g)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/kg)	FINAL (ug/Kgdrywt)	REVIEW COD
$ 37 Dibromofluoromethane	113	7.202	7.197	(0.893)	157105	52.0042	56.4	
* 42 Pentafluorobenzene	168	8.067	8.069	(1.000)	333017	50.0000		
$ 45 1,2-Dichloroethane-D4	65	8.117	8.119	(1.006)	198271	49.9710	54.2	
* 49 1,4-Difluorobenzene	114	8.939	8.941	(1.000)	542952	50.0000		
$ 55 Toluene-D8	98	11.090	11.093	(1.241)	668968	49.0861	53.2	
* 66 Chlorobenzene-D5	117	13.385	13.380	(1.000)	515232	50.0000		
$ 76 P-Bromofluorobenzene	95	15.029	15.032	(1.681)	260599	45.2607	49.0	
* 91 1,4-Dichlorobenzene-D4	152	16.437	16.440	(1.000)	276131	50.0000		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Sample Info: SL4180-22
Instrument: gcms-w.i
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Y (x10^6)
Min
-Dibromofluoromethane (7.202)
-Pentafluorobenzene (8.067)+
-1,4-Difluorobenzene (8.939)
-Toluene-D8 (11.091)
-Chlorobenzene-D5 (13.385)
-P-Bromofluorobenzene (15.029)
1,4-Dichlorobenzene-D4 (16.437)

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-23
Client ID: CHAAP-21B-DS-SB04-10
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4078.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 21-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228751

Analysis Date: 21-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 78.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,1,1,2-Tetrachloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.70	2.5
1,1,1-Trichloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.42	2.5
1,1,2,2-Tetrachloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.84	2.5
Freon-113	U	2.5	ug/Kgdrywt	1	5	5.0	0.90	2.5
1,1,2-Trichloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.97	2.5
1,1-Dichloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	1.7	2.5
1,1-Dichloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	0.93	2.5
1,1-Dichloropropene	U	2.5	ug/Kgdrywt	1	5	5.0	0.91	2.5
1,2,3-Trichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.76	2.5
1,2,3-Trichloropropane	U	2.5	ug/Kgdrywt	1	5	5.0	1.2	2.5
1,2,4-Trichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.79	2.5
1,2,4-Trimethylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.87	2.5
1,2-Dibromo-3-Chloropropane	U	2.5	ug/Kgdrywt	1	5	5.0	1.5	2.5
1,2-Dibromoethane	U	2.5	ug/Kgdrywt	1	5	5.0	1.2	2.5
1,2-Dichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.78	2.5
1,2-Dichloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	1.0	2.5
1,2-Dichloropropane	U	2.5	ug/Kgdrywt	1	5	5.0	1.4	2.5
1,3,5-Trimethylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.67	2.5
1,3-Dichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.62	2.5
1,3-Dichloropropane	U	2.5	ug/Kgdrywt	1	5	5.0	0.94	2.5
1,4-Dichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.44	2.5
2,2-Dichloropropane	U	2.5	ug/Kgdrywt	1	5	5.0	0.50	2.5
2-Butanone	U	12	ug/Kgdrywt	1	25	25.	5.9	12.
2-Chlorotoluene	U	2.5	ug/Kgdrywt	1	5	5.0	1.1	2.5
2-Hexanone	U	12	ug/Kgdrywt	1	25	25.	4.8	12.
4-Chlorotoluene	U	2.5	ug/Kgdrywt	1	5	5.0	0.49	2.5
P-Isopropyltoluene	U	2.5	ug/Kgdrywt	1	5	5.0	0.76	2.5
4-Methyl-2-Pentanone	U	12	ug/Kgdrywt	1	25	25.	5.9	12.
Acetone	U	12	ug/Kgdrywt	1	25	25.	5.1	12.
Benzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.92	2.5
Bromobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.74	2.5
Bromochloromethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.91	2.5
Bromodichloromethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.60	2.5
Bromoform	U	2.5	ug/Kgdrywt	1	5	5.0	0.70	2.5
Bromomethane	U	5.0	ug/Kgdrywt	1	10	10.	1.1	5.0

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-23
Client ID: CHAAP-21B-DS-SB04-10
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4078.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 21-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228751

Analysis Date: 21-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 78.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Carbon Disulfide	U	2.5	ug/Kgdrywt	1	5	5.0	0.78	2.5
Carbon Tetrachloride	U	2.5	ug/Kgdrywt	1	5	5.0	1.3	2.5
Chlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.51	2.5
Dibromochloromethane	U	2.5	ug/Kgdrywt	1	5	5.0	7.0	2.5
Chloroethane	U	5.0	ug/Kgdrywt	1	10	10.	1.3	5.0
Chloroform	U	2.5	ug/Kgdrywt	1	5	5.0	0.35	2.5
Chloromethane	U	5.0	ug/Kgdrywt	1	10	10.	1.4	5.0
cis-1,2-Dichloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	0.91	2.5
cis-1,3-Dichloropropene	U	2.5	ug/Kgdrywt	1	5	5.0	0.72	2.5
Dibromomethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.51	2.5
Dichlorodifluoromethane	U	5.0	ug/Kgdrywt	1	10	10.	0.92	5.0
Ethylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.65	2.5
Hexachlorobutadiene	U	2.5	ug/Kgdrywt	1	5	5.0	0.74	2.5
Isopropylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.92	2.5
m+p-Xylenes	U	5.0	ug/Kgdrywt	1	10	10.	1.7	5.0
Methyl tert-butyl Ether	U	2.5	ug/Kgdrywt	1	5	5.0	1.1	2.5
Methylene Chloride	U	12	ug/Kgdrywt	1	25	25.	7.9	12.
N-Butylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.92	2.5
N-Propylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.83	2.5
Naphthalene	U	2.5	ug/Kgdrywt	1	5	5.0	0.88	2.5
o-Xylene	U	2.5	ug/Kgdrywt	1	5	5.0	1.3	2.5
sec-Butylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.91	2.5
Styrene	U	2.5	ug/Kgdrywt	1	5	5.0	0.51	2.5
tert-Butylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.90	2.5
Tetrachloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	1.2	2.5
Toluene	U	2.5	ug/Kgdrywt	1	5	5.0	1.4	2.5
trans-1,2-Dichloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	0.71	2.5
trans-1,3-Dichloropropene	U	2.5	ug/Kgdrywt	1	5	5.0	0.86	2.5
Trichloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	0.59	2.5
Trichlorofluoromethane	U	5.0	ug/Kgdrywt	1	10	10.	0.91	5.0
Vinyl Chloride	U	5.0	ug/Kgdrywt	1	10	10.	0.87	5.0
1,2-Dichloroethane-D4		100.	%					
p-Bromofluorobenzene		92.4	%					
Dibromofluoromethane		106.	%					
Toluene-D8		100.	%					

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Data File: \\target_server\gg\chem\gcms-w.i\W052118.b\W4078.D
Report Date: 25-May-2018 12:11

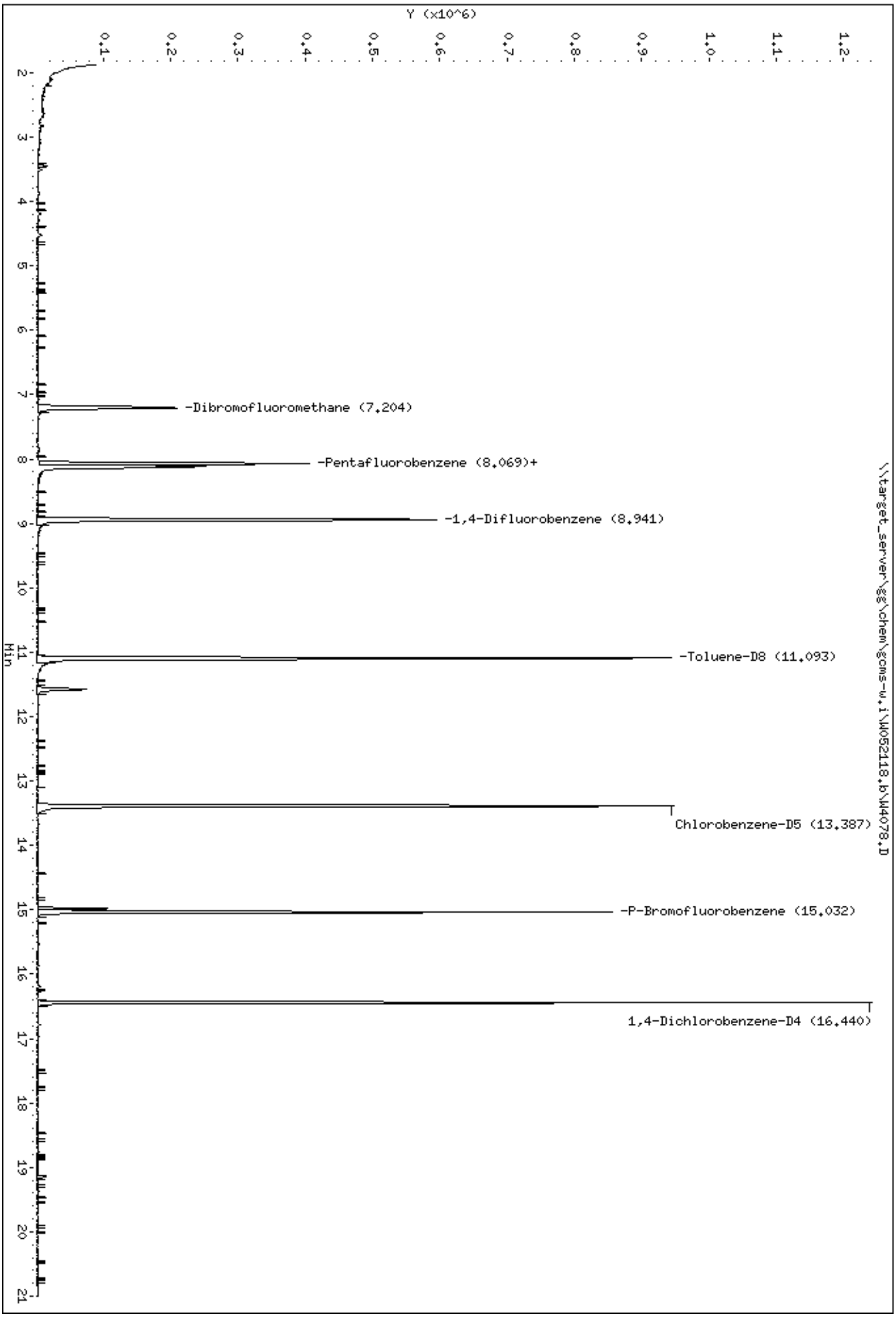
Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W052118.b\W4078.D
Lab Smp Id: SL4180-23 Client Smp ID: HAAP-21B-DS-SB04-10
Inj Date : 21-MAY-2018 18:05 MS Autotune Date: 10-APR-2016 11:00
Operator : JSS Inst ID: gcms-w.i
Smp Info : SL4180-23
Misc Info : WG228751,WG228751-4
Comment : SW846 5035
Method : \\target_server\gg\chem\gcms-w.i\W052118.b\W8SDI(13)D.m
Meth Date : 25-May-2018 12:05 gcms-w.i Quant Type: ISTD
Cal Date : 21-MAY-2018 11:44 Cal File: W4068.D
Als bottle: 17
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: T6-O360

Concentration Formula: Amt * DF * (100/(100-M))*(Vt/Ws) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
M	22.235	% Moisture
Vt	5.000	Volume of DI Water (mL)
Ws	6.100	Weight of Sample (g)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/kg)	FINAL (ug/Kgdrywt)	REVIEW COD
$ 37 Dibromofluoromethane	113	7.204	7.197	(0.893)	159383	52.9610	55.8	
* 42 Pentafluorobenzene	168	8.069	8.069	(1.000)	331742	50.0000		
$ 45 1,2-Dichloroethane-D4	65	8.119	8.119	(1.006)	198334	50.1790	52.9	
* 49 1,4-Difluorobenzene	114	8.941	8.941	(1.000)	536092	50.0000		
$ 55 Toluene-D8	98	11.092	11.093	(1.241)	674009	50.0889	52.8	
* 66 Chlorobenzene-D5	117	13.387	13.380	(1.000)	523599	50.0000		
$ 76 P-Bromofluorobenzene	95	15.031	15.032	(1.681)	262800	46.2270	48.7	
* 91 1,4-Dichlorobenzene-D4	152	16.439	16.440	(1.000)	279515	50.0000		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Date : 21-MAY-2018 18:05
Client ID: HAAP-21B-DS-SB04-10
Sample Info: SL4180-23
Instrument: gcms-w.i
\\target_server\gg\chem\gcms-w.i\W052118.b\W4078.D
Y (x10^6)
Min
-Dibromofluoromethane (7.204)
-Pentafluorobenzene (8.069)+
-1,4-Difluorobenzene (8.941)
-Toluene-D8 (11.093)
Chlorobenzene-D5 (13.387)
-P-Bromofluorobenzene (15.032)
1,4-Dichlorobenzene-D4 (16.440)

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-24RA
Client ID: CHAAP-21B-DS-SS03
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4109.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 22-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228846

Analysis Date: 22-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 81.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,1,1,2-Tetrachloroethane	U	3.5	ug/Kgdrywt	1	5	7.0	0.98	3.5
1,1,1-Trichloroethane	U	3.5	ug/Kgdrywt	1	5	7.0	0.59	3.5
1,1,2,2-Tetrachloroethane	U	3.5	ug/Kgdrywt	1	5	7.0	1.2	3.5
Freon-113	U	3.5	ug/Kgdrywt	1	5	7.0	1.3	3.5
1,1,2-Trichloroethane	U	3.5	ug/Kgdrywt	1	5	7.0	1.4	3.5
1,1-Dichloroethane	U	3.5	ug/Kgdrywt	1	5	7.0	2.4	3.5
1,1-Dichloroethene	U	3.5	ug/Kgdrywt	1	5	7.0	1.3	3.5
1,1-Dichloropropene	U	3.5	ug/Kgdrywt	1	5	7.0	1.3	3.5
1,2,3-Trichlorobenzene	U	3.5	ug/Kgdrywt	1	5	7.0	1.1	3.5
1,2,3-Trichloropropane	U	3.5	ug/Kgdrywt	1	5	7.0	1.7	3.5
1,2,4-Trichlorobenzene	U	3.5	ug/Kgdrywt	1	5	7.0	1.1	3.5
1,2,4-Trimethylbenzene	U	3.5	ug/Kgdrywt	1	5	7.0	1.2	3.5
1,2-Dibromo-3-Chloropropane	U	3.5	ug/Kgdrywt	1	5	7.0	2.1	3.5
1,2-Dibromoethane	U	3.5	ug/Kgdrywt	1	5	7.0	1.7	3.5
1,2-Dichlorobenzene	U	3.5	ug/Kgdrywt	1	5	7.0	1.1	3.5
1,2-Dichloroethane	U	3.5	ug/Kgdrywt	1	5	7.0	1.4	3.5
1,2-Dichloropropane	U	3.5	ug/Kgdrywt	1	5	7.0	2.0	3.5
1,3,5-Trimethylbenzene	U	3.5	ug/Kgdrywt	1	5	7.0	0.94	3.5
1,3-Dichlorobenzene	U	3.5	ug/Kgdrywt	1	5	7.0	0.87	3.5
1,3-Dichloropropane	U	3.5	ug/Kgdrywt	1	5	7.0	1.3	3.5
1,4-Dichlorobenzene	U	3.5	ug/Kgdrywt	1	5	7.0	0.62	3.5
2,2-Dichloropropane	U	3.5	ug/Kgdrywt	1	5	7.0	0.70	3.5
2-Butanone	U	18	ug/Kgdrywt	1	25	35.	8.3	18.
2-Chlorotoluene	U	3.5	ug/Kgdrywt	1	5	7.0	1.5	3.5
2-Hexanone	U	18	ug/Kgdrywt	1	25	35.	6.7	18.
4-Chlorotoluene	U	3.5	ug/Kgdrywt	1	5	7.0	0.69	3.5
P-Isopropyltoluene	U	3.5	ug/Kgdrywt	1	5	7.0	1.1	3.5
4-Methyl-2-Pentanone	U	18	ug/Kgdrywt	1	25	35.	8.3	18.
Acetone	J	17	ug/Kgdrywt	1	25	35.	7.1	18.
Benzene	U	3.5	ug/Kgdrywt	1	5	7.0	1.3	3.5
Bromobenzene	U	3.5	ug/Kgdrywt	1	5	7.0	1.0	3.5
Bromochloromethane	U	3.5	ug/Kgdrywt	1	5	7.0	1.3	3.5
Bromodichloromethane	U	3.5	ug/Kgdrywt	1	5	7.0	0.84	3.5
Bromoform	U	3.5	ug/Kgdrywt	1	5	7.0	0.98	3.5
Bromomethane	U	7.0	ug/Kgdrywt	1	10	14.	1.5	7.0

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-24RA
Client ID: CHAAP-21B-DS-SS03
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4109.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 22-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228846

Analysis Date: 22-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 81.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Carbon Disulfide	U	3.5	ug/Kgdrywt	1	5	7.0	1.1	3.5
Carbon Tetrachloride	U	3.5	ug/Kgdrywt	1	5	7.0	1.8	3.5
Chlorobenzene	U	3.5	ug/Kgdrywt	1	5	7.0	0.71	3.5
Dibromochloromethane	U	3.5	ug/Kgdrywt	1	5	7.0	9.8	3.5
Chloroethane	U	7.0	ug/Kgdrywt	1	10	14.	1.8	7.0
Chloroform	U	3.5	ug/Kgdrywt	1	5	7.0	0.49	3.5
Chloromethane	U	7.0	ug/Kgdrywt	1	10	14.	2.0	7.0
cis-1,2-Dichloroethene	U	3.5	ug/Kgdrywt	1	5	7.0	1.3	3.5
cis-1,3-Dichloropropene	U	3.5	ug/Kgdrywt	1	5	7.0	1.0	3.5
Dibromomethane	U	3.5	ug/Kgdrywt	1	5	7.0	0.71	3.5
Dichlorodifluoromethane	U	7.0	ug/Kgdrywt	1	10	14.	1.3	7.0
Ethylbenzene	U	3.5	ug/Kgdrywt	1	5	7.0	0.91	3.5
Hexachlorobutadiene	U	3.5	ug/Kgdrywt	1	5	7.0	1.0	3.5
Isopropylbenzene	U	3.5	ug/Kgdrywt	1	5	7.0	1.3	3.5
m+p-Xylenes	U	7.0	ug/Kgdrywt	1	10	14.	2.4	7.0
Methyl tert-butyl Ether	U	3.5	ug/Kgdrywt	1	5	7.0	1.5	3.5
Methylene Chloride	U	18	ug/Kgdrywt	1	25	35.	11.	18.
N-Butylbenzene	U	3.5	ug/Kgdrywt	1	5	7.0	1.3	3.5
N-Propylbenzene	U	3.5	ug/Kgdrywt	1	5	7.0	1.2	3.5
Naphthalene	U	3.5	ug/Kgdrywt	1	5	7.0	1.2	3.5
o-Xylene	U	3.5	ug/Kgdrywt	1	5	7.0	1.8	3.5
sec-Butylbenzene	U	3.5	ug/Kgdrywt	1	5	7.0	1.3	3.5
Styrene	U	3.5	ug/Kgdrywt	1	5	7.0	0.71	3.5
tert-Butylbenzene	U	3.5	ug/Kgdrywt	1	5	7.0	1.3	3.5
Tetrachloroethene	U	3.5	ug/Kgdrywt	1	5	7.0	1.7	3.5
Toluene	U	3.5	ug/Kgdrywt	1	5	7.0	2.0	3.5
trans-1,2-Dichloroethene	U	3.5	ug/Kgdrywt	1	5	7.0	0.99	3.5
trans-1,3-Dichloropropene	U	3.5	ug/Kgdrywt	1	5	7.0	1.2	3.5
Trichloroethene	U	3.5	ug/Kgdrywt	1	5	7.0	0.83	3.5
Trichlorofluoromethane	U	7.0	ug/Kgdrywt	1	10	14.	1.3	7.0
Vinyl Chloride	U	7.0	ug/Kgdrywt	1	10	14.	1.2	7.0
1,2-Dichloroethane-D4		110.	%					
p-Bromofluorobenzene		87.3	%					
Dibromofluoromethane		110.	%					
Toluene-D8		101.	%					

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Data File: \\target_server\gg\chem\gcms-w.i\W052218.b\W4109.D
Report Date: 25-May-2018 12:31

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W052218.b\W4109.D
Lab Smp Id: SL4180-24RA Client Smp ID: CHAAP-21B-DS-SS03
Inj Date : 22-MAY-2018 14:22 MS Autotune Date: 10-APR-2016 11:00
Operator : JSS Inst ID: gcms-w.i
Smp Info : SL4180-24RA
Misc Info : WG228846,WG228751-4
Comment   : SW846 5035
Method   : \\target_server\gg\chem\gcms-w.i\W052218.b\W8SDI(13)D.m
Meth Date : 23-May-2018 07:11 jsampson Quant Type: ISTD
Cal Date : 21-MAY-2018 11:44 Cal File: W4068.D
Als bottle: 10
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: T6-O360

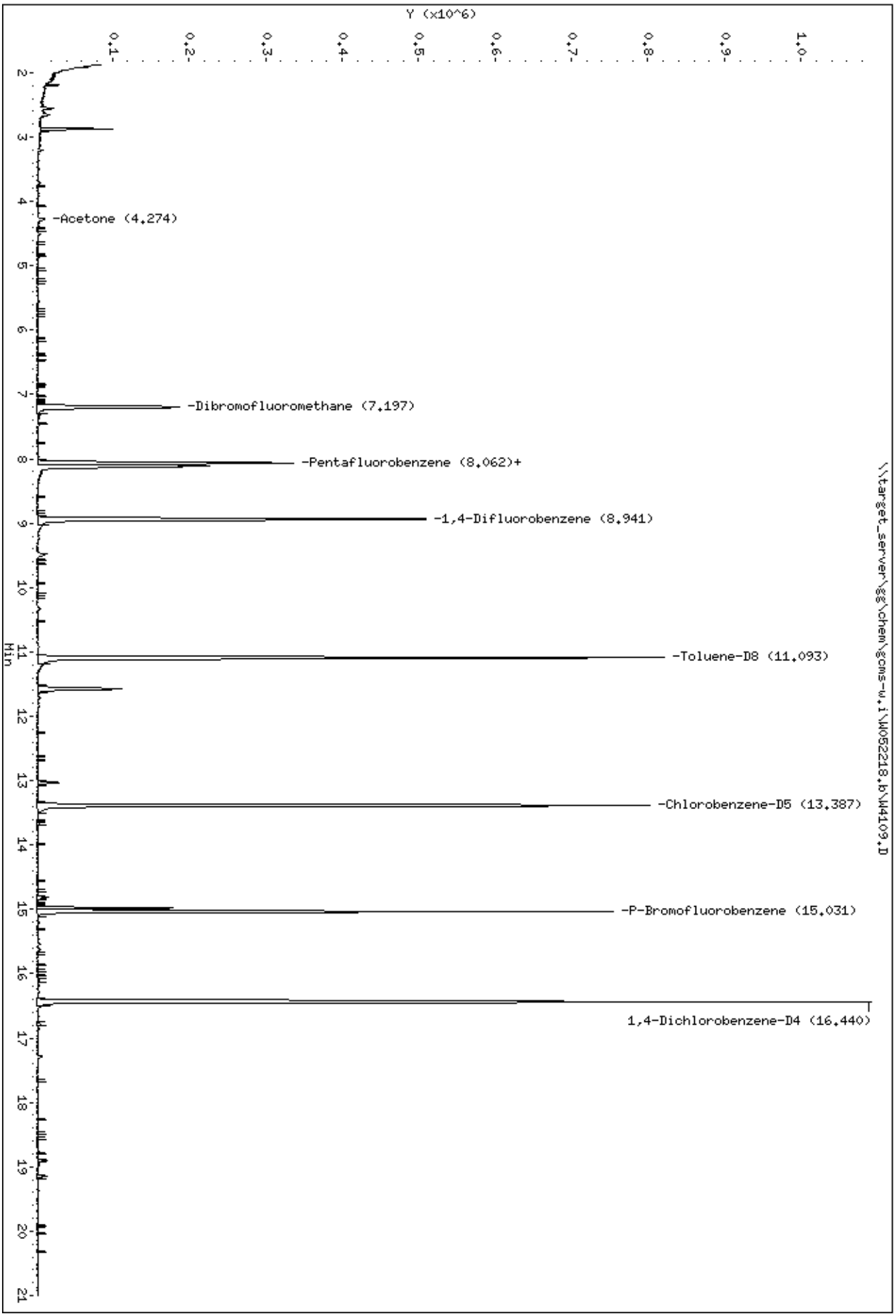
Concentration Formula: Amt * DF * (100/(100-M))*(Vt/Ws) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
M	19.266	% Moisture
Vt	5.000	Volume of DI Water (mL)
Ws	4.260	Weight of Sample (g)
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/kg)	FINAL (ug/Kgdrywt)	REVIEW COD
	15 Acetone	43	4.273	4.274	(0.530)	18086	11.6536	16.9(a)	
$	37 Dibromofluoromethane	113	7.197	7.198	(0.892)	140338	55.1373	80.2	
*	42 Pentafluorobenzene	168	8.069	8.070	(1.000)	280572	50.0000		
$	45 1,2-Dichloroethane-D4	65	8.112	8.119	(1.005)	184013	55.0464	80.0	
*	49 1,4-Difluorobenzene	114	8.941	8.942	(1.000)	474513	50.0000		
$	55 Toluene-D8	98	11.092	11.094	(1.241)	601481	50.4997	73.4	
*	66 Chlorobenzene-D5	117	13.387	13.381	(1.000)	451506	50.0000		
$	76 P-Bromofluorobenzene	95	15.031	15.032	(1.681)	219668	43.6544	63.5	
*	91 1,4-Dichlorobenzene-D4	152	16.439	16.440	(1.000)	227912	50.0000		

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).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0.4
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0.6
0.7
0.8
0.9
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Min
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
-Acetone (4.274)
-Dibromofluoromethane (7.197)
-Pentafluorobenzene (8.062)+
-1,4-Difluorobenzene (8.941)
-Toluene-D8 (11.093)
-Chlorobenzene-D5 (13.387)
-P-Bromofluorobenzene (15.031)
1,4-Dichlorobenzene-D4 (16.440)
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Date : 22-MAY-2018 14:22
Client ID: CHAAP-21B-DS-SS03
Sample Info: SL4180-24RA
Instrument: gcms-w.i

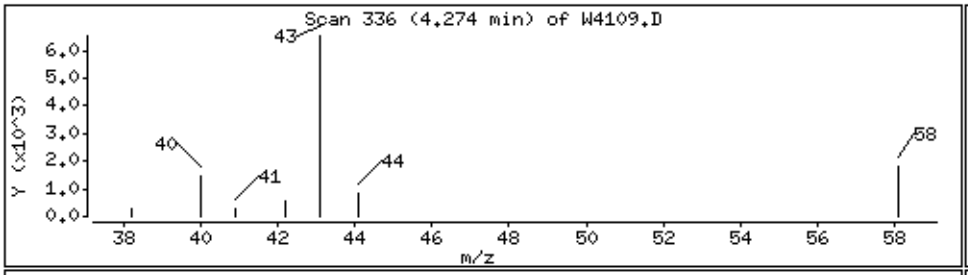
Data File: \\target_server\gg\chem\gcms-w.i\W052218.b\W4109.D

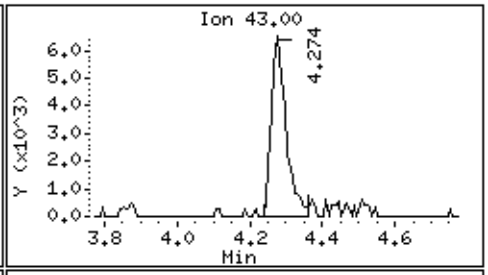
Date : 22-MAY-2018 14:22

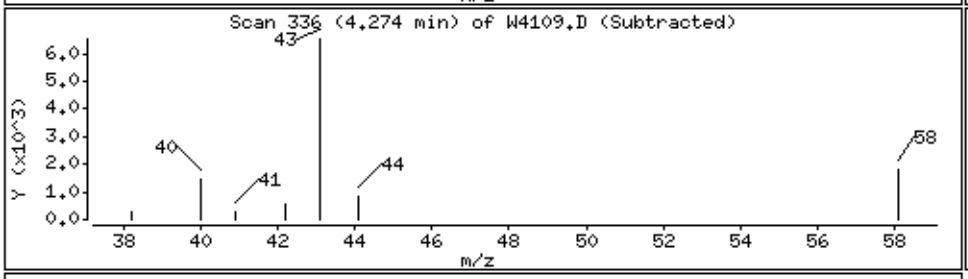
Client ID: CHAAP-21B-DS-SS03 Instrument: gcms-w.i

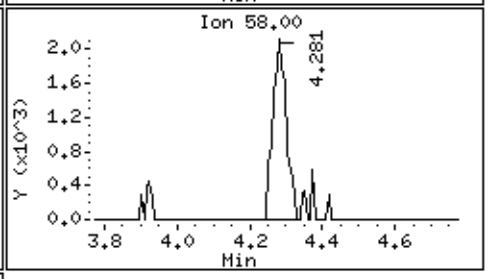
Sample Info: SL4180-24RA

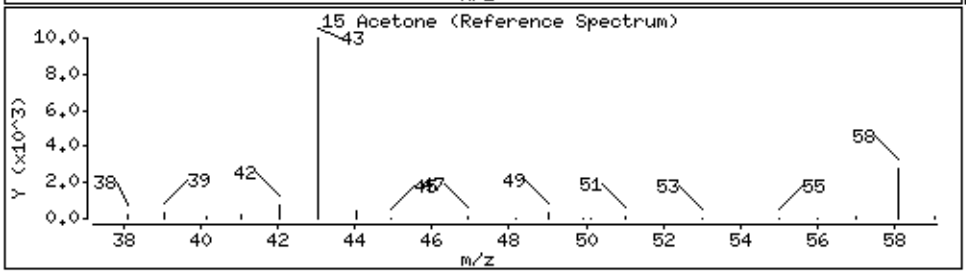
15 Acetone Concentration: 16.9 ug/Kgdrywt











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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-25
Client ID: CHAAP-21B-DS-SS103
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4085.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 21-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228825

Analysis Date: 21-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 81.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,1,1,2-Tetrachloroethane	U	3.0	ug/Kgdrywt	1	5	6.0	0.84	3.0
1,1,1-Trichloroethane	U	3.0	ug/Kgdrywt	1	5	6.0	0.50	3.0
1,1,2,2-Tetrachloroethane	U	3.0	ug/Kgdrywt	1	5	6.0	1.0	3.0
Freon-113	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
1,1,2-Trichloroethane	U	3.0	ug/Kgdrywt	1	5	6.0	1.2	3.0
1,1-Dichloroethane	U	3.0	ug/Kgdrywt	1	5	6.0	2.0	3.0
1,1-Dichloroethene	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
1,1-Dichloropropene	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
1,2,3-Trichlorobenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.91	3.0
1,2,3-Trichloropropane	U	3.0	ug/Kgdrywt	1	5	6.0	1.4	3.0
1,2,4-Trichlorobenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.95	3.0
1,2,4-Trimethylbenzene	U	3.0	ug/Kgdrywt	1	5	6.0	1.0	3.0
1,2-Dibromo-3-Chloropropane	U	3.0	ug/Kgdrywt	1	5	6.0	1.8	3.0
1,2-Dibromoethane	U	3.0	ug/Kgdrywt	1	5	6.0	1.4	3.0
1,2-Dichlorobenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.94	3.0
1,2-Dichloroethane	U	3.0	ug/Kgdrywt	1	5	6.0	1.2	3.0
1,2-Dichloropropane	U	3.0	ug/Kgdrywt	1	5	6.0	1.7	3.0
1,3,5-Trimethylbenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.80	3.0
1,3-Dichlorobenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.74	3.0
1,3-Dichloropropane	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
1,4-Dichlorobenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.53	3.0
2,2-Dichloropropane	U	3.0	ug/Kgdrywt	1	5	6.0	0.60	3.0
2-Butanone	U	15	ug/Kgdrywt	1	25	30.	7.1	15.
2-Chlorotoluene	U	3.0	ug/Kgdrywt	1	5	6.0	1.3	3.0
2-Hexanone	U	15	ug/Kgdrywt	1	25	30.	5.8	15.
4-Chlorotoluene	U	3.0	ug/Kgdrywt	1	5	6.0	0.59	3.0
P-Isopropyltoluene	U	3.0	ug/Kgdrywt	1	5	6.0	0.91	3.0
4-Methyl-2-Pentanone	U	15	ug/Kgdrywt	1	25	30.	7.1	15.
Acetone	U	15	ug/Kgdrywt	1	25	30.	6.1	15.
Benzene	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
Bromobenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.89	3.0
Bromochloromethane	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
Bromodichloromethane	U	3.0	ug/Kgdrywt	1	5	6.0	0.72	3.0
Bromoform	U	3.0	ug/Kgdrywt	1	5	6.0	0.84	3.0
Bromomethane	U	6.0	ug/Kgdrywt	1	10	12.	1.3	6.0

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-25
Client ID: CHAAP-21B-DS-SS103
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4085.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 21-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228825

Analysis Date: 21-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 81.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Carbon Disulfide	U	3.0	ug/Kgdrywt	1	5	6.0	0.94	3.0
Carbon Tetrachloride	U	3.0	ug/Kgdrywt	1	5	6.0	1.6	3.0
Chlorobenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.61	3.0
Dibromochloromethane	U	3.0	ug/Kgdrywt	1	5	6.0	8.4	3.0
Chloroethane	U	6.0	ug/Kgdrywt	1	10	12.	1.6	6.0
Chloroform	U	3.0	ug/Kgdrywt	1	5	6.0	0.42	3.0
Chloromethane	U	6.0	ug/Kgdrywt	1	10	12.	1.7	6.0
cis-1,2-Dichloroethene	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
cis-1,3-Dichloropropene	U	3.0	ug/Kgdrywt	1	5	6.0	0.86	3.0
Dibromomethane	U	3.0	ug/Kgdrywt	1	5	6.0	0.61	3.0
Dichlorodifluoromethane	U	6.0	ug/Kgdrywt	1	10	12.	1.1	6.0
Ethylbenzene	U	3.0	ug/Kgdrywt	1	5	6.0	0.78	3.0
Hexachlorobutadiene	U	3.0	ug/Kgdrywt	1	5	6.0	0.89	3.0
Isopropylbenzene	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
m+p-Xylenes	U	6.0	ug/Kgdrywt	1	10	12.	2.0	6.0
Methyl tert-butyl Ether	U	3.0	ug/Kgdrywt	1	5	6.0	1.3	3.0
Methylene Chloride	U	15	ug/Kgdrywt	1	25	30.	9.5	15.
N-Butylbenzene	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
N-Propylbenzene	U	3.0	ug/Kgdrywt	1	5	6.0	1.0	3.0
Naphthalene	U	3.0	ug/Kgdrywt	1	5	6.0	1.0	3.0
o-Xylene	U	3.0	ug/Kgdrywt	1	5	6.0	1.6	3.0
sec-Butylbenzene	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
Styrene	U	3.0	ug/Kgdrywt	1	5	6.0	0.61	3.0
tert-Butylbenzene	U	3.0	ug/Kgdrywt	1	5	6.0	1.1	3.0
Tetrachloroethene	U	3.0	ug/Kgdrywt	1	5	6.0	1.4	3.0
Toluene	U	3.0	ug/Kgdrywt	1	5	6.0	1.7	3.0
trans-1,2-Dichloroethene	U	3.0	ug/Kgdrywt	1	5	6.0	0.85	3.0
trans-1,3-Dichloropropene	U	3.0	ug/Kgdrywt	1	5	6.0	1.0	3.0
Trichloroethene	U	3.0	ug/Kgdrywt	1	5	6.0	0.71	3.0
Trichlorofluoromethane	U	6.0	ug/Kgdrywt	1	10	12.	1.1	6.0
Vinyl Chloride	U	6.0	ug/Kgdrywt	1	10	12.	1.0	6.0
1,2-Dichloroethane-D4		103.	%					
p-Bromofluorobenzene	*	74.3	%					
Dibromofluoromethane		106.	%					
Toluene-D8		96.9	%					

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Data File: \\target_server\gg\chem\gcms-w.i\W052118B.b\W4085.D
Report Date: 25-May-2018 12:18

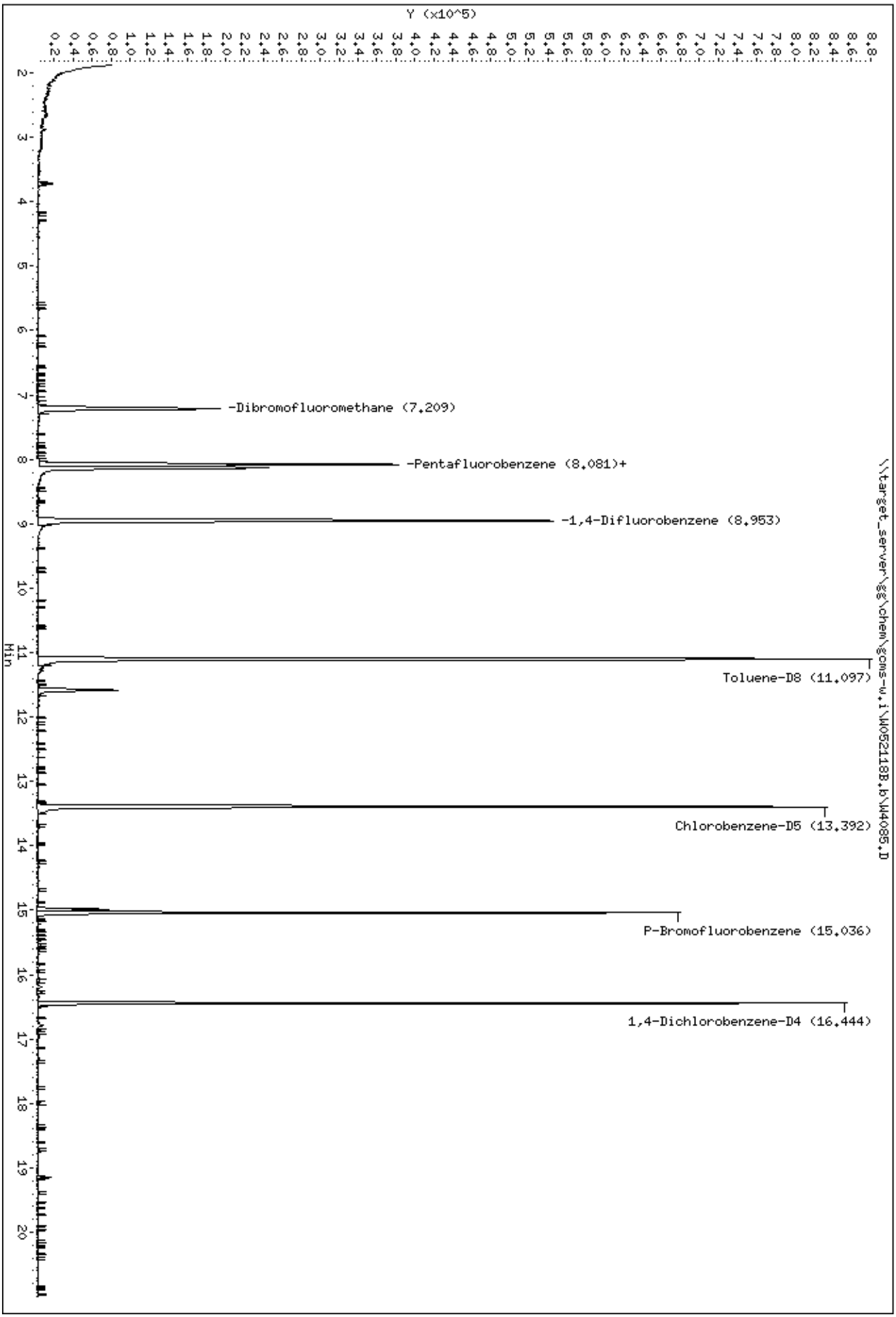
Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W052118B.b\W4085.D
Lab Smp Id: SL4180-25 Client Smp ID: CHAAP-21B-DS-SS103
Inj Date : 21-MAY-2018 22:56 MS Autotune Date: 10-APR-2016 11:00
Operator : JSS Inst ID: gcms-w.i
Smp Info : SL4180-25
Misc Info : WG228825,WG228751-4
Comment : SW846 5035
Method : \\target_server\gg\chem\gcms-w.i\W052118B.b\W8SDI(13)D.m
Meth Date : 22-May-2018 08:59 jsampson Quant Type: ISTD
Cal Date : 21-MAY-2018 11:44 Cal File: W4068.D
Als bottle: 7
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: T6-O360

Concentration Formula: Amt * DF * (100/(100-M))*(Vt/Ws) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
M	18.517	% Moisture
Vt	5.000	Volume of DI Water (mL)
Ws	4.980	Weight of Sample (g)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/kg)	FINAL (ug/Kgdrywt)	REVIEW COD
$ 37 Dibromofluoromethane	113	7.208	7.198	(0.892)	151660	52.9726	65.3	
* 42 Pentafluorobenzene	168	8.080	8.070	(1.000)	315598	50.0000		
$ 45 1,2-Dichloroethane-D4	65	8.131	8.119	(1.006)	193246	51.3927	63.3	
* 49 1,4-Difluorobenzene	114	8.953	8.942	(1.000)	509193	50.0000		
$ 55 Toluene-D8	98	11.097	11.094	(1.240)	618997	48.4307	59.7	
* 66 Chlorobenzene-D5	117	13.391	13.381	(1.000)	456371	50.0000		
$ 76 P-Bromofluorobenzene	95	15.035	15.032	(1.679)	200696	37.1677	45.8	
* 91 1,4-Dichlorobenzene-D4	152	16.444	16.440	(1.000)	193500	50.0000		


Y (x10^5)
Min
-Dibromofluoromethane (7.209)
-Pentafluorobenzene (8.081)+
-1,4-Difluorobenzene (8.953)
Toluene-D8 (11.097)
Chlorobenzene-D5 (13.392)
P-Bromofluorobenzene (15.036)
1,4-Dichlorobenzene-D4 (16.444)
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Date : 21-MAY-2018 22:56
Client ID: CHAAP-21B-DS-SS103
Sample Info: SL4180-25
Instrument: gcms-w.i

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-25RA
Client ID: CHAAP-21B-DS-SS103
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4110.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 22-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228846

Analysis Date: 22-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 81.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,1,1,2-Tetrachloroethane	U	3.2	ug/Kgdrywt	1	5	6.5	0.91	3.2
1,1,1-Trichloroethane	U	3.2	ug/Kgdrywt	1	5	6.5	0.55	3.2
1,1,2,2-Tetrachloroethane	U	3.2	ug/Kgdrywt	1	5	6.5	1.1	3.2
Freon-113	U	3.2	ug/Kgdrywt	1	5	6.5	1.2	3.2
1,1,2-Trichloroethane	U	3.2	ug/Kgdrywt	1	5	6.5	1.3	3.2
1,1-Dichloroethane	U	3.2	ug/Kgdrywt	1	5	6.5	2.2	3.2
1,1-Dichloroethene	U	3.2	ug/Kgdrywt	1	5	6.5	1.2	3.2
1,1-Dichloropropene	U	3.2	ug/Kgdrywt	1	5	6.5	1.2	3.2
1,2,3-Trichlorobenzene	U	3.2	ug/Kgdrywt	1	5	6.5	0.99	3.2
1,2,3-Trichloropropane	U	3.2	ug/Kgdrywt	1	5	6.5	1.6	3.2
1,2,4-Trichlorobenzene	U	3.2	ug/Kgdrywt	1	5	6.5	1.0	3.2
1,2,4-Trimethylbenzene	U	3.2	ug/Kgdrywt	1	5	6.5	1.1	3.2
1,2-Dibromo-3-Chloropropane	U	3.2	ug/Kgdrywt	1	5	6.5	2.0	3.2
1,2-Dibromoethane	U	3.2	ug/Kgdrywt	1	5	6.5	1.6	3.2
1,2-Dichlorobenzene	U	3.2	ug/Kgdrywt	1	5	6.5	1.0	3.2
1,2-Dichloroethane	U	3.2	ug/Kgdrywt	1	5	6.5	1.3	3.2
1,2-Dichloropropane	U	3.2	ug/Kgdrywt	1	5	6.5	1.8	3.2
1,3,5-Trimethylbenzene	U	3.2	ug/Kgdrywt	1	5	6.5	0.87	3.2
1,3-Dichlorobenzene	U	3.2	ug/Kgdrywt	1	5	6.5	0.81	3.2
1,3-Dichloropropane	U	3.2	ug/Kgdrywt	1	5	6.5	1.2	3.2
1,4-Dichlorobenzene	U	3.2	ug/Kgdrywt	1	5	6.5	0.57	3.2
2,2-Dichloropropane	U	3.2	ug/Kgdrywt	1	5	6.5	0.65	3.2
2-Butanone	U	16	ug/Kgdrywt	1	25	32.	7.7	16.
2-Chlorotoluene	U	3.2	ug/Kgdrywt	1	5	6.5	1.4	3.2
2-Hexanone	U	16	ug/Kgdrywt	1	25	32.	6.2	16.
4-Chlorotoluene	U	3.2	ug/Kgdrywt	1	5	6.5	0.64	3.2
P-Isopropyltoluene	U	3.2	ug/Kgdrywt	1	5	6.5	0.99	3.2
4-Methyl-2-Pentanone	U	16	ug/Kgdrywt	1	25	32.	7.7	16.
Acetone	U	16	ug/Kgdrywt	1	25	32.	6.6	16.
Benzene	U	3.2	ug/Kgdrywt	1	5	6.5	1.2	3.2
Bromobenzene	U	3.2	ug/Kgdrywt	1	5	6.5	0.96	3.2
Bromochloromethane	U	3.2	ug/Kgdrywt	1	5	6.5	1.2	3.2
Bromodichloromethane	U	3.2	ug/Kgdrywt	1	5	6.5	0.78	3.2
Bromoform	U	3.2	ug/Kgdrywt	1	5	6.5	0.91	3.2
Bromomethane	U	6.5	ug/Kgdrywt	1	10	13.	1.4	6.5

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-25RA
Client ID: CHAAP-21B-DS-SS103
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4110.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 22-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228846

Analysis Date: 22-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 81.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Carbon Disulfide	U	3.2	ug/Kgdrywt	1	5	6.5	1.0	3.2
Carbon Tetrachloride	U	3.2	ug/Kgdrywt	1	5	6.5	1.7	3.2
Chlorobenzene	U	3.2	ug/Kgdrywt	1	5	6.5	0.66	3.2
Dibromochloromethane	U	3.2	ug/Kgdrywt	1	5	6.5	9.1	3.2
Chloroethane	U	6.5	ug/Kgdrywt	1	10	13.	1.7	6.5
Chloroform	U	3.2	ug/Kgdrywt	1	5	6.5	0.46	3.2
Chloromethane	U	6.5	ug/Kgdrywt	1	10	13.	1.8	6.5
cis-1,2-Dichloroethene	U	3.2	ug/Kgdrywt	1	5	6.5	1.2	3.2
cis-1,3-Dichloropropene	U	3.2	ug/Kgdrywt	1	5	6.5	0.94	3.2
Dibromomethane	U	3.2	ug/Kgdrywt	1	5	6.5	0.66	3.2
Dichlorodifluoromethane	U	6.5	ug/Kgdrywt	1	10	13.	1.2	6.5
Ethylbenzene	U	3.2	ug/Kgdrywt	1	5	6.5	0.84	3.2
Hexachlorobutadiene	U	3.2	ug/Kgdrywt	1	5	6.5	0.96	3.2
Isopropylbenzene	U	3.2	ug/Kgdrywt	1	5	6.5	1.2	3.2
m+p-Xylenes	U	6.5	ug/Kgdrywt	1	10	13.	2.2	6.5
Methyl tert-butyl Ether	U	3.2	ug/Kgdrywt	1	5	6.5	1.4	3.2
Methylene Chloride	U	16	ug/Kgdrywt	1	25	32.	10.	16.
N-Butylbenzene	U	3.2	ug/Kgdrywt	1	5	6.5	1.2	3.2
N-Propylbenzene	U	3.2	ug/Kgdrywt	1	5	6.5	1.1	3.2
Naphthalene	J	1.2	ug/Kgdrywt	1	5	6.5	1.1	3.2
o-Xylene	U	3.2	ug/Kgdrywt	1	5	6.5	1.7	3.2
sec-Butylbenzene	U	3.2	ug/Kgdrywt	1	5	6.5	1.2	3.2
Styrene	U	3.2	ug/Kgdrywt	1	5	6.5	0.66	3.2
tert-Butylbenzene	U	3.2	ug/Kgdrywt	1	5	6.5	1.2	3.2
Tetrachloroethene	U	3.2	ug/Kgdrywt	1	5	6.5	1.6	3.2
Toluene	U	3.2	ug/Kgdrywt	1	5	6.5	1.8	3.2
trans-1,2-Dichloroethene	U	3.2	ug/Kgdrywt	1	5	6.5	0.92	3.2
trans-1,3-Dichloropropene	U	3.2	ug/Kgdrywt	1	5	6.5	1.1	3.2
Trichloroethene	U	3.2	ug/Kgdrywt	1	5	6.5	0.77	3.2
Trichlorofluoromethane	U	6.5	ug/Kgdrywt	1	10	13.	1.2	6.5
Vinyl Chloride	U	6.5	ug/Kgdrywt	1	10	13.	1.1	6.5
1,2-Dichloroethane-D4		119.	%					
p-Bromofluorobenzene		80.6	%					
Dibromofluoromethane		120.	%					
Toluene-D8		100.	%					

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Data File: \\target_server\gg\chem\gcms-w.i\W052218.b\W4110.D
Report Date: 25-May-2018 12:31

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W052218.b\W4110.D
Lab Smp Id: SL4180-25RA Client Smp ID: CHAAP-21B-DS-SS103
Inj Date : 22-MAY-2018 14:59 MS Autotune Date: 10-APR-2016 11:00
Operator : JSS Inst ID: gcms-w.i
Smp Info : SL4180-25RA
Misc Info : WG228846,WG228751-4
Comment   : SW846 5035
Method   : \\target_server\gg\chem\gcms-w.i\W052218.b\W8SDI(13)D.m
Meth Date : 23-May-2018 07:11 jsampson Quant Type: ISTD
Cal Date : 21-MAY-2018 11:44 Cal File: W4068.D
Als bottle: 11
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: T6-O360

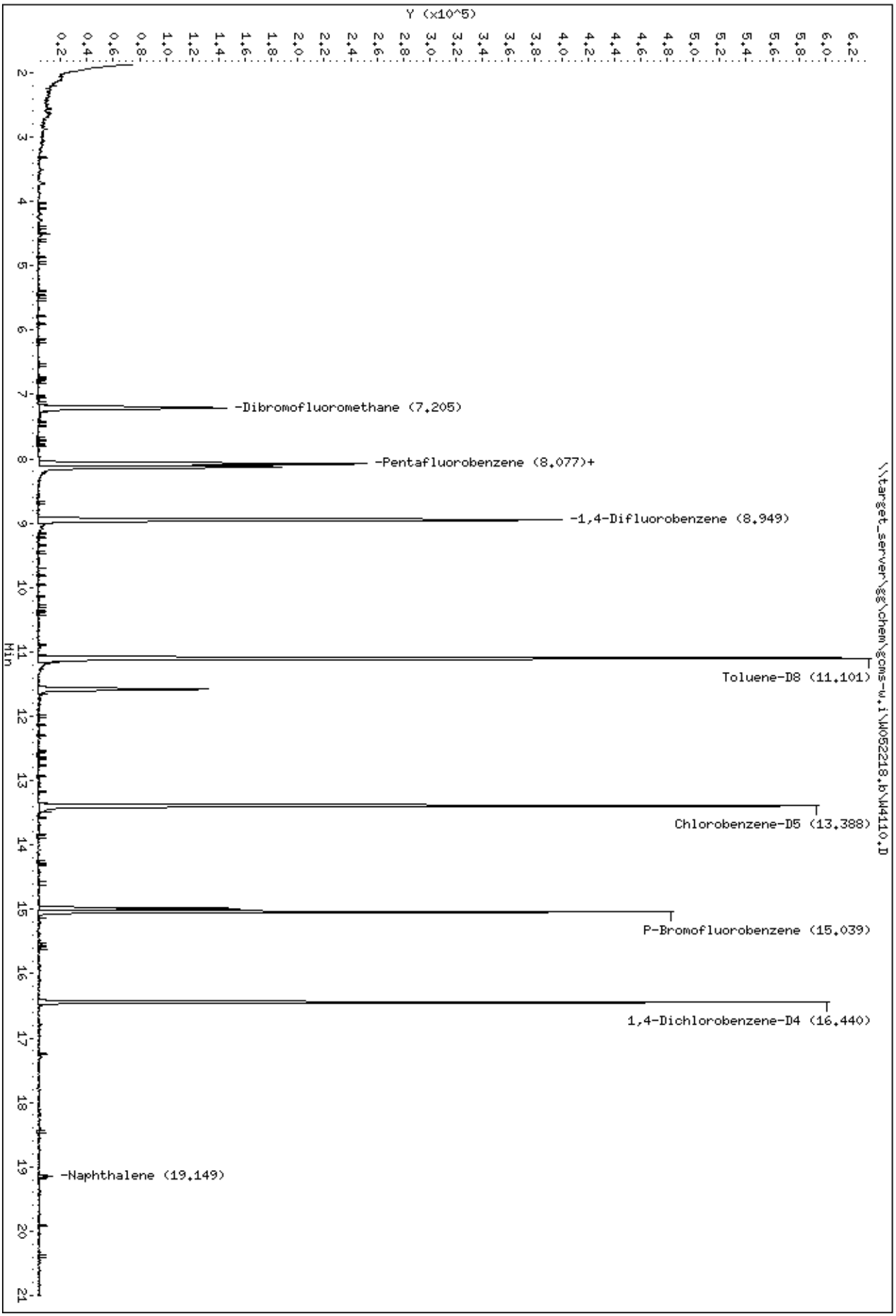
Concentration Formula: Amt * DF * (100/(100-M))*(Vt/Ws) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
M	18.517	% Moisture
Vt	5.000	Volume of DI Water (mL)
Ws	4.570	Weight of Sample (g)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/kg)	FINAL (ug/Kgdrywt)	REVIEW COD
$ 37 Dibromofluoromethane	113	7.204	7.198	(0.892)	111742	60.0745	80.7	
* 42 Pentafluorobenzene	168	8.076	8.070	(1.000)	205041	50.0000		
$ 45 1,2-Dichloroethane-D4	65	8.127	8.119	(1.006)	145274	59.4665	79.8	
* 49 1,4-Difluorobenzene	114	8.949	8.942	(1.000)	353996	50.0000		
$ 55 Toluene-D8	98	11.100	11.094	(1.240)	446470	50.2468	67.5	
* 66 Chlorobenzene-D5	117	13.387	13.381	(1.000)	327819	50.0000		
$ 76 P-Bromofluorobenzene	95	15.039	15.032	(1.681)	151208	40.2797	54.1	
* 91 1,4-Dichlorobenzene-D4	152	16.447	16.440	(1.000)	140637	50.0000		
101 Naphthalene	128	19.149	19.142	(1.164)	7670	0.92822	1.2(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).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Date : 22-MAY-2018 14:59
Client ID: CHAAP-21B-DS-SS103
Sample Info: SL4180-25RA
Instrument: gcms-w.i
\\target_server\gg\chem\gcms-w.i\W052218.b\W4110.D
Y (x10^5)
Min
-Dibromofluoromethane (7.205)
-Pentafluorobenzene (8.077)+
-1,4-Difluorobenzene (8.949)
Toluene-D8 (11.101)
Chlorobenzene-D5 (13.388)
P-Bromofluorobenzene (15.039)
1,4-Dichlorobenzene-D4 (16.440)
-Naphthalene (19.149)

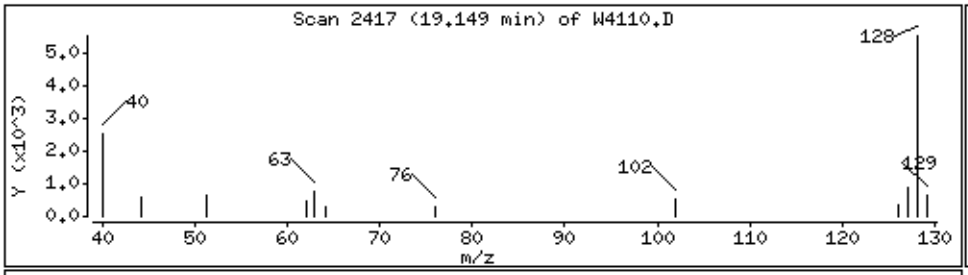
Data File: \\target_server\gg\chem\gcms-w.i\W052218.b\W4110.D

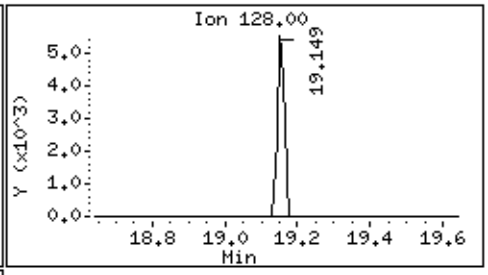
Date : 22-MAY-2018 14:59

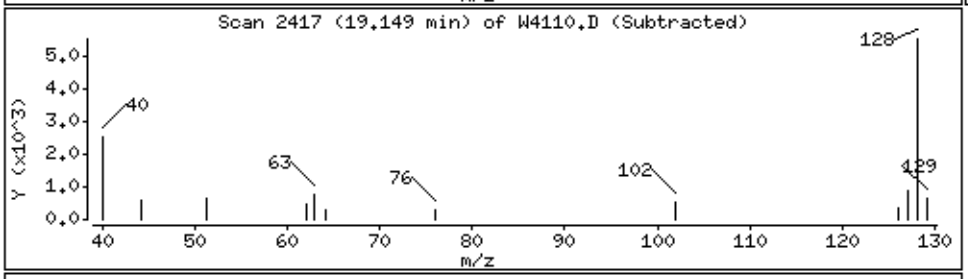
Client ID: CHAAP-21B-DS-SS103 Instrument: gcms-w.i

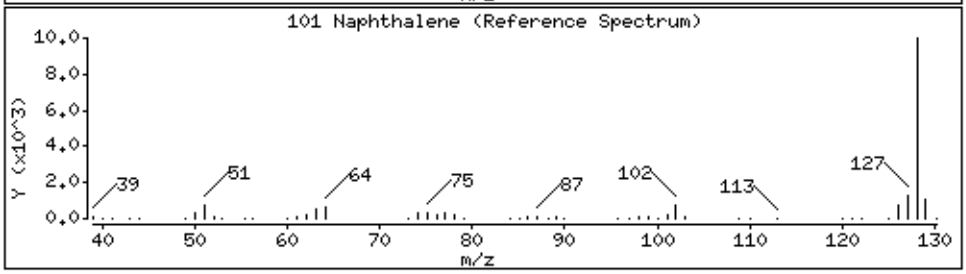
Sample Info: SL4180-25RA

101 Naphthalene Concentration: 1.2 ug/Kgdrywt









Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-26
Client ID: CHAAP-21B-DS-SB03-5
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4086.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 21-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228825

Analysis Date: 21-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 78.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,1,1,2-Tetrachloroethane	U	2.4	ug/Kgdrywt	1	5	4.8	0.68	2.4
1,1,1-Trichloroethane	U	2.4	ug/Kgdrywt	1	5	4.8	0.41	2.4
1,1,2,2-Tetrachloroethane	U	2.4	ug/Kgdrywt	1	5	4.8	0.81	2.4
Freon-113	U	2.4	ug/Kgdrywt	1	5	4.8	0.87	2.4
1,1,2-Trichloroethane	U	2.4	ug/Kgdrywt	1	5	4.8	0.94	2.4
1,1-Dichloroethane	U	2.4	ug/Kgdrywt	1	5	4.8	1.6	2.4
1,1-Dichloroethene	U	2.4	ug/Kgdrywt	1	5	4.8	0.90	2.4
1,1-Dichloropropene	U	2.4	ug/Kgdrywt	1	5	4.8	0.88	2.4
1,2,3-Trichlorobenzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.74	2.4
1,2,3-Trichloropropane	U	2.4	ug/Kgdrywt	1	5	4.8	1.2	2.4
1,2,4-Trichlorobenzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.77	2.4
1,2,4-Trimethylbenzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.84	2.4
1,2-Dibromo-3-Chloropropane	U	2.4	ug/Kgdrywt	1	5	4.8	1.4	2.4
1,2-Dibromoethane	U	2.4	ug/Kgdrywt	1	5	4.8	1.2	2.4
1,2-Dichlorobenzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.76	2.4
1,2-Dichloroethane	U	2.4	ug/Kgdrywt	1	5	4.8	0.97	2.4
1,2-Dichloropropane	U	2.4	ug/Kgdrywt	1	5	4.8	1.4	2.4
1,3,5-Trimethylbenzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.65	2.4
1,3-Dichlorobenzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.60	2.4
1,3-Dichloropropane	U	2.4	ug/Kgdrywt	1	5	4.8	0.91	2.4
1,4-Dichlorobenzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.43	2.4
2,2-Dichloropropane	U	2.4	ug/Kgdrywt	1	5	4.8	0.48	2.4
2-Butanone	U	12	ug/Kgdrywt	1	25	24.	5.7	12.
2-Chlorotoluene	U	2.4	ug/Kgdrywt	1	5	4.8	1.1	2.4
2-Hexanone	U	12	ug/Kgdrywt	1	25	24.	4.6	12.
4-Chlorotoluene	U	2.4	ug/Kgdrywt	1	5	4.8	0.48	2.4
P-Isopropyltoluene	U	2.4	ug/Kgdrywt	1	5	4.8	0.74	2.4
4-Methyl-2-Pentanone	U	12	ug/Kgdrywt	1	25	24.	5.7	12.
Acetone	U	12	ug/Kgdrywt	1	25	24.	4.9	12.
Benzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.89	2.4
Bromobenzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.72	2.4
Bromochloromethane	U	2.4	ug/Kgdrywt	1	5	4.8	0.88	2.4
Bromodichloromethane	U	2.4	ug/Kgdrywt	1	5	4.8	0.58	2.4
Bromoform	U	2.4	ug/Kgdrywt	1	5	4.8	0.68	2.4
Bromomethane	U	4.8	ug/Kgdrywt	1	10	9.7	1.1	4.8

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Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-26
Client ID: CHAAP-21B-DS-SB03-5
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4086.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 21-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228825

Analysis Date: 21-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 78.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Carbon Disulfide	U	2.4	ug/Kgdrywt	1	5	4.8	0.76	2.4
Carbon Tetrachloride	U	2.4	ug/Kgdrywt	1	5	4.8	1.3	2.4
Chlorobenzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.49	2.4
Dibromochloromethane	U	2.4	ug/Kgdrywt	1	5	4.8	6.8	2.4
Chloroethane	U	4.8	ug/Kgdrywt	1	10	9.7	1.3	4.8
Chloroform	U	2.4	ug/Kgdrywt	1	5	4.8	0.34	2.4
Chloromethane	U	4.8	ug/Kgdrywt	1	10	9.7	1.4	4.8
cis-1,2-Dichloroethene	U	2.4	ug/Kgdrywt	1	5	4.8	0.88	2.4
cis-1,3-Dichloropropene	U	2.4	ug/Kgdrywt	1	5	4.8	0.70	2.4
Dibromomethane	U	2.4	ug/Kgdrywt	1	5	4.8	0.49	2.4
Dichlorodifluoromethane	U	4.8	ug/Kgdrywt	1	10	9.7	0.89	4.8
Ethylbenzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.63	2.4
Hexachlorobutadiene	U	2.4	ug/Kgdrywt	1	5	4.8	0.72	2.4
Isopropylbenzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.89	2.4
m+p-Xylenes	U	4.8	ug/Kgdrywt	1	10	9.7	1.6	4.8
Methyl tert-butyl Ether	U	2.4	ug/Kgdrywt	1	5	4.8	1.1	2.4
Methylene Chloride	U	12	ug/Kgdrywt	1	25	24.	7.7	12.
N-Butylbenzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.89	2.4
N-Propylbenzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.80	2.4
Naphthalene	U	2.4	ug/Kgdrywt	1	5	4.8	0.85	2.4
o-Xylene	U	2.4	ug/Kgdrywt	1	5	4.8	1.3	2.4
sec-Butylbenzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.88	2.4
Styrene	U	2.4	ug/Kgdrywt	1	5	4.8	0.49	2.4
tert-Butylbenzene	U	2.4	ug/Kgdrywt	1	5	4.8	0.87	2.4
Tetrachloroethene	U	2.4	ug/Kgdrywt	1	5	4.8	1.2	2.4
Toluene	U	2.4	ug/Kgdrywt	1	5	4.8	1.4	2.4
trans-1,2-Dichloroethene	U	2.4	ug/Kgdrywt	1	5	4.8	0.69	2.4
trans-1,3-Dichloropropene	U	2.4	ug/Kgdrywt	1	5	4.8	0.83	2.4
Trichloroethene	U	2.4	ug/Kgdrywt	1	5	4.8	0.57	2.4
Trichlorofluoromethane	U	4.8	ug/Kgdrywt	1	10	9.7	0.88	4.8
Vinyl Chloride	U	4.8	ug/Kgdrywt	1	10	9.7	0.84	4.8
1,2-Dichloroethane-D4		106.	%					
p-Bromofluorobenzene		89.0	%					
Dibromofluoromethane		108.	%					
Toluene-D8		95.7	%					

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Data File: \\target_server\gg\chem\gcms-w.i\W052118B.b\W4086.D
Report Date: 25-May-2018 12:18

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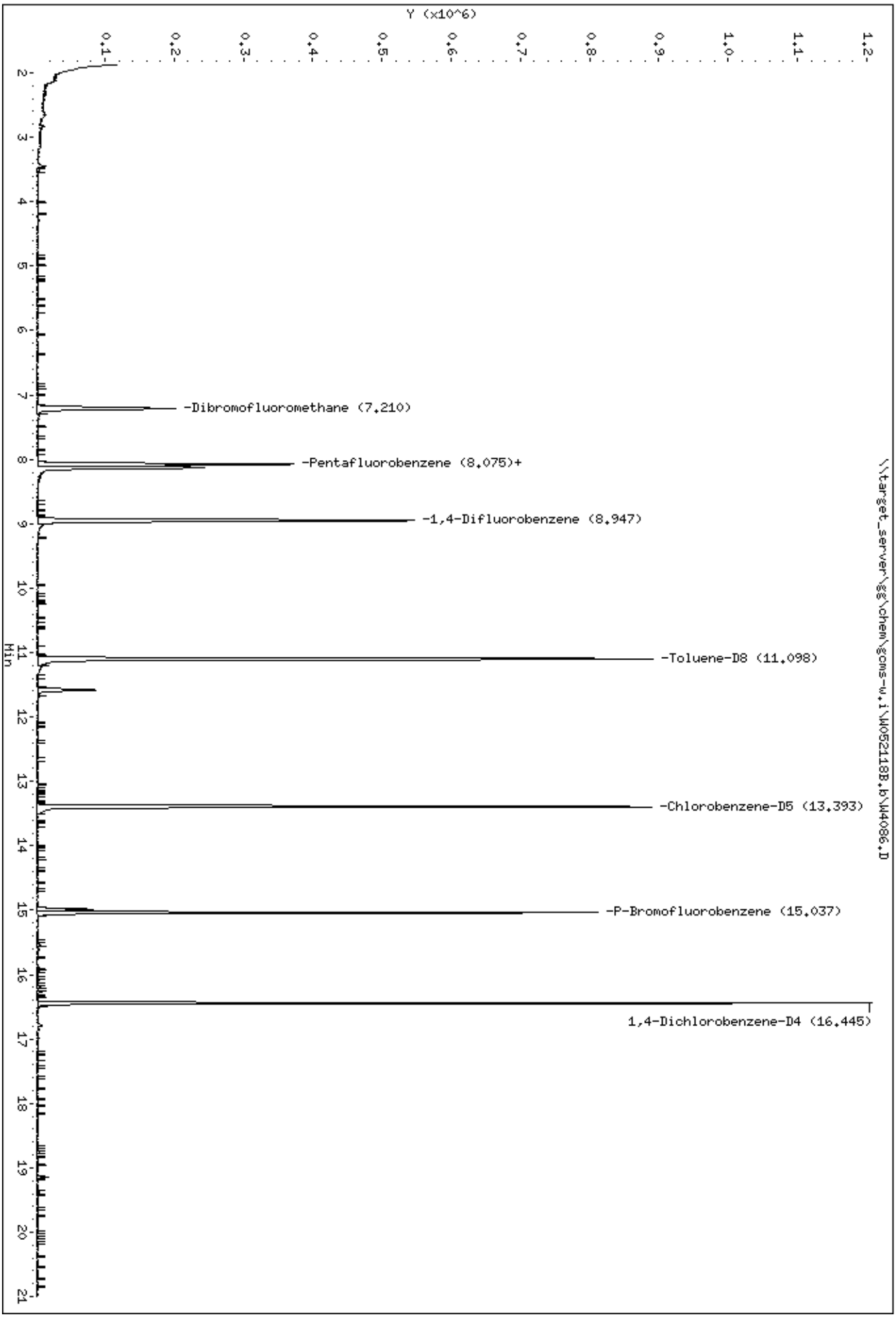
Data file : \\target_server\gg\chem\gcms-w.i\W052118B.b\W4086.D
Lab Smp Id: SL4180-26 Client Smp ID: CHAAP-21B-DS-SB03-5
Inj Date : 21-MAY-2018 23:34 MS Autotune Date: 10-APR-2016 11:00
Operator : JSS Inst ID: gcms-w.i
Smp Info : SL4180-26
Misc Info : WG228825,WG228751-4
Comment : SW846 5035
Method : \\target_server\gg\chem\gcms-w.i\W052118B.b\W8SDI(13)D.m
Meth Date : 22-May-2018 08:59 jsampson Quant Type: ISTD
Cal Date : 21-MAY-2018 11:44 Cal File: W4068.D
Als bottle: 8
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: T6-O360

Concentration Formula: Amt * DF * (100/(100-M))*(Vt/Ws) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
M	22.062	% Moisture
Vt	5.000	Volume of DI Water (mL)
Ws	6.590	Weight of Sample (g)
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/kg)	FINAL (ug/Kgdrywt)	REVIEW COD
$	37 Dibromofluoromethane	113	7.209	7.198	(0.892)	150308	53.8273	52.4	
*	42 Pentafluorobenzene	168	8.081	8.070	(1.000)	307818	50.0000		
$	45 1,2-Dichloroethane-D4	65	8.131	8.119	(1.006)	194685	53.0840	51.7	
*	49 1,4-Difluorobenzene	114	8.946	8.942	(1.000)	521375	50.0000		
$	55 Toluene-D8	98	11.098	11.094	(1.240)	626091	47.8412	46.6	
*	66 Chlorobenzene-D5	117	13.392	13.381	(1.000)	493637	50.0000		
$	76 P-Bromofluorobenzene	95	15.036	15.032	(1.681)	246034	44.4994	43.3	
*	91 1,4-Dichlorobenzene-D4	152	16.444	16.440	(1.000)	260029	50.0000		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Client ID: CHAAP-21B-DS-SB03-5
Sample Info: SL4180-26
Instrument: gcms-w.i
Y (x10^6)
Min
-Dibromofluoromethane (7.210)
-Pentafluorobenzene (8.075)+
-1,4-Difluorobenzene (8.947)
-Toluene-D8 (11.098)
-Chlorobenzene-D5 (13.393)
-P-Bromofluorobenzene (15.037)
1,4-Dichlorobenzene-D4 (16.445)
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Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-27
Client ID: CHAAP-21B-DS-SB03-10
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4087.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 22-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228825

Analysis Date: 22-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 73.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,1,1,2-Tetrachloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.77	2.8
1,1,1-Trichloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.46	2.8
1,1,2,2-Tetrachloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.92	2.8
Freon-113	U	2.8	ug/Kgdrywt	1	5	5.5	0.99	2.8
1,1,2-Trichloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.1	2.8
1,1-Dichloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.9	2.8
1,1-Dichloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
1,1-Dichloropropene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
1,2,3-Trichlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.84	2.8
1,2,3-Trichloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	1.3	2.8
1,2,4-Trichlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.87	2.8
1,2,4-Trimethylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.96	2.8
1,2-Dibromo-3-Chloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	1.6	2.8
1,2-Dibromoethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.3	2.8
1,2-Dichlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.86	2.8
1,2-Dichloroethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.1	2.8
1,2-Dichloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	1.5	2.8
1,3,5-Trimethylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.74	2.8
1,3-Dichlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.68	2.8
1,3-Dichloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
1,4-Dichlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.48	2.8
2,2-Dichloropropane	U	2.8	ug/Kgdrywt	1	5	5.5	0.55	2.8
2-Butanone	U	14	ug/Kgdrywt	1	25	28.	6.5	14.
2-Chlorotoluene	U	2.8	ug/Kgdrywt	1	5	5.5	1.2	2.8
2-Hexanone	U	14	ug/Kgdrywt	1	25	28.	5.3	14.
4-Chlorotoluene	U	2.8	ug/Kgdrywt	1	5	5.5	0.54	2.8
P-Isopropyltoluene	U	2.8	ug/Kgdrywt	1	5	5.5	0.84	2.8
4-Methyl-2-Pentanone	U	14	ug/Kgdrywt	1	25	28.	6.5	14.
Acetone	U	14	ug/Kgdrywt	1	25	28.	5.6	14.
Benzene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
Bromobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.81	2.8
Bromochloromethane	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
Bromodichloromethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.66	2.8
Bromoform	U	2.8	ug/Kgdrywt	1	5	5.5	0.77	2.8
Bromomethane	U	5.5	ug/Kgdrywt	1	10	11.	1.2	5.5

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Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-27
Client ID: CHAAP-21B-DS-SB03-10
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: W4087.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 22-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228825

Analysis Date: 22-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 73.
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Carbon Disulfide	U	2.8	ug/Kgdrywt	1	5	5.5	0.86	2.8
Carbon Tetrachloride	U	2.8	ug/Kgdrywt	1	5	5.5	1.4	2.8
Chlorobenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.56	2.8
Dibromochloromethane	U	2.8	ug/Kgdrywt	1	5	5.5	7.7	2.8
Chloroethane	U	5.5	ug/Kgdrywt	1	10	11.	1.4	5.5
Chloroform	U	2.8	ug/Kgdrywt	1	5	5.5	0.38	2.8
Chloromethane	U	5.5	ug/Kgdrywt	1	10	11.	1.5	5.5
cis-1,2-Dichloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
cis-1,3-Dichloropropene	U	2.8	ug/Kgdrywt	1	5	5.5	0.79	2.8
Dibromomethane	U	2.8	ug/Kgdrywt	1	5	5.5	0.56	2.8
Dichlorodifluoromethane	U	5.5	ug/Kgdrywt	1	10	11.	1.0	5.5
Ethylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.72	2.8
Hexachlorobutadiene	U	2.8	ug/Kgdrywt	1	5	5.5	0.81	2.8
Isopropylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
m+p-Xylenes	U	5.5	ug/Kgdrywt	1	10	11.	1.9	5.5
Methyl tert-butyl Ether	U	2.8	ug/Kgdrywt	1	5	5.5	1.2	2.8
Methylene Chloride	U	14	ug/Kgdrywt	1	25	28.	8.7	14.
N-Butylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
N-Propylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.91	2.8
Naphthalene	U	2.8	ug/Kgdrywt	1	5	5.5	0.97	2.8
o-Xylene	U	2.8	ug/Kgdrywt	1	5	5.5	1.4	2.8
sec-Butylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	1.0	2.8
Styrene	U	2.8	ug/Kgdrywt	1	5	5.5	0.56	2.8
tert-Butylbenzene	U	2.8	ug/Kgdrywt	1	5	5.5	0.99	2.8
Tetrachloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	1.3	2.8
Toluene	U	2.8	ug/Kgdrywt	1	5	5.5	1.5	2.8
trans-1,2-Dichloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	0.78	2.8
trans-1,3-Dichloropropene	U	2.8	ug/Kgdrywt	1	5	5.5	0.95	2.8
Trichloroethene	U	2.8	ug/Kgdrywt	1	5	5.5	0.65	2.8
Trichlorofluoromethane	U	5.5	ug/Kgdrywt	1	10	11.	1.0	5.5
Vinyl Chloride	U	5.5	ug/Kgdrywt	1	10	11.	0.96	5.5
1,2-Dichloroethane-D4		99.9	%					
p-Bromofluorobenzene		89.4	%					
Dibromofluoromethane		102.	%					
Toluene-D8		99.8	%					

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Data File: \\target_server\gg\chem\gcms-w.i\W052118B.b\W4087.D
Report Date: 25-May-2018 12:18

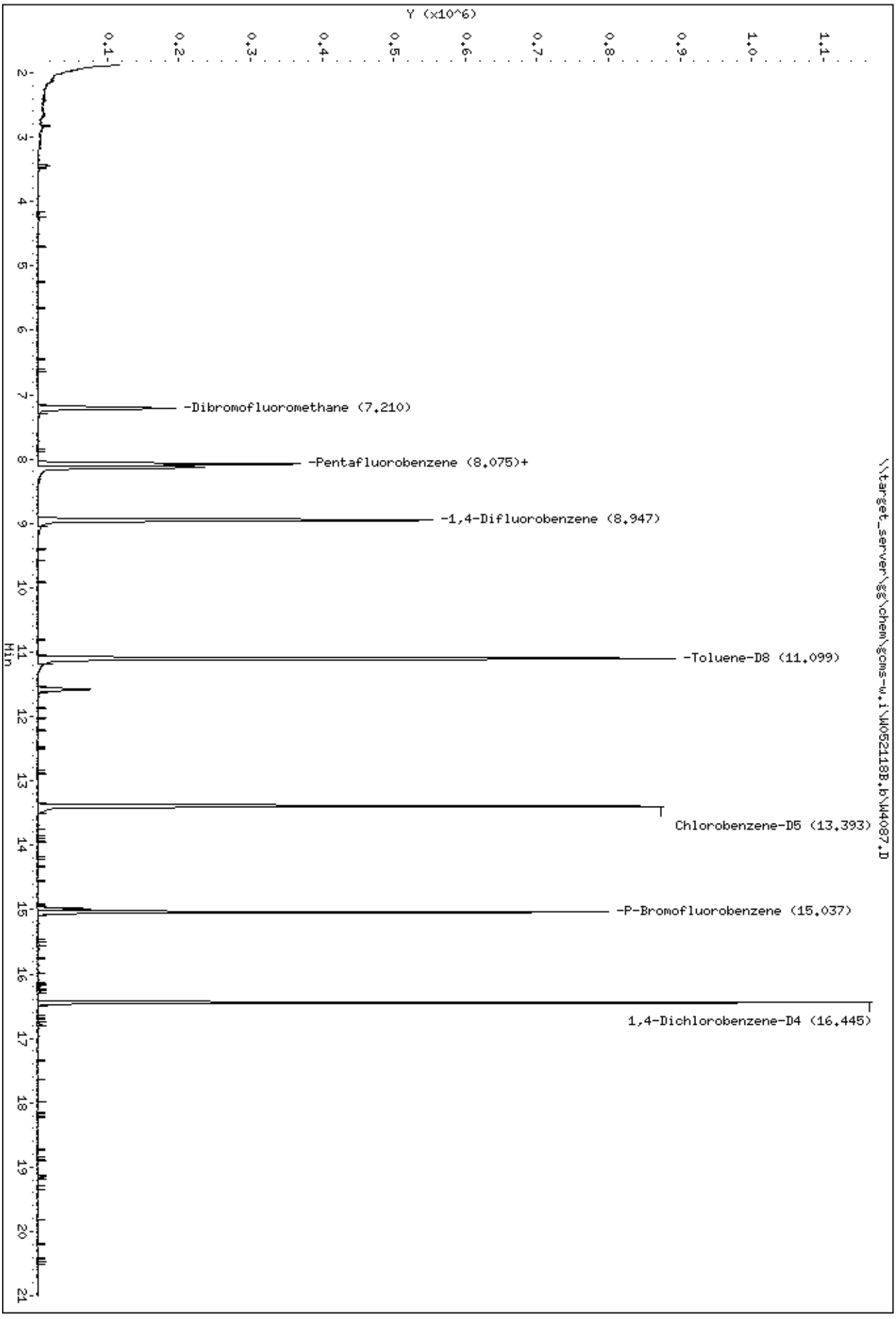
Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W052118B.b\W4087.D
Lab Smp Id: SL4180-27 Client Smp ID: HAAP-21B-DS-SB03-10
Inj Date : 22-MAY-2018 00:11 MS Autotune Date: 10-APR-2016 11:00
Operator : JSS Inst ID: gcms-w.i
Smp Info : SL4180-27
Misc Info : WG228825,WG228751-4
Comment : SW846 5035
Method : \\target_server\gg\chem\gcms-w.i\W052118B.b\W8SDI(13)D.m
Meth Date : 22-May-2018 08:59 jsampson Quant Type: ISTD
Cal Date : 21-MAY-2018 11:44 Cal File: W4068.D
Als bottle: 9
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: T6-O360

Concentration Formula: Amt * DF * (100/(100-M))*(Vt/Ws) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
M	27.122	% Moisture
Vt	5.000	Volume of DI Water (mL)
Ws	6.370	Weight of Sample (g)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/kg)	FINAL (ug/Kgdrywt)	REVIEW COD
$ 37 Dibromofluoromethane	113	7.210	7.198	(0.893)	145666	51.1696	55.1	
* 42 Pentafluorobenzene	168	8.075	8.070	(1.000)	313806	50.0000		
$ 45 1,2-Dichloroethane-D4	65	8.125	8.119	(1.006)	186793	49.9602	53.8	
* 49 1,4-Difluorobenzene	114	8.947	8.942	(1.000)	506847	50.0000		
$ 55 Toluene-D8	98	11.098	11.094	(1.240)	634653	49.8855	53.7	
* 66 Chlorobenzene-D5	117	13.393	13.381	(1.000)	485765	50.0000		
$ 76 P-Bromofluorobenzene	95	15.037	15.032	(1.681)	240315	44.7109	48.2	
* 91 1,4-Dichlorobenzene-D4	152	16.445	16.440	(1.000)	265885	50.0000		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Client ID: HAAP-21B-DS-SB03-10
Sample Info: SL4180-27
Instrument: gcms-w.i
\\target_server\gg\chem\gcms-w.i\W052118B.b\W4087.D
Y (x10^6)
Min
-Dibromofluoromethane (7.210)
-Pentafluorobenzene (8.075)+
-1,4-Difluorobenzene (8.947)
-Toluene-D8 (11.099)
Chlorobenzene-D5 (13.393)
-P-Bromofluorobenzene (15.037)
1,4-Dichlorobenzene-D4 (16.445)

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-28
Client ID: CHAAP-TB-051418
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: D1451.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 21-MAY-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG228752

Analysis Date: 21-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,1,1,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.19	0.50
1,1,1-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1,2,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.38	0.50
Freon-113	U	0.50	ug/L	1	1	1.0	0.31	0.50
1,1,2-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
1,1-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
1,1-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.35	0.50
1,1-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.21	0.50
1,2,3-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.27	0.50
1,2,3-Trichloropropane	U	0.50	ug/L	1	1	1.0	0.19	0.50
1,2,4-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.37	0.50
1,2,4-Trimethylbenzene	U	0.50	ug/L	1	1	1.0	0.19	0.50
1,2-Dibromo-3-Chloropropane	U	0.50	ug/L	1	1	1.0	0.50	0.50
1,2-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.15	0.50
1,2-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
1,3,5-Trimethylbenzene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,3-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,3-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.22	0.50
1,4-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.24	0.50
2,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
2-Butanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
2-Chlorotoluene	U	0.50	ug/L	1	1	1.0	0.20	0.50
2-Hexanone	U	2.5	ug/L	1	5	5.0	1.7	2.5
4-Chlorotoluene	U	0.50	ug/L	1	1	1.0	0.26	0.50
P-Isopropyltoluene	U	0.50	ug/L	1	1	1.0	0.25	0.50
4-Methyl-2-Pentanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Acetone	U	2.5	ug/L	1	5	5.0	2.2	2.5
Benzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
Bromobenzene	U	0.50	ug/L	1	1	1.0	0.24	0.50
Bromoform	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromomethane	U	1.0	ug/L	1	2	2.0	0.49	1.0
Carbon Disulfide	U	0.50	ug/L	1	1	1.0	0.25	0.50
Carbon Tetrachloride	U	0.50	ug/L	1	1	1.0	0.22	0.50
Chlorobenzene	U	0.50	ug/L	1	1	1.0	0.22	0.50

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-28
Client ID: CHAAP-TB-051418
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: D1451.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 21-MAY-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG228752

Analysis Date: 21-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Bromochloromethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
Dibromochloromethane	U	0.50	ug/L	1	1	1.0	0.30	0.50
Chloroethane	U	1.0	ug/L	1	2	2.0	0.55	1.0
Chloroform	U	0.50	ug/L	1	1	1.0	0.32	0.50
Chloromethane	U	1.0	ug/L	1	2	2.0	0.36	1.0
cis-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.21	0.50
cis-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.19	0.50
Dibromomethane	U	0.50	ug/L	1	1	1.0	0.46	0.50
Bromodichloromethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
Dichlorodifluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
Ethylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50
1,2-Dibromoethane	U	0.50	ug/L	1	1	1.0	0.22	0.50
Hexachlorobutadiene	U	0.75	ug/L	1	1	1.0	0.52	0.75
Isopropylbenzene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Methyl tert-butyl Ether	U	0.50	ug/L	1	1	1.0	0.36	0.50
Methylene Chloride	U	2.5	ug/L	1	5	5.0	1.1	2.5
m+p-Xylenes	U	1.0	ug/L	1	2	2.0	0.59	1.0
Naphthalene	U	0.50	ug/L	1	1	1.0	0.30	0.50
N-Butylbenzene	U	0.50	ug/L	1	1	1.0	0.23	0.50
N-Propylbenzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
o-Xylene	U	0.50	ug/L	1	1	1.0	0.25	0.50
sec-Butylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50
Styrene	U	0.50	ug/L	1	1	1.0	0.23	0.50
tert-Butylbenzene	U	0.50	ug/L	1	1	1.0	0.31	0.50
Tetrachloroethene	U	0.50	ug/L	1	1	1.0	0.40	0.50
Toluene	J	0.32	ug/L	1	1	1.0	0.27	0.50
trans-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.25	0.50
trans-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.20	0.50
Trichloroethene	U	0.50	ug/L	1	1	1.0	0.28	0.50
Trichlorofluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
Vinyl Chloride	U	1.0	ug/L	1	2	2.0	0.25	1.0
Dibromofluoromethane		104.	%					
1,2-Dichloroethane-d4		118.	%					
Toluene-d8		100.	%					
P-Bromofluorobenzene		98.3	%					

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Data File: \\target_server\gg\chem\gcms-d.i\D052118.b\D1451.d
Report Date: 25-May-2018 11:49

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-d.i\D052118.b\D1451.d
Lab Smp Id: SL4180-28 Client Smp ID: CHAAP-TB-051418
Inj Date : 21-MAY-2018 10:57 MS Autotune Date: 05-OCT-2017 14:30
Operator : JSS Inst ID: gcms-d.i
Smp Info : SL4180-28
Misc Info : WG228752,WG228547-4
Comment : SW846 5030
Method : \\target_server\gg\chem\gcms-d.i\D052118.b\D8A05(22)D.m
Meth Date : 25-May-2018 11:48 gcms-d.i Quant Type: ISTD
Cal Date : 17-MAY-2018 11:09 Cal File: D1356.d
Als bottle: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

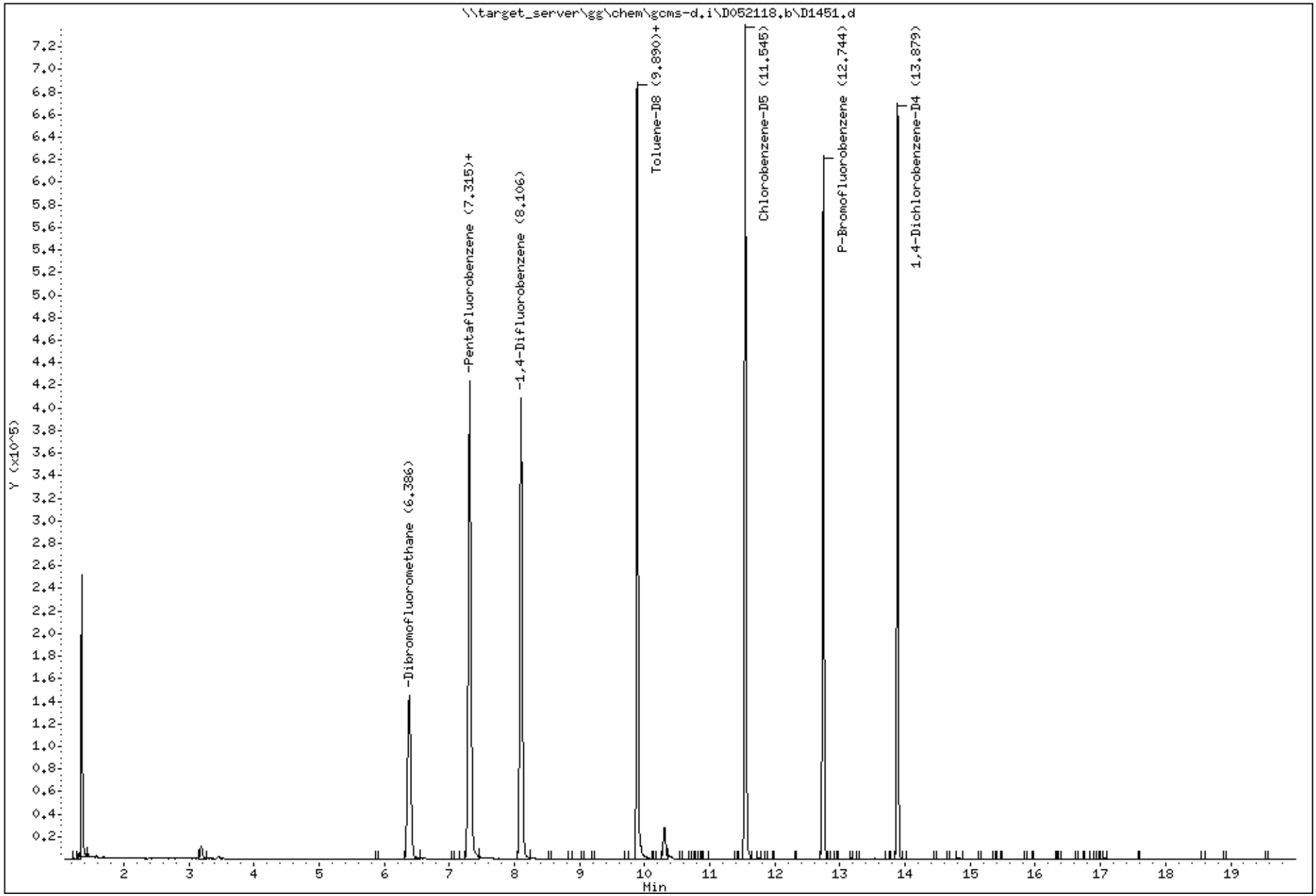
Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)	REVIEW CODE
$ 37 Dibromofluoromethane	113	6.385	6.376	(0.873)	148215	51.8477	51.8	
* 42 Pentafluorobenzene	168	7.315	7.315	(1.000)	233315	50.0000		
$ 45 1,2-Dichloroethane-D4	65	7.306	7.297	(0.999)	230455	59.0872	59.1	
* 49 1,4-Difluorobenzene	114	8.105	8.096	(1.000)	393016	50.0000		
$ 55 Toluene-D8	98	9.890	9.881	(1.220)	479124	50.0167	50.0	
57 Toluene	92	9.946	9.937	(1.227)	1882	0.31668	0.32(a)	
* 66 Chlorobenzene-D5	117	11.545	11.536	(1.000)	357213	50.0000		
$ 76 P-Bromofluorobenzene	95	12.744	12.735	(1.572)	193913	49.1451	49.1	
* 91 1,4-Dichlorobenzene-D4	152	13.887	13.879	(1.000)	175629	50.0000		

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

Data File: \\target_server\gg\chem\gcms-d.i\D052118.b\D1451.d
Date : 21-MAY-2018 10:57
Client ID: CHAAP-TB-051418
Instrument: gcms-d.i
Sample Info: SL4180-28



Katahdin Analytical Services 1000187

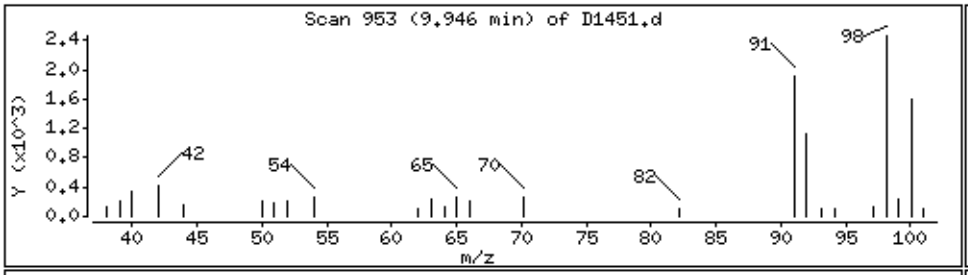
Data File: \\target_server\gg\chem\gcms-d.i\D052118.b\D1451.d

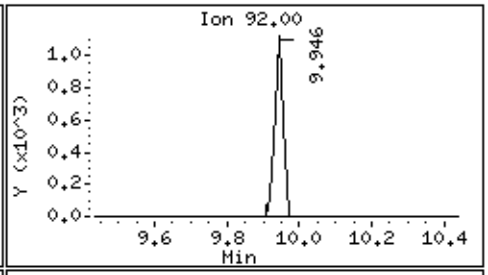
Date : 21-MAY-2018 10:57

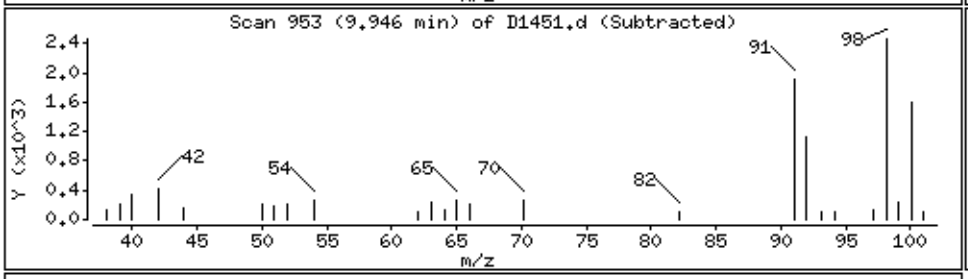
Client ID: CHAAP-TB-051418 Instrument: gcms-d.i

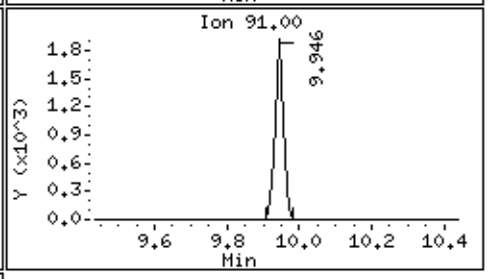
Sample Info: SL4180-28

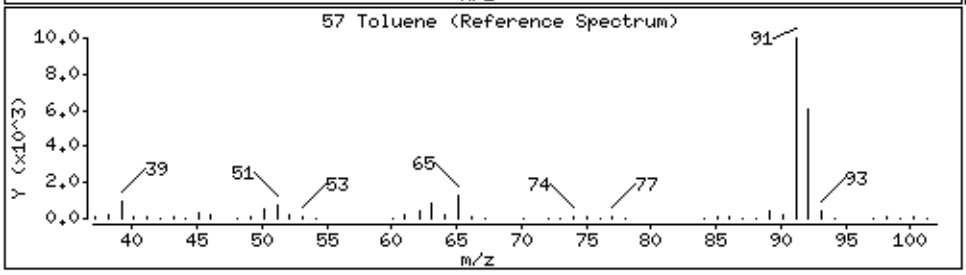
57 Toluene Concentration: 0.32 ug/l











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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-29
Client ID: CHAAP-EB-051418
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: D1453.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 21-MAY-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG228752

Analysis Date: 21-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,1,1,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.19	0.50
1,1,1-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1,2,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.38	0.50
Freon-113	U	0.50	ug/L	1	1	1.0	0.31	0.50
1,1,2-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
1,1-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
1,1-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.35	0.50
1,1-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.21	0.50
1,2,3-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.27	0.50
1,2,3-Trichloropropane	U	0.50	ug/L	1	1	1.0	0.19	0.50
1,2,4-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.37	0.50
1,2,4-Trimethylbenzene	U	0.50	ug/L	1	1	1.0	0.19	0.50
1,2-Dibromo-3-Chloropropane	U	0.50	ug/L	1	1	1.0	0.50	0.50
1,2-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.15	0.50
1,2-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
1,3,5-Trimethylbenzene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,3-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,3-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.22	0.50
1,4-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.24	0.50
2,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
2-Butanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
2-Chlorotoluene	U	0.50	ug/L	1	1	1.0	0.20	0.50
2-Hexanone	U	2.5	ug/L	1	5	5.0	1.7	2.5
4-Chlorotoluene	U	0.50	ug/L	1	1	1.0	0.26	0.50
P-Isopropyltoluene	U	0.50	ug/L	1	1	1.0	0.25	0.50
4-Methyl-2-Pentanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Acetone	U	2.5	ug/L	1	5	5.0	2.2	2.5
Benzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
Bromobenzene	U	0.50	ug/L	1	1	1.0	0.24	0.50
Bromoform	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromomethane	U	1.0	ug/L	1	2	2.0	0.49	1.0
Carbon Disulfide	U	0.50	ug/L	1	1	1.0	0.25	0.50
Carbon Tetrachloride	U	0.50	ug/L	1	1	1.0	0.22	0.50
Chlorobenzene	U	0.50	ug/L	1	1	1.0	0.22	0.50

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Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-29
Client ID: CHAAP-EB-051418
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: D1453.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 21-MAY-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG228752

Analysis Date: 21-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Bromochloromethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
Dibromochloromethane	U	0.50	ug/L	1	1	1.0	0.30	0.50
Chloroethane	U	1.0	ug/L	1	2	2.0	0.55	1.0
Chloroform	U	0.50	ug/L	1	1	1.0	0.32	0.50
Chloromethane	U	1.0	ug/L	1	2	2.0	0.36	1.0
cis-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.21	0.50
cis-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.19	0.50
Dibromomethane	U	0.50	ug/L	1	1	1.0	0.46	0.50
Bromodichloromethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
Dichlorodifluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
Ethylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50
1,2-Dibromoethane	U	0.50	ug/L	1	1	1.0	0.22	0.50
Hexachlorobutadiene	U	0.75	ug/L	1	1	1.0	0.52	0.75
Isopropylbenzene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Methyl tert-butyl Ether	U	0.50	ug/L	1	1	1.0	0.36	0.50
Methylene Chloride	U	2.5	ug/L	1	5	5.0	1.1	2.5
m+p-Xylenes	U	1.0	ug/L	1	2	2.0	0.59	1.0
Naphthalene	U	0.50	ug/L	1	1	1.0	0.30	0.50
N-Butylbenzene	U	0.50	ug/L	1	1	1.0	0.23	0.50
N-Propylbenzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
o-Xylene	U	0.50	ug/L	1	1	1.0	0.25	0.50
sec-Butylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50
Styrene	U	0.50	ug/L	1	1	1.0	0.23	0.50
tert-Butylbenzene	U	0.50	ug/L	1	1	1.0	0.31	0.50
Tetrachloroethene	U	0.50	ug/L	1	1	1.0	0.40	0.50
Toluene	J	0.31	ug/L	1	1	1.0	0.27	0.50
trans-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.25	0.50
trans-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.20	0.50
Trichloroethene	U	0.50	ug/L	1	1	1.0	0.28	0.50
Trichlorofluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
Vinyl Chloride	U	1.0	ug/L	1	2	2.0	0.25	1.0
Dibromofluoromethane		106.	%					
1,2-Dichloroethane-d4	*	122.	%					
Toluene-d8		101.	%					
P-Bromofluorobenzene		101.	%					

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Data File: \\target_server\gg\chem\gcms-d.i\D052118.b\D1453.d
Report Date: 25-May-2018 11:49

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-d.i\D052118.b\D1453.d
Lab Smp Id: SL4180-29 Client Smp ID: CHAAP-EB-051418
Inj Date : 21-MAY-2018 12:08 MS Autotune Date: 05-OCT-2017 14:30
Operator : JSS Inst ID: gcms-d.i
Smp Info : SL4180-29
Misc Info : WG228752,WG228547-4
Comment : SW846 5030
Method : \\target_server\gg\chem\gcms-d.i\D052118.b\D8A05(22)D.m
Meth Date : 25-May-2018 11:48 gcms-d.i Quant Type: ISTD
Cal Date : 17-MAY-2018 11:09 Cal File: D1356.d
Als bottle: 8
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

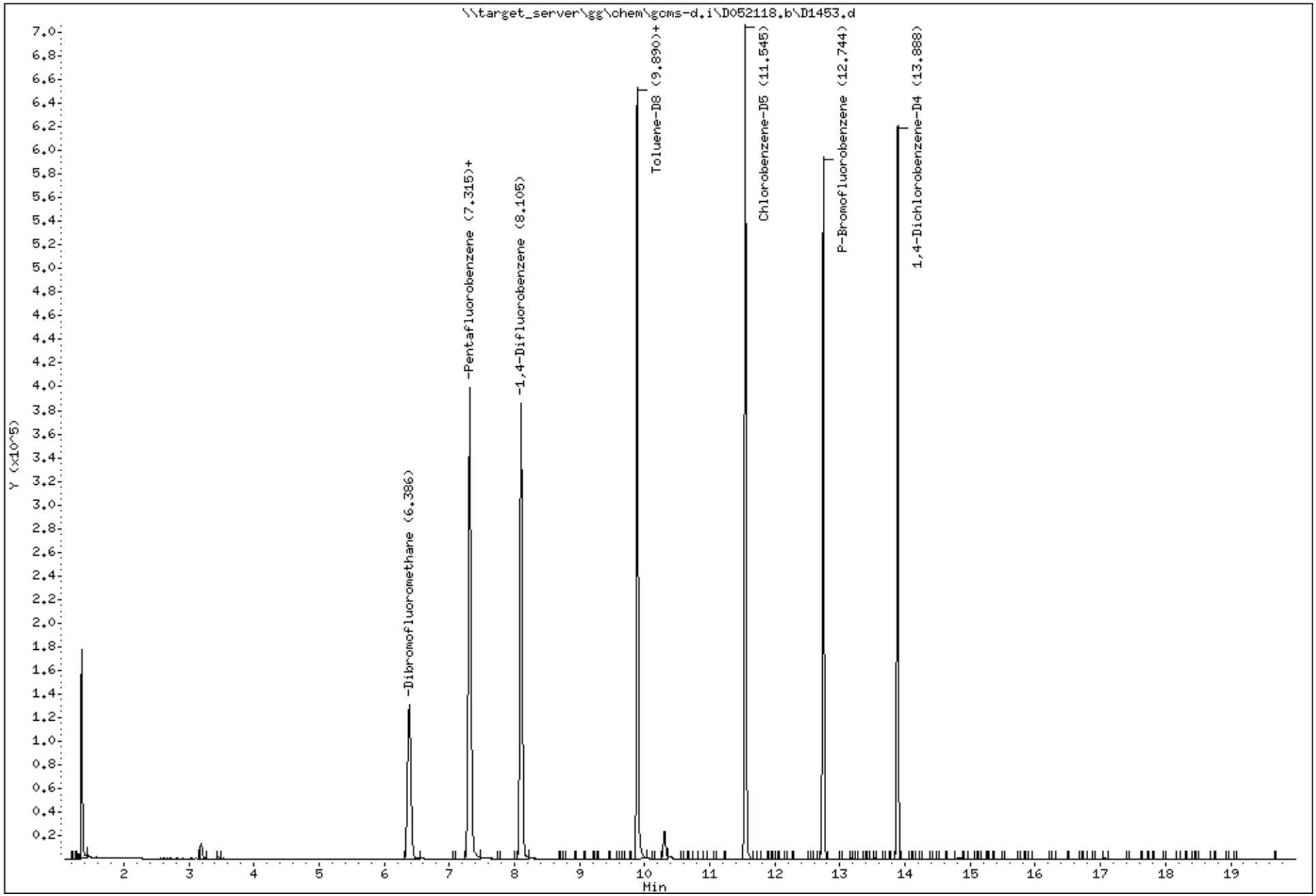
Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
$ 37 Dibromofluoromethane	113	6.385	6.376	(0.872)	136109	52.7794	52.8	
* 42 Pentafluorobenzene	168	7.324	7.315	(1.000)	210476	50.0000		
$ 45 1,2-Dichloroethane-D4	65	7.305	7.297	(0.997)	215518	61.2535	61.2	
* 49 1,4-Difluorobenzene	114	8.105	8.096	(1.000)	351955	50.0000		
$ 55 Toluene-D8	98	9.890	9.881	(1.220)	434890	50.6955	50.7	
57 Toluene	92	9.946	9.937	(1.227)	1654	0.31079	0.31(a)	
* 66 Chlorobenzene-D5	117	11.545	11.536	(1.000)	327459	50.0000		
$ 76 P-Bromofluorobenzene	95	12.744	12.735	(1.572)	178572	50.5370	50.5	
* 91 1,4-Dichlorobenzene-D4	152	13.887	13.879	(1.000)	161524	50.0000		

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

Data File: \\target_server\gg\chem\gcms-d.i\D052118.b\D1453.d
Date : 21-MAY-2018 12:08
Client ID: CHAAP-EB-051418
Instrument: gcms-d.i
Sample Info: SL4180-29



Katahdin Analytical Services 1000192

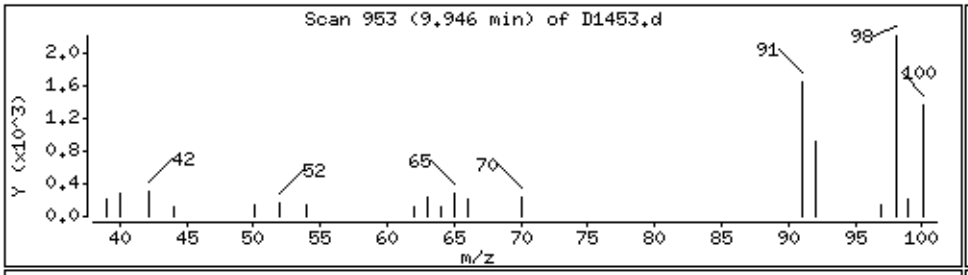
Data File: \\target_server\gg\chem\gcms-d.i\D052118.b\D1453.d

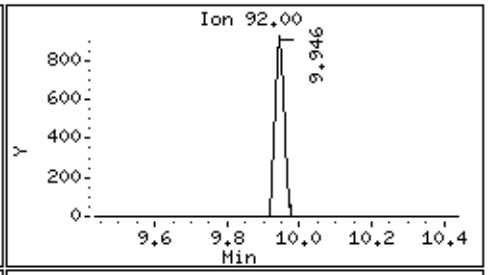
Date : 21-MAY-2018 12:08

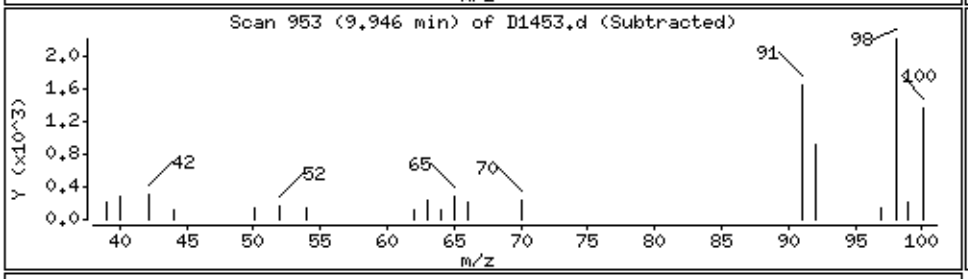
Client ID: CHAAP-EB-051418 Instrument: gcms-d.i

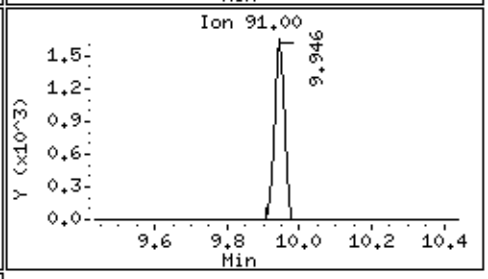
Sample Info: SL4180-29

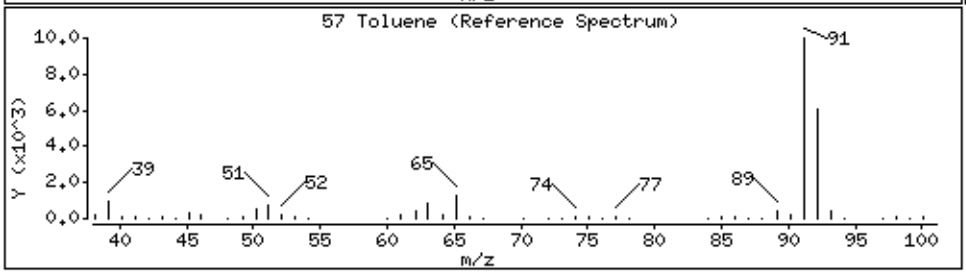
57 Toluene Concentration: 0.31 ug/l











Standards Data Section

Katahdin
ANALYTICAL SERVICES

Form 6
Initial Calibration Summary

Lab Name : Katahdin Analytical Services
SDG: SL4180
Project : Cornhusker Army Ammunition Plant
Instrument ID: GCMS-D
Lab File IDs : D1354.d D1353.d D1352.d D1351.d D1356.d D1355.d
Column ID:
Calibration Date(s): 17-MAY-18 08:11 17-MAY-18 11:09

	1.0000 Level 1	5.0000 Level 2	20.0000 Level 3	50.0000 Level 4	100.0000 Level 5	150.0000 Level 6	New Crv	b	m1	m2	%RSD	Max %RSD	
Dichlorodifluoromethane	0.79300	0.96937	0.89845	0.84663	0.87321	0.84698	AVG		0.87127		6.82672	15.00000	O
Chloromethane	0.87951	0.93660	0.78647	0.67068	0.78352	0.73924	AVG		0.79934		11.9799(	15.00000	O
Vinyl chloride	0.59946	0.71193	0.60441	0.56433	0.67146	0.60581	AVG		0.62623		8.69713	15.00000	O
Bromomethane	0.34697	0.35727	0.29267	0.28194	0.30939	0.31305	AVG		0.31688		9.37706	15.00000	O
Chloroethane	0.28651	0.34838	0.28906	0.27081	0.26281	+++++	AVG		0.29152		11.52707	15.00000	O
Trichlorofluoromethane	0.91981	1.10400	0.98417	0.97784	0.96130	0.95399	AVG		0.98352		6.42620	15.00000	O
1,1-Dichloroethene	0.42112	0.38787	0.35145	0.33495	0.35738	0.34565	AVG		0.36640		8.78477	15.00000	O
Carbon Disulfide	1.19739	1.17482	1.14792	1.14066	1.23036	1.19632	AVG		1.18124		2.85825	15.00000	O
Freon-113	0.28290	0.28850	0.31279	0.30554	0.31667	0.29672	AVG		0.30052		4.47874	15.00000	O
Methylene Chloride	0.64204	0.56279	0.52137	0.51621	0.55275	0.53602	AVG		0.55520		8.30821	15.00000	O
Acetone	0.18214	0.16029	0.16150	0.15713	0.16145	0.15245	AVG		0.16249		6.29144	15.00000	O
trans-1,2-Dichloroethene	0.54755	0.52619	0.47789	0.48204	0.51207	0.49236	AVG		0.50635		5.38735	15.00000	O
Methyl tert-butyl ether	1.16697	1.18583	1.26471	1.32111	1.51659	1.44392	AVG		1.31652		10.6562	15.00000	O
1,1-Dichloroethane	1.09130	1.04721	0.97407	0.98752	1.00826	0.99941	AVG		1.01796		4.28776	15.00000	O
cis-1,2-Dichloroethene	0.53482	0.53653	0.50982	0.52108	0.56060	0.55343	AVG		0.53605		3.55774	15.00000	O
2,2-Dichloropropane	0.66562	0.69608	0.69487	0.73014	0.72998	0.75752	AVG		0.71237		4.62243	15.00000	O
Bromochloromethane	0.25286	0.26960	0.27284	0.28086	0.28381	0.24986	AVG		0.26831		5.26824	15.00000	O
Chloroform	1.12020	1.10289	1.01132	1.03934	1.06013	1.06097	AVG		1.06581		3.76668	15.00000	O
Carbon Tetrachloride	0.49064	0.48949	0.45439	0.46014	0.47686	0.47640	AVG		0.47465		3.13209	15.00000	O
1,1,1-Trichloroethane	0.98350	0.94493	0.87313	0.88751	0.90492	0.92163	AVG		0.91927		4.38740	15.00000	O
1,1-Dichloropropene	0.48565	0.47329	0.46296	0.45351	0.47731	0.47490	AVG		0.47127		2.41038	15.00000	O
2-Butanone	0.23016	0.22526	0.24155	0.24293	0.25944	0.24986	AVG		0.24154		5.19133	15.00000	O
Benzene	1.22980	1.24322	1.18890	1.19028	1.24833	1.22889	AVG		1.22157		2.11969	15.00000	O
1,2-Dichloroethane	0.70747	0.56001	0.54504	0.54335	0.53100	0.54687	AVG		0.57229		11.6841	15.00000	O
Trichloroethene	0.38821	0.36285	0.34254	0.33584	0.33714	0.33844	AVG		0.35084		5.94675	15.00000	O
Dibromomethane	0.24117	0.21822	0.22484	0.23265	0.23501	0.23806	AVG		0.23166		3.71633	15.00000	O
1,2-Dichloropropane	0.34122	0.33334	0.33064	0.33358	0.34385	0.34980	AVG		0.33874		2.19378	15.00000	O
Bromodichloromethane	0.47390	0.45184	0.46415	0.48054	0.49438	0.51487	AVG		0.47995		4.66274	15.00000	O
cis-1,3-dichloropropene	3462	19790	94112	254013	569134	818228	LNR	0.02753	0.61582		0.99953	0.99000	O
Toluene	0.80764	0.79276	0.72461	0.72060	0.74326	0.74749	AVG		0.75606		4.76571	15.00000	O
4-methyl-2-pentanone	0.28581	0.28808	0.31418	0.32311	0.32450	0.31184	AVG		0.30792		5.51649	15.00000	O
Tetrachloroethene	0.28430	0.28535	0.25823	0.25531	0.26524	0.26074	AVG		0.26820		4.95681	15.00000	O
trans-1,3-Dichloropropene	0.39878	0.42294	0.48694	0.52254	0.53464	0.54818	AVG		0.48567		12.7434(	15.00000	O
1,1,2-Trichloroethane	0.27368	0.25744	0.25222	0.26012	0.26672	0.26458	AVG		0.26246		2.87222	15.00000	O
Dibromochloromethane	0.32331	0.33019	0.36518	0.39210	0.41232	0.41604	AVG		0.37319		10.8033(	15.00000	O
1,3-Dichloropropane	0.61095	0.56780	0.57950	0.60235	0.62039	0.60928	AVG		0.59838		3.39929	15.00000	O
1,2-Dibromoethane	0.30858	0.30034	0.31266	0.32110	0.33020	0.33039	AVG		0.31721		3.82863	15.00000	O

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sales@katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Form 6
Initial Calibration Summary

Lab Name : Katahdin Analytical Services
SDG: SL4180
Project : Cornhusker Army Ammunition Plant
Instrument ID: GCMS-D
Lab File IDs : D1354.d D1353.d D1352.d D1351.d D1356.d D1355.d
Column ID:
Calibration Date(s): 17-MAY-18 08:11 17-MAY-18 11:09

2-Hexanone	0.17289	0.19756	0.24019	0.24508	0.25502	0.24329	AVG		0.22567		14.4747	15.00000	O
Chlorobenzene	0.97633	0.94691	0.88767	0.88684	0.90220	0.90412	AVG		0.91734		3.95117	15.00000	O
Ethylbenzene	1.68401	1.68635	1.57756	1.59542	1.60838	1.60141	AVG		1.62552		2.91192	15.00000	O
1,1,1,2-Tetrachloroethane	0.32125	0.31902	0.32734	0.33974	0.34723	0.35269	AVG		0.33454		4.19921	15.00000	O
m+p-Xylenes	1.17012	1.27771	1.21928	1.23994	1.23071	1.23192	AVG		1.22828		2.83471	15.00000	O
o-Xylene	0.96684	1.13413	1.21107	1.26099	1.29652	1.29786	AVG		1.19457		10.6720	15.00000	O
Styrene	0.69459	0.84351	0.90970	0.94140	0.97173	0.96555	AVG		0.88775		11.8925	15.00000	O
Bromoform	0.17128	0.18815	0.21190	0.23508	0.24776	0.24673	AVG		0.21682		14.7388	15.00000	O
Isopropylbenzene	2.35854	2.64724	2.71037	2.72357	2.84112	2.81203	AVG		2.68214		6.47041	15.00000	O
Bromobenzene	0.77815	0.72615	0.72712	0.71078	0.73756	0.72533	AVG		0.73418		3.15644	15.00000	O
N-Propylbenzene	3.75081	3.75523	3.63655	3.49811	3.63678	3.56998	AVG		3.64124		2.76286	15.00000	O
1,1,2,2-Tetrachloroethane	0.90272	0.79783	0.83249	0.81785	0.85386	0.82404	AVG		0.83813		4.36243	15.00000	O
1,3,5-Trimethylbenzene	1.99843	2.33288	2.39228	2.38601	2.45763	2.41413	AVG		2.33023		7.18937	15.00000	O
2-Chlorotoluene	2.11454	2.13753	2.08486	2.09895	2.17156	2.15814	AVG		2.12760		1.59825	15.00000	O
1,2,3-Trichloropropane	0.77713	0.74487	0.74435	0.73642	0.75598	0.72448	AVG		0.74720		2.40786	15.00000	O
4-Chlorotoluene	2.26474	2.29449	2.24492	2.25838	2.31067	2.29470	AVG		2.27798		1.12314	15.00000	O
tert-Butylbenzene	1.80056	2.19069	2.26715	2.27609	2.36769	2.33943	AVG		2.20694		9.44420	15.00000	O
1,2,4-Trimethylbenzene	2.01253	2.41385	2.46926	2.47024	2.54274	2.52992	AVG		2.40642		8.24986	15.00000	O
P-Isopropyltoluene	1.96665	2.27913	2.37329	2.36184	2.48102	2.46890	AVG		2.32180		8.15369	15.00000	O
1,3-Dichlorobenzene	1.38765	1.34731	1.29022	1.28388	1.32804	1.31329	AVG		1.32506		2.91700	15.00000	O
1,4-Dichlorobenzene	1.55322	1.39429	1.32920	1.30632	1.35648	1.34006	AVG		1.37993		6.51149	15.00000	O
N-Butylbenzene	1.99254	2.20685	2.31578	2.32052	2.39223	2.41191	AVG		2.27330		6.83272	15.00000	O
sec-Butylbenzene	2.57051	2.93047	2.91619	2.88891	2.99468	2.95111	AVG		2.87531		5.33821	15.00000	O
1,2-Dichlorobenzene	1.17056	1.19885	1.21299	1.23236	1.29740	1.28670	AVG		1.23314		4.05421	15.00000	O
1,2-Dibromo-3-Chloropropane	0.15455	0.11956	0.13101	0.14051	0.15731	0.15647	AVG		0.14324		10.8991	15.00000	O
Hexachlorobutadiene	0.40420	0.36184	0.33754	0.32714	0.35822	0.35861	AVG		0.35792		7.41329	15.00000	O
1,2,4-Trichlorobenzene	0.62667	0.65777	0.70921	0.74267	0.81920	0.81607	AVG		0.72860		10.9522	15.00000	O
Naphthalene	3912	22533	121258	320798	796844	1088321	LNR	0.03616	1.76798		0.99742	0.99000	O
1,2,3-Trichlorobenzene	0.56208	0.56306	0.60879	0.59408	0.67003	0.65032	AVG		0.60806		7.34028	15.00000	O
Dibromofluoromethane	0.61493	0.62075	0.60854	0.61389	0.61115	0.60645	AVG		0.61262		0.83199	15.00000	
1,2-Dichloroethane-D4	0.87100	0.84545	0.82485	0.85246	0.79020	0.83104	AVG		0.83583		3.31204	15.00000	
Toluene-D8	1.21001	1.21776	1.21802	1.21797	1.21819	1.23018	AVG		1.21869		0.53093	15.00000	
P-Bromofluorobenzene	0.49809	0.49930	0.50437	0.50603	0.49257	0.51153	AVG		0.50198		1.33443	15.00000	

Legend: O = Kept Original Curve
Y = Failed Minimum RF
W = Failed %RSD Value

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P.O. Box 540, Scarborough, ME 04070
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Data File: \\target_server\gg\chem\gcms-d.i\D051718B.b\D1358A.d
Report Date: 21-May-2018 09:41

Katahdin Analytical Services

RECOVERY REPORT

Client Name: Client SDG: SDGa02236
Sample Matrix: LIQUID Fraction: VOA
Lab Smp Id: WG228566-8
Level: LOW Operator: JSS
Data Type: MS DATA SampleType: LCS
SpikeList File: IND_CHECK.spk Quant Type: ISTD
Sublist File: all.sub
Method File: \\target_server\gg\chem\gcms-d.i\D051718B.b\D8A05(22)D.m
Misc Info: WG228566,WG228547-4

	SPIKE	COMPOUND	CONC ADDED ug/l	CONC RECOVERED ug/l	% RECOVERED	LIMITS
	1	Dichlorodifluorome	50.0	47.6	95.12	80-120
	2	Chloromethane	50.0	45.9	91.72	80-120
	3	Vinyl chloride	50.0	46.8	93.64	80-120
	4	Bromomethane	50.0	45.3	90.70	80-120
	5	Chloroethane	50.0	46.4	92.86	80-120
	6	Trichlorofluoromet	50.0	42.4	84.91	80-120
	7	Diethyl Ether	50.0	51.3	102.63	80-120
	8	Tertiary-butyl alc	250	205	82.20	80-120
	9	1,1-Dichloroethene	50.0	47.0	94.08	80-120
	10	Carbon Disulfide	50.0	46.7	93.43	80-120
	11	Freon-113	50.0	47.2	94.33	80-120
	12	Iodomethane	50.0	43.7	87.33	80-120
	13	Acrolein	250	196	78.22*	80-120
	14	Methylene Chloride	50.0	48.2	96.37	80-120
	15	Acetone	50.0	43.4	86.80	80-120
	16	Isobutyl Alcohol	1000	825	82.47	80-120
	17	trans-1,2-Dichloro	50.0	49.2	98.47	80-120
	18	Allyl Chloride	50.0	49.8	99.69	80-120
	19	Methyl tert-butyl	50.0	49.8	99.65	80-120
	20	Acetonitrile	500	461	92.20	80-120
	21	Di-isopropyl ether	50.0	47.6	95.11	80-120
	22	Chloroprene	50.0	49.9	99.73	80-120
	23	Propionitrile	500	470	94.02	80-120
	24	Methacrylonitrile	500	474	94.91	80-120
	25	1,1-Dichloroethane	50.0	50.4	100.92	80-120
	26	Acrylonitrile	250	232	93.03	80-120
	27	Ethyl tertiary-but	50.0	46.9	93.77	80-120
	28	Vinyl Acetate	50.0	54.5	108.98	80-120
	29	cis-1,2-Dichloroet	50.0	49.9	99.81	80-120
M	30	1,2-Dichloroethyle	100	99.1	99.14	80-120
	31	Methyl Methacrylat	50.0	44.7	89.35	80-120
	32	2,2-Dichloropropan	50.0	47.9	95.87	80-120
	33	Bromochloromethane	50.0	50.5	101.01	80-120
	34	Chloroform	50.0	47.5	95.01	80-120
	35	Carbon Tetrachlori	50.0	47.3	94.52	80-120
	36	Tetrahydrofuran	50.0	44.8	89.70	80-120
	38	1,1,1-Trichloroeth	50.0	46.6	93.10	80-120
	39	1,1-Dichloropropen	50.0	48.8	97.54	80-120
	40	2-Butanone	50.0	44.6	89.29	80-120
	41	Benzene	50.0	49.9	99.79	80-120

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Report Date: 21-May-2018 09:41

	SPIKE	COMPOUND	CONC ADDED ug/l	CONC RECOVERED ug/l	% RECOVERED	LIMITS
	43	Cyclohexane	50.0	49.9	99.83	80-120
	44	Ethyl Methacrylate	50.0	43.6	87.17	80-120
	46	Tertiary-amyl meth	50.0	45.0	89.95	80-120
	47	1,2-Dichloroethane	50.0	44.8	89.55	80-120
	48	Trichloroethene	50.0	47.0	93.94	80-120
	50	Dibromomethane	50.0	48.0	96.10	80-120
	51	1,2-Dichloropropan	50.0	49.8	99.54	80-120
	52	Bromodichlorometha	50.0	50.4	100.70	80-120
	53	cis-1,3-dichloropr	50.0	45.6	91.16	80-120
	54	1,4-Dioxane	1000	961	96.07	80-120
	56	2-Chloroethylvinyl	50.0	50.4	100.80	80-120
	57	Toluene	50.0	48.2	96.33	80-120
	58	4-methyl-2-pentano	50.0	46.2	92.32	80-120
	59	Tetrachloroethene	50.0	49.7	99.33	80-120
	60	trans-1,3-Dichloro	50.0	51.5	102.95	80-120
	61	1,1,2-Trichloroeth	50.0	47.4	94.81	80-120
	62	Dibromochlorometha	50.0	52.2	104.43	80-120
	63	1,3-Dichloropropan	50.0	47.3	94.63	80-120
	64	1,2-Dibromoethane	50.0	47.2	94.39	80-120
	65	2-Hexanone	50.0	47.3	94.54	80-120
	67	Chlorobenzene	50.0	48.5	96.93	80-120
	152	1-Chlorohexane	50.0	0.00	0.00*	80-120
	68	Ethylbenzene	50.0	48.2	96.34	80-120
	69	1,1,1,2-Tetrachlor	50.0	50.4	100.83	80-120
M	70	Xylenes (total)	150	151	100.51	80-120
	71	m+p-Xylenes	100	99.4	99.38	80-120
	72	o-Xylene	50.0	51.4	102.78	80-120
	73	Styrene	50.0	52.7	105.47	80-120
	74	Bromoform	50.0	50.5	100.97	80-120
	75	Isopropylbenzene	50.0	53.5	107.06	80-120
	77	cis-1,4-Dichloro-2	50.0	40.8	81.67	80-120
	78	trans-1,4-Dichloro	50.0	41.1	82.16	80-120
	79	Bromobenzene	50.0	49.3	98.69	80-120
	80	N-Propylbenzene	50.0	48.3	96.56	80-120
	81	1,1,2,2-Tetrachlor	50.0	46.5	93.02	80-120
	82	1,3,5-Trimethylben	50.0	50.9	101.83	80-120
	83	2-Chlorotoluene	50.0	49.0	98.06	80-120
	84	1,2,3-Trichloropro	50.0	44.8	89.68	80-120
	85	4-Chlorotoluene	50.0	49.0	97.98	80-120
	86	tert-Butylbenzene	50.0	50.5	101.08	80-120
	87	Pentachloroethane	50.0	49.5	98.96	80-120
	88	1,2,4-Trimethylben	50.0	50.8	101.69	80-120
	89	P-Isopropyltoluene	50.0	51.4	102.89	80-120
	90	1,3-Dichlorobenzen	50.0	48.9	97.76	80-120
	92	1,4-Dichlorobenzen	50.0	47.2	94.47	80-120
	93	N-Butylbenzene	50.0	50.5	101.08	80-120
	94	sec-Butylbenzene	50.0	50.0	100.02	80-120
	95	1,2-Dichlorobenzen	50.0	49.6	99.26	80-120
	96	1,2-Dibromo-3-Chlo	50.0	40.9	81.77	80-120
	97	1,3,5-Trichloroben	50.0	49.2	98.40	80-120
	98	Hexachlorobutadien	50.0	44.7	89.47	80-120
	99	1,2,4-Trichloroben	50.0	49.3	98.53	80-120
	100	1,2,3-Trimethylben	50.0	50.7	101.33	80-120
	101	Naphthalene	50.0	42.1	84.20	80-120

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	SPIKE COMPOUND	CONC ADDED ug/l	CONC RECOVERED ug/l	% RECOVERED	LIMITS
	102 1,2,3-Trichloroben	50.0	45.4	90.92	80-120
	103 Methyl Acetate	50.0	43.7	87.34	80-120
	104 Methylcyclohexane	50.0	47.0	94.04	80-120
M	153 Total Alkylbenzene	350	352	100.74	80-120

	SURROGATE COMPOUND	AMOUNT ADDED ug/l	AMOUNT RECOVERED ug/l	% RECOVERED	LIMITS
$	37 Dibromofluorometha	50.0	48.6	97.31	68-128
$	45 1,2-Dichloroethane	50.0	45.6	91.28	67-135
$	55 Toluene-D8	50.0	49.7	99.42	65-128
$	76 P-Bromofluorobenze	50.0	48.2	96.46	56-133

Data File: \\target_server\gg\chem\gcms-d.i\D051718.b\D1351.d
Report Date: 21-May-2018 09:38

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-d.i\D051718.b\D1351.d
Lab Smp Id: WG228547-4
Inj Date : 17-MAY-2018 08:11
Operator : JSS   Inst ID: gcms-d.i
Smp Info : WG228547-4
Misc Info :
Comment   : SW846 5030
Method   : \\target_server\gg\chem\gcms-d.i\D051718.b\D8A05(22)D.m
Meth Date : 21-May-2018 09:36 gcms-d.i   Quant Type: ISTD
Cal Date : 17-MAY-2018 08:11   Cal File: D1351.d
Als bottle: 1   Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP RTE   Compound Sublist: all.sub
Target Version: 4.12

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)	REVIEW CODE
1	Dichlorodifluoromethane	85	1.486	1.486	(0.203)	224863	50.0000	48.6	
2	Chloromethane	50	1.653	1.654	(0.226)	178131	50.0000	42.0	
3	Vinyl chloride	62	1.728	1.728	(0.236)	149884	50.0000	45.0	
4	Bromomethane	94	2.025	2.025	(0.277)	74882	50.0000	44.5	
5	Chloroethane	64	2.137	2.137	(0.292)	71927	50.0000	46.4	
6	Trichlorofluoromethane	101	2.276	2.277	(0.311)	259713	50.0000	49.7	
7	Diethyl Ether	59	2.583	2.583	(0.353)	84663	50.0000	51.7	
8	Tertiary-butyl alcohol	59	3.968	3.969	(0.542)	41222	250.000	219	
9	1,1-Dichloroethene	96	2.778	2.779	(0.380)	88961	50.0000	45.7	
10	Carbon Disulfide	76	2.806	2.807	(0.384)	302956	50.0000	48.3	
11	Freon-113	151	2.834	2.834	(0.387)	81151	50.0000	50.8	
12	Iodomethane	142	2.936	2.937	(0.401)	94847	50.0000	47.3	
13	Acrolein	56	3.159	3.160	(0.432)	111565	250.000	307	
14	Methylene Chloride	84	3.447	3.448	(0.471)	137104	50.0000	46.5	
15	Acetone	43	3.522	3.522	(0.482)	208664	250.000	242	
16	Isobutyl Alcohol	43	7.612	7.613	(1.041)	99477	1000.00	927	
17	trans-1,2-Dichloroethene	96	3.643	3.643	(0.498)	128030	50.0000	47.6	
18	Allyl Chloride	41	3.317	3.318	(0.454)	221440	50.0000	54.1	
19	Methyl tert-butyl ether	73	3.810	3.811	(0.521)	350884	50.0000	50.2	
20	Acetonitrile	39	4.135	4.136	(0.565)	37888	500.000	519	
21	Di-isopropyl ether	45	4.368	4.368	(0.597)	451092	50.0000	48.4	
22	Chloroprene	53	4.479	4.480	(0.612)	234850	50.0000	54.4	
23	Propionitrile	54	7.147	7.148	(0.977)	194735	500.000	539	
24	Methacrylonitrile	41	7.185	7.185	(0.982)	964573	500.000	561	

Data File: \\target_server\gg\chem\gcms-d.i\D051718.b\D1351.d
Report Date: 21-May-2018 09:38

							AMOUNTS		
		QUANT SIG					CAL-AMT	ON-COL	
	Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	(ug/l)	(ug/l)	REVIEW CODE
	25 1,1-Dichloroethane	63	4.517	4.517	(0.617)	262284	50.0000	48.5	
	26 Acrylonitrile	52	4.610	4.610	(0.630)	232467	250.000	267	
	27 Ethyl tertiary-butyl ether	59	4.963	4.963	(0.678)	386647	50.0000	48.0	
	28 Vinyl Acetate	43	4.981	4.982	(0.615)	335200	50.0000	53.3	
	29 cis-1,2-Dichloroethene	96	5.437	5.437	(0.743)	138398	50.0000	48.6	
M	30 1,2-Dichloroethylene (total)	96				266428	50.0000	(a)	
	31 Methyl Methacrylate	41	10.643	10.643	(1.315)	138281	50.0000	49.8	
	32 2,2-Dichloropropane	77	5.641	5.642	(0.771)	193925	50.0000	51.2	
	33 Bromochloromethane	128	5.809	5.809	(0.794)	74596	50.0000	52.3	
	34 Chloroform	83	6.013	6.014	(0.822)	276047	50.0000	48.8	
	35 Carbon Tetrachloride	117	6.236	6.237	(0.770)	200760	50.0000	48.5	
	36 Tetrahydrofuran	42	6.311	6.311	(0.863)	194895	250.000	263	
$	37 Dibromofluoromethane	113	6.376	6.376	(0.872)	163048	50.0000	50.1	
	38 1,1,1-Trichloroethane	97	6.376	6.376	(0.872)	235721	50.0000	48.3	
	39 1,1-Dichloropropene	75	6.627	6.627	(0.819)	197868	50.0000	48.1	
	40 2-Butanone	43	6.655	6.655	(0.910)	322614	250.000	251	
	41 Benzene	78	7.064	7.064	(0.873)	519322	50.0000	48.7	
*	42 Pentafluorobenzene	168	7.315	7.315	(1.000)	265598	50.0000		
	43 Cyclohexane	56	5.790	5.791	(0.792)	219876	50.0000	51.0	
	44 Ethyl Methacrylate	69	9.137	9.137	(1.129)	96497	50.0000	48.8	
$	45 1,2-Dichloroethane-D4	65	7.296	7.297	(0.997)	226411	50.0000	51.0	
	46 Tertiary-amyl methyl ether	73	7.333	7.334	(1.003)	313419	50.0000	48.0	
	47 1,2-Dichloroethane	62	7.408	7.408	(0.915)	237064	50.0000	47.5	
	48 Trichloroethene	95	8.003	8.003	(0.989)	146526	50.0000	47.9	
*	49 1,4-Difluorobenzene	114	8.096	8.096	(1.000)	436302	50.0000		
	50 Dibromomethane	93	8.588	8.589	(1.061)	101507	50.0000	50.2	
	51 1,2-Dichloropropane	63	8.737	8.738	(1.079)	145541	50.0000	49.2	
	52 Bromodichloromethane	83	8.858	8.858	(1.094)	209660	50.0000	50.1	
	53 cis-1,3-dichloropropene	75	9.667	9.667	(1.194)	254013	50.0000	48.6	
	54 1,4-Dioxane	88	9.137	9.137	(1.129)	23177	1000.00	920	
$	55 Toluene-D8	98	9.881	9.881	(1.220)	531402	50.0000	50.0	
	56 2-Chloroethylvinylether	63	9.639	9.639	(1.191)	88429	50.0000	51.6	
	57 Toluene	92	9.936	9.937	(1.227)	314399	50.0000	47.6	
	58 4-methyl-2-pentanone	43	10.410	10.411	(1.286)	704874	250.000	262	
	59 Tetrachloroethene	164	10.364	10.364	(0.898)	101926	50.0000	47.6	
	60 trans-1,3-Dichloropropene	75	10.429	10.430	(1.288)	227987	50.0000	53.8	
	61 1,1,2-Trichloroethane	83	10.596	10.597	(1.309)	113492	50.0000	49.6	
	62 Dibromochloromethane	129	10.773	10.774	(0.934)	156540	50.0000	52.5	
	63 1,3-Dichloropropane	76	10.875	10.876	(0.943)	240479	50.0000	50.3	
	64 1,2-Dibromoethane	107	10.996	10.997	(1.358)	140095	50.0000	50.6	
	65 2-Hexanone	43	11.294	11.294	(0.979)	489217	250.000	271	
*	66 Chlorobenzene-D5	117	11.535	11.536	(1.000)	399232	50.0000		
	67 Chlorobenzene	112	11.554	11.554	(1.002)	354053	50.0000	48.3	
	152 1-Chlorohexane	91	11.600	11.601	(1.006)	636944	50.0000	(a)	
	68 Ethylbenzene	91	11.600	11.601	(1.006)	636944	50.0000	49.1	
	69 1,1,1,2-Tetrachloroethane	131	11.628	11.629	(1.008)	135635	50.0000	50.8	
M	70 Xylenes (total)	106				1493477	150.000	(a)	
	71 m+p-Xylenes	91	11.749	11.750	(1.019)	990049	100.000	101	
	72 o-Xylene	91	12.167	12.168	(1.055)	503428	50.0000	52.8	
	73 Styrene	104	12.223	12.224	(1.060)	375837	50.0000	53.0	
	74 Bromoform	173	12.233	12.233	(1.060)	93853	50.0000	54.2	
	75 Isopropylbenzene	105	12.474	12.475	(0.899)	564399	50.0000	50.8	
$	76 P-Bromofluorobenzene	95	12.735	12.735	(1.573)	220781	50.0000	50.4	
	77 cis-1,4-Dichloro-2-Butene	53	12.809	12.809	(0.923)	60906	50.0000	50.9	

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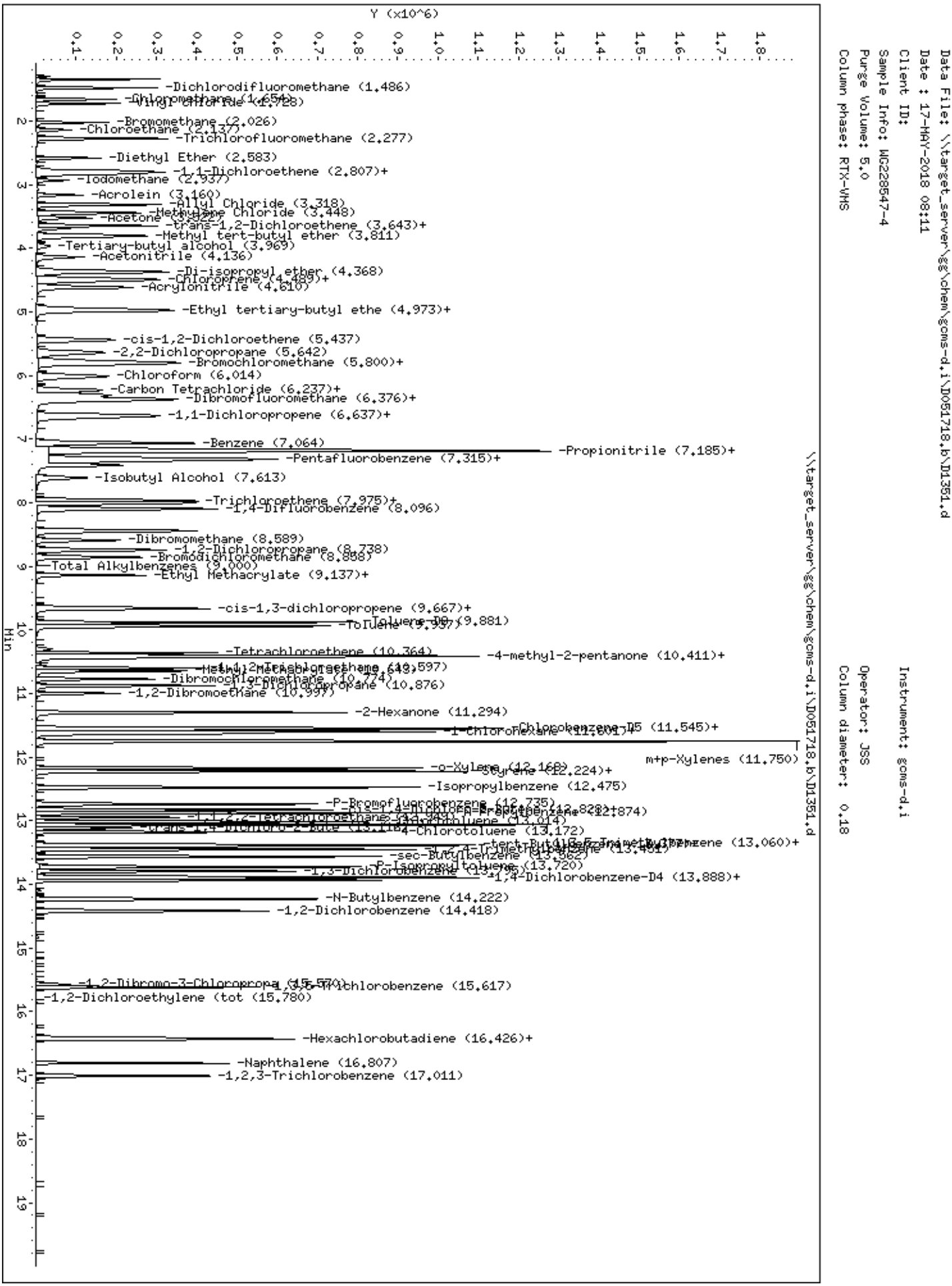
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)	REVIEW CODE
78	trans-1,4-Dichloro-2-Butene	53	13.116	13.116	(0.945)	48907	50.0000	51.2	
79	Bromobenzene	156	12.828	12.828	(0.924)	147293	50.0000	48.4	
80	N-Propylbenzene	91	12.874	12.874	(0.928)	724907	50.0000	48.0	
81	1,1,2,2-Tetrachloroethane	83	12.948	12.949	(0.933)	169482	50.0000	48.8	
82	1,3,5-Trimethylbenzene	105	13.060	13.060	(0.941)	494449	50.0000	51.2	
83	2-Chlorotoluene	91	13.013	13.014	(0.938)	434962	50.0000	49.3	
84	1,2,3-Trichloropropane	75	13.069	13.070	(0.942)	152606	50.0000	49.3	
85	4-Chlorotoluene	91	13.171	13.172	(0.949)	468000	50.0000	49.6	
86	tert-Butylbenzene	119	13.376	13.377	(0.964)	471670	50.0000	51.6	
87	Pentachloroethane	117	13.395	13.395	(0.965)	116595	50.0000	54.3	
88	1,2,4-Trimethylbenzene	105	13.450	13.451	(0.969)	511903	50.0000	51.3	
89	P-Isopropyltoluene	119	13.720	13.720	(0.989)	489439	50.0000	50.9	
90	1,3-Dichlorobenzene	146	13.794	13.795	(0.994)	266055	50.0000	48.4	
* 91	1,4-Dichlorobenzene-D4	152	13.878	13.879	(1.000)	207228	50.0000		
92	1,4-Dichlorobenzene	146	13.897	13.897	(1.001)	270706	50.0000	47.3	
93	N-Butylbenzene	91	14.222	14.222	(1.025)	480876	50.0000	51.0	
94	sec-Butylbenzene	105	13.562	13.562	(0.977)	598664	50.0000	50.2	
95	1,2-Dichlorobenzene	146	14.417	14.418	(1.039)	255380	50.0000	50.0	
96	1,2-Dibromo-3-Chloropropane	75	15.570	15.570	(1.122)	29118	50.0000	49.0	
97	1,3,5-Trichlorobenzene	180	15.616	15.617	(1.125)	186679	50.0000	53.3	
98	Hexachlorobutadiene	225	16.407	16.407	(1.182)	67793	50.0000	45.7	
99	1,2,4-Trichlorobenzene	180	16.435	16.434	(1.184)	153902	50.0000	51.0	
100	1,2,3-Trimethylbenzene	105	13.934	13.934	(1.004)	533113	50.0000	54.0	
101	Naphthalene	128	16.806	16.806	(1.211)	320798	50.0000	45.6	
102	1,2,3-Trichlorobenzene	180	17.011	17.011	(1.226)	123109	50.0000	48.8	
103	Methyl Acetate	43	3.689	3.690	(0.504)	118792	50.0000	53.0	
104	Methylcyclohexane	83	7.966	7.966	(1.089)	213331	50.0000	48.5	
M 153	Total Alkylbenzenes	100				3771908	50.0000	(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).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Date : 17-MAY-2018 08:11
Client ID:
Sample Info: WG228547-4
Purge Volume: 5.0
Column phase: RTX-VMS
Instrument: gcms-d.i
Operator: JSS
Column diameter: 0.18
Y (x10^6)
Min
\\target_server\gg\chem\gcms-d.i\D051718.b\D1351.d
-Dichlorodifluoromethane (1.486)
-Chloromethane (1.654)
-Vinyl Chloride (1.728)
-Bromomethane (2.026)
-Chloroethane (2.137)
-Trichlorofluoromethane (2.277)
-Diethyl Ether (2.583)
-1,1-Dichloroethene (2.807)+
-Iodomethane (2.937)
-Acrolein (3.160)
-Allyl Chloride (3.318)
-Methylene Chloride (3.448)
-Acetone (3.522)
-trans-1,2-Dichloroethene (3.643)+
-Methyl tert-butyl ether (3.811)
-Tertiary-butyl alcohol (3.969)
-Acetonitrile (4.136)
-Di-isopropyl ether (4.368)
-Chloroprene (4.489)+
-Acrylonitrile (4.610)
-Ethyl tertiary-butyl ethe (4.973)+
-cis-1,2-Dichloroethene (5.437)
-2,2-Dichloropropane (5.642)
-Bromochloromethane (5.800)+
-Chloroform (6.014)
-Carbon Tetrachloride (6.237)+
-Dibromofluoromethane (6.376)+
-1,1-Dichloropropene (6.637)+
-Benzene (7.064)
-Propionitrile (7.185)+
-Pentafluorobenzene (7.315)+
-Isobutyl Alcohol (7.613)
-Trichloroethene (7.975)+
-1,4-Difluorobenzene (8.096)
-Dibromomethane (8.589)
-1,2-Dichloropropane (8.738)
-Bromodichloromethane (8.858)
-Total Alkylbenzenes (9.000)
-Ethyl Methacrylate (9.137)+
-cis-1,3-dichloropropene (9.667)+
-Toluene (9.937)
-Toluene-D8 (9.881)
-Tetrachloroethene (10.364)
-4-methyl-2-pentanone (10.411)+
-1,1,2-Trichloroethane (10.597)
-Methyl Methacrylate (10.643)
-Dibromochloromethane (10.774)
-1,3-Dichloropropane (10.876)
-1,2-Dibromoethane (10.997)
-2-Hexanone (11.294)
-Chlorobenzene-D5 (11.545)+
-1-Chlorohexane (11.601)+
m+p-Xylenes (11.750)
-o-Xylene (12.168)
-Styrene (12.224)+
-Isopropylbenzene (12.475)
-P-Bromofluorobenzene (12.735)
-cis-1,4-Dichloro-2-Butene (12.828)
-A-Propylbenzene (12.874)
-1,1,2,2-Tetrachloroethane (12.949)
-2-Chlorotoluene (13.014)
-trans-1,4-Dichloro-2-Bute (13.116)
-4-Chlorotoluene (13.172)
-tert-Butylbenzene (13.060)+
-1,2,4-Trimethylbenzene (13.451)
-sec-Butylbenzene (13.562)
-P-Isopropyltoluene (13.720)
-1,3-Dichlorobenzene (13.795)
-1,4-Dichlorobenzene-D4 (13.888)+
-N-Butylbenzene (14.222)
-1,2-Dichlorobenzene (14.418)
-1,2-Dibromo-3-Chloropropa (15.570)
-1,3,5-Trichlorobenzene (15.617)
-1,2-Dichloroethylene (tot (15.780)
-Hexachlorobutadiene (16.426)+
-Naphthalene (16.807)
-1,2,3-Trichlorobenzene (17.011)

Data File: \\target_server\gg\chem\gcms-d.i\D051718.b\D1352.d
Report Date: 21-May-2018 09:38

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-d.i\D051718.b\D1352.d
Lab Smp Id: WG228547-3
Inj Date : 17-MAY-2018 08:47
Operator : JSS   Inst ID: gcms-d.i
Smp Info : WG228547-3
Misc Info :
Comment   : SW846 5030
Method   : \\target_server\gg\chem\gcms-d.i\D051718.b\D8A05(22)D.m
Meth Date : 21-May-2018 09:36 gcms-d.i   Quant Type: ISTD
Cal Date : 17-MAY-2018 08:47   Cal File: D1352.d
Als bottle: 2   Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE   Compound Sublist: all.sub
Target Version: 4.12

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)	REVIEW CODE
1	Dichlorodifluoromethane	85	1.486	1.486	(0.203)	98693	20.0000	20.6	
2	Chloromethane	50	1.663	1.654	(0.227)	86392	20.0000	19.7	
3	Vinyl chloride	62	1.728	1.728	(0.236)	66393	20.0000	19.3	
4	Bromomethane	94	2.025	2.025	(0.277)	32149	20.0000	18.5	
5	Chloroethane	64	2.146	2.137	(0.293)	31753	20.0000	19.8	
6	Trichlorofluoromethane	101	2.276	2.277	(0.311)	108109	20.0000	20.0	
7	Diethyl Ether	59	2.583	2.583	(0.353)	34847	20.0000	20.6	
8	Tertiary-butyl alcohol	59	3.968	3.969	(0.542)	18347	100.000	97.9	
9	1,1-Dichloroethene	96	2.788	2.779	(0.381)	38606	20.0000	19.2	
10	Carbon Disulfide	76	2.806	2.807	(0.384)	126097	20.0000	19.4	
11	Freon-113	151	2.834	2.834	(0.387)	34359	20.0000	20.8	
12	Iodomethane	142	2.936	2.937	(0.401)	28632	20.0000	15.8	
13	Acrolein	56	3.159	3.160	(0.432)	42813	100.000	114	
14	Methylene Chloride	84	3.448	3.448	(0.471)	57271	20.0000	18.8	
15	Acetone	43	3.522	3.522	(0.482)	88703	100.000	99.4	
16	Isobutyl Alcohol	43	7.612	7.613	(1.041)	41715	400.000	391	
17	trans-1,2-Dichloroethene	96	3.643	3.643	(0.498)	52495	20.0000	18.9	
18	Allyl Chloride	41	3.317	3.318	(0.454)	85070	20.0000	20.1	
19	Methyl tert-butyl ether	73	3.810	3.811	(0.521)	138926	20.0000	19.2	
20	Acetonitrile	39	4.135	4.136	(0.565)	16001	200.000	212	
21	Di-isopropyl ether	45	4.368	4.368	(0.597)	175776	20.0000	18.9	
22	Chloroprene	53	4.479	4.480	(0.612)	91637	20.0000	20.5	
23	Propionitrile	54	7.138	7.148	(0.976)	80379	200.000	215	
24	Methacrylonitrile	41	7.175	7.185	(0.981)	385864	200.000	217	

Data File: \\target_server\gg\chem\gcms-d.i\D051718.b\D1352.d
Report Date: 21-May-2018 09:38

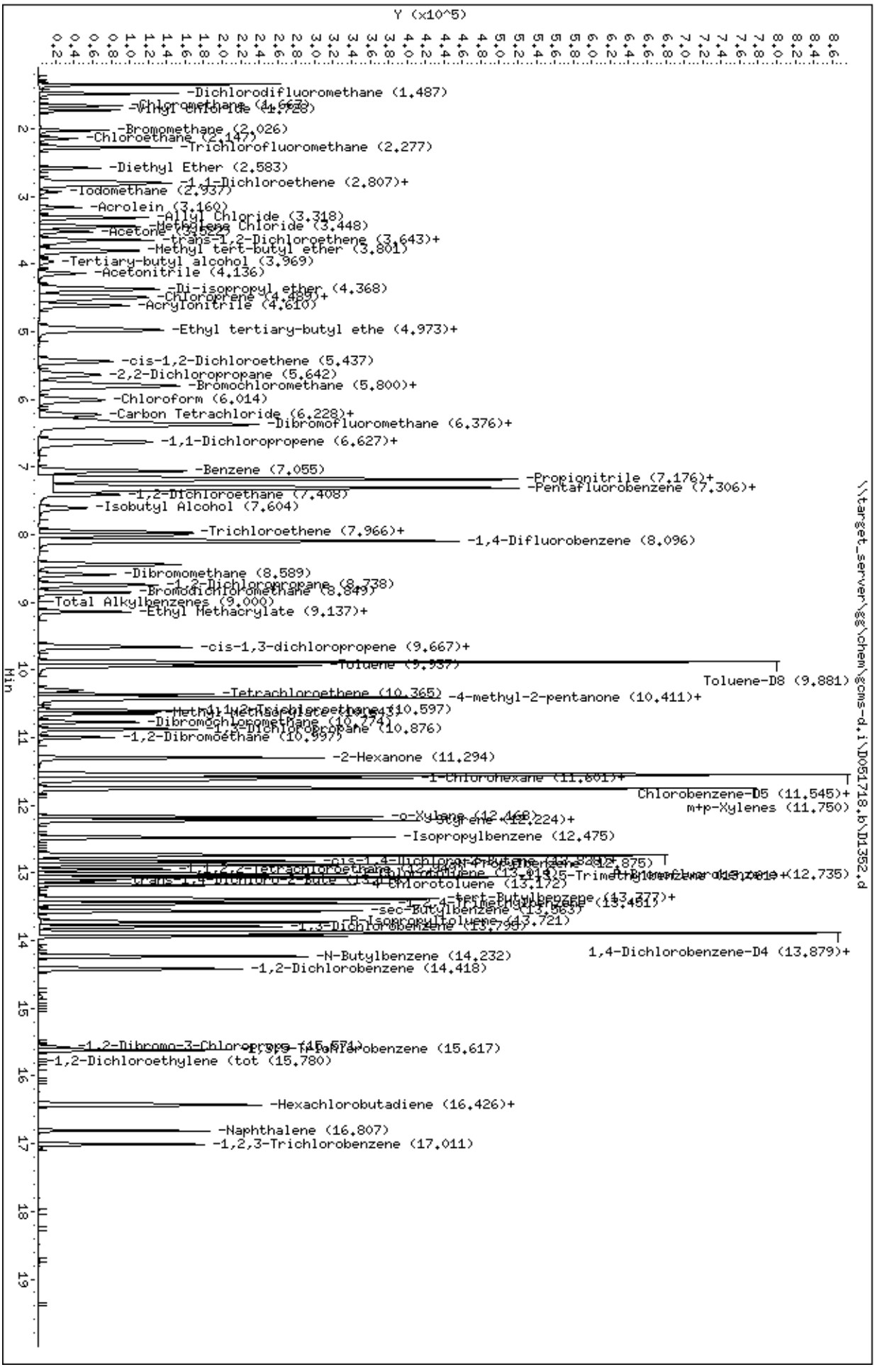
							AMOUNTS		
		QUANT SIG					CAL-AMT	ON-COL	
	Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	(ug/l)	(ug/l)	REVIEW CODE
	25 1,1-Dichloroethane	63	4.517	4.517	(0.617)	107000	20.0000	19.1	
	26 Acrylonitrile	52	4.610	4.610	(0.630)	92424	100.000	103	
	27 Ethyl tertiary-butyl ether	59	4.963	4.963	(0.678)	145267	20.0000	18.4	
	28 Vinyl Acetate	43	4.981	4.982	(0.615)	128431	20.0000	20.2	
	29 cis-1,2-Dichloroethene	96	5.437	5.437	(0.743)	56003	20.0000	19.0	
M	30 1,2-Dichloroethylene (total)	96				108498	20.0000	(a)	
	31 Methyl Methacrylate	41	10.643	10.643	(1.315)	49089	20.0000	18.4	
	32 2,2-Dichloropropane	77	5.642	5.642	(0.771)	76330	20.0000	19.5	
	33 Bromochloromethane	128	5.809	5.809	(0.794)	29971	20.0000	20.3	
	34 Chloroform	83	6.013	6.014	(0.822)	111092	20.0000	19.0	
	35 Carbon Tetrachloride	117	6.227	6.237	(0.769)	80225	20.0000	19.1	
	36 Tetrahydrofuran	42	6.311	6.311	(0.863)	75803	100.000	99.0	
$	37 Dibromofluoromethane	113	6.376	6.376	(0.872)	167118	50.0000	49.7	
	38 1,1,1-Trichloroethane	97	6.376	6.376	(0.872)	95912	20.0000	19.0	
	39 1,1-Dichloropropene	75	6.618	6.627	(0.817)	81738	20.0000	19.6	
	40 2-Butanone	43	6.655	6.655	(0.910)	132667	100.000	100	
	41 Benzene	78	7.055	7.064	(0.871)	209909	20.0000	19.5	
*	42 Pentafluorobenzene	168	7.315	7.315	(1.000)	274620	50.0000		
	43 Cyclohexane	56	5.790	5.791	(0.792)	91632	20.0000	20.6	
	44 Ethyl Methacrylate	69	9.137	9.137	(1.129)	34851	20.0000	18.4	
$	45 1,2-Dichloroethane-D4	65	7.296	7.297	(0.997)	226521	50.0000	49.3	
	46 Tertiary-amyl methyl ether	73	7.333	7.334	(1.003)	116846	20.0000	18.3	
	47 1,2-Dichloroethane	62	7.408	7.408	(0.915)	96231	20.0000	19.0	
	48 Trichloroethene	95	8.003	8.003	(0.989)	60478	20.0000	19.5	
*	49 1,4-Difluorobenzene	114	8.096	8.096	(1.000)	441392	50.0000		
	50 Dibromomethane	93	8.588	8.589	(1.061)	39697	20.0000	19.4	
	51 1,2-Dichloropropane	63	8.737	8.738	(1.079)	58376	20.0000	19.5	
	52 Bromodichloromethane	83	8.858	8.858	(1.094)	81949	20.0000	19.3	
	53 cis-1,3-dichloropropene	75	9.667	9.667	(1.194)	94112	20.0000	18.7	
	54 1,4-Dioxane	88	9.137	9.137	(1.129)	11893	400.000	466	
$	55 Toluene-D8	98	9.881	9.881	(1.220)	537626	50.0000	50.0	
	56 2-Chloroethylvinylether	63	9.639	9.639	(1.191)	31433	20.0000	18.5	
	57 Toluene	92	9.936	9.937	(1.227)	127934	20.0000	19.2	
	58 4-methyl-2-pentanone	43	10.411	10.411	(1.286)	277351	100.000	102	
	59 Tetrachloroethene	164	10.364	10.364	(0.898)	41747	20.0000	19.2	
	60 trans-1,3-Dichloropropene	75	10.429	10.430	(1.288)	85972	20.0000	20.0	
	61 1,1,2-Trichloroethane	83	10.596	10.597	(1.309)	44531	20.0000	19.2	
	62 Dibromochloromethane	129	10.773	10.774	(0.934)	59038	20.0000	19.6	
	63 1,3-Dichloropropane	76	10.875	10.876	(0.943)	93685	20.0000	19.4	
	64 1,2-Dibromoethane	107	10.996	10.997	(1.358)	55203	20.0000	19.7	
	65 2-Hexanone	43	11.294	11.294	(0.979)	194150	100.000	106	
*	66 Chlorobenzene-D5	117	11.535	11.536	(1.000)	404166	50.0000		
	67 Chlorobenzene	112	11.554	11.554	(1.002)	143507	20.0000	19.4	
	152 1-Chlorohexane	91	11.600	11.601	(1.006)	255039	20.0000	(a)	
	68 Ethylbenzene	91	11.600	11.601	(1.006)	255039	20.0000	19.4	
	69 1,1,1,2-Tetrachloroethane	131	11.628	11.629	(1.008)	52920	20.0000	19.6	
M	70 Xylenes (total)	106				590022	60.0000	(a)	
	71 m+p-Xylenes	91	11.749	11.750	(1.019)	394232	40.0000	39.7	
	72 o-Xylene	91	12.168	12.168	(1.055)	195790	20.0000	20.3	
	73 Styrene	104	12.223	12.224	(1.060)	147068	20.0000	20.5	
	74 Bromoform	173	12.233	12.233	(1.060)	34257	20.0000	19.5	
	75 Isopropylbenzene	105	12.474	12.475	(0.899)	224233	20.0000	20.2	
$	76 P-Bromofluorobenzene	95	12.735	12.735	(1.573)	222626	50.0000	50.2	
	77 cis-1,4-Dichloro-2-Butene	53	12.809	12.809	(0.923)	20842	20.0000	18.1	

Data File: \\target_server\gg\chem\gcms-d.i\D051718.b\D1352.d
Report Date: 21-May-2018 09:38

			QUANT SIG					AMOUNTS		
		Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ug/l)	ON-COL (ug/l)	REVIEW CODE
	78	trans-1,4-Dichloro-2-Butene	53	13.116	13.116	(0.945)	18095	20.0000	19.3	
	79	Bromobenzene	156	12.828	12.828	(0.924)	60156	20.0000	19.8	
	80	N-Propylbenzene	91	12.874	12.874	(0.928)	300858	20.0000	20.0	
	81	1,1,2,2-Tetrachloroethane	83	12.948	12.949	(0.933)	68873	20.0000	19.9	
	82	1,3,5-Trimethylbenzene	105	13.060	13.060	(0.941)	197917	20.0000	20.5	
	83	2-Chlorotoluene	91	13.014	13.014	(0.938)	172484	20.0000	19.6	
	84	1,2,3-Trichloropropane	75	13.069	13.070	(0.942)	61581	20.0000	19.9	
	85	4-Chlorotoluene	91	13.172	13.172	(0.949)	185726	20.0000	19.7	
	86	tert-Butylbenzene	119	13.376	13.377	(0.964)	187565	20.0000	20.5	
	87	Pentachloroethane	117	13.395	13.395	(0.965)	44139	20.0000	20.6	
	88	1,2,4-Trimethylbenzene	105	13.450	13.451	(0.969)	204286	20.0000	20.5	
	89	P-Isopropyltoluene	119	13.720	13.720	(0.989)	196346	20.0000	20.4	
	90	1,3-Dichlorobenzene	146	13.794	13.795	(0.994)	106742	20.0000	19.5	
*	91	1,4-Dichlorobenzene-D4	152	13.878	13.879	(1.000)	206829	50.0000		
	92	1,4-Dichlorobenzene	146	13.897	13.897	(1.001)	109967	20.0000	19.3	
	93	N-Butylbenzene	91	14.231	14.222	(1.025)	191588	20.0000	20.4	
	94	sec-Butylbenzene	105	13.562	13.562	(0.977)	241261	20.0000	20.3	
	95	1,2-Dichlorobenzene	146	14.417	14.418	(1.039)	100353	20.0000	19.7	
	96	1,2-Dibromo-3-Chloropropane	75	15.570	15.570	(1.122)	10839	20.0000	18.3	
	97	1,3,5-Trichlorobenzene	180	15.617	15.617	(1.125)	69985	20.0000	20.0	
	98	Hexachlorobutadiene	225	16.407	16.407	(1.182)	27925	20.0000	18.9	
	99	1,2,4-Trichlorobenzene	180	16.435	16.434	(1.184)	58674	20.0000	19.5	
	100	1,2,3-Trimethylbenzene	105	13.934	13.934	(1.004)	203965	20.0000	20.7	
	101	Naphthalene	128	16.806	16.806	(1.211)	121258	20.0000	18.4	
	102	1,2,3-Trichlorobenzene	180	17.011	17.011	(1.226)	50366	20.0000	20.0	
	103	Methyl Acetate	43	3.689	3.690	(0.504)	47574	20.0000	20.5	
	104	Methylcyclohexane	83	7.966	7.966	(1.089)	87534	20.0000	19.6	
M	153	Total Alkylbenzenes	100				1519821	20.0000	(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).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Instrument: gcms-d.i
Operator: JSS
Column diameter: 0.18
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Y (x10^5)
Min
-Dichlorodifluoromethane (1.487)
-Chloromethane (1.673)
-Vinyl Chloride (1.728)
-Bromomethane (2.026)
-Chloroethane (2.147)
-Trichlorofluoromethane (2.277)
-Diethyl Ether (2.583)
-1,1-Dichloroethene (2.807)+
-Iodomethane (2.937)
-Acrolein (3.160)
-Allyl Chloride (3.318)
-Methylene Chloride (3.448)
-Acetone (3.502)
-trans-1,2-Dichloroethene (3.643)+
-Methyl tert-butyl ether (3.801)
-Tertiary-butyl alcohol (3.969)
-Acetonitrile (4.136)
-Di-isopropyl ether (4.368)
-Chloroprene (4.485)+
-Acrylonitrile (4.610)
-Ethyl tertiary-butyl ethe (4.973)+
-cis-1,2-Dichloroethene (5.437)
-2,2-Dichloropropane (5.642)
-Bromochloromethane (5.800)+
-Chloroform (6.014)
-Carbon Tetrachloride (6.228)+
-Dibromofluoromethane (6.376)+
-1,1-Dichloropropene (6.627)+
-Benzene (7.055)
-Propionitrile (7.176)+
-Pentafluorobenzene (7.306)+
-1,2-Dichloroethane (7.408)
-Isobutyl Alcohol (7.604)
-Trichloroethene (7.966)+
-1,4-Difluorobenzene (8.096)
-Dibromomethane (8.589)
-1,2-Dichloropropane (8.738)
-Bromodichloromethane (8.849)
Total Alkylbenzenes (9.000)
-Ethyl Methacrylate (9.137)+
-cis-1,3-dichloropropene (9.667)+
-Toluene (9.937)
Toluene-D8 (9.881)
-Tetrachloroethene (10.365)
-4-methyl-2-pentanone (10.411)+
-1,1,2-Trichloroethane (10.597)
-Dibromochloromethane (10.774)
-1,3-Dichloropropane (10.876)
-1,2-Dibromoethane (10.997)
-2-Hexanone (11.294)
-1-Chlorohexane (11.601)+
Chlorobenzene-D5 (11.545)+
m+p-Xylenes (11.750)
-o-Xylene (12.224)+
-Isopropylbenzene (12.475)
-cis-1,4-Dichloro-2-butene (12.875)
-1,1,2,2-Tetrachloroethane (13.019)+
-Bromobenzene (13.019)+
-1,3,5-Trimethylbenzene (13.019)+
-trans-1,4-Dichloro-2-bute (13.019)+
-4-Chlorotoluene (13.172)
-tert-Butylbenzene (13.377)+
-1,2,4-Trimethylbenzene (13.451)
-sec-Butylbenzene (13.563)
-p-Isopropyltoluene (13.721)
-1,3-Dichlorobenzene (13.799)
1,4-Dichlorobenzene-D4 (13.879)+
-N-Butylbenzene (14.232)
-1,2-Dichlorobenzene (14.418)
-1,2-Dibromo-3-Chloropro (15.674)
-1,2,4-Trichlorobenzene (15.617)
-1,2-Dichloroethylene (tot (15.780)
-Hexachlorobutadiene (16.426)+
-Naphthalene (16.807)
-1,2,3-Trichlorobenzene (17.011)

Data File: \\target_server\gg\chem\gcms-d.i\D051718.b\D1353.d
Report Date: 21-May-2018 09:39

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-d.i\D051718.b\D1353.d
Lab Smp Id: WG228547-2
Inj Date : 17-MAY-2018 09:22
Operator : JSS   Inst ID: gcms-d.i
Smp Info : WG228547-2
Misc Info :
Comment   : SW846 5030
Method   : \\target_server\gg\chem\gcms-d.i\D051718.b\D8A05(22)D.m
Meth Date : 21-May-2018 09:36 gcms-d.i   Quant Type: ISTD
Cal Date : 17-MAY-2018 09:22   Cal File: D1353.d
Als bottle: 3   Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP RTE   Compound Sublist: all.sub
Target Version: 4.12

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)	REVIEW CODE
1	Dichlorodifluoromethane	85	1.486	1.486	(0.203)	26064	5.00000	5.6	
2	Chloromethane	50	1.663	1.654	(0.227)	25183	5.00000	5.8	
3	Vinyl chloride	62	1.728	1.728	(0.236)	19142	5.00000	5.7	
4	Bromomethane	94	2.025	2.025	(0.277)	9606	5.00000	5.6	
5	Chloroethane	64	2.146	2.137	(0.293)	9367	5.00000	6.0	
6	Trichlorofluoromethane	101	2.276	2.277	(0.311)	29684	5.00000	5.6	
7	Diethyl Ether	59	2.583	2.583	(0.353)	7565	5.00000	4.6	
8	Tertiary-butyl alcohol	59	3.968	3.969	(0.542)	3369	25.0000	25.1	
9	1,1-Dichloroethene	96	2.788	2.779	(0.381)	10429	5.00000	5.3	
10	Carbon Disulfide	76	2.806	2.807	(0.384)	31588	5.00000	5.0	
11	Freon-113	151	2.834	2.834	(0.387)	7757	5.00000	4.8	
12	Iodomethane	142	2.936	2.937	(0.401)	6514	5.00000	5.8	
13	Acrolein	56	3.159	3.160	(0.432)	8541	25.0000	23.2	
14	Methylene Chloride	84	3.448	3.448	(0.471)	15132	5.00000	5.1	
15	Acetone	43	3.522	3.522	(0.482)	21549	25.0000	24.7	
16	Isobutyl Alcohol	43	7.612	7.613	(1.041)	7217	100.000	90.4	
17	trans-1,2-Dichloroethene	96	3.643	3.643	(0.498)	14148	5.00000	5.2	
18	Allyl Chloride	41	3.317	3.318	(0.454)	19827	5.00000	4.8	
19	Methyl tert-butyl ether	73	3.810	3.811	(0.521)	31884	5.00000	4.5	
20	Acetonitrile	39	4.145	4.136	(0.567)	3596	50.0000	48.7	
21	Di-isopropyl ether	45	4.368	4.368	(0.597)	36079	5.00000	4.8	
22	Chloroprene	53	4.479	4.480	(0.612)	20841	5.00000	4.8	
23	Propionitrile	54	7.148	7.148	(0.977)	16932	50.0000	46.3	
24	Methacrylonitrile	41	7.185	7.185	(0.982)	80594	50.0000	46.3	

Data File: \\target_server\gg\chem\gcms-d.i\D051718.b\D1353.d
Report Date: 21-May-2018 09:39

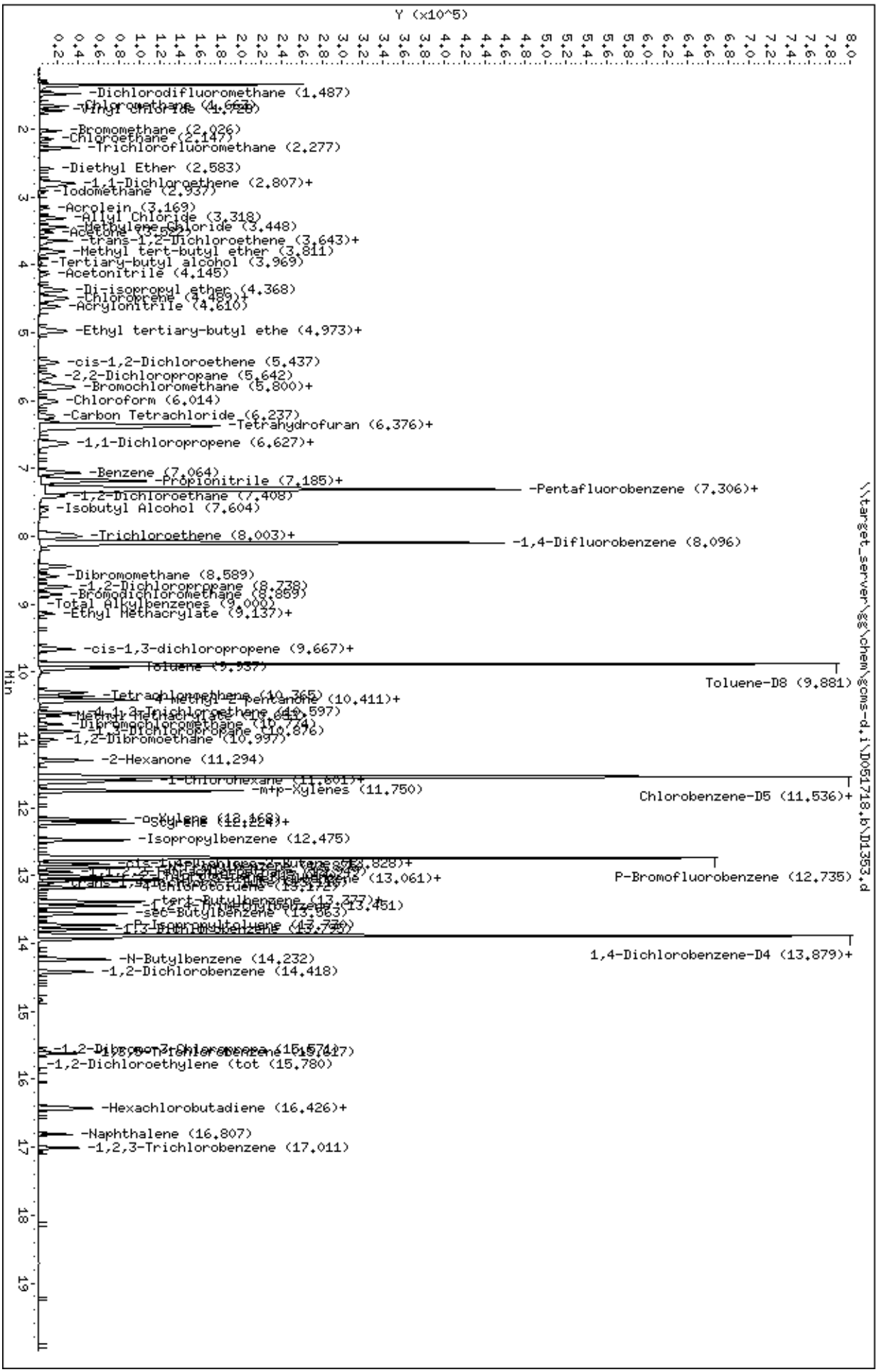
							AMOUNTS		
		QUANT SIG					CAL-AMT	ON-COL	
	Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	(ug/l)	(ug/l)	REVIEW CODE
	25 1,1-Dichloroethane	63	4.517	4.517	(0.617)	28157	5.00000	5.1	
	26 Acrylonitrile	52	4.610	4.610	(0.630)	20065	25.0000	22.8	
	27 Ethyl tertiary-butyl ether	59	4.972	4.963	(0.680)	29324	5.00000	4.9	
	28 Vinyl Acetate	43	4.991	4.982	(0.616)	28367	5.00000	4.5	
	29 cis-1,2-Dichloroethene	96	5.437	5.437	(0.743)	14426	5.00000	5.0	
M	30 1,2-Dichloroethylene (total)	96				28574	5.00000	(a)	
	31 Methyl Methacrylate	41	10.652	10.643	(1.316)	8523	5.00000	4.4	
	32 2,2-Dichloropropane	77	5.642	5.642	(0.771)	18716	5.00000	4.9	
	33 Bromochloromethane	128	5.818	5.809	(0.795)	7249	5.00000	5.0	
	34 Chloroform	83	6.013	6.014	(0.822)	29654	5.00000	5.2	
	35 Carbon Tetrachloride	117	6.236	6.237	(0.770)	21269	5.00000	5.2	
	36 Tetrahydrofuran	42	6.311	6.311	(0.863)	16313	25.0000	21.8	
$	37 Dibromofluoromethane	113	6.376	6.376	(0.872)	166905	50.0000	50.7	
	38 1,1,1-Trichloroethane	97	6.385	6.376	(0.873)	25407	5.00000	5.1	
	39 1,1-Dichloropropene	75	6.627	6.627	(0.819)	20565	5.00000	5.0	
	40 2-Butanone	43	6.655	6.655	(0.910)	30284	25.0000	23.3	
	41 Benzene	78	7.064	7.064	(0.873)	54019	5.00000	5.1	
*	42 Pentafluorobenzene	168	7.315	7.315	(1.000)	268876	50.0000		
	43 Cyclohexane	56	5.790	5.791	(0.792)	20810	5.00000	4.8	
	44 Ethyl Methacrylate	69	9.137	9.137	(1.129)	6319	5.00000	4.6	
$	45 1,2-Dichloroethane-D4	65	7.296	7.297	(0.997)	227322	50.0000	50.6	
	46 Tertiary-amyl methyl ether	73	7.333	7.334	(1.003)	23909	5.00000	5.1	
	47 1,2-Dichloroethane	62	7.408	7.408	(0.915)	24333	5.00000	4.9	
	48 Trichloroethene	95	8.003	8.003	(0.989)	15766	5.00000	5.2	
*	49 1,4-Difluorobenzene	114	8.096	8.096	(1.000)	434510	50.0000		
	50 Dibromomethane	93	8.588	8.589	(1.061)	9482	5.00000	4.7	
	51 1,2-Dichloropropane	63	8.737	8.738	(1.079)	14484	5.00000	4.9	
	52 Bromodichloromethane	83	8.858	8.858	(1.094)	19633	5.00000	4.7	
	53 cis-1,3-dichloropropene	75	9.667	9.667	(1.194)	19790	5.00000	5.1	
	54 1,4-Dioxane	88	9.146	9.137	(1.130)	2548	100.000	102	
$	55 Toluene-D8	98	9.881	9.881	(1.220)	529130	50.0000	50.0	
	56 2-Chloroethylvinylether	63	9.630	9.639	(1.189)	6306	5.00000	4.3	
	57 Toluene	92	9.936	9.937	(1.227)	34446	5.00000	5.2	
	58 4-methyl-2-pentanone	43	10.411	10.411	(1.286)	62587	25.0000	23.4	
	59 Tetrachloroethene	164	10.364	10.364	(0.898)	11393	5.00000	5.3	
	60 trans-1,3-Dichloropropene	75	10.429	10.430	(1.288)	18377	5.00000	4.4	
	61 1,1,2-Trichloroethane	83	10.596	10.597	(1.309)	11186	5.00000	4.9	
	62 Dibromochloromethane	129	10.773	10.774	(0.934)	13183	5.00000	4.4	
	63 1,3-Dichloropropane	76	10.875	10.876	(0.943)	22670	5.00000	4.7	
	64 1,2-Dibromoethane	107	10.996	10.997	(1.358)	13050	5.00000	4.7	
	65 2-Hexanone	43	11.294	11.294	(0.979)	39439	25.0000	21.9	
*	66 Chlorobenzene-D5	117	11.535	11.536	(1.000)	399258	50.0000		
	67 Chlorobenzene	112	11.554	11.554	(1.002)	37806	5.00000	5.2	
	152 1-Chlorohexane	91	11.600	11.601	(1.006)	67329	5.00000	(a)	
	68 Ethylbenzene	91	11.600	11.601	(1.006)	67329	5.00000	5.2	
	69 1,1,1,2-Tetrachloroethane	131	11.628	11.629	(1.008)	12737	5.00000	4.8	
M	70 Xylenes (total)	106				147308	15.0000	(a)	
	71 m+p-Xylenes	91	11.749	11.750	(1.019)	102027	10.0000	10.4	
	72 o-Xylene	91	12.168	12.168	(1.055)	45281	5.00000	4.7	
	73 Styrene	104	12.223	12.224	(1.060)	33678	5.00000	4.8	
	74 Bromoform	173	12.233	12.233	(1.060)	7512	5.00000	4.3	
	75 Isopropylbenzene	105	12.474	12.475	(0.899)	53583	5.00000	4.9	
$	76 P-Bromofluorobenzene	95	12.735	12.735	(1.573)	216949	50.0000	49.7	
	77 cis-1,4-Dichloro-2-Butene	53	12.818	12.809	(0.924)	4364	5.00000	4.7	

Data File: \\target_server\gg\chem\gcms-d.i\D051718.b\D1353.d
Report Date: 21-May-2018 09:39

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)	REVIEW CODE
	78 trans-1,4-Dichloro-2-Butene	53	13.116	13.116	(0.945)	3402	5.00000	4.2	
	79 Bromobenzene	156	12.828	12.828	(0.924)	14698	5.00000	4.9	
	80 N-Propylbenzene	91	12.874	12.874	(0.928)	76010	5.00000	5.2	
	81 1,1,2,2-Tetrachloroethane	83	12.948	12.949	(0.933)	16149	5.00000	4.8	
	82 1,3,5-Trimethylbenzene	105	13.060	13.060	(0.941)	47220	5.00000	5.0	
	83 2-Chlorotoluene	91	13.014	13.014	(0.938)	43266	5.00000	5.0	
	84 1,2,3-Trichloropropane	75	13.069	13.070	(0.942)	15077	5.00000	5.0	
	85 4-Chlorotoluene	91	13.172	13.172	(0.949)	46443	5.00000	5.0	
	86 tert-Butylbenzene	119	13.376	13.377	(0.964)	44342	5.00000	5.0	
	87 Pentachloroethane	117	13.395	13.395	(0.965)	9632	5.00000	4.6	
	88 1,2,4-Trimethylbenzene	105	13.450	13.451	(0.969)	48859	5.00000	5.0	
	89 P-Isopropyltoluene	119	13.729	13.720	(0.989)	46132	5.00000	4.9	
	90 1,3-Dichlorobenzene	146	13.794	13.795	(0.994)	27271	5.00000	5.1	
*	91 1,4-Dichlorobenzene-D4	152	13.878	13.879	(1.000)	202411	50.0000		
	92 1,4-Dichlorobenzene	146	13.897	13.897	(1.001)	28222	5.00000	5.0	
	93 N-Butylbenzene	91	14.231	14.222	(1.025)	44669	5.00000	4.8	
	94 sec-Butylbenzene	105	13.562	13.562	(0.977)	59316	5.00000	5.1	
	95 1,2-Dichlorobenzene	146	14.417	14.418	(1.039)	24266	5.00000	4.9	
	96 1,2-Dibromo-3-Chloropropane	75	15.570	15.570	(1.122)	2420	5.00000	4.2	
	97 1,3,5-Trichlorobenzene	180	15.617	15.617	(1.125)	15318	5.00000	4.5	
	98 Hexachlorobutadiene	225	16.407	16.407	(1.182)	7324	5.00000	5.0	
	99 1,2,4-Trichlorobenzene	180	16.435	16.434	(1.184)	13314	5.00000	4.5	
	100 1,2,3-Trimethylbenzene	105	13.934	13.934	(1.004)	44917	5.00000	4.7	
	101 Naphthalene	128	16.806	16.806	(1.211)	22533	5.00000	5.0	
	102 1,2,3-Trichlorobenzene	180	17.011	17.011	(1.226)	11397	5.00000	4.6	
	103 Methyl Acetate	43	3.689	3.690	(0.504)	10645	5.00000	4.7	
	104 Methylcyclohexane	83	7.975	7.966	(1.090)	16866	5.00000	4.4	
M	153 Total Alkylbenzenes	100				366548	5.00000	(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).



Data File: \\target_server\gg\chem\gcms-d.i\D051718.b\D1353.d
Date : 17-MAY-2018 09:22
Client ID:
Sample Info: WG228547-2
Purge Volume: 5.0
Column phase: RTX-VMS

\\target_server\gg\chem\gcms-d.i\D051718.b\D1353.d

Instrument: gcms-d.i
Operator: JSS
Column diameter: 0.18

Data File: \\target_server\gg\chem\gcms-d.i\D051718.b\D1354.d
Report Date: 21-May-2018 09:39

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-d.i\D051718.b\D1354.d
Lab Smp Id: WG228547-1
Inj Date : 17-MAY-2018 09:58 MS Autotune Date: 05-OCT-2017 14:30
Operator : JSS Inst ID: gcms-d.i
Smp Info : WG228547-1
Misc Info :
Comment : SW846 5030
Method : \\target_server\gg\chem\gcms-d.i\D051718.b\D8A05(22)D.m
Meth Date : 21-May-2018 09:36 gcms-d.i Quant Type: ISTD
Cal Date : 17-MAY-2018 09:58 Cal File: D1354.d
Als bottle: 4 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)	REVIEW CODE
1	Dichlorodifluoromethane	85	1.486	1.486	(0.203)	4171	1.00000	0.91(a)	
2	Chloromethane	50	1.663	1.654	(0.227)	4626	1.00000	1.1	
3	Vinyl chloride	62	1.728	1.728	(0.236)	3153	1.00000	0.96(a)	
4	Bromomethane	94	2.025	2.025	(0.277)	1825	1.00000	1.1	
5	Chloroethane	64	2.146	2.137	(0.293)	1507	1.00000	0.98(a)	
6	Trichlorofluoromethane	101	2.276	2.277	(0.311)	4838	1.00000	0.94(a)	
7	Diethyl Ether	59	2.583	2.583	(0.353)	1385	1.00000	0.85(a)	
8	Tertiary-butyl alcohol	59	3.959	3.969	(0.541)	474	5.00000	10.8	
9	1,1-Dichloroethene	96	2.788	2.779	(0.381)	2215	1.00000	1.1	
10	Carbon Disulfide	76	2.806	2.807	(0.384)	6298	1.00000	1.0	
11	Freon-113	151	2.825	2.834	(0.386)	1488	1.00000	0.94(a)	
12	Iodomethane	142	2.936	2.937	(0.401)	1114	1.00000	3.3(T)	
13	Acrolein	56	3.159	3.160	(0.432)	1618	5.00000	4.5(a)	
14	Methylene Chloride	84	3.448	3.448	(0.471)	3377	1.00000	1.2(a)	
15	Acetone	43	3.522	3.522	(0.482)	4790	5.00000	5.6	
16	Isobutyl Alcohol	43	7.612	7.613	(1.041)	1246	20.0000	37.1	
17	trans-1,2-Dichloroethene	96	3.643	3.643	(0.498)	2880	1.00000	1.1	
18	Allyl Chloride	41	3.318	3.318	(0.454)	3219	1.00000	0.79(a)	
19	Methyl tert-butyl ether	73	3.810	3.811	(0.521)	6138	1.00000	0.89(a)	
20	Acetonitrile	39	4.145	4.136	(0.567)	586	10.0000	8.1(a)	
21	Di-isopropyl ether	45	4.368	4.368	(0.597)	5642	1.00000	1.6	
22	Chloroprene	53	4.480	4.480	(0.612)	3070	1.00000	0.72(a)	
23	Propionitrile	54	7.148	7.148	(0.977)	2800	10.0000	7.8(a)	
24	Methacrylonitrile	41	7.185	7.185	(0.982)	13444	10.0000	7.9(a)	

Data File: \\target_server\gg\chem\gcms-d.i\D051718.b\D1354.d
Report Date: 21-May-2018 09:39

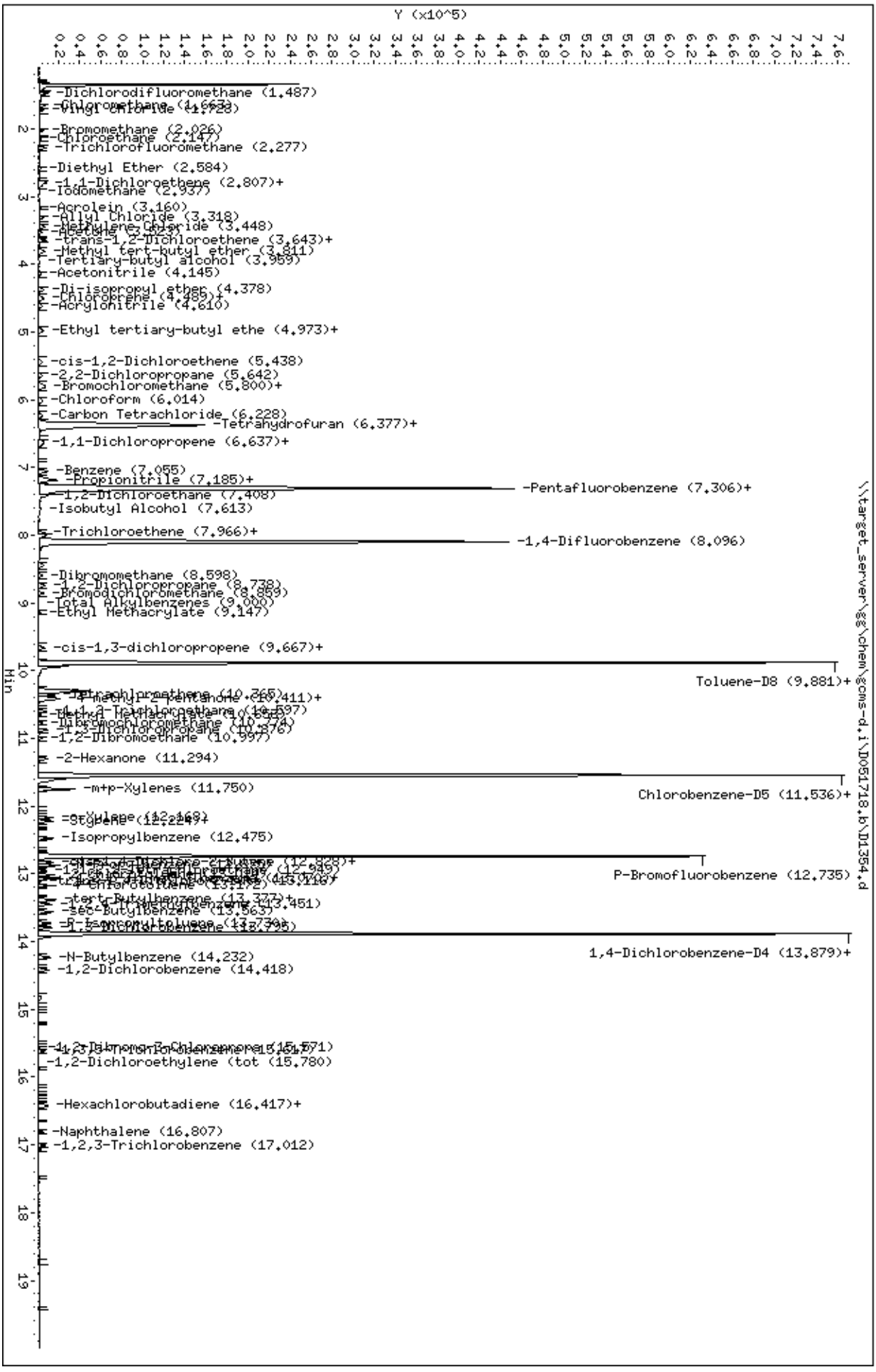
								AMOUNTS		
			QUANT SIG					CAL-AMT	ON-COL	
	Compounds		MASS	RT	EXP RT	REL RT	RESPONSE	(ug/l)	(ug/l)	REVIEW CODE
	25	1,1-Dichloroethane	63	4.517	4.517	(0.617)	5740	1.00000	1.1	
	26	Acrylonitrile	52	4.619	4.610	(0.631)	3666	5.00000	4.2(a)	
	27	Ethyl tertiary-butyl ether	59	4.972	4.963	(0.680)	4364	1.00000	2.0	
	28	Vinyl Acetate	43	4.991	4.982	(0.616)	4871	1.00000	0.80(Ta)	
	29	cis-1,2-Dichloroethene	96	5.446	5.437	(0.745)	2813	1.00000	1.00	
M	30	1,2-Dichloroethylene (total)	96				5693	1.00000	(a)	
	31	Methyl Methacrylate	41	10.652	10.643	(1.316)	1256	1.00000	1.8	
	32	2,2-Dichloropropane	77	5.651	5.642	(0.773)	3501	1.00000	0.93(a)	
	33	Bromochloromethane	128	5.818	5.809	(0.795)	1330	1.00000	0.94(a)	
	34	Chloroform	83	6.013	6.014	(0.822)	5892	1.00000	1.0	
	35	Carbon Tetrachloride	117	6.246	6.237	(0.772)	4134	1.00000	1.0	
	36	Tetrahydrofuran	42	6.320	6.311	(0.864)	3078	5.00000	4.2(a)	
$	37	Dibromofluoromethane	113	6.376	6.376	(0.872)	161718	50.0000	50.2	
	38	1,1,1-Trichloroethane	97	6.385	6.376	(0.873)	5173	1.00000	1.1	
	39	1,1-Dichloropropene	75	6.627	6.627	(0.819)	4092	1.00000	1.0	
	40	2-Butanone	43	6.664	6.655	(0.911)	6053	5.00000	4.8(a)	
	41	Benzene	78	7.055	7.064	(0.871)	10362	1.00000	1.0	
*	42	Pentafluorobenzene	168	7.315	7.315	(1.000)	262988	50.0000		
	43	Cyclohexane	56	5.781	5.791	(0.790)	3488	1.00000	0.82(a)	
	44	Ethyl Methacrylate	69	9.137	9.137	(1.129)	953	1.00000	1.9	
$	45	1,2-Dichloroethane-D4	65	7.296	7.297	(0.997)	229063	50.0000	52.1	
	46	Tertiary-amyl methyl ether	73	7.334	7.334	(1.003)	4283	1.00000	2.2	
	47	1,2-Dichloroethane	62	7.408	7.408	(0.915)	5961	1.00000	1.2	
	48	Trichloroethene	95	8.003	8.003	(0.989)	3271	1.00000	1.1	
*	49	1,4-Difluorobenzene	114	8.096	8.096	(1.000)	421288	50.0000		
	50	Dibromomethane	93	8.598	8.589	(1.062)	2032	1.00000	1.0	
	51	1,2-Dichloropropane	63	8.737	8.738	(1.079)	2875	1.00000	1.0(T)	
	52	Bromodichloromethane	83	8.849	8.858	(1.093)	3993	1.00000	0.99(a)	
	53	cis-1,3-dichloropropene	75	9.667	9.667	(1.194)	3462	1.00000	2.0	
$	55	Toluene-D8	98	9.881	9.881	(1.220)	509763	50.0000	49.6	
	56	2-Chloroethylvinylether	63	9.639	9.639	(1.191)	1075	1.00000	1.3	
	57	Toluene	92	9.937	9.937	(1.227)	6805	1.00000	1.1	
	58	4-methyl-2-pentanone	43	10.411	10.411	(1.286)	12041	5.00000	4.6(a)	
	59	Tetrachloroethene	164	10.364	10.364	(0.898)	2216	1.00000	1.1	
	60	trans-1,3-Dichloropropene	75	10.429	10.430	(1.288)	3360	1.00000	0.82(a)	
	61	1,1,2-Trichloroethane	83	10.597	10.597	(1.309)	2306	1.00000	1.0	
	62	Dibromochloromethane	129	10.773	10.774	(0.934)	2520	1.00000	0.87(a)	
	63	1,3-Dichloropropane	76	10.875	10.876	(0.943)	4762	1.00000	1.0	
	64	1,2-Dibromoethane	107	10.996	10.997	(1.358)	2600	1.00000	0.97(Ta)	
	65	2-Hexanone	43	11.294	11.294	(0.979)	6738	5.00000	3.8(a)	
*	66	Chlorobenzene-D5	117	11.535	11.536	(1.000)	389724	50.0000		
	67	Chlorobenzene	112	11.554	11.554	(1.002)	7610	1.00000	1.1	
	152	1-Chlorohexane	91	11.601	11.601	(1.006)	13126	1.00000	(a)	
	68	Ethylbenzene	91	11.601	11.601	(1.006)	13126	1.00000	1.0	
	69	1,1,1,2-Tetrachloroethane	131	11.628	11.629	(1.008)	2504	1.00000	0.96(a)	
M	70	Xylenes (total)	106				25777	5.00000	(a)	
	71	m+p-Xylenes	91	11.749	11.750	(1.019)	18241	2.00000	1.9(a)	
	72	o-Xylene	91	12.168	12.168	(1.055)	7536	1.00000	0.81(a)	
	73	Styrene	104	12.223	12.224	(1.060)	5414	1.00000	0.78(a)	
	74	Bromoform	173	12.233	12.233	(1.060)	1335	1.00000	0.79(Ta)	
	75	Isopropylbenzene	105	12.474	12.475	(0.899)	9202	1.00000	0.88(a)	
$	76	P-Bromofluorobenzene	95	12.735	12.735	(1.573)	209838	50.0000	49.6	
	77	cis-1,4-Dichloro-2-Butene	53	12.809	12.809	(0.923)	790	1.00000	1.8	
	78	trans-1,4-Dichloro-2-Butene	53	13.116	13.116	(0.945)	518	1.00000	1.1	

Data File: \\target_server\gg\chem\gcms-d.i\D051718.b\D1354.d
Report Date: 21-May-2018 09:39

			QUANT SIG					AMOUNTS		
		Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ug/l)	ON-COL (ug/l)	REVIEW CODE
	79	Bromobenzene	156	12.828	12.828	(0.924)	3036	1.00000	1.0	
	80	N-Propylbenzene	91	12.874	12.874	(0.928)	14634	1.00000	1.0	
	81	1,1,2,2-Tetrachloroethane	83	12.949	12.949	(0.933)	3522	1.00000	1.1	
	82	1,3,5-Trimethylbenzene	105	13.060	13.060	(0.941)	7797	1.00000	0.86(a)	
	83	2-Chlorotoluene	91	13.014	13.014	(0.938)	8250	1.00000	0.99(a)	
	84	1,2,3-Trichloropropane	75	13.069	13.070	(0.942)	3032	1.00000	1.0	
	85	4-Chlorotoluene	91	13.172	13.172	(0.949)	8836	1.00000	0.99(a)	
	86	tert-Butylbenzene	119	13.376	13.377	(0.964)	7025	1.00000	0.82(a)	
	87	Pentachloroethane	117	13.395	13.395	(0.965)	1558	1.00000	0.77(a)	
	88	1,2,4-Trimethylbenzene	105	13.451	13.451	(0.969)	7852	1.00000	0.84(a)	
	89	P-Isopropyltoluene	119	13.729	13.720	(0.989)	7673	1.00000	0.85(a)	
	90	1,3-Dichlorobenzene	146	13.795	13.795	(0.994)	5414	1.00000	1.0	
*	91	1,4-Dichlorobenzene-D4	152	13.878	13.879	(1.000)	195078	50.0000		
	92	1,4-Dichlorobenzene	146	13.897	13.897	(1.001)	6060	1.00000	1.1	
	93	N-Butylbenzene	91	14.231	14.222	(1.025)	7774	1.00000	0.88(a)	
	94	sec-Butylbenzene	105	13.562	13.562	(0.977)	10029	1.00000	0.89(a)	
	95	1,2-Dichlorobenzene	146	14.417	14.418	(1.039)	4567	1.00000	0.95(a)	
	96	1,2-Dibromo-3-Chloropropane	75	15.570	15.570	(1.122)	603	1.00000	1.1	
	97	1,3,5-Trichlorobenzene	180	15.617	15.617	(1.125)	2752	1.00000	0.83(a)	
	98	Hexachlorobutadiene	225	16.416	16.407	(1.183)	1577	1.00000	1.1	
	99	1,2,4-Trichlorobenzene	180	16.435	16.434	(1.184)	2445	1.00000	0.86(a)	
	100	1,2,3-Trimethylbenzene	105	13.934	13.934	(1.004)	7414	1.00000	0.80(a)	
	101	Naphthalene	128	16.807	16.806	(1.211)	3912	1.00000	2.4	
	102	1,2,3-Trichlorobenzene	180	17.011	17.011	(1.226)	2193	1.00000	0.92(a)	
	103	Methyl Acetate	43	3.689	3.690	(0.504)	1779	1.00000	0.80(a)	
	104	Methylcyclohexane	83	7.975	7.966	(1.090)	2421	1.00000	1.2	
M	153	Total Alkylbenzenes	100				62784	1.00000	(a)	

QC Flag Legend

T - Target compound detected outside RT window.
a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).


Data File: \\target_server\gg\chem\gcms-d.i\D051718.b\D1354.d
Date : 17-MAY-2018 09:58
Client ID:
Sample Info: WG228547-1
Purge Volume: 5.0
Column phase: RTX-VMS
Instrument: gcms-d.i
Operator: JSS
Column diameter: 0.18
\\target_server\gg\chem\gcms-d.i\D051718.b\D1354.d
Y (x10^5)
Min
-Dichlorodifluoromethane (1.487)
-Chloromethane (1.663)
-Vinyl chloride (1.728)
-Bromomethane (2.026)
-Chloroethane (2.147)
-Trichlorofluoromethane (2.277)
-Diethyl Ether (2.584)
-1,1-Dichloroethene (2.807)+
-Iodomethane (2.937)
-Acrolein (3.160)
-Allyl Chloride (3.318)
-Methylene Chloride (3.448)
-Acetone (3.529)
-trans-1,2-Dichloroethene (3.643)+
-Methyl tert-butyl ether (3.811)
-Tertiary-butyl alcohol (3.959)
-Acetonitrile (4.145)
-Di-isopropyl ether (4.378)
-Chloroprene (4.485)+
-Acrylonitrile (4.610)
-Ethyl tertiary-butyl ethe (4.973)+
-cis-1,2-Dichloroethene (5.438)
-2,2-Dichloropropane (5.642)
-Bromochloromethane (5.800)+
-Chloroform (6.014)
-Carbon Tetrachloride (6.228)
-Tetrahydrofuran (6.377)+
-1,1-Dichloropropene (6.637)+
-Benzene (7.055)
-Propionitrile (7.185)+
-Pentafluorobenzene (7.306)+
-1,2-Dichloroethane (7.408)
-Isobutyl Alcohol (7.613)
-Trichloroethene (7.966)+
-1,4-Difluorobenzene (8.096)
-Dibromomethane (8.598)
-1,2-Dichloropropane (8.738)
-Bromodichloromethane (8.859)
-Total Alkylbenzenes (9.000)
-Ethyl Methacrylate (9.147)
-cis-1,3-dichloropropene (9.667)+
Toluene-D8 (9.881)+
-Tetrachloroethene (10.265)
-4-Methyl-2-Pentanone (10.411)+
-1,1,2-Trichloroethane (10.597)
-Methyl Methacrylate (10.758)
-Dibromochloromethane (10.974)
-1,3-Dichloropropane (11.076)
-1,2-Dibromoethane (10.997)
-2-Hexanone (11.294)
-m+p-Xylenes (11.750)
Chlorobenzene-D5 (11.536)+
-o-Xylene (12.168)
-Styrene (12.214)+
-Isopropylbenzene (12.475)
-4-Chlorotoluene (13.172)
-tert-Butylbenzene (13.377)+
-1,2,4-Trimethylbenzene (13.451)
-sec-Butylbenzene (13.563)
-p-Isopropyltoluene (13.730)
-1,3-Dichlorobenzene (13.795)
P-Bromofluorobenzene (12.735)
1,4-Dichlorobenzene-D4 (13.879)+
-N-Butylbenzene (14.232)
-1,2-Dichlorobenzene (14.418)
-1,2-Dibromo-3-Chloropropane (15.571)
-1,2,4-Trichlorobenzene (15.647)
-1,2-Dichloroethylene (tot (15.780)
-Hexachlorobutadiene (16.417)+
-Naphthalene (16.807)
-1,2,3-Trichlorobenzene (17.012)

Data File: \\target_server\gg\chem\gcms-d.i\D051718.b\D1355.d
Report Date: 21-May-2018 09:39

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-d.i\D051718.b\D1355.d
Lab Smp Id: WG228547-6
Inj Date : 17-MAY-2018 10:34 MS Autotune Date: 05-OCT-2017 14:30
Operator : JSS Inst ID: gcms-d.i
Smp Info : WG228547-6
Misc Info :
Comment : SW846 5030
Method : \\target_server\gg\chem\gcms-d.i\D051718.b\D8A05(22)D.m
Meth Date : 21-May-2018 09:36 gcms-d.i Quant Type: ISTD
Cal Date : 17-MAY-2018 10:34 Cal File: D1355.d
Als bottle: 5 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)	REVIEW CODE
1	Dichlorodifluoromethane	85	1.486	1.486	(0.203)	684308	150.000	146	
2	Chloromethane	50	1.654	1.654	(0.226)	597262	150.000	139	
3	Vinyl chloride	62	1.728	1.728	(0.236)	489460	150.000	145	
4	Bromomethane	94	2.025	2.025	(0.277)	252925	150.000	148	
5	Chloroethane	64	2.128	2.137	(0.291)	163765	150.000	104	
6	Trichlorofluoromethane	101	2.267	2.277	(0.310)	770764	150.000	145	
7	Diethyl Ether	59	2.583	2.583	(0.353)	263682	150.000	159(A)	
8	Tertiary-butyl alcohol	59	3.968	3.969	(0.543)	138212	750.000	734	
9	1,1-Dichloroethene	96	2.778	2.779	(0.380)	279268	150.000	142	
10	Carbon Disulfide	76	2.806	2.807	(0.384)	966552	150.000	152(A)	
11	Freon-113	151	2.834	2.834	(0.387)	239730	150.000	148	
12	Iodomethane	142	2.936	2.937	(0.401)	320627	150.000	151(A)	
13	Acrolein	56	3.160	3.160	(0.432)	242445	750.000	659	
14	Methylene Chloride	84	3.448	3.448	(0.471)	433072	150.000	145	
15	Acetone	43	3.522	3.522	(0.482)	615837	750.000	704	
16	Isobutyl Alcohol	43	7.613	7.613	(1.041)	329007	3000.00	2970	
17	trans-1,2-Dichloroethene	96	3.643	3.643	(0.498)	397797	150.000	146	
18	Allyl Chloride	41	3.318	3.318	(0.454)	672352	150.000	162(A)	
19	Methyl tert-butyl ether	73	3.810	3.811	(0.521)	1166600	150.000	164(A)	
20	Acetonitrile	39	4.145	4.136	(0.567)	113812	1500.00	1540(A)	
21	Di-isopropyl ether	45	4.368	4.368	(0.597)	1431826	150.000	149	
22	Chloroprene	53	4.480	4.480	(0.612)	725548	150.000	166(A)	
23	Propionitrile	54	7.157	7.148	(0.978)	571731	1500.00	1560(A)	
24	Methacrylonitrile	41	7.185	7.185	(0.982)	2665452	1500.00	1530(A)	

Data File: \\target_server\gg\chem\gcms-d.i\D051718.b\D1355.d
Report Date: 21-May-2018 09:39

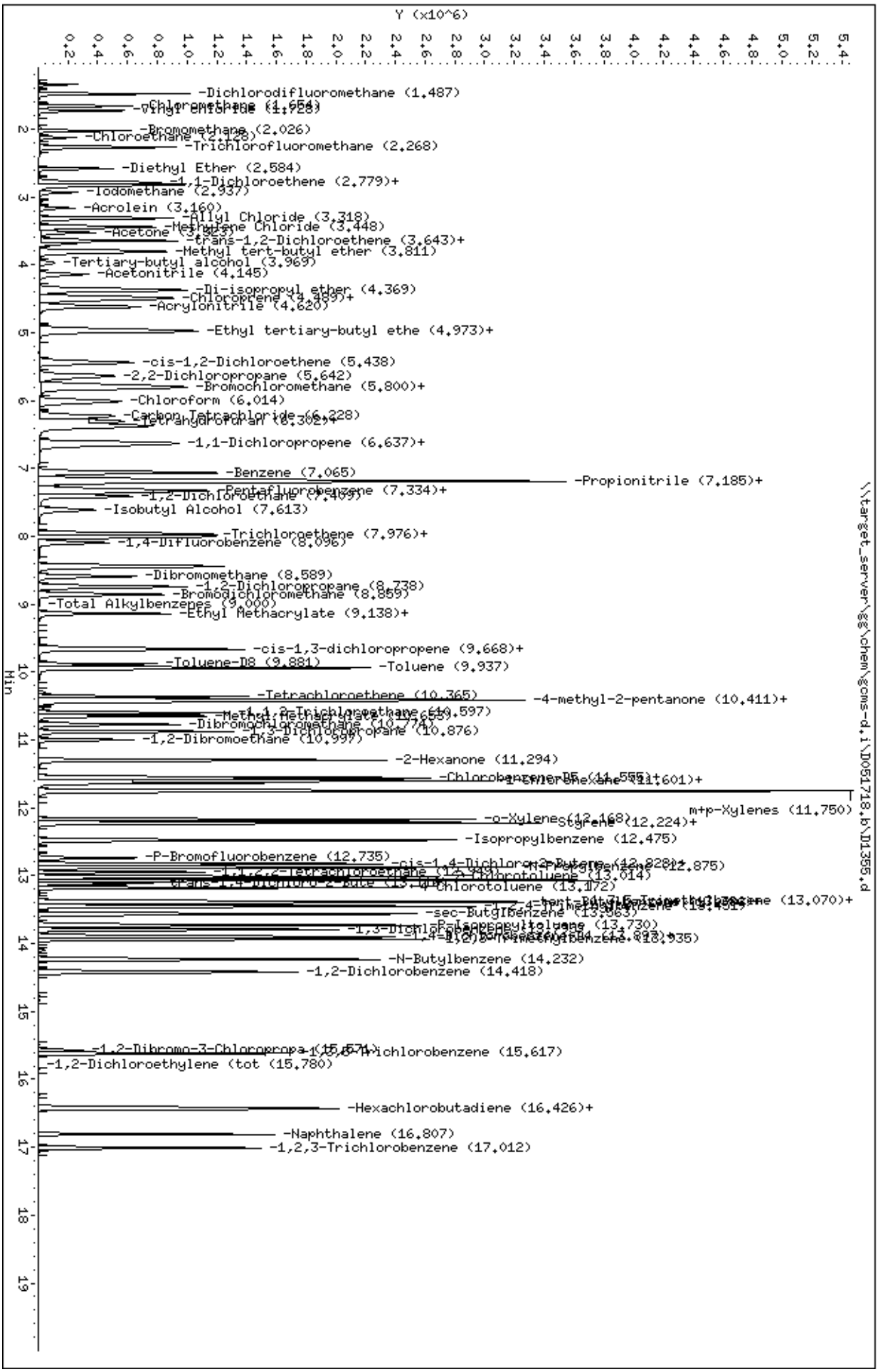
							AMOUNTS		
		QUANT SIG					CAL-AMT	ON-COL	
	Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	(ug/l)	(ug/l)	REVIEW CODE
	25 1,1-Dichloroethane	63	4.517	4.517	(0.617)	807464	150.000	147	
	26 Acrylonitrile	52	4.619	4.610	(0.631)	690721	750.000	783(A)	
	27 Ethyl tertiary-butyl ether	59	4.963	4.963	(0.678)	1249885	150.000	150(A)	
	28 Vinyl Acetate	43	4.982	4.982	(0.615)	1057805	150.000	166(A)	
	29 cis-1,2-Dichloroethene	96	5.437	5.437	(0.743)	447137	150.000	155(A)	
M	30 1,2-Dichloroethylene (total)	96				844934	150.000	(a)	
	31 Methyl Methacrylate	41	10.643	10.643	(1.315)	431506	150.000	150(A)	
	32 2,2-Dichloropropane	77	5.642	5.642	(0.771)	612027	150.000	160(A)	
	33 Bromochloromethane	128	5.818	5.809	(0.795)	201872	150.000	140	
	34 Chloroform	83	6.014	6.014	(0.822)	857199	150.000	149	
	35 Carbon Tetrachloride	117	6.237	6.237	(0.770)	633238	150.000	150(A)	
	36 Tetrahydrofuran	42	6.302	6.311	(0.861)	618618	750.000	824(A)	
$	37 Dibromofluoromethane	113	6.376	6.376	(0.872)	163325	50.0000	49.5	
	38 1,1,1-Trichloroethane	97	6.376	6.376	(0.872)	744617	150.000	150(A)	
	39 1,1-Dichloropropene	75	6.618	6.627	(0.817)	631247	150.000	151(A)	
	40 2-Butanone	43	6.655	6.655	(0.910)	1009373	750.000	776(A)	
	41 Benzene	78	7.064	7.064	(0.873)	1633457	150.000	151(A)	
*	42 Pentafluorobenzene	168	7.315	7.315	(1.000)	269313	50.0000		
	43 Cyclohexane	56	5.790	5.791	(0.792)	695718	150.000	159(A)	
	44 Ethyl Methacrylate	69	9.137	9.137	(1.129)	307511	150.000	150	
$	45 1,2-Dichloroethane-D4	65	7.296	7.297	(0.997)	223811	50.0000	49.7	
	46 Tertiary-amyl methyl ether	73	7.334	7.334	(1.003)	1021444	150.000	151(A)	
	47 1,2-Dichloroethane	62	7.408	7.408	(0.915)	726902	150.000	143	
	48 Trichloroethene	95	8.003	8.003	(0.989)	449854	150.000	145	
*	49 1,4-Difluorobenzene	114	8.096	8.096	(1.000)	443070	50.0000		
	50 Dibromomethane	93	8.589	8.589	(1.061)	316429	150.000	154(A)	
	51 1,2-Dichloropropane	63	8.737	8.738	(1.079)	464962	150.000	155(A)	
	52 Bromodichloromethane	83	8.858	8.858	(1.094)	684366	150.000	161(A)	
	53 cis-1,3-dichloropropene	75	9.667	9.667	(1.194)	818228	150.000	151(A)	
	54 1,4-Dioxane	88	9.137	9.137	(1.129)	66928	3000.00	2620	
$	55 Toluene-D8	98	9.881	9.881	(1.220)	545054	50.0000	50.5	
	56 2-Chloroethylvinylether	63	9.639	9.639	(1.191)	262427	150.000	150	
	57 Toluene	92	9.937	9.937	(1.227)	993568	150.000	148	
	58 4-methyl-2-pentanone	43	10.411	10.411	(1.286)	2072528	750.000	760(A)	
	59 Tetrachloroethene	164	10.364	10.364	(0.898)	318522	150.000	146	
	60 trans-1,3-Dichloropropene	75	10.429	10.430	(1.288)	728648	150.000	169(A)	
	61 1,1,2-Trichloroethane	83	10.597	10.597	(1.309)	351683	150.000	151(A)	
	62 Dibromochloromethane	129	10.773	10.774	(0.933)	508237	150.000	167(A)	
	63 1,3-Dichloropropane	76	10.876	10.876	(0.942)	744297	150.000	153(A)	
	64 1,2-Dibromoethane	107	10.996	10.997	(1.358)	439159	150.000	156(A)	
	65 2-Hexanone	43	11.294	11.294	(0.978)	1486037	750.000	808(A)	
*	66 Chlorobenzene-D5	117	11.545	11.536	(1.000)	407199	50.0000		
	67 Chlorobenzene	112	11.554	11.554	(1.001)	1104473	150.000	148	
	152 1-Chlorohexane	91	11.601	11.601	(1.005)	1956281	150.000	(a)	
	68 Ethylbenzene	91	11.601	11.601	(1.005)	1956281	150.000	148	
	69 1,1,1,2-Tetrachloroethane	131	11.629	11.629	(1.007)	430843	150.000	158(A)	
M	70 Xylenes (total)	106				4595278	150.000	(a)	
	71 m+p-Xylenes	91	11.749	11.750	(1.018)	3009812	300.000	301(A)	
	72 o-Xylene	91	12.168	12.168	(1.054)	1585466	150.000	163(A)	
	73 Styrene	104	12.224	12.224	(1.059)	1179515	150.000	163(A)	
	74 Bromoform	173	12.233	12.233	(1.060)	301399	150.000	171(A)	
	75 Isopropylbenzene	105	12.475	12.475	(0.899)	1773426	150.000	157(A)	
$	76 P-Bromofluorobenzene	95	12.735	12.735	(1.573)	226645	50.0000	51.0	
	77 cis-1,4-Dichloro-2-Butene	53	12.809	12.809	(0.923)	185829	150.000	151(A)	

Data File: \\target_server\gg\chem\gcms-d.i\D051718.b\D1355.d
Report Date: 21-May-2018 09:39

			QUANT SIG					AMOUNTS		
								CAL-AMT	ON-COL	
		Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	(ug/l)	(ug/l)	REVIEW CODE
	78	trans-1,4-Dichloro-2-Butene	53	13.116	13.116	(0.945)	146231	150.000	150	
	79	Bromobenzene	156	12.828	12.828	(0.924)	457434	150.000	148	
	80	N-Propylbenzene	91	12.874	12.874	(0.928)	2251431	150.000	147	
	81	1,1,2,2-Tetrachloroethane	83	12.949	12.949	(0.933)	519684	150.000	147	
	82	1,3,5-Trimethylbenzene	105	13.069	13.060	(0.942)	1522485	150.000	155(A)	
	83	2-Chlorotoluene	91	13.014	13.014	(0.938)	1361044	150.000	152(A)	
	84	1,2,3-Trichloropropane	75	13.069	13.070	(0.942)	456900	150.000	145	
	85	4-Chlorotoluene	91	13.172	13.172	(0.949)	1447166	150.000	151(A)	
	86	tert-Butylbenzene	119	13.376	13.377	(0.964)	1475381	150.000	159(A)	
	87	Pentachloroethane	117	13.395	13.395	(0.965)	359817	150.000	165(A)	
	88	1,2,4-Trimethylbenzene	105	13.451	13.451	(0.969)	1595511	150.000	158(A)	
	89	P-Isopropyltoluene	119	13.730	13.720	(0.989)	1557032	150.000	160(A)	
	90	1,3-Dichlorobenzene	146	13.795	13.795	(0.994)	828234	150.000	149	
*	91	1,4-Dichlorobenzene-D4	152	13.878	13.879	(1.000)	210219	50.0000		
	92	1,4-Dichlorobenzene	146	13.897	13.897	(1.001)	845120	150.000	146	
	93	N-Butylbenzene	91	14.232	14.222	(1.025)	1521089	150.000	159(A)	
	94	sec-Butylbenzene	105	13.562	13.562	(0.977)	1861140	150.000	154(A)	
	95	1,2-Dichlorobenzene	146	14.417	14.418	(1.039)	811466	150.000	156(A)	
	96	1,2-Dibromo-3-Chloropropane	75	15.570	15.570	(1.122)	98679	150.000	164(A)	
	97	1,3,5-Trichlorobenzene	180	15.617	15.617	(1.125)	593372	150.000	167(A)	
	98	Hexachlorobutadiene	225	16.416	16.407	(1.183)	226158	150.000	150(A)	
	99	1,2,4-Trichlorobenzene	180	16.435	16.434	(1.184)	514658	150.000	168(A)	
	100	1,2,3-Trimethylbenzene	105	13.934	13.934	(1.004)	1613134	150.000	161(A)	
	101	Naphthalene	128	16.807	16.806	(1.211)	1088321	150.000	148	
	102	1,2,3-Trichlorobenzene	180	17.011	17.011	(1.226)	410130	150.000	160(A)	
	103	Methyl Acetate	43	3.689	3.690	(0.504)	362928	150.000	160(A)	
	104	Methylcyclohexane	83	7.966	7.966	(1.089)	666428	150.000	148	
M	153	Total Alkylbenzenes	100				11784069	150.000	(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
A - Target compound detected but, quantitated amount
exceeded maximum amount.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Date : 17-MAY-2018 10:34
Client ID:
Sample Info: WG228547-6
Purge Volume: 5.0
Column phase: RTX-VMS
Instrument: gcms-d.i
Operator: JSS
Column diameter: 0.18
\\target_server\gg\chem\gcms-d.i\D051718.b\D1355.d
Y (x10^6)
Min
-Dichlorodifluoromethane (1.487)
-Chloromethane (1.654)
-Vinyl chloride (1.728)
-Bromomethane (2.026)
-Chloroethane (2.128)
-Trichlorofluoromethane (2.268)
-Diethyl Ether (2.584)
-1,1-Dichloroethene (2.779)+
-Iodomethane (2.937)
-Acrolein (3.160)
-Allyl Chloride (3.318)
-Methylene Chloride (3.448)
-Acetone (3.555)
-trans-1,2-Dichloroethene (3.643)+
-Methyl tert-butyl ether (3.811)
-Tertiary-butyl alcohol (3.969)
-Acetonitrile (4.145)
-Di-isopropyl ether (4.369)
-Chloroprene (4.489)+
-Acrylonitrile (4.620)
-Ethyl tertiary-butyl ethe (4.973)+
-cis-1,2-Dichloroethene (5.438)
-2,2-Dichloropropane (5.642)
-Bromochloromethane (5.800)+
-Chloroform (6.014)
-Carbon Tetrachloride (6.228)
-Tetrahydrofuran (6.302)+
-1,1-Dichloropropene (6.637)+
-Benzene (7.065)
-Propionitrile (7.185)+
-Pentafluorobenzene (7.334)+
-1,2-Dichloroethane (7.409)
-Isobutyl Alcohol (7.613)
-Trichloroethene (7.976)+
-1,4-Difluorobenzene (8.096)
-Dibromomethane (8.589)
-1,2-Dichloropropane (8.738)
-Bromodichloromethane (8.859)
-Total Alkylbenzenes (9.000)
-Ethyl Methacrylate (9.138)+
-cis-1,3-dichloropropene (9.668)+
-Toluene-D8 (9.881)
-Toluene (9.937)
-Tetrachloroethene (10.365)
-4-methyl-2-pentanone (10.411)+
-1,1,2-Trichloroethane (10.597)
-Methyl Methacrylate (10.765)
-Dibromochloromethane (10.774)
-1,3-Dichloropropane (10.876)
-1,2-Dibromoethane (10.997)
-2-Hexanone (11.294)
-Chlorobenzene-D5 (11.555)+
-Ethylbenzene (11.601)+
m+p-Xylenes (11.750)
-o-Xylene (12.168)
-Styrene (12.224)+
-Isopropylbenzene (12.475)
-P-Bromofluorobenzene (12.735)
-cis-1,4-Dichloro-2-Butene (12.828)+
-4-Phenylcyclohexene (12.875)
-1,1,2,2-Tetrachloroethane (13.044)
-2-Chlorotoluene (13.014)
-trans-1,4-Dichloro-2-Bute (13.094)
-4-Chlorotoluene (13.172)
-1,2,4-Trimethylbenzene (13.451)
-sec-Butylbenzene (13.963)
-P-Isopropyltoluene (13.730)
-1,3-Dichlorobenzene (14.084)
-1,4-Dichlorobenzene (14.193)
-N-Butylbenzene (14.232)
-1,2-Dichlorobenzene (14.418)
-1,2-Dibromo-3-Chloropropa (15.671)
-1,2,4-Trichlorobenzene (15.617)
-1,2-Dichloroethylene (tot (15.780)
-Hexachlorobutadiene (16.426)+
-Naphthalene (16.807)
-1,2,3-Trichlorobenzene (17.012)

Data File: \\target_server\gg\chem\gcms-d.i\D051718.b\D1356.d
Report Date: 21-May-2018 09:39

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-d.i\D051718.b\D1356.d
Lab Smp Id: WG228547-5
Inj Date : 17-MAY-2018 11:09 MS Autotune Date: 05-OCT-2017 14:30
Operator : JSS Inst ID: gcms-d.i
Smp Info : WG228547-5
Misc Info :
Comment : SW846 5030
Method : \\target_server\gg\chem\gcms-d.i\D051718.b\D8A05(22)D.m
Meth Date : 21-May-2018 09:36 gcms-d.i Quant Type: ISTD
Cal Date : 17-MAY-2018 11:09 Cal File: D1356.d
Als bottle: 6 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)	REVIEW CODE
1	Dichlorodifluoromethane	85	1.486	1.486	(0.203)	504484	100.000	100	
2	Chloromethane	50	1.663	1.654	(0.227)	452665	100.000	98.0	
3	Vinyl chloride	62	1.728	1.728	(0.236)	387928	100.000	107	
4	Bromomethane	94	2.025	2.025	(0.277)	178744	100.000	97.6	
5	Chloroethane	64	2.128	2.137	(0.291)	151836	100.000	90.2	
6	Trichlorofluoromethane	101	2.267	2.277	(0.310)	555380	100.000	97.7	
7	Diethyl Ether	59	2.583	2.583	(0.353)	197907	100.000	111	
8	Tertiary-butyl alcohol	59	3.968	3.969	(0.543)	109422	500.000	535	
9	1,1-Dichloroethene	96	2.778	2.779	(0.380)	206470	100.000	97.5	
10	Carbon Disulfide	76	2.806	2.807	(0.384)	710825	100.000	104	
11	Freon-113	151	2.834	2.834	(0.387)	182950	100.000	105	
12	Iodomethane	142	2.936	2.937	(0.401)	224817	100.000	99.8	
13	Acrolein	56	3.160	3.160	(0.432)	181489	500.000	460	
14	Methylene Chloride	84	3.448	3.448	(0.471)	319344	100.000	99.6	
15	Acetone	43	3.522	3.522	(0.482)	466376	500.000	497	
16	Isobutyl Alcohol	43	7.612	7.613	(1.041)	246677	2000.00	2080	
17	trans-1,2-Dichloroethene	96	3.643	3.643	(0.498)	295842	100.000	101	
18	Allyl Chloride	41	3.318	3.318	(0.454)	481019	100.000	108	
19	Methyl tert-butyl ether	73	3.810	3.811	(0.521)	876188	100.000	115	
20	Acetonitrile	39	4.136	4.136	(0.565)	86454	1000.00	1090	
21	Di-isopropyl ether	45	4.368	4.368	(0.597)	1044244	100.000	102	
22	Chloroprene	53	4.480	4.480	(0.612)	518208	100.000	110	
23	Propionitrile	54	7.148	7.148	(0.977)	432697	1000.00	1100	
24	Methacrylonitrile	41	7.185	7.185	(0.982)	1976719	1000.00	1060	

Data File: \\target_server\gg\chem\gcms-d.i\D051718.b\D1356.d
Report Date: 21-May-2018 09:39

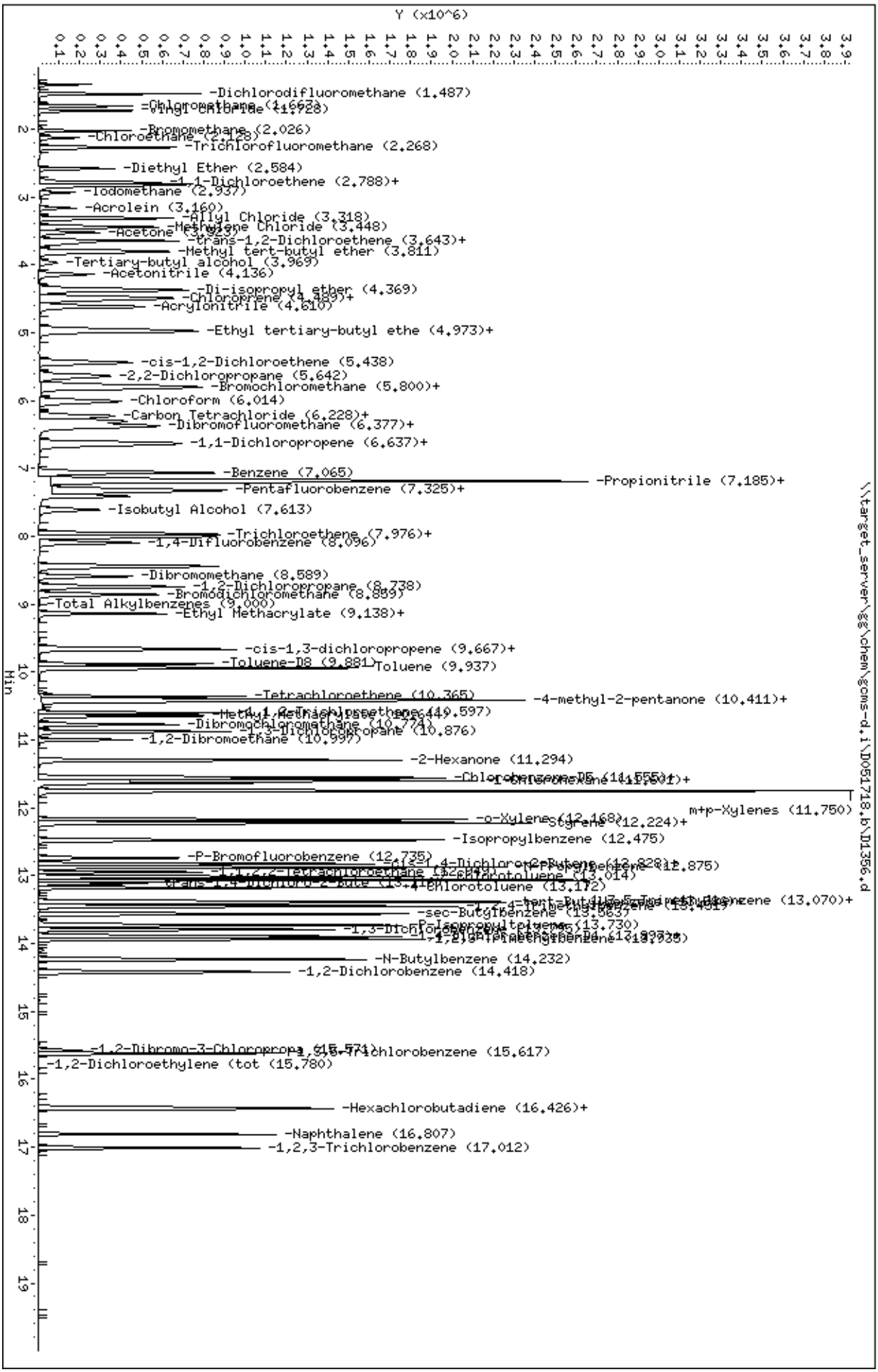
							AMOUNTS		
		QUANT SIG					CAL-AMT	ON-COL	
	Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	(ug/l)	(ug/l)	REVIEW CODE
	25 1,1-Dichloroethane	63	4.517	4.517	(0.617)	582508	100.000	99.0	
	26 Acrylonitrile	52	4.619	4.610	(0.631)	519776	500.000	549	
	27 Ethyl tertiary-butyl ether	59	4.963	4.963	(0.678)	900041	100.000	101	
	28 Vinyl Acetate	43	4.982	4.982	(0.615)	762279	100.000	111	
	29 cis-1,2-Dichloroethene	96	5.437	5.437	(0.743)	323880	100.000	104	
M	30 1,2-Dichloroethylene (total)	96				619722	100.000	(a)	
	31 Methyl Methacrylate	41	10.643	10.643	(1.315)	305944	100.000	100	
	32 2,2-Dichloropropane	77	5.642	5.642	(0.771)	421738	100.000	102	
	33 Bromochloromethane	128	5.809	5.809	(0.794)	163968	100.000	106	
	34 Chloroform	83	6.014	6.014	(0.822)	612473	100.000	99.5	
	35 Carbon Tetrachloride	117	6.227	6.237	(0.769)	452116	100.000	100	
	36 Tetrahydrofuran	42	6.302	6.311	(0.861)	461795	500.000	574	
$	37 Dibromofluoromethane	113	6.376	6.376	(0.872)	176541	50.0000	49.9	
	38 1,1,1-Trichloroethane	97	6.376	6.376	(0.872)	522806	100.000	98.4	
	39 1,1-Dichloropropene	75	6.618	6.627	(0.817)	452546	100.000	101	
	40 2-Butanone	43	6.655	6.655	(0.910)	749449	500.000	537	
	41 Benzene	78	7.064	7.064	(0.873)	1183561	100.000	102	
*	42 Pentafluorobenzene	168	7.315	7.315	(1.000)	288868	50.0000		
	43 Cyclohexane	56	5.790	5.791	(0.792)	525095	100.000	112	
	44 Ethyl Methacrylate	69	9.137	9.137	(1.129)	220508	100.000	101	
$	45 1,2-Dichloroethane-D4	65	7.296	7.297	(0.997)	228263	50.0000	47.3	
	46 Tertiary-amyl methyl ether	73	7.334	7.334	(1.003)	720677	100.000	99.8	
	47 1,2-Dichloroethane	62	7.408	7.408	(0.915)	503451	100.000	92.8	
	48 Trichloroethene	95	8.003	8.003	(0.989)	319649	100.000	96.1	
*	49 1,4-Difluorobenzene	114	8.096	8.096	(1.000)	474056	50.0000		
	50 Dibromomethane	93	8.589	8.589	(1.061)	222820	100.000	101	
	51 1,2-Dichloropropane	63	8.737	8.738	(1.079)	326009	100.000	102	
	52 Bromodichloromethane	83	8.858	8.858	(1.094)	468730	100.000	103	
	53 cis-1,3-dichloropropene	75	9.667	9.667	(1.194)	569134	100.000	98.8	
	54 1,4-Dioxane	88	9.137	9.137	(1.129)	56203	2000.00	2050	
$	55 Toluene-D8	98	9.881	9.881	(1.220)	577489	50.0000	50.0	
	56 2-Chloroethylvinylether	63	9.639	9.639	(1.191)	187633	100.000	100	
	57 Toluene	92	9.937	9.937	(1.227)	704696	100.000	98.3	
	58 4-methyl-2-pentanone	43	10.411	10.411	(1.286)	1538335	500.000	527	
	59 Tetrachloroethene	164	10.364	10.364	(0.898)	228867	100.000	98.9	
	60 trans-1,3-Dichloropropene	75	10.429	10.430	(1.288)	506894	100.000	110	
	61 1,1,2-Trichloroethane	83	10.597	10.597	(1.309)	252876	100.000	102	
	62 Dibromochloromethane	129	10.773	10.774	(0.933)	355776	100.000	110	
	63 1,3-Dichloropropane	76	10.876	10.876	(0.942)	535311	100.000	104	
	64 1,2-Dibromoethane	107	10.996	10.997	(1.358)	313069	100.000	104	
	65 2-Hexanone	43	11.294	11.294	(0.978)	1100234	500.000	565	
*	66 Chlorobenzene-D5	117	11.545	11.536	(1.000)	431428	50.0000		
	67 Chlorobenzene	112	11.554	11.554	(1.001)	778468	100.000	98.3	
	152 1-Chlorohexane	91	11.601	11.601	(1.005)	1387803	100.000	(a)	
	68 Ethylbenzene	91	11.601	11.601	(1.005)	1387803	100.000	98.9	
	69 1,1,1,2-Tetrachloroethane	131	11.629	11.629	(1.007)	299609	100.000	104	
M	70 Xylenes (total)	106				3242556	100.000	(a)	
	71 m+p-Xylenes	91	11.749	11.750	(1.018)	2123847	200.000	200	
	72 o-Xylene	91	12.168	12.168	(1.054)	1118709	100.000	108	
	73 Styrene	104	12.223	12.224	(1.059)	838460	100.000	109	
	74 Bromoform	173	12.233	12.233	(1.060)	213784	100.000	114	
	75 Isopropylbenzene	105	12.474	12.475	(0.899)	1244955	100.000	106	
$	76 P-Bromofluorobenzene	95	12.735	12.735	(1.573)	233504	50.0000	49.1	
	77 cis-1,4-Dichloro-2-Butene	53	12.809	12.809	(0.923)	126021	100.000	98.5	

Data File: \\target_server\gg\chem\gcms-d.i\D051718.b\D1356.d
Report Date: 21-May-2018 09:39

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)	REVIEW CODE
78	trans-1,4-Dichloro-2-Butene	53	13.116	13.116	(0.945)	101547	100.000	100	
79	Bromobenzene	156	12.828	12.828	(0.924)	323193	100.000	100	
80	N-Propylbenzene	91	12.874	12.874	(0.928)	1593608	100.000	99.9	
81	1,1,2,2-Tetrachloroethane	83	12.949	12.949	(0.933)	374153	100.000	102	
82	1,3,5-Trimethylbenzene	105	13.069	13.060	(0.942)	1076915	100.000	105	
83	2-Chlorotoluene	91	13.014	13.014	(0.938)	951561	100.000	102	
84	1,2,3-Trichloropropane	75	13.069	13.070	(0.942)	331263	100.000	101	
85	4-Chlorotoluene	91	13.172	13.172	(0.949)	1012517	100.000	101	
86	tert-Butylbenzene	119	13.376	13.377	(0.964)	1037503	100.000	107	
87	Pentachloroethane	117	13.395	13.395	(0.965)	248638	100.000	109	
88	1,2,4-Trimethylbenzene	105	13.451	13.451	(0.969)	1114210	100.000	106	
89	P-Isopropyltoluene	119	13.730	13.720	(0.989)	1087161	100.000	107	
90	1,3-Dichlorobenzene	146	13.795	13.795	(0.994)	581937	100.000	100	
* 91	1,4-Dichlorobenzene-D4	152	13.878	13.879	(1.000)	219096	50.0000		
92	1,4-Dichlorobenzene	146	13.897	13.897	(1.001)	594397	100.000	98.3	
93	N-Butylbenzene	91	14.232	14.222	(1.025)	1048254	100.000	105	
94	sec-Butylbenzene	105	13.562	13.562	(0.977)	1312243	100.000	104	
95	1,2-Dichlorobenzene	146	14.417	14.418	(1.039)	568511	100.000	105	
96	1,2-Dibromo-3-Chloropropane	75	15.570	15.570	(1.122)	68930	100.000	110	
97	1,3,5-Trichlorobenzene	180	15.617	15.617	(1.125)	402652	100.000	109	
98	Hexachlorobutadiene	225	16.416	16.407	(1.183)	156968	100.000	100	
99	1,2,4-Trichlorobenzene	180	16.435	16.434	(1.184)	358966	100.000	112	
100	1,2,3-Trimethylbenzene	105	13.934	13.934	(1.004)	1124862	100.000	108	
101	Naphthalene	128	16.807	16.806	(1.211)	796844	100.000	105	
102	1,2,3-Trichlorobenzene	180	17.011	17.011	(1.226)	293600	100.000	110	
103	Methyl Acetate	43	3.689	3.690	(0.504)	268835	100.000	110	
104	Methylcyclohexane	83	7.966	7.966	(1.089)	497743	100.000	103	
M 153	Total Alkylbenzenes	100				8269894	100.000	(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).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Date : 17-MAY-2018 11:09
Client ID:
Sample Info: WG228547-5
Purge Volume: 5.0
Column phase: RTX-VMS
Instrument: gcms-d.i
Operator: JSS
Column diameter: 0.18
\\target_server\gg\chem\gcms-d.i\D051718.b\D1356.d
Y (x10^6)
Min
-Dichlorodifluoromethane (1.487)
-Chloromethane (1.662)
-Vinyl Chloride (1.728)
-Bromomethane (2.026)
-Chloroethane (2.128)
-Trichlorofluoromethane (2.268)
-Diethyl Ether (2.584)
-1,1-Dichloroethene (2.788)+
-Iodomethane (2.937)
-Acrolein (3.160)
-Allyl Chloride (3.318)
-Methylene Chloride (3.448)
-Acetone (3.523)
-trans-1,2-Dichloroethene (3.643)+
-Methyl tert-butyl ether (3.811)
-Tertiary-butyl alcohol (3.969)
-Acetonitrile (4.136)
-Di-isopropyl ether (4.369)
-Chloroprene (4.489)+
-Acrylonitrile (4.610)
-Ethyl tertiary-butyl ethe (4.973)+
-cis-1,2-Dichloroethene (5.438)
-2,2-Dichloropropane (5.642)
-Bromochloromethane (5.800)+
-Chloroform (6.014)
-Carbon Tetrachloride (6.228)+
-Dibromofluoromethane (6.377)+
-1,1-Dichloropropene (6.637)+
-Benzene (7.065)
-Propionitrile (7.185)+
-Pentafluorobenzene (7.325)+
-Isobutyl Alcohol (7.613)
-Trichloroethene (7.976)+
-1,4-Difluorobenzene (8.096)
-Dibromomethane (8.589)
-1,2-Dichloropropane (8.738)
-Bromodichloromethane (8.899)
-Total Alkylbenzenes (9.000)
-Ethyl Methacrylate (9.138)+
-cis-1,3-dichloropropene (9.667)+
-Toluene-D8 (9.881)
Toluene (9.937)
-Tetrachloroethene (10.365)
-4-methyl-2-pentanone (10.411)+
-Methyl Methacrylate (10.597)
-Dibromochloromethane (10.724)
-1,3-Dichloropropane (10.876)
-1,2-Dibromoethane (10.997)
-2-Hexanone (11.294)
-Chlorobenzene-D5 (11.555)+
1-Chlorohexane (11.601)+
m+p-Xylenes (11.750)
-o-Xylenes (12.168)
Styrene (12.224)+
-Isopropylbenzene (12.475)
-P-Bromofluorobenzene (12.735)
cis-1,4-Dichloro-2-Butene (12.828)+
-1,1,2,2-Tetrachloroethane (12.875)
-n-Propylbenzene (13.014)
trans-1,4-Dichloro-2-Butene (13.172)
4-Chlorotoluene (13.172)
-1,3,5-Trimethylbenzene (13.070)+
-sec-Butylbenzene (13.563)
-P-Isopropyltoluene (13.730)
-1,3-Dichlorobenzene (13.795)
-1,4-Dichlorobenzene-D4 (13.893)+
-1,2,3-Trimethylbenzene (13.935)
-N-Butylbenzene (14.232)
-1,2-Dichlorobenzene (14.418)
-1,2-Dibromo-3-Chloropropane (15.571)
-1,2,4-Trichlorobenzene (15.617)
-1,2-Dichloroethylene (tot (15.780)
-Hexachlorobutadiene (16.426)+
-Naphthalene (16.807)
-1,2,3-Trichlorobenzene (17.012)

Data File: \\target_server\gg\chem\gcms-d.i\D051718B.b\D1358A.d
Report Date: 21-May-2018 09:41

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-d.i\D051718B.b\D1358A.d
Lab Smp Id: WG228566-8
Inj Date : 17-MAY-2018 12:58 MS Autotune Date: 05-OCT-2017 14:30
Operator : JSS Inst ID: gcms-d.i
Smp Info : WG228566-8
Misc Info : WG228566,WG228547-4
Comment : SW846 5030
Method : \\target_server\gg\chem\gcms-d.i\D051718B.b\D8A05(22)D.m
Meth Date : 18-May-2018 07:15 TCOTE Quant Type: ISTD
Cal Date : 17-MAY-2018 11:09 Cal File: D1356.d
Als bottle: 2 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)	REVIEW CODE
1	Dichlorodifluoromethane	85	1.486	1.486	(0.203)	259858	47.5599	47.6	
2	Chloromethane	50	1.663	1.654	(0.227)	229891	45.8619	45.9	
3	Vinyl chloride	62	1.737	1.728	(0.238)	183870	46.8203	46.8	
4	Bromomethane	94	2.025	2.025	(0.277)	90118	45.3498	45.3	
5	Chloroethane	64	2.146	2.137	(0.293)	84882	46.4315	46.4	
6	Trichlorofluoromethane	101	2.276	2.277	(0.311)	261859	42.4564	42.4	
7	Diethyl Ether	59	2.583	2.583	(0.353)	99201	51.3158	51.3	
8	Tertiary-butyl alcohol	59	3.968	3.969	(0.543)	45680	205.495	205	
9	1,1-Dichloroethene	96	2.788	2.779	(0.381)	108091	47.0423	47.0	
10	Carbon Disulfide	76	2.806	2.807	(0.384)	346067	46.7175	46.7	
11	Freon-113	151	2.834	2.834	(0.387)	88886	47.1651	47.2	
12	Iodomethane	142	2.936	2.937	(0.401)	102826	43.6657	43.7	
13	Acrolein	56	3.160	3.160	(0.432)	83766	195.544	196(R)	
14	Methylene Chloride	84	3.448	3.448	(0.471)	167759	48.1835	48.2	
15	Acetone	43	3.522	3.522	(0.482)	44223	43.3986	43.4	
16	Isobutyl Alcohol	43	7.613	7.613	(1.041)	104067	824.703	825	
17	trans-1,2-Dichloroethene	96	3.652	3.643	(0.499)	156343	49.2363	49.2	
18	Allyl Chloride	41	3.318	3.318	(0.454)	240818	49.8466	49.8	
19	Methyl tert-butyl ether	73	3.810	3.811	(0.521)	411336	49.8228	49.8	
20	Acetonitrile	39	4.136	4.136	(0.565)	39701	460.994	461	
21	Di-isopropyl ether	45	4.368	4.368	(0.597)	522859	47.5561	47.6	
22	Chloroprene	53	4.480	4.480	(0.612)	253925	49.8641	49.9	
23	Propionitrile	54	7.148	7.148	(0.977)	200649	470.116	470	
24	Methacrylonitrile	41	7.185	7.185	(0.982)	963145	474.556	474	

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Report Date: 21-May-2018 09:41

			QUANT SIG					CONCENTRATIONS		
		Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
	25	1,1-Dichloroethane	63	4.517	4.517	(0.617)	322107	50.4576	50.4	
	26	Acrylonitrile	52	4.619	4.610	(0.631)	238936	232.586	232	
	27	Ethyl tertiary-butyl ether	59	4.963	4.963	(0.678)	445057	46.8853	46.9	
	28	Vinyl Acetate	43	4.991	4.982	(0.616)	399110	54.4910	54.5	
	29	cis-1,2-Dichloroethene	96	5.446	5.437	(0.745)	167752	49.9027	49.9	
M	30	1,2-Dichloroethylene (total)	96				324095	99.1390	99.1	
	31	Methyl Methacrylate	41	10.652	10.643	(1.316)	143885	44.6745	44.7	
	32	2,2-Dichloropropane	77	5.651	5.642	(0.773)	214149	47.9369	47.9	
	33	Bromochloromethane	128	5.818	5.809	(0.795)	84976	50.5038	50.5	
	34	Chloroform	83	6.014	6.014	(0.822)	317508	47.5045	47.5	
	35	Carbon Tetrachloride	117	6.237	6.237	(0.770)	227863	47.2619	47.3	
	36	Tetrahydrofuran	42	6.311	6.311	(0.863)	39195	44.8492	44.8	
$	37	Dibromofluoromethane	113	6.376	6.376	(0.872)	186916	48.6537	48.6	
	38	1,1,1-Trichloroethane	97	6.385	6.376	(0.873)	268353	46.5502	46.6	
	39	1,1-Dichloropropene	75	6.627	6.627	(0.819)	233454	48.7690	48.8	
	40	2-Butanone	43	6.655	6.655	(0.910)	67624	44.6456	44.6	
	41	Benzene	78	7.064	7.064	(0.873)	619105	49.8953	49.9	
*	42	Pentafluorobenzene	168	7.315	7.315	(1.000)	313553	50.0000		
	43	Cyclohexane	56	5.790	5.791	(0.792)	254024	49.9154	49.9	
	44	Ethyl Methacrylate	69	9.137	9.137	(1.129)	100004	43.5831	43.6	
$	45	1,2-Dichloroethane-D4	65	7.296	7.297	(0.997)	239236	45.6421	45.6	
	46	Tertiary-amyl methyl ether	73	7.334	7.334	(1.003)	345550	44.9739	45.0	
	47	1,2-Dichloroethane	62	7.408	7.408	(0.915)	260274	44.7742	44.8	
	48	Trichloroethene	95	8.012	8.003	(0.990)	167383	46.9700	47.0	
*	49	1,4-Difluorobenzene	114	8.096	8.096	(1.000)	507874	50.0000		
	50	Dibromomethane	93	8.589	8.589	(1.061)	113066	48.0504	48.0	
	51	1,2-Dichloropropane	63	8.747	8.738	(1.080)	171239	49.7684	49.8	
	52	Bromodichloromethane	83	8.858	8.858	(1.094)	245470	50.3522	50.4	
	53	cis-1,3-dichloropropene	75	9.667	9.667	(1.194)	276494	45.5790	45.6	
	54	1,4-Dioxane	88	9.146	9.137	(1.130)	28178	960.720	961	
$	55	Toluene-D8	98	9.881	9.881	(1.220)	615356	49.7105	49.7	
	56	2-Chloroethylvinylether	63	9.639	9.639	(1.191)	100529	50.3980	50.4	
	57	Toluene	92	9.946	9.937	(1.228)	369878	48.1634	48.2	
	58	4-methyl-2-pentanone	43	10.411	10.411	(1.286)	144374	46.1596	46.2	
	59	Tetrachloroethene	164	10.364	10.364	(0.898)	121312	49.6639	49.7	
	60	trans-1,3-Dichloropropene	75	10.429	10.430	(1.288)	253937	51.4754	51.5	
	61	1,1,2-Trichloroethane	83	10.597	10.597	(1.309)	126383	47.4066	47.4	
	62	Dibromochloromethane	129	10.773	10.774	(0.933)	177476	52.2154	52.2	
	63	1,3-Dichloropropane	76	10.876	10.876	(0.942)	257867	47.3162	47.3	
	64	1,2-Dibromoethane	107	10.996	10.997	(1.358)	152068	47.1957	47.2	
	65	2-Hexanone	43	11.294	11.294	(0.978)	97157	47.2701	47.3	
*	66	Chlorobenzene-D5	117	11.545	11.536	(1.000)	455386	50.0000		
	67	Chlorobenzene	112	11.554	11.554	(1.001)	404901	48.4626	48.5	
	152	1-Chlorohexane	91	11.601	11.601	(1.005)	713114			(aR)
	68	Ethylbenzene	91	11.601	11.601	(1.005)	713114	48.1677	48.2	
	69	1,1,1,2-Tetrachloroethane	131	11.629	11.629	(1.007)	153609	50.4142	50.4	
M	70	Xylenes (total)	106				1670846	150.769	151	
	71	m+p-Xylenes	91	11.749	11.750	(1.018)	1111730	99.3786	99.4	
	72	o-Xylene	91	12.168	12.168	(1.054)	559116	51.3903	51.4	
	73	Styrene	104	12.224	12.224	(1.059)	426364	52.7328	52.7	
	74	Bromoform	173	12.233	12.233	(1.060)	99689	50.4831	50.5	
	75	Isopropylbenzene	105	12.475	12.475	(0.899)	658956	53.5305	53.5	
$	76	P-Bromofluorobenzene	95	12.744	12.735	(1.574)	245917	48.2298	48.2	
	77	cis-1,4-Dichloro-2-Butene	53	12.818	12.809	(0.924)	53847	40.8363	40.8	

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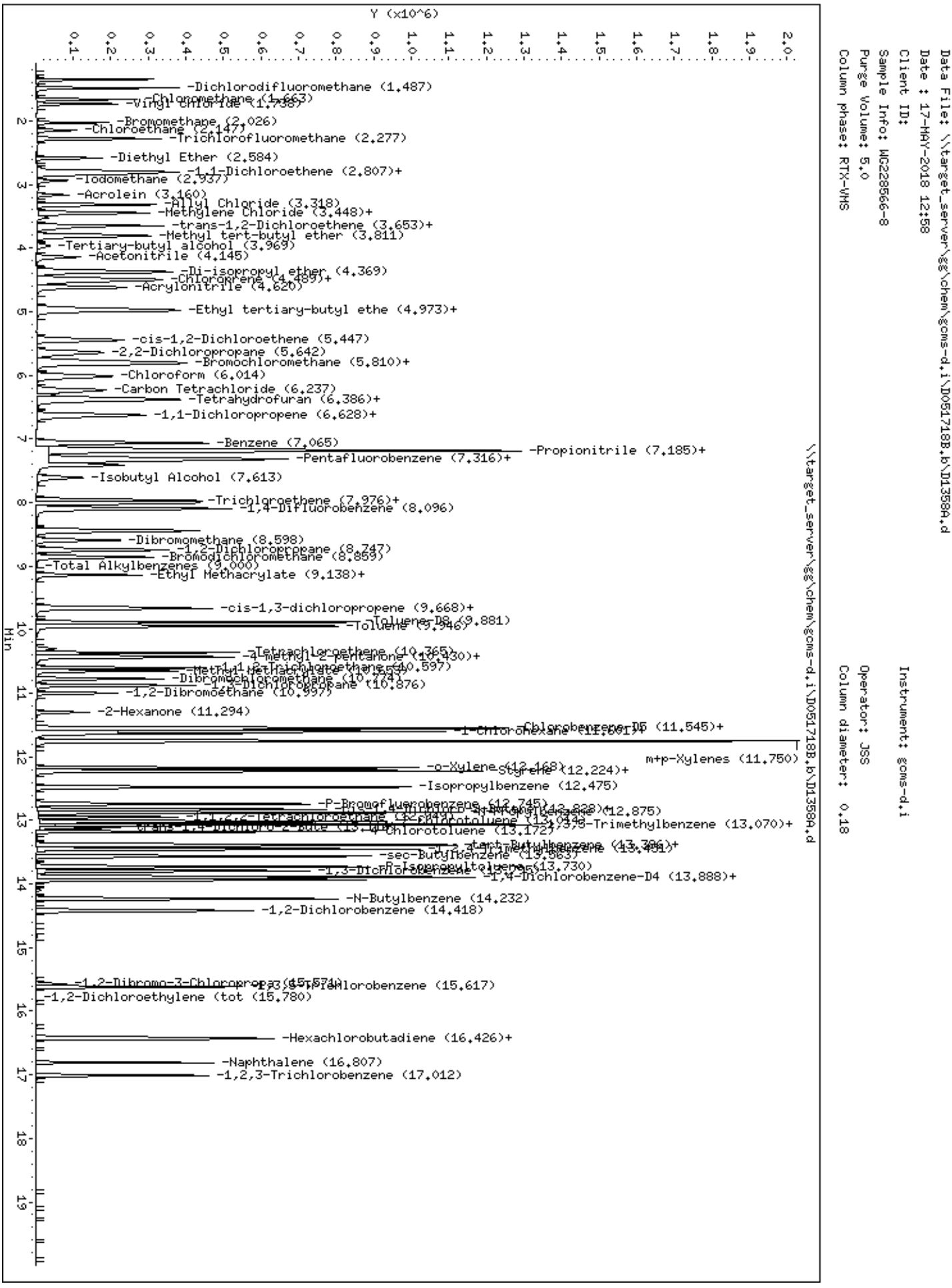
Report Date: 21-May-2018 09:41

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)	REVIEW CODE
	78 trans-1,4-Dichloro-2-Butene	53	13.116	13.116	(0.945)	43368	41.0822	41.1	
	79 Bromobenzene	156	12.837	12.828	(0.925)	166277	49.3465	49.3	
	80 N-Propylbenzene	91	12.874	12.874	(0.928)	806851	48.2804	48.3	
	81 1,1,2,2-Tetrachloroethane	83	12.949	12.949	(0.933)	178913	46.5112	46.5	
	82 1,3,5-Trimethylbenzene	105	13.069	13.060	(0.942)	544531	50.9157	50.9	
	83 2-Chlorotoluene	91	13.014	13.014	(0.938)	478778	49.0311	49.0	
	84 1,2,3-Trichloropropane	75	13.069	13.070	(0.942)	153778	44.8418	44.8	
	85 4-Chlorotoluene	91	13.181	13.172	(0.950)	512206	48.9916	49.0	
	86 tert-Butylbenzene	119	13.376	13.377	(0.964)	511922	50.5407	50.5	
	87 Pentachloroethane	117	13.395	13.395	(0.965)	117686	49.4810	49.5	
	88 1,2,4-Trimethylbenzene	105	13.451	13.451	(0.969)	561552	50.8446	50.8	
	89 P-Isopropyltoluene	119	13.730	13.720	(0.989)	548221	51.4467	51.4	
	90 1,3-Dichlorobenzene	146	13.795	13.795	(0.994)	297270	48.8811	48.9	
*	91 1,4-Dichlorobenzene-D4	152	13.878	13.879	(1.000)	229479	50.0000		
	92 1,4-Dichlorobenzene	146	13.897	13.897	(1.001)	299142	47.2332	47.2	
	93 N-Butylbenzene	91	14.232	14.222	(1.025)	527302	50.5393	50.5	
	94 sec-Butylbenzene	105	13.562	13.562	(0.977)	659938	50.0086	50.0	
	95 1,2-Dichlorobenzene	146	14.427	14.418	(1.040)	280898	49.6320	49.6	
	96 1,2-Dibromo-3-Chloropropane	75	15.570	15.570	(1.122)	26879	40.8874	40.9	
	97 1,3,5-Trichlorobenzene	180	15.617	15.617	(1.125)	190763	49.2015	49.2	
	98 Hexachlorobutadiene	225	16.416	16.407	(1.183)	73485	44.7338	44.7	
	99 1,2,4-Trichlorobenzene	180	16.435	16.434	(1.184)	164745	49.2665	49.3	
	100 1,2,3-Trimethylbenzene	105	13.934	13.934	(1.004)	553531	50.6668	50.7	
	101 Naphthalene	128	16.807	16.806	(1.211)	326952	42.1013	42.1	
	102 1,2,3-Trichlorobenzene	180	17.011	17.011	(1.226)	126862	45.4582	45.4	
	103 Methyl Acetate	43	3.689	3.690	(0.504)	115426	43.6679	43.7	
	104 Methylcyclohexane	83	7.975	7.966	(1.090)	243874	47.0221	47.0	
M	153 Total Alkylbenzenes	100				4160317	352.576	352	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
R - Spike/Surrogate failed recovery limits.


Data File: \\target_server\gs\chem\gcms-d.i\D051718B.b\D1358A.d
Date : 17-MAY-2018 12:58
Client ID:
Sample Info: WG228566-8
Purge Volume: 5.0
Column phase: RTX-VMS
Instrument: gcms-d.i
Operator: JSS
Column diameter: 0.18
\\target_server\gs\chem\gcms-d.i\D051718B.b\D1358A.d
Y (x10^6)
Min
-Dichlorodifluoromethane (1.487)
-Chloromethane (1.663)
-Vinyl Chloride (1.738)
-Bromomethane (2.026)
-Chloroethane (2.147)
-Trichlorofluoromethane (2.277)
-Diethyl Ether (2.584)
-1,1-Dichloroethene (2.807)+
-Iodomethane (2.937)
-Acrolein (3.160)
-Allyl Chloride (3.318)
-Methylene Chloride (3.448)+
-trans-1,2-Dichloroethene (3.653)+
-Methyl tert-butyl ether (3.811)
-Tertiary-butyl alcohol (3.969)
-Acetonitrile (4.145)
-Di-isopropyl ether (4.369)
-Chloroprene (4.489)+
-Acrylonitrile (4.620)
-Ethyl tertiary-butyl ethe (4.973)+
-cis-1,2-Dichloroethene (5.447)
-2,2-Dichloropropane (5.642)
-Bromochloromethane (5.810)+
-Chloroform (6.014)
-Carbon Tetrachloride (6.237)
-Tetrahydrofuran (6.386)+
-1,1-Dichloropropene (6.628)+
-Benzene (7.065)
-Propionitrile (7.185)+
-Pentafluorobenzene (7.316)+
-Isobutyl Alcohol (7.613)
-Trichloroethene (7.976)+
-1,4-Difluorobenzene (8.096)
-Dibromomethane (8.598)
-1,2-Dichloropropane (8.747)
-Bromodichloromethane (8.859)
-Total Alkylbenzenes (9.000)
-Ethyl Methacrylate (9.138)+
-cis-1,3-dichloropropene (9.668)+
-Toluene-D8 (9.881)
-Toluene (9.946)
-Tetrachloroethene (10.365)
-4-methyl-2-pentanone (10.430)+
-Methyl methacrylate (10.597)
-Dibromochloromethane (10.774)
-1,3-Dichloropropane (10.876)
-1,2-Dibromoethane (10.997)
-2-Hexanone (11.294)
-Chlorobenzene-D5 (11.545)+
-1-Chlorohexane (11.661)+
m+p-Xylenes (11.750)
-o-Xylene (12.168)
-Styrene (12.224)+
-Isopropylbenzene (12.475)
-P-Bromofluorobenzene (12.745)
-Bromoform (12.828)+
-1,1,2,2-Tetrachloroethane (12.875)
-4-Chlorotoluene (13.172)
-1,2,4-Trimethylbenzene (13.451)
-sec-Butylbenzene (13.563)
-n-Isopropyltoluene (13.730)
-1,3-Dichlorobenzene (13.770)
-1,4-Dichlorobenzene-D4 (13.888)+
-N-Butylbenzene (14.232)
-1,2-Dichlorobenzene (14.418)
-1,2-Dibromo-3-Chloropropane (15.574)
-1,2,4-Trichlorobenzene (15.617)
-1,2-Dichloroethylene (tot (15.780)
-Hexachlorobutadiene (16.426)+
-Naphthalene (16.807)
-1,2,3-Trichlorobenzene (17.012)

Katahdin
ANALYTICAL SERVICES

Form 6
Initial Calibration Summary

Lab Name : Katahdin Analytical Services
SDG: SL4180
Project : Cornhusker Army Ammunition Plant
Instrument ID: GCMS-W
Lab File IDs : W4026.D W4025.D W4024.D W4029.D W4028.D W4027.D
Column ID:
Calibration Date(s): 18-MAY-18 14:27, 18-MAY-18 17:33

	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Crv					Max	
	5.0000	10.0000	20.0000	50.0000	100.0000	150.0000	New	b	m1	m2	%RSD	%RSD	
Dichlorodifluoromethane	0.39061	0.39334	0.39158	0.37864	0.37740	0.37197	AVG		0.38392		2.34597	15.00000	O
Chloromethane	0.62314	0.57648	0.55974	0.52822	0.50309	0.49627	AVG		0.54782		8.82181	15.00000	O
Vinyl chloride	0.45909	0.45620	0.45333	0.44034	0.44993	0.44268	AVG		0.45026		1.65797	15.00000	O
Bromomethane	0.21229	0.18821	0.21201	0.18619	0.18271	0.17427	AVG		0.19261		8.23727	15.00000	O
Chloroethane	16834	31413	61084	144769	262746	346247	QUA	0.01141	3.34048	3.60775	0.99959	0.99000	O
Trichlorofluoromethane	0.56490	0.54407	0.53132	0.52794	0.53055	0.54724	AVG		0.54100		2.60527	15.00000	O
1,1-Dichloroethene	0.32169	0.33823	0.33668	0.32063	0.31869	0.32780	AVG		0.32729		2.58466	15.00000	O
Carbon Disulfide	1.17931	1.15185	1.13055	1.06473	1.07020	1.06290	AVG		1.10993		4.56371	15.00000	O
Freon-113	0.23952	0.23877	0.24175	0.23169	0.23370	0.23498	AVG		0.23674		1.63372	15.00000	O
Methylene Chloride	0.42508	0.43754	0.42226	0.41489	0.40306	0.40339	AVG		0.41770		3.20478	15.00000	O
Acetone	0.14849	0.15368	0.17064	0.17219	0.13129	0.13969	AVG		0.15266		10.7555(	15.00000	O
trans-1,2-Dichloroethene	0.34745	0.37815	0.35847	0.35620	0.34899	0.34166	AVG		0.35515		3.60686	15.00000	O
Methyl tert-butyl ether	0.88015	0.94422	0.97536	1.03177	0.97526	0.97343	AVG		0.96337		5.16056	15.00000	O
1,1-Dichloroethane	0.65029	0.68162	0.68276	0.65160	0.65957	0.64507	AVG		0.66182		2.48563	15.00000	O
cis-1,2-Dichloroethene	0.39330	0.38709	0.39047	0.38560	0.38371	0.38398	AVG		0.38736		0.98514	15.00000	O
2,2-Dichloropropane	0.28498	0.29988	0.32664	0.36479	0.38152	0.37876	AVG		0.33943		12.2568:	15.00000	O
Bromochloromethane	0.16569	0.17338	0.17440	0.17910	0.17379	0.17190	AVG		0.17304		2.51418	15.00000	O
Chloroform	0.61091	0.62836	0.62634	0.62663	0.61631	0.60267	AVG		0.61854		1.67646	15.00000	O
Carbon Tetrachloride	13719	33051	73707	218045	456558	702906	LNR	0.05717	0.22493		0.99987	0.99000	O
1,1,1-Trichloroethane	0.46566	0.51014	0.50105	0.49332	0.50587	0.50210	AVG		0.49636		3.23164	15.00000	O
1,1-Dichloropropene	0.28821	0.29685	0.30814	0.28503	0.29163	0.27977	AVG		0.29161		3.41454	15.00000	O
2-Butanone	0.22125	0.24503	0.25534	0.24765	0.21340	0.22725	AVG		0.23499		7.09540	15.00000	O
Benzene	0.92809	0.91874	0.92065	0.88892	0.88334	0.84732	AVG		0.89784		3.41982	15.00000	O
1,2-Dichloroethane	0.32950	0.32887	0.31867	0.32409	0.31004	0.30991	AVG		0.32018		2.75162	15.00000	O
Trichloroethene	0.21821	0.22227	0.22210	0.21315	0.21089	0.20360	AVG		0.21504		3.37829	15.00000	O
Dibromomethane	0.13698	0.13031	0.13887	0.13978	0.13119	0.13218	AVG		0.13488		3.07766	15.00000	O
1,2-Dichloropropane	0.22701	0.22886	0.23370	0.23637	0.23592	0.22768	AVG		0.23159		1.82903	15.00000	O
Bromodichloromethane	0.25825	0.27298	0.26907	0.28549	0.28377	0.27973	AVG		0.27488		3.74170	15.00000	O
cis-1,3-dichloropropene	0.29469	0.32826	0.33794	0.36731	0.36596	0.36229	AVG		0.34274		8.32024	15.00000	O
Toluene	0.53656	0.54488	0.54019	0.53992	0.53711	0.52337	AVG		0.53701		1.36023	15.00000	O
4-methyl-2-pentanone	0.26626	0.29528	0.29542	0.29850	0.26605	0.26868	AVG		0.28170		5.74037	15.00000	O
Tetrachloroethene	0.17046	0.16797	0.17648	0.20010	0.16324	0.15945	AVG		0.17295		8.40688	15.00000	O
trans-1,3-Dichloropropene	0.20584	0.24329	0.25337	0.29951	0.30643	0.30264	AVG		0.26851		15.22537	15.00000	W(
1,1,2-Trichloroethane	0.16564	0.17595	0.17472	0.17739	0.16624	0.16851	AVG		0.17141		3.04052	15.00000	O
Dibromochloromethane	0.19938	0.20712	0.21730	0.22742	0.22287	0.22585	AVG		0.21666		5.17528	15.00000	O
1,3-Dichloropropane	0.38035	0.41398	0.41004	0.41540	0.39310	0.39370	AVG		0.40109		3.52512	15.00000	O
1,2-Dibromoethane	0.18065	0.20241	0.20479	0.20985	0.20284	0.20299	AVG		0.20059		5.06076	15.00000	O

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Katahdin
ANALYTICAL SERVICES

Form 6
Initial Calibration Summary

Lab Name : Katahdin Analytical Services
SDG: SL4180
Project : Cornhusker Army Ammunition Plant
Instrument ID: GCMS-W
Lab File IDs : W4026.D W4025.D W4024.D W4029.D W4028.D W4027.D
Column ID:
Calibration Date(s): 18-MAY-18 14:27, 18-MAY-18 17:33

2-Hexanone	0.20654	0.23175	0.24077	0.23549	0.20936	0.21182	AVG		0.22262		6.75079	15.00000	O
Chlorobenzene	0.63839	0.68253	0.65387	0.65298	0.64507	0.63117	AVG		0.65067		2.74347	15.00000	O
Ethylbenzene	0.33457	0.36737	0.36486	0.35403	0.35296	0.34660	AVG		0.35340		3.41435	15.00000	O
1,1,1,2-Tetrachloroethane	0.17767	0.19376	0.19972	0.21377	0.21659	0.21615	AVG		0.20294		7.66997	15.00000	O
m+p-Xylenes	0.41917	0.44753	0.44514	0.42980	0.43199	0.41774	AVG		0.43189		2.90384	15.00000	O
o-Xylene	0.42174	0.43071	0.43305	0.44129	0.43838	0.43244	AVG		0.43293		1.56714	15.00000	O
Styrene	0.69500	0.73879	0.74456	0.74664	0.74775	0.73449	AVG		0.73454		2.72509	15.00000	O
Bromoform	0.13117	0.14567	0.14586	0.16034	0.15844	0.16488	AVG		0.15106		8.28527	15.00000	O
Isopropylbenzene	1.91623	1.95865	1.95744	1.81449	1.81826	1.73543	AVG		1.86675		4.87705	15.00000	O
Bromobenzene	0.53793	0.51979	0.50458	0.50302	0.49916	0.48267	AVG		0.50786		3.72655	15.00000	O
N-Propylbenzene	2.49350	2.53214	2.54935	2.34745	2.32679	2.20540	AVG		2.40910		5.69153	15.00000	O
1,1,2,2-Tetrachloroethane	0.60654	0.61743	0.61517	0.60246	0.57187	0.57743	AVG		0.59848		3.23103	15.00000	O
1,3,5-Trimethylbenzene	1.69813	1.74327	1.73958	1.65798	1.65725	1.58692	AVG		1.68052		3.52480	15.00000	O
2-Chlorotoluene	1.50704	1.51627	1.55885	1.43713	1.44546	1.38154	AVG		1.47438		4.37459	15.00000	O
1,2,3-Trichloropropane	0.50756	0.52950	0.53332	0.51990	0.49552	0.49953	AVG		0.51422		3.06300	15.00000	O
4-Chlorotoluene	1.58106	1.59778	1.57232	1.48976	1.50947	1.44611	AVG		1.53275		3.91734	15.00000	O
tert-Butylbenzene	1.66618	1.71789	1.73427	1.61951	1.69658	1.64934	AVG		1.68063		2.58584	15.00000	O
1,2,4-Trimethylbenzene	1.81851	1.82082	1.84855	1.74099	1.74403	1.66603	AVG		1.77316		3.85594	15.00000	O
P-Isopropyltoluene	1.88427	1.90360	1.95395	1.80265	1.81583	1.74630	AVG		1.85110		4.11488	15.00000	O
1,3-Dichlorobenzene	0.98196	1.01699	1.00487	0.95702	0.95902	0.93698	AVG		0.97614		3.14776	15.00000	O
1,4-Dichlorobenzene	0.99748	1.03610	1.04898	0.97910	0.97306	0.95371	AVG		0.99807		3.74657	15.00000	O
N-Butylbenzene	1.75023	1.82534	1.93445	1.69691	1.71759	1.66101	AVG		1.76426		5.68331	15.00000	O
sec-Butylbenzene	2.25691	2.30579	2.35255	2.16467	2.15842	2.05484	AVG		2.21553		4.95693	15.00000	O
1,2-Dichlorobenzene	0.99916	1.02392	1.03160	0.97004	0.95116	0.93299	AVG		0.98481		4.05186	15.00000	O
1,2-Dibromo-3-Chloropropane	0.11192	0.12517	0.12847	0.13494	0.13289	0.13712	AVG		0.12842		7.14564	15.00000	O
Hexachlorobutadiene	0.31515	0.32637	0.33501	0.29227	0.28556	0.29455	AVG		0.30815		6.57074	15.00000	O
1,2,4-Trichlorobenzene	0.59018	0.60038	0.61644	0.56731	0.57602	0.59248	AVG		0.59047		2.95432	15.00000	O
Naphthalene	1.61818	1.77490	1.76110	1.62722	1.54620	1.61723	AVG		1.65747		5.46260	15.00000	O
1,2,3-Trichlorobenzene	0.56210	0.58819	0.61361	0.52560	0.52510	0.55254	AVG		0.56119		6.23521	15.00000	O
Dibromofluoromethane	0.49907	0.49776	0.48375	0.49547	0.47952	0.49198	AVG		0.49126		1.61735	15.00000	
1,2-Dichloroethane-D4	0.65312	0.65738	0.64468	0.64215	0.61668	0.65646	AVG		0.64508		2.36163	15.00000	
Toluene-D8	1.20008	1.20299	1.20259	1.21844	1.24513	1.21947	AVG		1.21478		1.40673	15.00000	
P-Bromofluorobenzene	0.49639	0.49660	0.48974	0.52056	0.52401	0.53293	AVG		0.51004		3.51693	15.00000	

Legend: O = Kept Original Curve
Y = Failed Minimum RF
W = Failed %RSD Value

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Data File: \\target_server\gg\chem\gcms-w.i\W051818C.b\W4030.D
Report Date: 25-May-2018 12:53

Katahdin Analytical Services

RECOVERY REPORT

Client Name: Client SDG: SDGa01256
Sample Matrix: SOLID Fraction: VOA
Lab Smp Id: WG228635-7
Level: LOW Operator: JSS
Data Type: MS DATA SampleType: LCS
SpikeList File: IND_CHECK4.1.spk Quant Type: ISTD
Sublist File: all.sub
Method File: \\target_server\gg\chem\gcms-w.i\W051818C.b\W8SDI(12)D.m
Misc Info: WG228635,WG228635-4

	SPIKE	COMPOUND	CONC ADDED ug/Kgdrywt	CONC RECOVERED ug/Kgdrywt	% RECOVERED	LIMITS
	1	Dichlorodifluorome	50.0	64.2	128.41*	80-120
	2	Chloromethane	50.0	58.5	117.08	80-120
	3	Vinyl chloride	50.0	55.4	110.77	80-120
	4	Bromomethane	50.0	52.5	104.96	80-120
	5	Chloroethane	50.0	56.1	112.13	80-120
	6	Trichlorofluoromet	50.0	49.6	99.12	80-120
	7	Diethyl Ether	50.0	49.3	98.58	80-120
	8	Tertiary-butyl alc	250	239	95.53	80-120
	9	1,1-Dichloroethene	50.0	44.8	89.50	80-120
	10	Carbon Disulfide	50.0	47.4	94.71	80-120
	11	Freon-113	50.0	48.6	97.25	80-120
	12	Iodomethane	50.0	52.8	105.59	80-120
	13	Acrolein	250	237	94.97	80-120
	14	Methylene Chloride	50.0	46.2	92.51	80-120
	15	Acetone	50.0	47.4	94.73	80-120
	16	Isobutyl Alcohol	1000	964	96.42	80-120
	17	trans-1,2-Dichloro	50.0	48.1	96.17	80-120
	18	Allyl Chloride	50.0	50.9	101.79	80-120
	19	Methyl tert-butyl	50.0	49.8	99.71	80-120
	20	Acetonitrile	500	447	89.47	80-120
	21	Di-isopropyl ether	50.0	50.1	100.28	80-120
	22	Chloroprene	50.0	50.2	100.31	80-120
	23	Propionitrile	500	481	96.20	80-120
	24	Methacrylonitrile	500	484	96.90	80-120
	25	1,1-Dichloroethane	50.0	50.8	101.55	80-120
	26	Acrylonitrile	250	236	94.39	80-120
	27	Ethyl tertiary-but	50.0	52.5	104.94	80-120
	28	Vinyl Acetate	50.0	57.9	115.85	80-120
	29	cis-1,2-Dichloroet	50.0	47.5	95.01	80-120
M	30	1,2-Dichloroethyle	100	95.6	95.59	80-120
	31	Methyl Methacrylat	50.0	53.0	105.99	80-120
	32	2,2-Dichloropropan	50.0	53.8	107.51	80-120
	33	Bromochloromethane	50.0	47.6	95.32	80-120
	34	Chloroform	50.0	48.8	97.67	80-120
	35	Carbon Tetrachlori	50.0	47.8	95.63	80-120
	36	Tetrahydrofuran	50.0	50.2	100.43	80-120
	38	1,1,1-Trichloroeth	50.0	48.4	96.79	80-120
	39	1,1-Dichloropropen	50.0	47.8	95.54	80-120
	40	2-Butanone	50.0	47.6	95.11	80-120
	41	Benzene	50.0	48.0	95.96	80-120

Data File: \\target_server\gg\chem\gcms-w.i\W051818C.b\W4030.D
Report Date: 25-May-2018 12:53

	SPIKE	COMPOUND	CONC ADDED ug/Kgdrywt	CONC RECOVERED ug/Kgdrywt	% RECOVERED	LIMITS
	43	Cyclohexane	50.0	47.6	95.32	80-120
	44	Ethyl Methacrylate	50.0	51.2	102.44	80-120
	46	Tertiary-amyl meth	50.0	52.4	104.71	80-120
	47	1,2-Dichloroethane	50.0	47.6	95.13	80-120
	48	Trichloroethene	50.0	48.3	96.55	80-120
	50	Dibromomethane	50.0	48.2	96.31	80-120
	51	1,2-Dichloropropan	50.0	49.0	98.09	80-120
	52	Bromodichlorometha	50.0	51.1	102.19	80-120
	53	cis-1,3-dichloropr	50.0	48.2	96.45	80-120
	54	1,4-Dioxane	1000	964	96.35	80-120
	56	2-Chloroethylviny	50.0	0.00	*	80-120
	57	Toluene	50.0	49.0	97.93	80-120
	58	4-methyl-2-pentano	50.0	49.9	99.89	80-120
	59	Tetrachloroethene	50.0	46.6	93.29	80-120
	60	trans-1,3-Dichloro	50.0	52.7	105.45	80-120
	61	1,1,2-Trichloroeth	50.0	46.7	93.46	80-120
	62	Dibromochlorometha	50.0	50.6	101.19	80-120
	63	1,3-Dichloropropan	50.0	47.7	95.35	80-120
	64	1,2-Dibromoethane	50.0	47.9	95.76	80-120
	65	2-Hexanone	50.0	51.0	102.01	80-120
	67	Chlorobenzene	50.0	48.7	97.32	80-120
	152	1-Chlorohexane	50.0	0.00	0.00*	80-120
	68	Ethylbenzene	50.0	48.7	97.50	80-120
	69	1,1,1,2-Tetrachlor	50.0	50.2	100.33	80-120
M	70	Xylenes (total)	150	146	97.47	80-120
	71	m+p-Xylenes	100	97.4	97.44	80-120
	72	o-Xylene	50.0	48.8	97.53	80-120
	73	Styrene	50.0	48.7	97.49	80-120
	74	Bromoform	50.0	50.2	100.48	80-120
	75	Isopropylbenzene	50.0	51.2	102.32	80-120
	77	cis-1,4-Dichloro-2	50.0	49.2	98.46	80-120
	78	trans-1,4-Dichloro	50.0	50.8	101.58	80-120
	79	Bromobenzene	50.0	48.2	96.51	80-120
	80	N-Propylbenzene	50.0	49.3	98.69	80-120
	81	1,1,2,2-Tetrachlor	50.0	49.2	98.46	80-120
	82	1,3,5-Trimethylben	50.0	50.0	99.91	80-120
	83	2-Chlorotoluene	50.0	48.9	97.75	80-120
	84	1,2,3-Trichloropro	50.0	47.7	95.47	80-120
	85	4-Chlorotoluene	50.0	48.9	97.90	80-120
	86	tert-Butylbenzene	50.0	50.0	99.90	80-120
	87	Pentachloroethane	50.0	54.7	109.36	80-120
	88	1,2,4-Trimethylben	50.0	49.9	99.86	80-120
	89	P-Isopropyltoluene	50.0	50.1	100.19	80-120
	90	1,3-Dichlorobenzen	50.0	49.5	98.98	80-120
	92	1,4-Dichlorobenzen	50.0	49.3	98.57	80-120
	93	N-Butylbenzene	50.0	50.6	101.14	80-120
	94	sec-Butylbenzene	50.0	49.8	99.56	80-120
	95	1,2-Dichlorobenzen	50.0	49.5	98.94	80-120
	96	1,2-Dibromo-3-Chlo	50.0	45.8	91.64	80-120
	97	1,3,5-Trichloroben	50.0	49.7	99.42	80-120
	98	Hexachlorobutadien	50.0	49.0	97.96	80-120
	99	1,2,4-Trichloroben	50.0	49.2	98.32	80-120
	100	1,2,3-Trimethylben	50.0	50.9	101.81	80-120
	101	Naphthalene	50.0	50.7	101.38	80-120

Data File: \\target_server\gg\chem\gcms-w.i\W051818C.b\W4030.D
Report Date: 25-May-2018 12:53

SPIKE COMPOUND	CONC ADDED ug/Kgdrywt	CONC RECOVERED ug/Kgdrywt	% RECOVERED	LIMITS
102 1,2,3-Trichloroben	50.0	49.6	99.20	80-120
103 Methyl Acetate	50.0	44.9	89.76	80-120
104 Methylcyclohexane	50.0	50.2	100.30	80-120
M 153 Total Alkylbenzene	350	350	99.89	80-120

SURROGATE COMPOUND	AMOUNT ADDED ug/kg	AMOUNT RECOVERED ug/kg	% RECOVERED	LIMITS
$ 37 Dibromofluorometha	50.0	48.7	97.44	64-130
$ 45 1,2-Dichloroethane	50.0	48.1	96.13	58-134
$ 55 Toluene-D8	50.0	49.8	99.51	67-118
$ 76 P-Bromofluorobenze	50.0	49.4	98.76	47-119

Data File: \\target_server\gg\chem\gcms-w.i\W051818C.b\W4024.D
Report Date: 25-May-2018 11:52

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W051818C.b\W4024.D
Lab Smp Id: WG228635-3
Inj Date : 18-MAY-2018 14:27
Operator : JSS   Inst ID: gcms-w.i
Smp Info : WG228635-3
Misc Info :
Comment   : SW846 5035
Method   : \\target_server\gg\chem\gcms-w.i\W051818C.b\W8SDI(12)D.m
Meth Date : 25-May-2018 11:52 gcms-w.i   Quant Type: ISTD
Cal Date : 18-MAY-2018 14:27   Cal File: W4024.D
Als bottle: 2   Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE   Compound Sublist: all.sub
Target Version: 4.12

Concentration Formula: Amt * DF * (100/(100-M))*(Vt/Ws) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
M	0.00000	% Moisture
Vt	5.000	Volume of DI Water (mL)
Ws	5.000	Weight of Sample (g)
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/kg)	AMOUNTS ON-COL (ug/kg)	REVIEW CODE
1	Dichlorodifluoromethane	85	1.963	1.958	(0.244)	93159	20.0000	(a)	
2	Chloromethane	50	2.199	2.173	(0.273)	133165	20.0000	(a)	
3	Vinyl chloride	62	2.256	2.252	(0.280)	107850	20.0000	(a)	
4	Bromomethane	94	2.599	2.595	(0.322)	50437	20.0000	(a)	
5	Chloroethane	64	2.735	2.723	(0.339)	61084	20.0000	(a)	
6	Trichlorofluoromethane	101	2.878	2.873	(0.357)	126404	20.0000	(a)	
7	Diethyl Ether	59	3.214	3.209	(0.399)	79411	20.0000	(a)	
8	Tertiary-butyl alcohol	59	4.708	4.682	(0.584)	47626	100.000	(a)	
9	1,1-Dichloroethene	96	3.457	3.445	(0.429)	80098	20.0000	(a)	
10	Carbon Disulfide	76	3.500	3.488	(0.434)	268963	20.0000	(a)	
11	Freon-113	151	3.500	3.488	(0.434)	57514	20.0000	(a)	
12	Iodomethane	142	3.635	3.624	(0.451)	53506	20.0000	(a)	
13	Acrolein	56	3.878	3.867	(0.481)	89882	100.000	(a)	
14	Methylene Chloride	84	4.186	4.174	(0.519)	100457	20.0000	(a)	
15	Acetone	43	4.272	4.253	(0.530)	202980	100.000	(a)	
16	Isobutyl Alcohol	43	8.339	8.320	(1.035)	89563	500.000	(a)	
17	trans-1,2-Dichloroethene	96	4.407	4.389	(0.547)	85281	20.0000	(a)	
18	Allyl Chloride	41	4.043	4.031	(0.502)	142709	20.0000	(a)	
19	Methyl tert-butyl ether	73	4.565	4.546	(0.566)	232043	20.0000	(a)	
20	Acetonitrile	39	4.965	4.946	(0.616)	33853	200.000	(a)	
21	Di-isopropyl ether	45	5.151	5.132	(0.639)	304106	20.0000	(a)	
22	Chloroprene	53	5.322	5.304	(0.660)	133575	20.0000	(a)	

Data File: \\target_server\gg\chem\gcms-w.i\W051818C.b\W4024.D
Report Date: 25-May-2018 11:52

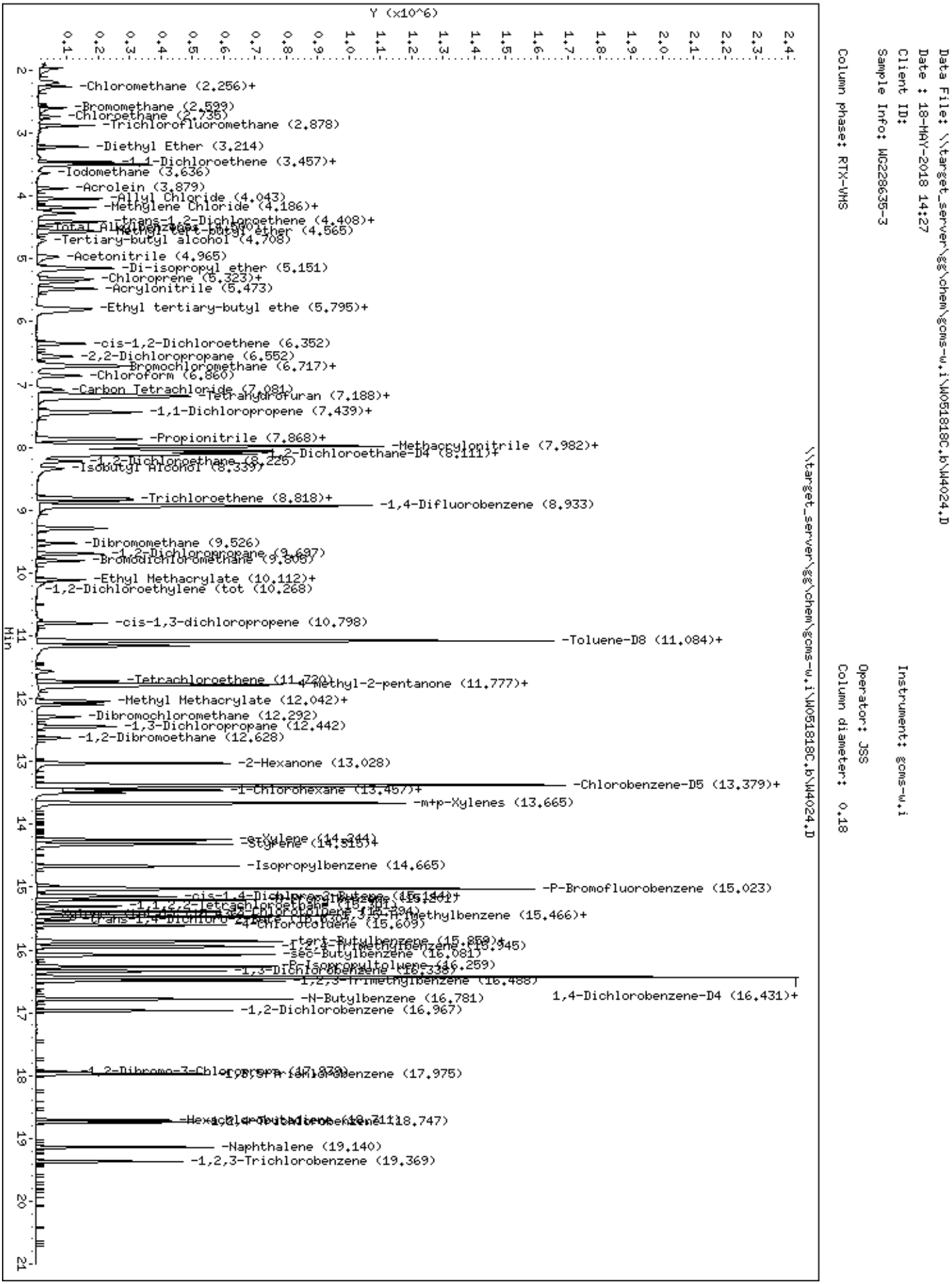
			QUANT SIG					AMOUNTS		
		Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ug/kg)	ON-COL (ug/kg)	REVIEW CODE
	23	Propionitrile	54	7.960	7.941	(0.988)	161626	200.000	(a)	
	24	Methacrylonitrile	41	7.981	7.970	(0.990)	673808	200.000	(a)	
	25	1,1-Dichloroethane	63	5.365	5.347	(0.666)	162431	20.0000	(a)	
	26	Acrylonitrile	52	5.472	5.454	(0.679)	172402	100.000	(a)	
	27	Ethyl tertiary-butyl ether	59	5.794	5.775	(0.719)	200341	20.0000	(a)	
	28	Vinyl Acetate	43	5.837	5.818	(0.654)	192338	20.0000	(a)	
	29	cis-1,2-Dichloroethene	96	6.345	6.333	(0.787)	92895	20.0000	(a)	
M	30	1,2-Dichloroethylene (total)	96				178176	40.0000	(a)	
	31	Methyl Methacrylate	41	12.091	12.080	(1.354)	87927	20.0000	(a)	
	32	2,2-Dichloropropane	77	6.552	6.533	(0.813)	77710	20.0000	(a)	
	33	Bromochloromethane	128	6.716	6.698	(0.833)	41490	20.0000	(a)	
	34	Chloroform	83	6.859	6.841	(0.851)	149009	20.0000	(a)	
	35	Carbon Tetrachloride	117	7.081	7.069	(0.793)	73707	20.0000	(a)	
	36	Tetrahydrofuran	42	7.159	7.134	(0.888)	184372	100.000	(a)	
$	37	Dibromofluoromethane	113	7.188	7.176	(0.892)	287718	50.0000	(a)	
	38	1,1,1-Trichloroethane	97	7.209	7.198	(0.894)	119201	20.0000	(a)	
	39	1,1-Dichloropropene	75	7.438	7.420	(0.833)	124257	20.0000	(a)	
	40	2-Butanone	43	7.452	7.434	(0.925)	303731	100.000	(a)	
	41	Benzene	78	7.867	7.856	(0.881)	371249	20.0000	(a)	
*	42	Pentafluorobenzene	168	8.060	8.041	(1.000)	594761	50.0000		
	43	Cyclohexane	56	6.695	6.683	(0.831)	157164	20.0000	(a)	
	44	Ethyl Methacrylate	69	10.111	10.093	(1.132)	66945	20.0000	(a)	
$	45	1,2-Dichloroethane-D4	65	8.110	8.091	(1.006)	383433	50.0000	(a)	
	46	Tertiary-amyl methyl ether	73	8.103	8.084	(1.005)	175126	20.0000	(a)	
	47	1,2-Dichloroethane	62	8.224	8.206	(0.921)	128502	20.0000	(a)	
	48	Trichloroethene	95	8.846	8.835	(0.990)	89563	20.0000	(a)	
*	49	1,4-Difluorobenzene	114	8.932	8.913	(1.000)	1008119	50.0000		
	50	Dibromomethane	93	9.518	9.514	(1.066)	56001	20.0000	(a)	
	51	1,2-Dichloropropane	63	9.697	9.678	(1.086)	94237	20.0000	(a)	
	52	Bromodichloromethane	83	9.804	9.793	(1.098)	108501	20.0000	(a)	
	53	cis-1,3-dichloropropene	75	10.798	10.786	(1.209)	136275	20.0000	(a)	
	54	1,4-Dioxane	88	10.154	10.143	(1.137)	26702	400.000	(a)	
$	55	Toluene-D8	98	11.084	11.072	(1.241)	1212358	50.0000	(a)	
	57	Toluene	92	11.155	11.144	(1.249)	217832	20.0000	(a)	
	58	4-methyl-2-pentanone	43	11.777	11.766	(1.318)	595633	100.000	(a)	
	59	Tetrachloroethene	164	11.727	11.715	(0.877)	66363	20.0000	(a)	
	60	trans-1,3-Dichloropropene	75	11.806	11.794	(1.322)	102170	20.0000	(a)	
	61	1,1,2-Trichloroethane	83	12.041	12.030	(1.348)	70456	20.0000	(a)	
	62	Dibromochloromethane	129	12.292	12.280	(0.919)	81712	20.0000	(a)	
	63	1,3-Dichloropropane	76	12.442	12.430	(0.930)	154186	20.0000	(a)	
	64	1,2-Dibromoethane	107	12.628	12.616	(1.414)	82582	20.0000	(a)	
	65	2-Hexanone	43	13.028	13.016	(0.974)	452678	100.000	(a)	
*	66	Chlorobenzene-D5	117	13.378	13.367	(1.000)	940076	50.0000		
	67	Chlorobenzene	112	13.400	13.388	(1.002)	245876	20.0000	(a)	
	152	1-Chlorohexane	91	13.457	13.445	(1.670)	440435	20.0000	(a)	
	68	Ethylbenzene	106	13.457	13.445	(1.006)	137198	20.0000	(a)	
	69	1,1,1,2-Tetrachloroethane	131	13.500	13.488	(1.009)	75099	20.0000	(a)	
M	70	Xylenes (total)	106				497609	60.0000	(a)	
	71	m+p-Xylenes	106	13.664	13.653	(1.021)	334770	40.0000	(a)	
	72	o-Xylene	106	14.243	14.232	(1.065)	162839	20.0000	(a)	
	73	Styrene	104	14.315	14.310	(1.070)	279979	20.0000	(a)	
	74	Bromoform	173	14.329	14.324	(1.071)	54848	20.0000	(a)	
	75	Isopropylbenzene	105	14.665	14.653	(0.893)	407550	20.0000	(a)	
$	76	P-Bromofluorobenzene	95	15.022	15.011	(1.682)	493716	50.0000	(a)	

Data File: \\target_server\gg\chem\gcms-w.i\W051818C.b\W4024.D
Report Date: 25-May-2018 11:52

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/kg)	ON-COL (ug/kg)	REVIEW CODE
77	cis-1,4-Dichloro-2-Butene	53	15.129	15.118	(0.921)	33917	20.0000	(a)	
78	trans-1,4-Dichloro-2-Butene	53	15.530	15.518	(0.945)	26107	20.0000	(a)	
79	Bromobenzene	156	15.151	15.139	(0.922)	105057	20.0000	(a)	
80	N-Propylbenzene	91	15.201	15.197	(0.925)	530789	20.0000	(a)	
81	1,1,2,2-Tetrachloroethane	83	15.301	15.297	(0.931)	128082	20.0000	(a)	
82	1,3,5-Trimethylbenzene	105	15.458	15.454	(0.941)	362190	20.0000	(a)	
83	2-Chlorotoluene	91	15.394	15.382	(0.937)	324562	20.0000	(a)	
84	1,2,3-Trichloropropane	75	15.465	15.454	(0.941)	111041	20.0000	(a)	
85	4-Chlorotoluene	91	15.608	15.597	(0.950)	327366	20.0000	(a)	
86	tert-Butylbenzene	119	15.858	15.847	(0.965)	361085	20.0000	(a)	
87	Pentachloroethane	117	15.873	15.868	(0.966)	62316	20.0000	(a)	
88	1,2,4-Trimethylbenzene	105	15.944	15.940	(0.970)	384880	20.0000	(a)	
89	P-Isopropyltoluene	119	16.266	16.254	(0.990)	406824	20.0000	(a)	
90	1,3-Dichlorobenzene	146	16.337	16.333	(0.994)	209219	20.0000	(a)	
* 91	1,4-Dichlorobenzene-D4	152	16.430	16.426	(1.000)	520515	50.0000		
92	1,4-Dichlorobenzene	146	16.452	16.440	(1.001)	218403	20.0000	(a)	
93	N-Butylbenzene	91	16.781	16.769	(1.021)	402765	20.0000	(a)	
94	sec-Butylbenzene	105	16.080	16.069	(0.979)	489816	20.0000	(a)	
95	1,2-Dichlorobenzene	146	16.966	16.955	(1.033)	214786	20.0000	(a)	
96	1,2-Dibromo-3-Chloropropane	75	17.939	17.934	(1.092)	26748	20.0000	(a)	
97	1,3,5-Trichlorobenzene	180	17.974	17.963	(2.230)	148848	20.0000	(a)	
98	Hexachlorobutadiene	225	18.711	18.699	(1.139)	69752	20.0000	(a)	
99	1,2,4-Trichlorobenzene	180	18.746	18.735	(1.141)	128346	20.0000	(a)	
100	1,2,3-Trimethylbenzene	105	16.488	16.476	(2.046)	391967	20.0000	(a)	
101	Naphthalene	128	19.139	19.135	(1.165)	366672	20.0000	(a)	
102	1,2,3-Trichlorobenzene	180	19.368	19.357	(1.179)	127758	20.0000	(a)	
103	Methyl Acetate	43	4.436	4.417	(0.550)	88781	20.0000	(a)	
104	Methylcyclohexane	83	8.818	8.799	(1.094)	145997	20.0000	(a)	
M 153	Total Alkylbenzenes	100				2938349	20.0000	(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).


Data File: \\target_server\gg\chem\gcms-w.i\W051818C.b\W4024.D
Date : 18-MAY-2018 14:27
Client ID:
Sample Info: WG228635-3
Column phase: RTX-VMS
Instrument: gcms-w.i
Operator: JSS
Column diameter: 0.18
\\target_server\gg\chem\gcms-w.i\W051818C.b\W4024.D
Y (x10^6)
Min
-Chloromethane (2.256)+
-Bromomethane (2.599)
-Chloroethane (2.735)
-Trichlorofluoromethane (2.878)
-Diethyl Ether (3.214)
-1,1-Dichloroethene (3.457)+
-Iodomethane (3.636)
-Acrolein (3.879)
-Allyl Chloride (4.043)
-Methylene Chloride (4.186)+
-trans-1,2-Dichloroethene (4.408)+
-Methyl tert-butyl ether (4.565)
-Tertiary-butyl alcohol (4.708)
-Acetonitrile (4.965)
-Di-isopropyl ether (5.151)
-Chloroprene (5.323)+
-Acrylonitrile (5.473)
-Ethyl tertiary-butyl ethe (5.795)+
-cis-1,2-Dichloroethene (6.352)
-2,2-Dichloropropane (6.552)
-Bromochloromethane (6.717)+
-Chloroform (6.860)
-Carbon Tetrachloride (7.081)
-Tetrahydrofuran (7.188)+
-1,1-Dichloropropene (7.439)+
-Propionitrile (7.868)+
-Methacrylonitrile (7.982)+
-1,2-Dichloroethane-D4 (8.111)+
-1,2-Dichloroethane (8.225)
-Isobutyl Alcohol (8.339)
-Trichloroethene (8.818)+
-1,4-Difluorobenzene (8.933)
-Dibromomethane (9.526)
-1,2-Dichloropropane (9.697)
-Bromodichloromethane (9.805)
-Ethyl Methacrylate (10.112)+
-1,2-Dichloroethylene (tot (10.268)
-cis-1,3-dichloropropene (10.798)
-Toluene-D8 (11.084)+
-Tetrachloroethene (11.720)
-4-methyl-2-pentanone (11.777)+
-Methyl Methacrylate (12.042)+
-Dibromochloromethane (12.292)
-1,3-Dichloropropane (12.442)
-1,2-Dibromoethane (12.628)
-2-Hexanone (13.028)
-Chlorobenzene-D5 (13.379)+
-1-Chlorohexane (13.457)+
-m+p-Xylenes (13.665)
-Isopropylbenzene (14.665)
-P-Bromofluorobenzene (15.023)
-4-Chlorotoluene (15.609)
-tert-Butylbenzene (15.859)+
-sec-Butylbenzene (16.081)
-P-Isopropyltoluene (16.259)
-1,3-Dichlorobenzene (16.338)
-1,2,3-Trimethylbenzene (16.488)
1,4-Dichlorobenzene-D4 (16.431)+
-N-Butylbenzene (16.781)
-1,2-Dichlorobenzene (16.967)
-1,2-Dibromo-3-Chloropropa (17.879)
-1,3,5-Trichlorobenzene (17.975)
-Naphthalene (19.140)
-1,2,3-Trichlorobenzene (19.369)

Data File: \\target_server\gg\chem\gcms-w.i\W051818C.b\W4025.D
Report Date: 25-May-2018 11:52

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W051818C.b\W4025.D
Lab Smp Id: WG228635-2
Inj Date : 18-MAY-2018 15:04
Operator : JSS   Inst ID: gcms-w.i
Smp Info : WG228635-2
Misc Info :
Comment   : SW846 5035
Method   : \\target_server\gg\chem\gcms-w.i\W051818C.b\W8SDI(12)D.m
Meth Date : 25-May-2018 11:52 gcms-w.i   Quant Type: ISTD
Cal Date : 18-MAY-2018 15:04   Cal File: W4025.D
Als bottle: 3   Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP RTE   Compound Sublist: all.sub
Target Version: 4.12

Concentration Formula: Amt * DF * (100/(100-M))*(Vt/Ws) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
M	0.00000	% Moisture
Vt	5.000	Volume of DI Water (mL)
Ws	5.000	Weight of Sample (g)
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/kg)	AMOUNTS ON-COL (ug/kg)	REVIEW CODE
1	Dichlorodifluoromethane	85	1.962	1.958	(0.244)	46431	10.0000	10.0	
2	Chloromethane	50	2.191	2.173	(0.272)	68049	10.0000	10.3	
3	Vinyl chloride	62	2.255	2.252	(0.280)	53851	10.0000	10.1	
4	Bromomethane	94	2.599	2.595	(0.322)	22217	10.0000	8.9	
5	Chloroethane	64	2.734	2.723	(0.339)	31413	10.0000	10.4	
6	Trichlorofluoromethane	101	2.884	2.873	(0.358)	64224	10.0000	10.2	
7	Diethyl Ether	59	3.220	3.209	(0.400)	39718	10.0000	10.1	
8	Tertiary-butyl alcohol	59	4.707	4.682	(0.584)	20815	50.0000	44.0	
9	1,1-Dichloroethene	96	3.456	3.445	(0.429)	39926	10.0000	10.0	
10	Carbon Disulfide	76	3.499	3.488	(0.434)	135968	10.0000	10.2	
11	Freon-113	151	3.492	3.488	(0.433)	28185	10.0000	9.9	
12	Iodomethane	142	3.635	3.624	(0.451)	19400	10.0000	7.3	
13	Acrolein	56	3.878	3.867	(0.481)	44809	50.0000	50.2	
14	Methylene Chloride	84	4.185	4.174	(0.519)	51648	10.0000	10.4(a)	
15	Acetone	43	4.271	4.253	(0.530)	90703	50.0000	45.0	
16	Isobutyl Alcohol	43	8.346	8.320	(1.035)	38068	200.000	214	
17	trans-1,2-Dichloroethene	96	4.407	4.389	(0.547)	44638	10.0000	10.5	
18	Allyl Chloride	41	4.042	4.031	(0.502)	71397	10.0000	10.1	
19	Methyl tert-butyl ether	73	4.564	4.546	(0.566)	111459	10.0000	9.7	
20	Acetonitrile	39	4.957	4.946	(0.615)	16470	100.000	98.0	
21	Di-isopropyl ether	45	5.150	5.132	(0.639)	151744	10.0000	10.0	
22	Chloroprene	53	5.322	5.304	(0.660)	66857	10.0000	10.1	

Data File: \\target_server\gg\chem\gcms-w.i\W051818C.b\W4025.D
Report Date: 25-May-2018 11:52

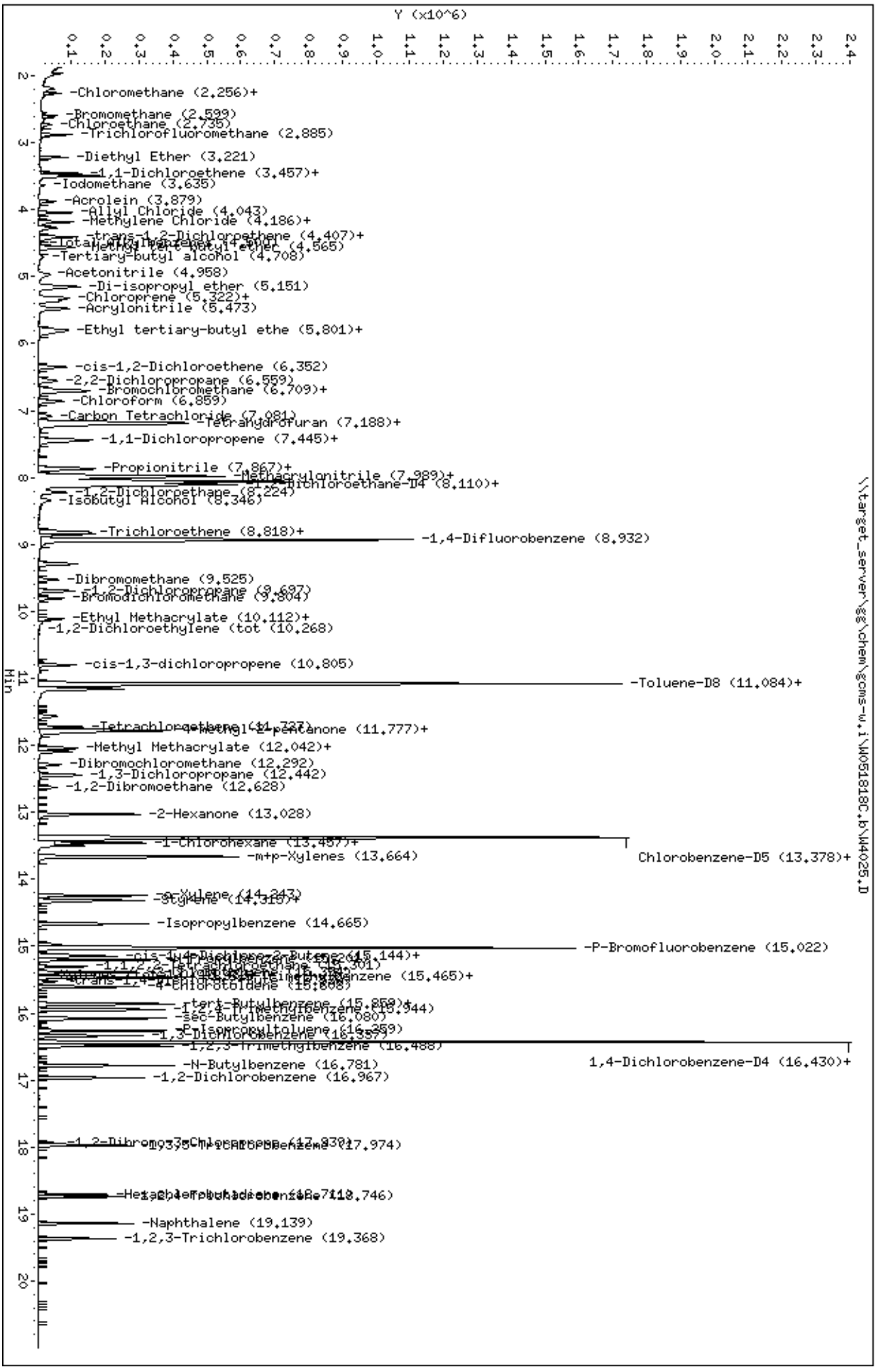
		Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/kg)	ON-COL (ug/kg)	REVIEW CODE
	23	Propionitrile	54	7.960	7.941	(0.988)	81399	100.000	102	
	24	Methacrylonitrile	41	7.988	7.970	(0.991)	340340	100.000	102	
	25	1,1-Dichloroethane	63	5.365	5.347	(0.666)	80460	10.0000	10	
	26	Acrylonitrile	52	5.472	5.454	(0.679)	84204	50.0000	49.2	
	27	Ethyl tertiary-butyl ether	59	5.794	5.775	(0.719)	97220	10.0000	9.8	
	28	Vinyl Acetate	43	5.837	5.818	(0.653)	87626	10.0000	9.1	
	29	cis-1,2-Dichloroethene	96	6.351	6.333	(0.788)	45693	10.0000	9.9	
M	30	1,2-Dichloroethylene (total)	96				90331	20.0000	(a)	
	31	Methyl Methacrylate	41	12.091	12.080	(1.354)	41420	10.0000	9.4	
	32	2,2-Dichloropropane	77	6.559	6.533	(0.814)	35399	10.0000	9.2	
	33	Bromochloromethane	128	6.716	6.698	(0.833)	20466	10.0000	9.9	
	34	Chloroform	83	6.859	6.841	(0.851)	74173	10.0000	10.0	
	35	Carbon Tetrachloride	117	7.087	7.069	(0.794)	33051	10.0000	9.0	
	36	Tetrahydrofuran	42	7.166	7.134	(0.889)	90695	50.0000	49.6	
$	37	Dibromofluoromethane	113	7.188	7.176	(0.892)	293788	50.0000	51.4	
	38	1,1,1-Trichloroethane	97	7.216	7.198	(0.895)	60218	10.0000	10.2	
	39	1,1-Dichloropropene	75	7.438	7.420	(0.833)	59909	10.0000	9.6	
	40	2-Butanone	43	7.452	7.434	(0.925)	144620	50.0000	48.0	
	41	Benzene	78	7.867	7.856	(0.881)	185415	10.0000	10	
*	42	Pentafluorobenzene	168	8.060	8.041	(1.000)	590215	50.0000		
	43	Cyclohexane	56	6.694	6.683	(0.831)	74535	10.0000	9.6	
	44	Ethyl Methacrylate	69	10.111	10.093	(1.132)	31826	10.0000	9.5	
$	45	1,2-Dichloroethane-D4	65	8.110	8.091	(1.006)	387995	50.0000	51.0	
	46	Tertiary-amyl methyl ether	73	8.110	8.084	(1.006)	86671	10.0000	10	
	47	1,2-Dichloroethane	62	8.224	8.206	(0.921)	66370	10.0000	10.3	
	48	Trichloroethene	95	8.846	8.835	(0.990)	44858	10.0000	10.0	
*	49	1,4-Difluorobenzene	114	8.932	8.913	(1.000)	1009070	50.0000		
	50	Dibromomethane	93	9.518	9.514	(1.066)	26299	10.0000	9.4	
	51	1,2-Dichloropropane	63	9.696	9.678	(1.086)	46187	10.0000	9.8	
	52	Bromodichloromethane	83	9.804	9.793	(1.098)	55092	10.0000	10.1	
	53	cis-1,3-dichloropropene	75	10.804	10.786	(1.210)	66248	10.0000	9.7	
	54	1,4-Dioxane	88	10.168	10.143	(1.138)	12862	200.000	192	
$	55	Toluene-D8	98	11.083	11.072	(1.241)	1213897	50.0000	50.0	
	57	Toluene	92	11.162	11.144	(1.250)	109965	10.0000	10.1	
	58	4-methyl-2-pentanone	43	11.777	11.766	(1.319)	297963	50.0000	50.0	
	59	Tetrachloroethene	164	11.727	11.715	(0.877)	31371	10.0000	9.5	
	60	trans-1,3-Dichloropropene	75	11.812	11.794	(1.323)	49100	10.0000	9.6	
	61	1,1,2-Trichloroethane	83	12.041	12.030	(1.348)	35510	10.0000	10.1	
	62	Dibromochloromethane	129	12.291	12.280	(0.919)	38683	10.0000	9.5	
	63	1,3-Dichloropropane	76	12.448	12.430	(0.931)	77316	10.0000	10.1	
	64	1,2-Dibromoethane	107	12.627	12.616	(1.414)	40850	10.0000	9.9	
	65	2-Hexanone	43	13.027	13.016	(0.974)	216412	50.0000	48.1	
*	66	Chlorobenzene-D5	117	13.378	13.367	(1.000)	933821	50.0000		
	67	Chlorobenzene	112	13.399	13.388	(1.002)	127473	10.0000	10.4	
	152	1-Chlorohexane	91	13.456	13.445	(1.670)	220411	10.0000	(a)	
	68	Ethylbenzene	106	13.456	13.445	(1.006)	68612	10.0000	10.1	
	69	1,1,1,2-Tetrachloroethane	131	13.499	13.488	(1.009)	36187	10.0000	9.7	
M	70	Xylenes (total)	106				247605	30.0000	(a)	
	71	m+p-Xylenes	106	13.664	13.653	(1.021)	167164	20.0000	20.1	
	72	o-Xylene	106	14.243	14.232	(1.065)	80441	10.0000	9.9	
	73	Styrene	104	14.314	14.310	(1.070)	137980	10.0000	9.9	
	74	Bromoform	173	14.328	14.324	(1.071)	27206	10.0000	10	
	75	Isopropylbenzene	105	14.664	14.653	(0.893)	205214	10.0000	10.0	
$	76	P-Bromofluorobenzene	95	15.022	15.011	(1.682)	501109	50.0000	50.7	

Data File: \\target_server\gg\chem\gcms-w.i\W051818C.b\W4025.D
Report Date: 25-May-2018 11:52

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/kg)	AMOUNTS ON-COL (ug/kg)	REVIEW CODE
	77 cis-1,4-Dichloro-2-Butene	53	15.129	15.118	(0.921)	16025	10.0000	9.4	
	78 trans-1,4-Dichloro-2-Butene	53	15.529	15.518	(0.945)	12956	10.0000	9.9	
	79 Bromobenzene	156	15.150	15.139	(0.922)	54460	10.0000	10.3	
	80 N-Propylbenzene	91	15.200	15.197	(0.925)	265301	10.0000	9.9	
	81 1,1,2,2-Tetrachloroethane	83	15.301	15.297	(0.931)	64690	10.0000	10.0	
	82 1,3,5-Trimethylbenzene	105	15.458	15.454	(0.941)	182648	10.0000	10.0	
	83 2-Chlorotoluene	91	15.393	15.382	(0.937)	158865	10.0000	9.7	
	84 1,2,3-Trichloropropane	75	15.465	15.454	(0.941)	55477	10.0000	9.9	
	85 4-Chlorotoluene	91	15.608	15.597	(0.950)	167405	10.0000	10.2	
	86 tert-Butylbenzene	119	15.858	15.847	(0.965)	179989	10.0000	9.9	
	87 Pentachloroethane	117	15.872	15.868	(0.966)	30583	10.0000	9.8	
	88 1,2,4-Trimethylbenzene	105	15.944	15.940	(0.970)	190774	10.0000	9.8	
	89 P-Isopropyltoluene	119	16.265	16.254	(0.990)	199447	10.0000	9.7	
	90 1,3-Dichlorobenzene	146	16.337	16.333	(0.994)	106554	10.0000	10.1	
*	91 1,4-Dichlorobenzene-D4	152	16.430	16.426	(1.000)	523867	50.0000		
	92 1,4-Dichlorobenzene	146	16.451	16.440	(1.001)	108556	10.0000	9.9	
	93 N-Butylbenzene	91	16.780	16.769	(1.021)	191247	10.0000	9.4	
	94 sec-Butylbenzene	105	16.080	16.069	(0.979)	241585	10.0000	9.8	
	95 1,2-Dichlorobenzene	146	16.966	16.955	(1.033)	107280	10.0000	9.9	
	96 1,2-Dibromo-3-Chloropropane	75	17.938	17.934	(1.092)	13115	10.0000	9.7	
	97 1,3,5-Trichlorobenzene	180	17.974	17.963	(2.230)	73549	10.0000	10	
	98 Hexachlorobutadiene	225	18.710	18.699	(1.139)	34195	10.0000	9.7	
	99 1,2,4-Trichlorobenzene	180	18.746	18.735	(1.141)	62904	10.0000	9.7	
	100 1,2,3-Trimethylbenzene	105	16.487	16.476	(2.046)	194666	10.0000	10.0	
	101 Naphthalene	128	19.139	19.135	(1.165)	185962	10.0000	10.1	
	102 1,2,3-Trichlorobenzene	180	19.368	19.357	(1.179)	61627	10.0000	9.6	
	103 Methyl Acetate	43	4.436	4.417	(0.550)	43955	10.0000	10	
	104 Methylcyclohexane	83	8.817	8.799	(1.094)	73247	10.0000	10.1	
M	153 Total Alkylbenzenes	100				1450991	10.0000	(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).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Instrument: gcms-w.i
Operator: JSS
Column diameter: 0.18
\\target_server\gg\chem\gcms-w.i\W051818C.b\W4025.D
Y (x10^6)
Min
-Chloromethane (2.256)+
-Bromomethane (2.599)
-Chloroethane (2.735)
-Trichlorofluoromethane (2.885)
-Diethyl Ether (3.221)
-1,1-Dichloroethene (3.457)+
-Iodomethane (3.635)
-Acrolein (3.879)
-Allyl Chloride (4.043)
-Methylene Chloride (4.186)+
-trans-1,2-Dichloroethene (4.407)+
-Methyl tert-butyl ether (4.565)
-Tertiary-butyl alcohol (4.708)
-Acetonitrile (4.958)
-Di-isopropyl ether (5.151)
-Chloroprene (5.322)+
-Acrylonitrile (5.473)
-Ethyl tertiary-butyl ethe (5.801)+
-cis-1,2-Dichloroethene (6.352)
-2,2-Dichloropropane (6.559)
-Bromochloromethane (6.709)+
-Chloroform (6.859)
-Carbon Tetrachloride (7.081)
-Tetrahydrofuran (7.188)+
-1,1-Dichloropropene (7.445)+
-Propionitrile (7.867)+
-Methacrylonitrile (7.989)+
-1,2-Dichloroethane-D4 (8.110)+
-1,2-Dichloroethane (8.224)
-Isobutyl Alcohol (8.346)
-Trichloroethene (8.818)+
-1,4-Difluorobenzene (8.932)
-Dibromomethane (9.525)
-1,2-Dichloropropane (9.697)
-Bromodichloromethane (9.804)
-Ethyl Methacrylate (10.112)+
-1,2-Dichloroethylene (tot (10.268)
-cis-1,3-dichloropropene (10.805)
-Toluene-D8 (11.084)+
-Tetrachloroethene (11.737)
-4-Methyl-2-pentanone (11.777)+
-Methyl Methacrylate (12.042)+
-Dibromochloromethane (12.292)
-1,3-Dichloropropane (12.442)
-1,2-Dibromoethane (12.628)
-2-Hexanone (13.028)
-1-Chlorohexane (13.457)+
-m+p-Xylenes (13.664)
Chlorobenzene-D5 (13.378)+
-o-Xylene (14.243)
-Styrene (14.315)+
-Isopropylbenzene (14.665)
-P-Bromofluorobenzene (15.022)
-cis-1,4-Dichloro-2-Butene (15.144)+
-1,1,2,2-Tetrachloroethane (15.301)
-Bromobenzene (15.465)+
-trans-1,4-Dichloro-2-Butene (15.508)
-n-Propylbenzene (15.859)+
-1,2,4-Trimethylbenzene (15.944)
-sec-Butylbenzene (16.080)
-P-Isopropyltoluene (16.259)
-1,3-Dichlorobenzene (16.357)
-1,2,3-Trimethylbenzene (16.488)
-N-Butylbenzene (16.781)
1,4-Dichlorobenzene-D4 (16.430)+
-1,2-Dichlorobenzene (16.967)
-1,2-Dibromo-3-Chloropropane (17.830)+
-1,2,4-Trichlorobenzene (17.974)
-Hexachlorobutadiene (18.746)
-Naphthalene (19.139)
-1,2,3-Trichlorobenzene (19.368)

Data File: \\target_server\gg\chem\gcms-w.i\W051818C.b\W4026.D
Report Date: 25-May-2018 11:52

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W051818C.b\W4026.D
Lab Smp Id: WG228635-1
Inj Date : 18-MAY-2018 15:41
Operator : JSS   Inst ID: gcms-w.i
Smp Info : WG228635-1
Misc Info :
Comment   : SW846 5035
Method   : \\target_server\gg\chem\gcms-w.i\W051818C.b\W8SDI(12)D.m
Meth Date : 25-May-2018 11:52 gcms-w.i   Quant Type: ISTD
Cal Date : 18-MAY-2018 15:41   Cal File: W4026.D
Als bottle: 4   Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: HP RTE   Compound Sublist: all.sub
Target Version: 4.12

Concentration Formula: Amt * DF * (100/(100-M))*(Vt/Ws) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
M	0.00000	% Moisture
Vt	5.000	Volume of DI Water (mL)
Ws	5.000	Weight of Sample (g)
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/kg)	AMOUNTS ON-COL (ug/kg)	REVIEW CODE
1	Dichlorodifluoromethane	85	1.963	1.958	(0.244)	22109	5.00000	5.0	
2	Chloromethane	50	2.177	2.173	(0.270)	35270	5.00000	5.5	
3	Vinyl chloride	62	2.256	2.252	(0.280)	25985	5.00000	5.0	
4	Bromomethane	94	2.599	2.595	(0.322)	12016	5.00000	5.3	
5	Chloroethane	64	2.735	2.723	(0.339)	16834	5.00000	5.2	
6	Trichlorofluoromethane	101	2.878	2.873	(0.357)	31974	5.00000	5.2	
7	Diethyl Ether	59	3.214	3.209	(0.399)	19725	5.00000	5.2	
8	Tertiary-butyl alcohol	59	4.700	4.682	(0.583)	9282	25.0000	21.8(a)	
9	1,1-Dichloroethene	96	3.450	3.445	(0.428)	18208	5.00000	4.8(a)	
10	Carbon Disulfide	76	3.500	3.488	(0.434)	66750	5.00000	5.2	
11	Freon-113	151	3.492	3.488	(0.433)	13557	5.00000	5.0	
12	Iodomethane	142	3.635	3.624	(0.451)	7033	5.00000	6.4	
13	Acrolein	56	3.878	3.867	(0.481)	20091	25.0000	23.4(a)	
14	Methylene Chloride	84	4.186	4.174	(0.519)	24060	5.00000	4.9(a)	
15	Acetone	43	4.264	4.253	(0.529)	42024	25.0000	22.9(a)	
16	Isobutyl Alcohol	43	8.339	8.320	(1.035)	14941	100.000	67.2(a)	
17	trans-1,2-Dichloroethene	96	4.400	4.389	(0.546)	19666	5.00000	4.7(a)	
18	Allyl Chloride	41	4.043	4.031	(0.502)	34209	5.00000	5.0	
19	Methyl tert-butyl ether	73	4.557	4.546	(0.565)	49817	5.00000	4.6(a)	
20	Acetonitrile	39	4.972	4.946	(0.617)	8100	50.0000	50.8	
21	Di-isopropyl ether	45	5.151	5.132	(0.639)	71760	5.00000	4.9(a)	
22	Chloroprene	53	5.322	5.304	(0.660)	32288	5.00000	5.0	

Data File: \\target_server\gg\chem\gcms-w.i\W051818C.b\W4026.D
Report Date: 25-May-2018 11:52

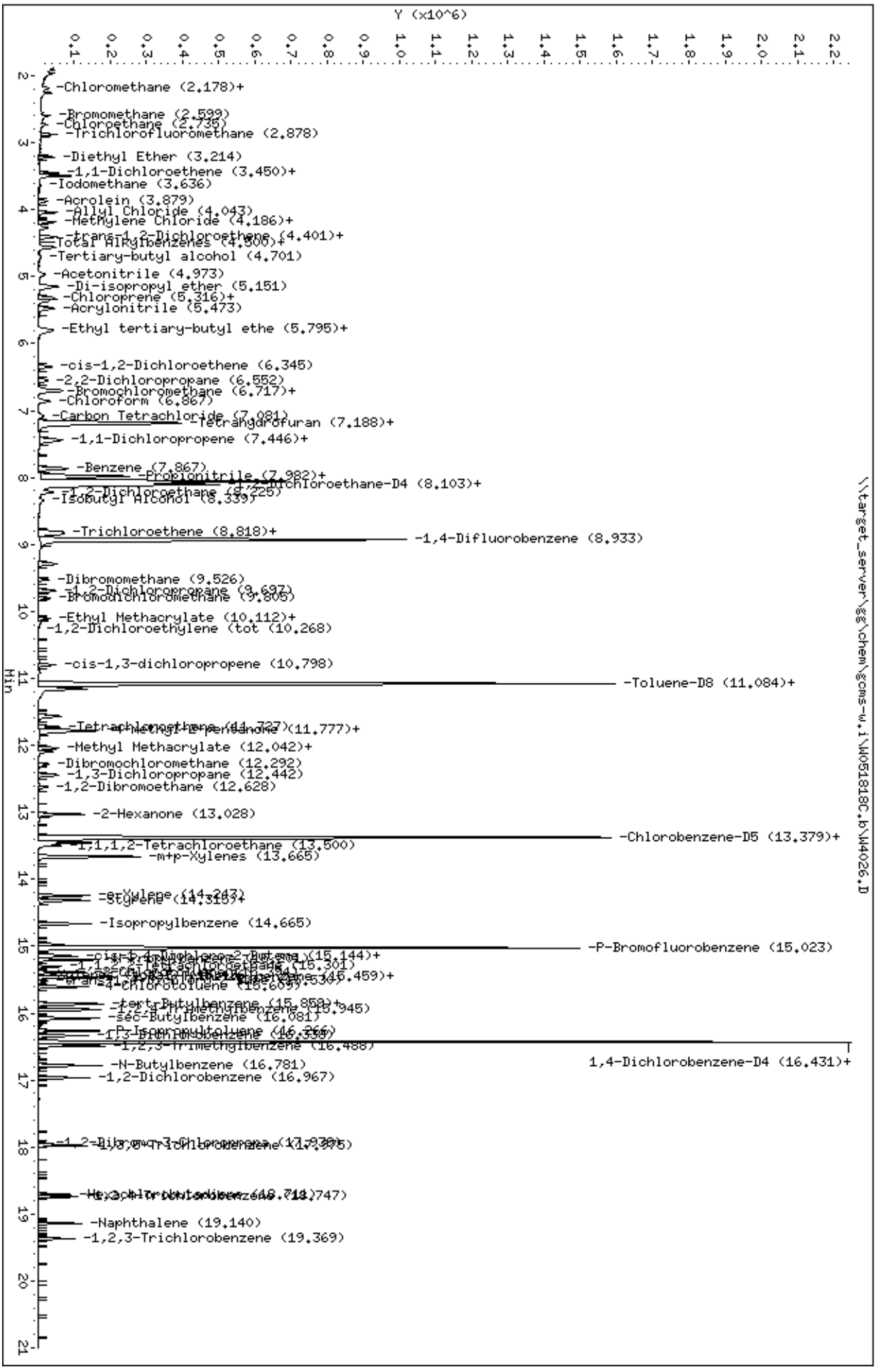
		Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/kg)	ON-COL (ug/kg)	REVIEW CODE
	23	Propionitrile	54	7.960	7.941	(0.988)	38270	50.0000	49.4(a)	
	24	Methacrylonitrile	41	7.981	7.970	(0.990)	156345	50.0000	48.3(a)	
	25	1,1-Dichloroethane	63	5.358	5.347	(0.665)	36807	5.00000	4.8(a)	
	26	Acrylonitrile	52	5.480	5.454	(0.680)	39292	25.0000	24.1(a)	
	27	Ethyl tertiary-butyl ether	59	5.794	5.775	(0.719)	43949	5.00000	4.7(a)	
	28	Vinyl Acetate	43	5.837	5.818	(0.654)	39308	5.00000	4.5(a)	
	29	cis-1,2-Dichloroethene	96	6.344	6.333	(0.787)	22261	5.00000	5.0	
M	30	1,2-Dichloroethylene (total)	96				41927	10.0000	(a)	
	31	Methyl Methacrylate	41	12.091	12.080	(1.354)	16503	5.00000	4.0(a)	
	32	2,2-Dichloropropane	77	6.552	6.533	(0.813)	16130	5.00000	4.5(a)	
	33	Bromochloromethane	128	6.716	6.698	(0.833)	9378	5.00000	4.8(a)	
	34	Chloroform	83	6.866	6.841	(0.852)	34578	5.00000	4.9(a)	
	35	Carbon Tetrachloride	117	7.081	7.069	(0.793)	13719	5.00000	5.4	
	36	Tetrahydrofuran	42	7.174	7.134	(0.890)	40008	25.0000	22.9(a)	
$	37	Dibromofluoromethane	113	7.188	7.176	(0.892)	282475	50.0000	50.8	
	38	1,1,1-Trichloroethane	97	7.217	7.198	(0.895)	26357	5.00000	4.6(a)	
	39	1,1-Dichloropropene	75	7.431	7.420	(0.832)	27746	5.00000	4.8(a)	
	40	2-Butanone	43	7.452	7.434	(0.925)	62614	25.0000	22.1(a)	
	41	Benzene	78	7.867	7.856	(0.881)	89347	5.00000	5.0	
*	42	Pentafluorobenzene	168	8.060	8.041	(1.000)	566008	50.0000		
	43	Cyclohexane	56	6.695	6.683	(0.831)	33621	5.00000	4.6(a)	
	44	Ethyl Methacrylate	69	10.111	10.093	(1.132)	12892	5.00000	4.1(a)	
$	45	1,2-Dichloroethane-D4	65	8.103	8.091	(1.005)	369671	50.0000	50.2	
	46	Tertiary-amyl methyl ether	73	8.103	8.084	(1.005)	35564	5.00000	4.3(a)	
	47	1,2-Dichloroethane	62	8.224	8.206	(0.921)	31721	5.00000	5.1	
	48	Trichloroethene	95	8.846	8.835	(0.990)	21007	5.00000	4.9(a)	
*	49	1,4-Difluorobenzene	114	8.932	8.913	(1.000)	962697	50.0000		
	50	Dibromomethane	93	9.518	9.514	(1.066)	13187	5.00000	5.1	
	51	1,2-Dichloropropane	63	9.697	9.678	(1.086)	21854	5.00000	4.9(a)	
	52	Bromodichloromethane	83	9.804	9.793	(1.098)	24862	5.00000	4.8(a)	
	53	cis-1,3-dichloropropene	75	10.798	10.786	(1.209)	28370	5.00000	4.4(a)	
	54	1,4-Dioxane	88	10.169	10.143	(1.138)	6217	100.000	99.4(a)	
$	55	Toluene-D8	98	11.084	11.072	(1.241)	1155315	50.0000	49.9	
	57	Toluene	92	11.162	11.144	(1.250)	51654	5.00000	4.9(a)	
	58	4-methyl-2-pentanone	43	11.777	11.766	(1.318)	128165	25.0000	22.5(a)	
	59	Tetrachloroethene	164	11.727	11.715	(0.877)	15339	5.00000	4.9(a)	
	60	trans-1,3-Dichloropropene	75	11.806	11.794	(1.322)	19816	5.00000	4.1(a)	
	61	1,1,2-Trichloroethane	83	12.041	12.030	(1.348)	15946	5.00000	4.7(a)	
	62	Dibromochloromethane	129	12.292	12.280	(0.919)	17942	5.00000	4.7(a)	
	63	1,3-Dichloropropane	76	12.442	12.430	(0.930)	34227	5.00000	4.6(a)	
	64	1,2-Dibromoethane	107	12.628	12.616	(1.414)	17391	5.00000	4.4(aM)	
	65	2-Hexanone	43	13.028	13.016	(0.974)	92929	25.0000	21.8(a)	
*	66	Chlorobenzene-D5	117	13.378	13.367	(1.000)	899876	50.0000		
	67	Chlorobenzene	112	13.400	13.388	(1.002)	57447	5.00000	4.8(a)	
	152	1-Chlorohexane	91	13.457	13.445	(1.670)	98790	5.00000	(a)	
	68	Ethylbenzene	106	13.457	13.445	(1.006)	30107	5.00000	4.6(a)	
	69	1,1,1,2-Tetrachloroethane	131	13.500	13.488	(1.009)	15988	5.00000	4.5(a)	
M	70	Xylenes (total)	106				113391	15.0000	(a)	
	71	m+p-Xylenes	106	13.664	13.653	(1.021)	75440	10.0000	9.4(a)	
	72	o-Xylene	106	14.243	14.232	(1.065)	37951	5.00000	4.9(a)	
	73	Styrene	104	14.314	14.310	(1.070)	62541	5.00000	4.7(a)	
	74	Bromoform	173	14.329	14.324	(1.071)	11804	5.00000	4.5(a)	
	75	Isopropylbenzene	105	14.665	14.653	(0.893)	92611	5.00000	4.9(a)	
$	76	P-Bromofluorobenzene	95	15.022	15.011	(1.682)	477870	50.0000	50.3	

Data File: \\target_server\gg\chem\gcms-w.i\W051818C.b\W4026.D
Report Date: 25-May-2018 11:52

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/kg)	ON-COL (ug/kg)	REVIEW CODE
	77 cis-1,4-Dichloro-2-Butene	53	15.122	15.118	(0.920)	6937	5.00000	4.5(a)	
	78 trans-1,4-Dichloro-2-Butene	53	15.530	15.518	(0.945)	5937	5.00000	4.9(a)	
	79 Bromobenzene	156	15.144	15.139	(0.922)	25998	5.00000	5.2	
	80 N-Propylbenzene	91	15.201	15.197	(0.925)	120510	5.00000	4.9(a)	
	81 1,1,2,2-Tetrachloroethane	83	15.301	15.297	(0.931)	29314	5.00000	4.9(a)	
	82 1,3,5-Trimethylbenzene	105	15.458	15.454	(0.941)	82070	5.00000	4.9(a)	
	83 2-Chlorotoluene	91	15.394	15.382	(0.937)	72835	5.00000	4.9(a)	
	84 1,2,3-Trichloropropane	75	15.465	15.454	(0.941)	24530	5.00000	4.8(a)	
	85 4-Chlorotoluene	91	15.608	15.597	(0.950)	76412	5.00000	5.0	
	86 tert-Butylbenzene	119	15.858	15.847	(0.965)	80526	5.00000	4.8(a)	
	87 Pentachloroethane	117	15.873	15.868	(0.966)	12560	5.00000	4.4(a)	
	88 1,2,4-Trimethylbenzene	105	15.944	15.940	(0.970)	87888	5.00000	5.0	
	89 P-Isopropyltoluene	119	16.266	16.254	(0.990)	91066	5.00000	4.9(a)	
	90 1,3-Dichlorobenzene	146	16.337	16.333	(0.994)	47458	5.00000	4.8(a)	
*	91 1,4-Dichlorobenzene-D4	152	16.430	16.426	(1.000)	483297	50.0000		
	92 1,4-Dichlorobenzene	146	16.452	16.440	(1.001)	48208	5.00000	4.8(a)	
	93 N-Butylbenzene	91	16.781	16.769	(1.021)	84588	5.00000	4.6(a)	
	94 sec-Butylbenzene	105	16.080	16.069	(0.979)	109076	5.00000	4.8(a)	
	95 1,2-Dichlorobenzene	146	16.966	16.955	(1.033)	48289	5.00000	4.9(a)	
	96 1,2-Dibromo-3-Chloropropane	75	17.939	17.934	(1.092)	5409	5.00000	4.4(a)	
	97 1,3,5-Trichlorobenzene	180	17.974	17.963	(2.230)	32937	5.00000	4.7(a)	
	98 Hexachlorobutadiene	225	18.710	18.699	(1.139)	15231	5.00000	4.8(a)	
	99 1,2,4-Trichlorobenzene	180	18.746	18.735	(1.141)	28523	5.00000	4.8(a)	
	100 1,2,3-Trimethylbenzene	105	16.487	16.476	(2.046)	91402	5.00000	4.9(a)	
	101 Naphthalene	128	19.139	19.135	(1.165)	78206	5.00000	4.6(a)	
	102 1,2,3-Trichlorobenzene	180	19.368	19.357	(1.179)	27166	5.00000	4.7(a)	
	103 Methyl Acetate	43	4.429	4.417	(0.549)	18957	5.00000	4.5(a)	
	104 Methylcyclohexane	83	8.811	8.799	(1.093)	33471	5.00000	4.8(a)	
M	153 Total Alkylbenzenes	100				655724	5.00000	(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.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Column phase: RTX-VMS
Instrument: gcms-w.i
Operator: JSS
Column diameter: 0.18
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Y (x10^6)
Min
-Chloromethane (2.178)+
-Bromomethane (2.599)
-Chloroethane (2.736)
-Trichlorofluoromethane (2.878)
-Diethyl Ether (3.214)
-1,1-Dichloroethene (3.450)+
-Iodomethane (3.636)
-Acrolein (3.879)
-Allyl Chloride (4.043)
-MetMylene Chloride (4.186)+
-trans-1,2-Dichloroethene (4.401)+
Total Alkylbenzenes (4.500)+
-Tertiary-butyl alcohol (4.701)
-Acetonitrile (4.973)
-Di-isopropyl ether (5.151)
-Chloroprene (5.316)+
-Acrylonitrile (5.473)
-Ethyl tertiary-butyl ethe (5.795)+
-cis-1,2-Dichloroethene (6.345)
-2,2-Dichloropropane (6.552)
-Bromochloromethane (6.717)+
-Chloroform (6.867)
-Carbon Tetrachloride (7.081)
-Tetrahydrofuran (7.188)+
-1,1-Dichloropropene (7.446)+
-Benzene (7.867)
-Propionitrile (7.982)+
-1,2-Dichloroethane-D4 (8.103)+
-1,2-Dichloroethane (8.225)
-Isobutyl Alcohol (8.339)
-Trichloroethene (8.818)+
-1,4-Difluorobenzene (8.933)
-Dibromomethane (9.526)
-1,2-Dichloropropane (9.697)
-Bromodichloromethane (9.805)
-Ethyl Methacrylate (10.112)+
-1,2-Dichloroethylene (tot (10.268)
-cis-1,3-dichloropropene (10.798)
-Toluene-D8 (11.084)+
-Tetrachloroethene (11.727)
-4-Methyl-2-pentanone (11.777)+
-Methyl Methacrylate (12.042)+
-Dibromochloromethane (12.292)
-1,3-Dichloropropane (12.442)
-1,2-Dibromoethane (12.628)
-2-Hexanone (13.028)
-Chlorobenzene-D5 (13.379)+
-1,1,1,2-Tetrachloroethane (13.500)
-m+p-Xylenes (13.665)
-o-Xylene (14.267)
-Styrene (14.316)+
-Isopropylbenzene (14.665)
-P-Bromofluorobenzene (15.023)
-cis-1,4-Dichloro-2-Butene (15.144)+
-1,1,2-Trichloroethane (15.301)
-trans-1,4-Dichloro-2-Butene (15.459)+
-4-Chlorotoluene (15.609)
-tert-Butylbenzene (15.858)+
-1,2,4-Trimethylbenzene (15.945)
-sec-Butylbenzene (16.081)
-P-Isopropyltoluene (16.266)
-1,3-Dichlorobenzene (16.358)
-1,2,3-Trimethylbenzene (16.488)
-N-Butylbenzene (16.781)
1,4-Dichlorobenzene-D4 (16.431)+
-1,2-Dichlorobenzene (16.967)
-1,2-Dibromo-3-Chloropropane (17.930)
-1,2,4-Trichlorobenzene (17.975)
-Hexachlorobutadiene (18.218)
-Naphthalene (19.140)
-1,2,3-Trichlorobenzene (19.369)

Data File: \\target_server\gg\chem\gcms-w.i\W051818C.b\W4027.D
Report Date: 25-May-2018 11:52

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W051818C.b\W4027.D
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Inj Date : 18-MAY-2018 16:19
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Smp Info : WG228635-6
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Method   : \\target_server\gg\chem\gcms-w.i\W051818C.b\W8SDI(12)D.m
Meth Date : 25-May-2018 11:52 gcms-w.i   Quant Type: ISTD
Cal Date : 18-MAY-2018 16:19   Cal File: W4027.D
Als bottle: 5   Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP RTE   Compound Sublist: all.sub
Target Version: 4.12

Concentration Formula: Amt * DF * (100/(100-M))*(Vt/Ws) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
M	0.00000	% Moisture
Vt	5.000	Volume of DI Water (mL)
Ws	5.000	Weight of Sample (g)
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/kg)	AMOUNTS ON-COL (ug/kg)	REVIEW CODE
1	Dichlorodifluoromethane	85	1.964	1.958	(0.244)	695038	150.000	142	
2	Chloromethane	50	2.193	2.173	(0.272)	927314	150.000	127	
3	Vinyl chloride	62	2.257	2.252	(0.280)	827166	150.000	146	
4	Bromomethane	94	2.600	2.595	(0.323)	325627	150.000	128	
5	Chloroethane	64	2.729	2.723	(0.339)	346247	150.000	77.8	
6	Trichlorofluoromethane	101	2.879	2.873	(0.357)	1022538	150.000	150	
7	Diethyl Ether	59	3.215	3.209	(0.399)	616102	150.000	146	
8	Tertiary-butyl alcohol	59	4.716	4.682	(0.585)	424971	750.000	947	
9	1,1-Dichloroethene	96	3.451	3.445	(0.428)	612520	150.000	148	
10	Carbon Disulfide	76	3.494	3.488	(0.433)	1986085	150.000	138	
11	Freon-113	151	3.494	3.488	(0.433)	439074	150.000	147	
12	Iodomethane	142	3.637	3.624	(0.451)	543867	150.000	168	
13	Acrolein	56	3.880	3.867	(0.481)	684502	750.000	741	
14	Methylene Chloride	84	4.180	4.174	(0.519)	753746	150.000	141	
15	Acetone	43	4.273	4.253	(0.530)	1305114	750.000	665	
16	Isobutyl Alcohol	43	8.340	8.320	(1.035)	955561	3000.00	5010(A)	
17	trans-1,2-Dichloroethene	96	4.402	4.389	(0.546)	638401	150.000	142	
18	Allyl Chloride	41	4.044	4.031	(0.502)	1064389	150.000	142	
19	Methyl tert-butyl ether	73	4.566	4.546	(0.566)	1818896	150.000	156	
20	Acetonitrile	39	4.966	4.946	(0.616)	234495	1500.00	1330	
21	Di-isopropyl ether	45	5.152	5.132	(0.639)	2385015	150.000	150	
22	Chloroprene	53	5.317	5.304	(0.660)	1012211	150.000	144	

Data File: \\target_server\gg\chem\gcms-w.i\W051818C.b\W4027.D
Report Date: 25-May-2018 11:52

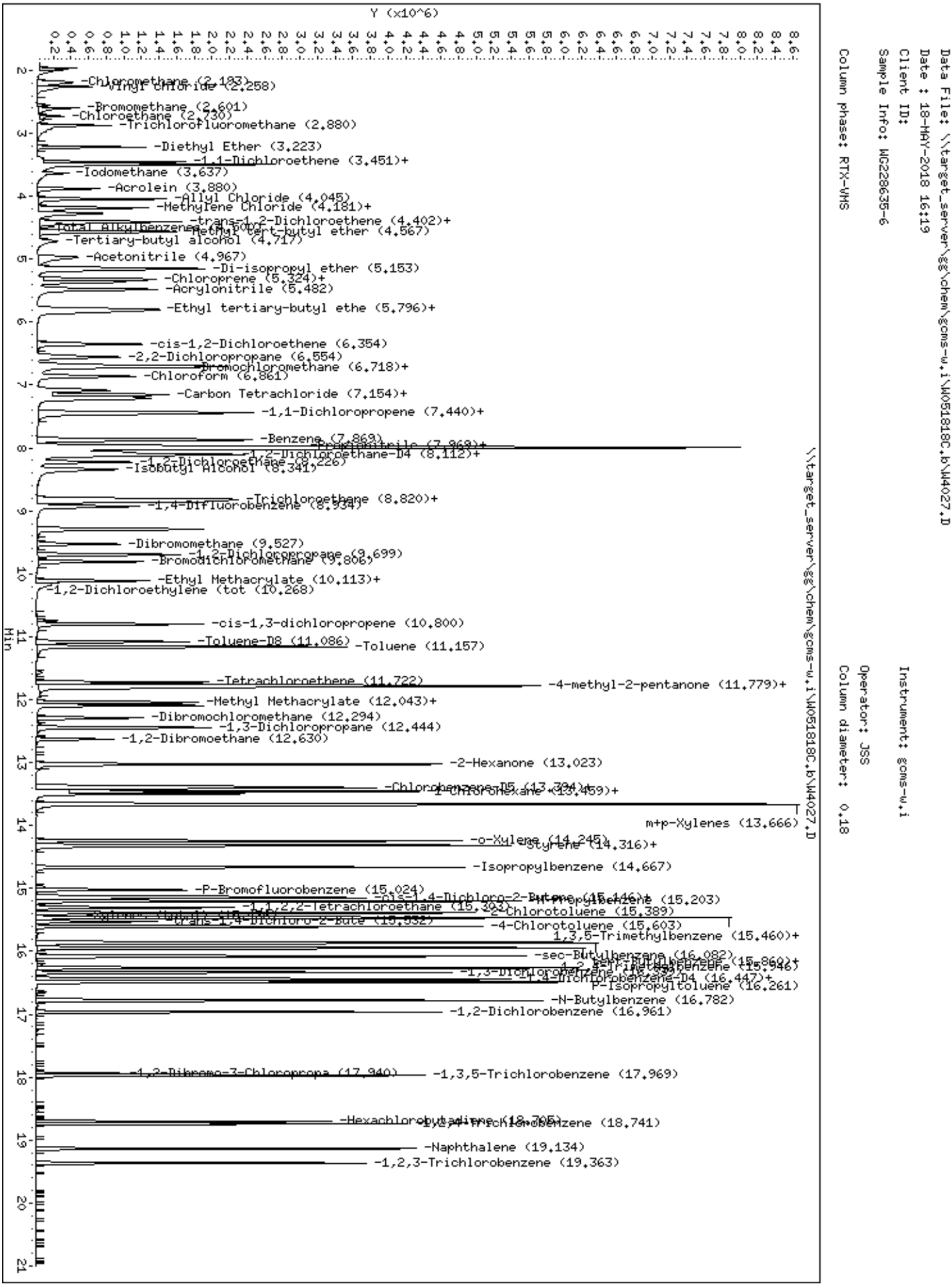
								AMOUNTS		
			QUANT SIG					CAL-AMT	ON-COL	
	Compounds		MASS	RT	EXP RT	REL RT	RESPONSE	(ug/kg)	(ug/kg)	REVIEW CODE
	23	Propionitrile	54	7.969	7.941	(0.988)	1266745	1500.00	1490	
	24	Methacrylonitrile	41	7.997	7.970	(0.992)	4752340	1500.00	1350	
	25	1,1-Dichloroethane	63	5.359	5.347	(0.665)	1205348	150.000	144	
	26	Acrylonitrile	52	5.481	5.454	(0.680)	1297398	750.000	733	
	27	Ethyl tertiary-butyl ether	59	5.796	5.775	(0.719)	1566304	150.000	154	
	28	Vinyl Acetate	43	5.838	5.818	(0.654)	1633388	150.000	175	
	29	cis-1,2-Dichloroethene	96	6.353	6.333	(0.788)	717490	150.000	148	
M	30	1,2-Dichloroethylene (total)	96				1355891	300.000	(a)	
	31	Methyl Methacrylate	41	12.093	12.080	(1.354)	752470	150.000	179	
	32	2,2-Dichloropropane	77	6.553	6.533	(0.813)	707741	150.000	187	
	33	Bromochloromethane	128	6.718	6.698	(0.833)	321197	150.000	151	
	34	Chloroform	83	6.861	6.841	(0.851)	1126126	150.000	145	
	35	Carbon Tetrachloride	117	7.082	7.069	(0.793)	702906	150.000	170	
	36	Tetrahydrofuran	42	7.154	7.134	(0.887)	1369739	750.000	733	
$	37	Dibromofluoromethane	113	7.189	7.176	(0.892)	306431	50.0000	49.8	
	38	1,1,1-Trichloroethane	97	7.218	7.198	(0.895)	938193	150.000	153	
	39	1,1-Dichloropropene	75	7.440	7.420	(0.833)	890341	150.000	141	
	40	2-Butanone	43	7.447	7.434	(0.924)	2123155	750.000	708	
	41	Benzene	78	7.868	7.856	(0.881)	2696507	150.000	138	
*	42	Pentafluorobenzene	168	8.061	8.041	(1.000)	622850	50.0000		
	43	Cyclohexane	56	6.696	6.683	(0.831)	1172633	150.000	150	
	44	Ethyl Methacrylate	69	10.113	10.093	(1.132)	554806	150.000	171	
$	45	1,2-Dichloroethane-D4	65	8.111	8.091	(1.006)	408875	50.0000	50.4	
	46	Tertiary-amyl methyl ether	73	8.104	8.084	(1.005)	1566779	150.000	180	
	47	1,2-Dichloroethane	62	8.226	8.206	(0.921)	986262	150.000	143	
	48	Trichloroethene	95	8.848	8.835	(0.990)	647940	150.000	138	
*	49	1,4-Difluorobenzene	114	8.933	8.913	(1.000)	1060793	50.0000		
	50	Dibromomethane	93	9.527	9.514	(1.066)	420631	150.000	146	
	51	1,2-Dichloropropane	63	9.698	9.678	(1.086)	724579	150.000	148	
	52	Bromodichloromethane	83	9.806	9.793	(1.098)	890214	150.000	157	
	53	cis-1,3-dichloropropene	75	10.799	10.786	(1.209)	1152930	150.000	170	
	54	1,4-Dioxane	88	10.156	10.143	(1.137)	231117	3000.00	3360	
$	55	Toluene-D8	98	11.085	11.072	(1.241)	1293608	50.0000	50.7	
	57	Toluene	92	11.157	11.144	(1.249)	1665572	150.000	145	
	58	4-methyl-2-pentanone	43	11.778	11.766	(1.318)	4275213	750.000	705	
	59	Tetrachloroethene	164	11.721	11.715	(0.877)	481460	150.000	139	
	60	trans-1,3-Dichloropropene	75	11.814	11.794	(1.322)	963128	150.000	194	
	61	1,1,2-Trichloroethane	83	12.043	12.030	(1.348)	536266	150.000	147	
	62	Dibromochloromethane	129	12.293	12.280	(0.919)	681969	150.000	163	
	63	1,3-Dichloropropane	76	12.443	12.430	(0.930)	1188805	150.000	147	
	64	1,2-Dibromoethane	107	12.629	12.616	(1.414)	645981	150.000	155	
	65	2-Hexanone	43	13.022	13.016	(0.974)	3198052	750.000	702	
*	66	Chlorobenzene-D5	117	13.372	13.367	(1.000)	1006525	50.0000		
	67	Chlorobenzene	112	13.401	13.388	(1.002)	1905873	150.000	144	
	152	1-Chlorohexane	91	13.458	13.445	(1.669)	3198437	150.000	(a)	
	68	Ethylbenzene	106	13.458	13.445	(1.006)	1046590	150.000	146	
	69	1,1,1,2-Tetrachloroethane	131	13.501	13.488	(1.010)	652687	150.000	170	
M	70	Xylenes (total)	106				3828579	150.000	(a)	
	71	m+p-Xylenes	106	13.665	13.653	(1.022)	2522788	300.000	286	
	72	o-Xylene	106	14.244	14.232	(1.065)	1305791	150.000	151	
	73	Styrene	104	14.316	14.310	(1.071)	2217836	150.000	152(A)	
	74	Bromoform	173	14.330	14.324	(1.072)	497881	150.000	176	
	75	Isopropylbenzene	105	14.666	14.653	(0.893)	3065475	150.000	134	
$	76	P-Bromofluorobenzene	95	15.024	15.011	(1.682)	565325	50.0000	53.9	

Data File: \\target_server\gg\chem\gcms-w.i\W051818C.b\W4027.D
Report Date: 25-May-2018 11:52

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/kg)	ON-COL (ug/kg)	REVIEW CODE
	77 cis-1,4-Dichloro-2-Butene	53	15.124	15.118	(0.920)	324186	150.000	180	
	78 trans-1,4-Dichloro-2-Butene	53	15.531	15.518	(0.945)	264570	150.000	181	
	79 Bromobenzene	156	15.145	15.139	(0.922)	852590	150.000	139	
	80 N-Propylbenzene	91	15.202	15.197	(0.925)	3895617	150.000	131	
	81 1,1,2,2-Tetrachloroethane	83	15.302	15.297	(0.931)	1019969	150.000	141	
	82 1,3,5-Trimethylbenzene	105	15.460	15.454	(0.941)	2803149	150.000	138	
	83 2-Chlorotoluene	91	15.388	15.382	(0.936)	2440360	150.000	136	
	84 1,2,3-Trichloropropane	75	15.467	15.454	(0.941)	882376	150.000	143	
	85 4-Chlorotoluene	91	15.603	15.597	(0.950)	2554406	150.000	137	
	86 tert-Butylbenzene	119	15.860	15.847	(0.965)	2913399	150.000	145	
	87 Pentachloroethane	117	15.874	15.868	(0.966)	617446	150.000	185	
	88 1,2,4-Trimethylbenzene	105	15.946	15.940	(0.970)	2942876	150.000	137	
	89 P-Isopropyltoluene	119	16.260	16.254	(0.990)	3084667	150.000	137	
	90 1,3-Dichlorobenzene	146	16.339	16.333	(0.994)	1655080	150.000	140	
*	91 1,4-Dichlorobenzene-D4	152	16.432	16.426	(1.000)	588801	50.0000		
	92 1,4-Dichlorobenzene	146	16.453	16.440	(1.001)	1684634	150.000	139	
	93 N-Butylbenzene	91	16.782	16.769	(1.021)	2934013	150.000	136	
	94 sec-Butylbenzene	105	16.081	16.069	(0.979)	3629673	150.000	134	
	95 1,2-Dichlorobenzene	146	16.968	16.955	(1.033)	1648041	150.000	137	
	96 1,2-Dibromo-3-Chloropropane	75	17.933	17.934	(1.091)	242216	150.000	169	
	97 1,3,5-Trichlorobenzene	180	17.969	17.963	(2.229)	1144842	150.000	151	
	98 Hexachlorobutadiene	225	18.705	18.699	(1.138)	520299	150.000	136	
	99 1,2,4-Trichlorobenzene	180	18.741	18.735	(1.141)	1046563	150.000	148	
	100 1,2,3-Trimethylbenzene	105	16.482	16.476	(2.044)	3014006	150.000	148	
	101 Naphthalene	128	19.134	19.135	(1.164)	2856678	150.000	141	
	102 1,2,3-Trichlorobenzene	180	19.362	19.357	(1.178)	976003	150.000	141	
	103 Methyl Acetate	43	4.430	4.417	(0.550)	704911	150.000	157	
	104 Methylcyclohexane	83	8.819	8.799	(1.094)	1137151	150.000	150	
M	153 Total Alkylbenzenes	100				22203394	150.000	(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
A - Target compound detected but, quantitated amount
exceeded maximum amount.


Data File: \\target_server\gg\chem\gcms-w.i\W051818C.b\W4027.D
Date : 18-MAY-2018 16:19
Client ID:
Sample Info: WG228635-6
Column phase: RTX-VMS
Instrument: gcms-w.i
Operator: JSS
Column diameter: 0.18
\\target_server\gg\chem\gcms-w.i\W051818C.b\W4027.D
Y (x10^6)
Min
-Chloromethane (2.193)
-Vinyl Chloride (2.258)
-Bromomethane (2.601)
-Chloroethane (2.730)
-Trichlorofluoromethane (2.880)
-Diethyl Ether (3.223)
-1,1-Dichloroethene (3.451)+
-Iodomethane (3.637)
-Acrolein (3.880)
-Allyl Chloride (4.045)
-Methylene Chloride (4.181)+
-trans-1,2-Dichloroethene (4.402)+
-Total Alkylbenzene
-Methyl tert-butyl ether (4.567)
-Tertiary-butyl alcohol (4.717)
-Acetonitrile (4.967)
-Di-isopropyl ether (5.153)
-Chloroprene (5.324)+
-Acrylonitrile (5.482)
-Ethyl tertiary-butyl ethe (5.796)+
-cis-1,2-Dichloroethene (6.354)
-2,2-Dichloropropane (6.554)
-Bromochloromethane (6.718)+
-Chloroform (6.861)
-Carbon Tetrachloride (7.154)+
-1,1-Dichloropropene (7.440)+
-Benzene (7.869)
-Propionitrile (7.969)+
-1,2-Dichloroethane-D4 (8.112)+
-1,2-Dichloroethane (8.226)
-Isobutyl Alcohol (8.341)
-Trichloroethene (8.820)+
-1,4-Difluorobenzene (8.934)
-Dibromomethane (9.527)
-1,2-Dichloropropane (9.699)
-Bromodichloromethane (9.806)
-Ethyl Methacrylate (10.113)+
-1,2-Dichloroethylene (tot (10.268)
-cis-1,3-dichloropropene (10.800)
-Toluene-D8 (11.086)
-Toluene (11.157)
-Tetrachloroethene (11.722)
-4-methyl-2-pentanone (11.779)+
-Methyl Methacrylate (12.043)+
-Dibromochloromethane (12.294)
-1,3-Dichloropropane (12.444)
-1,2-Dibromoethane (12.630)
-2-Hexanone (13.023)
-Chlorobenzene-D5 (13.394)+
-1-Chlorohexane (13.459)+
m+p-Xylenes (13.666)
-o-Xylene (14.245)
-Styrene (14.316)+
-Isopropylbenzene (14.667)
-P-Bromofluorobenzene (15.024)
-cis-1,4-Dichloro-2-Butene (15.146)+
-N-Propylbenzene (15.203)
-1,1,2,2-Tetrachloroethane (15.303)
-2-Chlorotoluene (15.389)
-trans-1,4-Dichloro-2-Bute (15.532)
-4-Chlorotoluene (15.603)
1,3,5-Trimethylbenzene (15.460)+
-sec-Butylbenzene (16.082)
-1,2,4-Trimethylbenzene (15.946)
-1,3-Dichlorobenzene (16.339)
-1,4-Dichlorobenzene-D4 (16.447)+
P-Isopropyltoluene (16.261)
-N-Butylbenzene (16.782)
-1,2-Dichlorobenzene (16.961)
-1,2-Dibromo-3-Chloropropa (17.940)
-1,3,5-Trichlorobenzene (17.969)
-Hexachlorobutadiene (18.705)
-1,2,4-Trichlorobenzene (18.741)
-Naphthalene (19.134)
-1,2,3-Trichlorobenzene (19.363)

Data File: \\target_server\gg\chem\gcms-w.i\W051818C.b\W4028.D
Report Date: 25-May-2018 11:52

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W051818C.b\W4028.D
Lab Smp Id: WG228635-5
Inj Date : 18-MAY-2018 16:56
Operator : JSS   Inst ID: gcms-w.i
Smp Info : WG228635-5
Misc Info :
Comment   : SW846 5035
Method   : \\target_server\gg\chem\gcms-w.i\W051818C.b\W8SDI(12)D.m
Meth Date : 25-May-2018 11:52 gcms-w.i   Quant Type: ISTD
Cal Date : 18-MAY-2018 16:56   Cal File: W4028.D
Als bottle: 6   Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE   Compound Sublist: all.sub
Target Version: 4.12

Concentration Formula: Amt * DF * (100/(100-M))*(Vt/Ws) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
M	0.00000	% Moisture
Vt	5.000	Volume of DI Water (mL)
Ws	5.000	Weight of Sample (g)
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/kg)	AMOUNTS ON-COL (ug/kg)	REVIEW CODE
1	Dichlorodifluoromethane	85	1.962	1.958	(0.244)	474420	100.000	97.5	
2	Chloromethane	50	2.169	2.173	(0.269)	632428	100.000	89.2	
3	Vinyl chloride	62	2.255	2.252	(0.280)	565601	100.000	99.4	
4	Bromomethane	94	2.598	2.595	(0.323)	229680	100.000	92.9	
5	Chloroethane	64	2.727	2.723	(0.339)	262746	100.000	104	
6	Trichlorofluoromethane	101	2.877	2.873	(0.357)	666945	100.000	97.0	
7	Diethyl Ether	59	3.213	3.209	(0.399)	402912	100.000	95.1	
8	Tertiary-butyl alcohol	59	4.700	4.682	(0.584)	279886	500.000	580	
9	1,1-Dichloroethene	96	3.449	3.445	(0.428)	400625	100.000	96.2	
10	Carbon Disulfide	76	3.492	3.488	(0.434)	1345341	100.000	94.6	
11	Freon-113	151	3.492	3.488	(0.434)	293783	100.000	97.9	
12	Iodomethane	142	3.627	3.624	(0.451)	392347	100.000	108	
13	Acrolein	56	3.870	3.867	(0.481)	438305	500.000	472	
14	Methylene Chloride	84	4.178	4.174	(0.519)	506678	100.000	95.5	
15	Acetone	43	4.264	4.253	(0.530)	825219	500.000	429	
16	Isobutyl Alcohol	43	8.324	8.320	(1.034)	592901	2000.00	1890	
17	trans-1,2-Dichloroethene	96	4.399	4.389	(0.546)	438710	100.000	97.9	
18	Allyl Chloride	41	4.035	4.031	(0.501)	755346	100.000	101	
19	Methyl tert-butyl ether	73	4.557	4.546	(0.566)	1225993	100.000	103	
20	Acetonitrile	39	4.957	4.946	(0.616)	151457	1000.00	876	
21	Di-isopropyl ether	45	5.143	5.132	(0.639)	1593450	100.000	99.3	
22	Chloroprene	53	5.314	5.304	(0.660)	691592	100.000	98.2	

Data File: \\target_server\gg\chem\gcms-w.i\W051818C.b\W4028.D
Report Date: 25-May-2018 11:52

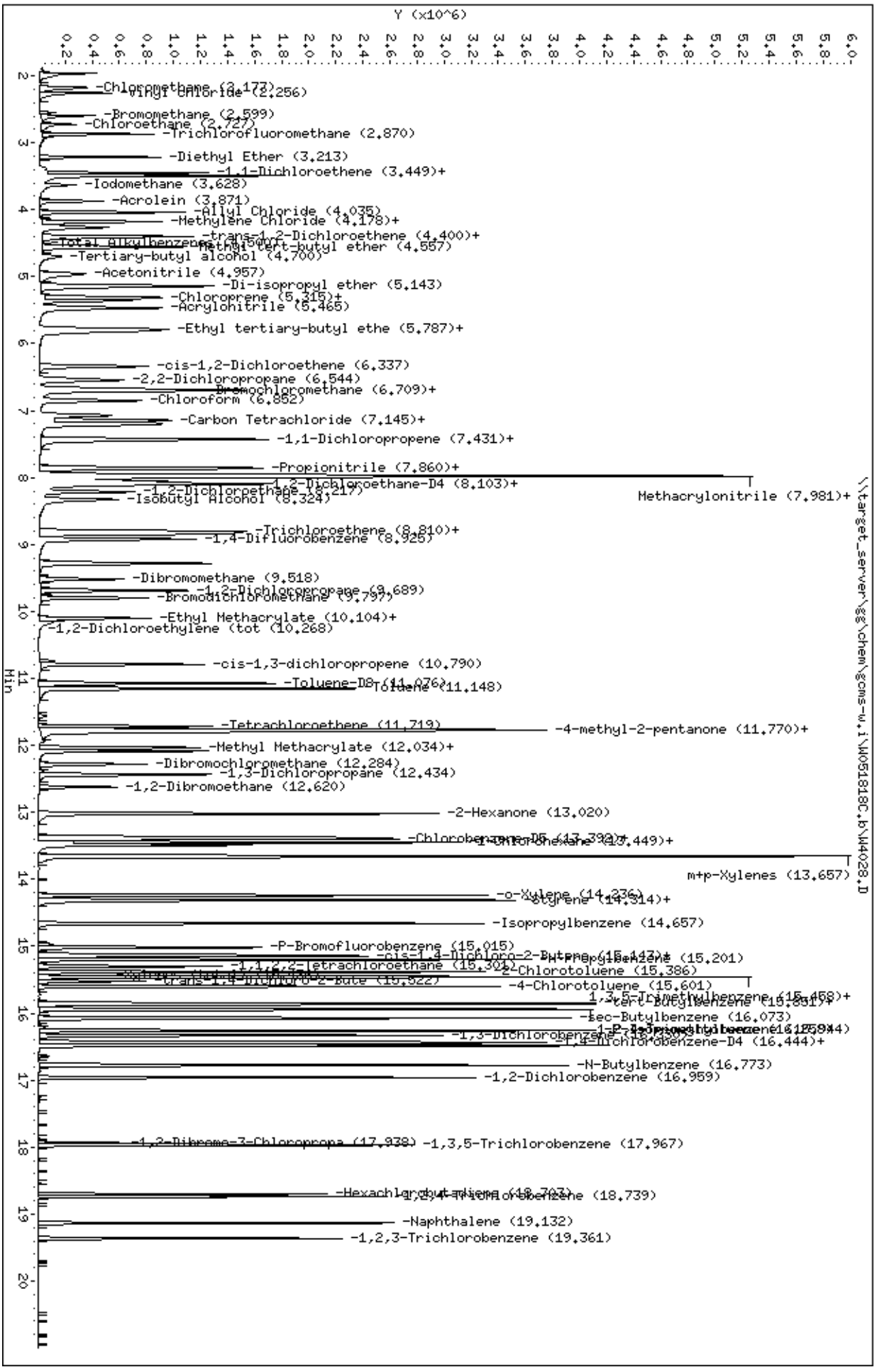
		Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/kg)	AMOUNTS ON-COL (ug/kg)	REVIEW CODE
	23	Propionitrile	54	7.952	7.941	(0.988)	790188	1000.00	923	
	24	Methacrylonitrile	41	7.981	7.970	(0.991)	3106216	1000.00	897	
	25	1,1-Dichloroethane	63	5.357	5.347	(0.665)	829145	100.000	99.2	
	26	Acrylonitrile	52	5.464	5.454	(0.679)	825860	500.000	465	
	27	Ethyl tertiary-butyl ether	59	5.786	5.775	(0.719)	1115496	100.000	108	
	28	Vinyl Acetate	43	5.822	5.818	(0.652)	1066050	100.000	112	
	29	cis-1,2-Dichloroethene	96	6.337	6.333	(0.787)	482363	100.000	98.7	
M	30	1,2-Dichloroethylene (total)	96				921073	100.000	(a)	
	31	Methyl Methacrylate	41	12.084	12.080	(1.354)	484153	100.000	112	
	32	2,2-Dichloropropane	77	6.544	6.533	(0.813)	479604	100.000	118	
	33	Bromochloromethane	128	6.708	6.698	(0.833)	218475	100.000	101	
	34	Chloroform	83	6.851	6.841	(0.851)	774759	100.000	99.9	
	35	Carbon Tetrachloride	117	7.073	7.069	(0.793)	456558	100.000	100	
	36	Tetrahydrofuran	42	7.144	7.134	(0.887)	860563	500.000	459	
$	37	Dibromofluoromethane	113	7.180	7.176	(0.892)	301400	50.0000	48.6	
	38	1,1,1-Trichloroethane	97	7.209	7.198	(0.895)	635921	100.000	102	
	39	1,1-Dichloropropene	75	7.430	7.420	(0.833)	608445	100.000	99.4	
	40	2-Butanone	43	7.437	7.434	(0.924)	1341305	500.000	450	
	41	Benzene	78	7.859	7.856	(0.881)	1842977	100.000	97.7	
*	42	Pentafluorobenzene	168	8.052	8.041	(1.000)	628545	50.0000		
	43	Cyclohexane	56	6.687	6.683	(0.830)	783969	100.000	99.2	
	44	Ethyl Methacrylate	69	10.104	10.093	(1.132)	351009	100.000	106	
$	45	1,2-Dichloroethane-D4	65	8.102	8.091	(1.006)	387614	50.0000	47.2	
	46	Tertiary-amyl methyl ether	73	8.095	8.084	(1.005)	1050424	100.000	114	
	47	1,2-Dichloroethane	62	8.216	8.206	(0.921)	646865	100.000	96.4	
	48	Trichloroethene	95	8.838	8.835	(0.990)	439996	100.000	97.4	
*	49	1,4-Difluorobenzene	114	8.924	8.913	(1.000)	1043188	50.0000		
	50	Dibromomethane	93	9.517	9.514	(1.066)	273703	100.000	97.5	
	51	1,2-Dichloropropane	63	9.689	9.678	(1.086)	492210	100.000	103	
	52	Bromodichloromethane	83	9.796	9.793	(1.098)	592041	100.000	105	
	53	cis-1,3-dichloropropene	75	10.797	10.786	(1.210)	763533	100.000	111	
	54	1,4-Dioxane	88	10.146	10.143	(1.137)	148643	2000.00	2130	
$	55	Toluene-D8	98	11.076	11.072	(1.241)	1298904	50.0000	51.6	
	57	Toluene	92	11.154	11.144	(1.250)	1120609	100.000	100	
	58	4-methyl-2-pentanone	43	11.769	11.766	(1.319)	2775451	500.000	473	
	59	Tetrachloroethene	164	11.719	11.715	(0.877)	326376	100.000	96.8	
	60	trans-1,3-Dichloropropene	75	11.805	11.794	(1.323)	639323	100.000	122	
	61	1,1,2-Trichloroethane	83	12.033	12.030	(1.348)	346843	100.000	97.1	
	62	Dibromochloromethane	129	12.284	12.280	(0.919)	445599	100.000	105	
	63	1,3-Dichloropropane	76	12.434	12.430	(0.930)	785927	100.000	98.4	
	64	1,2-Dibromoethane	107	12.620	12.616	(1.414)	423197	100.000	102	
	65	2-Hexanone	43	13.020	13.016	(0.974)	2092944	500.000	470	
*	66	Chlorobenzene-D5	117	13.370	13.367	(1.000)	999663	50.0000		
	67	Chlorobenzene	112	13.392	13.388	(1.002)	1289706	100.000	99.0	
	152	1-Chlorohexane	91	13.449	13.445	(1.670)	2192614	100.000	(a)	
	68	Ethylbenzene	106	13.449	13.445	(1.006)	705675	100.000	99.9	
	69	1,1,1,2-Tetrachloroethane	131	13.492	13.488	(1.009)	433027	100.000	110	
M	70	Xylenes (total)	106				2603864	100.000	(a)	
	71	m+p-Xylenes	106	13.656	13.653	(1.021)	1727394	200.000	200	
	72	o-Xylene	106	14.235	14.232	(1.065)	876470	100.000	102	
	73	Styrene	104	14.314	14.310	(1.071)	1494999	100.000	103	
	74	Bromoform	173	14.328	14.324	(1.072)	316764	100.000	108	
	75	Isopropylbenzene	105	14.657	14.653	(0.892)	2091913	100.000	96.1	
$	76	P-Bromofluorobenzene	95	15.014	15.011	(1.682)	546645	50.0000	52.0	

Data File: \\target_server\gg\chem\gcms-w.i\W051818C.b\W4028.D
Report Date: 25-May-2018 11:52

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/kg)	AMOUNTS ON-COL (ug/kg)	REVIEW CODE
77	cis-1,4-Dichloro-2-Butene	53	15.121	15.118	(0.920)	195181	100.000	106	
78	trans-1,4-Dichloro-2-Butene	53	15.522	15.518	(0.945)	154231	100.000	103	
79	Bromobenzene	156	15.143	15.139	(0.922)	574286	100.000	97.6	
80	N-Propylbenzene	91	15.200	15.197	(0.925)	2676972	100.000	95.2	
81	1,1,2,2-Tetrachloroethane	83	15.293	15.297	(0.931)	657940	100.000	94.6	
82	1,3,5-Trimethylbenzene	105	15.457	15.454	(0.941)	1906675	100.000	97.9	
83	2-Chlorotoluene	91	15.386	15.382	(0.936)	1663004	100.000	97.0	
84	1,2,3-Trichloropropane	75	15.457	15.454	(0.941)	570095	100.000	95.8	
85	4-Chlorotoluene	91	15.600	15.597	(0.950)	1736645	100.000	97.4	
86	tert-Butylbenzene	119	15.851	15.847	(0.965)	1951917	100.000	100	
87	Pentachloroethane	117	15.872	15.868	(0.966)	394110	100.000	114	
88	1,2,4-Trimethylbenzene	105	15.943	15.940	(0.970)	2006505	100.000	97.5	
89	P-Isopropyltoluene	119	16.258	16.254	(0.990)	2089114	100.000	97.0	
90	1,3-Dichlorobenzene	146	16.337	16.333	(0.994)	1103351	100.000	97.3	
* 91	1,4-Dichlorobenzene-D4	152	16.430	16.426	(1.000)	575251	50.0000		
92	1,4-Dichlorobenzene	146	16.444	16.440	(1.001)	1119511	100.000	96.4	
93	N-Butylbenzene	91	16.773	16.769	(1.021)	1976093	100.000	95.8	
94	sec-Butylbenzene	105	16.072	16.069	(0.978)	2483262	100.000	96.2	
95	1,2-Dichlorobenzene	146	16.958	16.955	(1.032)	1094306	100.000	95.4	
96	1,2-Dibromo-3-Chloropropane	75	17.938	17.934	(1.092)	152891	100.000	106	
97	1,3,5-Trichlorobenzene	180	17.966	17.963	(2.231)	734085	100.000	95.6	
98	Hexachlorobutadiene	225	18.703	18.699	(1.138)	328540	100.000	89.9	
99	1,2,4-Trichlorobenzene	180	18.738	18.735	(1.141)	662717	100.000	96.0	
100	1,2,3-Trimethylbenzene	105	16.480	16.476	(2.047)	2048492	100.000	99.9	
101	Naphthalene	128	19.131	19.135	(1.164)	1778904	100.000	91.3	
102	1,2,3-Trichlorobenzene	180	19.360	19.357	(1.178)	604132	100.000	90.7	
103	Methyl Acetate	43	4.421	4.417	(0.549)	442969	100.000	96.7	
104	Methylcyclohexane	83	8.810	8.799	(1.094)	758163	100.000	99.1	
M 153	Total Alkylbenzenes	100				15090538	100.000	(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).


Data File: \\target_server\gg\chem\gcms-w.i\W051818C.b\W4028.D
Date : 18-MAY-2018 16:56
Client ID:
Sample Info: WG228635-5
Column phase: RTX-VMS
Instrument: gcms-w.i
Operator: JSS
Column diameter: 0.18
\\target_server\gg\chem\gcms-w.i\W051818C.b\W4028.D
Y (x10^6)
Min
-Chloromethane (2.172)
Vinyl Chloride (2.256)
-Bromomethane (2.599)
-Chloroethane (2.727)
-Trichlorofluoromethane (2.870)
-Diethyl Ether (3.213)
-1,1-Dichloroethene (3.449)+
-Iodomethane (3.628)
-Acrolein (3.871)
-Allyl Chloride (4.035)
-Methylene Chloride (4.178)+
-trans-1,2-Dichloroethene (4.400)+
-Total Alkylbenzenes (4.500)
Methyl tert-butyl ether (4.557)
-Tertiary-butyl alcohol (4.700)
-Acetonitrile (4.957)
-Di-isopropyl ether (5.143)
-Chloroprene (5.315)+
-Acrylonitrile (5.465)
-Ethyl tertiary-butyl ethe (5.787)+
-cis-1,2-Dichloroethene (6.337)
-2,2-Dichloropropane (6.544)
Bromochloromethane (6.709)+
-Chloroform (6.852)
-Carbon Tetrachloride (7.145)+
-1,1-Dichloropropene (7.431)+
-Propionitrile (7.860)+
1,2-Dichloroethane-D4 (8.103)+
Methacrylonitrile (7.981)+
-1,2-Dichloroethane (8.217)
-Isobutyl Alcohol (8.324)
-Trichloroethene (8.810)+
-1,4-Difluorobenzene (8.926)
-Dibromomethane (9.518)
-1,2-Dichloropropane (9.689)
-Bromodichloromethane (9.797)
-Ethyl Methacrylate (10.104)+
-1,2-Dichloroethylene (tot (10.268)
-cis-1,3-dichloropropene (10.790)
-Toluene-D8 (11.076)
Toluene (11.148)
-Tetrachloroethene (11.719)
-4-methyl-2-pentanone (11.770)+
-Methyl Methacrylate (12.034)+
-Dibromochloromethane (12.284)
-1,3-Dichloropropane (12.434)
-1,2-Dibromoethane (12.620)
-2-Hexanone (13.020)
Chlorobenzene-D5 (13.390)+
1-Chlorohexane (13.449)+
m+p-Xylenes (13.657)
-o-Xylene (14.236)
Styrene (14.314)+
-Isopropylbenzene (14.657)
-P-Bromofluorobenzene (15.015)
cis-1,4-Dichloro-2-Butene (15.147)+
n-Propylbenzene (15.201)
1,1,2,2-Tetrachloroethane (15.301)
2-Chlorotoluene (15.386)
trans-1,4-Dichloro-2-Bute (15.522)
-4-Chlorotoluene (15.601)
1,3,5-Trimethylbenzene (15.658)+
tert-Butylbenzene (15.851)+
-sec-Butylbenzene (16.073)
1,2,4-Trimethylbenzene (16.258)+
-1,3-Dichlorobenzene (16.316)+
1,4-Dichlorobenzene-D4 (16.444)+
-N-Butylbenzene (16.773)
-1,2-Dichlorobenzene (16.959)
1,2-Dibromo-3-Chloropropa (17.938)
-1,3,5-Trichlorobenzene (17.967)
-Hexachlorobutadiene (18.707)
1,2,4-Trichlorobenzene (18.739)
-Naphthalene (19.132)
-1,2,3-Trichlorobenzene (19.361)

Data File: \\target_server\gg\chem\gcms-w.i\W051818C.b\W4029.D
Report Date: 25-May-2018 11:52

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W051818C.b\W4029.D
Lab Smp Id: WG228635-4
Inj Date : 18-MAY-2018 17:33
Operator : JSS   Inst ID: gcms-w.i
Smp Info : WG228635-4
Misc Info :
Comment   : SW846 5035
Method   : \\target_server\gg\chem\gcms-w.i\W051818C.b\W8SDI(12)D.m
Meth Date : 25-May-2018 11:52 gcms-w.i   Quant Type: ISTD
Cal Date : 18-MAY-2018 17:33   Cal File: W4029.D
Als bottle: 7   Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP RTE   Compound Sublist: all.sub
Target Version: 4.12

Concentration Formula: Amt * DF * (100/(100-M))*(Vt/Ws) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
M	0.00000	% Moisture
Vt	5.000	Volume of DI Water (mL)
Ws	5.000	Weight of Sample (g)
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/kg)	AMOUNTS ON-COL (ug/kg)	REVIEW CODE
1	Dichlorodifluoromethane	85	1.958	1.958	(0.244)	237916	50.0000	49.2	
2	Chloromethane	50	2.173	2.173	(0.270)	331905	50.0000	47.9	
3	Vinyl chloride	62	2.252	2.252	(0.280)	276690	50.0000	48.7	
4	Bromomethane	94	2.595	2.595	(0.323)	116995	50.0000	48.0	
5	Chloroethane	64	2.723	2.723	(0.339)	144769	50.0000	47.0	
6	Trichlorofluoromethane	101	2.873	2.873	(0.357)	331729	50.0000	48.6	
7	Diethyl Ether	59	3.209	3.209	(0.399)	207392	50.0000	49.4	
8	Tertiary-butyl alcohol	59	4.682	4.682	(0.582)	141752	250.000	285	
9	1,1-Dichloroethene	96	3.445	3.445	(0.428)	201469	50.0000	48.8	
10	Carbon Disulfide	76	3.488	3.488	(0.434)	669026	50.0000	47.6	
11	Freon-113	151	3.488	3.488	(0.434)	145583	50.0000	48.7	
12	Iodomethane	142	3.624	3.624	(0.451)	162316	50.0000	45.9	
13	Acrolein	56	3.867	3.867	(0.481)	222277	250.000	242	
14	Methylene Chloride	84	4.174	4.174	(0.519)	260694	50.0000	49.6	
15	Acetone	43	4.253	4.253	(0.529)	540989	250.000	289	
16	Isobutyl Alcohol	43	8.320	8.320	(1.035)	295391	1000.00	1020	
17	trans-1,2-Dichloroethene	96	4.389	4.389	(0.546)	223820	50.0000	50.2	
18	Allyl Chloride	41	4.031	4.031	(0.501)	369614	50.0000	49.4	
19	Methyl tert-butyl ether	73	4.546	4.546	(0.565)	648314	50.0000	54.3	
20	Acetonitrile	39	4.946	4.946	(0.615)	80183	500.000	476	
21	Di-isopropyl ether	45	5.132	5.132	(0.638)	802699	50.0000	50.1	
22	Chloroprene	53	5.304	5.304	(0.660)	343664	50.0000	49.0	

Data File: \\target_server\gg\chem\gcms-w.i\W051818C.b\W4029.D
Report Date: 25-May-2018 11:52

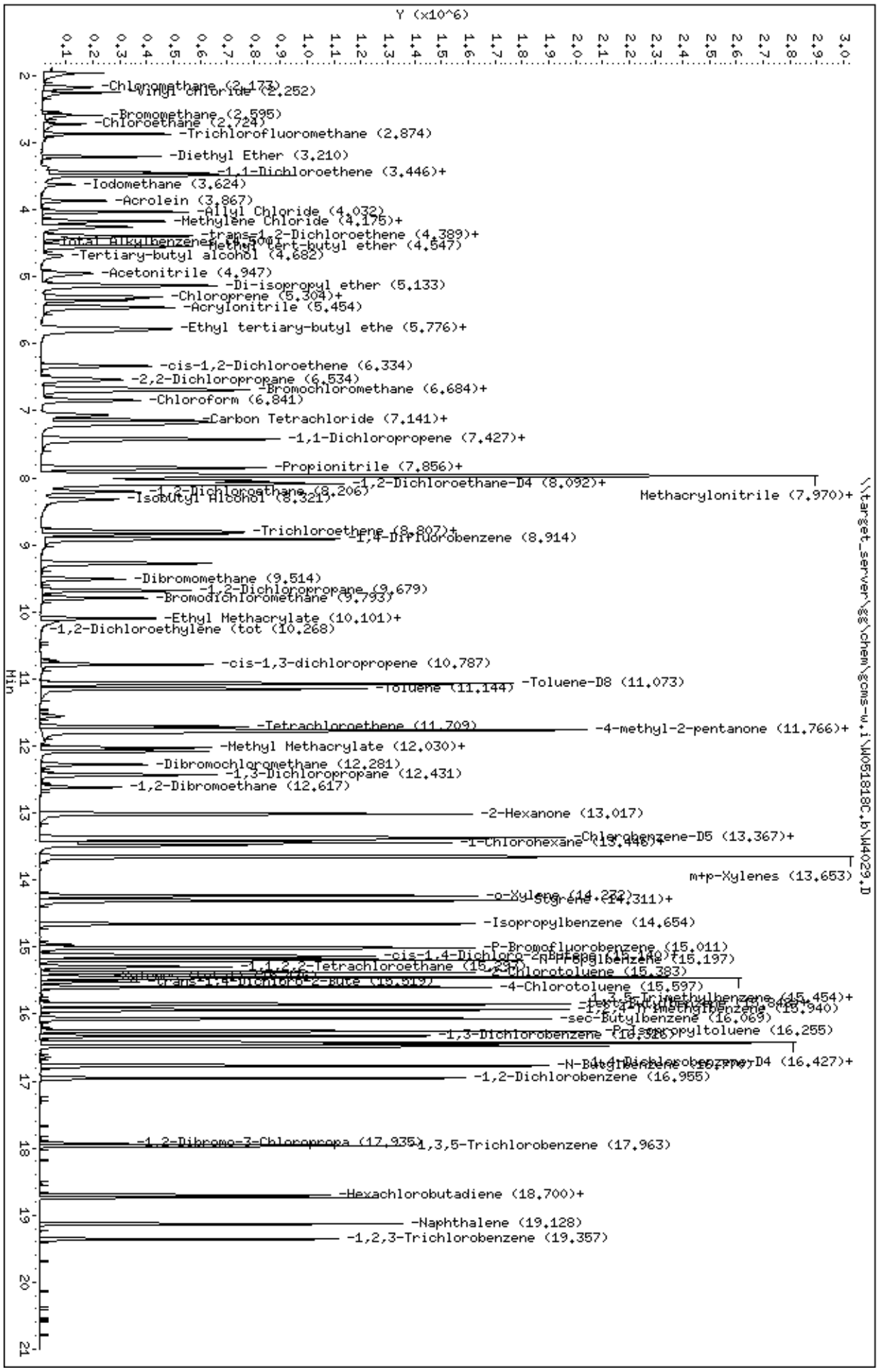
								AMOUNTS		
			QUANT SIG					CAL-AMT	ON-COL	
	Compounds		MASS	RT	EXP RT	REL RT	RESPONSE	(ug/kg)	(ug/kg)	REVIEW CODE
	23	Propionitrile	54	7.941	7.941	(0.988)	438045	500.000	520	
	24	Methacrylonitrile	41	7.970	7.970	(0.991)	1722663	500.000	508	
	25	1,1-Dichloroethane	63	5.347	5.347	(0.665)	409436	50.0000	49.1	
	26	Acrylonitrile	52	5.454	5.454	(0.678)	441571	250.000	252	
	27	Ethyl tertiary-butyl ether	59	5.775	5.775	(0.718)	571062	50.0000	54.5	
	28	Vinyl Acetate	43	5.818	5.818	(0.653)	494450	50.0000	50.7	
	29	cis-1,2-Dichloroethene	96	6.333	6.333	(0.788)	242294	50.0000	49.7	
M	30	1,2-Dichloroethylene (total)	96				466114	100.000	(a)	
	31	Methyl Methacrylate	41	12.080	12.080	(1.355)	245198	50.0000	55.4	
	32	2,2-Dichloropropane	77	6.533	6.533	(0.812)	229213	50.0000	54.6	
	33	Bromochloromethane	128	6.698	6.698	(0.833)	112538	50.0000	52.1	
	34	Chloroform	83	6.841	6.841	(0.851)	393746	50.0000	50.8	
	35	Carbon Tetrachloride	117	7.069	7.069	(0.793)	218045	50.0000	49.3	
	36	Tetrahydrofuran	42	7.134	7.134	(0.887)	471714	250.000	256	
$	37	Dibromofluoromethane	113	7.176	7.176	(0.892)	311329	50.0000	50.5	
	38	1,1,1-Trichloroethane	97	7.198	7.198	(0.895)	309978	50.0000	49.6	
	39	1,1-Dichloropropene	75	7.420	7.420	(0.832)	296703	50.0000	48.6	
	40	2-Butanone	43	7.434	7.434	(0.924)	778043	250.000	266	
	41	Benzene	78	7.856	7.856	(0.881)	925318	50.0000	49.4	
*	42	Pentafluorobenzene	168	8.041	8.041	(1.000)	628350	50.0000		
	43	Cyclohexane	56	6.683	6.683	(0.831)	393726	50.0000	49.9	
	44	Ethyl Methacrylate	69	10.093	10.093	(1.132)	186902	50.0000	56.1	
$	45	1,2-Dichloroethane-D4	65	8.091	8.091	(1.006)	403493	50.0000	49.7	
	46	Tertiary-amyl methyl ether	73	8.084	8.084	(1.005)	530102	50.0000	55.9	
	47	1,2-Dichloroethane	62	8.206	8.206	(0.921)	337359	50.0000	50.7	
	48	Trichloroethene	95	8.835	8.835	(0.991)	221883	50.0000	49.5	
*	49	1,4-Difluorobenzene	114	8.913	8.913	(1.000)	1040947	50.0000		
	50	Dibromomethane	93	9.514	9.514	(1.067)	145500	50.0000	52.2	
	51	1,2-Dichloropropane	63	9.678	9.678	(1.086)	246050	50.0000	51.2	
	52	Bromodichloromethane	83	9.793	9.793	(1.099)	297183	50.0000	52.3	
	53	cis-1,3-dichloropropene	75	10.786	10.786	(1.210)	382351	50.0000	54.4	
	54	1,4-Dioxane	88	10.143	10.143	(1.138)	76818	1000.00	1090	
$	55	Toluene-D8	98	11.072	11.072	(1.242)	1268329	50.0000	50.2	
	57	Toluene	92	11.144	11.144	(1.250)	562030	50.0000	50.3	
	58	4-methyl-2-pentanone	43	11.766	11.766	(1.320)	1553592	250.000	268	
	59	Tetrachloroethene	164	11.715	11.715	(0.876)	197720	50.0000	59.7	
	60	trans-1,3-Dichloropropene	75	11.794	11.794	(1.323)	311774	50.0000	57.1	
	61	1,1,2-Trichloroethane	83	12.030	12.030	(1.350)	184655	50.0000	52.1	
	62	Dibromochloromethane	129	12.280	12.280	(0.919)	224714	50.0000	53.0	
	63	1,3-Dichloropropane	76	12.430	12.430	(0.930)	410470	50.0000	52.2	
	64	1,2-Dibromoethane	107	12.616	12.616	(1.415)	218446	50.0000	52.8	
	65	2-Hexanone	43	13.016	13.016	(0.974)	1163480	250.000	268	
*	66	Chlorobenzene-D5	117	13.367	13.367	(1.000)	988122	50.0000		
	67	Chlorobenzene	112	13.388	13.388	(1.002)	645222	50.0000	50.2	
	152	1-Chlorohexane	91	13.445	13.445	(1.672)	1097332	50.0000	(a)	
	68	Ethylbenzene	106	13.445	13.445	(1.006)	349820	50.0000	50.1	
	69	1,1,1,2-Tetrachloroethane	131	13.488	13.488	(1.009)	211232	50.0000	53.2	
M	70	Xylenes (total)	106				1285441	150.000	(a)	
	71	m+p-Xylenes	106	13.653	13.653	(1.021)	849390	100.000	99.4	
	72	o-Xylene	106	14.232	14.232	(1.065)	436051	50.0000	51.2	
	73	Styrene	104	14.310	14.310	(1.071)	737775	50.0000	51.0	
	74	Bromoform	173	14.324	14.324	(1.072)	158438	50.0000	53.7	
	75	Isopropylbenzene	105	14.653	14.653	(0.892)	1036418	50.0000	48.3	
$	76	P-Bromofluorobenzene	95	15.011	15.011	(1.684)	541878	50.0000	51.2	

Data File: \\target_server\gg\chem\gcms-w.i\W051818C.b\W4029.D
Report Date: 25-May-2018 11:52

							AMOUNTS		
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ug/kg)	ON-COL (ug/kg)	REVIEW CODE
	77 cis-1,4-Dichloro-2-Butene	53	15.118	15.118	(0.920)	95891	50.0000	51.6	
	78 trans-1,4-Dichloro-2-Butene	53	15.518	15.518	(0.945)	76363	50.0000	51.0	
	79 Bromobenzene	156	15.139	15.139	(0.922)	287318	50.0000	49.4	
	80 N-Propylbenzene	91	15.197	15.197	(0.925)	1340839	50.0000	48.5	
	81 1,1,2,2-Tetrachloroethane	83	15.297	15.297	(0.931)	344121	50.0000	50.4	
	82 1,3,5-Trimethylbenzene	105	15.454	15.454	(0.941)	947022	50.0000	49.2	
	83 2-Chlorotoluene	91	15.382	15.382	(0.936)	820872	50.0000	48.5	
	84 1,2,3-Trichloropropane	75	15.454	15.454	(0.941)	296962	50.0000	50.7	
	85 4-Chlorotoluene	91	15.597	15.597	(0.950)	850934	50.0000	48.3	
	86 tert-Butylbenzene	119	15.847	15.847	(0.965)	925046	50.0000	47.8	
	87 Pentachloroethane	117	15.868	15.868	(0.966)	145102	50.0000	41.2	
	88 1,2,4-Trimethylbenzene	105	15.940	15.940	(0.970)	994437	50.0000	48.9	
	89 P-Isopropyltoluene	119	16.254	16.254	(0.990)	1029652	50.0000	48.4	
	90 1,3-Dichlorobenzene	146	16.333	16.333	(0.994)	546640	50.0000	48.8	
*	91 1,4-Dichlorobenzene-D4	152	16.426	16.426	(1.000)	571189	50.0000		
	92 1,4-Dichlorobenzene	146	16.440	16.440	(1.001)	559251	50.0000	48.9	
	93 N-Butylbenzene	91	16.769	16.769	(1.021)	969255	50.0000	47.7	
	94 sec-Butylbenzene	105	16.069	16.069	(0.978)	1236438	50.0000	48.6	
	95 1,2-Dichlorobenzene	146	16.955	16.955	(1.032)	554074	50.0000	49.1	
	96 1,2-Dibromo-3-Chloropropane	75	17.934	17.934	(1.092)	77074	50.0000	53.1	
	97 1,3,5-Trichlorobenzene	180	17.963	17.963	(2.234)	352235	50.0000	46.3	
	98 Hexachlorobutadiene	225	18.699	18.699	(1.138)	166942	50.0000	46.9	
	99 1,2,4-Trichlorobenzene	180	18.735	18.735	(1.141)	324044	50.0000	47.7	
	100 1,2,3-Trimethylbenzene	105	16.476	16.476	(2.049)	1042085	50.0000	50.8	
	101 Naphthalene	128	19.135	19.135	(1.165)	929452	50.0000	48.9	
	102 1,2,3-Trichlorobenzene	180	19.357	19.357	(1.178)	300217	50.0000	46.2	
	103 Methyl Acetate	43	4.417	4.417	(0.549)	246446	50.0000	54.2	
	104 Methylcyclohexane	83	8.799	8.799	(1.094)	382204	50.0000	50.1	
M	153 Total Alkylbenzenes	100				7442689	50.0000	(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).


Data File: \\target_server\gg\chem\gcms-w.i\W051818C.b\W4029.D
Date : 18-MAY-2018 17:33
Client ID:
Sample Info: WG228635-4
Column phase: RTX-VMS
Instrument: gcms-w.i
Operator: JSS
Column diameter: 0.18
Y (x10^6)
Min
-Chloromethane (2.173)
-Vinyl chloride (2.252)
-Bromomethane (2.595)
-Chloroethane (2.724)
-Trichlorofluoromethane (2.874)
-Diethyl Ether (3.210)
-1,1-Dichloroethene (3.446)+
-Iodomethane (3.624)
-Acrolein (3.867)
-Allyl Chloride (4.032)
-Methylene Chloride (4.175)+
-trans-1,2-Dichloroethene (4.389)+
-Methyl tert-butyl ether (4.547)
-Tertiary-butyl alcohol (4.682)
-Acetonitrile (4.947)
-Di-isopropyl ether (5.133)
-Chloroprene (5.304)+
-Acrylonitrile (5.454)
-Ethyl tertiary-butyl ethe (5.776)+
-cis-1,2-Dichloroethene (6.334)
-2,2-Dichloropropane (6.534)
-Bromochloromethane (6.684)+
-Chloroform (6.841)
-Carbon Tetrachloride (7.141)+
-1,1-Dichloropropene (7.427)+
-Propionitrile (7.856)+
-1,2-Dichloroethane-D4 (8.092)+
Methacrylonitrile (7.970)+
-1,2-Dichloroethane (8.206)
-Isobutyl Alcohol (8.321)
-Trichloroethene (8.807)+
-1,4-Difluorobenzene (8.914)
-Dibromomethane (9.514)
-1,2-Dichloropropane (9.679)
-Bromodichloromethane (9.793)
-Ethyl Methacrylate (10.101)+
-1,2-Dichloroethylene (tot (10.268)
-cis-1,3-dichloropropene (10.787)
-Toluene (11.144)
-Toluene-D8 (11.073)
-Tetrachloroethene (11.709)
-4-methyl-2-pentanone (11.766)+
-Methyl Methacrylate (12.030)+
-Dibromochloromethane (12.281)
-1,3-Dichloropropane (12.431)
-1,2-Dibromoethane (12.617)
-2-Hexanone (13.017)
-Chlorobenzene-D5 (13.367)+
-1-Chlorohexane (13.448)+
m+p-Xylenes (13.653)
-o-Xylene (14.232)
-Styrene (14.311)+
-Isopropylbenzene (14.654)
-P-Bromofluorobenzene (15.011)
-cis-1,4-Dichloro-2-Butene (15.140)+
-n-Propylbenzene (15.197)
-1,1,2,2-Tetrachloroethane (15.294)
-2-Chlorotoluene (15.383)
-4-Chlorotoluene (15.597)
-1,3,5-Trimethylbenzene (15.454)+
-tert-Butylbenzene (15.842)+
-1,2,4-Trimethylbenzene (15.940)
-sec-Butylbenzene (16.069)
-p-Isopropyltoluene (16.255)
-1,3-Dichlorobenzene (16.318)
-N-Butylbenzene (16.427)+
-1,2-Dichlorobenzene (16.955)
-1,2-Dibromo-3-Chloropropa (17.935)
-1,3,5-Trichlorobenzene (17.963)
-Hexachlorobutadiene (18.700)+
-Naphthalene (19.128)
-1,2,3-Trichlorobenzene (19.357)

Data File: \\target_server\gg\chem\gcms-w.i\W051818C.b\W4030.D
Report Date: 25-May-2018 12:53

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W051818C.b\W4030.D
Lab Smp Id: WG228635-7
Inj Date : 18-MAY-2018 18:10
Operator : JSS   Inst ID: gcms-w.i
Smp Info : WG228635-7
Misc Info : WG228635,WG228635-4
Comment   : SW846 5035
Method   : \\target_server\gg\chem\gcms-w.i\W051818C.b\W8SDI(12)D.m
Meth Date : 25-May-2018 11:52 gcms-w.i   Quant Type: ISTD
Cal Date : 18-MAY-2018 15:04   Cal File: W4025.D
Als bottle: 8   QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE   Compound Sublist: all.sub
Target Version: 4.12

Concentration Formula: Amt * DF * (100/(100-M))*(Vt/Ws) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
M	0.00000	% Moisture
Vt	5.000	Volume of DI Water (mL)
Ws	5.000	Weight of Sample (g)
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/kg)	FINAL (ug/Kgdrywt)	REVIEW COD
1	Dichlorodifluoromethane	85	1.963	1.958	(0.244)	305356	64.2026	64.2(R)	
2	Chloromethane	50	2.177	2.173	(0.270)	397303	58.5425	58.5	
3	Vinyl chloride	62	2.256	2.252	(0.280)	308929	55.3837	55.4	
4	Bromomethane	94	2.599	2.595	(0.322)	125229	52.4817	52.5	
5	Chloroethane	64	2.735	2.723	(0.339)	160751	56.0659	56.1	
6	Trichlorofluoromethane	101	2.878	2.873	(0.357)	332155	49.5599	49.6	
7	Diethyl Ether	59	3.214	3.209	(0.399)	203435	49.2881	49.3	
8	Tertiary-butyl alcohol	59	4.700	4.682	(0.583)	119943	238.828	239	
9	1,1-Dichloroethene	96	3.450	3.445	(0.428)	181444	44.7507	44.8	
10	Carbon Disulfide	76	3.500	3.488	(0.434)	651156	47.3566	47.4	
11	Freon-113	151	3.492	3.488	(0.433)	142608	48.6261	48.6	
12	Iodomethane	142	3.635	3.624	(0.451)	183648	52.7925	52.8	
13	Acrolein	56	3.871	3.867	(0.480)	213849	237.433	237	
14	Methylene Chloride	84	4.179	4.174	(0.518)	239352	46.2552	46.2	
15	Acetone	43	4.264	4.253	(0.529)	89580	47.3655	47.4	
16	Isobutyl Alcohol	43	8.332	8.320	(1.034)	274427	964.191	964	
17	trans-1,2-Dichloroethene	96	4.400	4.389	(0.546)	211562	48.0852	48.1	
18	Allyl Chloride	41	4.043	4.031	(0.502)	374936	50.8973	50.9	
19	Methyl tert-butyl ether	73	4.557	4.546	(0.565)	594973	49.8534	49.8	
20	Acetonitrile	39	4.951	4.946	(0.614)	73751	447.326	447	
21	Di-isopropyl ether	45	5.144	5.132	(0.638)	792260	50.1388	50.1	
22	Chloroprene	53	5.315	5.304	(0.659)	345590	50.1573	50.2	

Data File: \\target_server\gg\chem\gcms-w.i\W051818C.b\W4030.D
Report Date: 25-May-2018 12:53

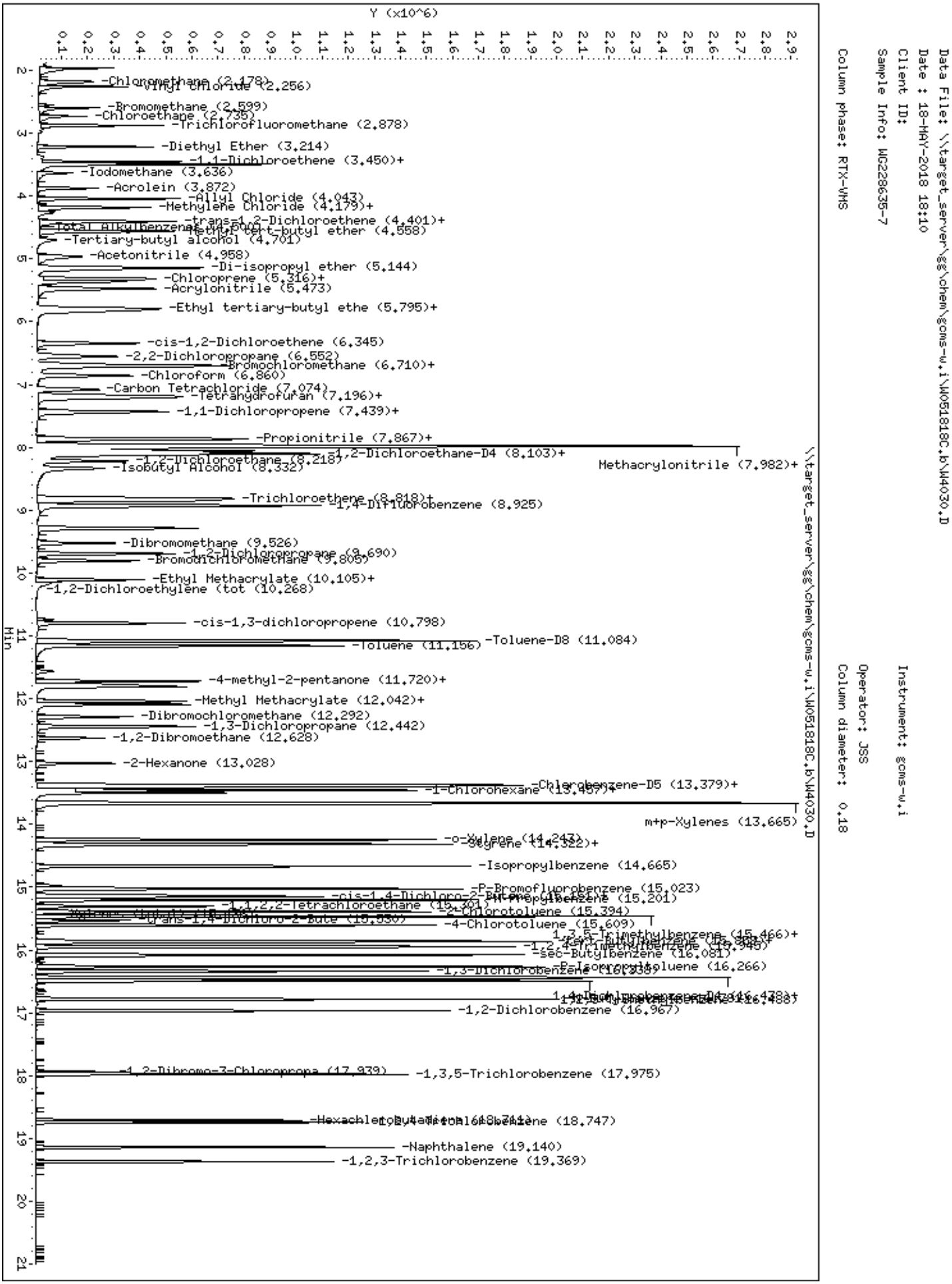
		Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/kg)	FINAL (ug/Kgdrywt)	REVIEW COD
	23	Propionitrile	54	7.953	7.941	(0.987)	402089	480.998	481	
	24	Methacrylonitrile	41	7.981	7.970	(0.990)	1623903	484.492	484	
	25	1,1-Dichloroethane	63	5.358	5.347	(0.665)	416278	50.7730	50.8	
	26	Acrylonitrile	52	5.472	5.454	(0.679)	407924	235.975	236	
	27	Ethyl tertiary-butyl ether	59	5.794	5.775	(0.719)	549953	52.4676	52.5	
	28	Vinyl Acetate	43	5.837	5.818	(0.654)	566169	57.9236	57.9	
	29	cis-1,2-Dichloroethene	96	6.344	6.333	(0.787)	227963	47.5050	47.5	
M	30	1,2-Dichloroethylene (total)	96				439525	95.5902	95.6	
	31	Methyl Methacrylate	41	12.091	12.080	(1.355)	238684	52.9968	53.0	
	32	2,2-Dichloropropane	77	6.552	6.533	(0.813)	226031	53.7537	53.8	
	33	Bromochloromethane	128	6.709	6.698	(0.832)	102164	47.6579	47.6	
	34	Chloroform	83	6.859	6.841	(0.851)	374207	48.8354	48.8	
	35	Carbon Tetrachloride	117	7.074	7.069	(0.793)	210382	47.8127	47.8	
	36	Tetrahydrofuran	42	7.159	7.134	(0.888)	91623	50.2159	50.2	
$	37	Dibromofluoromethane	113	7.188	7.176	(0.892)	296510	48.7211	48.7	
	38	1,1,1-Trichloroethane	97	7.209	7.198	(0.894)	297566	48.3927	48.4	
	39	1,1-Dichloropropene	75	7.431	7.420	(0.833)	289820	47.7681	47.8	
	40	2-Butanone	43	7.452	7.434	(0.925)	138438	47.5558	47.6	
	41	Benzene	78	7.867	7.856	(0.881)	896327	47.9813	48.0	
*	42	Pentafluorobenzene	168	8.060	8.041	(1.000)	619414	50.0000		
	43	Cyclohexane	56	6.695	6.683	(0.831)	370369	47.6588	47.6	
	44	Ethyl Methacrylate	69	10.104	10.093	(1.132)	174013	51.2179	51.2	
$	45	1,2-Dichloroethane-D4	65	8.103	8.091	(1.005)	384093	48.0632	48.1	
	46	Tertiary-amyl methyl ether	73	8.103	8.084	(1.005)	499029	52.3553	52.4	
	47	1,2-Dichloroethane	62	8.217	8.206	(0.921)	316858	47.5638	47.6	
	48	Trichloroethene	95	8.846	8.835	(0.991)	215981	48.2730	48.3	
*	49	1,4-Difluorobenzene	114	8.925	8.913	(1.000)	1040312	50.0000		
	50	Dibromomethane	93	9.518	9.514	(1.066)	135139	48.1533	48.2	
	51	1,2-Dichloropropane	63	9.690	9.678	(1.086)	236324	49.0452	49.0	
	52	Bromodichloromethane	83	9.804	9.793	(1.099)	292213	51.0927	51.1	
	53	cis-1,3-dichloropropene	75	10.798	10.786	(1.210)	343915	48.2269	48.2	
	54	1,4-Dioxane	88	10.154	10.143	(1.138)	68863	963.547	964	
$	55	Toluene-D8	98	11.084	11.072	(1.242)	1257577	49.7556	49.8	
	57	Toluene	92	11.155	11.144	(1.250)	547069	48.9632	49.0	
	58	4-methyl-2-pentanone	43	11.777	11.766	(1.320)	292745	49.9471	49.9	
	59	Tetrachloroethene	164	11.727	11.715	(0.877)	156725	46.6473	46.6	
	60	trans-1,3-Dichloropropene	75	11.806	11.794	(1.323)	294557	52.7241	52.7	
	61	1,1,2-Trichloroethane	83	12.041	12.030	(1.349)	166651	46.7282	46.7	
	62	Dibromochloromethane	129	12.292	12.280	(0.919)	212946	50.5944	50.6	
	63	1,3-Dichloropropane	76	12.442	12.430	(0.930)	371468	47.6741	47.7	
	64	1,2-Dibromoethane	107	12.628	12.616	(1.415)	199819	47.8780	47.9	
	65	2-Hexanone	43	13.028	13.016	(0.974)	220583	51.0048	51.0	
*	66	Chlorobenzene-D5	117	13.378	13.367	(1.000)	971321	50.0000		
	67	Chlorobenzene	112	13.400	13.388	(1.002)	615082	48.6609	48.7	
	152	1-Chlorohexane	91	13.457	13.445	(1.670)	1068699			(aR)
	68	Ethylbenzene	106	13.457	13.445	(1.006)	334665	48.7477	48.7	
	69	1,1,1,2-Tetrachloroethane	131	13.500	13.488	(1.009)	197764	50.1629	50.2	
M	70	Xylenes (total)	106				1227614	146.198	146	
	71	m+p-Xylenes	106	13.664	13.653	(1.021)	817501	97.4357	97.4	
	72	o-Xylene	106	14.243	14.232	(1.065)	410113	48.7627	48.8	
	73	Styrene	104	14.314	14.310	(1.070)	695584	48.7463	48.7	
	74	Bromoform	173	14.336	14.324	(1.072)	147431	50.2393	50.2	
	75	Isopropylbenzene	105	14.665	14.653	(0.893)	1040744	51.1614	51.2	
$	76	P-Bromofluorobenzene	95	15.022	15.011	(1.683)	524003	49.3784	49.4	

Data File: \\target_server\gg\chem\gcms-w.i\W051818C.b\W4030.D
Report Date: 25-May-2018 12:53

			QUANT SIG					CONCENTRATIONS		
		Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN (ug/kg)	FINAL (ug/Kgdrywt)	REVIEW COD
	77	cis-1,4-Dichloro-2-Butene	53	15.129	15.118	(0.921)	87666	49.2318	49.2	
	78	trans-1,4-Dichloro-2-Butene	53	15.530	15.518	(0.945)	72818	50.7889	50.8	
	79	Bromobenzene	156	15.151	15.139	(0.922)	267047	48.2537	48.2	
	80	N-Propylbenzene	91	15.201	15.197	(0.925)	1295446	49.3457	49.3	
	81	1,1,2,2-Tetrachloroethane	83	15.301	15.297	(0.931)	321064	49.2294	49.2	
	82	1,3,5-Trimethylbenzene	105	15.458	15.454	(0.941)	914823	49.9549	50.0	
	83	2-Chlorotoluene	91	15.394	15.382	(0.937)	785227	48.8731	48.9	
	84	1,2,3-Trichloropropane	75	15.465	15.454	(0.941)	267476	47.7332	47.7	
	85	4-Chlorotoluene	91	15.608	15.597	(0.950)	817566	48.9482	48.9	
	86	tert-Butylbenzene	119	15.858	15.847	(0.965)	914827	49.9520	50.0	
	87	Pentachloroethane	117	15.873	15.868	(0.966)	178475	54.6781	54.7	
	88	1,2,4-Trimethylbenzene	105	15.951	15.940	(0.971)	964792	49.9312	49.9	
	89	P-Isopropyltoluene	119	16.266	16.254	(0.990)	1010528	50.0961	50.1	
	90	1,3-Dichlorobenzene	146	16.337	16.333	(0.994)	526412	49.4879	49.5	
*	91	1,4-Dichlorobenzene-D4	152	16.430	16.426	(1.000)	544860	50.0000		
	92	1,4-Dichlorobenzene	146	16.452	16.440	(1.001)	536052	49.2867	49.3	
	93	N-Butylbenzene	91	16.781	16.769	(1.021)	972247	50.5709	50.6	
	94	sec-Butylbenzene	105	16.080	16.069	(0.979)	1201861	49.7808	49.8	
	95	1,2-Dichlorobenzene	146	16.966	16.955	(1.033)	530913	49.4715	49.5	
	96	1,2-Dibromo-3-Chloropropane	75	17.939	17.934	(1.092)	64124	45.8223	45.8	
	97	1,3,5-Trichlorobenzene	180	17.974	17.963	(2.230)	368261	49.7118	49.7	
	98	Hexachlorobutadiene	225	18.710	18.699	(1.139)	164468	48.9779	49.0	
	99	1,2,4-Trichlorobenzene	180	18.746	18.735	(1.141)	316330	49.1618	49.2	
	100	1,2,3-Trimethylbenzene	105	16.487	16.476	(2.046)	1031378	50.9068	50.9	
	101	Naphthalene	128	19.139	19.135	(1.165)	915557	50.6903	50.7	
	102	1,2,3-Trichlorobenzene	180	19.368	19.357	(1.179)	303324	49.6000	49.6	
	103	Methyl Acetate	43	4.429	4.417	(0.549)	204066	44.8780	44.9	
	104	Methylcyclohexane	83	8.811	8.799	(1.093)	377477	50.1504	50.2	
M	153	Total Alkylbenzenes	100				7274524	349.631	350	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
R - Spike/Surrogate failed recovery limits.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Date : 18-MAY-2018 18:10
Client ID:
Sample Info: WG228635-7
Column phase: RTX-VMS
Instrument: gcms-w.i
Operator: JSS
Column diameter: 0.18
Y (x10^6)
Min
\\target_server\gg\chem\gcms-w.i\W051818C.b\W4030.D
-Chloromethane (2.178)
-Vinyl Chloride (2.256)
-Bromomethane (2.599)
-Chloroethane (2.735)
-Trichlorofluoromethane (2.878)
-Diethyl Ether (3.214)
-1,1-Dichloroethene (3.450)+
-Iodomethane (3.636)
-Acrolein (3.872)
-Allyl Chloride (4.043)
-Methylene Chloride (4.179)+
-trans-1,2-Dichloroethene (4.401)+
-Total Alkylbenzenes (4.500)
-Methyl tert-butyl ether (4.558)
-Tertiary-butyl alcohol (4.701)
-Acetonitrile (4.958)
-Di-isopropyl ether (5.144)
-Chloroprene (5.316)+
-Acrylonitrile (5.473)
-Ethyl tertiary-butyl ethe (5.795)+
-cis-1,2-Dichloroethene (6.345)
-2,2-Dichloropropane (6.552)
-Bromochloromethane (6.710)+
-Chloroform (6.860)
-Carbon Tetrachloride (7.074)
-Tetrahydrofuran (7.196)+
-1,1-Dichloropropene (7.439)+
-Propionitrile (7.867)+
-1,2-Dichloroethane-D4 (8.103)+
Methacrylonitrile (7.982)+
-1,2-Dichloroethane (8.218)
-Isobutyl Alcohol (8.332)
-Trichloroethene (8.818)+
-1,4-Difluorobenzene (8.925)
-Dibromomethane (9.526)
-1,2-Dichloropropane (9.690)
-Bromodichloromethane (9.805)
-Ethyl Methacrylate (10.105)+
-1,2-Dichloroethylene (tot (10.268)
-cis-1,3-dichloropropene (10.798)
-Toluene-D8 (11.084)
-Toluene (11.156)
-4-methyl-2-pentanone (11.720)+
-Methyl Methacrylate (12.042)+
-Dibromochloromethane (12.292)
-1,3-Dichloropropane (12.442)
-1,2-Dibromoethane (12.628)
-2-Hexanone (13.028)
-Chlorobenzene-D5 (13.379)+
-1-Chlorohexane (13.457)+
m+p-Xylenes (13.665)
-o-Xylene (14.243)
-Styrene (14.322)+
-Isopropylbenzene (14.665)
-P-Bromofluorobenzene (15.023)
-cis-1,4-Dichloro-2-Butene (15.201)
-1,1,2,2-Tetrachloroethane (15.301)
-2-Chlorotoluene (15.394)
-trans-1,4-Dichloro-2-Bute (15.530)
-4-Chlorotoluene (15.609)
1,3,5-Trimethylbenzene (15.466)+
-sec-Butylbenzene (16.081)
-P-Isopropyltoluene (16.266)
-1,3-Dichlorobenzene (16.338)
-1,2-Dichlorobenzene (16.967)
-1,2-Dibromo-3-Chloropropa (17.939)
-1,3,5-Trichlorobenzene (17.975)
-Hexachlorobutadiene (18.711)
-1,2,4-Trichlorobenzene (18.747)
-Naphthalene (19.140)
-1,2,3-Trichlorobenzene (19.369)

Katahdin
ANALYTICAL SERVICES

Form 6
Initial Calibration Summary

Lab Name : Katahdin Analytical Services
SDG: SL4180
Project : Cornhusker Army Ammunition Plant
Instrument ID: GCMS-W
Lab File IDs : W4066.D W4065.D W4064.D W4063.D W4068.D W4067.D
Column ID:
Calibration Date(s): 21-MAY-18 08:39, 21-MAY-18 11:44

	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Crv					Max	
	5.0000	10.0000	20.0000	50.0000	100.0000	150.0000	New	b	m1	m2	%RSD	%RSD	
Dichlorodifluoromethane	0.85151	0.83656	0.87044	0.78181	0.71525	0.70167	AVG		0.79287		9.06503	15.00000	O
Chloromethane	1.21665	1.02021	1.12019	0.90404	0.85994	0.85594	AVG		0.99616		14.97579	15.00000	O
Vinyl chloride	1.04730	0.94211	0.98311	0.86410	0.80341	0.82339	AVG		0.91057		10.55602	15.00000	O
Bromomethane	0.53819	0.48211	0.49451	0.40001	0.40610	0.43135	AVG		0.45871		11.98344	15.00000	O
Chloroethane	25615	41369	86051	194126	410423	558783	LNR	-0.09746	0.43367		0.99810	0.99000	O
Trichlorofluoromethane	1.15364	1.19847	1.28398	1.19730	1.06152	1.14622	AVG		1.17352		6.27062	15.00000	O
1,1-Dichloroethene	0.64985	0.58650	0.63322	0.58689	0.55895	0.58634	AVG		0.60029		5.68047	15.00000	O
Carbon Disulfide	2.11822	1.92496	2.00400	1.89977	1.84593	1.93217	AVG		1.95418		4.87659	15.00000	O
Freon-113	0.37824	0.45068	0.48036	0.43898	0.40710	0.42484	AVG		0.43003		8.23760	15.00000	O
Methylene Chloride	0.84265	0.79669	0.79909	0.70904	0.71351	0.73283	AVG		0.76563		7.15670	15.00000	O
Acetone	0.27352	0.29819	0.29954	0.29183	0.24064	0.25572	AVG		0.27657		8.80082	15.00000	O
trans-1,2-Dichloroethene	0.68270	0.64179	0.67302	0.62467	0.60760	0.62851	AVG		0.64305		4.54857	15.00000	O
Methyl tert-butyl ether	1.59562	1.71078	1.82557	1.71146	1.76371	1.77749	AVG		1.73077		4.57089	15.00000	O
1,1-Dichloroethane	1.31120	1.19602	1.25607	1.13532	1.10125	1.15688	AVG		1.19279		6.60227	15.00000	O
cis-1,2-Dichloroethene	0.73985	0.75102	0.74882	0.68555	0.67362	0.69202	AVG		0.71515		4.91042	15.00000	O
2,2-Dichloropropane	0.54531	0.56588	0.63743	0.62508	0.64805	0.68474	AVG		0.61775		8.49940	15.00000	O
Bromochloromethane	0.30923	0.33288	0.33668	0.33020	0.30735	0.32695	AVG		0.32388		3.86141	15.00000	O
Chloroform	1.25954	1.14976	1.21294	1.11468	1.07540	1.13018	AVG		1.15708		5.84411	15.00000	O
Carbon Tetrachloride	0.34727	0.37035	0.43653	0.44714	0.44760	0.44448	AVG		0.41556		10.76601	15.00000	O
1,1,1-Trichloroethane	0.95117	0.89344	0.97954	0.92863	0.88443	0.91953	AVG		0.92612		3.84389	15.00000	O
1,1-Dichloropropene	0.59963	0.56499	0.62845	0.57052	0.55042	0.54676	AVG		0.57680		5.46421	15.00000	O
2-Butanone	0.41367	0.41632	0.46348	0.45595	0.39036	0.41314	AVG		0.42549		6.63258	15.00000	O
Benzene	1.96172	1.73081	1.89254	1.69650	1.68070	1.64973	AVG		1.76867		7.20247	15.00000	O
1,2-Dichloroethane	0.58573	0.62954	0.67395	0.60614	0.58598	0.58343	AVG		0.61079		5.83685	15.00000	O
Trichloroethene	0.44411	0.43648	0.46596	0.42173	0.41367	0.40527	AVG		0.43120		5.15675	15.00000	O
Dibromomethane	0.28208	0.27134	0.28461	0.26801	0.26377	0.25850	AVG		0.27138		3.77503	15.00000	O
1,2-Dichloropropane	0.45208	0.45020	0.48391	0.44456	0.43915	0.43626	AVG		0.45103		3.82019	15.00000	O
Bromodichloromethane	0.53385	0.55518	0.59357	0.57078	0.56322	0.56044	AVG		0.56284		3.47479	15.00000	O
cis-1,3-dichloropropene	0.61811	0.65445	0.73474	0.69504	0.71645	0.72144	AVG		0.69004		6.52834	15.00000	O
Toluene	1.15507	1.04715	1.17419	1.05360	1.05129	1.05060	AVG		1.08865		5.43787	15.00000	O
4-methyl-2-pentanone	0.52501	0.58216	0.62219	0.61423	0.54821	0.53183	AVG		0.57060		7.34488	15.00000	O
Tetrachloroethene	0.36845	0.35218	0.37241	0.33561	0.32225	0.32668	AVG		0.34627		6.17277	15.00000	O
trans-1,3-Dichloropropene	0.47164	0.49300	0.57886	0.59182	0.61095	0.62398	AVG		0.56171		11.35385	15.00000	O
1,1,2-Trichloroethane	0.33373	0.35143	0.36829	0.34810	0.34053	0.33215	AVG		0.34570		3.88596	15.00000	O
Dibromochloromethane	0.41608	0.41710	0.46292	0.43396	0.44324	0.45303	AVG		0.43772		4.34348	15.00000	O
1,3-Dichloropropane	0.77320	0.74372	0.79064	0.74387	0.74228	0.73408	AVG		0.75463		2.93395	15.00000	O
1,2-Dibromoethane	0.37609	0.38681	0.44057	0.41450	0.41130	0.41000	AVG		0.40654		5.57952	15.00000	O

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Katahdin
ANALYTICAL SERVICES

Form 6
Initial Calibration Summary

Lab Name : Katahdin Analytical Services
SDG: SL4180
Project : Cornhusker Army Ammunition Plant
Instrument ID: GCMS-W
Lab File IDs : W4066.D W4065.D W4064.D W4063.D W4068.D W4067.D
Column ID:
Calibration Date(s): 21-MAY-18 08:39, 21-MAY-18 11:44

2-Hexanone	0.36787	0.42351	0.47013	0.43081	0.40359	0.39726	AVG		0.41553		8.35505	15.00000	O
Chlorobenzene	1.30384	1.26492	1.34801	1.19746	1.20105	1.21613	AVG		1.25523		4.89385	15.00000	O
Ethylbenzene	0.72107	0.67747	0.72352	0.67147	0.67580	0.68202	AVG		0.69189		3.44037	15.00000	O
1,1,1,2-Tetrachloroethane	0.39029	0.38075	0.42342	0.40476	0.41796	0.42722	AVG		0.40740		4.61925	15.00000	O
m+p-Xylenes	0.87223	0.81468	0.90460	0.84543	0.82708	0.83839	AVG		0.85040		3.86569	15.00000	O
o-Xylene	0.86588	0.83456	0.88585	0.82689	0.83599	0.84946	AVG		0.84977		2.63467	15.00000	O
Styrene	1.37972	1.38123	1.51088	1.39989	1.42300	1.46110	AVG		1.42597		3.61309	15.00000	O
Bromoform	0.29202	0.32505	0.33224	0.32799	0.34260	0.35505	AVG		0.32916		6.45557	15.00000	O
Isopropylbenzene	3.57447	3.22872	3.52948	3.11131	3.03225	3.02322	AVG		3.24991		7.56118	15.00000	O
Bromobenzene	0.93019	0.91661	1.00774	0.85869	0.88300	0.89369	AVG		0.91499		5.67518	15.00000	O
N-Propylbenzene	4.66749	4.19508	4.64174	4.06373	3.86194	3.76798	AVG		4.19966		9.11823	15.00000	O
1,1,2,2-Tetrachloroethane	1.04373	1.05979	1.13482	1.02471	1.00693	1.01827	AVG		1.04804		4.43608	15.00000	O
1,3,5-Trimethylbenzene	3.23456	2.94078	3.25825	2.85848	2.81115	2.81494	AVG		2.98636		6.92825	15.00000	O
2-Chlorotoluene	2.86080	2.57131	2.74735	2.38023	2.37389	2.40098	AVG		2.55576		8.16700	15.00000	O
1,2,3-Trichloropropane	0.92601	0.92110	0.98071	0.87925	0.86375	0.88651	AVG		0.90956		4.66841	15.00000	O
4-Chlorotoluene	2.97549	2.66900	2.86155	2.54536	2.47879	2.51335	AVG		2.67392		7.60125	15.00000	O
tert-Butylbenzene	3.24940	2.92462	3.21718	2.91953	2.92146	2.93172	AVG		3.02732		5.28263	15.00000	O
1,2,4-Trimethylbenzene	3.31733	3.13035	3.52312	3.03010	2.95361	2.93878	AVG		3.14888		7.31317	15.00000	O
P-Isopropyltoluene	3.58890	3.22906	3.61516	3.24809	3.12007	3.07651	AVG		3.31297		7.03793	15.00000	O
1,3-Dichlorobenzene	1.94704	1.78448	1.98021	1.75935	1.71668	1.71405	AVG		1.81697		6.44603	15.00000	O
1,4-Dichlorobenzene	1.98598	1.85735	2.02574	1.77076	1.75197	1.76273	AVG		1.85909		6.47432	15.00000	O
N-Butylbenzene	3.25652	3.00638	3.50184	3.10919	2.90548	2.85269	AVG		3.10535		7.80408	15.00000	O
sec-Butylbenzene	4.42363	3.91438	4.33052	3.81199	3.64223	3.55886	AVG		3.94694		9.04391	15.00000	O
1,2-Dichlorobenzene	1.91165	1.82937	1.99877	1.77036	1.72380	1.70704	AVG		1.82350		6.24563	15.00000	O
1,2-Dibromo-3-Chloropropane	0.22092	0.22361	0.24985	0.23722	0.23803	0.24953	AVG		0.23653		5.21227	15.00000	O
Hexachlorobutadiene	0.59704	0.55923	0.62485	0.56396	0.51634	0.51278	AVG		0.56237		7.83075	15.00000	O
1,2,4-Trichlorobenzene	1.01766	1.02648	1.19833	1.08143	1.02880	1.03350	AVG		1.06437		6.51893	15.00000	O
Naphthalene	2.72152	2.84172	3.37965	3.00872	2.89866	2.77623	AVG		2.93775		8.11125	15.00000	O
1,2,3-Trichlorobenzene	0.94031	0.96291	1.12220	1.00090	0.95711	0.94824	AVG		0.98861		6.95101	15.00000	O
Dibromofluoromethane	0.45722	0.46120	0.44501	0.45111	0.44493	0.46201	AVG		0.45358		1.69871	15.00000	
1,2-Dichloroethane-D4	0.58699	0.61851	0.57656	0.60452	0.57736	0.61040	AVG		0.59572		2.99605	15.00000	
Toluene-D8	1.25045	1.26243	1.25518	1.24572	1.27146	1.24497	AVG		1.25503		0.82305	15.00000	
P-Bromofluorobenzene	0.51618	0.50737	0.52937	0.54939	0.54144	0.53759	AVG		0.53023		3.00281	15.00000	

Legend: O = Kept Original Curve
Y = Failed Minimum RF
W = Failed %RSD Value

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Data File: \\target_server\gg\chem\gcms-w.i\W052118.b\W4069A.D
Report Date: 25-May-2018 12:55

Katahdin Analytical Services

RECOVERY REPORT

Client Name: Client SDG: SDGa01256
Sample Matrix: SOLID Fraction: VOA
Lab Smp Id: WG228751-7
Level: LOW Operator: JSS
Data Type: MS DATA SampleType: LCS
SpikeList File: IND_CHECK4.1.spk Quant Type: ISTD
Sublist File: all.sub
Method File: \\target_server\gg\chem\gcms-w.i\W052118.b\W8SDI(13)D.m
Misc Info: WG228751,WG228751-4

	SPIKE	COMPOUND	CONC ADDED ug/Kgdrywt	CONC RECOVERED ug/Kgdrywt	% RECOVERED	LIMITS
	1	Dichlorodifluorome	50.0	57.0	113.95	80-120
	2	Chloromethane	50.0	55.5	111.03	80-120
	3	Vinyl chloride	50.0	50.1	100.17	80-120
	4	Bromomethane	50.0	48.9	97.84	80-120
	5	Chloroethane	50.0	56.3	112.59	80-120
	6	Trichlorofluoromet	50.0	43.6	87.11	80-120
	7	Diethyl Ether	50.0	47.9	95.77	80-120
	8	Tertiary-butyl alc	250	235	94.02	80-120
	9	1,1-Dichloroethene	50.0	43.9	87.72	80-120
	10	Carbon Disulfide	50.0	46.3	92.59	80-120
	11	Freon-113	50.0	47.8	95.57	80-120
	12	Iodomethane	50.0	59.0	118.02	80-120
	13	Acrolein	250	223	89.13	80-120
	14	Methylene Chloride	50.0	44.9	89.84	80-120
	15	Acetone	50.0	46.1	92.30	80-120
	16	Isobutyl Alcohol	1000	918	91.82	80-120
	17	trans-1,2-Dichloro	50.0	45.4	90.85	80-120
	18	Allyl Chloride	50.0	49.0	98.07	80-120
	19	Methyl tert-butyl	50.0	49.3	98.66	80-120
	20	Acetonitrile	500	457	91.35	80-120
	21	Di-isopropyl ether	50.0	49.0	97.96	80-120
	22	Chloroprene	50.0	48.0	95.91	80-120
	23	Propionitrile	500	448	89.71	80-120
	24	Methacrylonitrile	500	450	90.06	80-120
	25	1,1-Dichloroethane	50.0	47.9	95.90	80-120
	26	Acrylonitrile	250	228	91.18	80-120
	27	Ethyl tertiary-but	50.0	51.8	103.69	80-120
	28	Vinyl Acetate	50.0	55.3	110.61	80-120
	29	cis-1,2-Dichloroet	50.0	45.3	90.60	80-120
M	30	1,2-Dichloroethyle	100	90.7	90.72	80-120
	31	Methyl Methacrylat	50.0	49.0	97.93	80-120
	32	2,2-Dichloropropan	50.0	50.6	101.29	80-120
	33	Bromochloromethane	50.0	47.2	94.44	80-120
	34	Chloroform	50.0	45.4	90.88	80-120
	35	Carbon Tetrachlori	50.0	49.2	98.45	80-120
	36	Tetrahydrofuran	50.0	46.5	93.10	80-120
	38	1,1,1-Trichloroeth	50.0	46.4	92.91	80-120
	39	1,1-Dichloropropen	50.0	45.6	91.11	80-120
	40	2-Butanone	50.0	44.3	88.55	80-120
	41	Benzene	50.0	46.0	91.93	80-120

Data File: \\target_server\gg\chem\gcms-w.i\W052118.b\W4069A.D
Report Date: 25-May-2018 12:55

	SPIKE	COMPOUND	CONC ADDED ug/Kgdrywt	CONC RECOVERED ug/Kgdrywt	% RECOVERED	LIMITS
	43	Cyclohexane	50.0	45.9	91.84	80-120
	44	Ethyl Methacrylate	50.0	50.9	101.78	80-120
	46	Tertiary-amyl meth	50.0	51.1	102.28	80-120
	47	1,2-Dichloroethane	50.0	45.8	91.54	80-120
	48	Trichloroethene	50.0	44.9	89.79	80-120
	50	Dibromomethane	50.0	46.1	92.24	80-120
	51	1,2-Dichloropropan	50.0	45.5	91.06	80-120
	52	Bromodichlorometha	50.0	48.6	97.23	80-120
	53	cis-1,3-dichloropr	50.0	46.5	92.94	80-120
	54	1,4-Dioxane	1000	955	95.51	80-120
	56	2-Chloroethylviny	50.0	0.00	*	80-120
	57	Toluene	50.0	45.4	90.76	80-120
	58	4-methyl-2-pentano	50.0	45.7	91.38	80-120
	59	Tetrachloroethene	50.0	46.7	93.34	80-120
	60	trans-1,3-Dichloro	50.0	47.1	94.19	80-120
	61	1,1,2-Trichloroeth	50.0	44.2	88.47	80-120
	62	Dibromochlorometha	50.0	50.5	101.04	80-120
	63	1,3-Dichloropropan	50.0	46.7	93.34	80-120
	64	1,2-Dibromoethane	50.0	44.2	88.43	80-120
	65	2-Hexanone	50.0	50.2	100.38	80-120
	67	Chlorobenzene	50.0	47.9	95.85	80-120
	152	1-Chlorohexane	50.0	0.00	0.00*	80-120
	68	Ethylbenzene	50.0	46.6	93.16	80-120
	69	1,1,1,2-Tetrachlor	50.0	49.1	98.21	80-120
M	70	Xylenes (total)	150	143	95.20	80-120
	71	m+p-Xylenes	100	94.6	94.66	80-120
	72	o-Xylene	50.0	48.1	96.30	80-120
	73	Styrene	50.0	48.3	96.65	80-120
	74	Bromoform	50.0	48.8	97.66	80-120
	75	Isopropylbenzene	50.0	48.8	97.67	80-120
	77	cis-1,4-Dichloro-2	50.0	49.1	98.28	80-120
	78	trans-1,4-Dichloro	50.0	45.0	89.92	80-120
	79	Bromobenzene	50.0	47.1	94.17	80-120
	80	N-Propylbenzene	50.0	47.1	94.18	80-120
	81	1,1,2,2-Tetrachlor	50.0	47.4	94.89	80-120
	82	1,3,5-Trimethylben	50.0	47.2	94.46	80-120
	83	2-Chlorotoluene	50.0	47.0	94.12	80-120
	84	1,2,3-Trichloropro	50.0	44.6	89.32	80-120
	85	4-Chlorotoluene	50.0	46.4	92.84	80-120
	86	tert-Butylbenzene	50.0	47.4	94.81	80-120
	87	Pentachloroethane	50.0	49.8	99.67	80-120
	88	1,2,4-Trimethylben	50.0	47.2	94.33	80-120
	89	P-Isopropyltoluene	50.0	47.5	94.94	80-120
	90	1,3-Dichlorobenzen	50.0	47.3	94.65	80-120
	92	1,4-Dichlorobenzen	50.0	45.9	91.78	80-120
	93	N-Butylbenzene	50.0	48.2	96.46	80-120
	94	sec-Butylbenzene	50.0	46.9	93.90	80-120
	95	1,2-Dichlorobenzen	50.0	46.5	93.09	80-120
	96	1,2-Dibromo-3-Chlo	50.0	45.4	90.82	80-120
	97	1,3,5-Trichloroben	50.0	45.3	90.68	80-120
	98	Hexachlorobutadien	50.0	46.4	92.86	80-120
	99	1,2,4-Trichloroben	50.0	47.9	95.82	80-120
	100	1,2,3-Trimethylben	50.0	47.8	95.53	80-120
	101	Naphthalene	50.0	48.6	97.12	80-120

Data File: \\target_server\gg\chem\gcms-w.i\W052118.b\W4069A.D
Report Date: 25-May-2018 12:55

SPIKE COMPOUND	CONC ADDED ug/Kgdrywt	CONC RECOVERED ug/Kgdrywt	% RECOVERED	LIMITS
102 1,2,3-Trichloroben	50.0	47.6	95.12	80-120
103 Methyl Acetate	50.0	43.1	86.24	80-120
104 Methylcyclohexane	50.0	46.9	93.84	80-120
M 153 Total Alkylbenzene	350	332	94.72	80-120

SURROGATE COMPOUND	AMOUNT ADDED ug/kg	AMOUNT RECOVERED ug/kg	% RECOVERED	LIMITS
$ 37 Dibromofluorometha	50.0	49.3	98.61	64-130
$ 45 1,2-Dichloroethane	50.0	48.9	97.75	58-134
$ 55 Toluene-D8	50.0	50.0	100.10	67-118
$ 76 P-Bromofluorobenze	50.0	48.4	96.73	47-119

Data File: \\target_server\gg\chem\gcms-w.i\W052118.b\W4063.D
Report Date: 25-May-2018 12:06

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W052118.b\W4063.D
Lab Smp Id: WG228751-4
Inj Date : 21-MAY-2018 08:39 MS Autotune Date: 10-APR-2016 11:00
Operator : JSS Inst ID: gcms-w.i
Smp Info : WG228751-4
Misc Info :
Comment : SW846 5035
Method : \\target_server\gg\chem\gcms-w.i\W052118.b\W8SDI(13)D.m
Meth Date : 25-May-2018 12:05 gcms-w.i Quant Type: ISTD
Cal Date : 21-MAY-2018 08:39 Cal File: W4063.D
Als bottle: 2 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12

Concentration Formula: Amt * DF * (100/(100-M))*(Vt/Ws) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
M	0.00000	% Moisture
Vt	5.000	Volume of DI Water (mL)
Ws	5.000	Weight of Sample (g)
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/kg)	AMOUNTS ON-COL (ug/kg)	REVIEW CODE
1	Dichlorodifluoromethane	85	1.965	1.965	(0.243)	297748	50.0000	49.3	
2	Chloromethane	50	2.194	2.187	(0.272)	344299	50.0000	45.4	
3	Vinyl chloride	62	2.258	2.258	(0.280)	329089	50.0000	47.4	
4	Bromomethane	94	2.609	2.608	(0.323)	152340	50.0000	43.6	
5	Chloroethane	64	2.737	2.737	(0.339)	194126	50.0000	53.9	
6	Trichlorofluoromethane	101	2.887	2.887	(0.358)	455983	50.0000	51.0	
7	Diethyl Ether	59	3.223	3.223	(0.399)	227757	50.0000	49.1	
8	Tertiary-butyl alcohol	59	4.717	4.710	(0.584)	148928	250.000	248	
9	1,1-Dichloroethene	96	3.459	3.459	(0.428)	223515	50.0000	48.9	
10	Carbon Disulfide	76	3.509	3.502	(0.435)	723516	50.0000	48.6	
11	Freon-113	151	3.502	3.502	(0.434)	167183	50.0000	51.0	
12	Iodomethane	142	3.645	3.638	(0.451)	181666	50.0000	53.3	
13	Acrolein	56	3.888	3.881	(0.481)	246753	250.000	254	
14	Methylene Chloride	84	4.196	4.188	(0.519)	270032	50.0000	46.3	
15	Acetone	43	4.274	4.274	(0.529)	555700	250.000	264	
16	Isobutyl Alcohol	43	8.349	8.341	(1.034)	323449	1000.00	980	
17	trans-1,2-Dichloroethene	96	4.417	4.410	(0.547)	237903	50.0000	48.6	
18	Allyl Chloride	41	4.053	4.052	(0.502)	366920	50.0000	47.2	
19	Methyl tert-butyl ether	73	4.574	4.567	(0.566)	651801	50.0000	49.4	
20	Acetonitrile	39	4.982	4.967	(0.617)	89987	500.000	486	
21	Di-isopropyl ether	45	5.168	5.160	(0.640)	822664	50.0000	48.6	
22	Chloroprene	53	5.332	5.332	(0.660)	377045	50.0000	50.6	

Data File: \\target_server\gg\chem\gcms-w.i\W052118.b\W4063.D
Report Date: 25-May-2018 12:06

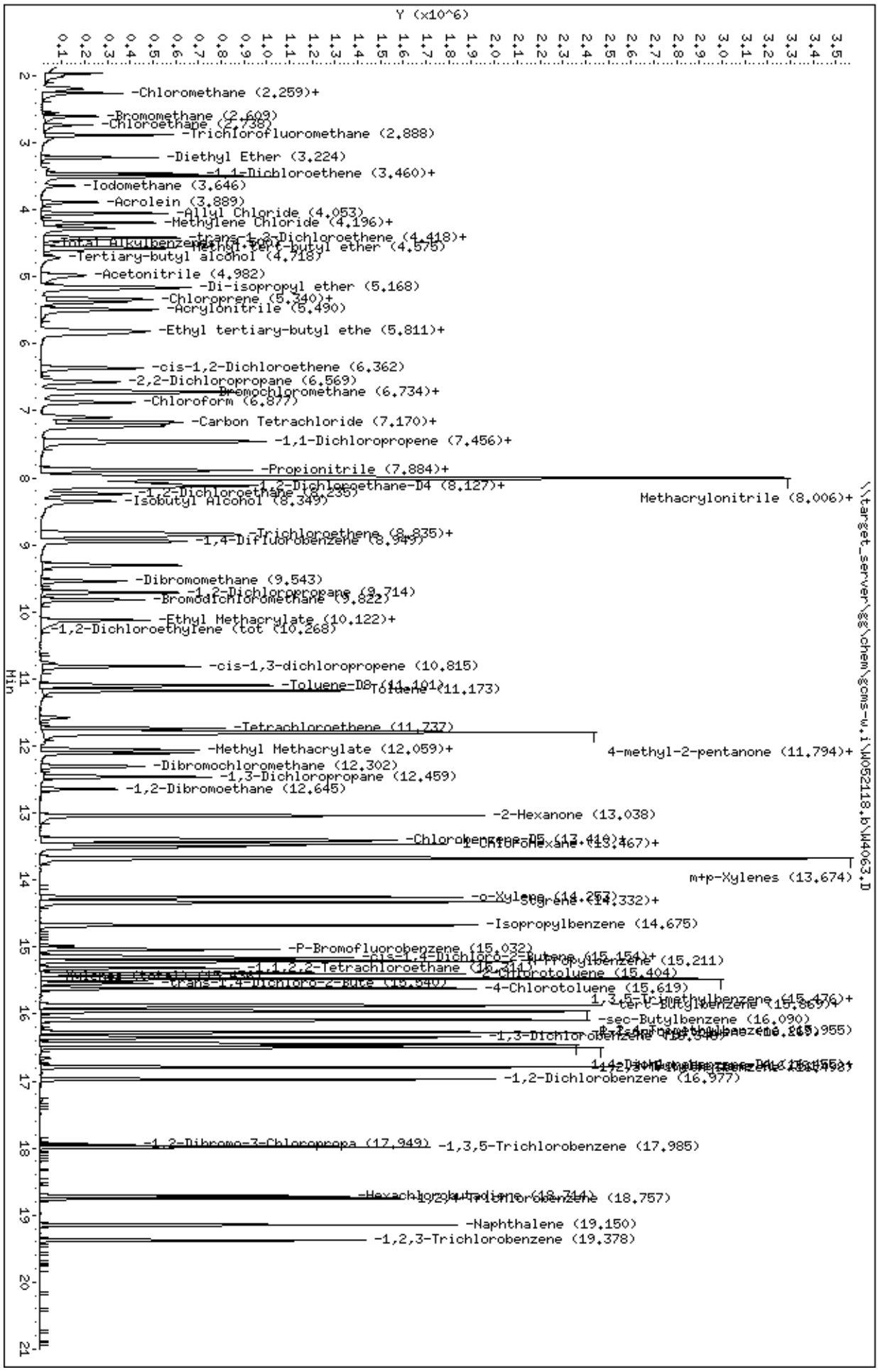
		Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/kg)	ON-COL (ug/kg)	REVIEW CODE
	23	Propionitrile	54	7.977	7.969	(0.988)	495421	500.000	521	
	24	Methacrylonitrile	41	8.005	7.998	(0.991)	2000971	500.000	520	
	25	1,1-Dichloroethane	63	5.375	5.375	(0.665)	432381	50.0000	47.6	
	26	Acrylonitrile	52	5.489	5.482	(0.680)	465434	250.000	254	
	27	Ethyl tertiary-butyl ether	59	5.811	5.804	(0.719)	533800	50.0000	47.9	
	28	Vinyl Acetate	43	5.854	5.846	(0.654)	565183	50.0000	52.3	
	29	cis-1,2-Dichloroethene	96	6.369	6.361	(0.789)	261089	50.0000	47.9	
M	30	1,2-Dichloroethylene (total)	96				498992	100.000	(a)	
	31	Methyl Methacrylate	41	12.108	12.094	(1.353)	271748	50.0000	53.4	
	32	2,2-Dichloropropane	77	6.569	6.561	(0.813)	238059	50.0000	50.6	
	33	Bromochloromethane	128	6.733	6.726	(0.834)	125754	50.0000	51.0	
	34	Chloroform	83	6.876	6.869	(0.851)	424521	50.0000	48.2	
	35	Carbon Tetrachloride	117	7.098	7.090	(0.793)	263051	50.0000	53.8	
	36	Tetrahydrofuran	42	7.169	7.162	(0.888)	549132	250.000	262	
$	37	Dibromofluoromethane	113	7.205	7.197	(0.892)	171804	50.0000	49.7	
	38	1,1,1-Trichloroethane	97	7.233	7.226	(0.896)	353663	50.0000	50.1	
	39	1,1-Dichloropropene	75	7.448	7.448	(0.832)	335633	50.0000	49.4	
	40	2-Butanone	43	7.462	7.455	(0.924)	868234	250.000	268	
	41	Benzene	78	7.884	7.876	(0.881)	998043	50.0000	48.0	
*	42	Pentafluorobenzene	168	8.077	8.069	(1.000)	380844	50.0000		
	43	Cyclohexane	56	6.712	6.704	(0.831)	426629	50.0000	49.9	
	44	Ethyl Methacrylate	69	10.121	10.114	(1.131)	198289	50.0000	53.3	
$	45	1,2-Dichloroethane-D4	65	8.127	8.119	(1.006)	230226	50.0000	50.7	
	46	Tertiary-amyl methyl ether	73	8.120	8.112	(1.005)	522094	50.0000	49.4	
	47	1,2-Dichloroethane	62	8.234	8.234	(0.920)	356588	50.0000	49.6	
	48	Trichloroethene	95	8.863	8.856	(0.990)	248103	50.0000	48.9	
*	49	1,4-Difluorobenzene	114	8.949	8.941	(1.000)	588295	50.0000		
	50	Dibromomethane	93	9.542	9.528	(1.066)	157670	50.0000	49.4	
	51	1,2-Dichloropropane	63	9.714	9.706	(1.085)	261530	50.0000	49.3	
	52	Bromodichloromethane	83	9.821	9.814	(1.097)	335785	50.0000	50.7	
	53	cis-1,3-dichloropropene	75	10.815	10.807	(1.208)	408886	50.0000	50.4	
	54	1,4-Dioxane	88	10.178	10.164	(1.137)	82593	1000.00	990	
$	55	Toluene-D8	98	11.101	11.093	(1.240)	732848	50.0000	49.6	
	57	Toluene	92	11.172	11.165	(1.248)	619827	50.0000	48.4	
	58	4-methyl-2-pentanone	43	11.794	11.786	(1.318)	1806748	250.000	269	
	59	Tetrachloroethene	164	11.737	11.729	(0.877)	201460	50.0000	48.5	
	60	trans-1,3-Dichloropropene	75	11.822	11.815	(1.321)	348165	50.0000	52.7	
	61	1,1,2-Trichloroethane	83	12.058	12.051	(1.347)	204785	50.0000	50.3	
	62	Dibromochloromethane	129	12.309	12.294	(0.919)	260495	50.0000	49.6	
	63	1,3-Dichloropropane	76	12.459	12.451	(0.931)	446524	50.0000	49.3	
	64	1,2-Dibromoethane	107	12.644	12.637	(1.413)	243848	50.0000	51.0	
	65	2-Hexanone	43	13.038	13.030	(0.974)	1293028	250.000	259	
*	66	Chlorobenzene-D5	117	13.388	13.380	(1.000)	600272	50.0000		
	67	Chlorobenzene	112	13.409	13.409	(1.002)	718799	50.0000	47.7	
	152	1-Chlorohexane	91	13.467	13.459	(1.667)	1266987	50.0000	(a)	
	68	Ethylbenzene	106	13.467	13.459	(1.006)	403066	50.0000	48.5	
	69	1,1,1,2-Tetrachloroethane	131	13.509	13.502	(1.009)	242964	50.0000	49.7	
M	70	Xylenes (total)	106				1511330	150.000	(a)	
	71	m+p-Xylenes	106	13.674	13.673	(1.021)	1014972	100.000	99.4	
	72	o-Xylene	106	14.253	14.252	(1.065)	496358	50.0000	48.6	
	73	Styrene	104	14.331	14.324	(1.070)	840313	50.0000	49.1	
	74	Bromoform	173	14.346	14.338	(1.072)	196881	50.0000	49.8	
	75	Isopropylbenzene	105	14.675	14.674	(0.893)	1220441	50.0000	47.9	
$	76	P-Bromofluorobenzene	95	15.032	15.032	(1.680)	323205	50.0000	51.8	

Data File: \\target_server\gg\chem\gcms-w.i\W052118.b\W4063.D
Report Date: 25-May-2018 12:06

							AMOUNTS		
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ug/kg)	ON-COL (ug/kg)	REVIEW CODE
	77 cis-1,4-Dichloro-2-Butene	53	15.139	15.132	(0.921)	115899	50.0000	52.6	
	78 trans-1,4-Dichloro-2-Butene	53	15.539	15.532	(0.945)	96137	50.0000	50.5	
	79 Bromobenzene	156	15.161	15.153	(0.922)	336830	50.0000	46.9	
	80 N-Propylbenzene	91	15.211	15.210	(0.925)	1594034	50.0000	48.4	
	81 1,1,2,2-Tetrachloroethane	83	15.311	15.310	(0.931)	401952	50.0000	48.9	
	82 1,3,5-Trimethylbenzene	105	15.468	15.468	(0.941)	1121266	50.0000	47.8	
	83 2-Chlorotoluene	91	15.404	15.396	(0.937)	933668	50.0000	46.6	
	84 1,2,3-Trichloropropane	75	15.475	15.475	(0.941)	344894	50.0000	48.3	
	85 4-Chlorotoluene	91	15.618	15.611	(0.950)	998440	50.0000	47.6	
	86 tert-Butylbenzene	119	15.868	15.868	(0.965)	1145213	50.0000	48.2	
	87 Pentachloroethane	117	15.883	15.882	(0.966)	218222	50.0000	48.6	
	88 1,2,4-Trimethylbenzene	105	15.954	15.954	(0.970)	1188584	50.0000	48.1	
	89 P-Isopropyltoluene	119	16.269	16.268	(0.990)	1274092	50.0000	49.0	
	90 1,3-Dichlorobenzene	146	16.347	16.347	(0.994)	690122	50.0000	48.4	
*	91 1,4-Dichlorobenzene-D4	152	16.440	16.440	(1.000)	392259	50.0000		
	92 1,4-Dichlorobenzene	146	16.462	16.454	(1.001)	694595	50.0000	47.6	
	93 N-Butylbenzene	91	16.790	16.783	(1.021)	1219609	50.0000	50.1	
	94 sec-Butylbenzene	105	16.090	16.082	(0.979)	1495287	50.0000	48.3	
	95 1,2-Dichlorobenzene	146	16.976	16.969	(1.033)	694438	50.0000	48.5	
	96 1,2-Dibromo-3-Chloropropane	75	17.948	17.941	(1.092)	93053	50.0000	50.1	
	97 1,3,5-Trichlorobenzene	180	17.984	17.977	(2.227)	477803	50.0000	51.6	
	98 Hexachlorobutadiene	225	18.720	18.713	(1.139)	221217	50.0000	50.1	
	99 1,2,4-Trichlorobenzene	180	18.756	18.749	(1.141)	424202	50.0000	50.8	
	100 1,2,3-Trimethylbenzene	105	16.497	16.490	(2.042)	1199392	50.0000	50.4	
	101 Naphthalene	128	19.149	19.142	(1.165)	1180197	50.0000	51.2	
	102 1,2,3-Trichlorobenzene	180	19.378	19.370	(1.179)	392612	50.0000	50.6	
	103 Methyl Acetate	43	4.439	4.438	(0.550)	265594	50.0000	53.6	
	104 Methylcyclohexane	83	8.835	8.827	(1.094)	428770	50.0000	50.6	
M	153 Total Alkylbenzenes	100				9038085	50.0000	(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).


Data File: \\target_server\gg\chem\gcms-w.i\W052118.b\W4063.D
Date : 21-MAY-2018 08:39
Client ID:
Sample Info: WG228751-4
Column phase: RTX-VMS
Instrument: gcms-w.i
Operator: JSS
Column diameter: 0.18
Y (x10^6)
Min
-Chloromethane (2.259)+
-Bromomethane (2.609)
-Chloroethane (2.738)
-Trichlorofluoromethane (2.888)
-Diethyl Ether (3.224)
-1,1-Dichloroethene (3.460)+
-Iodomethane (3.646)
-Acrolein (3.889)
-Allyl Chloride (4.053)
-Methylene Chloride (4.196)+
-trans-1,2-Dichloroethene (4.418)+
-Methyl tert-butyl ether (4.575)
-Tertiary-butyl alcohol (4.718)
-Acetonitrile (4.982)
-Di-isopropyl ether (5.168)
-Chloroprene (5.340)+
-Acrylonitrile (5.490)
-Ethyl tertiary-butyl ethe (5.811)+
-cis-1,2-Dichloroethene (6.362)
-2,2-Dichloropropane (6.569)
-Bromochloromethane (6.734)+
-Chloroform (6.877)
-Carbon Tetrachloride (7.170)+
-1,1-Dichloropropene (7.456)+
-Propionitrile (7.884)+
-1,2-Dichloroethane-D4 (8.127)+
-1,2-Dichloroethane (8.235)
-Isobutyl Alcohol (8.349)
Methacrylonitrile (8.006)+
-Trichloroethene (8.835)+
-1,4-Difluorobenzene (8.949)
-Dibromomethane (9.543)
-1,2-Dichloropropane (9.714)
-Bromodichloromethane (9.822)
-Ethyl Methacrylate (10.122)+
-1,2-Dichloroethylene (tot (10.268)
-cis-1,3-dichloropropene (10.815)
-Toluene-D8 (11.101)+
Toluene (11.173)
-Tetrachloroethene (11.737)
4-methyl-2-pentanone (11.794)+
-Methyl Methacrylate (12.059)+
-Dibromochloromethane (12.302)
-1,3-Dichloropropane (12.459)
-1,2-Dibromoethane (12.645)
-2-Hexanone (13.038)
-Chlorobenzene-D5 (13.419)+
Chlorobenzene (13.467)+
m+p-Xylenes (13.674)
-o-Xylene (14.257)
Styrene (14.332)+
-Isopropylbenzene (14.675)
-P-Bromofluorobenzene (15.032)
-cis-1,4-Dichloro-2-Butene (15.154)+
-n-Propylbenzene (15.211)
-1,1,2,2-Tetrachloroethane (15.214)
-2-Chlorotoluene (15.404)
-trans-1,4-Dichloro-2-Bute (15.540)
-4-Chlorotoluene (15.619)
-1,3,5-Trimethylbenzene (15.476)+
-tert-Butylbenzene (15.869)+
-sec-Butylbenzene (16.090)
-1,3-Dichlorobenzene (16.340)
-1,2-Dichlorobenzene (16.977)
-1,2-Dibromo-3-Chloropropa (17.949)
-1,3,5-Trichlorobenzene (17.985)
-Hexachlorobutadiene (18.744)
(18.757)
-Naphthalene (19.150)
-1,2,3-Trichlorobenzene (19.378)
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Data File: \\target_server\gg\chem\gcms-w.i\W052118.b\W4064.D
Report Date: 25-May-2018 12:06

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W052118.b\W4064.D
Lab Smp Id: WG228751-3
Inj Date : 21-MAY-2018 09:16 MS Autotune Date: 10-APR-2016 11:00
Operator : JSS Inst ID: gcms-w.i
Smp Info : WG228751-3
Misc Info :
Comment : SW846 5035
Method : \\target_server\gg\chem\gcms-w.i\W052118.b\W8SDI(13)D.m
Meth Date : 25-May-2018 12:05 gcms-w.i Quant Type: ISTD
Cal Date : 21-MAY-2018 09:16 Cal File: W4064.D
Als bottle: 3 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12

Concentration Formula: Amt * DF * (100/(100-M))*(Vt/Ws) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
M	0.00000	% Moisture
Vt	5.000	Volume of DI Water (mL)
Ws	5.000	Weight of Sample (g)
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/kg)	ON-COL (ug/kg)	REVIEW CODE
1	Dichlorodifluoromethane	85	1.970	1.965	(0.244)	127602	20.0000	22.0	
2	Chloromethane	50	2.206	2.187	(0.274)	164213	20.0000	22.5	
3	Vinyl chloride	62	2.264	2.258	(0.281)	144119	20.0000	21.6	
4	Bromomethane	94	2.607	2.608	(0.323)	72492	20.0000	21.6	
5	Chloroethane	64	2.742	2.737	(0.340)	86051	20.0000	22.2	
6	Trichlorofluoromethane	101	2.885	2.887	(0.358)	188225	20.0000	21.9	
7	Diethyl Ether	59	3.221	3.223	(0.399)	96976	20.0000	21.7	
8	Tertiary-butyl alcohol	59	4.715	4.710	(0.584)	57194	100.000	106	
9	1,1-Dichloroethene	96	3.464	3.459	(0.429)	92826	20.0000	21.1	
10	Carbon Disulfide	76	3.507	3.502	(0.435)	293775	20.0000	20.5	
11	Freon-113	151	3.507	3.502	(0.435)	70418	20.0000	22.3	
12	Iodomethane	142	3.643	3.638	(0.452)	56593	20.0000	17.3	
13	Acrolein	56	3.886	3.881	(0.482)	100809	100.000	108	
14	Methylene Chloride	84	4.193	4.188	(0.520)	117142	20.0000	20.9(a)	
15	Acetone	43	4.279	4.274	(0.530)	219552	100.000	108	
16	Isobutyl Alcohol	43	8.339	8.341	(1.034)	110334	500.000	416	
17	trans-1,2-Dichloroethene	96	4.415	4.410	(0.547)	98661	20.0000	20.9	
18	Allyl Chloride	41	4.051	4.052	(0.502)	156226	20.0000	20.9	
19	Methyl tert-butyl ether	73	4.572	4.567	(0.567)	267619	20.0000	21.1	
20	Acetonitrile	39	4.973	4.967	(0.616)	35950	200.000	202	
21	Di-isopropyl ether	45	5.158	5.160	(0.639)	344011	20.0000	21.1	
22	Chloroprene	53	5.330	5.332	(0.661)	155587	20.0000	21.7	

Data File: \\target_server\gg\chem\gcms-w.i\W052118.b\W4064.D
Report Date: 25-May-2018 12:06

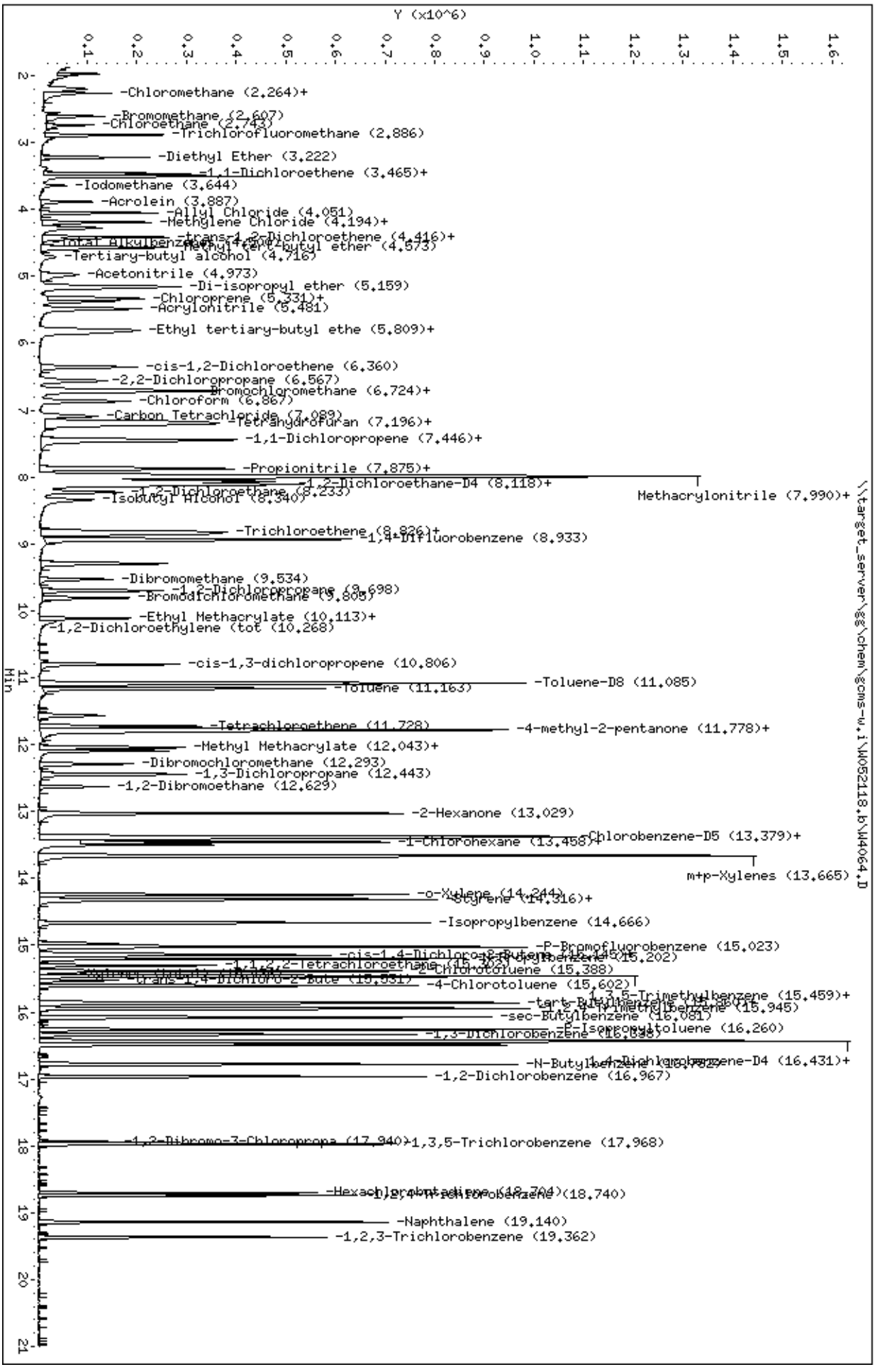
		Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/kg)	AMOUNTS ON-COL (ug/kg)	REVIEW CODE
	23	Propionitrile	54	7.968	7.969	(0.988)	203250	200.000	222	
	24	Methacrylonitrile	41	7.989	7.998	(0.990)	808455	200.000	218	
	25	1,1-Dichloroethane	63	5.373	5.375	(0.666)	184133	20.0000	21.1	
	26	Acrylonitrile	52	5.480	5.482	(0.679)	184203	100.000	104	
	27	Ethyl tertiary-butyl ether	59	5.809	5.804	(0.720)	227066	20.0000	21.2	
	28	Vinyl Acetate	43	5.845	5.846	(0.654)	226468	20.0000	21.8	
	29	cis-1,2-Dichloroethene	96	6.359	6.361	(0.788)	109773	20.0000	20.9	
M	30	1,2-Dichloroethylene (total)	96				208434	40.0000	(a)	
	31	Methyl Methacrylate	41	12.092	12.094	(1.354)	104610	20.0000	21.4	
	32	2,2-Dichloropropane	77	6.567	6.561	(0.814)	93443	20.0000	20.6	
	33	Bromochloromethane	128	6.724	6.726	(0.833)	49355	20.0000	20.8	
	34	Chloroform	83	6.867	6.869	(0.851)	177810	20.0000	21.0	
	35	Carbon Tetrachloride	117	7.088	7.090	(0.794)	98541	20.0000	21.0	
	36	Tetrahydrofuran	42	7.167	7.162	(0.888)	222976	100.000	110	
$	37	Dibromofluoromethane	113	7.196	7.197	(0.892)	163089	50.0000	49.0	
	38	1,1,1-Trichloroethane	97	7.224	7.226	(0.895)	143595	20.0000	21.2	
	39	1,1-Dichloropropene	75	7.439	7.448	(0.833)	141865	20.0000	21.8	
	40	2-Butanone	43	7.453	7.455	(0.924)	339721	100.000	109	
	41	Benzene	78	7.875	7.876	(0.882)	427216	20.0000	21.4	
*	42	Pentafluorobenzene	168	8.068	8.069	(1.000)	366486	50.0000		
	43	Cyclohexane	56	6.702	6.704	(0.831)	178175	20.0000	21.7	
	44	Ethyl Methacrylate	69	10.112	10.114	(1.132)	75667	20.0000	21.2	
$	45	1,2-Dichloroethane-D4	65	8.118	8.119	(1.006)	211303	50.0000	48.4	
	46	Tertiary-amyl methyl ether	73	8.111	8.112	(1.005)	206813	20.0000	20.3	
	47	1,2-Dichloroethane	62	8.232	8.234	(0.922)	152135	20.0000	22.1	
	48	Trichloroethene	95	8.854	8.856	(0.991)	105184	20.0000	21.6	
*	49	1,4-Difluorobenzene	114	8.933	8.941	(1.000)	564341	50.0000		
	50	Dibromomethane	93	9.533	9.528	(1.067)	64246	20.0000	21.0	
	51	1,2-Dichloropropane	63	9.705	9.706	(1.086)	109237	20.0000	21.4	
	52	Bromodichloromethane	83	9.812	9.814	(1.098)	133991	20.0000	21.1	
	53	cis-1,3-dichloropropene	75	10.805	10.807	(1.210)	165857	20.0000	21.3	
	54	1,4-Dioxane	88	10.162	10.164	(1.138)	34320	400.000	429	
$	55	Toluene-D8	98	11.084	11.093	(1.241)	708350	50.0000	50.0	
	57	Toluene	92	11.163	11.165	(1.250)	265057	20.0000	21.6	
	58	4-methyl-2-pentanone	43	11.778	11.786	(1.318)	702254	100.000	109	
	59	Tetrachloroethene	164	11.727	11.729	(0.877)	84011	20.0000	21.5	
	60	trans-1,3-Dichloropropene	75	11.813	11.815	(1.322)	130670	20.0000	20.6	
	61	1,1,2-Trichloroethane	83	12.042	12.051	(1.348)	83136	20.0000	21.3	
	62	Dibromochloromethane	129	12.292	12.294	(0.919)	104429	20.0000	21.2	
	63	1,3-Dichloropropane	76	12.442	12.451	(0.930)	178357	20.0000	21.0	
	64	1,2-Dibromoethane	107	12.628	12.637	(1.414)	99453	20.0000	21.7	
	65	2-Hexanone	43	13.028	13.030	(0.974)	530278	100.000	113	
*	66	Chlorobenzene-D5	117	13.379	13.380	(1.000)	563966	50.0000		
	67	Chlorobenzene	112	13.400	13.409	(1.002)	304093	20.0000	21.5	
	152	1-Chlorohexane	91	13.457	13.459	(1.668)	512633	20.0000	(a)	
	68	Ethylbenzene	106	13.457	13.459	(1.006)	163216	20.0000	20.9	
	69	1,1,1,2-Tetrachloroethane	131	13.500	13.502	(1.009)	95517	20.0000	20.8	
M	70	Xylenes (total)	106				607969	60.0000	(a)	
	71	m+p-Xylenes	106	13.665	13.673	(1.021)	408133	40.0000	42.5	
	72	o-Xylene	106	14.244	14.252	(1.065)	199836	20.0000	20.8	
	73	Styrene	104	14.315	14.324	(1.070)	340833	20.0000	21.2	
	74	Bromoform	173	14.329	14.338	(1.071)	74949	20.0000	20.2	
	75	Isopropylbenzene	105	14.665	14.674	(0.893)	493447	20.0000	21.7	
$	76	P-Bromofluorobenzene	95	15.023	15.032	(1.682)	298748	50.0000	49.9	

Data File: \\target_server\gg\chem\gcms-w.i\W052118.b\W4064.D
Report Date: 25-May-2018 12:06

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/kg)	AMOUNTS ON-COL (ug/kg)	REVIEW CODE
	77 cis-1,4-Dichloro-2-Butene	53	15.123	15.132	(0.920)	40814	20.0000	20.8	
	78 trans-1,4-Dichloro-2-Butene	53	15.530	15.532	(0.945)	33499	20.0000	21.2	
	79 Bromobenzene	156	15.144	15.153	(0.922)	140889	20.0000	22.0	
	80 N-Propylbenzene	91	15.201	15.210	(0.925)	648948	20.0000	22.1	
	81 1,1,2,2-Tetrachloroethane	83	15.301	15.310	(0.931)	158656	20.0000	21.6	
	82 1,3,5-Trimethylbenzene	105	15.459	15.468	(0.941)	455527	20.0000	21.8	
	83 2-Chlorotoluene	91	15.387	15.396	(0.936)	384100	20.0000	21.5	
	84 1,2,3-Trichloropropane	75	15.466	15.475	(0.941)	137111	20.0000	21.6	
	85 4-Chlorotoluene	91	15.602	15.611	(0.950)	400065	20.0000	21.4	
	86 tert-Butylbenzene	119	15.859	15.868	(0.965)	449785	20.0000	21.2	
	87 Pentachloroethane	117	15.873	15.882	(0.966)	83448	20.0000	20.8	
	88 1,2,4-Trimethylbenzene	105	15.945	15.954	(0.970)	492557	20.0000	22.4	
	89 P-Isopropyltoluene	119	16.259	16.268	(0.990)	505425	20.0000	21.8	
	90 1,3-Dichlorobenzene	146	16.338	16.347	(0.994)	276847	20.0000	21.8	
*	91 1,4-Dichlorobenzene-D4	152	16.431	16.440	(1.000)	349518	50.0000		
	92 1,4-Dichlorobenzene	146	16.452	16.454	(1.001)	283213	20.0000	21.8	
	93 N-Butylbenzene	91	16.781	16.783	(1.021)	489583	20.0000	22.6	
	94 sec-Butylbenzene	105	16.081	16.082	(0.979)	605438	20.0000	21.9	
	95 1,2-Dichlorobenzene	146	16.967	16.969	(1.033)	279443	20.0000	21.9	
	96 1,2-Dibromo-3-Chloropropane	75	17.939	17.941	(1.092)	34931	20.0000	21.1	
	97 1,3,5-Trichlorobenzene	180	17.968	17.977	(2.227)	194070	20.0000	21.8	
	98 Hexachlorobutadiene	225	18.704	18.713	(1.138)	87359	20.0000	22.2	
	99 1,2,4-Trichlorobenzene	180	18.747	18.749	(1.141)	167535	20.0000	22.5	
	100 1,2,3-Trimethylbenzene	105	16.488	16.490	(2.044)	489648	20.0000	21.4	
	101 Naphthalene	128	19.140	19.142	(1.165)	472499	20.0000	23.0	
	102 1,2,3-Trichlorobenzene	180	19.369	19.370	(1.179)	156891	20.0000	22.7	
	103 Methyl Acetate	43	4.437	4.438	(0.550)	103981	20.0000	21.8	
	104 Methylcyclohexane	83	8.818	8.827	(1.093)	183768	20.0000	22.5	
M	153 Total Alkylbenzenes	100				3647263	20.0000	(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).


Data File: \\target_server\gg\chem\gcms-w.i\W052118.b\W4064.D
Date : 21-MAY-2018 09:16
Client ID:
Sample Info: WG228751-3
Column phase: RTX-VMS
Instrument: gcms-w.i
Operator: JSS
Column diameter: 0.18
\\target_server\gg\chem\gcms-w.i\W052118.b\W4064.D
Y (x10^6)
Min
-Chloromethane (2.264)+
-Bromomethane (2.607)
-Chloroethane (2.743)
-Trichlorofluoromethane (2.886)
-Diethyl Ether (3.222)
-1,1-Dichloroethene (3.465)+
-Iodomethane (3.644)
-Acrolein (3.887)
-Allyl Chloride (4.051)
-Methylene Chloride (4.194)+
-trans-1,2-Dichloroethene (4.416)+
-Methyl tert-butyl ether (4.573)
-Tertiary-butyl alcohol (4.716)
-Acetonitrile (4.973)
-Di-isopropyl ether (5.159)
-Chloroprene (5.331)+
-Acrylonitrile (5.481)
-Ethyl tertiary-butyl ethe (5.809)+
-cis-1,2-Dichloroethene (6.360)
-2,2-Dichloropropane (6.567)
-Bromochloromethane (6.724)+
-Chloroform (6.867)
-Carbon Tetrachloride (7.089)
-Tetrahydrofuran (7.196)+
-1,1-Dichloropropene (7.446)+
-Propionitrile (7.875)+
-1,2-Dichloroethane-D4 (8.118)+
Methacrylonitrile (7.990)+
-1,2-Dichloroethane (8.233)
-Isobutyl Alcohol (8.340)
-Trichloroethene (8.826)+
-1,4-Difluorobenzene (8.933)
-Dibromomethane (9.534)
-1,2-Dichloropropane (9.698)
-Bromodichloromethane (9.809)
-Ethyl Methacrylate (10.113)+
-1,2-Dichloroethylene (tot (10.268)
-cis-1,3-dichloropropene (10.806)
-Toluene (11.163)
-Toluene-D8 (11.085)
-Tetrachloroethene (11.728)
-4-methyl-2-pentanone (11.778)+
-Methyl Methacrylate (12.043)+
-Dibromochloromethane (12.293)
-1,3-Dichloropropane (12.443)
-1,2-Dibromoethane (12.629)
-2-Hexanone (13.029)
-Chlorobenzene-D5 (13.379)+
-1-Chlorohexane (13.458)+
m+p-Xylenes (13.665)
-o-Xylene (14.244)
-Styrene (14.316)+
-Isopropylbenzene (14.666)
-P-Bromofluorobenzene (15.023)
-cis-1,4-Dichloro-2-Butene (15.145)+
-1,1,2,2-Tetrachloroethane (15.202)
-Bromobenzene (15.202)
-2-Chlorotoluene (15.388)
-trans-1,4-Dichloro-2-Bute (15.931)+
-4-Chlorotoluene (15.602)
-1,3,5-Trimethylbenzene (15.459)+
-tert-Butylbenzene (15.802)+
-1,2,4-Trimethylbenzene (15.945)
-sec-Butylbenzene (16.081)
-p-Isopropyltoluene (16.260)
-1,3-Dichlorobenzene (16.338)
-1,4-Dichlorobenzene-D4 (16.431)+
-N-Butylbenzene (16.782)+
-1,2-Dichlorobenzene (16.967)
-1,2-Dibromo-3-Chloropropa (17.940)+
1,3,5-Trichlorobenzene (17.968)
-Hexachlorobutadiene (18.704)
1,2,4-Trichlorobenzene (18.740)
-Naphthalene (19.140)
-1,2,3-Trichlorobenzene (19.362)

Data File: \\target_server\gg\chem\gcms-w.i\W052118.b\W4065.D
Report Date: 25-May-2018 12:06

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W052118.b\W4065.D
Lab Smp Id: WG228751-2
Inj Date : 21-MAY-2018 09:53 MS Autotune Date: 10-APR-2016 11:00
Operator : JSS Inst ID: gcms-w.i
Smp Info : WG228751-2
Misc Info :
Comment : SW846 5035
Method : \\target_server\gg\chem\gcms-w.i\W052118.b\W8SDI(13)D.m
Meth Date : 25-May-2018 12:05 gcms-w.i Quant Type: ISTD
Cal Date : 21-MAY-2018 09:53 Cal File: W4065.D
Als bottle: 4 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12

Concentration Formula: Amt * DF * (100/(100-M))*(Vt/Ws) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
M	0.00000	% Moisture
Vt	5.000	Volume of DI Water (mL)
Ws	5.000	Weight of Sample (g)
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/kg)	AMOUNTS ON-COL (ug/kg)	REVIEW CODE
1	Dichlorodifluoromethane	85	1.962	1.965	(0.243)	60090	10.0000	10.6	
2	Chloromethane	50	2.184	2.187	(0.271)	73282	10.0000	10.2	
3	Vinyl chloride	62	2.255	2.258	(0.280)	67672	10.0000	10.3	
4	Bromomethane	94	2.605	2.608	(0.323)	34630	10.0000	10.5	
5	Chloroethane	64	2.741	2.737	(0.340)	41369	10.0000	8.4	
6	Trichlorofluoromethane	101	2.884	2.887	(0.358)	86086	10.0000	10.2	
7	Diethyl Ether	59	3.220	3.223	(0.399)	43697	10.0000	10	
8	Tertiary-butyl alcohol	59	4.707	4.710	(0.584)	21666	50.0000	48.1	
9	1,1-Dichloroethene	96	3.456	3.459	(0.428)	42128	10.0000	9.8	
10	Carbon Disulfide	76	3.506	3.502	(0.435)	138270	10.0000	9.8	
11	Freon-113	151	3.499	3.502	(0.434)	32372	10.0000	10.5	
12	Iodomethane	142	3.635	3.638	(0.451)	28823	10.0000	9.0	
13	Acrolein	56	3.885	3.881	(0.482)	45892	50.0000	50.1	
14	Methylene Chloride	84	4.185	4.188	(0.519)	57226	10.0000	10.4(a)	
15	Acetone	43	4.271	4.274	(0.529)	107095	50.0000	53.9	
16	Isobutyl Alcohol	43	8.352	8.341	(1.035)	53835	200.000	260	
17	trans-1,2-Dichloroethene	96	4.407	4.410	(0.546)	46100	10.0000	10	
18	Allyl Chloride	41	4.049	4.052	(0.502)	73676	10.0000	10.0	
19	Methyl tert-butyl ether	73	4.571	4.567	(0.567)	122885	10.0000	9.9	
20	Acetonitrile	39	4.964	4.967	(0.615)	18470	100.000	106	
21	Di-isopropyl ether	45	5.150	5.160	(0.638)	163951	10.0000	10.3	
22	Chloroprene	53	5.329	5.332	(0.661)	67413	10.0000	9.6	

Data File: \\target_server\gg\chem\gcms-w.i\W052118.b\W4065.D
Report Date: 25-May-2018 12:06

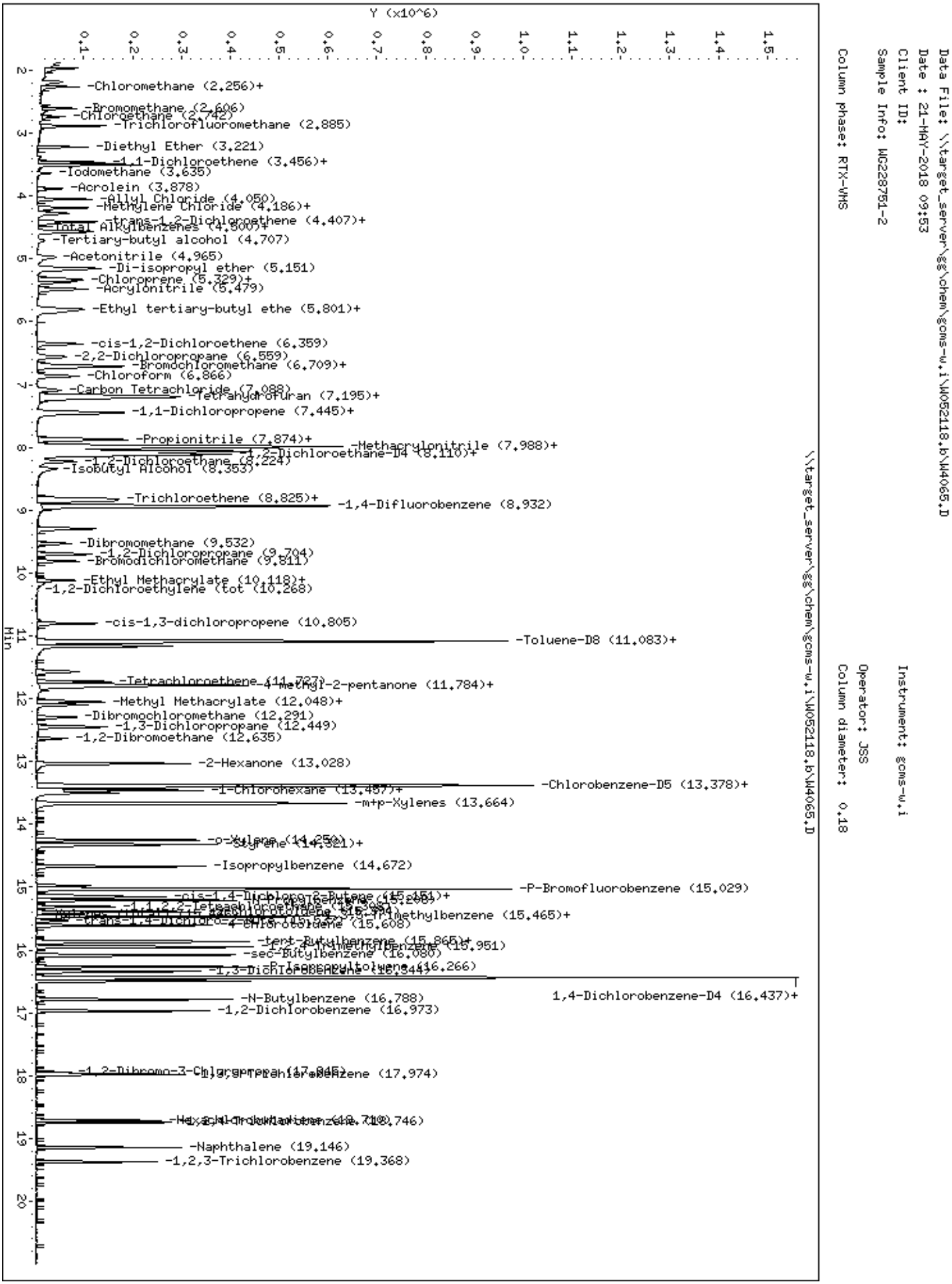
		Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/kg)	ON-COL (ug/kg)	REVIEW CODE
	23	Propionitrile	54	7.966	7.969	(0.988)	88908	100.000	99.2	
	24	Methacrylonitrile	41	7.988	7.998	(0.990)	380456	100.000	105	
	25	1,1-Dichloroethane	63	5.365	5.375	(0.665)	85910	10.0000	10.0	
	26	Acrylonitrile	52	5.479	5.482	(0.679)	87766	50.0000	50.8	
	27	Ethyl tertiary-butyl ether	59	5.801	5.804	(0.719)	104663	10.0000	10	
	28	Vinyl Acetate	43	5.843	5.846	(0.654)	97552	10.0000	9.4	
	29	cis-1,2-Dichloroethene	96	6.358	6.361	(0.788)	53946	10.0000	10.5	
M	30	1,2-Dichloroethylene (total)	96				100046	20.0000	(a)	
	31	Methyl Methacrylate	41	12.098	12.094	(1.353)	44585	10.0000	9.1	
	32	2,2-Dichloropropane	77	6.558	6.561	(0.813)	40647	10.0000	9.2	
	33	Bromochloromethane	128	6.723	6.726	(0.833)	23911	10.0000	10.3	
	34	Chloroform	83	6.866	6.869	(0.851)	82587	10.0000	9.9	
	35	Carbon Tetrachloride	117	7.087	7.090	(0.793)	41916	10.0000	8.9	
	36	Tetrahydrofuran	42	7.173	7.162	(0.889)	102232	50.0000	51.7	
$	37	Dibromofluoromethane	113	7.194	7.197	(0.892)	165641	50.0000	50.8	
	38	1,1,1-Trichloroethane	97	7.223	7.226	(0.895)	64176	10.0000	9.6	
	39	1,1-Dichloropropene	75	7.445	7.448	(0.833)	63946	10.0000	9.8	
	40	2-Butanone	43	7.459	7.455	(0.925)	149523	50.0000	48.9	
	41	Benzene	78	7.873	7.876	(0.881)	195895	10.0000	9.8	
*	42	Pentafluorobenzene	168	8.066	8.069	(1.000)	359150	50.0000		
	43	Cyclohexane	56	6.701	6.704	(0.831)	82196	10.0000	10.2	
	44	Ethyl Methacrylate	69	10.111	10.114	(1.131)	35492	10.0000	9.9	
$	45	1,2-Dichloroethane-D4	65	8.109	8.119	(1.005)	222139	50.0000	51.9	
	46	Tertiary-amyl methyl ether	73	8.109	8.112	(1.005)	94352	10.0000	9.5	
	47	1,2-Dichloroethane	62	8.224	8.234	(0.920)	71252	10.0000	10.3	
	48	Trichloroethene	95	8.853	8.856	(0.990)	49401	10.0000	10.1	
*	49	1,4-Difluorobenzene	114	8.939	8.941	(1.000)	565904	50.0000		
	50	Dibromomethane	93	9.532	9.528	(1.066)	30710	10.0000	10	
	51	1,2-Dichloropropane	63	9.696	9.706	(1.085)	50954	10.0000	10	
	52	Bromodichloromethane	83	9.811	9.814	(1.098)	62836	10.0000	9.9	
	53	cis-1,3-dichloropropene	75	10.804	10.807	(1.209)	74071	10.0000	9.5	
	54	1,4-Dioxane	88	10.168	10.164	(1.138)	16851	200.000	210	
$	55	Toluene-D8	98	11.083	11.093	(1.240)	714412	50.0000	50.3	
	57	Toluene	92	11.162	11.165	(1.249)	118517	10.0000	9.6	
	58	4-methyl-2-pentanone	43	11.783	11.786	(1.318)	329444	50.0000	51.0	
	59	Tetrachloroethene	164	11.733	11.729	(0.877)	39230	10.0000	10.2	
	60	trans-1,3-Dichloropropene	75	11.812	11.815	(1.321)	55798	10.0000	8.8	
	61	1,1,2-Trichloroethane	83	12.048	12.051	(1.348)	39775	10.0000	10.2	
	62	Dibromochloromethane	129	12.298	12.294	(0.919)	46461	10.0000	9.5	
	63	1,3-Dichloropropane	76	12.448	12.451	(0.931)	82843	10.0000	9.8	
	64	1,2-Dibromoethane	107	12.634	12.637	(1.413)	43780	10.0000	9.5	
	65	2-Hexanone	43	13.027	13.030	(0.974)	235877	50.0000	51.0	
*	66	Chlorobenzene-D5	117	13.377	13.380	(1.000)	556952	50.0000		
	67	Chlorobenzene	112	13.406	13.409	(1.002)	140900	10.0000	10.1	
	152	1-Chlorohexane	91	13.456	13.459	(1.668)	235984	10.0000	(a)	
	68	Ethylbenzene	106	13.456	13.459	(1.006)	75464	10.0000	9.8	
	69	1,1,1,2-Tetrachloroethane	131	13.506	13.502	(1.010)	42412	10.0000	9.3	
M	70	Xylenes (total)	106				274457	30.0000	(a)	
	71	m+p-Xylenes	106	13.663	13.673	(1.021)	181495	20.0000	19.2	
	72	o-Xylene	106	14.249	14.252	(1.065)	92962	10.0000	9.8	
	73	Styrene	104	14.321	14.324	(1.071)	153856	10.0000	9.7	
	74	Bromoform	173	14.335	14.338	(1.072)	36208	10.0000	9.9	
	75	Isopropylbenzene	105	14.671	14.674	(0.893)	224602	10.0000	9.9	
$	76	P-Bromofluorobenzene	95	15.029	15.032	(1.681)	287125	50.0000	47.8	

Data File: \\target_server\gg\chem\gcms-w.i\W052118.b\W4065.D
Report Date: 25-May-2018 12:06

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/kg)	AMOUNTS ON-COL (ug/kg)	REVIEW CODE
	77 cis-1,4-Dichloro-2-Butene	53	15.129	15.132	(0.920)	17912	10.0000	9.2	
	78 trans-1,4-Dichloro-2-Butene	53	15.536	15.532	(0.945)	13541	10.0000	10	
	79 Bromobenzene	156	15.150	15.153	(0.922)	63763	10.0000	10.0	
	80 N-Propylbenzene	91	15.207	15.210	(0.925)	291826	10.0000	10	
	81 1,1,2,2-Tetrachloroethane	83	15.307	15.310	(0.931)	73723	10.0000	10.1	
	82 1,3,5-Trimethylbenzene	105	15.465	15.468	(0.941)	204572	10.0000	9.8	
	83 2-Chlorotoluene	91	15.393	15.396	(0.937)	178870	10.0000	10.1	
	84 1,2,3-Trichloropropane	75	15.472	15.475	(0.941)	64075	10.0000	10.1	
	85 4-Chlorotoluene	91	15.608	15.611	(0.950)	185666	10.0000	10	
	86 tert-Butylbenzene	119	15.865	15.868	(0.965)	203448	10.0000	9.7	
	87 Pentachloroethane	117	15.879	15.882	(0.966)	36773	10.0000	9.2	
	88 1,2,4-Trimethylbenzene	105	15.951	15.954	(0.970)	217759	10.0000	9.9	
	89 P-Isopropyltoluene	119	16.265	16.268	(0.990)	224626	10.0000	9.7	
	90 1,3-Dichlorobenzene	146	16.344	16.347	(0.994)	124135	10.0000	9.8	
*	91 1,4-Dichlorobenzene-D4	152	16.437	16.440	(1.000)	347819	50.0000		
	92 1,4-Dichlorobenzene	146	16.451	16.454	(1.001)	129204	10.0000	10	
	93 N-Butylbenzene	91	16.787	16.783	(1.021)	209135	10.0000	9.7	
	94 sec-Butylbenzene	105	16.079	16.082	(0.978)	272299	10.0000	9.9	
	95 1,2-Dichlorobenzene	146	16.973	16.969	(1.033)	127258	10.0000	10.0	
	96 1,2-Dibromo-3-Chloropropane	75	17.945	17.941	(1.092)	15555	10.0000	9.4	
	97 1,3,5-Trichlorobenzene	180	17.981	17.977	(2.229)	83619	10.0000	9.6	
	98 Hexachlorobutadiene	225	18.710	18.713	(1.138)	38902	10.0000	9.9	
	99 1,2,4-Trichlorobenzene	180	18.746	18.749	(1.140)	71406	10.0000	9.6	
	100 1,2,3-Trimethylbenzene	105	16.487	16.490	(2.044)	220334	10.0000	9.8	
	101 Naphthalene	128	19.146	19.142	(1.165)	197681	10.0000	9.7	
	102 1,2,3-Trichlorobenzene	180	19.375	19.370	(1.179)	66984	10.0000	9.7	
	103 Methyl Acetate	43	4.435	4.438	(0.550)	44117	10.0000	9.4	
	104 Methylcyclohexane	83	8.824	8.827	(1.094)	82221	10.0000	10.3	
M	153 Total Alkylbenzenes	100				1623665	10.0000	(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).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Instrument: gcms-w.i
Operator: JSS
Column diameter: 0.18
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Y (x10^6)
Min
-Chloromethane (2.256)+
-Bromomethane (2.606)
-Chloroethane (2.742)
-Trichlorofluoromethane (2.885)
-Diethyl Ether (3.221)
-1,1-Dichloroethene (3.456)+
-Iodomethane (3.635)
-Acrolein (3.878)
-Allyl Chloride (4.050)
-Methylene Chloride (4.186)+
-trans-1,2-Dichloroethene (4.407)+
-Total Alkylbenzenes (4.500)+
-Tertiary-butyl alcohol (4.707)
-Acetonitrile (4.965)
-Di-isopropyl ether (5.151)
-Chloroprene (5.329)+
-Acrylonitrile (5.479)
-Ethyl tertiary-butyl ethe (5.801)+
-cis-1,2-Dichloroethene (6.359)
-2,2-Dichloropropane (6.559)
-Bromochloromethane (6.709)+
-Chloroform (6.866)
-Carbon Tetrachloride (7.088)
-Tetrahydrofuran (7.195)+
-1,1-Dichloropropene (7.445)+
-Propionitrile (7.874)+
-Methacrylonitrile (7.988)+
-1,2-Dichloroethane-D4 (8.110)+
-1,2-Dichloroethane (8.224)
-Isobutyl Alcohol (8.353)
-Trichloroethene (8.825)+
-1,4-Difluorobenzene (8.932)
-Dibromomethane (9.532)
-1,2-Dichloropropane (9.704)
-Bromodichloromethane (9.811)
-Ethyl Methacrylate (10.118)+
-1,2-Dichloroethylene (tot (10.268)
-cis-1,3-dichloropropene (10.805)
-Toluene-D8 (11.083)+
-Tetrachloroethene (11.727)
-4-methyl-2-pentanone (11.784)+
-Methyl Methacrylate (12.048)+
-Dibromochloromethane (12.291)
-1,3-Dichloropropane (12.449)
-1,2-Dibromoethane (12.635)
-2-Hexanone (13.028)
-Chlorobenzene-D5 (13.378)+
-1-Chlorohexane (13.457)+
-m+p-Xylenes (13.664)
-o-Xylene (14.250)
-Styrene (14.321)+
-Isopropylbenzene (14.672)
-P-Bromofluorobenzene (15.029)
-cis-1,4-Dichloro-2-Butene (15.151)+
-1,1,2,2-Tetrachloroethane (15.308)
-1,3-Trimethylbenzene (15.465)+
-4-Chlorotoluene (15.608)
-tert-Butylbenzene (15.865)+
-1,2,4-Trimethylbenzene (15.951)
-sec-Butylbenzene (16.080)
-P-Isopropyltoluene (16.266)
-1,3-Dichlorobenzene (16.344)
1,4-Dichlorobenzene-D4 (16.437)+
-N-Butylbenzene (16.788)
-1,2-Dichlorobenzene (16.973)
-1,2-Dibromo-3-Chloropropa (17.845)
-1,3,5-Trichlorobenzene (17.974)
-Hexachlorobutadiene (18.710)
-1,2,4-Trichlorobenzene (18.746)
-Naphthalene (19.146)
-1,2,3-Trichlorobenzene (19.368)

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Report Date: 25-May-2018 12:06

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W052118.b\W4066.D
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Inj Date : 21-MAY-2018 10:30 MS Autotune Date: 10-APR-2016 11:00
Operator : JSS Inst ID: gcms-w.i
Smp Info : WG228751-1
Misc Info :
Comment : SW846 5035
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Meth Date : 25-May-2018 12:05 gcms-w.i Quant Type: ISTD
Cal Date : 21-MAY-2018 10:30 Cal File: W4066.D
Als bottle: 5 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12

Concentration Formula: Amt * DF * (100/(100-M))*(Vt/Ws) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
M	0.00000	% Moisture
Vt	5.000	Volume of DI Water (mL)
Ws	5.000	Weight of Sample (g)
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/kg)	AMOUNTS ON-COL (ug/kg)	REVIEW CODE
1	Dichlorodifluoromethane	85	1.971	1.965	(0.244)	32501	5.00000	5.4	
2	Chloromethane	50	2.192	2.187	(0.272)	46438	5.00000	6.1	
3	Vinyl chloride	62	2.257	2.258	(0.280)	39974	5.00000	5.8	
4	Bromomethane	94	2.607	2.608	(0.323)	20542	5.00000	5.9	
5	Chloroethane	64	2.743	2.737	(0.340)	25615	5.00000	2.9(a)	
6	Trichlorofluoromethane	101	2.886	2.887	(0.358)	44033	5.00000	4.9(a)	
7	Diethyl Ether	59	3.222	3.223	(0.399)	23202	5.00000	5.0	
8	Tertiary-butyl alcohol	59	4.723	4.710	(0.585)	9874	25.0000	27.3	
9	1,1-Dichloroethene	96	3.465	3.459	(0.429)	24804	5.00000	5.4	
10	Carbon Disulfide	76	3.508	3.502	(0.435)	80850	5.00000	5.4	
11	Freon-113	151	3.500	3.502	(0.434)	14437	5.00000	4.4(a)	
12	Iodomethane	142	3.643	3.638	(0.452)	14438	5.00000	4.2(a)	
13	Acrolein	56	3.886	3.881	(0.482)	23630	25.0000	24.3(a)	
14	Methylene Chloride	84	4.194	4.188	(0.520)	32163	5.00000	5.5(a)	
15	Acetone	43	4.280	4.274	(0.530)	52199	25.0000	24.7(a)	
16	Isobutyl Alcohol	43	8.347	8.341	(1.035)	21011	100.000	163	
17	trans-1,2-Dichloroethene	96	4.415	4.410	(0.547)	26058	5.00000	5.3	
18	Allyl Chloride	41	4.051	4.052	(0.502)	42319	5.00000	5.4	
19	Methyl tert-butyl ether	73	4.565	4.567	(0.566)	60903	5.00000	4.6(a)	
20	Acetonitrile	39	4.980	4.967	(0.617)	10565	50.0000	57.0	
21	Di-isopropyl ether	45	5.159	5.160	(0.639)	84531	5.00000	5.0	
22	Chloroprene	53	5.330	5.332	(0.661)	36953	5.00000	5.0	

Data File: \\target_server\gg\chem\gcms-w.i\W052118.b\W4066.D
Report Date: 25-May-2018 12:06

			QUANT SIG					AMOUNTS		
		Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ug/kg)	ON-COL (ug/kg)	REVIEW CODE
	23	Propionitrile	54	7.968	7.969	(0.988)	43125	50.0000	45.3(a)	
	24	Methacrylonitrile	41	7.989	7.998	(0.990)	189610	50.0000	49.2(a)	
	25	1,1-Dichloroethane	63	5.373	5.375	(0.666)	50047	5.00000	5.5	
	26	Acrylonitrile	52	5.488	5.482	(0.680)	44637	25.0000	24.3(a)	
	27	Ethyl tertiary-butyl ether	59	5.809	5.804	(0.720)	50352	5.00000	4.5(a)	
	28	Vinyl Acetate	43	5.845	5.846	(0.654)	46162	5.00000	4.2(a)	
	29	cis-1,2-Dichloroethene	96	6.360	6.361	(0.788)	28239	5.00000	5.2	
M	30	1,2-Dichloroethylene (total)	96				54297	10.0000	(a)	
	31	Methyl Methacrylate	41	12.099	12.094	(1.353)	21460	5.00000	4.1(a)	
	32	2,2-Dichloropropane	77	6.560	6.561	(0.813)	20814	5.00000	4.4(a)	
	33	Bromochloromethane	128	6.724	6.726	(0.833)	11803	5.00000	4.8(a)	
	34	Chloroform	83	6.867	6.869	(0.851)	48075	5.00000	5.4	
	35	Carbon Tetrachloride	117	7.089	7.090	(0.793)	21006	5.00000	4.2(a)	
	36	Tetrahydrofuran	42	7.174	7.162	(0.889)	48001	25.0000	22.8(a)	
$	37	Dibromofluoromethane	113	7.196	7.197	(0.892)	174517	50.0000	50.4	
	38	1,1,1-Trichloroethane	97	7.224	7.226	(0.895)	36305	5.00000	5.1	
	39	1,1-Dichloropropene	75	7.446	7.448	(0.833)	36271	5.00000	5.2	
	40	2-Butanone	43	7.460	7.455	(0.925)	78946	25.0000	24.3(a)	
	41	Benzene	78	7.875	7.876	(0.881)	118662	5.00000	5.5	
*	42	Pentafluorobenzene	168	8.068	8.069	(1.000)	381688	50.0000		
	43	Cyclohexane	56	6.703	6.704	(0.831)	40928	5.00000	4.8(a)	
	44	Ethyl Methacrylate	69	10.119	10.114	(1.132)	14726	5.00000	3.8(a)	
$	45	1,2-Dichloroethane-D4	65	8.118	8.119	(1.006)	224047	50.0000	49.3	
	46	Tertiary-amyl methyl ether	73	8.111	8.112	(1.005)	46529	5.00000	4.4(a)	
	47	1,2-Dichloroethane	62	8.232	8.234	(0.921)	35430	5.00000	4.8(a)	
	48	Trichloroethene	95	8.854	8.856	(0.990)	26864	5.00000	5.1	
*	49	1,4-Difluorobenzene	114	8.940	8.941	(1.000)	604889	50.0000		
	50	Dibromomethane	93	9.533	9.528	(1.066)	17063	5.00000	5.2	
	51	1,2-Dichloropropane	63	9.705	9.706	(1.086)	27346	5.00000	5.0	
	52	Bromodichloromethane	83	9.812	9.814	(1.098)	32292	5.00000	4.7(a)	
	53	cis-1,3-dichloropropene	75	10.813	10.807	(1.209)	37389	5.00000	4.5(a)	
	54	1,4-Dioxane	88	10.177	10.164	(1.138)	7824	100.000	91.2(a)	
$	55	Toluene-D8	98	11.092	11.093	(1.241)	756382	50.0000	49.8	
	57	Toluene	92	11.163	11.165	(1.249)	69869	5.00000	5.3	
	58	4-methyl-2-pentanone	43	11.785	11.786	(1.318)	158785	25.0000	23.0(a)	
	59	Tetrachloroethene	164	11.728	11.729	(0.877)	21882	5.00000	5.3	
	60	trans-1,3-Dichloropropene	75	11.814	11.815	(1.321)	28529	5.00000	4.2(a)	
	61	1,1,2-Trichloroethane	83	12.049	12.051	(1.348)	20187	5.00000	4.8(a)	
	62	Dibromochloromethane	129	12.300	12.294	(0.919)	24711	5.00000	4.8(a)	
	63	1,3-Dichloropropane	76	12.450	12.451	(0.931)	45920	5.00000	5.1	
	64	1,2-Dibromoethane	107	12.636	12.637	(1.413)	22749	5.00000	4.6(a)	
	65	2-Hexanone	43	13.029	13.030	(0.974)	109238	25.0000	22.1(a)	
*	66	Chlorobenzene-D5	117	13.379	13.380	(1.000)	593894	50.0000		
	67	Chlorobenzene	112	13.400	13.409	(1.002)	77434	5.00000	5.2	
	152	1-Chlorohexane	91	13.458	13.459	(1.668)	136618	5.00000	(a)	
	68	Ethylbenzene	106	13.458	13.459	(1.006)	42824	5.00000	5.2	
	69	1,1,1,2-Tetrachloroethane	131	13.500	13.502	(1.009)	23179	5.00000	4.8(a)	
M	70	Xylenes (total)	106				155027	15.0000	(a)	
	71	m+p-Xylenes	106	13.672	13.673	(1.022)	103603	10.0000	10.2	
	72	o-Xylene	106	14.251	14.252	(1.065)	51424	5.00000	5.1	
	73	Styrene	104	14.322	14.324	(1.071)	81941	5.00000	4.8(a)	
	74	Bromoform	173	14.337	14.338	(1.072)	17343	5.00000	4.4(a)	
	75	Isopropylbenzene	105	14.673	14.674	(0.893)	127498	5.00000	5.5	
$	76	P-Bromofluorobenzene	95	15.030	15.032	(1.681)	312233	50.0000	48.7	

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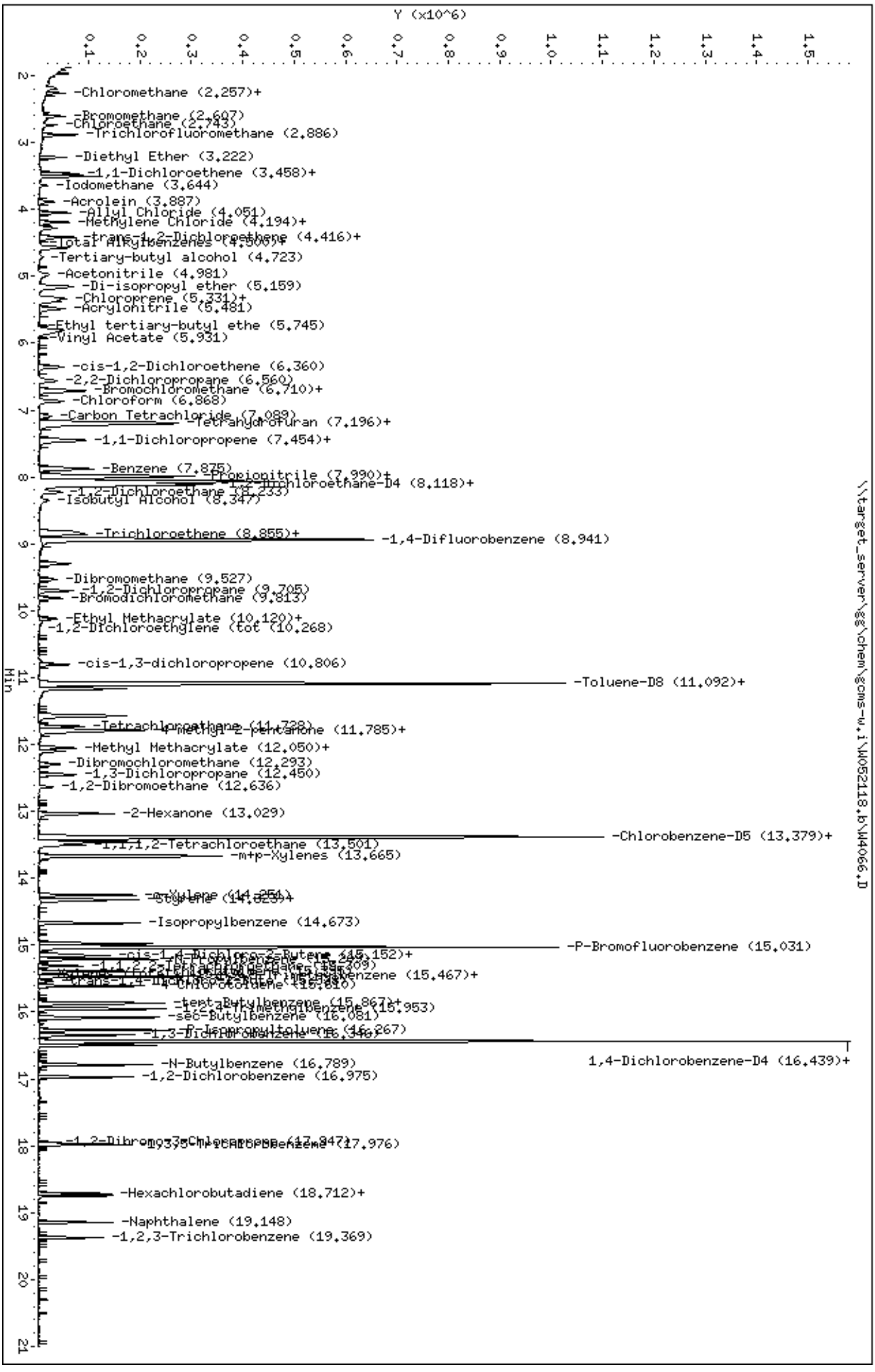
Report Date: 25-May-2018 12:06

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/kg)	AMOUNTS ON-COL (ug/kg)	REVIEW CODE
	77 cis-1,4-Dichloro-2-Butene	53	15.130	15.132	(0.920)	8187	5.00000	4.1(a)	
	78 trans-1,4-Dichloro-2-Butene	53	15.530	15.532	(0.945)	6151	5.00000	5.7	
	79 Bromobenzene	156	15.152	15.153	(0.922)	33179	5.00000	5.1	
	80 N-Propylbenzene	91	15.209	15.210	(0.925)	166485	5.00000	5.6	
	81 1,1,2,2-Tetrachloroethane	83	15.309	15.310	(0.931)	37229	5.00000	5.0	
	82 1,3,5-Trimethylbenzene	105	15.466	15.468	(0.941)	115374	5.00000	5.4	
	83 2-Chlorotoluene	91	15.395	15.396	(0.937)	102042	5.00000	5.6	
	84 1,2,3-Trichloropropane	75	15.466	15.475	(0.941)	33030	5.00000	5.1	
	85 4-Chlorotoluene	91	15.609	15.611	(0.950)	106133	5.00000	5.6	
	86 tert-Butylbenzene	119	15.866	15.868	(0.965)	115903	5.00000	5.4	
	87 Pentachloroethane	117	15.881	15.882	(0.966)	18731	5.00000	4.6(a)	
	88 1,2,4-Trimethylbenzene	105	15.952	15.954	(0.970)	118326	5.00000	5.3	
	89 P-Isopropyltoluene	119	16.267	16.268	(0.990)	128013	5.00000	5.4	
	90 1,3-Dichlorobenzene	146	16.345	16.347	(0.994)	69449	5.00000	5.4	
*	91 1,4-Dichlorobenzene-D4	152	16.438	16.440	(1.000)	356691	50.0000		
	92 1,4-Dichlorobenzene	146	16.453	16.454	(1.001)	70838	5.00000	5.3	
	93 N-Butylbenzene	91	16.789	16.783	(1.021)	116157	5.00000	5.2	
	94 sec-Butylbenzene	105	16.081	16.082	(0.978)	157787	5.00000	5.6	
	95 1,2-Dichlorobenzene	146	16.974	16.969	(1.033)	68187	5.00000	5.2	
	96 1,2-Dibromo-3-Chloropropane	75	17.946	17.941	(1.092)	7880	5.00000	4.7(a)	
	97 1,3,5-Trichlorobenzene	180	17.975	17.977	(2.228)	46733	5.00000	5.0	
	98 Hexachlorobutadiene	225	18.711	18.713	(1.138)	21296	5.00000	5.3	
	99 1,2,4-Trichlorobenzene	180	18.754	18.749	(1.141)	36299	5.00000	4.8(a)	
	100 1,2,3-Trimethylbenzene	105	16.495	16.490	(2.044)	120325	5.00000	5.0	
	101 Naphthalene	128	19.147	19.142	(1.165)	97074	5.00000	4.6(a)	
	102 1,2,3-Trichlorobenzene	180	19.369	19.370	(1.178)	33540	5.00000	4.8(a)	
	103 Methyl Acetate	43	4.437	4.438	(0.550)	22628	5.00000	4.6(a)	
	104 Methylcyclohexane	83	8.818	8.827	(1.093)	37978	5.00000	4.5(a)	
M	153 Total Alkylbenzenes	100				918045	5.00000	(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).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Instrument: gcms-w.i
Operator: JSS
Column diameter: 0.18
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Y (x10^6)
Min
-Chloromethane (2.257)+
-Bromomethane (2.607)
-Chloroethane (2.743)
-Trichlorofluoromethane (2.886)
-Diethyl Ether (3.222)
-1,1-Dichloroethene (3.458)+
-Iodomethane (3.644)
-Acrolein (3.887)
-Allyl Chloride (4.051)
-Methylene Chloride (4.194)+
-trans-1,2-Dichloroethene (4.416)+
-Total Alkylbenzenes (4.500)+
-Tertiary-butyl alcohol (4.723)
-Acetonitrile (4.981)
-Di-isopropyl ether (5.159)
-Chloroprene (5.331)+
-Acrylonitrile (5.481)
-Ethyl tertiary-butyl ethe (5.745)
-Vinyl Acetate (5.931)
-cis-1,2-Dichloroethene (6.360)
-2,2-Dichloropropane (6.560)
-Bromochloromethane (6.710)+
-Chloroform (6.868)
-Carbon Tetrachloride (7.089)
-Tetrahydrofuran (7.196)+
-1,1-Dichloropropene (7.454)+
-Benzene (7.875)
-Propionitrile (7.990)+
-1,2-Dichloroethane-D4 (8.118)+
-1,2-Dichloroethane (8.233)
-Isobutyl Alcohol (8.347)
-Trichloroethene (8.855)+
-1,4-Difluorobenzene (8.941)
-Dibromomethane (9.527)
-1,2-Dichloropropane (9.705)
-Bromodichloromethane (9.813)
-Ethyl Methacrylate (10.120)+
-1,2-Dichloroethylene (tot (10.268)
-cis-1,3-dichloropropene (10.806)
-Toluene-D8 (11.092)+
-Tetrachloroethane (11.728)
-4-Methyl-2-pentanone (11.785)+
-Methyl Methacrylate (12.050)+
-Dibromochloromethane (12.293)
-1,3-Dichloropropane (12.450)
-1,2-Dibromoethane (12.636)
-2-Hexanone (13.029)
-Chlorobenzene-D5 (13.379)+
-1,1,1,2-Tetrachloroethane (13.501)
-m+p-Xylenes (13.665)
-o-Xylene (14.254)
-Styrene (14.323)+
-Isopropylbenzene (14.673)
-P-Bromofluorobenzene (15.031)
-cis-1,4-Dichloro-2-Butene (15.152)+
-1,1,2,2-Tetrachloroethane (15.309)
-Bromobenzene (15.467)+
-trans-1,4-Dichloro-2-Butene (15.610)
-4-Chlorotoluene (15.810)
-tert-Butylbenzene (15.867)+
-1,2,4-Trimethylbenzene (15.953)
-sec-Butylbenzene (16.081)
-P-Isopropyltoluene (16.267)
-1,3-Dichlorobenzene (16.340)
1,4-Dichlorobenzene-D4 (16.439)+
-N-Butylbenzene (16.789)
-1,2-Dichlorobenzene (16.975)
-1,2-Dibromo-3-Chloropropane (17.847)
-1,3,5-Trichlorobenzene (17.976)
-Hexachlorobutadiene (18.712)+
-Naphthalene (19.148)
-1,2,3-Trichlorobenzene (19.369)

Data File: \\target_server\gg\chem\gcms-w.i\W052118.b\W4067.D
Report Date: 25-May-2018 12:06

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W052118.b\W4067.D
Lab Smp Id: WG228751-6
Inj Date : 21-MAY-2018 11:07 MS Autotune Date: 10-APR-2016 11:00
Operator : JSS Inst ID: gcms-w.i
Smp Info : WG228751-6
Misc Info :
Comment : SW846 5035
Method : \\target_server\gg\chem\gcms-w.i\W052118.b\W8SDI(13)D.m
Meth Date : 25-May-2018 12:05 gcms-w.i Quant Type: ISTD
Cal Date : 21-MAY-2018 11:07 Cal File: W4067.D
Als bottle: 6 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12

Concentration Formula: Amt * DF * (100/(100-M))*(Vt/Ws) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
M	0.00000	% Moisture
Vt	5.000	Volume of DI Water (mL)
Ws	5.000	Weight of Sample (g)
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/kg)	AMOUNTS ON-COL (ug/kg)	REVIEW CODE
1	Dichlorodifluoromethane	85	1.965	1.965	(0.244)	876517	150.000	133	
2	Chloromethane	50	2.194	2.187	(0.272)	1069235	150.000	129	
3	Vinyl chloride	62	2.258	2.258	(0.280)	1028565	150.000	136	
4	Bromomethane	94	2.608	2.608	(0.323)	538837	150.000	141	
5	Chloroethane	64	2.737	2.737	(0.339)	558783	150.000	150	
6	Trichlorofluoromethane	101	2.880	2.887	(0.357)	1431846	150.000	146	
7	Diethyl Ether	59	3.223	3.223	(0.399)	759102	150.000	150	
8	Tertiary-butyl alcohol	59	4.717	4.710	(0.585)	513751	750.000	758	
9	1,1-Dichloroethene	96	3.459	3.459	(0.429)	732444	150.000	146	
10	Carbon Disulfide	76	3.502	3.502	(0.434)	2413649	150.000	148	
11	Freon-113	151	3.495	3.502	(0.433)	530701	150.000	148	
12	Iodomethane	142	3.638	3.638	(0.451)	668996	150.000	180	
13	Acrolein	56	3.881	3.881	(0.481)	785223	750.000	739	
14	Methylene Chloride	84	4.188	4.188	(0.519)	915439	150.000	144	
15	Acetone	43	4.274	4.274	(0.530)	1597211	750.000	693	
16	Isobutyl Alcohol	43	8.348	8.341	(1.035)	1193950	3000.00	3060	
17	trans-1,2-Dichloroethene	96	4.410	4.410	(0.546)	785129	150.000	147	
18	Allyl Chloride	41	4.052	4.052	(0.502)	1244862	150.000	146	
19	Methyl tert-butyl ether	73	4.567	4.567	(0.566)	2220424	150.000	154	
20	Acetonitrile	39	4.981	4.967	(0.617)	279056	1500.00	1380	
21	Di-isopropyl ether	45	5.160	5.160	(0.639)	2772221	150.000	150	
22	Chloroprene	53	5.332	5.332	(0.661)	1218226	150.000	150	

Data File: \\target_server\gg\chem\gcms-w.i\W052118.b\W4067.D
Report Date: 25-May-2018 12:06

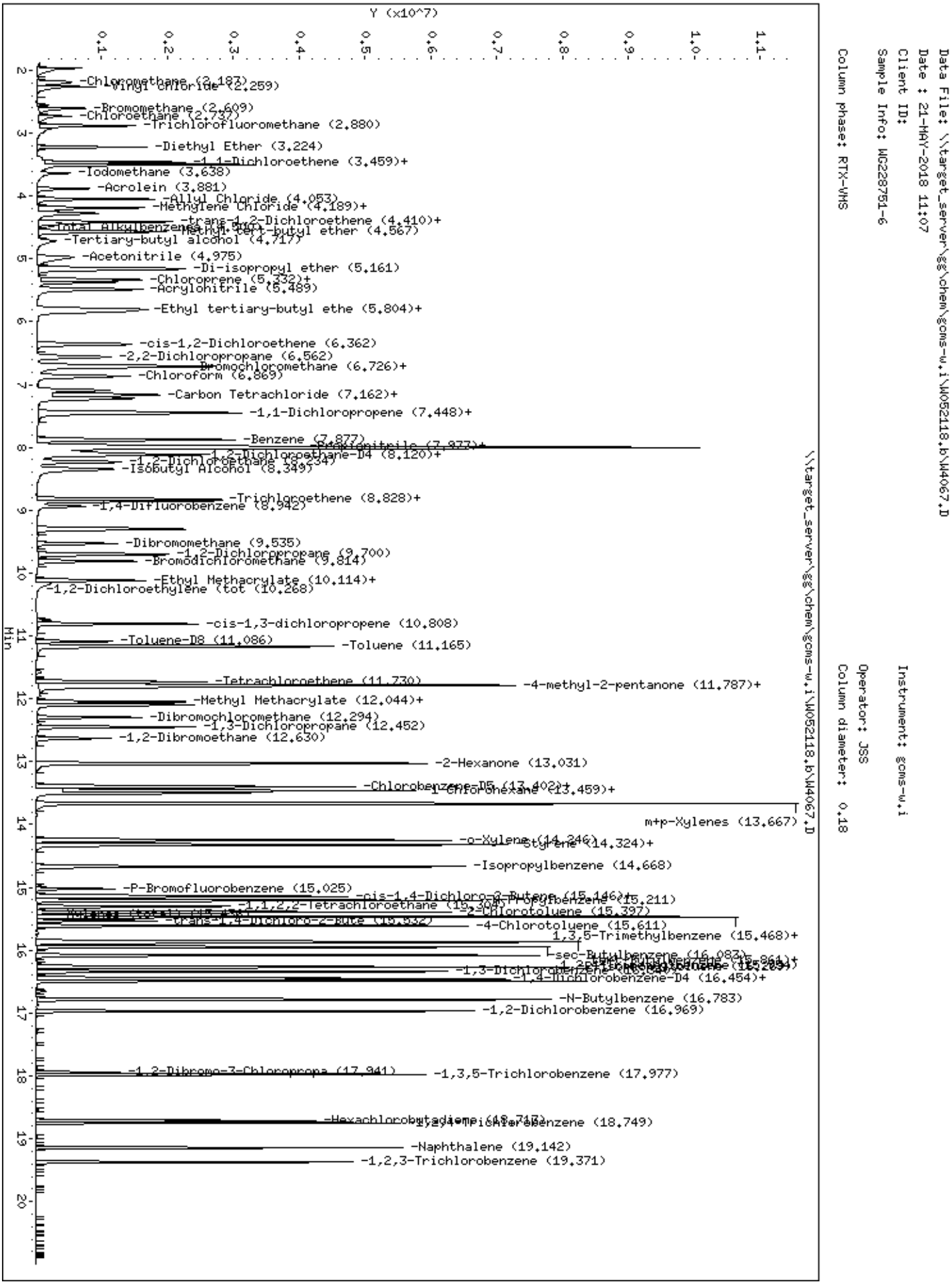
		Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/kg)	ON-COL (ug/kg)	REVIEW CODE
	23	Propionitrile	54	7.976	7.969	(0.988)	1562355	1500.00	1500	
	24	Methacrylonitrile	41	8.005	7.998	(0.992)	5868906	1500.00	1400	
	25	1,1-Dichloroethane	63	5.375	5.375	(0.666)	1445157	150.000	145	
	26	Acrylonitrile	52	5.489	5.482	(0.680)	1511554	750.000	755	
	27	Ethyl tertiary-butyl ether	59	5.803	5.804	(0.719)	1897811	150.000	156	
	28	Vinyl Acetate	43	5.846	5.846	(0.654)	1896118	150.000	155	
	29	cis-1,2-Dichloroethene	96	6.361	6.361	(0.788)	864461	150.000	145	
M	30	1,2-Dichloroethylene (total)	96				1649590	300.000	(a)	
	31	Methyl Methacrylate	41	12.094	12.094	(1.353)	927771	150.000	162	
	32	2,2-Dichloropropane	77	6.561	6.561	(0.813)	855363	150.000	166	
	33	Bromochloromethane	128	6.726	6.726	(0.833)	408419	150.000	151	
	34	Chloroform	83	6.869	6.869	(0.851)	1411813	150.000	146	
	35	Carbon Tetrachloride	117	7.090	7.090	(0.793)	886155	150.000	160	
	36	Tetrahydrofuran	42	7.162	7.162	(0.888)	1665514	750.000	727	
$	37	Dibromofluoromethane	113	7.197	7.197	(0.892)	192379	50.0000	50.9	
	38	1,1,1-Trichloroethane	97	7.226	7.226	(0.895)	1148664	150.000	149	
	39	1,1-Dichloropropene	75	7.448	7.448	(0.833)	1090068	150.000	142	
	40	2-Butanone	43	7.455	7.455	(0.924)	2580454	750.000	728	
	41	Benzene	78	7.876	7.876	(0.881)	3289057	150.000	140	
*	42	Pentafluorobenzene	168	8.069	8.069	(1.000)	416396	50.0000		
	43	Cyclohexane	56	6.704	6.704	(0.831)	1389113	150.000	149	
	44	Ethyl Methacrylate	69	10.114	10.114	(1.131)	661772	150.000	158	
$	45	1,2-Dichloroethane-D4	65	8.119	8.119	(1.006)	254169	50.0000	51.2	
	46	Tertiary-amyl methyl ether	73	8.112	8.112	(1.005)	1930407	150.000	167	
	47	1,2-Dichloroethane	62	8.234	8.234	(0.921)	1163177	150.000	143	
	48	Trichloroethene	95	8.856	8.856	(0.990)	807989	150.000	141	
*	49	1,4-Difluorobenzene	114	8.941	8.941	(1.000)	664565	50.0000		
	50	Dibromomethane	93	9.535	9.528	(1.066)	515363	150.000	143	
	51	1,2-Dichloropropane	63	9.699	9.706	(1.085)	869765	150.000	145	
	52	Bromodichloromethane	83	9.814	9.814	(1.098)	1117338	150.000	149	
	53	cis-1,3-dichloropropene	75	10.807	10.807	(1.209)	1438340	150.000	157	
	54	1,4-Dioxane	88	10.164	10.164	(1.137)	288307	3000.00	3060	
$	55	Toluene-D8	98	11.086	11.093	(1.240)	827365	50.0000	49.6	
	57	Toluene	92	11.164	11.165	(1.249)	2094577	150.000	145	
	58	4-methyl-2-pentanone	43	11.786	11.786	(1.318)	5301493	750.000	699	
	59	Tetrachloroethene	164	11.729	11.729	(0.877)	652854	150.000	142	
	60	trans-1,3-Dichloropropene	75	11.815	11.815	(1.321)	1244017	150.000	167	
	61	1,1,2-Trichloroethane	83	12.044	12.051	(1.347)	662210	150.000	144	
	62	Dibromochloromethane	129	12.294	12.294	(0.919)	905350	150.000	155	
	63	1,3-Dichloropropane	76	12.451	12.451	(0.931)	1467020	150.000	146	
	64	1,2-Dibromoethane	107	12.630	12.637	(1.412)	817411	150.000	151	
	65	2-Hexanone	43	13.030	13.030	(0.974)	3969469	750.000	717	
*	66	Chlorobenzene-D5	117	13.380	13.380	(1.000)	666146	50.0000		
	67	Chlorobenzene	112	13.402	13.409	(1.002)	2430353	150.000	145	
	152	1-Chlorohexane	91	13.459	13.459	(1.668)	4030124	150.000	(a)	
	68	Ethylbenzene	106	13.459	13.459	(1.006)	1362973	150.000	148	
	69	1,1,1,2-Tetrachloroethane	131	13.502	13.502	(1.009)	853765	150.000	157	
M	70	Xylenes (total)	106				5048554	150.000	(a)	
	71	m+p-Xylenes	106	13.666	13.673	(1.021)	3350959	300.000	296	
	72	o-Xylene	106	14.245	14.252	(1.065)	1697595	150.000	150	
	73	Styrene	104	14.324	14.324	(1.071)	2919917	150.000	154(A)	
	74	Bromoform	173	14.338	14.338	(1.072)	709538	150.000	162	
	75	Isopropylbenzene	105	14.667	14.674	(0.892)	3961304	150.000	140	
$	76	P-Bromofluorobenzene	95	15.024	15.032	(1.680)	357261	50.0000	50.7	

Data File: \\target_server\gg\chem\gcms-w.i\W052118.b\W4067.D
Report Date: 25-May-2018 12:06

			QUANT SIG					AMOUNTS		
		Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ug/kg)	ON-COL (ug/kg)	REVIEW CODE
	77	cis-1,4-Dichloro-2-Butene	53	15.132	15.132	(0.920)	408496	150.000	167	
	78	trans-1,4-Dichloro-2-Butene	53	15.532	15.532	(0.945)	334403	150.000	153	
	79	Bromobenzene	156	15.153	15.153	(0.922)	1170991	150.000	146	
	80	N-Propylbenzene	91	15.210	15.210	(0.925)	4937160	150.000	134	
	81	1,1,2,2-Tetrachloroethane	83	15.303	15.310	(0.931)	1334235	150.000	146	
	82	1,3,5-Trimethylbenzene	105	15.468	15.468	(0.941)	3688406	150.000	141	
	83	2-Chlorotoluene	91	15.396	15.396	(0.937)	3145993	150.000	141	
	84	1,2,3-Trichloropropane	75	15.468	15.475	(0.941)	1161590	150.000	146	
	85	4-Chlorotoluene	91	15.611	15.611	(0.950)	3293235	150.000	141	
	86	tert-Butylbenzene	119	15.861	15.868	(0.965)	3841419	150.000	145	
	87	Pentachloroethane	117	15.875	15.882	(0.966)	821400	150.000	164	
	88	1,2,4-Trimethylbenzene	105	15.954	15.954	(0.970)	3850664	150.000	140	
	89	P-Isopropyltoluene	119	16.268	16.268	(0.990)	4031140	150.000	139	
	90	1,3-Dichlorobenzene	146	16.340	16.347	(0.994)	2245912	150.000	142	
*	91	1,4-Dichlorobenzene-D4	152	16.440	16.440	(1.000)	436765	50.0000		
	92	1,4-Dichlorobenzene	146	16.454	16.454	(1.001)	2309702	150.000	142	
	93	N-Butylbenzene	91	16.783	16.783	(1.021)	3737865	150.000	138	
	94	sec-Butylbenzene	105	16.082	16.082	(0.978)	4663158	150.000	135	
	95	1,2-Dichlorobenzene	146	16.969	16.969	(1.032)	2236727	150.000	140	
	96	1,2-Dibromo-3-Chloropropane	75	17.941	17.941	(1.091)	326963	150.000	158	
	97	1,3,5-Trichlorobenzene	180	17.977	17.977	(2.228)	1511651	150.000	149	
	98	Hexachlorobutadiene	225	18.713	18.713	(1.138)	671896	150.000	137	
	99	1,2,4-Trichlorobenzene	180	18.749	18.749	(1.140)	1354188	150.000	146	
	100	1,2,3-Trimethylbenzene	105	16.490	16.490	(2.043)	3889450	150.000	149	
	101	Naphthalene	128	19.142	19.142	(1.164)	3637678	150.000	142	
	102	1,2,3-Trichlorobenzene	180	19.370	19.370	(1.178)	1242474	150.000	144	
	103	Methyl Acetate	43	4.438	4.438	(0.550)	819401	150.000	151	
	104	Methylcyclohexane	83	8.827	8.827	(1.094)	1385641	150.000	149	
M	153	Total Alkylbenzenes	100				28749812	150.000	(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
A - Target compound detected but, quantitated amount
exceeded maximum amount.


Data File: \\target_server\gg\chem\gcms-w.i\W052118.b\W4067.D
Date : 21-MAY-2018 11:07
Client ID:
Sample Info: WG228751-6
Column phase: RTX-VMS
Instrument: gcms-w.i
Operator: JSS
Column diameter: 0.18
\\target_server\gg\chem\gcms-w.i\W052118.b\W4067.D
Y (x10^7)
Min
-Chloromethane (2.187)
-Vinyl chloride (2.259)
-Bromomethane (2.609)
-Chloroethane (2.737)
-Trichlorofluoromethane (2.880)
-Diethyl Ether (3.224)
-1,1-Dichloroethene (3.459)+
-Iodomethane (3.638)
-Acrolein (3.881)
-Allyl Chloride (4.053)
-Methylene Chloride (4.189)+
-trans-1,2-Dichloroethene (4.410)+
-Total Alkylbenzenes (4.507)
-Methyl tert-butyl ether (4.567)
-Tertiary-butyl alcohol (4.717)
-Acetonitrile (4.975)
-Di-isopropyl ether (5.161)
-Chloroprene (5.332)+
-Acrylonitrile (5.489)
-Ethyl tertiary-butyl ethe (5.804)+
-cis-1,2-Dichloroethene (6.362)
-2,2-Dichloropropane (6.562)
-Bromochloromethane (6.726)+
-Chloroform (6.869)
-Carbon Tetrachloride (7.162)+
-1,1-Dichloropropene (7.448)+
-Benzene (7.877)
-Propionitrile (7.977)+
-1,2-Dichloroethane-D4 (8.120)+
-1,2-Dichloroethane (8.234)
-Isobutyl Alcohol (8.349)
-Trichloroethene (8.828)+
-1,4-Difluorobenzene (8.942)
-Dibromomethane (9.535)
-1,2-Dichloropropane (9.700)
-Bromodichloromethane (9.814)
-Ethyl Methacrylate (10.114)+
-1,2-Dichloroethylene (tot (10.268)
-cis-1,3-dichloropropene (10.808)
-Toluene-D8 (11.086)
-Toluene (11.165)
-Tetrachloroethene (11.730)
-4-methyl-2-pentanone (11.787)+
-Methyl Methacrylate (12.044)+
-Dibromochloromethane (12.294)
-1,3-Dichloropropane (12.452)
-1,2-Dibromoethane (12.630)
-2-Hexanone (13.031)
-Chlorobenzene-D5 (13.402)+
-1-Chlorohexane (13.459)+
m+p-Xylenes (13.667)
-o-Xylene (14.246)
-Styrene (14.324)+
-Isopropylbenzene (14.668)
-P-Bromofluorobenzene (15.025)
-cis-1,4-Dichloro-2-Butene (15.146)+
-1,1,2,2-Tetrachloroethane (15.304)
-Propylbenzene (15.211)
-2-Chlorotoluene (15.397)
-trans-1,4-Dichloro-2-Bute (15.532)
-4-Chlorotoluene (15.611)
1,3,5-Trimethylbenzene (15.468)+
-sec-Butylbenzene (16.083)
-1,3-Dichlorobenzene (16.040)
-1,4-Dichlorobenzene-D4 (16.454)+
-N-Butylbenzene (16.783)
-1,2-Dichlorobenzene (16.969)
-1,2-Dibromo-3-Chloropropa (17.941)
-1,3,5-Trichlorobenzene (17.977)
-Hexachlorobutadiene (18.717)
-1,2,4-Trichlorobenzene (18.749)
-Naphthalene (19.142)
-1,2,3-Trichlorobenzene (19.371)

Data File: \\target_server\gg\chem\gcms-w.i\W052118.b\W4068.D
Report Date: 25-May-2018 12:07

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W052118.b\W4068.D
Lab Smp Id: WG228751-5
Inj Date : 21-MAY-2018 11:44 MS Autotune Date: 10-APR-2016 11:00
Operator : JSS Inst ID: gcms-w.i
Smp Info : WG228751-5
Misc Info :
Comment : SW846 5035
Method : \\TARGET_SERVER\GG\chem\gcms-w.i\W052118.b\W8SDI(13)D.m
Meth Date : 25-May-2018 12:05 gcms-w.i Quant Type: ISTD
Cal Date : 21-MAY-2018 11:44 Cal File: W4068.D
Als bottle: 7 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12

Concentration Formula: Amt * DF * (100/(100-M))*(Vt/Ws) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
M	0.00000	% Moisture
Vt	5.000	Volume of DI Water (mL)
Ws	5.000	Weight of Sample (g)
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/kg)	AMOUNTS ON-COL (ug/kg)	REVIEW CODE
1	Dichlorodifluoromethane	85	1.965	1.965	(0.244)	659376	100.000	90.2	
2	Chloromethane	50	2.187	2.187	(0.271)	792765	100.000	86.3	
3	Vinyl chloride	62	2.258	2.258	(0.280)	740648	100.000	88.2	
4	Bromomethane	94	2.608	2.608	(0.323)	374379	100.000	88.5	
5	Chloroethane	64	2.737	2.737	(0.339)	410423	100.000	97.8	
6	Trichlorofluoromethane	101	2.887	2.887	(0.358)	978596	100.000	90.4	
7	Diethyl Ether	59	3.223	3.223	(0.399)	525728	100.000	93.6	
8	Tertiary-butyl alcohol	59	4.710	4.710	(0.584)	363160	500.000	488	
9	1,1-Dichloroethene	96	3.459	3.459	(0.429)	515287	100.000	93.1	
10	Carbon Disulfide	76	3.502	3.502	(0.434)	1701735	100.000	94.5	
11	Freon-113	151	3.502	3.502	(0.434)	375296	100.000	94.7	
12	Iodomethane	142	3.638	3.638	(0.451)	466096	100.000	113	
13	Acrolein	56	3.881	3.881	(0.481)	556930	500.000	474	
14	Methylene Chloride	84	4.188	4.188	(0.519)	657772	100.000	93.2	
15	Acetone	43	4.274	4.274	(0.530)	1109231	500.000	435	
16	Isobutyl Alcohol	43	8.341	8.341	(1.034)	814191	2000.00	1920	
17	trans-1,2-Dichloroethene	96	4.410	4.410	(0.546)	560141	100.000	94.5	
18	Allyl Chloride	41	4.052	4.052	(0.502)	894102	100.000	94.9	
19	Methyl tert-butyl ether	73	4.567	4.567	(0.566)	1625935	100.000	102	
20	Acetonitrile	39	4.967	4.967	(0.616)	201956	1000.00	902	
21	Di-isopropyl ether	45	5.160	5.160	(0.639)	1946050	100.000	95.0	
22	Chloroprene	53	5.332	5.332	(0.661)	858558	100.000	95.3	

Data File: \\target_server\gg\chem\gcms-w.i\W052118.b\W4068.D
Report Date: 25-May-2018 12:07

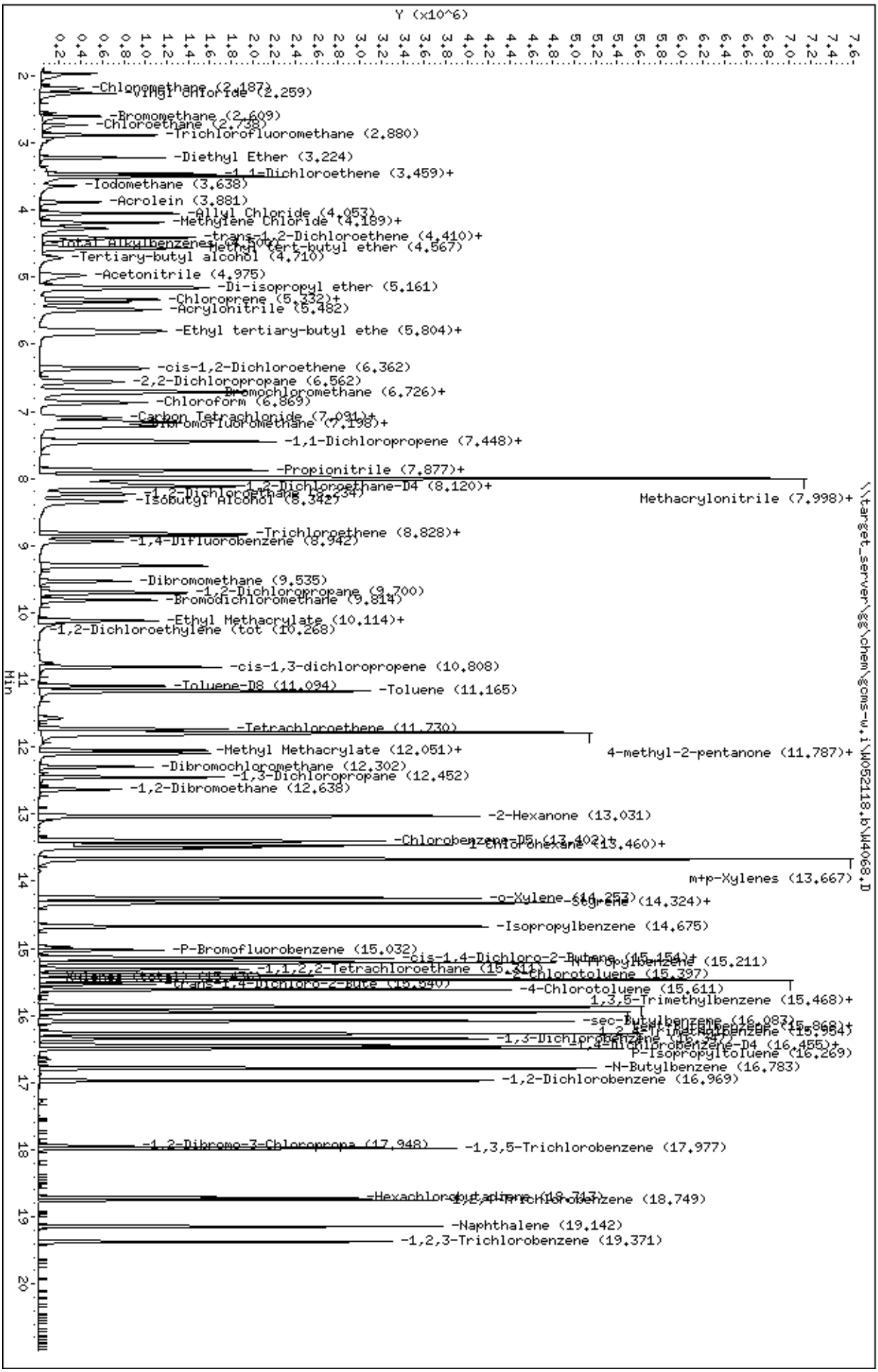
			QUANT SIG					AMOUNTS		
		Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ug/kg)	ON-COL (ug/kg)	REVIEW CODE
	23	Propionitrile	54	7.969	7.969	(0.988)	1089096	1000.00	947	
	24	Methacrylonitrile	41	7.998	7.998	(0.991)	4193204	1000.00	901	
	25	1,1-Dichloroethane	63	5.375	5.375	(0.666)	1015221	100.000	92.3	
	26	Acrylonitrile	52	5.482	5.482	(0.679)	1040208	500.000	470	
	27	Ethyl tertiary-butyl ether	59	5.804	5.804	(0.719)	1404272	100.000	104	
	28	Vinyl Acetate	43	5.846	5.846	(0.654)	1342422	100.000	106	
	29	cis-1,2-Dichloroethene	96	6.361	6.361	(0.788)	621003	100.000	94.2	
M	30	1,2-Dichloroethylene (total)	96				1181144	100.000	(a)	
	31	Methyl Methacrylate	41	12.094	12.094	(1.353)	626580	100.000	105	
	32	2,2-Dichloropropane	77	6.561	6.561	(0.813)	597430	100.000	105	
	33	Bromochloromethane	128	6.726	6.726	(0.833)	283339	100.000	94.9	
	34	Chloroform	83	6.869	6.869	(0.851)	991396	100.000	92.9	
	35	Carbon Tetrachloride	117	7.090	7.090	(0.793)	618202	100.000	108	
	36	Tetrahydrofuran	42	7.162	7.162	(0.888)	1179284	500.000	465	
$	37	Dibromofluoromethane	113	7.197	7.197	(0.892)	205087	50.0000	49.0	
	38	1,1,1-Trichloroethane	97	7.226	7.226	(0.895)	815344	100.000	95.5	
	39	1,1-Dichloropropene	75	7.448	7.448	(0.833)	760208	100.000	95.4	
	40	2-Butanone	43	7.455	7.455	(0.924)	1799323	500.000	459	
	41	Benzene	78	7.876	7.876	(0.881)	2321279	100.000	95.0	
*	42	Pentafluorobenzene	168	8.069	8.069	(1.000)	460942	50.0000		
	43	Cyclohexane	56	6.704	6.704	(0.831)	985571	100.000	95.3	
	44	Ethyl Methacrylate	69	10.114	10.114	(1.131)	462853	100.000	106	
$	45	1,2-Dichloroethane-D4	65	8.119	8.119	(1.006)	266128	50.0000	48.4	
	46	Tertiary-amyl methyl ether	73	8.112	8.112	(1.005)	1356334	100.000	106	
	47	1,2-Dichloroethane	62	8.234	8.234	(0.921)	809313	100.000	95.9	
	48	Trichloroethene	95	8.856	8.856	(0.990)	571329	100.000	95.9	
*	49	1,4-Difluorobenzene	114	8.941	8.941	(1.000)	690569	50.0000		
	50	Dibromomethane	93	9.528	9.528	(1.066)	364302	100.000	97.2	
	51	1,2-Dichloropropane	63	9.706	9.706	(1.086)	606529	100.000	97.4	
	52	Bromodichloromethane	83	9.814	9.814	(1.098)	777887	100.000	100	
	53	cis-1,3-dichloropropene	75	10.807	10.807	(1.209)	989513	100.000	104	
	54	1,4-Dioxane	88	10.164	10.164	(1.137)	187669	2000.00	1920	
$	55	Toluene-D8	98	11.093	11.093	(1.241)	878029	50.0000	50.6	
	57	Toluene	92	11.165	11.165	(1.249)	1451982	100.000	96.6	
	58	4-methyl-2-pentanone	43	11.786	11.786	(1.318)	3785779	500.000	480	
	59	Tetrachloroethene	164	11.729	11.729	(0.877)	444473	100.000	93.1	
	60	trans-1,3-Dichloropropene	75	11.815	11.815	(1.321)	843812	100.000	109	
	61	1,1,2-Trichloroethane	83	12.051	12.051	(1.348)	470316	100.000	98.5	
	62	Dibromochloromethane	129	12.294	12.294	(0.919)	611341	100.000	101	
	63	1,3-Dichloropropane	76	12.451	12.451	(0.931)	1023798	100.000	98.4	
	64	1,2-Dibromoethane	107	12.637	12.637	(1.413)	568059	100.000	101	
	65	2-Hexanone	43	13.030	13.030	(0.974)	2783314	500.000	486	
*	66	Chlorobenzene-D5	117	13.380	13.380	(1.000)	689631	50.0000		
	67	Chlorobenzene	112	13.409	13.409	(1.002)	1656556	100.000	95.7	
	152	1-Chlorohexane	91	13.459	13.459	(1.668)	2798065	100.000	(a)	
	68	Ethylbenzene	106	13.459	13.459	(1.006)	932102	100.000	97.7	
	69	1,1,1,2-Tetrachloroethane	131	13.502	13.502	(1.009)	576479	100.000	102	
M	70	Xylenes (total)	106				3434569	100.000	(a)	
	71	m+p-Xylenes	106	13.673	13.673	(1.022)	2281522	200.000	194	
	72	o-Xylene	106	14.252	14.252	(1.065)	1153047	100.000	98.4	
	73	Styrene	104	14.324	14.324	(1.071)	1962692	100.000	99.8	
	74	Bromoform	173	14.338	14.338	(1.072)	472530	100.000	104	
	75	Isopropylbenzene	105	14.674	14.674	(0.893)	2721848	100.000	93.3	
$	76	P-Bromofluorobenzene	95	15.032	15.032	(1.681)	373903	50.0000	51.0	

Data File: \\target_server\gg\chem\gcms-w.i\W052118.b\W4068.D
Report Date: 25-May-2018 12:07

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/kg)	AMOUNTS ON-COL (ug/kg)	REVIEW CODE
	77 cis-1,4-Dichloro-2-Butene	53	15.132	15.132	(0.920)	267134	100.000	106	
	78 trans-1,4-Dichloro-2-Butene	53	15.532	15.532	(0.945)	210960	100.000	94.8	
	79 Bromobenzene	156	15.153	15.153	(0.922)	792613	100.000	96.5	
	80 N-Propylbenzene	91	15.210	15.210	(0.925)	3466603	100.000	92.0	
	81 1,1,2,2-Tetrachloroethane	83	15.310	15.310	(0.931)	903856	100.000	96.1	
	82 1,3,5-Trimethylbenzene	105	15.468	15.468	(0.941)	2523375	100.000	94.1	
	83 2-Chlorotoluene	91	15.396	15.396	(0.937)	2130882	100.000	92.9	
	84 1,2,3-Trichloropropane	75	15.475	15.475	(0.941)	775332	100.000	95.0	
	85 4-Chlorotoluene	91	15.611	15.611	(0.950)	2225043	100.000	92.7	
	86 tert-Butylbenzene	119	15.868	15.868	(0.965)	2622393	100.000	96.5	
	87 Pentachloroethane	117	15.882	15.882	(0.966)	539706	100.000	105	
	88 1,2,4-Trimethylbenzene	105	15.954	15.954	(0.970)	2651257	100.000	93.8	
	89 P-Isopropyltoluene	119	16.268	16.268	(0.990)	2800677	100.000	94.2	
	90 1,3-Dichlorobenzene	146	16.347	16.347	(0.994)	1540950	100.000	94.5	
*	91 1,4-Dichlorobenzene-D4	152	16.440	16.440	(1.000)	448816	50.0000		
	92 1,4-Dichlorobenzene	146	16.454	16.454	(1.001)	1572628	100.000	94.2	
	93 N-Butylbenzene	91	16.783	16.783	(1.021)	2608055	100.000	93.6	
	94 sec-Butylbenzene	105	16.082	16.082	(0.978)	3269386	100.000	92.3	
	95 1,2-Dichlorobenzene	146	16.969	16.969	(1.032)	1547339	100.000	94.5	
	96 1,2-Dibromo-3-Chloropropane	75	17.941	17.941	(1.091)	213660	100.000	101	
	97 1,3,5-Trichlorobenzene	180	17.977	17.977	(2.228)	1023022	100.000	91.4	
	98 Hexachlorobutadiene	225	18.713	18.713	(1.138)	463483	100.000	91.8	
	99 1,2,4-Trichlorobenzene	180	18.749	18.749	(1.140)	923485	100.000	96.6	
	100 1,2,3-Trimethylbenzene	105	16.490	16.490	(2.043)	2702649	100.000	93.8	
	101 Naphthalene	128	19.142	19.142	(1.164)	2601928	100.000	98.7	
	102 1,2,3-Trichlorobenzene	180	19.370	19.370	(1.178)	859134	100.000	96.8	
	103 Methyl Acetate	43	4.438	4.438	(0.550)	582042	100.000	97.1	
	104 Methylcyclohexane	83	8.827	8.827	(1.094)	967956	100.000	94.3	
M	153 Total Alkylbenzenes	100				19941746	100.000	(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).


Y (x10^6)
Min
Data File: \\target_server\gg\chem\gcms-w.i\W052118.b\W4068.D
Date : 21-MAY-2018 11:44
Client ID:
Sample Info: WG228751-5
Column phase: RTX-VMS
Instrument: gcms-w.i
Operator: JSS
Column diameter: 0.18
-Chloromethane (2.187)
-Vinyl Chloride (2.259)
-Bromomethane (2.609)
-Chloroethane (2.738)
-Trichlorofluoromethane (2.880)
-Diethyl Ether (3.224)
-1,1-Dichloroethene (3.459)+
-Iodomethane (3.638)
-Acrolein (3.881)
-Allyl Chloride (4.053)
-Methylene Chloride (4.189)+
-trans-1,2-Dichloroethene (4.410)+
-Total Alkylbenzenes (4.504)
-Methyl tert-butyl ether (4.567)
-Tertiary-butyl alcohol (4.710)
-Acetonitrile (4.975)
-Di-isopropyl ether (5.161)
-Chloroprene (5.332)+
-Acrylonitrile (5.482)
-Ethyl tertiary-butyl ethe (5.804)+
-cis-1,2-Dichloroethene (6.362)
-2,2-Dichloropropane (6.562)
-Bromochloromethane (6.726)+
-Chloroform (6.869)
-Carbon Tetrachloride (7.091)+
-Dibromofluoromethane (7.198)+
-1,1-Dichloropropene (7.448)+
-Propionitrile (7.877)+
-1,2-Dichloroethane-D4 (8.120)+
-1,2-Dichloroethane (8.234)
-Isobutyl Alcohol (8.342)
Methacrylonitrile (7.998)+
-Trichloroethene (8.828)+
-1,4-Difluorobenzene (8.942)
-Dibromomethane (9.535)
-1,2-Dichloropropane (9.700)
-Bromodichloromethane (9.814)
-Ethyl Methacrylate (10.114)+
-1,2-Dichloroethylene (tot (10.268)
-cis-1,3-dichloropropene (10.808)
-Toluene-D8 (11.094)
-Toluene (11.165)
-Tetrachloroethene (11.730)
-Methyl Methacrylate (12.051)+
4-methyl-2-pentanone (11.787)+
-Dibromochloromethane (12.302)
-1,3-Dichloropropane (12.452)
-1,2-Dibromoethane (12.638)
-2-Hexanone (13.031)
-Chlorobenzene-D5 (13.402)+
-Chlorohexane (13.460)+
m+p-Xylenes (13.667)
-o-Xylene (14.257)
-Styrene (14.324)+
-Isopropylbenzene (14.675)
-P-Bromofluorobenzene (15.032)
-cis-1,4-Dichloro-2-Butene (15.154)+
-n-Propylbenzene (15.211)
-1,1,2,2-Tetrachloroethane (15.411)
-2-Chlorotoluene (15.397)
-trans-1,4-Dichloro-2-Bute (15.540)
-4-Chlorotoluene (15.611)
-1,3,5-Trimethylbenzene (15.468)+
-sec-Butylbenzene (16.087)
-1,2,4-Trimethylbenzene (15.868)+
-1,3-Dichlorobenzene (15.984)
-1,4-Dichlorobenzene-D4 (16.455)+
-P-Isopropyltoluene (16.269)
-N-Butylbenzene (16.783)
-1,2-Dichlorobenzene (16.969)
-1,2-Dibromo-3-Chloropropa (17.948)
-1,3,5-Trichlorobenzene (17.977)
-Hexachlorobutadiene (18.747)
-1,2,4-Trichlorobenzene (18.749)
-Naphthalene (19.142)
-1,2,3-Trichlorobenzene (19.371)
\\target_server\gg\chem\gcms-w.i\W052118.b\W4068.D

Data File: \\target_server\gg\chem\gcms-w.i\W052118.b\W4069A.D
Report Date: 25-May-2018 12:55

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W052118.b\W4069A.D
Lab Smp Id: WG228751-7
Inj Date : 21-MAY-2018 12:31 MS Autotune Date: 10-APR-2016 11:00
Operator : JSS Inst ID: gcms-w.i
Smp Info : WG228751-7
Misc Info : WG228751,WG228751-4
Comment : SW846 5035
Method : \\target_server\gg\chem\gcms-w.i\W052118.b\W8SDI(13)D.m
Meth Date : 25-May-2018 12:05 gcms-w.i Quant Type: ISTD
Cal Date : 21-MAY-2018 11:44 Cal File: W4068.D
Als bottle: 8 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12

Concentration Formula: Amt * DF * (100/(100-M))*(Vt/Ws) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
M	0.00000	% Moisture
Vt	5.000	Volume of DI Water (mL)
Ws	5.000	Weight of Sample (g)
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/kg)	FINAL (ug/Kgdrywt)	REVIEW COD
1	Dichlorodifluoromethane	85	1.963	1.965	(0.243)	401801	56.9746	57.0	
2	Chloromethane	50	2.177	2.187	(0.270)	491867	55.5125	55.5	
3	Vinyl chloride	62	2.256	2.258	(0.280)	405635	50.0836	50.1	
4	Bromomethane	94	2.606	2.608	(0.323)	199591	48.9188	48.9	
5	Chloroethane	64	2.742	2.737	(0.340)	235944	56.2950	56.3	
6	Trichlorofluoromethane	101	2.885	2.887	(0.358)	454627	43.5550	43.6	
7	Diethyl Ether	59	3.221	3.223	(0.399)	259354	47.8830	47.9	
8	Tertiary-butyl alcohol	59	4.707	4.710	(0.584)	164348	235.062	235	
9	1,1-Dichloroethene	96	3.457	3.459	(0.429)	234191	43.8614	43.9	
10	Carbon Disulfide	76	3.507	3.502	(0.435)	804710	46.2966	46.3	
11	Freon-113	151	3.499	3.502	(0.434)	182784	47.7872	47.8	
12	Iodomethane	142	3.642	3.638	(0.452)	234764	59.0089	59.0	
13	Acrolein	56	3.878	3.881	(0.481)	252769	222.814	223	
14	Methylene Chloride	84	4.193	4.188	(0.520)	305915	44.9214	44.9	
15	Acetone	43	4.279	4.274	(0.530)	113527	46.1492	46.1	
16	Isobutyl Alcohol	43	8.339	8.341	(1.034)	350951	918.183	918	
17	trans-1,2-Dichloroethene	96	4.407	4.410	(0.546)	259817	45.4251	45.4	
18	Allyl Chloride	41	4.050	4.052	(0.502)	445613	49.0370	49.0	
19	Methyl tert-butyl ether	73	4.565	4.567	(0.566)	759421	49.3306	49.3	
20	Acetonitrile	39	4.965	4.967	(0.615)	98720	456.772	457	
21	Di-isopropyl ether	45	5.158	5.160	(0.639)	968214	48.9815	49.0	
22	Chloroprene	53	5.329	5.332	(0.661)	416900	47.9537	48.0	

Data File: \\target_server\gg\chem\gcms-w.i\W052118.b\W4069A.D
Report Date: 25-May-2018 12:55

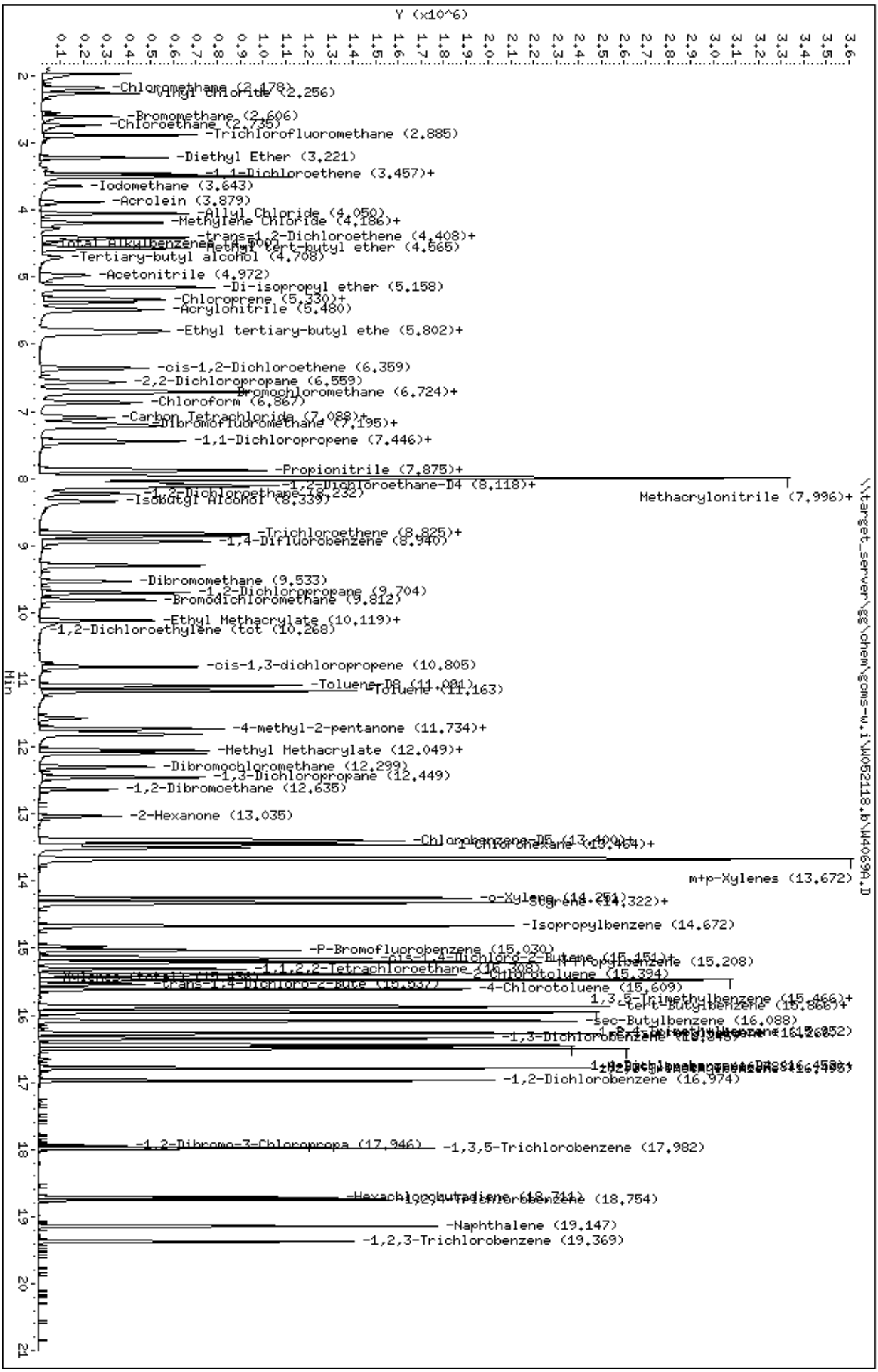
		Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/kg)	CONCENTRATIONS FINAL (ug/Kgdrywt)	REVIEW COD
	23	Propionitrile	54	7.967	7.969	(0.988)	497836	448.542	448	
	24	Methacrylonitrile	41	7.996	7.998	(0.991)	2021338	450.307	450	
	25	1,1-Dichloroethane	63	5.372	5.375	(0.666)	508703	47.9484	47.9	
	26	Acrylonitrile	52	5.479	5.482	(0.679)	487188	227.958	228	
	27	Ethyl tertiary-butyl ether	59	5.801	5.804	(0.719)	673970	51.8439	51.8	
	28	Vinyl Acetate	43	5.844	5.846	(0.654)	697282	55.3036	55.3	
	29	cis-1,2-Dichloroethene	96	6.359	6.361	(0.788)	288145	45.2990	45.3	
M	30	1,2-Dichloroethylene (total)	96				547962	90.7241	90.7	
	31	Methyl Methacrylate	41	12.099	12.094	(1.353)	290429	48.9648	49.0	
	32	2,2-Dichloropropane	77	6.559	6.561	(0.813)	278275	50.6450	50.6	
	33	Bromochloromethane	128	6.723	6.726	(0.833)	136034	47.2211	47.2	
	34	Chloroform	83	6.866	6.869	(0.851)	467681	45.4421	45.4	
	35	Carbon Tetrachloride	117	7.088	7.090	(0.793)	280749	49.2253	49.2	
	36	Tetrahydrofuran	42	7.174	7.162	(0.889)	113946	46.5490	46.5	
$	37	Dibromofluoromethane	113	7.195	7.197	(0.892)	198908	49.3027	49.3	
	38	1,1,1-Trichloroethane	97	7.224	7.226	(0.895)	382693	46.4574	46.4	
	39	1,1-Dichloropropene	75	7.445	7.448	(0.833)	360628	45.5558	45.6	
	40	2-Butanone	43	7.459	7.455	(0.925)	167556	44.2737	44.3	
	41	Benzene	78	7.874	7.876	(0.881)	1115734	45.9643	46.0	
*	42	Pentafluorobenzene	168	8.067	8.069	(1.000)	444730	50.0000		
	43	Cyclohexane	56	6.709	6.704	(0.832)	458375	45.9214	45.9	
	44	Ethyl Methacrylate	69	10.119	10.114	(1.132)	220740	50.8885	50.9	
$	45	1,2-Dichloroethane-D4	65	8.117	8.119	(1.006)	258972	48.8744	48.9	
	46	Tertiary-amyl methyl ether	73	8.110	8.112	(1.005)	631600	51.1420	51.1	
	47	1,2-Dichloroethane	62	8.231	8.234	(0.921)	383661	45.7677	45.8	
	48	Trichloroethene	95	8.860	8.856	(0.991)	265701	44.8969	44.9	
*	49	1,4-Difluorobenzene	114	8.939	8.941	(1.000)	686221	50.0000		
	50	Dibromomethane	93	9.532	9.528	(1.066)	171780	46.1205	46.1	
	51	1,2-Dichloropropane	63	9.704	9.706	(1.086)	281835	45.5301	45.5	
	52	Bromodichloromethane	83	9.811	9.814	(1.098)	375537	48.6154	48.6	
	53	cis-1,3-dichloropropene	75	10.805	10.807	(1.209)	440083	46.4695	46.5	
	54	1,4-Dioxane	88	10.161	10.164	(1.137)	92978	955.127	955	
$	55	Toluene-D8	98	11.091	11.093	(1.241)	862050	50.0476	50.0	
	57	Toluene	92	11.162	11.165	(1.249)	678012	45.3790	45.4	
	58	4-methyl-2-pentanone	43	11.784	11.786	(1.318)	357805	45.6897	45.7	
	59	Tetrachloroethene	164	11.734	11.729	(0.877)	210318	46.6689	46.7	
	60	trans-1,3-Dichloropropene	75	11.813	11.815	(1.321)	363049	47.0934	47.1	
	61	1,1,2-Trichloroethane	83	12.048	12.051	(1.348)	209887	44.2371	44.2	
	62	Dibromochloromethane	129	12.299	12.294	(0.919)	287819	50.5221	50.5	
	63	1,3-Dichloropropane	76	12.449	12.451	(0.930)	458363	46.6698	46.7	
	64	1,2-Dibromoethane	107	12.635	12.637	(1.413)	246696	44.2140	44.2	
	65	2-Hexanone	43	13.035	13.030	(0.974)	271443	50.1923	50.2	
*	66	Chlorobenzene-D5	117	13.385	13.380	(1.000)	650742	50.0000		
	67	Chlorobenzene	112	13.407	13.409	(1.002)	782950	47.9260	47.9	
	152	1-Chlorohexane	91	13.464	13.459	(1.669)	1333214		(aR)	
	68	Ethylbenzene	106	13.464	13.459	(1.006)	419454	46.5808	46.6	
	69	1,1,1,2-Tetrachloroethane	131	13.507	13.502	(1.009)	260356	49.1032	49.1	
M	70	Xylenes (total)	106				1580151	142.805	143	
	71	m+p-Xylenes	106	13.671	13.673	(1.021)	1047649	94.6568	94.6	
	72	o-Xylene	106	14.250	14.252	(1.065)	532502	48.1482	48.1	
	73	Styrene	104	14.322	14.324	(1.070)	896818	48.3231	48.3	
	74	Bromoform	173	14.336	14.338	(1.071)	209176	48.8280	48.8	
	75	Isopropylbenzene	105	14.672	14.674	(0.893)	1315420	48.8338	48.8	
$	76	P-Bromofluorobenzene	95	15.029	15.032	(1.681)	351963	48.3663	48.4	

Data File: \\target_server\gg\chem\gcms-w.i\W052118.b\W4069A.D
Report Date: 25-May-2018 12:55

			QUANT SIG					CONCENTRATIONS		
		Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN (ug/kg)	FINAL (ug/Kgdrywt)	REVIEW COD
	77	cis-1,4-Dichloro-2-Butene	53	15.129	15.132	(0.920)	114299	49.1403	49.1	
	78	trans-1,4-Dichloro-2-Butene	53	15.537	15.532	(0.945)	89865	44.9600	45.0	
	79	Bromobenzene	156	15.158	15.153	(0.922)	357080	47.0845	47.1	
	80	N-Propylbenzene	91	15.208	15.210	(0.925)	1639074	47.0882	47.1	
	81	1,1,2,2-Tetrachloroethane	83	15.308	15.310	(0.931)	412154	47.4469	47.4	
	82	1,3,5-Trimethylbenzene	105	15.465	15.468	(0.941)	1169025	47.2290	47.2	
	83	2-Chlorotoluene	91	15.394	15.396	(0.937)	996868	47.0592	47.0	
	84	1,2,3-Trichloropropane	75	15.472	15.475	(0.941)	336675	44.6590	44.6	
	85	4-Chlorotoluene	91	15.608	15.611	(0.950)	1028742	46.4178	46.4	
	86	tert-Butylbenzene	119	15.866	15.868	(0.965)	1189431	47.4033	47.4	
	87	Pentachloroethane	117	15.880	15.882	(0.966)	236475	49.8339	49.8	
	88	1,2,4-Trimethylbenzene	105	15.951	15.954	(0.970)	1230963	47.1646	47.2	
	89	P-Isopropyltoluene	119	16.266	16.268	(0.990)	1303455	47.4686	47.5	
	90	1,3-Dichlorobenzene	146	16.344	16.347	(0.994)	712741	47.3273	47.3	
*	91	1,4-Dichlorobenzene-D4	152	16.437	16.440	(1.000)	414422	50.0000		
	92	1,4-Dichlorobenzene	146	16.459	16.454	(1.001)	707137	45.8914	45.9	
	93	N-Butylbenzene	91	16.788	16.783	(1.021)	1241413	48.2317	48.2	
	94	sec-Butylbenzene	105	16.087	16.082	(0.979)	1535870	46.9485	46.9	
	95	1,2-Dichlorobenzene	146	16.973	16.969	(1.033)	703475	46.5447	46.5	
	96	1,2-Dibromo-3-Chloropropane	75	17.946	17.941	(1.092)	89024	45.4102	45.4	
	97	1,3,5-Trichlorobenzene	180	17.981	17.977	(2.229)	489788	45.3418	45.3	
	98	Hexachlorobutadiene	225	18.718	18.713	(1.139)	216425	46.4317	46.4	
	99	1,2,4-Trichlorobenzene	180	18.753	18.749	(1.141)	422671	47.9113	47.9	
	100	1,2,3-Trimethylbenzene	105	16.495	16.490	(2.045)	1327966	47.7644	47.8	
	101	Naphthalene	128	19.146	19.142	(1.165)	1182380	48.5590	48.6	
	102	1,2,3-Trichlorobenzene	180	19.375	19.370	(1.179)	389711	47.5602	47.6	
	103	Methyl Acetate	43	4.436	4.438	(0.550)	249359	43.1192	43.1	
	104	Methylcyclohexane	83	8.825	8.827	(1.094)	464528	46.9214	46.9	
M	153	Total Alkylbenzenes	100				9309231	331.534	332	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
R - Spike/Surrogate failed recovery limits.


Y (x10^6)
Min
-Chloromethane (2.178)
-Vinyl Chloride (2.256)
-Bromomethane (2.606)
-Chloroethane (2.735)
-Trichlorofluoromethane (2.885)
-Diethyl Ether (3.221)
-1,1-Dichloroethene (3.457)+
-Iodomethane (3.643)
-Acrolein (3.879)
-Allyl Chloride (4.050)
-Methylene Chloride (4.186)+
-trans-1,2-Dichloroethene (4.408)+
-Total Alkylbenzenes (4.500)+
-Methyl tert-butyl ether (4.565)
-Tertiary-butyl alcohol (4.708)
-Acetonitrile (4.972)
-Di-isopropyl ether (5.158)
-Chloroprene (5.330)+
-Acrylonitrile (5.480)
-Ethyl tertiary-butyl ethe (5.802)+
-cis-1,2-Dichloroethene (6.359)
-2,2-Dichloropropane (6.559)
-Bromochloromethane (6.724)+
-Chloroform (6.867)
-Carbon Tetrachloride (7.088)+
-Dibromofluoromethane (7.195)+
-1,1-Dichloropropene (7.446)+
-Propionitrile (7.875)+
-1,2-Dichloroethane-D4 (8.118)+
-1,2-Dichloroethane (8.232)
-Isobutyl Alcohol (8.339)
Methacrylonitrile (7.996)+
-Trichloroethene (8.825)+
-1,4-Difluorobenzene (8.940)
-Dibromomethane (9.533)
-1,2-Dichloropropane (9.704)
-Bromodichloromethane (9.812)
-Ethyl Methacrylate (10.119)+
-1,2-Dichloroethylene (tot (10.268)
-cis-1,3-dichloropropene (10.805)
-Toluene-D8 (11.081)
Toluene (11.163)
-4-methyl-2-pentanone (11.734)+
-Methyl Methacrylate (12.049)+
-Dibromochloromethane (12.299)
-1,3-Dichloropropane (12.449)
-1,2-Dibromoethane (12.635)
-2-Hexanone (13.035)
-Chlorobenzene-D5 (13.400)+
1-Chlorohexane (13.464)+
m+p-Xylenes (13.672)
-o-Xylene (14.251)
Styrene (14.322)+
-Isopropylbenzene (14.672)
-P-Bromofluorobenzene (15.030)
-cis-1,4-Dichloro-2-Butene (15.151)+
n-Propylbenzene (15.208)
-1,1,2,2-Tetrachloroethane (15.308)
2-Chlorotoluene (15.394)
-trans-1,4-Dichloro-2-Bute (15.537)
-4-Chlorotoluene (15.609)
1,3,5-Trimethylbenzene (15.466)+
-tert-Butylbenzene (15.866)+
-sec-Butylbenzene (16.088)
-1,3-Dichlorobenzene (16.
-1,2-Dichlorobenzene (16.974)
-1,2-Dibromo-3-Chloropropa (17.946)
-1,3,5-Trichlorobenzene (17.982)
-Hexachlorobutadiene (18.741)
1,2,4-Trichlorobenzene (18.754)
-Naphthalene (19.147)
-1,2,3-Trichlorobenzene (19.369)
Data File: \\target_server\gg\chem\gcms-w.i\W052118.b\W4069A.D
Date : 21-MAY-2018 12:31
Client ID:
Sample Info: WG228751-7
Column phase: RTX-VMS
Instrument: gcms-w.i
Operator: JSS
Column diameter: 0.18
\\target_server\gg\chem\gcms-w.i\W052118.b\W4069A.D

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant **SDG:** SL4180
Lab ID : WG228752-4 **Analytical Date:** 05/21/18 08:18
Lab File ID : D1447.d **Instrument ID:** GCMS-D
Initial Calibration Date(s): 05/17/18 08:11 05/17/18 11:09 **Column ID:**

	Compound	$\overline{RRF}$/Amount	RF50	CCAL RRF50	Min	%D/ %Drift	Max %D/ %Drift	Curve Type	
1	Dichlorodifluoromethane	0.87127	0.74608	0.74608	0.010	-14.36873	20.00000	Averaged	
2	Chloromethane	0.79934	0.67434	0.67434	0.100	-15.63791	20.00000	Averaged	
3	Vinyl chloride	0.62623	0.57068	0.57068	0.010	-8.87041	20.00000	Averaged	
4	Bromomethane	0.31688	0.29009	0.29009	0.010	-8.45349	20.00000	Averaged	
5	Chloroethane	0.29152	0.28797	0.28797	0.010	-1.21601	20.00000	Averaged	
6	Trichlorofluoromethane	0.98352	0.98740	0.98740	0.010	0.39484	20.00000	Averaged	
9	1,1-Dichloroethene	0.36640	0.40246	0.40246	0.100	9.84128	20.00000	Averaged	
10	Carbon Disulfide	1.18124	1.21326	1.21326	0.010	2.71050	20.00000	Averaged	
11	Freon-113	0.30052	0.31132	0.31132	0.010	3.59571	20.00000	Averaged	
14	Methylene Chloride	0.55520	0.58148	0.58148	0.010	4.73461	20.00000	Averaged	
15	Acetone	0.16249	0.22098	0.22098	0.010	35.99252	20.00000	Averaged	*
17	trans-1,2-Dichloroethene	0.50635	0.52549	0.52549	0.010	3.77962	20.00000	Averaged	
19	Methyl tert-butyl ether	1.31652	1.47472	1.47472	0.010	12.01608	20.00000	Averaged	
25	1,1-Dichloroethane	1.01796	1.07191	1.07191	0.100	5.29926	20.00000	Averaged	
29	cis-1,2-Dichloroethene	0.53605	0.56180	0.56180	0.010	4.80429	20.00000	Averaged	
32	2,2-Dichloropropane	0.71237	0.84380	0.84380	0.010	18.44969	20.00000	Averaged	
33	Bromochloromethane	0.26831	0.28636	0.28636	0.010	6.72712	20.00000	Averaged	
34	Chloroform	1.06581	1.11161	1.11161	0.010	4.29742	20.00000	Averaged	
35	Carbon Tetrachloride	0.47465	0.51732	0.51732	0.010	8.98969	20.00000	Averaged	
38	1,1,1-Trichloroethane	0.91927	0.98939	0.98939	0.010	7.62716	20.00000	Averaged	
39	1,1-Dichloropropene	0.47127	0.50778	0.50778	0.010	7.74683	20.00000	Averaged	
40	2-Butanone	0.24154	0.29364	0.29364	0.010	21.57266	20.00000	Averaged	*
41	Benzene	1.22157	1.28269	1.28269	0.010	5.00302	20.00000	Averaged	
47	1,2-Dichloroethane	0.57229	0.61713	0.61713	0.010	7.83436	20.00000	Averaged	
48	Trichloroethene	0.35084	0.36109	0.36109	0.010	2.92165	20.00000	Averaged	
50	Dibromomethane	0.23166	0.25593	0.25593	0.010	10.47727	20.00000	Averaged	
51	1,2-Dichloropropane	0.33874	0.35809	0.35809	0.010	5.71442	20.00000	Averaged	
52	Bromodichloromethane	0.47995	0.53219	0.53219	0.010	10.88509	20.00000	Averaged	
53	cis-1,3-dichloropropene	50.00000	52.34783	0.62778	0.010	4.69566	20.00000	Linear	
57	Toluene	0.75606	0.77629	0.77629	0.010	2.67631	20.00000	Averaged	
58	4-methyl-2-pentanone	0.30792	0.36925	0.36925	0.010	19.91771	20.00000	Averaged	
59	Tetrachloroethene	0.26820	0.26664	0.26664	0.010	-0.57887	20.00000	Averaged	
60	trans-1,3-Dichloropropene	0.48567	0.56153	0.56153	0.010	15.61934	20.00000	Averaged	
61	1,1,2-Trichloroethane	0.26246	0.28274	0.28274	0.010	7.72834	20.00000	Averaged	
62	Dibromochloromethane	0.37319	0.42351	0.42351	0.010	13.48233	20.00000	Averaged	
63	1,3-Dichloropropane	0.59838	0.65281	0.65281	0.010	9.09673	20.00000	Averaged	
64	1,2-Dibromoethane	0.31721	0.34920	0.34920	0.010	10.08402	20.00000	Averaged	
65	2-Hexanone	0.22567	0.28720	0.28720	0.010	27.26513	20.00000	Averaged	*
67	Chlorobenzene	0.91734	0.93129	0.93129	0.300	1.51997	20.00000	Averaged	
68	Ethylbenzene	1.62552	1.68052	1.68052	0.010	3.38300	20.00000	Averaged	
69	1,1,1,2-Tetrachloroethane	0.33454	0.36811	0.36811	0.010	10.03184	20.00000	Averaged	

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
SDG: SL4180
Lab ID : WG228752-4
Analytical Date: 05/21/18 08:18
Lab File ID : D1447.d
Instrument ID: GCMS-D
Initial Calibration Date(s): 05/17/18 08:11 05/17/18 11:09
Column ID:

Compound	RRF/Amount	RF50	CCAL RRF50	Min	%D/ %Drift	Max %D/ %Drift	Curve Type
71 m+p-Xylenes	1.22828	1.32058	1.32058	0.010	7.51439	20.00000	Averaged
72 o-Xylene	1.19457	1.34041	1.34041	0.010	12.20840	20.00000	Averaged
73 Styrene	0.88775	0.99885	0.99885	0.010	12.51524	20.00000	Averaged
74 Bromoform	0.21682	0.25827	0.25827	0.100	19.12164	20.00000	Averaged
75 Isopropylbenzene	2.68214	2.92828	2.92828	0.010	9.17695	20.00000	Averaged
79 Bromobenzene	0.73418	0.75346	0.75346	0.010	2.62658	20.00000	Averaged
80 N-Propylbenzene	3.64124	3.80957	3.80957	0.010	4.62281	20.00000	Averaged
81 1,1,2,2-Tetrachloroethane	0.83813	0.90788	0.90788	0.300	8.32159	20.00000	Averaged
82 1,3,5-Trimethylbenzene	2.33023	2.57546	2.57546	0.010	10.52388	20.00000	Averaged
83 2-Chlorotoluene	2.12760	2.25301	2.25301	0.010	5.89441	20.00000	Averaged
84 1,2,3-Trichloropropane	0.74720	0.84312	0.84312	0.010	12.83723	20.00000	Averaged
85 4-Chlorotoluene	2.27798	2.42820	2.42820	0.010	6.59419	20.00000	Averaged
86 tert-Butylbenzene	2.20694	2.42558	2.42558	0.010	9.90709	20.00000	Averaged
88 1,2,4-Trimethylbenzene	2.40642	2.64670	2.64670	0.010	9.98482	20.00000	Averaged
89 P-Isopropyltoluene	2.32180	2.54767	2.54767	0.010	9.72795	20.00000	Averaged
90 1,3-Dichlorobenzene	1.32506	1.36594	1.36594	0.010	3.08487	20.00000	Averaged
92 1,4-Dichlorobenzene	1.37993	1.39647	1.39647	0.010	1.19844	20.00000	Averaged
93 N-Butylbenzene	2.27330	2.50660	2.50660	0.010	10.26261	20.00000	Averaged
94 sec-Butylbenzene	2.87531	3.07983	3.07983	0.010	7.11304	20.00000	Averaged
95 1,2-Dichlorobenzene	1.23314	1.31465	1.31465	0.010	6.60957	20.00000	Averaged
96 1,2-Dibromo-3-Chloropropane	0.14324	0.16630	0.16630	0.010	16.10424	20.00000	Averaged
98 Hexachlorobutadiene	0.35792	0.36045	0.36045	0.010	0.70735	20.00000	Averaged
99 1,2,4-Trichlorobenzene	0.72860	0.81759	0.81759	0.010	12.21466	20.00000	Averaged
101 Naphthalene	50.00000	51.59385	1.76041	0.010	3.18769	20.00000	Linear
102 1,2,3-Trichlorobenzene	0.60806	0.65987	0.65987	0.010	8.52003	20.00000	Averaged
37 Dibromofluoromethane	0.61262	0.61617	0.61617	0.010	0.58057	20.00000	Averaged
45 1,2-Dichloroethane-D4	0.83583	0.89422	0.89422	0.010	6.98583	20.00000	Averaged
55 Toluene-D8	1.21869	1.22128	1.22128	0.010	0.21302	20.00000	Averaged
76 P-Bromofluorobenzene	0.50198	0.51818	0.51818	0.010	3.22775	20.00000	Averaged

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http://katahdinlab.com
sales@katahdinlab.com

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
Lab ID : WG228752-4
Lab File ID : D1447.d
Initial Calibration Date(s): 05/17/18 08:11 05/17/18 11:09

SDG: SL4180
Analytical Date: 05/21/18 08:18
Instrument ID: GCMS-D
Column ID:

*** = Compound out of QC criteria**

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sales@katahdinlab.com

Data File: \\target_server\gg\chem\gcms-d.i\D052118.b\D1447.d
Report Date: 25-May-2018 11:49

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-d.i\D052118.b\D1447.d
Lab Smp Id: WG228752-4
Inj Date : 21-MAY-2018 08:18 MS Autotune Date: 05-OCT-2017 14:30
Operator : JSS Inst ID: gcms-d.i
Smp Info : WG228752-4,SL4180
Misc Info : WG228752,WG228547-4,SL4180-29
Comment : SW846 5030
Method : \\target_server\gg\chem\gcms-d.i\D052118.b\D8A05(22)D.m
Meth Date : 25-May-2018 11:48 gcms-d.i Quant Type: ISTD
Cal Date : 17-MAY-2018 11:09 Cal File: D1356.d
Als bottle: 2 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)	REVIEW CODE
1	Dichlorodifluoromethane	85	1.486	1.486	(0.203)	192672	50.0000	42.8	
2	Chloromethane	50	1.663	1.654	(0.227)	174144	50.0000	42.2	
3	Vinyl chloride	62	1.737	1.728	(0.238)	147376	50.0000	45.6	
4	Bromomethane	94	2.025	2.025	(0.277)	74915	50.0000	45.8	
5	Chloroethane	64	2.137	2.137	(0.292)	74367	50.0000	49.4	
6	Trichlorofluoromethane	101	2.276	2.277	(0.311)	254992	50.0000	50.2	
7	Diethyl Ether	59	2.583	2.583	(0.353)	91073	50.0000	57.2	
8	Tertiary-butyl alcohol	59	3.968	3.969	(0.543)	51983	250.000	282	
9	1,1-Dichloroethene	96	2.788	2.779	(0.381)	103934	50.0000	54.9	
10	Carbon Disulfide	76	2.806	2.807	(0.384)	313319	50.0000	51.4	
11	Freon-113	151	2.834	2.834	(0.387)	80398	50.0000	51.8	
12	Iodomethane	142	2.936	2.937	(0.401)	91692	50.0000	47.0	
13	Acrolein	56	3.169	3.160	(0.433)	111966	250.000	317	
14	Methylene Chloride	84	3.448	3.448	(0.471)	150165	50.0000	52.4	
15	Acetone	43	3.522	3.522	(0.482)	285331	250.000	340	
16	Isobutyl Alcohol	43	7.603	7.613	(1.039)	114179	1000.00	1090	
17	trans-1,2-Dichloroethene	96	3.643	3.643	(0.498)	135705	50.0000	51.9	
18	Allyl Chloride	41	3.318	3.318	(0.454)	210735	50.0000	53.0	
19	Methyl tert-butyl ether	73	3.810	3.811	(0.521)	380838	50.0000	56.0	
20	Acetonitrile	39	4.136	4.136	(0.565)	41190	500.000	581	
21	Di-isopropyl ether	45	4.368	4.368	(0.597)	451716	50.0000	49.8	
22	Chloroprene	53	4.480	4.480	(0.612)	232443	50.0000	55.4	
23	Propionitrile	54	7.148	7.148	(0.977)	203695	500.000	579	
24	Methacrylonitrile	41	7.185	7.185	(0.982)	986476	500.000	590	

Data File: \\target_server\gg\chem\gcms-d.i\D052118.b\D1447.d
Report Date: 25-May-2018 11:49

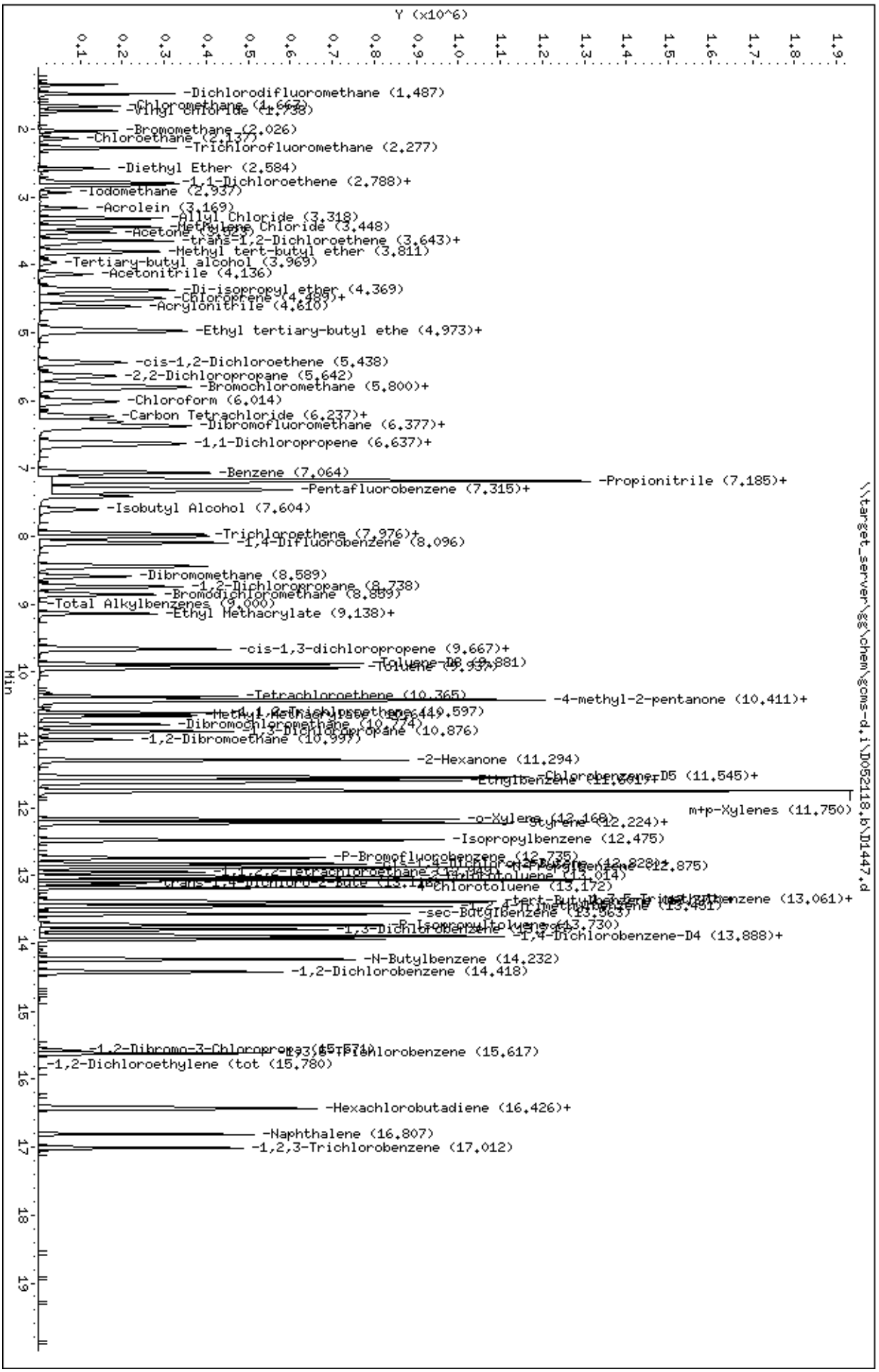
			QUANT SIG					AMOUNTS		
		Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ug/l)	ON-COL (ug/l)	REVIEW CODE
	25	1,1-Dichloroethane	63	4.517	4.517	(0.617)	276815	50.0000	52.6	
	26	Acrylonitrile	52	4.610	4.610	(0.630)	236889	250.000	280	
	27	Ethyl tertiary-butyl ether	59	4.963	4.963	(0.678)	397571	50.0000	50.7	
	28	Vinyl Acetate	43	4.982	4.982	(0.615)	355053	50.0000	58.6	
	29	cis-1,2-Dichloroethene	96	5.437	5.437	(0.743)	145082	50.0000	52.4	
M	30	1,2-Dichloroethylene (total)	96				280787	50.0000	(a)	
	31	Methyl Methacrylate	41	10.643	10.643	(1.315)	142355	50.0000	53.2	
	32	2,2-Dichloropropane	77	5.642	5.642	(0.771)	217907	50.0000	59.2	
	33	Bromochloromethane	128	5.818	5.809	(0.795)	73950	50.0000	53.4	
	34	Chloroform	83	6.013	6.014	(0.822)	287068	50.0000	52.1	
	35	Carbon Tetrachloride	117	6.237	6.237	(0.770)	217165	50.0000	54.5	
	36	Tetrahydrofuran	42	6.302	6.311	(0.861)	209609	250.000	291	
$	37	Dibromofluoromethane	113	6.376	6.376	(0.872)	159124	50.0000	50.3	
	38	1,1,1-Trichloroethane	97	6.376	6.376	(0.872)	255504	50.0000	53.8	
	39	1,1-Dichloropropene	75	6.627	6.627	(0.819)	213159	50.0000	53.9	
	40	2-Butanone	43	6.655	6.655	(0.910)	379157	250.000	304	
	41	Benzene	78	7.064	7.064	(0.873)	538454	50.0000	52.5	
*	42	Pentafluorobenzene	168	7.315	7.315	(1.000)	258245	50.0000		
	43	Cyclohexane	56	5.790	5.791	(0.792)	224988	50.0000	53.7	
	44	Ethyl Methacrylate	69	9.137	9.137	(1.129)	96833	50.0000	50.8	
$	45	1,2-Dichloroethane-D4	65	7.296	7.297	(0.997)	230929	50.0000	53.5	
	46	Tertiary-amyl methyl ether	73	7.334	7.334	(1.003)	325505	50.0000	51.2	
	47	1,2-Dichloroethane	62	7.408	7.408	(0.915)	259061	50.0000	53.9	
	48	Trichloroethene	95	8.003	8.003	(0.989)	151579	50.0000	51.5	
*	49	1,4-Difluorobenzene	114	8.096	8.096	(1.000)	419786	50.0000		
	50	Dibromomethane	93	8.589	8.589	(1.061)	107436	50.0000	55.2	
	51	1,2-Dichloropropane	63	8.737	8.738	(1.079)	150323	50.0000	52.8	
	52	Bromodichloromethane	83	8.858	8.858	(1.094)	223406	50.0000	55.4	
	53	cis-1,3-dichloropropene	75	9.667	9.667	(1.194)	263534	50.0000	52.3	
	54	1,4-Dioxane	88	9.137	9.137	(1.129)	28310	1000.00	1170	
$	55	Toluene-D8	98	9.881	9.881	(1.220)	512678	50.0000	50.1	
	56	2-Chloroethylvinylether	63	9.639	9.639	(1.191)	84310	50.0000	51.1	
	57	Toluene	92	9.937	9.937	(1.227)	325877	50.0000	51.3	
	58	4-methyl-2-pentanone	43	10.411	10.411	(1.286)	775037	250.000	300	
	59	Tetrachloroethene	164	10.364	10.364	(0.898)	103100	50.0000	49.7	
	60	trans-1,3-Dichloropropene	75	10.429	10.430	(1.288)	235721	50.0000	57.8	
	61	1,1,2-Trichloroethane	83	10.597	10.597	(1.309)	118692	50.0000	53.9	
	62	Dibromochloromethane	129	10.773	10.774	(0.934)	163752	50.0000	56.7	
	63	1,3-Dichloropropane	76	10.875	10.876	(0.943)	252415	50.0000	54.5	
	64	1,2-Dibromoethane	107	10.996	10.997	(1.358)	146589	50.0000	55.0	
	65	2-Hexanone	43	11.294	11.294	(0.979)	555245	250.000	318	
*	66	Chlorobenzene-D5	117	11.536	11.536	(1.000)	386658	50.0000		
	67	Chlorobenzene	112	11.554	11.554	(1.002)	360090	50.0000	50.8	
	68	Ethylbenzene	91	11.601	11.601	(1.006)	649785	50.0000	51.7	
	69	1,1,1,2-Tetrachloroethane	131	11.628	11.629	(1.008)	142331	50.0000	55.0	
M	70	Xylenes (total)	106				1539502	150.000	(a)	
	71	m+p-Xylenes	91	11.749	11.750	(1.019)	1021223	100.000	108	
	72	o-Xylene	91	12.168	12.168	(1.055)	518279	50.0000	56.1	
	73	Styrene	104	12.223	12.224	(1.060)	386214	50.0000	56.2	
	74	Bromoform	173	12.233	12.233	(1.060)	99864	50.0000	59.6	
	75	Isopropylbenzene	105	12.474	12.475	(0.899)	581879	50.0000	54.6	
$	76	P-Bromofluorobenzene	95	12.735	12.735	(1.573)	217526	50.0000	51.6	
	77	cis-1,4-Dichloro-2-Butene	53	12.809	12.809	(0.923)	63674	50.0000	55.4	
	78	trans-1,4-Dichloro-2-Butene	53	13.116	13.116	(0.945)	50296	50.0000	54.8	

Data File: \\target_server\gg\chem\gcms-d.i\D052118.b\D1447.d
Report Date: 25-May-2018 11:49

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)	REVIEW CODE
79	Bromobenzene	156	12.828	12.828	(0.924)	149721	50.0000	51.3	
80	N-Propylbenzene	91	12.874	12.874	(0.928)	757000	50.0000	52.3	
81	1,1,2,2-Tetrachloroethane	83	12.949	12.949	(0.933)	180404	50.0000	54.2	
82	1,3,5-Trimethylbenzene	105	13.060	13.060	(0.941)	511769	50.0000	55.3	
83	2-Chlorotoluene	91	13.014	13.014	(0.938)	447695	50.0000	52.9	
84	1,2,3-Trichloropropane	75	13.069	13.070	(0.942)	167537	50.0000	56.4	
85	4-Chlorotoluene	91	13.172	13.172	(0.949)	482507	50.0000	53.3	
86	tert-Butylbenzene	119	13.376	13.377	(0.964)	481987	50.0000	55.0	
87	Pentachloroethane	117	13.395	13.395	(0.965)	113541	50.0000	55.1	
88	1,2,4-Trimethylbenzene	105	13.451	13.451	(0.969)	525926	50.0000	55.0	
89	P-Isopropyltoluene	119	13.729	13.720	(0.989)	506247	50.0000	54.9	
90	1,3-Dichlorobenzene	146	13.795	13.795	(0.994)	271426	50.0000	51.5	
* 91	1,4-Dichlorobenzene-D4	152	13.878	13.879	(1.000)	198710	50.0000		
92	1,4-Dichlorobenzene	146	13.897	13.897	(1.001)	277492	50.0000	50.6	
93	N-Butylbenzene	91	14.231	14.222	(1.025)	498087	50.0000	55.1	
94	sec-Butylbenzene	105	13.562	13.562	(0.977)	611994	50.0000	53.6	
95	1,2-Dichlorobenzene	146	14.417	14.418	(1.039)	261234	50.0000	53.3	
96	1,2-Dibromo-3-Chloropropane	75	15.570	15.570	(1.122)	33046	50.0000	58.0	
97	1,3,5-Trichlorobenzene	180	15.617	15.617	(1.125)	179732	50.0000	53.5	
98	Hexachlorobutadiene	225	16.416	16.407	(1.183)	71626	50.0000	50.4	
99	1,2,4-Trichlorobenzene	180	16.435	16.434	(1.184)	162464	50.0000	56.1	
100	1,2,3-Trimethylbenzene	105	13.934	13.934	(1.004)	510599	50.0000	54.0	
101	Naphthalene	128	16.807	16.806	(1.211)	349811	50.0000	51.6	
102	1,2,3-Trichlorobenzene	180	17.011	17.011	(1.226)	131122	50.0000	54.3	
103	Methyl Acetate	43	3.689	3.690	(0.504)	122815	50.0000	56.4	
104	Methylcyclohexane	83	7.966	7.966	(1.089)	211038	50.0000	49.4	
M 153	Total Alkylbenzenes	100				3893010	50.0000	(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).


Data File: \\target_server\gg\chem\gcms-d.i\D052118.b\D1447.d
Date : 21-MAY-2018 08:18
Client ID:
Sample Info: WG228752-4,SL4180
Purge Volume: 5.0
Column phase: RTX-VMS
Instrument: gcms-d.i
Operator: JSS
Column diameter: 0.18
\\target_server\gg\chem\gcms-d.i\D052118.b\D1447.d
Y (x10^6)
Min
-Dichlorodifluoromethane (1.487)
-Chloromethane (1.662)
-Vinyl Chloride (1.738)
-Bromomethane (2.026)
-Chloroethane (2.137)
-Trichlorofluoromethane (2.277)
-Diethyl Ether (2.584)
-1,1-Dichloroethene (2.788)+
-Iodomethane (2.937)
-Acrolein (3.169)
-Allyl Chloride (3.318)
-Methylene Chloride (3.448)
-Acetone (3.527)
-trans-1,2-Dichloroethene (3.643)+
-Methyl tert-butyl ether (3.811)
-Tertiary-butyl alcohol (3.969)
-Acetonitrile (4.136)
-Di-isopropyl ether (4.369)
-Chloroprene (4.485)+
-Acrylonitrile (4.610)
-Ethyl tertiary-butyl ethe (4.973)+
-cis-1,2-Dichloroethene (5.438)
-2,2-Dichloropropane (5.642)
-Bromochloromethane (5.800)+
-Chloroform (6.014)
-Carbon Tetrachloride (6.237)+
-Dibromofluoromethane (6.377)+
-1,1-Dichloropropene (6.637)+
-Benzene (7.064)
-Propionitrile (7.185)+
-Pentafluorobenzene (7.315)+
-Isobutyl Alcohol (7.604)
-Trichloroethene (7.976)+
-1,4-Difluorobenzene (8.096)
-Dibromomethane (8.589)
-1,2-Dichloropropane (8.738)
-Bromodichloromethane (8.899)
-Total Alkylbenzenes (9.000)
-Ethyl Methacrylate (9.138)+
-cis-1,3-dichloropropene (9.667)+
-Toluene (9.937)
-Tetrachloroethene (10.365)
-4-methyl-2-pentanone (10.411)+
-Dibromochloromethane (10.774)
-1,3-Dichloropropane (10.876)
-1,2-Dibromoethane (10.997)
-2-Hexanone (11.294)
-Chlorobenzene-D5 (11.545)+
Ethylbenzene (11.601)+
m+p-Xylenes (11.750)
-o-Xylene (12.168)
Styrene (12.224)+
-Isopropylbenzene (12.475)
-P-Bromofluorobenzene (12.735)
-Chlorotoluene (13.172)
-sec-Butylbenzene (13.463)
-1,3-Dichlorobenzene (13.730)
-1,4-Dichlorobenzene-D4 (13.888)+
-N-Butylbenzene (14.232)
-1,2-Dichlorobenzene (14.418)
-1,2-Dibromo-3-Chloropropa (15.074)
-1,2,4-Trichlorobenzene (15.617)
-1,2-Dichloroethylene (tot (15.780)
-Hexachlorobutadiene (16.426)+
-Naphthalene (16.807)
-1,2,3-Trichlorobenzene (17.012)

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
SDG: SL4180
Lab ID : WG228752-5
Analytical Date: 05/21/18 18:04
Lab File ID : D1463.d
Instrument ID: GCMS-D
Initial Calibration Date(s): 05/17/18 08:11 05/17/18 11:09
Column ID:

	Compound	$\overline{RRF}$/Amount	RF50	CCAL RRF50	Min	%D/ %Drift	Max %D/ %Drift	Curve Type	
1	Dichlorodifluoromethane	0.87127	0.68960	0.68960	0.010	-20.85124	20.00000	Averaged	*
2	Chloromethane	0.79934	0.71064	0.71064	0.100	-11.09584	20.00000	Averaged	
3	Vinyl chloride	0.62623	0.59001	0.59001	0.010	-5.78396	20.00000	Averaged	
4	Bromomethane	0.31688	0.28615	0.28615	0.010	-9.69907	20.00000	Averaged	
5	Chloroethane	0.29152	0.30857	0.30857	0.010	5.85125	20.00000	Averaged	
6	Trichlorofluoromethane	0.98352	1.00476	1.00476	0.010	2.15960	20.00000	Averaged	
9	1,1-Dichloroethene	0.36640	0.41364	0.41364	0.100	12.89046	20.00000	Averaged	
10	Carbon Disulfide	1.18124	1.27154	1.27154	0.010	7.64405	20.00000	Averaged	
11	Freon-113	0.30052	0.29881	0.29881	0.010	-0.56774	20.00000	Averaged	
14	Methylene Chloride	0.55520	0.57117	0.57117	0.010	2.87705	20.00000	Averaged	
15	Acetone	0.16249	0.16327	0.16327	0.010	0.47996	20.00000	Averaged	
17	trans-1,2-Dichloroethene	0.50635	0.52897	0.52897	0.010	4.46699	20.00000	Averaged	
19	Methyl tert-butyl ether	1.31652	1.39655	1.39655	0.010	6.07875	20.00000	Averaged	
25	1,1-Dichloroethane	1.01796	1.09628	1.09628	0.100	7.69357	20.00000	Averaged	
29	cis-1,2-Dichloroethene	0.53605	0.56910	0.56910	0.010	6.16698	20.00000	Averaged	
32	2,2-Dichloropropane	0.71237	0.72974	0.72974	0.010	2.43907	20.00000	Averaged	
33	Bromochloromethane	0.26831	0.28347	0.28347	0.010	5.65184	20.00000	Averaged	
34	Chloroform	1.06581	1.14004	1.14004	0.010	6.96499	20.00000	Averaged	
35	Carbon Tetrachloride	0.47465	0.50489	0.50489	0.010	6.36989	20.00000	Averaged	
38	1,1,1-Trichloroethane	0.91927	0.98022	0.98022	0.010	6.63043	20.00000	Averaged	
39	1,1-Dichloropropene	0.47127	0.50142	0.50142	0.010	6.39805	20.00000	Averaged	
40	2-Butanone	0.24154	0.24678	0.24678	0.010	2.17169	20.00000	Averaged	
41	Benzene	1.22157	1.29377	1.29377	0.010	5.91039	20.00000	Averaged	
47	1,2-Dichloroethane	0.57229	0.60702	0.60702	0.010	6.06794	20.00000	Averaged	
48	Trichloroethene	0.35084	0.36574	0.36574	0.010	4.24937	20.00000	Averaged	
50	Dibromomethane	0.23166	0.24423	0.24423	0.010	5.42555	20.00000	Averaged	
51	1,2-Dichloropropane	0.33874	0.36267	0.36267	0.010	7.06660	20.00000	Averaged	
52	Bromodichloromethane	0.47995	0.53650	0.53650	0.010	11.78358	20.00000	Averaged	
53	cis-1,3-dichloropropene	50.00000	52.20583	0.62603	0.010	4.41166	20.00000	Linear	
57	Toluene	0.75606	0.78804	0.78804	0.010	4.22949	20.00000	Averaged	
58	4-methyl-2-pentanone	0.30792	0.33144	0.33144	0.010	7.63593	20.00000	Averaged	
59	Tetrachloroethene	0.26820	0.37265	0.37265	0.010	38.94705	20.00000	Averaged	*
60	trans-1,3-Dichloropropene	0.48567	0.55127	0.55127	0.010	13.50787	20.00000	Averaged	
61	1,1,2-Trichloroethane	0.26246	0.26446	0.26446	0.010	0.76084	20.00000	Averaged	
62	Dibromochloromethane	0.37319	0.40925	0.40925	0.010	9.66269	20.00000	Averaged	
63	1,3-Dichloropropane	0.59838	0.63735	0.63735	0.010	6.51215	20.00000	Averaged	
64	1,2-Dibromoethane	0.31721	0.32597	0.32597	0.010	2.76021	20.00000	Averaged	
65	2-Hexanone	0.22567	0.24758	0.24758	0.010	9.70613	20.00000	Averaged	
67	Chlorobenzene	0.91734	0.94321	0.94321	0.300	2.81987	20.00000	Averaged	
68	Ethylbenzene	1.62552	1.69793	1.69793	0.010	4.45451	20.00000	Averaged	
69	1,1,1,2-Tetrachloroethane	0.33454	0.36090	0.36090	0.010	7.87781	20.00000	Averaged	

Katahdin
ANALYTICAL SERVICES

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
SDG: SL4180
Lab ID : WG228752-5
Analytical Date: 05/21/18 18:04
Lab File ID : D1463.d
Instrument ID: GCMS-D
Initial Calibration Date(s): 05/17/18 08:11 05/17/18 11:09
Column ID:

	Compound	RRF/Amount	RF50	CCAL RRF50	Min	%D/ %Drift	Max %D/ %Drift	Curve Type
71	m+p-Xylenes	1.22828	1.33416	1.33416	0.010	8.62006	20.00000	Averaged
72	o-Xylene	1.19457	1.36122	1.36122	0.010	13.95058	20.00000	Averaged
73	Styrene	0.88775	1.00385	1.00385	0.010	13.07782	20.00000	Averaged
74	Bromoform	0.21682	0.23490	0.23490	0.100	8.34219	20.00000	Averaged
75	Isopropylbenzene	2.68214	2.90854	2.90854	0.010	8.44080	20.00000	Averaged
79	Bromobenzene	0.73418	0.75073	0.75073	0.010	2.25460	20.00000	Averaged
80	N-Propylbenzene	3.64124	3.75432	3.75432	0.010	3.10553	20.00000	Averaged
81	1,1,2,2-Tetrachloroethane	0.83813	0.80214	0.80214	0.300	-4.29427	20.00000	Averaged
82	1,3,5-Trimethylbenzene	2.33023	2.50875	2.50875	0.010	7.66129	20.00000	Averaged
83	2-Chlorotoluene	2.12760	2.25584	2.25584	0.010	6.02774	20.00000	Averaged
84	1,2,3-Trichloropropane	0.74720	0.74050	0.74050	0.010	-0.89725	20.00000	Averaged
85	4-Chlorotoluene	2.27798	2.40414	2.40414	0.010	5.53834	20.00000	Averaged
86	tert-Butylbenzene	2.20694	2.19761	2.19761	0.010	-0.42275	20.00000	Averaged
88	1,2,4-Trimethylbenzene	2.40642	2.61289	2.61289	0.010	8.57983	20.00000	Averaged
89	P-Isopropyltoluene	2.32180	2.48388	2.48388	0.010	6.98066	20.00000	Averaged
90	1,3-Dichlorobenzene	1.32506	1.34519	1.34519	0.010	1.51859	20.00000	Averaged
92	1,4-Dichlorobenzene	1.37993	1.38405	1.38405	0.010	0.29888	20.00000	Averaged
93	N-Butylbenzene	2.27330	2.40815	2.40815	0.010	5.93160	20.00000	Averaged
94	sec-Butylbenzene	2.87531	3.02605	3.02605	0.010	5.24248	20.00000	Averaged
95	1,2-Dichlorobenzene	1.23314	1.28968	1.28968	0.010	4.58489	20.00000	Averaged
96	1,2-Dibromo-3-Chloropropane	0.14324	0.13459	0.13459	0.010	-6.03574	20.00000	Averaged
98	Hexachlorobutadiene	0.35792	0.33429	0.33429	0.010	-6.60402	20.00000	Averaged
99	1,2,4-Trichlorobenzene	0.72860	0.74183	0.74183	0.010	1.81595	20.00000	Averaged
101	Naphthalene	50.00000	43.54928	1.47596	0.010	-12.90145	20.00000	Linear
102	1,2,3-Trichlorobenzene	0.60806	0.56758	0.56758	0.010	-6.65698	20.00000	Averaged
37	Dibromofluoromethane	0.61262	0.61682	0.61682	0.010	0.68668	20.00000	Averaged
45	1,2-Dichloroethane-D4	0.83583	0.90085	0.90085	0.010	7.77832	20.00000	Averaged
55	Toluene-D8	1.21869	1.24110	1.24110	0.010	1.83864	20.00000	Averaged
76	P-Bromofluorobenzene	0.50198	0.51598	0.51598	0.010	2.78903	20.00000	Averaged

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Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
Lab ID : WG228752-5
Lab File ID : D1463.d
Initial Calibration Date(s): 05/17/18 08:11 05/17/18 11:09

SDG: SL4180
Analytical Date: 05/21/18 18:04
Instrument ID: GCMS-D
Column ID:

*** = Compound out of QC criteria**

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Data File: \\target_server\gg\chem\gcms-d.i\D052118.b\D1463.d
Report Date: 25-May-2018 11:49

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-d.i\D052118.b\D1463.d
Lab Smp Id: WG228752-5
Inj Date : 21-MAY-2018 18:04 MS Autotune Date: 05-OCT-2017 14:30
Operator : JSS Inst ID: gcms-d.i
Smp Info : WG228752-5,SL4180
Misc Info : WG228752,WG228547-4,SL4180-29
Comment : SW846 5030
Method : \\target_server\gg\chem\gcms-d.i\D052118.b\D8A05(22)D.m
Meth Date : 25-May-2018 11:48 gcms-d.i Quant Type: ISTD
Cal Date : 17-MAY-2018 11:09 Cal File: D1356.d
Als bottle: 18 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)	REVIEW CODE
1	Dichlorodifluoromethane	85	1.486	1.486	(0.203)	169640	50.0000	39.6	
2	Chloromethane	50	1.663	1.654	(0.227)	174816	50.0000	44.4	
3	Vinyl chloride	62	1.737	1.728	(0.238)	145141	50.0000	47.1	
4	Bromomethane	94	2.025	2.025	(0.277)	70391	50.0000	45.2	
5	Chloroethane	64	2.146	2.137	(0.293)	75908	50.0000	52.9	
6	Trichlorofluoromethane	101	2.276	2.277	(0.311)	247168	50.0000	51.1	
7	Diethyl Ether	59	2.592	2.583	(0.354)	91532	50.0000	60.4	
8	Tertiary-butyl alcohol	59	3.968	3.969	(0.543)	41419	250.000	237	
9	1,1-Dichloroethene	96	2.788	2.779	(0.381)	101753	50.0000	56.4	
10	Carbon Disulfide	76	2.816	2.807	(0.385)	312795	50.0000	53.8	
11	Freon-113	151	2.834	2.834	(0.387)	73507	50.0000	49.7	
12	Iodomethane	142	2.946	2.937	(0.403)	76946	50.0000	41.8	
13	Acrolein	56	3.169	3.160	(0.433)	69533	250.000	207	
14	Methylene Chloride	84	3.448	3.448	(0.471)	140506	50.0000	51.4	
15	Acetone	43	3.522	3.522	(0.482)	200822	250.000	251	
16	Isobutyl Alcohol	43	7.612	7.613	(1.041)	94375	1000.00	949	
17	trans-1,2-Dichloroethene	96	3.652	3.643	(0.499)	130125	50.0000	52.2	
18	Allyl Chloride	41	3.327	3.318	(0.455)	152151	50.0000	40.1	
19	Methyl tert-butyl ether	73	3.810	3.811	(0.521)	343547	50.0000	53.0	
20	Acetonitrile	39	4.145	4.136	(0.567)	35487	500.000	525	
21	Di-isopropyl ether	45	4.368	4.368	(0.597)	438005	50.0000	50.7	
22	Chloroprene	53	4.489	4.480	(0.614)	225146	50.0000	56.4	
23	Propionitrile	54	7.148	7.148	(0.977)	176473	500.000	527	
24	Methacrylonitrile	41	7.185	7.185	(0.982)	871696	500.000	547	

Data File: \\target_server\gg\chem\gcms-d.i\D052118.b\D1463.d
Report Date: 25-May-2018 11:49

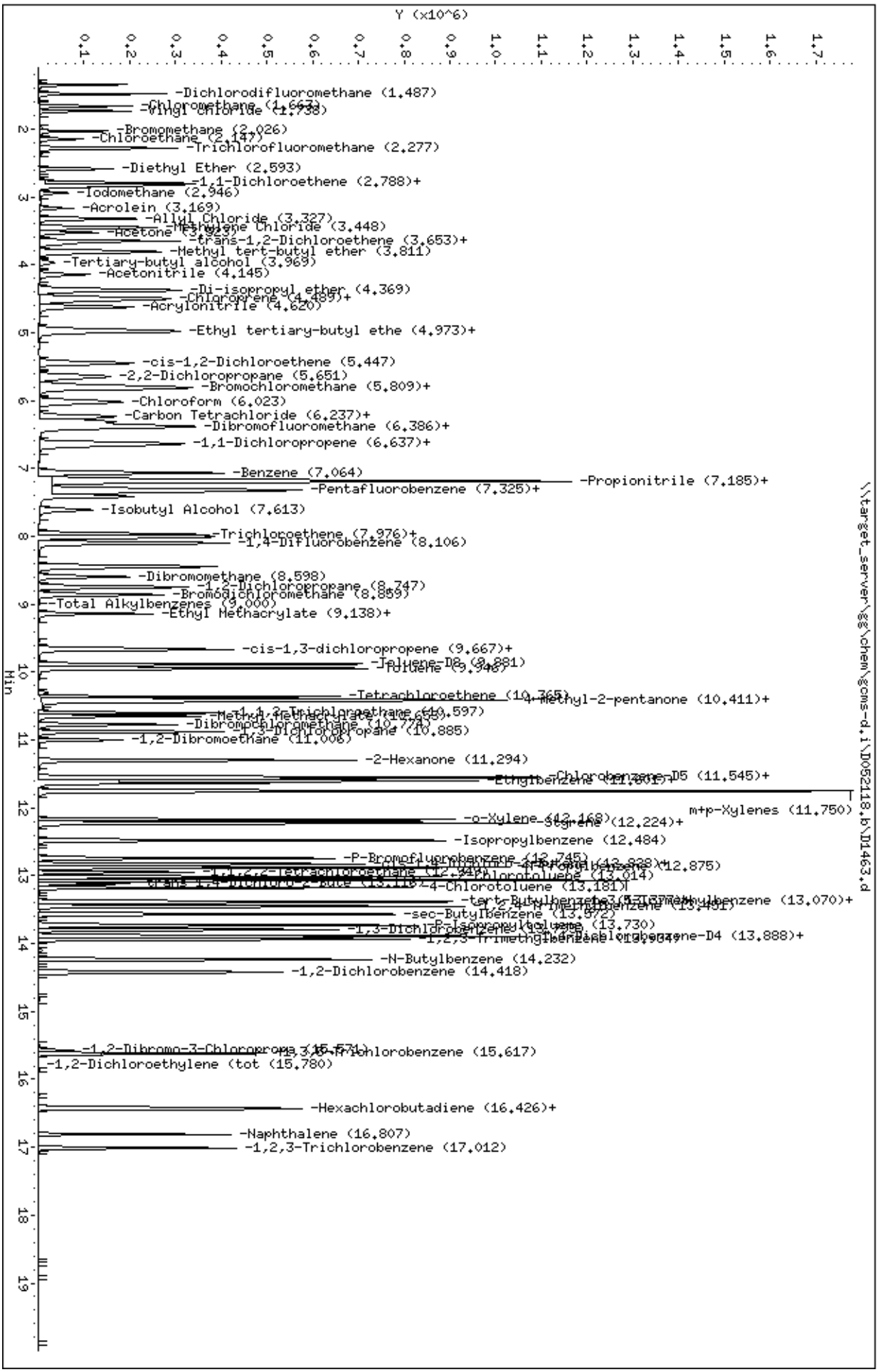
							AMOUNTS		
		QUANT SIG					CAL-AMT	ON-COL	
	Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	(ug/l)	(ug/l)	REVIEW CODE
	25 1,1-Dichloroethane	63	4.526	4.517	(0.619)	269682	50.0000	53.8	
	26 Acrylonitrile	52	4.619	4.610	(0.631)	198328	250.000	246	
	27 Ethyl tertiary-butyl ether	59	4.972	4.963	(0.680)	378430	50.0000	50.7	
	28 Vinyl Acetate	43	4.991	4.982	(0.616)	280365	50.0000	48.6	
	29 cis-1,2-Dichloroethene	96	5.446	5.437	(0.745)	139998	50.0000	53.1	
M	30 1,2-Dichloroethylene (total)	96				270123	50.0000	(a)	
	31 Methyl Methacrylate	41	10.652	10.643	(1.314)	127899	50.0000	50.2	
	32 2,2-Dichloropropane	77	5.651	5.642	(0.773)	179515	50.0000	51.2	
	33 Bromochloromethane	128	5.818	5.809	(0.795)	69733	50.0000	52.8	
	34 Chloroform	83	6.023	6.014	(0.823)	280447	50.0000	53.5	
	35 Carbon Tetrachloride	117	6.237	6.237	(0.769)	202135	50.0000	53.2	
	36 Tetrahydrofuran	42	6.311	6.311	(0.863)	175484	250.000	256	
$	37 Dibromofluoromethane	113	6.385	6.376	(0.873)	151737	50.0000	50.3	
	38 1,1,1-Trichloroethane	97	6.385	6.376	(0.873)	241132	50.0000	53.3	
	39 1,1-Dichloropropene	75	6.627	6.627	(0.818)	200748	50.0000	53.2	
	40 2-Butanone	43	6.655	6.655	(0.910)	303537	250.000	255	
	41 Benzene	78	7.064	7.064	(0.872)	517969	50.0000	53.0	
*	42 Pentafluorobenzene	168	7.315	7.315	(1.000)	245997	50.0000		
	43 Cyclohexane	56	5.800	5.791	(0.793)	200194	50.0000	50.1	
	44 Ethyl Methacrylate	69	9.137	9.137	(1.127)	84402	50.0000	46.6	
$	45 1,2-Dichloroethane-D4	65	7.296	7.297	(0.997)	221606	50.0000	53.9	
	46 Tertiary-amyl methyl ether	73	7.343	7.334	(1.004)	299320	50.0000	49.5	
	47 1,2-Dichloroethane	62	7.408	7.408	(0.914)	243023	50.0000	53.0	
	48 Trichloroethene	95	8.012	8.003	(0.989)	146428	50.0000	52.1	
*	49 1,4-Difluorobenzene	114	8.105	8.096	(1.000)	400356	50.0000		
	50 Dibromomethane	93	8.598	8.589	(1.061)	97778	50.0000	52.7	
	51 1,2-Dichloropropane	63	8.747	8.738	(1.079)	145199	50.0000	53.5	
	52 Bromodichloromethane	83	8.858	8.858	(1.093)	214792	50.0000	55.9	
	53 cis-1,3-dichloropropene	75	9.667	9.667	(1.193)	250636	50.0000	52.2	
	54 1,4-Dioxane	88	9.137	9.137	(1.127)	23701	1000.00	1020	
$	55 Toluene-D8	98	9.881	9.881	(1.219)	496880	50.0000	50.9	
	56 2-Chloroethylvinylether	63	9.639	9.639	(1.189)	68732	50.0000	43.8	
	57 Toluene	92	9.946	9.937	(1.227)	315495	50.0000	52.1	
	58 4-methyl-2-pentanone	43	10.411	10.411	(1.284)	663460	250.000	269	
	59 Tetrachloroethene	164	10.364	10.364	(0.898)	137879	50.0000	69.5	
	60 trans-1,3-Dichloropropene	75	10.429	10.430	(1.287)	220705	50.0000	56.8	
	61 1,1,2-Trichloroethane	83	10.597	10.597	(1.307)	105877	50.0000	50.4	
	62 Dibromochloromethane	129	10.773	10.774	(0.933)	151421	50.0000	54.8	
	63 1,3-Dichloropropane	76	10.885	10.876	(0.943)	235815	50.0000	53.2	
	64 1,2-Dibromoethane	107	11.006	10.997	(1.358)	130503	50.0000	51.4	
	65 2-Hexanone	43	11.294	11.294	(0.978)	458010	250.000	274	
*	66 Chlorobenzene-D5	117	11.545	11.536	(1.000)	369995	50.0000		
	67 Chlorobenzene	112	11.554	11.554	(1.001)	348984	50.0000	51.4	
	68 Ethylbenzene	91	11.601	11.601	(1.005)	628227	50.0000	52.2	
	69 1,1,1,2-Tetrachloroethane	131	11.628	11.629	(1.007)	133531	50.0000	53.9	
M	70 Xylenes (total)	106				1490907	150.000	(a)	
	71 m+p-Xylenes	91	11.749	11.750	(1.018)	987263	100.000	109	
	72 o-Xylene	91	12.168	12.168	(1.054)	503644	50.0000	57.0	
	73 Styrene	104	12.223	12.224	(1.059)	371418	50.0000	56.5	
	74 Bromoform	173	12.233	12.233	(1.060)	86913	50.0000	54.2	
	75 Isopropylbenzene	105	12.484	12.475	(0.899)	559815	50.0000	54.2	
$	76 P-Bromofluorobenzene	95	12.744	12.735	(1.572)	206576	50.0000	51.4	
	77 cis-1,4-Dichloro-2-Butene	53	12.818	12.809	(0.923)	50234	50.0000	45.3	
	78 trans-1,4-Dichloro-2-Butene	53	13.116	13.116	(0.944)	41272	50.0000	46.5	

Data File: \\target_server\gg\chem\gcms-d.i\D052118.b\D1463.d
Report Date: 25-May-2018 11:49

			QUANT SIG					AMOUNTS		
		Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ug/l)	ON-COL (ug/l)	REVIEW CODE
	79	Bromobenzene	156	12.837	12.828	(0.924)	144496	50.0000	51.1	
	80	N-Propylbenzene	91	12.874	12.874	(0.927)	722606	50.0000	51.6	
	81	1,1,2,2-Tetrachloroethane	83	12.949	12.949	(0.932)	154390	50.0000	47.8	
	82	1,3,5-Trimethylbenzene	105	13.069	13.060	(0.941)	482867	50.0000	53.8	
	83	2-Chlorotoluene	91	13.014	13.014	(0.937)	434189	50.0000	53.0	
	84	1,2,3-Trichloropropane	75	13.069	13.070	(0.941)	142526	50.0000	49.6	
	85	4-Chlorotoluene	91	13.181	13.172	(0.949)	462733	50.0000	52.8	
	86	tert-Butylbenzene	119	13.376	13.377	(0.963)	422980	50.0000	49.8	
	87	Pentachloroethane	117	13.395	13.395	(0.965)	62559	50.0000	31.4	
	88	1,2,4-Trimethylbenzene	105	13.451	13.451	(0.969)	502911	50.0000	54.3	
	89	P-Isopropyltoluene	119	13.729	13.720	(0.989)	478080	50.0000	53.5	
	90	1,3-Dichlorobenzene	146	13.795	13.795	(0.993)	258912	50.0000	50.8	
*	91	1,4-Dichlorobenzene-D4	152	13.888	13.879	(1.000)	192473	50.0000		
	92	1,4-Dichlorobenzene	146	13.897	13.897	(1.001)	266393	50.0000	50.1	
	93	N-Butylbenzene	91	14.231	14.222	(1.025)	463503	50.0000	53.0	
	94	sec-Butylbenzene	105	13.571	13.562	(0.977)	582433	50.0000	52.6	
	95	1,2-Dichlorobenzene	146	14.427	14.418	(1.039)	248229	50.0000	52.3	
	96	1,2-Dibromo-3-Chloropropane	75	15.570	15.570	(1.121)	25905	50.0000	47.0	
	97	1,3,5-Trichlorobenzene	180	15.617	15.617	(1.125)	168353	50.0000	51.8	
	98	Hexachlorobutadiene	225	16.416	16.407	(1.182)	64341	50.0000	46.7	
	99	1,2,4-Trichlorobenzene	180	16.435	16.434	(1.183)	142782	50.0000	50.9	
	100	1,2,3-Trimethylbenzene	105	13.934	13.934	(1.003)	501770	50.0000	54.8	
	101	Naphthalene	128	16.807	16.806	(1.210)	284082	50.0000	43.5	
	102	1,2,3-Trichlorobenzene	180	17.011	17.011	(1.225)	109244	50.0000	46.7	
	103	Methyl Acetate	43	3.689	3.690	(0.504)	106010	50.0000	51.1	
	104	Methylcyclohexane	83	7.975	7.966	(1.090)	187048	50.0000	46.0	
M	153	Total Alkylbenzenes	100				3655380	50.0000	(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).


Data File: \\target_server\gg\chem\gcms-d.i\D052118.b\D1463.d
Date : 21-MAY-2018 18:04
Client ID:
Sample Info: WG228752-5,SL4180
Purge Volume: 5.0
Column phase: RTX-VMS
Instrument: gcms-d.i
Operator: JSS
Column diameter: 0.18
\\target_server\gg\chem\gcms-d.i\D052118.b\D1463.d
Y (x10^6)
Min
-Dichlorodifluoromethane (1.487)
-Chloromethane (1.673)
-Vinyl Chloride (1.738)
-Bromomethane (2.026)
-Chloroethane (2.147)
-Trichlorofluoromethane (2.277)
-Diethyl Ether (2.593)
-1,1-Dichloroethene (2.788)+
-Iodomethane (2.946)
-Acrolein (3.169)
-Allyl Chloride (3.327)
-Methylene Chloride (3.448)
-Acetone (3.553)
-trans-1,2-Dichloroethene (3.653)+
-Methyl tert-butyl ether (3.811)
-Tertiary-butyl alcohol (3.969)
-Acetonitrile (4.145)
-Di-isopropyl ether (4.369)
-Chloroprene (4.489)+
-Acrylonitrile (4.620)
-Ethyl tertiary-butyl ethe (4.973)+
-cis-1,2-Dichloroethene (5.447)
-2,2-Dichloropropane (5.651)
-Bromochloromethane (5.809)+
-Chloroform (6.023)
-Carbon Tetrachloride (6.237)+
-Dibromofluoromethane (6.386)+
-1,1-Dichloropropene (6.637)+
-Benzene (7.064)
-Propionitrile (7.185)+
-Pentafluorobenzene (7.325)+
-Isobutyl Alcohol (7.613)
-Trichloroethene (7.976)+
-1,4-Difluorobenzene (8.106)
-Dibromomethane (8.598)
-1,2-Dichloropropane (8.747)
-Bromodichloromethane (8.859)
-Total Alkylbenzenes (9.000)
-Ethyl Methacrylate (9.138)+
-cis-1,3-dichloropropene (9.667)+
-Toluene-D8 (9.881)
Toluene (9.948)
-Tetrachloroethene (10.365)
4-Methyl-2-pentanone (10.411)+
-1,1,2-Trichloroethane (10.597)
-Methyl Methacrylate (10.723)
-Dibromochloromethane (10.774)
-1,3-Dichloropropane (10.885)
-1,2-Dibromoethane (11.006)
-2-Hexanone (11.294)
-Chlorobenzene-D5 (11.545)+
Ethylbenzene (11.601)+
m+p-Xylenes (11.750)
-o-Xylene (12.168)
Styrene (12.224)+
-Isopropylbenzene (12.484)
-P-Bromofluorobenzene (12.745)
Bromoform (12.828)+
1,1,2,2-Tetrachloroethane (12.875)
4-Chlorotoluene (13.014)
trans-1,4-Dichloro-2-butene (13.115)
4-Chlorotoluene (13.181)
-tert-Butylbenzene (13.370)
1,2,4-Trimethylbenzene (13.451)
-sec-Butylbenzene (13.572)
P-Isopropyltoluene (13.730)
-1,3-Dichlorobenzene (13.745)
1,2,3-Trimethylbenzene (13.849)
-1,4-Dichlorobenzene-D4 (13.888)+
-N-Butylbenzene (14.232)
-1,2-Dichlorobenzene (14.418)
-1,2-Dibromo-3-Chloropropane (15.571)
-1,2,4-Trichlorobenzene (15.617)
-1,2-Dichloroethylene (tot (15.780)
-Hexachlorobutadiene (16.426)+
-Naphthalene (16.807)
-1,2,3-Trichlorobenzene (17.012)

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant **SDG:** SL4180
Lab ID : WG228693-4 **Analytical Date:** 05/19/18 07:53
Lab File ID : W4034.D **Instrument ID:** GCMS-W
Initial Calibration Date(s): 05/18/18 14:27 05/18/18 17:33 **Column ID:**

	Compound	$\overline{\text{RRF}}$/Amount	RF50	CCAL RRF50	Min	%D/ %Drift	Max %D/ %Drift	Curve Type	
1	Dichlorodifluoromethane	0.38392	0.40244	0.40244	0.010	4.82334	20.00000	Averaged	
2	Chloromethane	0.54782	0.53749	0.53749	0.100	-1.88555	20.00000	Averaged	
3	Vinyl chloride	0.45026	0.46740	0.46740	0.010	3.80606	20.00000	Averaged	
4	Bromomethane	0.19261	0.18290	0.18290	0.010	-5.04219	20.00000	Averaged	
5	Chloroethane	50.00000	51.86266	0.24321	0.010	3.72532	20.00000	Quadratic	
6	Trichlorofluoromethane	0.54100	0.59044	0.59044	0.010	9.13722	20.00000	Averaged	
9	1,1-Dichloroethene	0.32729	0.34453	0.34453	0.010	5.26856	20.00000	Averaged	
10	Carbon Disulfide	1.10993	1.15066	1.15066	0.010	3.66996	20.00000	Averaged	
11	Freon-113	0.23674	0.26205	0.26205	0.010	10.69367	20.00000	Averaged	
14	Methylene Chloride	0.41770	0.42715	0.42715	0.010	2.26215	20.00000	Averaged	
15	Acetone	0.15266	0.20679	0.20679	0.010	35.45632	20.00000	Averaged	*
17	trans-1,2-Dichloroethene	0.35515	0.37429	0.37429	0.010	5.38967	20.00000	Averaged	
19	Methyl tert-butyl ether	0.96337	0.99939	0.99939	0.010	3.73984	20.00000	Averaged	
25	1,1-Dichloroethane	0.66182	0.69415	0.69415	0.100	4.88542	20.00000	Averaged	
29	cis-1,2-Dichloroethene	0.38736	0.40226	0.40226	0.010	3.84546	20.00000	Averaged	
32	2,2-Dichloropropane	0.33943	0.38032	0.38032	0.010	12.04619	20.00000	Averaged	
33	Bromochloromethane	0.17304	0.18762	0.18762	0.010	8.42162	20.00000	Averaged	
34	Chloroform	0.61854	0.65275	0.65275	0.010	5.53151	20.00000	Averaged	
35	Carbon Tetrachloride	50.00000	53.60473	0.22829	0.010	7.20946	20.00000	Linear	
38	1,1,1-Trichloroethane	0.49636	0.52512	0.52512	0.010	5.79452	20.00000	Averaged	
39	1,1-Dichloropropene	0.29161	0.31334	0.31334	0.010	7.45470	20.00000	Averaged	
40	2-Butanone	0.23499	0.27624	0.27624	0.010	17.55535	20.00000	Averaged	
41	Benzene	0.89784	0.95976	0.95976	0.010	6.89646	20.00000	Averaged	
47	1,2-Dichloroethane	0.32018	0.33933	0.33933	0.010	5.98084	20.00000	Averaged	
48	Trichloroethene	0.21504	0.22962	0.22962	0.010	6.77910	20.00000	Averaged	
50	Dibromomethane	0.13488	0.14569	0.14569	0.010	8.01374	20.00000	Averaged	
51	1,2-Dichloropropane	0.23159	0.24994	0.24994	0.010	7.92200	20.00000	Averaged	
52	Bromodichloromethane	0.27488	0.30629	0.30629	0.010	11.42682	20.00000	Averaged	
53	cis-1,3-dichloropropene	0.34274	0.38506	0.38506	0.010	12.34535	20.00000	Averaged	
57	Toluene	0.53701	0.58163	0.58163	0.010	8.31006	20.00000	Averaged	
58	4-methyl-2-pentanone	0.28170	0.31472	0.31472	0.010	11.72090	20.00000	Averaged	
59	Tetrachloroethene	0.17295	0.17955	0.17955	0.010	3.81728	20.00000	Averaged	
60	trans-1,3-Dichloropropene	0.26851	0.31169	0.31169	0.010	16.08166	20.00000	Averaged	
61	1,1,2-Trichloroethane	0.17141	0.18185	0.18185	0.010	6.09311	20.00000	Averaged	
62	Dibromochloromethane	0.21666	0.23354	0.23354	0.010	7.79114	20.00000	Averaged	
63	1,3-Dichloropropane	0.40109	0.42380	0.42380	0.010	5.66223	20.00000	Averaged	
64	1,2-Dibromoethane	0.20059	0.22727	0.22727	0.010	13.30280	20.00000	Averaged	
65	2-Hexanone	0.22262	0.24664	0.24664	0.010	10.78921	20.00000	Averaged	
67	Chlorobenzene	0.65067	0.69588	0.69588	0.300	6.94859	20.00000	Averaged	
68	Ethylbenzene	0.35340	0.37704	0.37704	0.010	6.69001	20.00000	Averaged	
69	1,1,1,2-Tetrachloroethane	0.20294	0.22384	0.22384	0.010	10.30003	20.00000	Averaged	

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Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
SDG: SL4180
Lab ID : WG228693-4
Analytical Date: 05/19/18 07:53
Lab File ID : W4034.D
Instrument ID: GCMS-W
Initial Calibration Date(s): 05/18/18 14:27 05/18/18 17:33
Column ID:

	Compound	RRF/Amount	RF50	CCAL RRF50	Min	%D/ %Drift	Max %D/ %Drift	Curve Type
71	m+p-Xylenes	0.43189	0.47075	0.47075	0.010	8.99752	20.00000	Averaged
72	o-Xylene	0.43293	0.46789	0.46789	0.010	8.07504	20.00000	Averaged
73	Styrene	0.73454	0.79550	0.79550	0.010	8.29972	20.00000	Averaged
74	Bromoform	0.15106	0.16778	0.16778	0.100	11.06982	20.00000	Averaged
75	Isopropylbenzene	1.86675	1.99972	1.99972	0.010	7.12305	20.00000	Averaged
79	Bromobenzene	0.50786	0.52770	0.52770	0.010	3.90720	20.00000	Averaged
80	N-Propylbenzene	2.40910	2.61799	2.61799	0.010	8.67084	20.00000	Averaged
81	1,1,2,2-Tetrachloroethane	0.59848	0.63064	0.63064	0.300	5.37303	20.00000	Averaged
82	1,3,5-Trimethylbenzene	1.68052	1.83069	1.83069	0.010	8.93602	20.00000	Averaged
83	2-Chlorotoluene	1.47438	1.57546	1.57546	0.010	6.85572	20.00000	Averaged
84	1,2,3-Trichloropropane	0.51422	0.54505	0.54505	0.010	5.99497	20.00000	Averaged
85	4-Chlorotoluene	1.53275	1.64249	1.64249	0.010	7.15992	20.00000	Averaged
86	tert-Butylbenzene	1.68063	1.80358	1.80358	0.010	7.31583	20.00000	Averaged
88	1,2,4-Trimethylbenzene	1.77316	1.92982	1.92982	0.010	8.83526	20.00000	Averaged
89	P-Isopropyltoluene	1.85110	2.04519	2.04519	0.010	10.48533	20.00000	Averaged
90	1,3-Dichlorobenzene	0.97614	1.07365	1.07365	0.010	9.98928	20.00000	Averaged
92	1,4-Dichlorobenzene	0.99807	1.11075	1.11075	0.010	11.28910	20.00000	Averaged
93	N-Butylbenzene	1.76426	2.02121	2.02121	0.010	14.56440	20.00000	Averaged
94	sec-Butylbenzene	2.21553	2.38983	2.38983	0.010	7.86739	20.00000	Averaged
95	1,2-Dichlorobenzene	0.98481	1.07296	1.07296	0.010	8.95113	20.00000	Averaged
96	1,2-Dibromo-3-Chloropropane	0.12842	0.15190	0.15190	0.010	18.28413	20.00000	Averaged
98	Hexachlorobutadiene	0.30815	0.35289	0.35289	0.010	14.51722	20.00000	Averaged
99	1,2,4-Trichlorobenzene	0.59047	0.70079	0.70079	0.010	18.68385	20.00000	Averaged
101	Naphthalene	1.65747	1.81985	1.81985	0.010	9.79701	20.00000	Averaged
102	1,2,3-Trichlorobenzene	0.56119	0.64484	0.64484	0.010	14.90569	20.00000	Averaged
37	Dibromofluoromethane	0.49126	0.48563	0.48563	0.010	-1.14671	20.00000	Averaged
45	1,2-Dichloroethane-D4	0.64508	0.64162	0.64162	0.010	-0.53634	20.00000	Averaged
55	Toluene-D8	1.21478	1.22629	1.22629	0.010	0.94738	20.00000	Averaged
76	P-Bromofluorobenzene	0.51004	0.51875	0.51875	0.010	1.70781	20.00000	Averaged

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Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
Lab ID : WG228693-4
Lab File ID : W4034.D
Initial Calibration Date(s): 05/18/18 14:27 05/18/18 17:33

SDG: SL4180
Analytical Date: 05/19/18 07:53
Instrument ID: GCMS-W
Column ID:

*** = Compound out of QC criteria**

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Data File: \\target_server\gg\chem\gcms-w.i\W051918.b\W4034.D
Report Date: 25-May-2018 12:03

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W051918.b\W4034.D
Lab Smp Id: WG228693-4
Inj Date : 19-MAY-2018 07:53
Operator : JSS Inst ID: gcms-w.i
Smp Info : WG228693-4,SL4180
Misc Info : WG228693,WG228635-4,SL4180-1
Comment : SW846 5035
Method : \\target_server\gg\chem\gcms-w.i\W051918.b\W8SDI(12)D.m
Meth Date : 20-May-2018 08:58 hgould Quant Type: ISTD
Cal Date : 18-MAY-2018 15:04 Cal File: W4025.D
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: VOA-WS

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

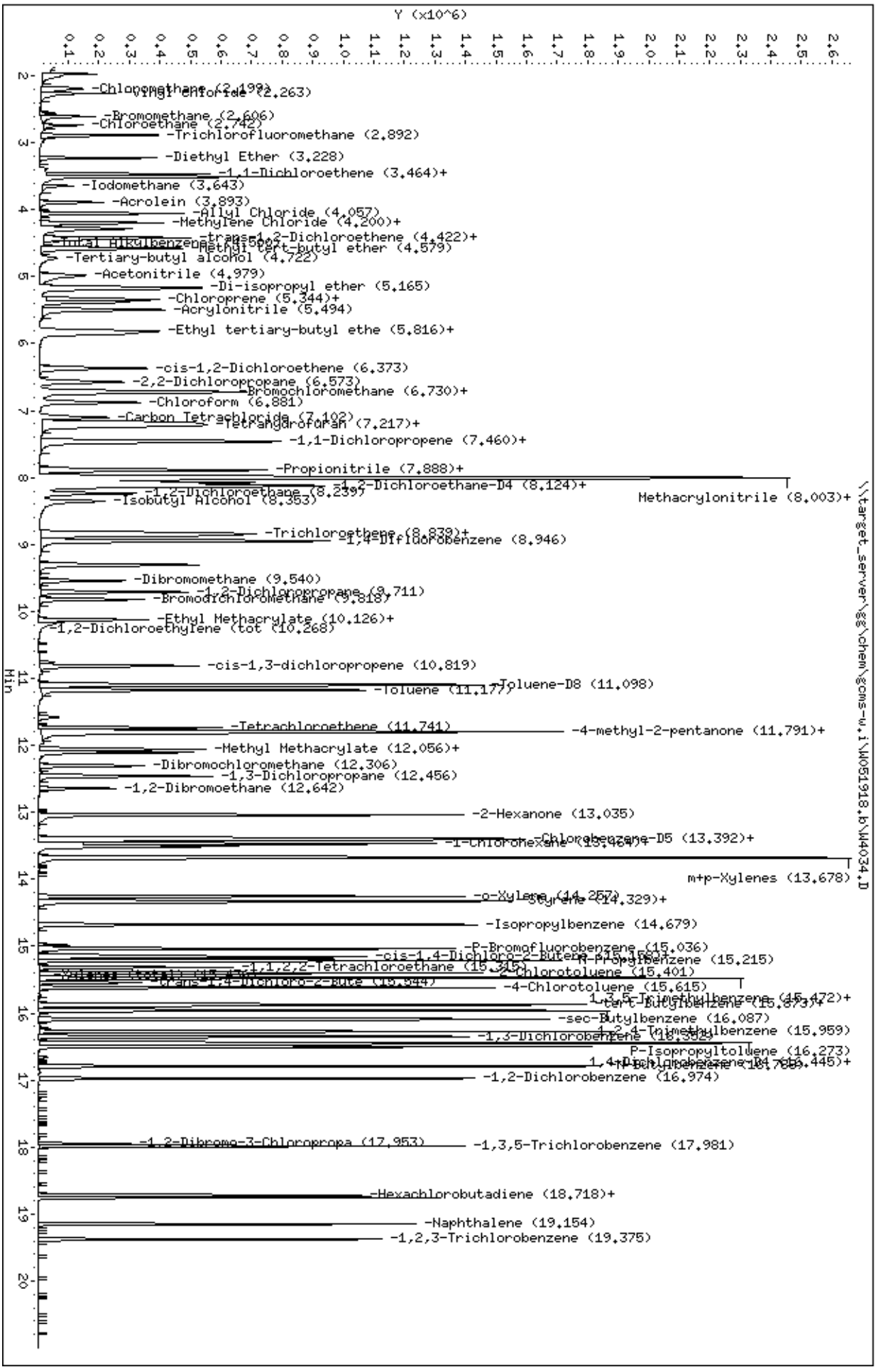
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/kg)	ON-COL (ug/kg)	REVIEW CODE
1	Dichlorodifluoromethane	85	1.969	1.963	(0.244)	207199	50.0000	52.4	
2	Chloromethane	50	2.191	2.192	(0.271)	276732	50.0000	49.0	
3	Vinyl chloride	62	2.262	2.256	(0.280)	240644	50.0000	51.9	
4	Bromomethane	94	2.606	2.599	(0.323)	94168	50.0000	47.5	
5	Chloroethane	64	2.741	2.735	(0.340)	125219	50.0000	51.9	
6	Trichlorofluoromethane	101	2.892	2.885	(0.358)	303990	50.0000	54.6	
7	Diethyl Ether	59	3.227	3.221	(0.400)	175471	50.0000	51.1	
8	Tertiary-butyl alcohol	59	4.721	4.708	(0.585)	102047	250.000	244	
9	1,1-Dichloroethene	96	3.463	3.457	(0.429)	177385	50.0000	52.6	
10	Carbon Disulfide	76	3.506	3.500	(0.434)	592425	50.0000	51.8	
11	Freon-113	151	3.506	3.493	(0.434)	134919	50.0000	55.3	
12	Iodomethane	142	3.649	3.635	(0.452)	143382	50.0000	49.9	
13	Acrolein	56	3.892	3.879	(0.482)	195877	250.000	262	
14	Methylene Chloride	84	4.200	4.186	(0.520)	219921	50.0000	51.1	
15	Acetone	43	4.285	4.272	(0.531)	532346	250.000	339	
16	Isobutyl Alcohol	43	8.353	8.346	(1.035)	215660	1000.00	918	
17	trans-1,2-Dichloroethene	96	4.421	4.407	(0.548)	192708	50.0000	52.7	
18	Allyl Chloride	41	4.057	4.043	(0.502)	317576	50.0000	51.9	
19	Methyl tert-butyl ether	73	4.578	4.565	(0.567)	514545	50.0000	51.9	
20	Acetonitrile	39	4.986	4.958	(0.618)	68308	500.000	498	
21	Di-isopropyl ether	45	5.165	5.151	(0.640)	671254	50.0000	51.1	
22	Chloroprene	53	5.336	5.322	(0.661)	299808	50.0000	52.3	
23	Propionitrile	54	7.974	7.960	(0.988)	370522	500.000	533	
24	Methacrylonitrile	41	8.002	7.989	(0.991)	1467341	500.000	527	
25	1,1-Dichloroethane	63	5.379	5.365	(0.666)	357389	50.0000	52.4	
26	Acrylonitrile	52	5.493	5.473	(0.680)	378201	250.000	263	
27	Ethyl tertiary-butyl ether	59	5.815	5.794	(0.720)	438781	50.0000	50.4	
28	Vinyl Acetate	43	5.858	5.837	(0.655)	447302	50.0000	56.2	

Data File: \\target_server\gg\chem\gcms-w.i\W051918.b\W4034.D
Report Date: 25-May-2018 12:03

		Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/kg)	AMOUNTS ON-COL (ug/kg)	REVIEW CODE
	29	cis-1,2-Dichloroethene	96	6.373	6.352	(0.789)	207104	50.0000	51.9	
M	30	1,2-Dichloroethylene (total)	96				399812	100.000	105	
	31	Methyl Methacrylate	41	12.105	12.092	(1.353)	200630	50.0000	54.8	
	32	2,2-Dichloropropane	77	6.573	6.559	(0.814)	195809	50.0000	56.0	
	33	Bromochloromethane	128	6.730	6.716	(0.834)	96595	50.0000	54.2	
	34	Chloroform	83	6.880	6.859	(0.852)	336074	50.0000	52.8	
	35	Carbon Tetrachloride	117	7.102	7.088	(0.794)	193213	50.0000	53.6	
	36	Tetrahydrofuran	42	7.173	7.167	(0.888)	417906	250.000	276	
$	37	Dibromofluoromethane	113	7.209	7.188	(0.893)	250028	50.0000	49.4	
	38	1,1,1-Trichloroethane	97	7.237	7.217	(0.896)	270360	50.0000	52.9	
	39	1,1-Dichloropropene	75	7.452	7.438	(0.833)	265204	50.0000	53.7	
	40	2-Butanone	43	7.466	7.453	(0.925)	711115	250.000	294	
	41	Benzene	78	7.888	7.867	(0.882)	812311	50.0000	53.4	
*	42	Pentafluorobenzene	168	8.074	8.060	(1.000)	514857	50.0000		
	43	Cyclohexane	56	6.716	6.695	(0.832)	343757	50.0000	53.2	
	44	Ethyl Methacrylate	69	10.125	10.112	(1.132)	148309	50.0000	53.6	
$	45	1,2-Dichloroethane-D4	65	8.124	8.109	(1.006)	330342	50.0000	49.7	
	46	Tertiary-amyl methyl ether	73	8.124	8.109	(1.006)	416507	50.0000	52.6	
	47	1,2-Dichloroethane	62	8.238	8.224	(0.921)	287197	50.0000	53.0	
	48	Trichloroethene	95	8.867	8.846	(0.991)	194340	50.0000	53.4	
*	49	1,4-Difluorobenzene	114	8.946	8.932	(1.000)	846366	50.0000		
	50	Dibromomethane	93	9.539	9.518	(1.066)	123310	50.0000	54.0	
	51	1,2-Dichloropropane	63	9.711	9.697	(1.085)	211537	50.0000	54.0	
	52	Bromodichloromethane	83	9.818	9.804	(1.097)	259236	50.0000	55.7	
	53	cis-1,3-dichloropropene	75	10.811	10.805	(1.209)	325898	50.0000	56.2	
	54	1,4-Dioxane	88	10.168	10.169	(1.137)	71528	1000.00	1230	
$	55	Toluene-D8	98	11.097	11.084	(1.240)	1037892	50.0000	50.5	
	57	Toluene	92	11.176	11.162	(1.249)	492273	50.0000	54.2	
	58	4-methyl-2-pentanone	43	11.791	11.777	(1.318)	1331829	250.000	279	
	59	Tetrachloroethene	164	11.741	11.727	(0.877)	146212	50.0000	51.9	
	60	trans-1,3-Dichloropropene	75	11.827	11.813	(1.322)	263808	50.0000	58.0	
	61	1,1,2-Trichloroethane	83	12.055	12.042	(1.348)	153915	50.0000	53.0	
	62	Dibromochloromethane	129	12.305	12.292	(0.919)	190174	50.0000	53.9	
	63	1,3-Dichloropropane	76	12.456	12.449	(0.930)	345112	50.0000	52.8	
	64	1,2-Dibromoethane	107	12.641	12.628	(1.413)	192356	50.0000	56.6	
	65	2-Hexanone	43	13.035	13.028	(0.973)	1004222	250.000	277	
*	66	Chlorobenzene-D5	117	13.392	13.378	(1.000)	814318	50.0000		
	67	Chlorobenzene	112	13.413	13.400	(1.002)	566669	50.0000	53.5	
	152	1-Chlorohexane	91	13.471	13.457	(1.668)	984254	50.0000		
	68	Ethylbenzene	106	13.471	13.457	(1.006)	307030	50.0000	53.3	
	69	1,1,1,2-Tetrachloroethane	131	13.513	13.500	(1.009)	182281	50.0000	55.2	
M	70	Xylenes (total)	106				1147702	150.000	163	
	71	m+p-Xylenes	106	13.678	13.664	(1.021)	766687	100.000	109	
	72	o-Xylene	106	14.257	14.243	(1.065)	381015	50.0000	54.0	
	73	Styrene	104	14.328	14.315	(1.070)	647793	50.0000	54.1	
	74	Bromoform	173	14.343	14.329	(1.071)	136629	50.0000	55.5	
	75	Isopropylbenzene	105	14.679	14.665	(0.893)	935819	50.0000	53.6	
$	76	P-Bromofluorobenzene	95	15.036	15.022	(1.681)	439052	50.0000	50.8	
	77	cis-1,4-Dichloro-2-Butene	53	15.136	15.129	(0.920)	86178	50.0000	56.3	
	78	trans-1,4-Dichloro-2-Butene	53	15.543	15.530	(0.945)	68524	50.0000	55.6	
	79	Bromobenzene	156	15.157	15.151	(0.922)	246951	50.0000	52.0	
	80	N-Propylbenzene	91	15.215	15.201	(0.925)	1225155	50.0000	54.3	
	81	1,1,2,2-Tetrachloroethane	83	15.315	15.301	(0.931)	295124	50.0000	52.7	
	82	1,3,5-Trimethylbenzene	105	15.472	15.458	(0.941)	856719	50.0000	54.5	

Data File: \\target_server\gg\chem\gcms-w.i\W051918.b\W4034.D
Report Date: 25-May-2018 12:03

			QUANT SIG					AMOUNTS		
		Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ug/kg)	ON-COL (ug/kg)	REVIEW CODE
	83	2-Chlorotoluene	91	15.401	15.394	(0.937)	737277	50.0000	53.4	
	84	1,2,3-Trichloropropane	75	15.479	15.465	(0.941)	255069	50.0000	53.0	
	85	4-Chlorotoluene	91	15.615	15.608	(0.950)	768645	50.0000	53.6	
	86	tert-Butylbenzene	119	15.872	15.859	(0.965)	844030	50.0000	53.6	
	87	Pentachloroethane	117	15.887	15.873	(0.966)	162181	50.0000	57.8	
	88	1,2,4-Trimethylbenzene	105	15.958	15.944	(0.970)	903107	50.0000	54.4	
	89	P-Isopropyltoluene	119	16.273	16.265	(0.990)	957099	50.0000	55.2	
	90	1,3-Dichlorobenzene	146	16.351	16.337	(0.994)	502441	50.0000	55.0	
*	91	1,4-Dichlorobenzene-D4	152	16.444	16.430	(1.000)	467975	50.0000		
	92	1,4-Dichlorobenzene	146	16.458	16.452	(1.001)	519801	50.0000	55.6	
	93	N-Butylbenzene	91	16.787	16.780	(1.021)	945875	50.0000	57.3	
	94	sec-Butylbenzene	105	16.087	16.079	(0.978)	1118383	50.0000	53.9	
	95	1,2-Dichlorobenzene	146	16.980	16.966	(1.033)	502120	50.0000	54.5	
	96	1,2-Dibromo-3-Chloropropane	75	17.952	17.939	(1.092)	71085	50.0000	59.1	
	97	1,3,5-Trichlorobenzene	180	17.981	17.974	(2.227)	364193	50.0000	59.1	
	98	Hexachlorobutadiene	225	18.717	18.711	(1.138)	165143	50.0000	57.2	
	99	1,2,4-Trichlorobenzene	180	18.753	18.746	(1.140)	327953	50.0000	59.3	
	100	1,2,3-Trimethylbenzene	105	16.494	16.488	(2.043)	905717	50.0000	53.8	
	101	Naphthalene	128	19.153	19.139	(1.165)	851646	50.0000	54.9	
	102	1,2,3-Trichlorobenzene	180	19.375	19.368	(1.178)	301769	50.0000	57.4	
	103	Methyl Acetate	43	4.450	4.436	(0.551)	195552	50.0000	51.7	
	104	Methylcyclohexane	83	8.831	8.818	(1.094)	349066	50.0000	55.8	
M	153	Total Alkylbenzenes	100				6850368	50.0000	383	


Data File: \\target_server\gg\chem\gcms-w.i\W051918.b\W4034.D
Date : 19-MAY-2018 07:53
Client ID:
Sample Info: WG228693-4,SL4180
Purge Volume: 5.0
Column phase: RTX-VMS
Instrument: gcms-w.i
Operator: JSS
Column diameter: 0.18
Y (x10^6)
Min
\\target_server\gg\chem\gcms-w.i\W051918.b\W4034.D
-Chloromethane (2.199)
-Vinyl chloride (2.263)
-Bromomethane (2.606)
-Chloroethane (2.742)
-Trichlorofluoromethane (2.892)
-Diethyl Ether (3.228)
-1,1-Dichloroethene (3.464)+
-Iodomethane (3.643)
-Acrolein (3.893)
-Allyl Chloride (4.057)
-Methylene Chloride (4.200)+
-trans-1,2-Dichloroethene (4.422)+
-Methyl tert-butyl ether (4.579)
-Tertiary-butyl alcohol (4.722)
-Acetonitrile (4.979)
-Di-isopropyl ether (5.165)
-Chloroprene (5.344)+
-Acrylonitrile (5.494)
-Ethyl tertiary-butyl ethe (5.816)+
-cis-1,2-Dichloroethene (6.373)
-2,2-Dichloropropane (6.573)
-Bromochloromethane (6.730)+
-Chloroform (6.881)
-Carbon Tetrachloride (7.102)
-Tetrahydrofuran (7.217)+
-1,1-Dichloropropene (7.460)+
-Propionitrile (7.888)+
-1,2-Dichloroethane-D4 (8.124)+
-1,2-Dichloroethane (8.239)
-Isobutyl Alcohol (8.353)
Methacrylonitrile (8.003)+
-Trichloroethene (8.839)+
1,4-Difluorobenzene (8.946)
-Dibromomethane (9.540)
-1,2-Dichloropropane (9.711)
-Bromodichloromethane (9.818)
-Ethyl Methacrylate (10.126)+
-1,2-Dichloroethylene (tot (10.268)
-cis-1,3-dichloropropene (10.819)
-Toluene-D8 (11.098)
-Toluene (11.177)
-Tetrachloroethene (11.741)
-4-methyl-2-pentanone (11.791)+
-Methyl Methacrylate (12.056)+
-Dibromochloromethane (12.306)
-1,3-Dichloropropane (12.456)
-1,2-Dibromoethane (12.642)
-2-Hexanone (13.035)
-Chlorobenzene-D5 (13.392)+
-1-Chlorohexane (13.464)+
m+p-Xylenes (13.678)
-o-Xylene (14.257)
-Styrene (14.329)+
-Isopropylbenzene (14.679)
-P-Bromofluorobenzene (15.036)
-cis-1,4-Dichloro-2-Butene (15.101)
n-Propylbenzene (15.215)
-1,1,2,2-Tetrachloroethane (15.325)
2-Chlorotoluene (15.401)
-4-Chlorotoluene (15.615)
1,3,5-Trimethylbenzene (15.472)+
tert-Butylbenzene (15.873)+
-sec-Butylbenzene (16.087)
1,2,4-Trimethylbenzene (15.959)
-1,3-Dichlorobenzene (16.302)
P-Isopropyltoluene (16.273)
1,4-Dichlorobenzene-D4 (16.445)+
n-Butylbenzene (16.788)
-1,2-Dichlorobenzene (16.974)
-1,2-Dibromo-3-Chloropropa (17.953)
-1,3,5-Trichlorobenzene (17.981)
-Hexachlorobutadiene (18.718)+
-Naphthalene (19.154)
-1,2,3-Trichlorobenzene (19.375)

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant **SDG:** SL4180
Lab ID : WG228693-5 **Analytical Date:** 05/19/18 19:20
Lab File ID : W4052.D **Instrument ID:** GCMS-W
Initial Calibration Date(s): 05/18/18 14:27 05/18/18 17:33 **Column ID:**

	Compound	$\overline{RRF}$/Amount	RF50	CCAL RRF50	Min	%D/ %Drift	Max %D/ %Drift	Curve Type	
1	Dichlorodifluoromethane	0.38392	0.37290	0.37290	0.010	-2.87017	20.00000	Averaged	
2	Chloromethane	0.54782	0.56052	0.56052	0.100	2.31709	20.00000	Averaged	
3	Vinyl chloride	0.45026	0.51686	0.51686	0.010	14.78988	20.00000	Averaged	
4	Bromomethane	0.19261	0.19513	0.19513	0.010	1.30632	20.00000	Averaged	
5	Chloroethane	50.00000	65.38117	0.29442	0.010	30.76234	20.00000	Quadratic	*
6	Trichlorofluoromethane	0.54100	0.63713	0.63713	0.010	17.76834	20.00000	Averaged	
9	1,1-Dichloroethene	0.32729	0.32826	0.32826	0.010	0.29652	20.00000	Averaged	
10	Carbon Disulfide	1.10993	1.14138	1.14138	0.010	2.83359	20.00000	Averaged	
11	Freon-113	0.23674	0.22876	0.22876	0.010	-3.36847	20.00000	Averaged	
14	Methylene Chloride	0.41770	0.44741	0.44741	0.010	7.11256	20.00000	Averaged	
15	Acetone	0.15266	0.15974	0.15974	0.010	4.63399	20.00000	Averaged	
17	trans-1,2-Dichloroethene	0.35515	0.37402	0.37402	0.010	5.31381	20.00000	Averaged	
19	Methyl tert-butyl ether	0.96337	0.92834	0.92834	0.010	-3.63601	20.00000	Averaged	
25	1,1-Dichloroethane	0.66182	0.68713	0.68713	0.100	3.82483	20.00000	Averaged	
29	cis-1,2-Dichloroethene	0.38736	0.39834	0.39834	0.010	2.83425	20.00000	Averaged	
32	2,2-Dichloropropane	0.33943	0.28857	0.28857	0.010	-14.98340	20.00000	Averaged	
33	Bromochloromethane	0.17304	0.18245	0.18245	0.010	5.43670	20.00000	Averaged	
34	Chloroform	0.61854	0.65928	0.65928	0.010	6.58761	20.00000	Averaged	
35	Carbon Tetrachloride	50.00000	46.38022	0.19579	0.010	-7.23955	20.00000	Linear	
38	1,1,1-Trichloroethane	0.49636	0.48621	0.48621	0.010	-2.04348	20.00000	Averaged	
39	1,1-Dichloropropene	0.29161	0.28944	0.28944	0.010	-0.74285	20.00000	Averaged	
40	2-Butanone	0.23499	0.25735	0.25735	0.010	9.51864	20.00000	Averaged	
41	Benzene	0.89784	0.91607	0.91607	0.010	2.02986	20.00000	Averaged	
47	1,2-Dichloroethane	0.32018	0.34299	0.34299	0.010	7.12502	20.00000	Averaged	
48	Trichloroethene	0.21504	0.22374	0.22374	0.010	4.04467	20.00000	Averaged	
50	Dibromomethane	0.13488	0.14884	0.14884	0.010	10.34951	20.00000	Averaged	
51	1,2-Dichloropropane	0.23159	0.24986	0.24986	0.010	7.89065	20.00000	Averaged	
52	Bromodichloromethane	0.27488	0.30137	0.30137	0.010	9.63739	20.00000	Averaged	
53	cis-1,3-dichloropropene	0.34274	0.34697	0.34697	0.010	1.23294	20.00000	Averaged	
57	Toluene	0.53701	0.54420	0.54420	0.010	1.34036	20.00000	Averaged	
58	4-methyl-2-pentanone	0.28170	0.32644	0.32644	0.010	15.88239	20.00000	Averaged	
59	Tetrachloroethene	0.17295	0.16262	0.16262	0.010	-5.97210	20.00000	Averaged	
60	trans-1,3-Dichloropropene	0.26851	0.28236	0.28236	0.010	5.15737	20.00000	Averaged	
61	1,1,2-Trichloroethane	0.17141	0.18422	0.18422	0.010	7.47142	20.00000	Averaged	
62	Dibromochloromethane	0.21666	0.23277	0.23277	0.010	7.43720	20.00000	Averaged	
63	1,3-Dichloropropane	0.40109	0.43336	0.43336	0.010	8.04530	20.00000	Averaged	
64	1,2-Dibromoethane	0.20059	0.21928	0.21928	0.010	9.31887	20.00000	Averaged	
65	2-Hexanone	0.22262	0.24111	0.24111	0.010	8.30510	20.00000	Averaged	
67	Chlorobenzene	0.65067	0.65295	0.65295	0.300	0.35015	20.00000	Averaged	
68	Ethylbenzene	0.35340	0.34497	0.34497	0.010	-2.38553	20.00000	Averaged	
69	1,1,1,2-Tetrachloroethane	0.20294	0.21319	0.21319	0.010	5.04928	20.00000	Averaged	

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Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
SDG: SL4180
Lab ID : WG228693-5
Analytical Date: 05/19/18 19:20
Lab File ID : W4052.D
Instrument ID: GCMS-W
Initial Calibration Date(s): 05/18/18 14:27 05/18/18 17:33
Column ID:

Compound	$\overline{RRF}$/Amount	RF50	CCAL RRF50	Min	%D/ %Drift	Max %D/ %Drift	Curve Type
71 m+p-Xylenes	0.43189	0.42053	0.42053	0.010	-2.63049	20.00000	Averaged
72 o-Xylene	0.43293	0.43686	0.43686	0.010	0.90622	20.00000	Averaged
73 Styrene	0.73454	0.74028	0.74028	0.010	0.78198	20.00000	Averaged
74 Bromoform	0.15106	0.16367	0.16367	0.100	8.34465	20.00000	Averaged
75 Isopropylbenzene	1.86675	1.77310	1.77310	0.010	-5.01675	20.00000	Averaged
79 Bromobenzene	0.50786	0.48909	0.48909	0.010	-3.69542	20.00000	Averaged
80 N-Propylbenzene	2.40910	2.32111	2.32111	0.010	-3.65244	20.00000	Averaged
81 1,1,2,2-Tetrachloroethane	0.59848	0.63476	0.63476	0.300	6.06171	20.00000	Averaged
82 1,3,5-Trimethylbenzene	1.68052	1.63312	1.63312	0.010	-2.82041	20.00000	Averaged
83 2-Chlorotoluene	1.47438	1.40892	1.40892	0.010	-4.43981	20.00000	Averaged
84 1,2,3-Trichloropropane	0.51422	0.55095	0.55095	0.010	7.14169	20.00000	Averaged
85 4-Chlorotoluene	1.53275	1.48541	1.48541	0.010	-3.08814	20.00000	Averaged
86 tert-Butylbenzene	1.68063	1.63238	1.63238	0.010	-2.87069	20.00000	Averaged
88 1,2,4-Trimethylbenzene	1.77316	1.72671	1.72671	0.010	-2.61931	20.00000	Averaged
89 P-Isopropyltoluene	1.85110	1.74113	1.74113	0.010	-5.94059	20.00000	Averaged
90 1,3-Dichlorobenzene	0.97614	0.92944	0.92944	0.010	-4.78396	20.00000	Averaged
92 1,4-Dichlorobenzene	0.99807	0.97171	0.97171	0.010	-2.64119	20.00000	Averaged
93 N-Butylbenzene	1.76426	1.66684	1.66684	0.010	-5.52149	20.00000	Averaged
94 sec-Butylbenzene	2.21553	2.11319	2.11319	0.010	-4.61908	20.00000	Averaged
95 1,2-Dichlorobenzene	0.98481	0.97339	0.97339	0.010	-1.15936	20.00000	Averaged
96 1,2-Dibromo-3-Chloropropane	0.12842	0.13847	0.13847	0.010	7.82601	20.00000	Averaged
98 Hexachlorobutadiene	0.30815	0.26624	0.26624	0.010	-13.60283	20.00000	Averaged
99 1,2,4-Trichlorobenzene	0.59047	0.52245	0.52245	0.010	-11.51903	20.00000	Averaged
101 Naphthalene	1.65747	1.64338	1.64338	0.010	-0.84996	20.00000	Averaged
102 1,2,3-Trichlorobenzene	0.56119	0.51580	0.51580	0.010	-8.08908	20.00000	Averaged
37 Dibromofluoromethane	0.49126	0.48637	0.48637	0.010	-0.99503	20.00000	Averaged
45 1,2-Dichloroethane-D4	0.64508	0.65786	0.65786	0.010	1.98206	20.00000	Averaged
55 Toluene-D8	1.21478	1.23450	1.23450	0.010	1.62263	20.00000	Averaged
76 P-Bromofluorobenzene	0.51004	0.51133	0.51133	0.010	0.25323	20.00000	Averaged

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
Lab ID : WG228693-5
Lab File ID : W4052.D
Initial Calibration Date(s): 05/18/18 14:27 05/18/18 17:33

SDG: SL4180
Analytical Date: 05/19/18 19:20
Instrument ID: GCMS-W
Column ID:

*** = Compound out of QC criteria**

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Data File: \\target_server\gg\chem\gcms-w.i\W051918.b\W4052.D
Report Date: 25-May-2018 12:39

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W051918.b\W4052.D
Lab Smp Id: WG228693-5
Inj Date : 19-MAY-2018 19:20 MS Autotune Date: 10-APR-2016 11:00
Operator : JSS Inst ID: gcms-w.i
Smp Info : WG228693-5,SL4180
Misc Info : WG228693,WG228635-4,SL4180-1
Comment : SW846 5035
Method : \\target_server\gg\chem\gcms-w.i\W051918.b\W8SDI(12)D.m
Meth Date : 20-May-2018 08:58 hgould Quant Type: ISTD
Cal Date : 18-MAY-2018 15:04 Cal File: W4025.D
Als bottle: 19 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12

Concentration Formula: Amt * DF * (100/(100-M))*(Vt/Ws) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
M	0.00000	% Moisture
Vt	5.000	Volume of DI Water (mL)
Ws	6.090	Weight of Sample (g)
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/kg)	AMOUNTS ON-COL (ug/kg)	REVIEW CODE
1	Dichlorodifluoromethane	85	1.979	1.963	(0.244)	150228	50.0000	48.6	
2	Chloromethane	50	2.207	2.192	(0.273)	225810	50.0000	51.2	
3	Vinyl chloride	62	2.272	2.256	(0.281)	208221	50.0000	57.4	
4	Bromomethane	94	2.615	2.599	(0.323)	78610	50.0000	50.6	
5	Chloroethane	64	2.751	2.735	(0.340)	118609	50.0000	65.4	
6	Trichlorofluoromethane	101	2.901	2.885	(0.358)	256675	50.0000	58.9	
7	Diethyl Ether	59	3.237	3.221	(0.400)	143520	50.0000	53.5	
8	Tertiary-butyl alcohol	59	4.738	4.708	(0.585)	70666	250.000	216	
9	1,1-Dichloroethene	96	3.480	3.457	(0.430)	132243	50.0000	50.1	
10	Carbon Disulfide	76	3.523	3.500	(0.435)	459816	50.0000	51.4	
11	Freon-113	151	3.515	3.493	(0.434)	92159	50.0000	48.3	
12	Iodomethane	142	3.658	3.635	(0.452)	121846	50.0000	53.8	
13	Acrolein	56	3.901	3.879	(0.482)	148074	250.000	253	
14	Methylene Chloride	84	4.209	4.186	(0.520)	180244	50.0000	53.6	
15	Acetone	43	4.295	4.272	(0.530)	321763	250.000	262	
16	Isobutyl Alcohol	43	8.369	8.346	(1.034)	173655	1000.00	941	
17	trans-1,2-Dichloroethene	96	4.438	4.407	(0.548)	150680	50.0000	52.6	
18	Allyl Chloride	41	4.073	4.043	(0.503)	243145	50.0000	50.7	
19	Methyl tert-butyl ether	73	4.595	4.565	(0.567)	373991	50.0000	48.2	
20	Acetonitrile	39	5.002	4.958	(0.618)	56901	500.000	531	
21	Di-isopropyl ether	45	5.188	5.151	(0.641)	536386	50.0000	52.2	
22	Chloroprene	53	5.360	5.322	(0.662)	227075	50.0000	50.7	

Data File: \\target_server\gg\chem\gcms-w.i\W051918.b\W4052.D
Report Date: 25-May-2018 12:39

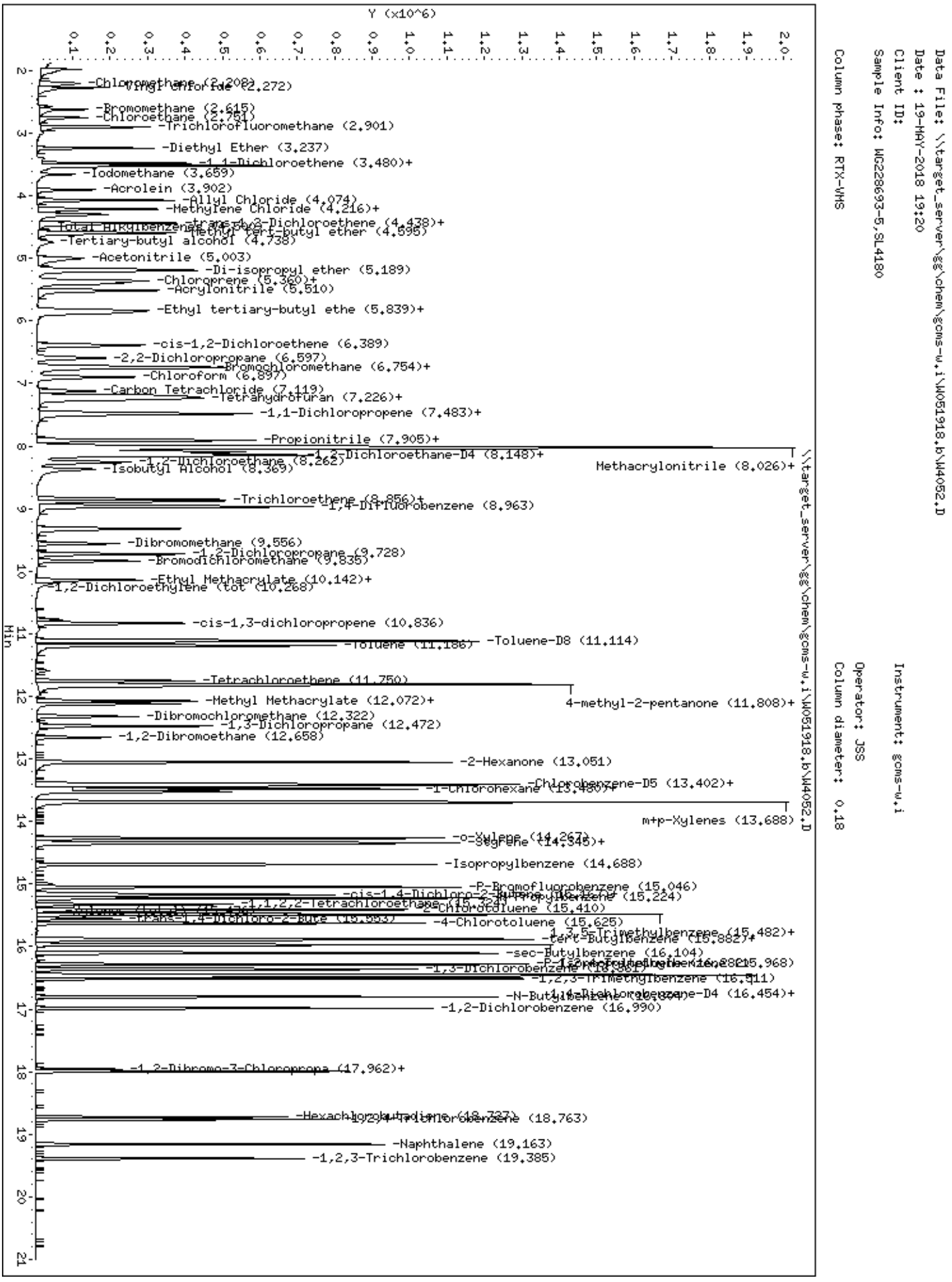
		Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/kg)	AMOUNTS ON-COL (ug/kg)	REVIEW CODE
	23	Propionitrile	54	7.997	7.960	(0.988)	301366	500.000	554	
	24	Methacrylonitrile	41	8.026	7.989	(0.991)	1224326	500.000	562	
	25	1,1-Dichloroethane	63	5.403	5.365	(0.667)	276819	50.0000	51.9	
	26	Acrylonitrile	52	5.510	5.473	(0.680)	301186	250.000	268	
	27	Ethyl tertiary-butyl ether	59	5.839	5.794	(0.721)	298471	50.0000	43.8	
	28	Vinyl Acetate	43	5.874	5.837	(0.655)	338632	50.0000	53.5	
	29	cis-1,2-Dichloroethene	96	6.389	6.352	(0.789)	160475	50.0000	51.4	
M	30	1,2-Dichloroethylene (total)	96				311155	100.000	104	
	31	Methyl Methacrylate	41	12.122	12.092	(1.353)	158614	50.0000	54.4	
	32	2,2-Dichloropropane	77	6.596	6.559	(0.815)	116254	50.0000	42.5	
	33	Bromochloromethane	128	6.754	6.716	(0.834)	73502	50.0000	52.7	
	34	Chloroform	83	6.896	6.859	(0.852)	265600	50.0000	53.3	
	35	Carbon Tetrachloride	117	7.118	7.088	(0.794)	131832	50.0000	46.4	
	36	Tetrahydrofuran	42	7.197	7.167	(0.889)	332004	250.000	280	
$	37	Dibromofluoromethane	113	7.225	7.188	(0.892)	195940	50.0000	49.5	
	38	1,1,1-Trichloroethane	97	7.254	7.217	(0.896)	195876	50.0000	49.0	
	39	1,1-Dichloropropene	75	7.475	7.438	(0.834)	194894	50.0000	49.6	
	40	2-Butanone	43	7.490	7.453	(0.925)	518387	250.000	274	
	41	Benzene	78	7.904	7.867	(0.882)	616834	50.0000	51.0	
*	42	Pentafluorobenzene	168	8.097	8.060	(1.000)	402861	50.0000		
	43	Cyclohexane	56	6.739	6.695	(0.832)	249007	50.0000	49.3	
	44	Ethyl Methacrylate	69	10.142	10.112	(1.132)	113857	50.0000	51.8	
$	45	1,2-Dichloroethane-D4	65	8.147	8.109	(1.006)	265028	50.0000	51.0	
	46	Tertiary-amyl methyl ether	73	8.140	8.109	(1.005)	285453	50.0000	46.0	
	47	1,2-Dichloroethane	62	8.262	8.224	(0.922)	230954	50.0000	53.6	
	48	Trichloroethene	95	8.884	8.846	(0.991)	150653	50.0000	52.0	
*	49	1,4-Difluorobenzene	114	8.962	8.932	(1.000)	673349	50.0000		
	50	Dibromomethane	93	9.556	9.518	(1.066)	100224	50.0000	55.2	
	51	1,2-Dichloropropane	63	9.727	9.697	(1.085)	168245	50.0000	53.9	
	52	Bromodichloromethane	83	9.834	9.804	(1.097)	202930	50.0000	54.8	
	53	cis-1,3-dichloropropene	75	10.835	10.805	(1.209)	233631	50.0000	50.6	
	54	1,4-Dioxane	88	10.192	10.169	(1.137)	50829	1000.00	1100	
$	55	Toluene-D8	98	11.114	11.084	(1.240)	831246	50.0000	50.8	
	57	Toluene	92	11.185	11.162	(1.248)	366439	50.0000	50.7	
	58	4-methyl-2-pentanone	43	11.807	11.777	(1.317)	1099040	250.000	290	
	59	Tetrachloroethene	164	11.757	11.727	(0.877)	105577	50.0000	47.0	
	60	trans-1,3-Dichloropropene	75	11.836	11.813	(1.321)	190128	50.0000	52.6	
	61	1,1,2-Trichloroethane	83	12.072	12.042	(1.347)	124042	50.0000	53.7	
	62	Dibromochloromethane	129	12.322	12.292	(0.919)	151120	50.0000	53.7	
	63	1,3-Dichloropropane	76	12.472	12.449	(0.931)	281349	50.0000	54.0	
	64	1,2-Dibromoethane	107	12.658	12.628	(1.412)	147653	50.0000	54.6	
	65	2-Hexanone	43	13.051	13.028	(0.974)	782673	250.000	271	
*	66	Chlorobenzene-D5	117	13.401	13.378	(1.000)	649222	50.0000		
	67	Chlorobenzene	112	13.423	13.400	(1.002)	423908	50.0000	50.2	
	152	1-Chlorohexane	91	13.480	13.457	(1.665)	723153	50.0000	(a)	
	68	Ethylbenzene	106	13.480	13.457	(1.006)	223960	50.0000	48.8	
	69	1,1,1,2-Tetrachloroethane	131	13.523	13.500	(1.009)	138407	50.0000	52.5	
M	70	Xylenes (total)	106				829657	150.000	148	
	71	m+p-Xylenes	106	13.687	13.664	(1.021)	546039	100.000	97.4	
	72	o-Xylene	106	14.266	14.243	(1.065)	283618	50.0000	50.4	
	73	Styrene	104	14.345	14.315	(1.070)	480608	50.0000	50.4	
	74	Bromoform	173	14.359	14.329	(1.071)	106256	50.0000	54.2	
	75	Isopropylbenzene	105	14.688	14.665	(0.893)	663698	50.0000	47.5	
$	76	P-Bromofluorobenzene	95	15.045	15.022	(1.679)	344304	50.0000	50.1	

Data File: \\target_server\gg\chem\gcms-w.i\W051918.b\W4052.D
Report Date: 25-May-2018 12:39

							AMOUNTS		
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ug/kg)	ON-COL (ug/kg)	REVIEW CODE
	77 cis-1,4-Dichloro-2-Butene	53	15.145	15.129	(0.920)	59177	50.0000	48.4	
	78 trans-1,4-Dichloro-2-Butene	53	15.553	15.530	(0.945)	48866	50.0000	49.6	
	79 Bromobenzene	156	15.174	15.151	(0.922)	183074	50.0000	48.2	
	80 N-Propylbenzene	91	15.224	15.201	(0.925)	868827	50.0000	48.2	
	81 1,1,2,2-Tetrachloroethane	83	15.324	15.301	(0.931)	237601	50.0000	53.0	
	82 1,3,5-Trimethylbenzene	105	15.481	15.458	(0.941)	611303	50.0000	48.6	
	83 2-Chlorotoluene	91	15.410	15.394	(0.937)	527381	50.0000	47.8	
	84 1,2,3-Trichloropropane	75	15.488	15.465	(0.941)	206227	50.0000	53.6	
	85 4-Chlorotoluene	91	15.624	15.608	(0.950)	556013	50.0000	48.4	
	86 tert-Butylbenzene	119	15.882	15.859	(0.965)	611025	50.0000	48.6	
	87 Pentachloroethane	117	15.896	15.873	(0.966)	114344	50.0000	51.0	
	88 1,2,4-Trimethylbenzene	105	15.967	15.944	(0.970)	646334	50.0000	48.7	
	89 P-Isopropyltoluene	119	16.282	16.265	(0.990)	651732	50.0000	47.0	
	90 1,3-Dichlorobenzene	146	16.360	16.337	(0.994)	347904	50.0000	47.6	
*	91 1,4-Dichlorobenzene-D4	152	16.453	16.430	(1.000)	374315	50.0000		
	92 1,4-Dichlorobenzene	146	16.475	16.452	(1.001)	363726	50.0000	48.7	
	93 N-Butylbenzene	91	16.804	16.780	(1.021)	623924	50.0000	47.2	
	94 sec-Butylbenzene	105	16.103	16.079	(0.979)	791000	50.0000	47.7	
	95 1,2-Dichlorobenzene	146	16.989	16.966	(1.033)	364356	50.0000	49.4	
	96 1,2-Dibromo-3-Chloropropane	75	17.962	17.939	(1.092)	51831	50.0000	53.9	
	97 1,3,5-Trichlorobenzene	180	17.990	17.974	(2.222)	218789	50.0000	45.4	
	98 Hexachlorobutadiene	225	18.726	18.711	(1.138)	99656	50.0000	43.2	
	99 1,2,4-Trichlorobenzene	180	18.762	18.746	(1.140)	195562	50.0000	44.2	
	100 1,2,3-Trimethylbenzene	105	16.511	16.488	(2.039)	664937	50.0000	50.5	
	101 Naphthalene	128	19.162	19.139	(1.165)	615143	50.0000	49.6	
	102 1,2,3-Trichlorobenzene	180	19.391	19.368	(1.179)	193070	50.0000	46.0	
	103 Methyl Acetate	43	4.466	4.436	(0.552)	157554	50.0000	53.3	
	104 Methylcyclohexane	83	8.848	8.818	(1.093)	239893	50.0000	49.0	
M	153 Total Alkylbenzenes	100				4804145	50.0000	336	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).


Data File: \\target_server\gg\chem\gcms-w.i\W051918.b\W4052.D
Date : 19-MAY-2018 19:20
Client ID:
Sample Info: WG228693-5,SL4180
Column phase: RTX-VMS
Instrument: gcms-w.i
Operator: JSS
Column diameter: 0.18
Y (x10^6)
Min
-Chloromethane (2.208)
Vinyl chloride (2.272)
-Bromomethane (2.615)
-Chloroethane (2.751)
-Trichlorofluoromethane (2.901)
-Diethyl Ether (3.237)
-1,1-Dichloroethene (3.480)+
-Iodomethane (3.659)
-Acrolein (3.902)
-Allyl Chloride (4.074)
-Methylene Chloride (4.216)+
-trans-1,2-Dichloroethene (4.438)+
Total Alkylbenzene
-Methyl tert-butyl ether (4.595)
-Tertiary-butyl alcohol (4.738)
-Acetonitrile (5.003)
-Di-isopropyl ether (5.189)
-Chloroprene (5.360)+
-Acrylonitrile (5.510)
-Ethyl tertiary-butyl ethe (5.839)+
-cis-1,2-Dichloroethene (6.389)
-2,2-Dichloropropane (6.597)
-Bromochloromethane (6.754)+
-Chloroform (6.897)
-Carbon Tetrachloride (7.119)
-Tetrahydrofuran (7.226)+
-1,1-Dichloropropene (7.483)+
-Propionitrile (7.905)+
-1,2-Dichloroethane-D4 (8.148)+
-1,2-Dichloroethane (8.262)
Methacrylonitrile (8.026)+
-Isobutyl Alcohol (8.369)
-Trichloroethene (8.856)+
-1,4-Difluorobenzene (8.963)
-Dibromomethane (9.556)
-1,2-Dichloropropane (9.728)
-Bromodichloromethane (9.835)
-Ethyl Methacrylate (10.142)+
-1,2-Dichloroethylene (tot (10.268)
-cis-1,3-dichloropropene (10.836)
-Toluene-D8 (11.114)
-Toluene (11.186)
-Tetrachloroethene (11.750)
4-methyl-2-pentanone (11.808)+
-Methyl Methacrylate (12.072)+
-Dibromochloromethane (12.322)
-1,3-Dichloropropane (12.472)
-1,2-Dibromoethane (12.658)
-2-Hexanone (13.051)
-Chlorobenzene-D5 (13.402)+
-1-Chlorohexane (13.480)+
m+p-Xylenes (13.688)
-o-Xylene (14.267)
-Styrene (14.345)+
-Isopropylbenzene (14.688)
-P-Bromofluorobenzene (15.046)
-cis-1,4-Dichloro-2-Butene (15.224)
-1,1,2,2-Tetrachloroethane (15.324)
-2-Chlorotoluene (15.410)
-trans-1,4-Dichloro-2-Bute (15.553)
-4-Chlorotoluene (15.625)
-1,3,5-Trimethylbenzene (15.482)+
-tert-Butylbenzene (15.882)+
-sec-Butylbenzene (16.104)
-1,3-Dichlorobenzene (16.361)
-1,2,3-Trimethylbenzene (16.511)
-N-Butylbenzene (16.804)
-1,4-Dichlorobenzene-D4 (16.454)+
-1,2-Dichlorobenzene (16.990)
-1,2-Dibromo-3-Chloropropa (17.962)+
-Hexachlorobutadiene (18.727)
-1,2,4-Trichlorobenzene (18.763)
-Naphthalene (19.163)
-1,2,3-Trichlorobenzene (19.385)
\\target_server\gg\chem\gcms-w.i\W051918.b\W4052.D

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant **SDG:** SL4180
Lab ID : WG228751-11 **Analytical Date:** 05/21/18 18:42
Lab File ID : W4079.D **Instrument ID:** GCMS-W
Initial Calibration Date(s): 05/21/18 08:39 05/21/18 11:44 **Column ID:**

	Compound	$\overline{RRF}$/Amount	RF50	CCAL RRF50	Min	%D/ %Drift	Max %D/ %Drift	Curve Type
1	Dichlorodifluoromethane	0.79287	0.69928	0.69928	0.010	-11.80458	20.00000	Averaged
2	Chloromethane	0.99616	0.88607	0.88607	0.100	-11.05130	20.00000	Averaged
3	Vinyl chloride	0.91057	0.82349	0.82349	0.010	-9.56312	20.00000	Averaged
4	Bromomethane	0.45871	0.39898	0.39898	0.010	-13.02168	20.00000	Averaged
5	Chloroethane	50.00000	52.03329	0.49357	0.010	4.06659	20.00000	Linear
6	Trichlorofluoromethane	1.17352	1.11912	1.11912	0.010	-4.63581	20.00000	Averaged
9	1,1-Dichloroethene	0.60029	0.53910	0.53910	0.010	-10.19363	20.00000	Averaged
10	Carbon Disulfide	1.95418	1.79131	1.79131	0.010	-8.33406	20.00000	Averaged
11	Freon-113	0.43003	0.38717	0.38717	0.010	-9.96645	20.00000	Averaged
14	Methylene Chloride	0.76563	0.67754	0.67754	0.010	-11.50628	20.00000	Averaged
15	Acetone	0.27657	0.25073	0.25073	0.010	-9.34552	20.00000	Averaged
17	trans-1,2-Dichloroethene	0.64305	0.58097	0.58097	0.010	-9.65358	20.00000	Averaged
19	Methyl tert-butyl ether	1.73077	1.51095	1.51095	0.010	-12.70093	20.00000	Averaged
25	1,1-Dichloroethane	1.19279	1.07221	1.07221	0.100	-10.10932	20.00000	Averaged
29	cis-1,2-Dichloroethene	0.71515	0.64625	0.64625	0.010	-9.63459	20.00000	Averaged
32	2,2-Dichloropropane	0.61775	0.49893	0.49893	0.010	-19.23395	20.00000	Averaged
33	Bromochloromethane	0.32388	0.30530	0.30530	0.010	-5.73667	20.00000	Averaged
34	Chloroform	1.15708	1.02646	1.02646	0.010	-11.28905	20.00000	Averaged
35	Carbon Tetrachloride	0.41556	0.37767	0.37767	0.010	-9.11763	20.00000	Averaged
38	1,1,1-Trichloroethane	0.92612	0.81085	0.81085	0.010	-12.44740	20.00000	Averaged
39	1,1-Dichloropropene	0.57680	0.50648	0.50648	0.010	-12.19134	20.00000	Averaged
40	2-Butanone	0.42549	0.40703	0.40703	0.010	-4.33797	20.00000	Averaged
41	Benzene	1.76867	1.59560	1.59560	0.010	-9.78494	20.00000	Averaged
47	1,2-Dichloroethane	0.61079	0.56912	0.56912	0.010	-6.82326	20.00000	Averaged
48	Trichloroethene	0.43120	0.38485	0.38485	0.010	-10.74992	20.00000	Averaged
50	Dibromomethane	0.27138	0.24703	0.24703	0.010	-8.97584	20.00000	Averaged
51	1,2-Dichloropropane	0.45103	0.40104	0.40104	0.010	-11.08393	20.00000	Averaged
52	Bromodichloromethane	0.56284	0.51616	0.51616	0.010	-8.29322	20.00000	Averaged
53	cis-1,3-dichloropropene	0.69004	0.60310	0.60310	0.010	-12.59956	20.00000	Averaged
57	Toluene	1.08865	0.96167	0.96167	0.010	-11.66425	20.00000	Averaged
58	4-methyl-2-pentanone	0.57060	0.54818	0.54818	0.010	-3.92969	20.00000	Averaged
59	Tetrachloroethene	0.34627	0.30653	0.30653	0.010	-11.47607	20.00000	Averaged
60	trans-1,3-Dichloropropene	0.56171	0.52272	0.52272	0.010	-6.94052	20.00000	Averaged
61	1,1,2-Trichloroethane	0.34570	0.31923	0.31923	0.010	-7.65842	20.00000	Averaged
62	Dibromochloromethane	0.43772	0.40619	0.40619	0.010	-7.20416	20.00000	Averaged
63	1,3-Dichloropropane	0.75463	0.70245	0.70245	0.010	-6.91507	20.00000	Averaged
64	1,2-Dibromoethane	0.40654	0.37473	0.37473	0.010	-7.82536	20.00000	Averaged
65	2-Hexanone	0.41553	0.40089	0.40089	0.010	-3.52451	20.00000	Averaged
67	Chlorobenzene	1.25523	1.14073	1.14073	0.300	-9.12209	20.00000	Averaged
68	Ethylbenzene	0.69189	0.62367	0.62367	0.010	-9.86072	20.00000	Averaged
69	1,1,1,2-Tetrachloroethane	0.40740	0.37626	0.37626	0.010	-7.64298	20.00000	Averaged

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Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
SDG: SL4180
Lab ID : WG228751-11
Analytical Date: 05/21/18 18:42
Lab File ID : W4079.D
Instrument ID: GCMS-W
Initial Calibration Date(s): 05/21/18 08:39 05/21/18 11:44
Column ID:

	Compound	RRF/Amount	RF50	CCAL RRF50	Min	%D/ %Drift	Max %D/ %Drift	Curve Type
71	m+p-Xylenes	0.85040	0.77114	0.77114	0.010	-9.32072	20.00000	Averaged
72	o-Xylene	0.84977	0.79267	0.79267	0.010	-6.71916	20.00000	Averaged
73	Styrene	1.42597	1.31134	1.31134	0.010	-8.03842	20.00000	Averaged
74	Bromoform	0.32916	0.30920	0.30920	0.100	-6.06467	20.00000	Averaged
75	Isopropylbenzene	3.24991	3.10701	3.10701	0.010	-4.39692	20.00000	Averaged
79	Bromobenzene	0.91499	0.85392	0.85392	0.010	-6.67458	20.00000	Averaged
80	N-Propylbenzene	4.19966	3.99616	3.99616	0.010	-4.84570	20.00000	Averaged
81	1,1,2,2-Tetrachloroethane	1.04804	1.03862	1.03862	0.300	-0.89953	20.00000	Averaged
82	1,3,5-Trimethylbenzene	2.98636	2.84787	2.84787	0.010	-4.63764	20.00000	Averaged
83	2-Chlorotoluene	2.55576	2.37157	2.37157	0.010	-7.20674	20.00000	Averaged
84	1,2,3-Trichloropropane	0.90956	0.88206	0.88206	0.010	-3.02324	20.00000	Averaged
85	4-Chlorotoluene	2.67392	2.45751	2.45751	0.010	-8.09346	20.00000	Averaged
86	tert-Butylbenzene	3.02732	2.89110	2.89110	0.010	-4.49974	20.00000	Averaged
88	1,2,4-Trimethylbenzene	3.14888	2.99777	2.99777	0.010	-4.79871	20.00000	Averaged
89	P-Isopropyltoluene	3.31297	3.15871	3.15871	0.010	-4.65622	20.00000	Averaged
90	1,3-Dichlorobenzene	1.81697	1.67583	1.67583	0.010	-7.76765	20.00000	Averaged
92	1,4-Dichlorobenzene	1.85909	1.70623	1.70623	0.010	-8.22223	20.00000	Averaged
93	N-Butylbenzene	3.10535	2.94754	2.94754	0.010	-5.08194	20.00000	Averaged
94	sec-Butylbenzene	3.94694	3.78881	3.78881	0.010	-4.00621	20.00000	Averaged
95	1,2-Dichlorobenzene	1.82350	1.71644	1.71644	0.010	-5.87117	20.00000	Averaged
96	1,2-Dibromo-3-Chloropropane	0.23653	0.21732	0.21732	0.010	-8.12147	20.00000	Averaged
98	Hexachlorobutadiene	0.56237	0.48937	0.48937	0.010	-12.98010	20.00000	Averaged
99	1,2,4-Trichlorobenzene	1.06437	0.93619	0.93619	0.010	-12.04229	20.00000	Averaged
101	Naphthalene	2.93775	2.80184	2.80184	0.010	-4.62642	20.00000	Averaged
102	1,2,3-Trichlorobenzene	0.98861	0.89893	0.89893	0.010	-9.07115	20.00000	Averaged
37	Dibromofluoromethane	0.45358	0.44923	0.44923	0.010	-0.95920	20.00000	Averaged
45	1,2-Dichloroethane-D4	0.59572	0.61045	0.61045	0.010	2.47196	20.00000	Averaged
55	Toluene-D8	1.25503	1.22485	1.22485	0.010	-2.40481	20.00000	Averaged
76	P-Bromofluorobenzene	0.53023	0.51124	0.51124	0.010	-3.58025	20.00000	Averaged

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
Lab ID : WG228751-11
Lab File ID : W4079.D
Initial Calibration Date(s): 05/21/18 08:39 05/21/18 11:44

SDG: SL4180
Analytical Date: 05/21/18 18:42
Instrument ID: GCMS-W
Column ID:

*** = Compound out of QC criteria**

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Data File: \\target_server\gg\chem\gcms-w.i\W052118.b\W4079.D
Report Date: 25-May-2018 12:07

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W052118.b\W4079.D
Lab Smp Id: WG228751-11
Inj Date : 21-MAY-2018 18:42 MS Autotune Date: 10-APR-2016 11:00
Operator : JSS Inst ID: gcms-w.i
Smp Info : WG228751-11,SL4180
Misc Info : WG228751,WG228751-4,SL4180-1
Comment : SW846 5035
Method : \\target_server\gg\chem\gcms-w.i\W052118.b\W8SDI(13)D.m
Meth Date : 25-May-2018 12:05 gcms-w.i Quant Type: ISTD
Cal Date : 21-MAY-2018 11:44 Cal File: W4068.D
Als bottle: 18 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12

Concentration Formula: Amt * DF * (100/(100-M))*(Vt/Ws) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
M	0.00000	% Moisture
Vt	5.000	Volume of DI Water (mL)
Ws	5.000	Weight of Sample (g)
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/kg)	AMOUNTS ON-COL (ug/kg)	REVIEW CODE
1	Dichlorodifluoromethane	85	1.970	1.965	(0.244)	257353	50.0000	44.1	
2	Chloromethane	50	2.184	2.187	(0.271)	326099	50.0000	44.5	
3	Vinyl chloride	62	2.263	2.258	(0.280)	303067	50.0000	45.2	
4	Bromomethane	94	2.606	2.608	(0.323)	146835	50.0000	43.5	
5	Chloroethane	64	2.742	2.737	(0.340)	181647	50.0000	52.0	
6	Trichlorofluoromethane	101	2.885	2.887	(0.357)	411866	50.0000	47.7	
7	Diethyl Ether	59	3.228	3.223	(0.400)	206596	50.0000	46.1	
8	Tertiary-butyl alcohol	59	4.715	4.710	(0.584)	105854	250.000	186	
9	1,1-Dichloroethene	96	3.464	3.459	(0.429)	198403	50.0000	44.9	
10	Carbon Disulfide	76	3.507	3.502	(0.434)	659252	50.0000	45.8	
11	Freon-113	151	3.500	3.502	(0.433)	142490	50.0000	45.0	
12	Iodomethane	142	3.643	3.638	(0.451)	172588	50.0000	52.4	
13	Acrolein	56	3.886	3.881	(0.481)	217086	250.000	231	
14	Methylene Chloride	84	4.193	4.188	(0.519)	249352	50.0000	44.2	
15	Acetone	43	4.279	4.274	(0.530)	461368	250.000	227	
16	Isobutyl Alcohol	43	8.346	8.341	(1.034)	266232	1000.00	850	
17	trans-1,2-Dichloroethene	96	4.415	4.410	(0.547)	213814	50.0000	45.2	
18	Allyl Chloride	41	4.057	4.052	(0.503)	336998	50.0000	44.8	
19	Methyl tert-butyl ether	73	4.572	4.567	(0.566)	556070	50.0000	43.6	
20	Acetonitrile	39	4.972	4.967	(0.616)	81916	500.000	458	
21	Di-isopropyl ether	45	5.165	5.160	(0.640)	740967	50.0000	45.3	
22	Chloroprene	53	5.337	5.332	(0.661)	333066	50.0000	46.3	

Data File: \\target_server\gg\chem\gcms-w.i\W052118.b\W4079.D
Report Date: 25-May-2018 12:07

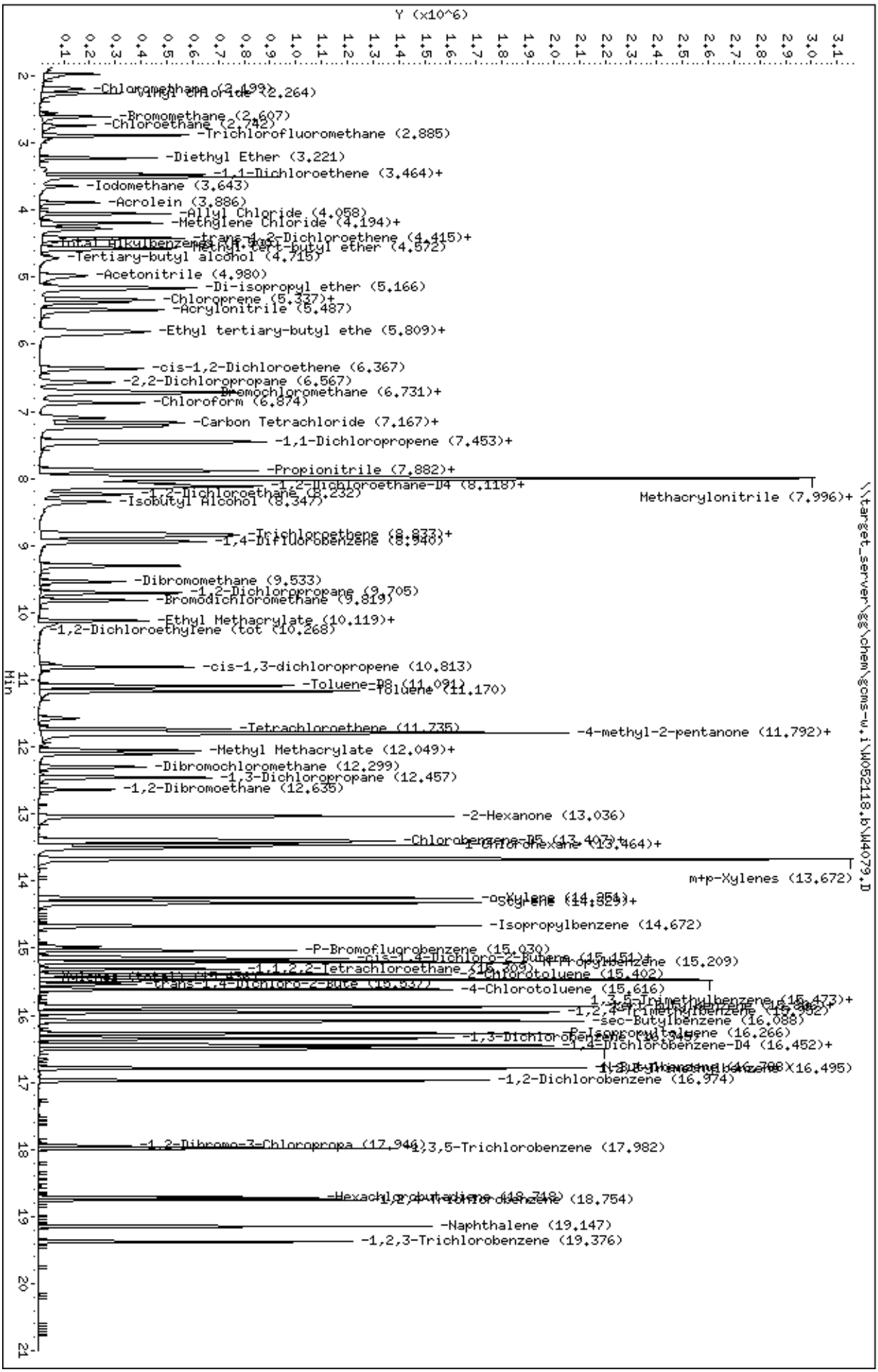
		Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/kg)	AMOUNTS ON-COL (ug/kg)	REVIEW CODE
	23	Propionitrile	54	7.974	7.969	(0.988)	438971	500.000	478	
	24	Methacrylonitrile	41	7.996	7.998	(0.990)	1792451	500.000	482	
	25	1,1-Dichloroethane	63	5.380	5.375	(0.666)	394601	50.0000	44.9	
	26	Acrylonitrile	52	5.487	5.482	(0.680)	424605	250.000	240	
	27	Ethyl tertiary-butyl ether	59	5.808	5.804	(0.719)	451171	50.0000	41.9	
	28	Vinyl Acetate	43	5.851	5.846	(0.655)	472615	50.0000	44.7	
	29	cis-1,2-Dichloroethene	96	6.366	6.361	(0.788)	237836	50.0000	45.2	
M	30	1,2-Dichloroethylene (total)	96				451650	100.000	(a)	
	31	Methyl Methacrylate	41	12.099	12.094	(1.353)	232705	50.0000	46.8	
	32	2,2-Dichloropropane	77	6.566	6.561	(0.813)	183620	50.0000	40.4	
	33	Bromochloromethane	128	6.731	6.726	(0.834)	112359	50.0000	47.1	
	34	Chloroform	83	6.874	6.869	(0.851)	377765	50.0000	44.4	
	35	Carbon Tetrachloride	117	7.095	7.090	(0.794)	217375	50.0000	45.4	
	36	Tetrahydrofuran	42	7.167	7.162	(0.888)	470259	250.000	232	
$	37	Dibromofluoromethane	113	7.202	7.197	(0.892)	165329	50.0000	49.5	
	38	1,1,1-Trichloroethane	97	7.231	7.226	(0.896)	298413	50.0000	43.8	
	39	1,1-Dichloropropene	75	7.453	7.448	(0.834)	291510	50.0000	43.9	
	40	2-Butanone	43	7.460	7.455	(0.924)	748991	250.000	239	
	41	Benzene	78	7.881	7.876	(0.882)	918374	50.0000	45.1	
*	42	Pentafluorobenzene	168	8.074	8.069	(1.000)	368027	50.0000		
	43	Cyclohexane	56	6.709	6.704	(0.831)	374384	50.0000	45.3	
	44	Ethyl Methacrylate	69	10.119	10.114	(1.132)	176041	50.0000	48.4	
$	45	1,2-Dichloroethane-D4	65	8.117	8.119	(1.005)	224662	50.0000	51.2	
	46	Tertiary-amyl methyl ether	73	8.117	8.112	(1.005)	434314	50.0000	42.5	
	47	1,2-Dichloroethane	62	8.232	8.234	(0.921)	327564	50.0000	46.6	
	48	Trichloroethene	95	8.861	8.856	(0.991)	221506	50.0000	44.6	
*	49	1,4-Difluorobenzene	114	8.939	8.941	(1.000)	575565	50.0000		
	50	Dibromomethane	93	9.533	9.528	(1.066)	142179	50.0000	45.5	
	51	1,2-Dichloropropane	63	9.704	9.706	(1.086)	230822	50.0000	44.4	
	52	Bromodichloromethane	83	9.818	9.814	(1.098)	297085	50.0000	45.8	
	53	cis-1,3-dichloropropene	75	10.812	10.807	(1.209)	347121	50.0000	43.7	
	54	1,4-Dioxane	88	10.169	10.164	(1.138)	80573	1000.00	987	
$	55	Toluene-D8	98	11.091	11.093	(1.241)	704982	50.0000	48.8	
	57	Toluene	92	11.169	11.165	(1.249)	553502	50.0000	44.2	
	58	4-methyl-2-pentanone	43	11.784	11.786	(1.318)	1577567	250.000	240	
	59	Tetrachloroethene	164	11.734	11.729	(0.877)	173435	50.0000	44.3	
	60	trans-1,3-Dichloropropene	75	11.820	11.815	(1.322)	300861	50.0000	46.5	
	61	1,1,2-Trichloroethane	83	12.049	12.051	(1.348)	183737	50.0000	46.2	
	62	Dibromochloromethane	129	12.299	12.294	(0.919)	229823	50.0000	46.4	
	63	1,3-Dichloropropane	76	12.456	12.451	(0.931)	397448	50.0000	46.5	
	64	1,2-Dibromoethane	107	12.635	12.637	(1.413)	215682	50.0000	46.1	
	65	2-Hexanone	43	13.035	13.030	(0.974)	1134112	250.000	241	
*	66	Chlorobenzene-D5	117	13.385	13.380	(1.000)	565804	50.0000		
	67	Chlorobenzene	112	13.407	13.409	(1.002)	645429	50.0000	45.4	
	152	1-Chlorohexane	91	13.464	13.459	(1.667)	1098897	50.0000	(a)	
	68	Ethylbenzene	106	13.464	13.459	(1.006)	352873	50.0000	45.1	
	69	1,1,1,2-Tetrachloroethane	131	13.507	13.502	(1.009)	212890	50.0000	46.2	
M	70	Xylenes (total)	106				1321126	150.000	(a)	
	71	m+p-Xylenes	106	13.671	13.673	(1.021)	872628	100.000	90.7	
	72	o-Xylene	106	14.250	14.252	(1.065)	448498	50.0000	46.6	
	73	Styrene	104	14.322	14.324	(1.070)	741964	50.0000	46.0	
	74	Bromoform	173	14.343	14.338	(1.072)	174944	50.0000	47.0	
	75	Isopropylbenzene	105	14.672	14.674	(0.893)	1074871	50.0000	47.8	
$	76	P-Bromofluorobenzene	95	15.029	15.032	(1.681)	294253	50.0000	48.2	

Data File: \\target_server\gg\chem\gcms-w.i\W052118.b\W4079.D
Report Date: 25-May-2018 12:07

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/kg)	AMOUNTS ON-COL (ug/kg)	REVIEW CODE
	77 cis-1,4-Dichloro-2-Butene	53	15.137	15.132	(0.921)	94426	50.0000	48.6	
	78 trans-1,4-Dichloro-2-Butene	53	15.537	15.532	(0.945)	78996	50.0000	47.2	
	79 Bromobenzene	156	15.158	15.153	(0.922)	295412	50.0000	46.7	
	80 N-Propylbenzene	91	15.208	15.210	(0.925)	1382470	50.0000	47.6	
	81 1,1,2,2-Tetrachloroethane	83	15.308	15.310	(0.931)	359309	50.0000	49.6	
	82 1,3,5-Trimethylbenzene	105	15.465	15.468	(0.941)	985219	50.0000	47.7	
	83 2-Chlorotoluene	91	15.401	15.396	(0.937)	820446	50.0000	46.4	
	84 1,2,3-Trichloropropane	75	15.473	15.475	(0.941)	305148	50.0000	48.5	
	85 4-Chlorotoluene	91	15.616	15.611	(0.950)	850176	50.0000	46.0	
	86 tert-Butylbenzene	119	15.866	15.868	(0.965)	1000175	50.0000	47.8	
	87 Pentachloroethane	117	15.880	15.882	(0.966)	185565	50.0000	46.8	
	88 1,2,4-Trimethylbenzene	105	15.951	15.954	(0.970)	1037080	50.0000	47.6	
	89 P-Isopropyltoluene	119	16.273	16.268	(0.990)	1092755	50.0000	47.7	
	90 1,3-Dichlorobenzene	146	16.345	16.347	(0.994)	579754	50.0000	46.1	
*	91 1,4-Dichlorobenzene-D4	152	16.438	16.440	(1.000)	345950	50.0000		
	92 1,4-Dichlorobenzene	146	16.459	16.454	(1.001)	590270	50.0000	45.9	
	93 N-Butylbenzene	91	16.788	16.783	(1.021)	1019701	50.0000	47.4	
	94 sec-Butylbenzene	105	16.087	16.082	(0.979)	1310740	50.0000	48.0	
	95 1,2-Dichlorobenzene	146	16.974	16.969	(1.033)	593802	50.0000	47.1	
	96 1,2-Dibromo-3-Chloropropane	75	17.946	17.941	(1.092)	75181	50.0000	45.9	
	97 1,3,5-Trichlorobenzene	180	17.982	17.977	(2.227)	361168	50.0000	40.4	
	98 Hexachlorobutadiene	225	18.718	18.713	(1.139)	169298	50.0000	43.5	
	99 1,2,4-Trichlorobenzene	180	18.753	18.749	(1.141)	323876	50.0000	44.0	
	100 1,2,3-Trimethylbenzene	105	16.495	16.490	(2.043)	1070424	50.0000	46.5	
	101 Naphthalene	128	19.147	19.142	(1.165)	969295	50.0000	47.7	
	102 1,2,3-Trichlorobenzene	180	19.375	19.370	(1.179)	310986	50.0000	45.5	
	103 Methyl Acetate	43	4.443	4.438	(0.550)	226784	50.0000	47.4	
	104 Methylcyclohexane	83	8.825	8.827	(1.093)	375410	50.0000	45.8	
M	153 Total Alkylbenzenes	100				7828140	50.0000	(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).


Data File: \\target_server\gg\chem\gcms-w,i\W052118,b\W4079,D
Date : 21-MAY-2018 18:42
Client ID:
Sample Info: WG228751-11,SL4180
Column phase: RTX-VMS
Instrument: gcms-w,i
Operator: JSS
Column diameter: 0.18
Y (x10^6)
Min
\\target_server\gg\chem\gcms-w,i\W052118,b\W4079,D
-Chloromethane (2.493)
-Bromomethane (2.607)
-Chloroethane (2.742)
-Trichlorofluoromethane (2.885)
-Diethyl Ether (3.221)
-1,1-Dichloroethene (3.464)+
-Iodomethane (3.643)
-Acrolein (3.886)
-Allyl Chloride (4.058)
-Methylene Chloride (4.194)+
-trans-1,2-Dichloroethene (4.415)+
-Methyl tert-butyl ether (4.572)
-Tertiary-butyl alcohol (4.715)
-Acetonitrile (4.980)
-Di-isopropyl ether (5.166)
-Chloroprene (5.337)+
-Acrylonitrile (5.487)
-Ethyl tertiary-butyl ethe (5.809)+
-cis-1,2-Dichloroethene (6.367)
-2,2-Dichloropropane (6.567)
-Bromochloromethane (6.731)+
-Chloroform (6.874)
-Carbon Tetrachloride (7.167)+
-1,1-Dichloropropene (7.453)+
-Propionitrile (7.882)+
-1,2-Dichloroethane-D4 (8.118)+
-1,2-Dichloroethane (8.232)
-Isobutyl Alcohol (8.347)
Methacrylonitrile (7.996)+
-Trichloroethene (8.877)+
-1,4-Difluorobenzene (8.940)
-Dibromomethane (9.533)
-1,2-Dichloropropane (9.705)
-Bromodichloromethane (9.819)
-Ethyl Methacrylate (10.119)+
-1,2-Dichloroethylene (tot (10.268)
-cis-1,3-dichloropropene (10.813)
-Toluene-D8 (11.091)
-Toluene (11.170)
-Tetrachloroethene (11.735)
-4-methyl-2-pentanone (11.792)+
-Methyl Methacrylate (12.049)+
-Dibromochloromethane (12.299)
-1,3-Dichloropropane (12.457)
-1,2-Dibromoethane (12.635)
-2-Hexanone (13.036)
-Chlorobenzene-D5 (13.407)+
-Chlorohexane (13.464)+
m+p-Xylenes (13.672)
-o-Xylene (14.054)
-Styrene (14.029)+
-Isopropylbenzene (14.672)
-P-Bromofluorobenzene (15.030)
-cis-1,4-Dichloro-2-Butene (15.151)+
-n-Propylbenzene (15.209)
-1,1,2,2-Tetrachloroethane (15.309)
-2-Chlorotoluene (15.402)
-trans-1,4-Dichloro-2-Bute (15.537)
-4-Chlorotoluene (15.616)
1,3,5-Trimethylbenzene (15.473)+
-1,2,4-Trimethylbenzene (15.982)
-sec-Butylbenzene (16.088)
-p-Isopropyltoluene (16.266)
-1,3-Dichlorobenzene (16.345)
-1,4-Dichlorobenzene-D4 (16.452)+
-1,4-Dichlorobenzene (16.495)
-1,2-Dichlorobenzene (16.974)
-1,2-Dibromo-3-Chloropropa (17.946)
1,3,5-Trichlorobenzene (17.982)
-Hexachlorobutadiene (18.748)
1,2,4-Trichlorobenzene (18.754)
-Naphthalene (19.147)
-1,2,3-Trichlorobenzene (19.376)

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
SDG: SL4180
Lab ID : WG228825-4
Analytical Date: 05/21/18 19:35
Lab File ID : W4080.D
Instrument ID: GCMS-W
Initial Calibration Date(s): 05/21/18 08:39 05/21/18 11:44
Column ID:

	Compound	$\overline{RRF}$/Amount	RF50	CCAL RRF50	Min	%D/ %Drift	Max %D/ %Drift	Curve Type
1	Dichlorodifluoromethane	0.79287	0.66270	0.66270	0.010	-16.41727	20.00000	Averaged
2	Chloromethane	0.99616	0.87112	0.87112	0.100	-12.55228	20.00000	Averaged
3	Vinyl chloride	0.91057	0.81962	0.81962	0.010	-9.98832	20.00000	Averaged
4	Bromomethane	0.45871	0.43333	0.43333	0.010	-5.53373	20.00000	Averaged
5	Chloroethane	50.00000	54.61028	0.51592	0.010	9.22056	20.00000	Linear
6	Trichlorofluoromethane	1.17352	1.03930	1.03930	0.010	-11.43725	20.00000	Averaged
9	1,1-Dichloroethene	0.60029	0.52167	0.52167	0.010	-13.09673	20.00000	Averaged
10	Carbon Disulfide	1.95418	1.79751	1.79751	0.010	-8.01688	20.00000	Averaged
11	Freon-113	0.43003	0.38330	0.38330	0.010	-10.86777	20.00000	Averaged
14	Methylene Chloride	0.76563	0.63954	0.63954	0.010	-16.46948	20.00000	Averaged
15	Acetone	0.27657	0.25830	0.25830	0.010	-6.60616	20.00000	Averaged
17	trans-1,2-Dichloroethene	0.64305	0.58296	0.58296	0.010	-9.34489	20.00000	Averaged
19	Methyl tert-butyl ether	1.73077	1.48648	1.48648	0.010	-14.11450	20.00000	Averaged
25	1,1-Dichloroethane	1.19279	1.05025	1.05025	0.100	-11.95003	20.00000	Averaged
29	cis-1,2-Dichloroethene	0.71515	0.59818	0.59818	0.010	-16.35553	20.00000	Averaged
32	2,2-Dichloropropane	0.61775	0.56097	0.56097	0.010	-9.19162	20.00000	Averaged
33	Bromochloromethane	0.32388	0.28867	0.28867	0.010	-10.87110	20.00000	Averaged
34	Chloroform	1.15708	1.01706	1.01706	0.010	-12.10163	20.00000	Averaged
35	Carbon Tetrachloride	0.41556	0.38827	0.38827	0.010	-6.56681	20.00000	Averaged
38	1,1,1-Trichloroethane	0.92612	0.82739	0.82739	0.010	-10.66083	20.00000	Averaged
39	1,1-Dichloropropene	0.57680	0.53201	0.53201	0.010	-7.76400	20.00000	Averaged
40	2-Butanone	0.42549	0.38029	0.38029	0.010	-10.62150	20.00000	Averaged
41	Benzene	1.76867	1.57422	1.57422	0.010	-10.99410	20.00000	Averaged
47	1,2-Dichloroethane	0.61079	0.53330	0.53330	0.010	-12.68745	20.00000	Averaged
48	Trichloroethene	0.43120	0.39544	0.39544	0.010	-8.29458	20.00000	Averaged
50	Dibromomethane	0.27138	0.23797	0.23797	0.010	-12.31272	20.00000	Averaged
51	1,2-Dichloropropane	0.45103	0.40324	0.40324	0.010	-10.59498	20.00000	Averaged
52	Bromodichloromethane	0.56284	0.49943	0.49943	0.010	-11.26678	20.00000	Averaged
53	cis-1,3-dichloropropene	0.69004	0.63144	0.63144	0.010	-8.49260	20.00000	Averaged
57	Toluene	1.08865	0.98692	0.98692	0.010	-9.34464	20.00000	Averaged
58	4-methyl-2-pentanone	0.57060	0.51662	0.51662	0.010	-9.46068	20.00000	Averaged
59	Tetrachloroethene	0.34627	0.31110	0.31110	0.010	-10.15506	20.00000	Averaged
60	trans-1,3-Dichloropropene	0.56171	0.50177	0.50177	0.010	-10.67000	20.00000	Averaged
61	1,1,2-Trichloroethane	0.34570	0.30644	0.30644	0.010	-11.35706	20.00000	Averaged
62	Dibromochloromethane	0.43772	0.40198	0.40198	0.010	-8.16637	20.00000	Averaged
63	1,3-Dichloropropane	0.75463	0.68469	0.68469	0.010	-9.26796	20.00000	Averaged
64	1,2-Dibromoethane	0.40654	0.35534	0.35534	0.010	-12.59443	20.00000	Averaged
65	2-Hexanone	0.41553	0.38411	0.38411	0.010	-7.56045	20.00000	Averaged
67	Chlorobenzene	1.25523	1.16145	1.16145	0.300	-7.47166	20.00000	Averaged
68	Ethylbenzene	0.69189	0.64908	0.64908	0.010	-6.18759	20.00000	Averaged
69	1,1,1,2-Tetrachloroethane	0.40740	0.37397	0.37397	0.010	-8.20537	20.00000	Averaged

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant **SDG:** SL4180
Lab ID : WG228825-4 **Analytical Date:** 05/21/18 19:35
Lab File ID : W4080.D **Instrument ID:** GCMS-W
Initial Calibration Date(s): 05/21/18 08:39 05/21/18 11:44 **Column ID:**

	Compound	$\overline{RRF}$/Amount	RF50	CCAL RRF50	Min	%D/ %Drift	Max %D/ %Drift	Curve Type
71	m+p-Xylenes	0.85040	0.81594	0.81594	0.010	-4.05291	20.00000	Averaged
72	o-Xylene	0.84977	0.80113	0.80113	0.010	-5.72436	20.00000	Averaged
73	Styrene	1.42597	1.34463	1.34463	0.010	-5.70417	20.00000	Averaged
74	Bromoform	0.32916	0.29810	0.29810	0.100	-9.43499	20.00000	Averaged
75	Isopropylbenzene	3.24991	3.16250	3.16250	0.010	-2.68968	20.00000	Averaged
79	Bromobenzene	0.91499	0.86168	0.86168	0.010	-5.82635	20.00000	Averaged
80	N-Propylbenzene	4.19966	4.15107	4.15107	0.010	-1.15706	20.00000	Averaged
81	1,1,2,2-Tetrachloroethane	1.04804	0.94605	0.94605	0.300	-9.73150	20.00000	Averaged
82	1,3,5-Trimethylbenzene	2.98636	2.92791	2.92791	0.010	-1.95728	20.00000	Averaged
83	2-Chlorotoluene	2.55576	2.46964	2.46964	0.010	-3.36952	20.00000	Averaged
84	1,2,3-Trichloropropane	0.90956	0.82415	0.82415	0.010	-9.38939	20.00000	Averaged
85	4-Chlorotoluene	2.67392	2.58551	2.58551	0.010	-3.30637	20.00000	Averaged
86	tert-Butylbenzene	3.02732	2.94508	2.94508	0.010	-2.71645	20.00000	Averaged
88	1,2,4-Trimethylbenzene	3.14888	3.08889	3.08889	0.010	-1.90508	20.00000	Averaged
89	P-Isopropyltoluene	3.31297	3.35915	3.35915	0.010	1.39393	20.00000	Averaged
90	1,3-Dichlorobenzene	1.81697	1.73693	1.73693	0.010	-4.40501	20.00000	Averaged
92	1,4-Dichlorobenzene	1.85909	1.76347	1.76347	0.010	-5.14346	20.00000	Averaged
93	N-Butylbenzene	3.10535	3.23264	3.23264	0.010	4.09908	20.00000	Averaged
94	sec-Butylbenzene	3.94694	3.89583	3.89583	0.010	-1.29488	20.00000	Averaged
95	1,2-Dichlorobenzene	1.82350	1.69886	1.69886	0.010	-6.83493	20.00000	Averaged
96	1,2-Dibromo-3-Chloropropane	0.23653	0.21908	0.21908	0.010	-7.37507	20.00000	Averaged
98	Hexachlorobutadiene	0.56237	0.53837	0.53837	0.010	-4.26741	20.00000	Averaged
99	1,2,4-Trichlorobenzene	1.06437	1.05161	1.05161	0.010	-1.19905	20.00000	Averaged
101	Naphthalene	2.93775	2.70732	2.70732	0.010	-7.84380	20.00000	Averaged
102	1,2,3-Trichlorobenzene	0.98861	0.91601	0.91601	0.010	-7.34375	20.00000	Averaged
37	Dibromofluoromethane	0.45358	0.45533	0.45533	0.010	0.38575	20.00000	Averaged
45	1,2-Dichloroethane-D4	0.59572	0.59504	0.59504	0.010	-0.11517	20.00000	Averaged
55	Toluene-D8	1.25503	1.24324	1.24324	0.010	-0.93997	20.00000	Averaged
76	P-Bromofluorobenzene	0.53023	0.53038	0.53038	0.010	0.02861	20.00000	Averaged

600 Technology Way
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sales@katahdinlab.com

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
Lab ID : WG228825-4
Lab File ID : W4080.D
Initial Calibration Date(s): 05/21/18 08:39 05/21/18 11:44

SDG: SL4180
Analytical Date: 05/21/18 19:35
Instrument ID: GCMS-W
Column ID:

*** = Compound out of QC criteria**

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
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Data File: \\target_server\gg\chem\gcms-w.i\W052118B.b\W4080.D
Report Date: 25-May-2018 12:21

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W052118B.b\W4080.D
Lab Smp Id: WG228825-4
Inj Date : 21-MAY-2018 19:35 MS Autotune Date: 10-APR-2016 11:00
Operator : JSS Inst ID: gcms-w.i
Smp Info : WG228825-4,SL4180
Misc Info : WG228825,WG228751-4,SL4180-1
Comment : SW846 5035
Method : \\target_server\gg\chem\gcms-w.i\W052118B.b\W8SDI(13)D.m
Meth Date : 22-May-2018 08:59 jsampson Quant Type: ISTD
Cal Date : 21-MAY-2018 11:44 Cal File: W4068.D
Als bottle: 2 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: VOA-WS

Concentration Formula: Amt * DF * (100/(100-M))*(Vt/Ws) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
M	0.00000	% Moisture
Vt	5.000	Volume of DI Water (mL)
Ws	5.000	Weight of Sample (g)
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/kg)	ON-COL (ug/kg)	REVIEW CODE
1	Dichlorodifluoromethane	85	1.963	1.966	(0.244)	264339	50.0000	41.8	
2	Chloromethane	50	2.177	2.187	(0.270)	347472	50.0000	43.7	
3	Vinyl chloride	62	2.256	2.259	(0.280)	326929	50.0000	45.0	
4	Bromomethane	94	2.606	2.609	(0.323)	172845	50.0000	47.2	
5	Chloroethane	64	2.735	2.738	(0.339)	205790	50.0000	54.6	
6	Trichlorofluoromethane	101	2.885	2.888	(0.358)	414556	50.0000	44.3	
7	Diethyl Ether	59	3.221	3.224	(0.400)	214120	50.0000	44.1	
8	Tertiary-butyl alcohol	59	4.708	4.710	(0.584)	119860	250.000	193	
9	1,1-Dichloroethene	96	3.457	3.459	(0.429)	208084	50.0000	43.4	
10	Carbon Disulfide	76	3.500	3.502	(0.434)	716990	50.0000	46.0	
11	Freon-113	151	3.500	3.502	(0.434)	152889	50.0000	44.6	
12	Iodomethane	142	3.636	3.638	(0.451)	201136	50.0000	56.4	
13	Acrolein	56	3.879	3.881	(0.481)	222116	250.000	218	
14	Methylene Chloride	84	4.186	4.189	(0.519)	255098	50.0000	41.8	
15	Acetone	43	4.272	4.274	(0.530)	515155	250.000	233	
16	Isobutyl Alcohol	43	8.339	8.342	(1.035)	289263	1000.00	852	
17	trans-1,2-Dichloroethene	96	4.408	4.410	(0.547)	232530	50.0000	45.3	
18	Allyl Chloride	41	4.043	4.053	(0.502)	373777	50.0000	45.8	
19	Methyl tert-butyl ether	73	4.565	4.567	(0.566)	592927	50.0000	42.9	
20	Acetonitrile	39	4.965	4.968	(0.616)	79635	500.000	411	
21	Di-isopropyl ether	45	5.151	5.161	(0.639)	792881	50.0000	44.7	

Data File: \\target_server\gg\chem\gcms-w.i\W052118B.b\W4080.D
Report Date: 25-May-2018 12:21

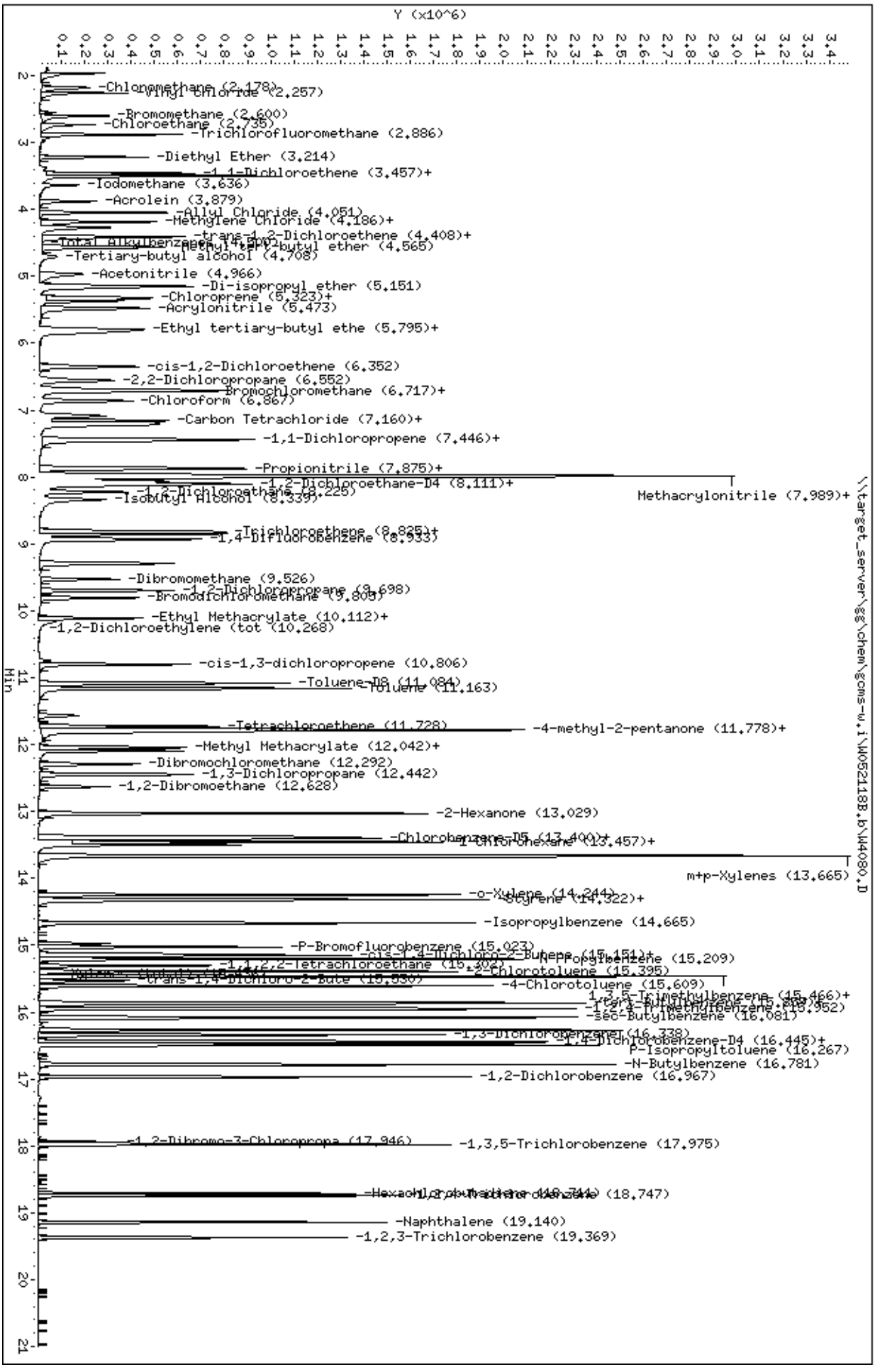
			QUANT SIG					AMOUNTS		
		Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ug/kg)	ON-COL (ug/kg)	REVIEW CODE
	22	Chloroprene	53	5.322	5.332	(0.660)	361900	50.0000	46.4	
	23	Propionitrile	54	7.960	7.970	(0.988)	431128	500.000	433	
	24	Methacrylonitrile	41	7.989	7.998	(0.991)	1787968	500.000	444	
	25	1,1-Dichloroethane	63	5.365	5.375	(0.666)	418923	50.0000	44.0	
	26	Acrylonitrile	52	5.473	5.482	(0.679)	416247	250.000	217	
	27	Ethyl tertiary-butyl ether	59	5.794	5.804	(0.719)	502917	50.0000	43.1	
	28	Vinyl Acetate	43	5.837	5.847	(0.654)	502035	50.0000	44.4	
	29	cis-1,2-Dichloroethene	96	6.352	6.362	(0.788)	238602	50.0000	41.8	
M	30	1,2-Dichloroethylene (total)	96				471132	100.000	87.1	
	31	Methyl Methacrylate	41	12.092	12.094	(1.354)	249160	50.0000	46.9	
	32	2,2-Dichloropropane	77	6.552	6.562	(0.813)	223758	50.0000	45.4	
	33	Bromochloromethane	128	6.716	6.726	(0.833)	115145	50.0000	44.6	
	34	Chloroform	83	6.866	6.869	(0.852)	405683	50.0000	43.9	
	35	Carbon Tetrachloride	117	7.088	7.091	(0.794)	238776	50.0000	46.7	
	36	Tetrahydrofuran	42	7.152	7.162	(0.887)	471744	250.000	215	
$	37	Dibromofluoromethane	113	7.188	7.198	(0.892)	181622	50.0000	50.2	
	38	1,1,1-Trichloroethane	97	7.217	7.226	(0.895)	330029	50.0000	44.7	
	39	1,1-Dichloropropene	75	7.438	7.448	(0.833)	327172	50.0000	46.1	
	40	2-Butanone	43	7.453	7.455	(0.925)	758458	250.000	223	
	41	Benzene	78	7.874	7.877	(0.882)	968097	50.0000	44.5	
*	42	Pentafluorobenzene	168	8.060	8.070	(1.000)	398879	50.0000		
	43	Cyclohexane	56	6.702	6.705	(0.832)	389006	50.0000	43.4	
	44	Ethyl Methacrylate	69	10.112	10.114	(1.132)	180229	50.0000	46.4	
$	45	1,2-Dichloroethane-D4	65	8.110	8.119	(1.006)	237348	50.0000	49.9	
	46	Tertiary-amyl methyl ether	73	8.110	8.113	(1.006)	472711	50.0000	42.7	
	47	1,2-Dichloroethane	62	8.225	8.234	(0.921)	327963	50.0000	43.6	
	48	Trichloroethene	95	8.854	8.856	(0.991)	243182	50.0000	45.8	
*	49	1,4-Difluorobenzene	114	8.932	8.942	(1.000)	614970	50.0000		
	50	Dibromomethane	93	9.526	9.528	(1.066)	146344	50.0000	43.8	
	51	1,2-Dichloropropane	63	9.697	9.707	(1.086)	247981	50.0000	44.7	
	52	Bromodichloromethane	83	9.804	9.814	(1.098)	307132	50.0000	44.4	
	53	cis-1,3-dichloropropene	75	10.805	10.808	(1.210)	388314	50.0000	45.8	
	54	1,4-Dioxane	88	10.155	10.164	(1.137)	76642	1000.00	878	
$	55	Toluene-D8	98	11.084	11.094	(1.241)	764553	50.0000	49.5	
	57	Toluene	92	11.162	11.165	(1.250)	606926	50.0000	45.3	
	58	4-methyl-2-pentanone	43	11.777	11.787	(1.318)	1588530	250.000	226	
	59	Tetrachloroethene	164	11.727	11.730	(0.877)	188372	50.0000	44.9	
	60	trans-1,3-Dichloropropene	75	11.813	11.815	(1.322)	308576	50.0000	44.7	
	61	1,1,2-Trichloroethane	83	12.042	12.051	(1.348)	188453	50.0000	44.3	
	62	Dibromochloromethane	129	12.292	12.294	(0.919)	243396	50.0000	45.9	
	63	1,3-Dichloropropane	76	12.449	12.452	(0.931)	414580	50.0000	45.4	
	64	1,2-Dibromoethane	107	12.628	12.638	(1.414)	218525	50.0000	43.7	
	65	2-Hexanone	43	13.028	13.031	(0.974)	1162903	250.000	231	
*	66	Chlorobenzene-D5	117	13.378	13.381	(1.000)	605498	50.0000		
	67	Chlorobenzene	112	13.400	13.409	(1.002)	703253	50.0000	46.3	
	152	1-Chlorohexane	91	13.457	13.460	(1.670)	1226140	50.0000	(a)	
	68	Ethylbenzene	106	13.457	13.460	(1.006)	393017	50.0000	46.9	
	69	1,1,1,2-Tetrachloroethane	131	13.500	13.502	(1.009)	226438	50.0000	45.9	
M	70	Xylenes (total)	106				1473178	150.000	143	
	71	m+p-Xylenes	106	13.664	13.674	(1.021)	988097	100.000	95.9	
	72	o-Xylene	106	14.243	14.253	(1.065)	485081	50.0000	47.1	
	73	Styrene	104	14.322	14.324	(1.071)	814171	50.0000	47.1	
	74	Bromoform	173	14.336	14.339	(1.072)	180500	50.0000	45.3	
	75	Isopropylbenzene	105	14.665	14.675	(0.892)	1193542	50.0000	48.6	

Data File: \\target_server\gg\chem\gcms-w.i\W052118B.b\W4080.D
Report Date: 25-May-2018 12:21

							AMOUNTS		
Compounds		QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ug/kg)	ON-COL (ug/kg)	REVIEW CODE
$	76 P-Bromofluorobenzene	95	15.022	15.032	(1.682)	326166	50.0000	50.0	
	77 cis-1,4-Dichloro-2-Butene	53	15.130	15.132	(0.920)	101177	50.0000	47.8	
	78 trans-1,4-Dichloro-2-Butene	53	15.530	15.532	(0.945)	81296	50.0000	44.7	
	79 Bromobenzene	156	15.151	15.154	(0.922)	325201	50.0000	47.1	
	80 N-Propylbenzene	91	15.208	15.211	(0.925)	1566633	50.0000	49.4	
	81 1,1,2,2-Tetrachloroethane	83	15.301	15.311	(0.931)	357045	50.0000	45.1	
	82 1,3,5-Trimethylbenzene	105	15.466	15.468	(0.941)	1105008	50.0000	49.0	
	83 2-Chlorotoluene	91	15.394	15.397	(0.937)	932056	50.0000	48.3	
	84 1,2,3-Trichloropropane	75	15.466	15.475	(0.941)	311040	50.0000	45.3	
	85 4-Chlorotoluene	91	15.608	15.611	(0.950)	975786	50.0000	48.3	
	86 tert-Butylbenzene	119	15.859	15.868	(0.965)	1111489	50.0000	48.6	
	87 Pentachloroethane	117	15.880	15.883	(0.966)	204281	50.0000	47.3	
	88 1,2,4-Trimethylbenzene	105	15.952	15.954	(0.970)	1165763	50.0000	49.0	
	89 P-Isopropyltoluene	119	16.266	16.268	(0.990)	1267759	50.0000	50.7	
	90 1,3-Dichlorobenzene	146	16.338	16.347	(0.994)	655526	50.0000	47.8	
*	91 1,4-Dichlorobenzene-D4	152	16.438	16.440	(1.000)	377405	50.0000		
	92 1,4-Dichlorobenzene	146	16.452	16.454	(1.001)	665541	50.0000	47.4	
	93 N-Butylbenzene	91	16.781	16.783	(1.021)	1220015	50.0000	52.0	
	94 sec-Butylbenzene	105	16.080	16.082	(0.978)	1470305	50.0000	49.4	
	95 1,2-Dichlorobenzene	146	16.967	16.969	(1.032)	641160	50.0000	46.6	
	96 1,2-Dibromo-3-Chloropropane	75	17.939	17.941	(1.091)	82683	50.0000	46.3	
	97 1,3,5-Trichlorobenzene	180	17.974	17.977	(2.230)	463661	50.0000	47.8	
	98 Hexachlorobutadiene	225	18.711	18.713	(1.138)	203183	50.0000	47.9	
	99 1,2,4-Trichlorobenzene	180	18.746	18.749	(1.140)	396881	50.0000	49.4	
	100 1,2,3-Trimethylbenzene	105	16.488	16.489	(2.046)	1163229	50.0000	46.6	
	101 Naphthalene	128	19.140	19.142	(1.164)	1021755	50.0000	46.1	
	102 1,2,3-Trichlorobenzene	180	19.368	19.371	(1.178)	345707	50.0000	46.3	
	103 Methyl Acetate	43	4.436	4.439	(0.550)	242905	50.0000	46.8	
	104 Methylcyclohexane	83	8.818	8.828	(1.094)	397601	50.0000	44.8	
M	153 Total Alkylbenzenes	100				8906972	50.0000	348	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).


Data File: \\target_server\gg\chem\gcms-w.i\W052118B.b\W4080.D
Date : 21-MAY-2018 19:35
Client ID:
Sample Info: WG228825-4,SL4180
Column phase: RTX-VMS
Instrument: gcms-w.i
Operator: JSS
Column diameter: 0.18
\\target_server\gg\chem\gcms-w.i\W052118B.b\W4080.D
Y (x10^6)
Min
-Chloromethane (2.178)
-Vinyl Chloride (2.257)
-Bromomethane (2.600)
-Chloroethane (2.735)
-Trichlorofluoromethane (2.886)
-Diethyl Ether (3.214)
-1,1-Dichloroethene (3.457)+
-Iodomethane (3.636)
-Acrolein (3.879)
-Allyl Chloride (4.051)
-Methylene Chloride (4.186)+
-trans-1,2-Dichloroethene (4.408)+
-Total Alkylbenzenes (4.472)
-Methyl tert-butyl ether (4.565)
-Tertiary-butyl alcohol (4.708)
-Acetonitrile (4.966)
-Di-isopropyl ether (5.151)
-Chloroprene (5.323)+
-Acrylonitrile (5.473)
-Ethyl tertiary-butyl ethe (5.795)+
-cis-1,2-Dichloroethene (6.352)
-2,2-Dichloropropane (6.552)
-Bromochloromethane (6.717)+
-Chloroform (6.867)
-Carbon Tetrachloride (7.160)+
-1,1-Dichloropropene (7.446)+
-Propionitrile (7.875)+
-1,2-Dichloroethane-D4 (8.111)+
Methacrylonitrile (7.989)+
-1,2-Dichloroethane (8.225)
-Isobutyl Alcohol (8.339)
-Trichloroethene (8.825)+
-1,4-Difluorobenzene (8.933)
-Dibromomethane (9.526)
-1,2-Dichloropropane (9.698)
-Bromodichloromethane (9.809)
-Ethyl Methacrylate (10.112)+
-1,2-Dichloroethylene (tot (10.268)
-cis-1,3-dichloropropene (10.806)
-Toluene-D8 (11.084)
-Toluene (11.163)
-Tetrachloroethene (11.728)
-4-methyl-2-pentanone (11.778)+
-Methyl Methacrylate (12.042)+
-Dibromochloromethane (12.292)
-1,3-Dichloropropane (12.442)
-1,2-Dibromoethane (12.628)
-2-Hexanone (13.029)
-Chlorobenzene-D5 (13.400)+
1-Chlorohexane (13.457)+
m+p-Xylenes (13.665)
-o-Xylene (14.244)
-Styrene (14.322)+
-Isopropylbenzene (14.665)
-P-Bromofluorobenzene (15.023)
-cis-1,4-Dichloro-2-Butene (15.151)+
-n-Propylbenzene (15.209)
-1,1,2,2-Tetrachloroethane (15.302)
-2-Chlorotoluene (15.395)
-trans-1,4-Dichloro-2-Bute (15.530)
-4-Chlorotoluene (15.609)
-1,3,5-Trimethylbenzene (15.466)+
-tert-Butylbenzene (15.802)
-1,2,4-Trimethylbenzene (15.952)
-sec-Butylbenzene (16.081)
-1,3-Dichlorobenzene (16.338)
-1,4-Dichlorobenzene-D4 (16.445)+
P-Isopropyltoluene (16.267)
-N-Butylbenzene (16.781)
-1,2-Dichlorobenzene (16.967)
-1,2-Dibromo-3-Chloroprope (17.946)
-1,3,5-Trichlorobenzene (17.975)
-Hexachlorobutadiene (18.741)
-1,2,4-Trichlorobenzene (18.747)
-Naphthalene (19.140)
-1,2,3-Trichlorobenzene (19.369)

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
SDG: SL4180
Lab ID : WG228825-5
Analytical Date: 05/22/18 07:01
Lab File ID : W4098.D
Instrument ID: GCMS-W
Initial Calibration Date(s): 05/21/18 08:39 05/21/18 11:44
Column ID:

	Compound	$\overline{RRF}$/Amount	RF50	CCAL RRF50	Min	%D/ %Drift	Max %D/ %Drift	Curve Type
1	Dichlorodifluoromethane	0.79287	0.70067	0.70067	0.010	-11.62849	20.00000	Averaged
2	Chloromethane	0.99616	0.95270	0.95270	0.100	-4.36289	20.00000	Averaged
3	Vinyl chloride	0.91057	0.86283	0.86283	0.010	-5.24271	20.00000	Averaged
4	Bromomethane	0.45871	0.46954	0.46954	0.010	2.36052	20.00000	Averaged
5	Chloroethane	50.00000	59.49736	0.55831	0.010	18.99471	20.00000	Linear
6	Trichlorofluoromethane	1.17352	1.21572	1.21572	0.010	3.59556	20.00000	Averaged
9	1,1-Dichloroethene	0.60029	0.56880	0.56880	0.010	-5.24569	20.00000	Averaged
10	Carbon Disulfide	1.95418	1.91819	1.91819	0.010	-1.84148	20.00000	Averaged
11	Freon-113	0.43003	0.39762	0.39762	0.010	-7.53639	20.00000	Averaged
14	Methylene Chloride	0.76563	0.78094	0.78094	0.010	1.99934	20.00000	Averaged
15	Acetone	0.27657	0.29025	0.29025	0.010	4.94593	20.00000	Averaged
17	trans-1,2-Dichloroethene	0.64305	0.64364	0.64364	0.010	0.09178	20.00000	Averaged
19	Methyl tert-butyl ether	1.73077	1.76448	1.76448	0.010	1.94766	20.00000	Averaged
25	1,1-Dichloroethane	1.19279	1.19387	1.19387	0.100	0.09025	20.00000	Averaged
29	cis-1,2-Dichloroethene	0.71515	0.71706	0.71706	0.010	0.26684	20.00000	Averaged
32	2,2-Dichloropropane	0.61775	0.53927	0.53927	0.010	-12.70354	20.00000	Averaged
33	Bromochloromethane	0.32388	0.33630	0.33630	0.010	3.83307	20.00000	Averaged
34	Chloroform	1.15708	1.16584	1.16584	0.010	0.75690	20.00000	Averaged
35	Carbon Tetrachloride	0.41556	0.39279	0.39279	0.010	-5.48024	20.00000	Averaged
38	1,1,1-Trichloroethane	0.92612	0.91012	0.91012	0.010	-1.72815	20.00000	Averaged
39	1,1-Dichloropropene	0.57680	0.52903	0.52903	0.010	-8.28179	20.00000	Averaged
40	2-Butanone	0.42549	0.46746	0.46746	0.010	9.86359	20.00000	Averaged
41	Benzene	1.76867	1.66336	1.66336	0.010	-5.95384	20.00000	Averaged
47	1,2-Dichloroethane	0.61079	0.62313	0.62313	0.010	2.02012	20.00000	Averaged
48	Trichloroethene	0.43120	0.40857	0.40857	0.010	-5.24997	20.00000	Averaged
50	Dibromomethane	0.27138	0.26827	0.26827	0.010	-1.14641	20.00000	Averaged
51	1,2-Dichloropropane	0.45103	0.45432	0.45432	0.010	0.73055	20.00000	Averaged
52	Bromodichloromethane	0.56284	0.56664	0.56664	0.010	0.67513	20.00000	Averaged
53	cis-1,3-dichloropropene	0.69004	0.66827	0.66827	0.010	-3.15401	20.00000	Averaged
57	Toluene	1.08865	1.05334	1.05334	0.010	-3.24325	20.00000	Averaged
58	4-methyl-2-pentanone	0.57060	0.62402	0.62402	0.010	9.36083	20.00000	Averaged
59	Tetrachloroethene	0.34627	0.33953	0.33953	0.010	-1.94473	20.00000	Averaged
60	trans-1,3-Dichloropropene	0.56171	0.55626	0.55626	0.010	-0.96984	20.00000	Averaged
61	1,1,2-Trichloroethane	0.34570	0.35253	0.35253	0.010	1.97366	20.00000	Averaged
62	Dibromochloromethane	0.43772	0.48507	0.48507	0.010	10.81596	20.00000	Averaged
63	1,3-Dichloropropane	0.75463	0.82475	0.82475	0.010	9.29222	20.00000	Averaged
64	1,2-Dibromoethane	0.40654	0.41623	0.41623	0.010	2.38354	20.00000	Averaged
65	2-Hexanone	0.41553	0.47374	0.47374	0.010	14.00804	20.00000	Averaged
67	Chlorobenzene	1.25523	1.28711	1.28711	0.300	2.53951	20.00000	Averaged
68	Ethylbenzene	0.69189	0.67612	0.67612	0.010	-2.27918	20.00000	Averaged
69	1,1,1,2-Tetrachloroethane	0.40740	0.42750	0.42750	0.010	4.93507	20.00000	Averaged

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
SDG: SL4180
Lab ID : WG228825-5
Analytical Date: 05/22/18 07:01
Lab File ID : W4098.D
Instrument ID: GCMS-W
Initial Calibration Date(s): 05/21/18 08:39 05/21/18 11:44
Column ID:

	Compound	RRF/Amount	RF50	CCAL RRF50	Min	%D/ %Drift	Max %D/ %Drift	Curve Type
71	m+p-Xylenes	0.85040	0.85888	0.85888	0.010	0.99734	20.00000	Averaged
72	o-Xylene	0.84977	0.86165	0.86165	0.010	1.39767	20.00000	Averaged
73	Styrene	1.42597	1.46465	1.46465	0.010	2.71238	20.00000	Averaged
74	Bromoform	0.32916	0.36250	0.36250	0.100	10.12896	20.00000	Averaged
75	Isopropylbenzene	3.24991	3.21540	3.21540	0.010	-1.06180	20.00000	Averaged
79	Bromobenzene	0.91499	0.92658	0.92658	0.010	1.26669	20.00000	Averaged
80	N-Propylbenzene	4.19966	4.11475	4.11475	0.010	-2.02170	20.00000	Averaged
81	1,1,2,2-Tetrachloroethane	1.04804	1.16404	1.16404	0.300	11.06836	20.00000	Averaged
82	1,3,5-Trimethylbenzene	2.98636	2.95163	2.95163	0.010	-1.16305	20.00000	Averaged
83	2-Chlorotoluene	2.55576	2.53421	2.53421	0.010	-0.84328	20.00000	Averaged
84	1,2,3-Trichloropropane	0.90956	0.99228	0.99228	0.010	9.09526	20.00000	Averaged
85	4-Chlorotoluene	2.67392	2.54160	2.54160	0.010	-4.94876	20.00000	Averaged
86	tert-Butylbenzene	3.02732	3.04645	3.04645	0.010	0.63206	20.00000	Averaged
88	1,2,4-Trimethylbenzene	3.14888	3.11878	3.11878	0.010	-0.95604	20.00000	Averaged
89	P-Isopropyltoluene	3.31297	3.21637	3.21637	0.010	-2.91570	20.00000	Averaged
90	1,3-Dichlorobenzene	1.81697	1.74741	1.74741	0.010	-3.82831	20.00000	Averaged
92	1,4-Dichlorobenzene	1.85909	1.76706	1.76706	0.010	-4.95025	20.00000	Averaged
93	N-Butylbenzene	3.10535	2.92829	2.92829	0.010	-5.70172	20.00000	Averaged
94	sec-Butylbenzene	3.94694	3.84388	3.84388	0.010	-2.61114	20.00000	Averaged
95	1,2-Dichlorobenzene	1.82350	1.83363	1.83363	0.010	0.55550	20.00000	Averaged
96	1,2-Dibromo-3-Chloropropane	0.23653	0.27285	0.27285	0.010	15.35549	20.00000	Averaged
98	Hexachlorobutadiene	0.56237	0.51240	0.51240	0.010	-8.88474	20.00000	Averaged
99	1,2,4-Trichlorobenzene	1.06437	0.95151	0.95151	0.010	-10.60327	20.00000	Averaged
101	Naphthalene	2.93775	3.21165	3.21165	0.010	9.32347	20.00000	Averaged
102	1,2,3-Trichlorobenzene	0.98861	0.98050	0.98050	0.010	-0.82059	20.00000	Averaged
37	Dibromofluoromethane	0.45358	0.46291	0.46291	0.010	2.05668	20.00000	Averaged
45	1,2-Dichloroethane-D4	0.59572	0.62232	0.62232	0.010	4.46375	20.00000	Averaged
55	Toluene-D8	1.25503	1.22592	1.22592	0.010	-2.31969	20.00000	Averaged
76	P-Bromofluorobenzene	0.53023	0.49946	0.49946	0.010	-5.80158	20.00000	Averaged

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Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
Lab ID : WG228825-5
Lab File ID : W4098.D
Initial Calibration Date(s): 05/21/18 08:39 05/21/18 11:44

SDG: SL4180
Analytical Date: 05/22/18 07:01
Instrument ID: GCMS-W
Column ID:

*** = Compound out of QC criteria**

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P.O. Box 540, Scarborough, ME 04070
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sales@katahdinlab.com

Data File: \\target_server\gg\chem\gcms-w.i\W052118B.b\W4098.D
Report Date: 25-May-2018 13:21

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W052118B.b\W4098.D
Lab Smp Id: WG228825-5
Inj Date : 22-MAY-2018 07:01 MS Autotune Date: 10-APR-2016 11:00
Operator : JSS Inst ID: gcms-w.i
Smp Info : WG228825-5,SL4180
Misc Info : WG228825,WG228751-4,SL4180-1
Comment : SW846 5035
Method : \\target_server\gg\chem\gcms-w.i\W052118B.b\W8SDI(13)D.m
Meth Date : 25-May-2018 13:00 gcms-w.i Quant Type: ISTD
Cal Date : 21-MAY-2018 11:44 Cal File: W4068.D
Als bottle: 20 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12

Concentration Formula: Amt * DF * (100/(100-M))*(Vt/Ws) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
M	0.00000	% Moisture
Vt	5.000	Volume of DI Water (mL)
Ws	5.000	Weight of Sample (g)
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/kg)	AMOUNTS ON-COL (ug/kg)	REVIEW CODE
1	Dichlorodifluoromethane	85	1.969	1.966	(0.244)	240797	50.0000	44.2	
2	Chloromethane	50	2.198	2.187	(0.272)	327410	50.0000	47.8	
3	Vinyl chloride	62	2.262	2.259	(0.280)	296525	50.0000	47.4	
4	Bromomethane	94	2.605	2.609	(0.323)	161364	50.0000	51.2	
5	Chloroethane	64	2.741	2.738	(0.340)	191871	50.0000	59.5	
6	Trichlorofluoromethane	101	2.891	2.888	(0.358)	417799	50.0000	51.8	
7	Diethyl Ether	59	3.227	3.224	(0.400)	216939	50.0000	51.8	
8	Tertiary-butyl alcohol	59	4.721	4.710	(0.585)	121488	250.000	225	
9	1,1-Dichloroethene	96	3.463	3.459	(0.429)	195477	50.0000	47.4	
10	Carbon Disulfide	76	3.506	3.502	(0.434)	659215	50.0000	49.1	
11	Freon-113	151	3.506	3.502	(0.434)	136649	50.0000	46.2	
12	Iodomethane	142	3.649	3.638	(0.452)	178365	50.0000	58.0	
13	Acrolein	56	3.885	3.881	(0.481)	212721	250.000	243	
14	Methylene Chloride	84	4.199	4.189	(0.520)	268382	50.0000	51.0	
15	Acetone	43	4.278	4.274	(0.530)	498746	250.000	262	
16	Isobutyl Alcohol	43	8.345	8.342	(1.034)	306363	1000.00	1020	
17	trans-1,2-Dichloroethene	96	4.414	4.410	(0.547)	221197	50.0000	50.0	
18	Allyl Chloride	41	4.056	4.053	(0.502)	324300	50.0000	46.2	
19	Methyl tert-butyl ether	73	4.578	4.567	(0.567)	606391	50.0000	51.0	
20	Acetonitrile	39	4.978	4.968	(0.617)	82378	500.000	493	
21	Di-isopropyl ether	45	5.164	5.161	(0.640)	762207	50.0000	49.9	
22	Chloroprene	53	5.336	5.332	(0.661)	307365	50.0000	45.8	

Data File: \\target_server\gg\chem\gcms-w.i\W052118B.b\W4098.D
Report Date: 25-May-2018 13:21

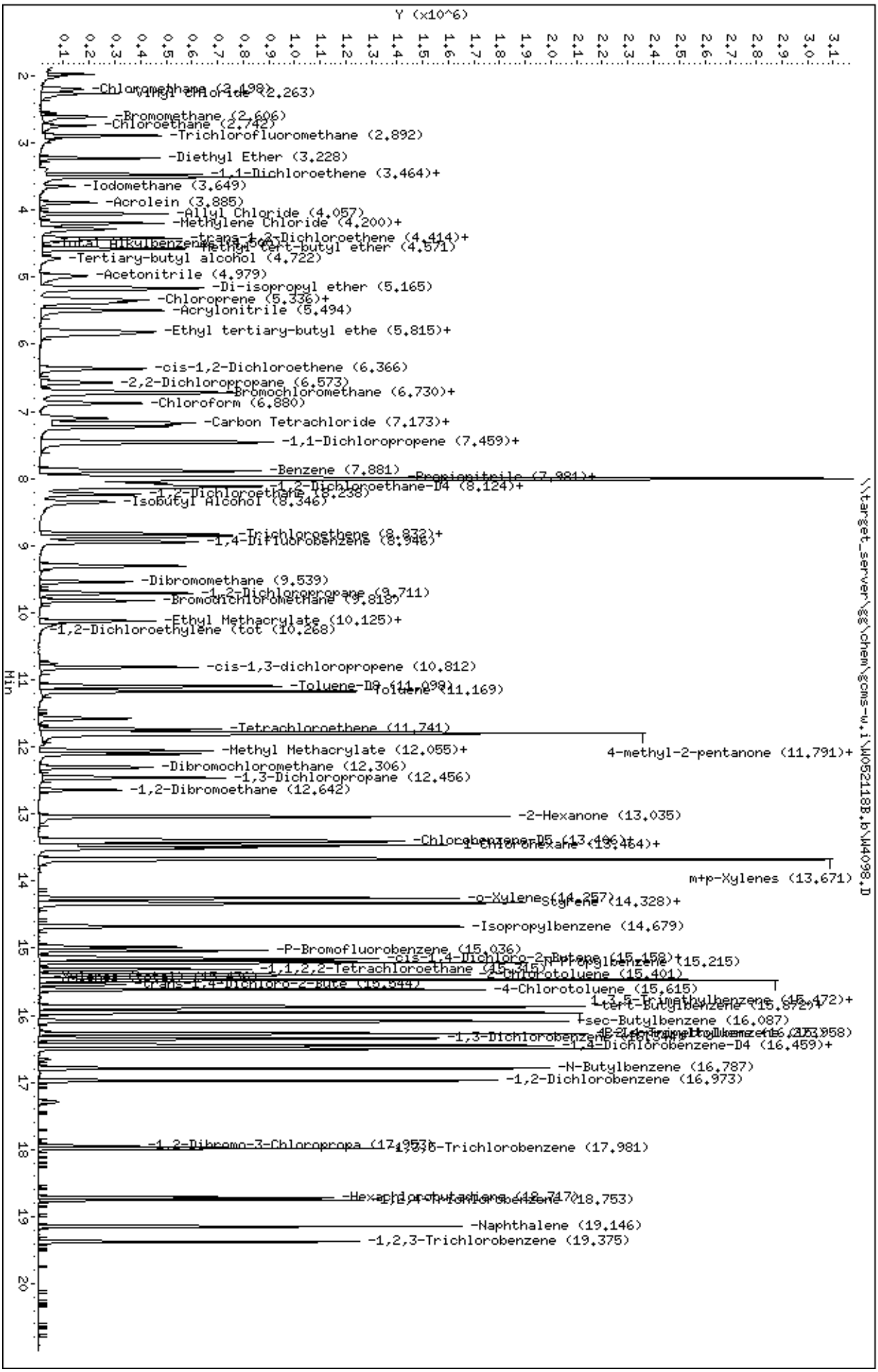
							AMOUNTS		
		QUANT SIG					CAL-AMT	ON-COL	
	Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	(ug/kg)	(ug/kg)	REVIEW CODE
	23 Propionitrile	54	7.981	7.970	(0.988)	468234	500.000	546	
	24 Methacrylonitrile	41	8.002	7.998	(0.991)	1875344	500.000	541	
	25 1,1-Dichloroethane	63	5.379	5.375	(0.666)	410290	50.0000	50.0	
	26 Acrylonitrile	52	5.493	5.482	(0.680)	440157	250.000	266	
	27 Ethyl tertiary-butyl ether	59	5.815	5.804	(0.720)	476212	50.0000	47.4	
	28 Vinyl Acetate	43	5.850	5.847	(0.654)	527438	50.0000	51.7	
	29 cis-1,2-Dichloroethene	96	6.365	6.362	(0.788)	246427	50.0000	50.1	
M	30 1,2-Dichloroethylene (total)	96				467624	100.000	(a)	
	31 Methyl Methacrylate	41	12.105	12.094	(1.353)	249371	50.0000	52.0	
	32 2,2-Dichloropropane	77	6.572	6.562	(0.814)	185329	50.0000	43.6	
	33 Bromochloromethane	128	6.730	6.726	(0.834)	115573	50.0000	51.9	
	34 Chloroform	83	6.880	6.869	(0.852)	400659	50.0000	50.4	
	35 Carbon Tetrachloride	117	7.101	7.091	(0.794)	217982	50.0000	47.2	
	36 Tetrahydrofuran	42	7.166	7.162	(0.888)	530256	250.000	280	
$	37 Dibromofluoromethane	113	7.201	7.198	(0.892)	159086	50.0000	51.0	
	38 1,1,1-Trichloroethane	97	7.230	7.226	(0.896)	312776	50.0000	49.1	
	39 1,1-Dichloropropene	75	7.452	7.448	(0.833)	293589	50.0000	45.8	
	40 2-Butanone	43	7.466	7.455	(0.925)	803242	250.000	275	
	41 Benzene	78	7.880	7.877	(0.881)	923102	50.0000	47.0	
*	42 Pentafluorobenzene	168	8.073	8.070	(1.000)	343665	50.0000		
	43 Cyclohexane	56	6.715	6.705	(0.832)	356181	50.0000	46.2	
	44 Ethyl Methacrylate	69	10.125	10.114	(1.132)	183024	50.0000	52.2	
$	45 1,2-Dichloroethane-D4	65	8.124	8.119	(1.006)	213868	50.0000	52.2	
	46 Tertiary-amyl methyl ether	73	8.116	8.113	(1.005)	470319	50.0000	49.3	
	47 1,2-Dichloroethane	62	8.238	8.234	(0.921)	345814	50.0000	51.0	
	48 Trichloroethene	95	8.860	8.856	(0.990)	226738	50.0000	47.4	
*	49 1,4-Difluorobenzene	114	8.946	8.942	(1.000)	554961	50.0000		
	50 Dibromomethane	93	9.539	9.528	(1.066)	148881	50.0000	49.4	
	51 1,2-Dichloropropane	63	9.710	9.707	(1.085)	252131	50.0000	50.4	
	52 Bromodichloromethane	83	9.818	9.814	(1.097)	314463	50.0000	50.3	
	53 cis-1,3-dichloropropene	75	10.811	10.808	(1.209)	370866	50.0000	48.4	
	54 1,4-Dioxane	88	10.168	10.164	(1.137)	84320	1000.00	1070	
$	55 Toluene-D8	98	11.097	11.094	(1.241)	680338	50.0000	48.8	
	57 Toluene	92	11.169	11.165	(1.248)	584564	50.0000	48.4	
	58 4-methyl-2-pentanone	43	11.790	11.787	(1.318)	1731524	250.000	273	
	59 Tetrachloroethene	164	11.740	11.730	(0.877)	179821	50.0000	49.0	
	60 trans-1,3-Dichloropropene	75	11.826	11.815	(1.322)	308703	50.0000	49.5	
	61 1,1,2-Trichloroethane	83	12.055	12.051	(1.348)	195639	50.0000	51.0	
	62 Dibromochloromethane	129	12.305	12.294	(0.919)	256898	50.0000	55.4	
	63 1,3-Dichloropropane	76	12.455	12.452	(0.931)	436801	50.0000	54.6	
	64 1,2-Dibromoethane	107	12.641	12.638	(1.413)	230994	50.0000	51.2	
	65 2-Hexanone	43	13.034	13.031	(0.974)	1254492	250.000	285	
*	66 Chlorobenzene-D5	117	13.384	13.381	(1.000)	529614	50.0000		
	67 Chlorobenzene	112	13.413	13.409	(1.002)	681671	50.0000	51.3	
	152 1-Chlorohexane	91	13.463	13.460	(1.668)	1138276	50.0000	(a)	
	68 Ethylbenzene	106	13.463	13.460	(1.006)	358084	50.0000	48.9	
	69 1,1,1,2-Tetrachloroethane	131	13.506	13.502	(1.009)	226412	50.0000	52.5	
M	70 Xylenes (total)	106				1366096	150.000	(a)	
	71 m+p-Xylenes	106	13.678	13.674	(1.022)	909755	100.000	101	
	72 o-Xylene	106	14.256	14.253	(1.065)	456341	50.0000	50.7	
	73 Styrene	104	14.328	14.324	(1.070)	775698	50.0000	51.4	
	74 Bromoform	173	14.342	14.339	(1.072)	191984	50.0000	55.1	
	75 Isopropylbenzene	105	14.678	14.675	(0.893)	1077870	50.0000	49.5	
$	76 P-Bromofluorobenzene	95	15.036	15.032	(1.681)	277183	50.0000	47.1	

Data File: \\target_server\gg\chem\gcms-w.i\W052118B.b\W4098.D
Report Date: 25-May-2018 13:21

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/kg)	AMOUNTS ON-COL (ug/kg)	REVIEW CODE
	77 cis-1,4-Dichloro-2-Butene	53	15.136	15.132	(0.920)	89862	50.0000	47.8	
	78 trans-1,4-Dichloro-2-Butene	53	15.543	15.532	(0.945)	72116	50.0000	44.6	
	79 Bromobenzene	156	15.157	15.154	(0.922)	310608	50.0000	50.6	
	80 N-Propylbenzene	91	15.214	15.211	(0.925)	1379352	50.0000	49.0	
	81 1,1,2,2-Tetrachloroethane	83	15.314	15.311	(0.931)	390212	50.0000	55.5	
	82 1,3,5-Trimethylbenzene	105	15.472	15.468	(0.941)	989448	50.0000	49.4	
	83 2-Chlorotoluene	91	15.400	15.397	(0.937)	849520	50.0000	49.6	
	84 1,2,3-Trichloropropane	75	15.472	15.475	(0.941)	332634	50.0000	54.5	
	85 4-Chlorotoluene	91	15.615	15.611	(0.950)	851997	50.0000	47.5	
	86 tert-Butylbenzene	119	15.865	15.868	(0.965)	1021235	50.0000	50.3	
	87 Pentachloroethane	117	15.886	15.883	(0.966)	188763	50.0000	49.2	
	88 1,2,4-Trimethylbenzene	105	15.958	15.954	(0.970)	1045479	50.0000	49.5	
	89 P-Isopropyltoluene	119	16.272	16.268	(0.990)	1078195	50.0000	48.5	
	90 1,3-Dichlorobenzene	146	16.351	16.347	(0.994)	585768	50.0000	48.1	
*	91 1,4-Dichlorobenzene-D4	152	16.444	16.440	(1.000)	335221	50.0000		
	92 1,4-Dichlorobenzene	146	16.458	16.454	(1.001)	592355	50.0000	47.5	
	93 N-Butylbenzene	91	16.787	16.783	(1.021)	981625	50.0000	47.1	
	94 sec-Butylbenzene	105	16.086	16.082	(0.978)	1288548	50.0000	48.7	
	95 1,2-Dichlorobenzene	146	16.973	16.969	(1.032)	614671	50.0000	50.3	
	96 1,2-Dibromo-3-Chloropropane	75	17.945	17.941	(1.091)	91464	50.0000	57.7	
	97 1,3,5-Trichlorobenzene	180	17.981	17.977	(2.227)	338517	50.0000	40.6	
	98 Hexachlorobutadiene	225	18.717	18.713	(1.138)	171768	50.0000	45.6	
	99 1,2,4-Trichlorobenzene	180	18.753	18.749	(1.140)	318966	50.0000	44.7	
	100 1,2,3-Trimethylbenzene	105	16.494	16.489	(2.043)	1053287	50.0000	49.0	
	101 Naphthalene	128	19.146	19.142	(1.164)	1076612	50.0000	54.7	
	102 1,2,3-Trichlorobenzene	180	19.374	19.371	(1.178)	328684	50.0000	49.6	
	103 Methyl Acetate	43	4.442	4.439	(0.550)	237756	50.0000	53.2	
	104 Methylcyclohexane	83	8.831	8.828	(1.094)	360294	50.0000	47.1	
M	153 Total Alkylbenzenes	100				7783882	50.0000	(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).


Data File: \\target_server\gg\chem\gcms-w.i\W052118B.b\W4098.D
Date : 22-MAY-2018 07:01
Client ID:
Sample Info: WG228825-5,SL4180
Column phase: RTX-VMS
Instrument: gcms-w.i
Operator: JSS
Column diameter: 0.18
Y (x10^6)
Min
\\target_server\gg\chem\gcms-w.i\W052118B.b\W4098.D
-Chloromethane (2.198)
-Vinyl Chloride (2.263)
-Bromomethane (2.606)
-Chloroethane (2.742)
-Trichlorofluoromethane (2.892)
-Diethyl Ether (3.228)
-1,1-Dichloroethene (3.464)+
-Iodomethane (3.649)
-Acrolein (3.885)
-Allyl Chloride (4.057)
-Methylene Chloride (4.200)+
-trans-1,2-Dichloroethene (4.414)+
-Methyl tert-butyl ether (4.571)
-Tertiary-butyl alcohol (4.722)
-Acetonitrile (4.979)
-Di-isopropyl ether (5.165)
-Chloroprene (5.336)+
-Acrylonitrile (5.494)
-Ethyl tertiary-butyl ethe (5.815)+
-cis-1,2-Dichloroethene (6.366)
-2,2-Dichloropropane (6.573)
-Bromochloromethane (6.730)+
-Chloroform (6.880)
-Carbon Tetrachloride (7.173)+
-1,1-Dichloropropene (7.459)+
-Benzene (7.881)
-Propionitrile (7.981)+
-1,2-Dichloroethane-D4 (8.124)+
-1,2-Dichloroethane (8.238)
-Isobutyl Alcohol (8.346)
-Trichloroethene (8.832)+
-1,4-Difluorobenzene (8.946)
-Dibromomethane (9.539)
-1,2-Dichloropropane (9.711)
-Bromodichloromethane (9.818)
-Ethyl Methacrylate (10.125)+
-1,2-Dichloroethylene (tot (10.268)
-cis-1,3-dichloropropene (10.812)
-Toluene-D8 (11.098)
-Toluene (11.169)
-Tetrachloroethene (11.741)
4-methyl-2-pentanone (11.791)+
-Methyl Methacrylate (12.055)+
-Dibromochloromethane (12.306)
-1,3-Dichloropropane (12.456)
-1,2-Dibromoethane (12.642)
-2-Hexanone (13.035)
-Chlorobenzene-D5 (13.406)+
1-Chlorohexane (13.464)+
m+p-Xylenes (13.671)
-o-Xylene (14.257)
-Styrene (14.328)+
-Isopropylbenzene (14.679)
-P-Bromofluorobenzene (15.036)
-cis-1,4-Dichloro-2-Butene (15.158)+
n-Propylbenzene (15.215)
-1,1,2,2-Tetrachloroethane (15.316)
2-Chlorotoluene (15.401)
-trans-1,4-Dichloro-2-Bute (15.544)
-4-Chlorotoluene (15.615)
1,3,5-Trimethylbenzene (15.472)+
-tert-Butylbenzene (15.872)+
-sec-Butylbenzene (16.087)
-1,3-Dichlorobenzene-D4 (16.353)
-1,3-Dichlorobenzene (16.358)
-1,4-Dichlorobenzene-D4 (16.459)+
-N-Butylbenzene (16.787)
-1,2-Dichlorobenzene (16.973)
-1,2-Dibromo-3-Chloropropa (17.953)
1,2,4-Trichlorobenzene (17.981)
-Hexachlorobutadiene (18.747)
-Naphthalene (19.146)
-1,2,3-Trichlorobenzene (19.375)

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
SDG: SL4180
Lab ID : WG228846-4
Analytical Date: 05/22/18 08:31
Lab File ID : W4100.D
Instrument ID: GCMS-W
Initial Calibration Date(s): 05/21/18 08:39 05/21/18 11:44
Column ID:

	Compound	$\overline{RRF}$/Amount	RF50	CCAL RRF50	Min	%D/ %Drift	Max %D/ %Drift	Curve Type	
1	Dichlorodifluoromethane	0.79287	0.72258	0.72258	0.010	-8.86561	20.00000	Averaged	
2	Chloromethane	0.99616	1.02426	1.02426	0.100	2.82020	20.00000	Averaged	
3	Vinyl chloride	0.91057	0.89936	0.89936	0.010	-1.23106	20.00000	Averaged	
4	Bromomethane	0.45871	0.50873	0.50873	0.010	10.90394	20.00000	Averaged	
5	Chloroethane	50.00000	58.86404	0.55282	0.010	17.72807	20.00000	Linear	
6	Trichlorofluoromethane	1.17352	1.23096	1.23096	0.010	4.89498	20.00000	Averaged	
9	1,1-Dichloroethene	0.60029	0.59018	0.59018	0.010	-1.68419	20.00000	Averaged	
10	Carbon Disulfide	1.95418	1.91529	1.91529	0.010	-1.98973	20.00000	Averaged	
11	Freon-113	0.43003	0.41222	0.41222	0.010	-4.14262	20.00000	Averaged	
14	Methylene Chloride	0.76563	0.79429	0.79429	0.010	3.74285	20.00000	Averaged	
15	Acetone	0.27657	0.33375	0.33375	0.010	20.67335	20.00000	Averaged	*
17	trans-1,2-Dichloroethene	0.64305	0.63570	0.63570	0.010	-1.14343	20.00000	Averaged	
19	Methyl tert-butyl ether	1.73077	1.92798	1.92798	0.010	11.39439	20.00000	Averaged	
25	1,1-Dichloroethane	1.19279	1.19837	1.19837	0.100	0.46794	20.00000	Averaged	
29	cis-1,2-Dichloroethene	0.71515	0.71616	0.71616	0.010	0.14129	20.00000	Averaged	
32	2,2-Dichloropropane	0.61775	0.59846	0.59846	0.010	-3.12279	20.00000	Averaged	
33	Bromochloromethane	0.32388	0.33915	0.33915	0.010	4.71567	20.00000	Averaged	
34	Chloroform	1.15708	1.15789	1.15789	0.010	0.06970	20.00000	Averaged	
35	Carbon Tetrachloride	0.41556	0.39931	0.39931	0.010	-3.91027	20.00000	Averaged	
38	1,1,1-Trichloroethane	0.92612	0.91025	0.91025	0.010	-1.71452	20.00000	Averaged	
39	1,1-Dichloropropene	0.57680	0.54632	0.54632	0.010	-5.28292	20.00000	Averaged	
40	2-Butanone	0.42549	0.50521	0.50521	0.010	18.73575	20.00000	Averaged	
41	Benzene	1.76867	1.68403	1.68403	0.010	-4.78557	20.00000	Averaged	
47	1,2-Dichloroethane	0.61079	0.62003	0.62003	0.010	1.51229	20.00000	Averaged	
48	Trichloroethene	0.43120	0.40626	0.40626	0.010	-5.78385	20.00000	Averaged	
50	Dibromomethane	0.27138	0.28228	0.28228	0.010	4.01647	20.00000	Averaged	
51	1,2-Dichloropropane	0.45103	0.45516	0.45516	0.010	0.91547	20.00000	Averaged	
52	Bromodichloromethane	0.56284	0.57658	0.57658	0.010	2.44042	20.00000	Averaged	
53	cis-1,3-dichloropropene	0.69004	0.70200	0.70200	0.010	1.73293	20.00000	Averaged	
57	Toluene	1.08865	1.05193	1.05193	0.010	-3.37264	20.00000	Averaged	
58	4-methyl-2-pentanone	0.57060	0.63044	0.63044	0.010	10.48604	20.00000	Averaged	
59	Tetrachloroethene	0.34627	0.33157	0.33157	0.010	-4.24476	20.00000	Averaged	
60	trans-1,3-Dichloropropene	0.56171	0.61518	0.61518	0.010	9.51955	20.00000	Averaged	
61	1,1,2-Trichloroethane	0.34570	0.35121	0.35121	0.010	1.59363	20.00000	Averaged	
62	Dibromochloromethane	0.43772	0.46579	0.46579	0.010	6.41107	20.00000	Averaged	
63	1,3-Dichloropropane	0.75463	0.80548	0.80548	0.010	6.73800	20.00000	Averaged	
64	1,2-Dibromoethane	0.40654	0.43260	0.43260	0.010	6.40945	20.00000	Averaged	
65	2-Hexanone	0.41553	0.48971	0.48971	0.010	17.85065	20.00000	Averaged	
67	Chlorobenzene	1.25523	1.26082	1.26082	0.300	0.44539	20.00000	Averaged	
68	Ethylbenzene	0.69189	0.69769	0.69769	0.010	0.83831	20.00000	Averaged	
69	1,1,1,2-Tetrachloroethane	0.40740	0.41595	0.41595	0.010	2.09980	20.00000	Averaged	

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
SDG: SL4180
Lab ID : WG228846-4
Analytical Date: 05/22/18 08:31
Lab File ID : W4100.D
Instrument ID: GCMS-W
Initial Calibration Date(s): 05/21/18 08:39 05/21/18 11:44
Column ID:

	Compound	RRF/Amount	RF50	CCAL RRF50	Min	%D/ %Drift	Max %D/ %Drift	Curve Type	
71	m+p-Xylenes	0.85040	0.86050	0.86050	0.010	1.18751	20.00000	Averaged	
72	o-Xylene	0.84977	0.85086	0.85086	0.010	0.12814	20.00000	Averaged	
73	Styrene	1.42597	1.47176	1.47176	0.010	3.21082	20.00000	Averaged	
74	Bromoform	0.32916	0.34944	0.34944	0.100	6.16300	20.00000	Averaged	
75	Isopropylbenzene	3.24991	3.27446	3.27446	0.010	0.75552	20.00000	Averaged	
79	Bromobenzene	0.91499	0.94170	0.94170	0.010	2.91898	20.00000	Averaged	
80	N-Propylbenzene	4.19966	4.27800	4.27800	0.010	1.86534	20.00000	Averaged	
81	1,1,2,2-Tetrachloroethane	1.04804	1.16957	1.16957	0.300	11.59599	20.00000	Averaged	
82	1,3,5-Trimethylbenzene	2.98636	3.03404	3.03404	0.010	1.59661	20.00000	Averaged	
83	2-Chlorotoluene	2.55576	2.57175	2.57175	0.010	0.62558	20.00000	Averaged	
84	1,2,3-Trichloropropane	0.90956	1.01314	1.01314	0.010	11.38855	20.00000	Averaged	
85	4-Chlorotoluene	2.67392	2.72621	2.72621	0.010	1.95555	20.00000	Averaged	
86	tert-Butylbenzene	3.02732	3.04770	3.04770	0.010	0.67333	20.00000	Averaged	
88	1,2,4-Trimethylbenzene	3.14888	3.25128	3.25128	0.010	3.25196	20.00000	Averaged	
89	P-Isopropyltoluene	3.31297	3.37953	3.37953	0.010	2.00915	20.00000	Averaged	
90	1,3-Dichlorobenzene	1.81697	1.89975	1.89975	0.010	4.55606	20.00000	Averaged	
92	1,4-Dichlorobenzene	1.85909	1.95597	1.95597	0.010	5.21111	20.00000	Averaged	
93	N-Butylbenzene	3.10535	3.23561	3.23561	0.010	4.19455	20.00000	Averaged	
94	sec-Butylbenzene	3.94694	3.92293	3.92293	0.010	-0.60833	20.00000	Averaged	
95	1,2-Dichlorobenzene	1.82350	1.93938	1.93938	0.010	6.35494	20.00000	Averaged	
96	1,2-Dibromo-3-Chloropropane	0.23653	0.28601	0.28601	0.010	20.91855	20.00000	Averaged	*
98	Hexachlorobutadiene	0.56237	0.56708	0.56708	0.010	0.83787	20.00000	Averaged	
99	1,2,4-Trichlorobenzene	1.06437	1.20969	1.20969	0.010	13.65336	20.00000	Averaged	
101	Naphthalene	2.93775	3.51489	3.51489	0.010	19.64575	20.00000	Averaged	
102	1,2,3-Trichlorobenzene	0.98861	1.14889	1.14889	0.010	16.21239	20.00000	Averaged	
37	Dibromofluoromethane	0.45358	0.47772	0.47772	0.010	5.32082	20.00000	Averaged	
45	1,2-Dichloroethane-D4	0.59572	0.62313	0.62313	0.010	4.60030	20.00000	Averaged	
55	Toluene-D8	1.25503	1.22351	1.22351	0.010	-2.51211	20.00000	Averaged	
76	P-Bromofluorobenzene	0.53023	0.50490	0.50490	0.010	-4.77642	20.00000	Averaged	

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
Lab ID : WG228846-4
Lab File ID : W4100.D
Initial Calibration Date(s): 05/21/18 08:39 05/21/18 11:44

SDG: SL4180
Analytical Date: 05/22/18 08:31
Instrument ID: GCMS-W
Column ID:

*** = Compound out of QC criteria**

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029

http://katahdinlab.com
sales@katahdinlab.com

Data File: \\target_server\gg\chem\gcms-w.i\W052218.b\W4100.D
Report Date: 25-May-2018 12:32

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W052218.b\W4100.D
Lab Smp Id: WG228846-4
Inj Date : 22-MAY-2018 08:31 MS Autotune Date: 10-APR-2016 11:00
Operator : JSS Inst ID: gcms-w.i
Smp Info : WG228846-4,SL4180
Misc Info : WG228846,WG228751-4,SL4180-1
Comment : SW846 5035
Method : \\target_server\gg\chem\gcms-w.i\W052218.b\W8SDI(13)D.m
Meth Date : 23-May-2018 07:11 jsampson Quant Type: ISTD
Cal Date : 21-MAY-2018 11:44 Cal File: W4068.D
Als bottle: 2 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: VOA-WS

Concentration Formula: Amt * DF * (100/(100-M))*(Vt/Ws) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
M	0.00000	% Moisture
Vt	5.000	Volume of DI Water (mL)
Ws	5.000	Weight of Sample (g)
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/kg)	ON-COL (ug/kg)	REVIEW CODE
1	Dichlorodifluoromethane	85	1.970	1.966	(0.244)	250470	50.0000	45.6	
2	Chloromethane	50	2.192	2.187	(0.271)	355041	50.0000	51.4	
3	Vinyl chloride	62	2.263	2.259	(0.280)	311748	50.0000	49.4	
4	Bromomethane	94	2.606	2.609	(0.323)	176342	50.0000	55.4	
5	Chloroethane	64	2.742	2.738	(0.340)	191624	50.0000	58.9	
6	Trichlorofluoromethane	101	2.885	2.888	(0.357)	426693	50.0000	52.4	
7	Diethyl Ether	59	3.221	3.224	(0.399)	237887	50.0000	56.3	
8	Tertiary-butyl alcohol	59	4.715	4.710	(0.584)	149118	250.000	272	
9	1,1-Dichloroethene	96	3.464	3.459	(0.429)	204576	50.0000	49.2	
10	Carbon Disulfide	76	3.507	3.502	(0.434)	663904	50.0000	49.0	
11	Freon-113	151	3.507	3.502	(0.434)	142888	50.0000	47.9	
12	Iodomethane	142	3.643	3.638	(0.451)	185944	50.0000	60.0	
13	Acrolein	56	3.886	3.881	(0.481)	249146	250.000	282	
14	Methylene Chloride	84	4.193	4.189	(0.519)	275327	50.0000	51.9	
15	Acetone	43	4.279	4.274	(0.530)	578442	250.000	302	
16	Isobutyl Alcohol	43	8.346	8.342	(1.034)	356668	1000.00	1160	
17	trans-1,2-Dichloroethene	96	4.415	4.410	(0.547)	220354	50.0000	49.4	
18	Allyl Chloride	41	4.057	4.053	(0.503)	363007	50.0000	51.2	
19	Methyl tert-butyl ether	73	4.572	4.567	(0.566)	668303	50.0000	55.7	
20	Acetonitrile	39	4.979	4.968	(0.617)	91190	500.000	541	
21	Di-isopropyl ether	45	5.165	5.161	(0.640)	831287	50.0000	54.0	

Data File: \\target_server\gg\chem\gcms-w.i\W052218.b\W4100.D
Report Date: 25-May-2018 12:32

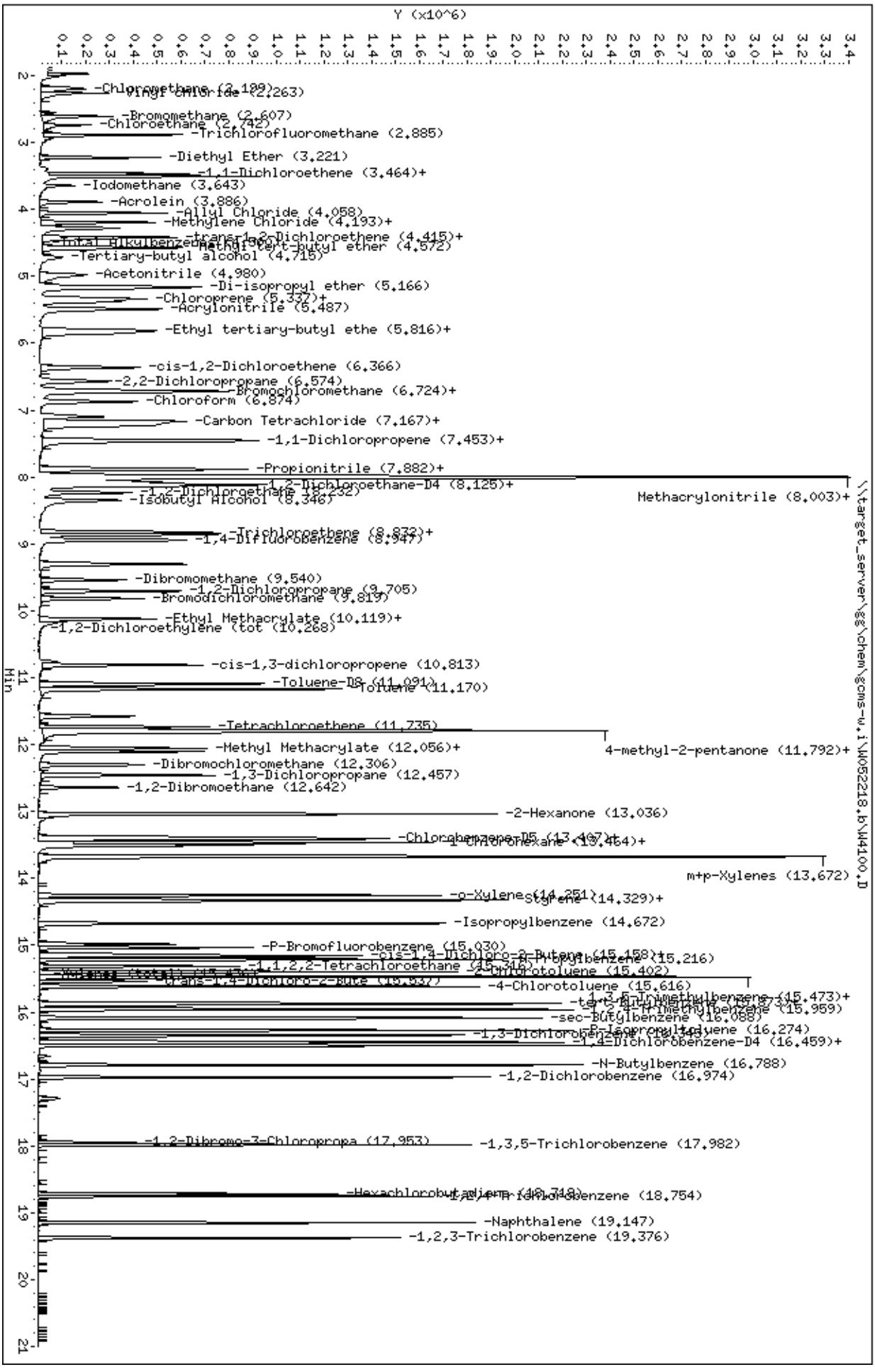
			QUANT SIG					AMOUNTS		
		Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ug/kg)	ON-COL (ug/kg)	REVIEW CODE
	22	Chloroprene	53	5.337	5.332	(0.661)	330730	50.0000	48.8	
	23	Propionitrile	54	7.974	7.970	(0.988)	515755	500.000	596	
	24	Methacrylonitrile	41	8.003	7.998	(0.991)	2056144	500.000	588	
	25	1,1-Dichloroethane	63	5.380	5.375	(0.666)	415395	50.0000	50.2	
	26	Acrylonitrile	52	5.487	5.482	(0.680)	487236	250.000	292	
	27	Ethyl tertiary-butyl ether	59	5.808	5.804	(0.719)	548453	50.0000	54.1	
	28	Vinyl Acetate	43	5.851	5.847	(0.654)	591829	50.0000	57.2	
	29	cis-1,2-Dichloroethene	96	6.366	6.362	(0.788)	248244	50.0000	50.1	
M	30	1,2-Dichloroethylene (total)	96				468598	100.000	99.5	
	31	Methyl Methacrylate	41	12.099	12.094	(1.352)	279485	50.0000	57.4	
	32	2,2-Dichloropropane	77	6.573	6.562	(0.814)	207445	50.0000	48.4	
	33	Bromochloromethane	128	6.723	6.726	(0.833)	117562	50.0000	52.4	
	34	Chloroform	83	6.873	6.869	(0.851)	401363	50.0000	50.0	
	35	Carbon Tetrachloride	117	7.095	7.091	(0.793)	224776	50.0000	48.0	
	36	Tetrahydrofuran	42	7.167	7.162	(0.888)	551965	250.000	289	
$	37	Dibromofluoromethane	113	7.202	7.198	(0.892)	165592	50.0000	52.7	
	38	1,1,1-Trichloroethane	97	7.231	7.226	(0.896)	315521	50.0000	49.1	
	39	1,1-Dichloropropene	75	7.452	7.448	(0.833)	307530	50.0000	47.4	
	40	2-Butanone	43	7.460	7.455	(0.924)	875606	250.000	297	
	41	Benzene	78	7.881	7.877	(0.881)	947952	50.0000	47.6	
*	42	Pentafluorobenzene	168	8.074	8.070	(1.000)	346633	50.0000		
	43	Cyclohexane	56	6.709	6.705	(0.831)	369421	50.0000	47.5	
	44	Ethyl Methacrylate	69	10.119	10.114	(1.131)	209364	50.0000	58.8	
$	45	1,2-Dichloroethane-D4	65	8.124	8.119	(1.006)	215997	50.0000	52.3	
	46	Tertiary-amyl methyl ether	73	8.117	8.113	(1.005)	534620	50.0000	55.5	
	47	1,2-Dichloroethane	62	8.232	8.234	(0.920)	349020	50.0000	50.8	
	48	Trichloroethene	95	8.861	8.856	(0.990)	228689	50.0000	47.1	
*	49	1,4-Difluorobenzene	114	8.946	8.942	(1.000)	562908	50.0000		
	50	Dibromomethane	93	9.540	9.528	(1.066)	158900	50.0000	52.0	
	51	1,2-Dichloropropane	63	9.711	9.707	(1.085)	256211	50.0000	50.4	
	52	Bromodichloromethane	83	9.818	9.814	(1.097)	324559	50.0000	51.2	
	53	cis-1,3-dichloropropene	75	10.812	10.808	(1.209)	395159	50.0000	50.9	
	54	1,4-Dioxane	88	10.169	10.164	(1.137)	94232	1000.00	1180	
$	55	Toluene-D8	98	11.091	11.094	(1.240)	688721	50.0000	48.7	
	57	Toluene	92	11.169	11.165	(1.248)	592142	50.0000	48.3	
	58	4-methyl-2-pentanone	43	11.791	11.787	(1.318)	1774390	250.000	276	
	59	Tetrachloroethene	164	11.734	11.730	(0.877)	181998	50.0000	47.9	
	60	trans-1,3-Dichloropropene	75	11.820	11.815	(1.321)	346290	50.0000	54.8	
	61	1,1,2-Trichloroethane	83	12.056	12.051	(1.348)	197701	50.0000	50.8	
	62	Dibromochloromethane	129	12.306	12.294	(0.919)	255670	50.0000	53.2	
	63	1,3-Dichloropropane	76	12.456	12.452	(0.931)	442128	50.0000	53.4	
	64	1,2-Dibromoethane	107	12.642	12.638	(1.413)	243515	50.0000	53.2	
	65	2-Hexanone	43	13.035	13.031	(0.974)	1343999	250.000	295	
*	66	Chlorobenzene-D5	117	13.385	13.381	(1.000)	548901	50.0000		
	67	Chlorobenzene	112	13.407	13.409	(1.002)	692067	50.0000	50.2	
	152	1-Chlorohexane	91	13.464	13.460	(1.667)	1175536	50.0000	(a)	
	68	Ethylbenzene	106	13.464	13.460	(1.006)	382964	50.0000	50.4	
	69	1,1,1,2-Tetrachloroethane	131	13.507	13.502	(1.009)	228317	50.0000	51.0	
M	70	Xylenes (total)	106				1411699	150.000	151	
	71	m+p-Xylenes	106	13.671	13.674	(1.021)	944661	100.000	101	
	72	o-Xylene	106	14.257	14.253	(1.065)	467038	50.0000	50.1	
	73	Styrene	104	14.329	14.324	(1.070)	807848	50.0000	51.6	
	74	Bromoform	173	14.343	14.339	(1.072)	191810	50.0000	53.1	
	75	Isopropylbenzene	105	14.672	14.675	(0.892)	1118278	50.0000	50.4	

Data File: \\target_server\gg\chem\gcms-w.i\W052218.b\W4100.D
Report Date: 25-May-2018 12:32

							AMOUNTS		
Compounds		QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ug/kg)	ON-COL (ug/kg)	REVIEW CODE
$	76 P-Bromofluorobenzene	95	15.029	15.032	(1.680)	284212	50.0000	47.6	
	77 cis-1,4-Dichloro-2-Butene	53	15.137	15.132	(0.920)	110263	50.0000	57.5	
	78 trans-1,4-Dichloro-2-Butene	53	15.537	15.532	(0.945)	90857	50.0000	54.6	
	79 Bromobenzene	156	15.158	15.154	(0.922)	321603	50.0000	51.4	
	80 N-Propylbenzene	91	15.215	15.211	(0.925)	1461000	50.0000	50.9	
	81 1,1,2,2-Tetrachloroethane	83	15.315	15.311	(0.931)	399427	50.0000	55.8	
	82 1,3,5-Trimethylbenzene	105	15.472	15.468	(0.941)	1036171	50.0000	50.8	
	83 2-Chlorotoluene	91	15.401	15.397	(0.937)	878291	50.0000	50.3	
	84 1,2,3-Trichloropropane	75	15.472	15.475	(0.941)	346003	50.0000	55.7	
	85 4-Chlorotoluene	91	15.615	15.611	(0.950)	931043	50.0000	51.0	
	86 tert-Butylbenzene	119	15.866	15.868	(0.965)	1040836	50.0000	50.3	
	87 Pentachloroethane	117	15.887	15.883	(0.966)	209418	50.0000	53.6	
	88 1,2,4-Trimethylbenzene	105	15.959	15.954	(0.970)	1110361	50.0000	51.6	
	89 P-Isopropyltoluene	119	16.273	16.268	(0.990)	1154160	50.0000	51.0	
	90 1,3-Dichlorobenzene	146	16.345	16.347	(0.994)	648793	50.0000	52.3	
*	91 1,4-Dichlorobenzene-D4	152	16.445	16.440	(1.000)	341515	50.0000		
	92 1,4-Dichlorobenzene	146	16.459	16.454	(1.001)	667992	50.0000	52.6	
	93 N-Butylbenzene	91	16.788	16.783	(1.021)	1105008	50.0000	52.1	
	94 sec-Butylbenzene	105	16.087	16.082	(0.978)	1339738	50.0000	49.7	
	95 1,2-Dichlorobenzene	146	16.974	16.969	(1.032)	662328	50.0000	53.2	
	96 1,2-Dibromo-3-Chloropropane	75	17.953	17.941	(1.092)	97675	50.0000	60.4	
	97 1,3,5-Trichlorobenzene	180	17.981	17.977	(2.227)	467901	50.0000	55.6	
	98 Hexachlorobutadiene	225	18.718	18.713	(1.138)	193666	50.0000	50.4	
	99 1,2,4-Trichlorobenzene	180	18.753	18.749	(1.140)	413127	50.0000	56.8	
	100 1,2,3-Trimethylbenzene	105	16.495	16.489	(2.043)	1163277	50.0000	53.7	
	101 Naphthalene	128	19.147	19.142	(1.164)	1200388	50.0000	59.8	
	102 1,2,3-Trichlorobenzene	180	19.375	19.371	(1.178)	392363	50.0000	58.1	
	103 Methyl Acetate	43	4.443	4.439	(0.550)	276673	50.0000	61.4	
	104 Methylcyclohexane	83	8.832	8.828	(1.094)	368603	50.0000	47.8	
M	153 Total Alkylbenzenes	100				8247274	50.0000	356	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).


Data File: \\target_server\gg\chem\gcms-w.i\W052218.b\W4100.D
Date : 22-MAY-2018 08:31
Client ID:
Sample Info: WG228846-4,SL4180
Column phase: RTX-VMS
Instrument: gcms-w.i
Operator: JSS
Column diameter: 0.18
Y (x10^6)
Min
\\target_server\gg\chem\gcms-w.i\W052218.b\W4100.D
-Chloromethane (2.189)
Vinyl Chloride (2.263)
-Bromomethane (2.607)
-Chloroethane (2.742)
-Trichlorofluoromethane (2.885)
-Diethyl Ether (3.221)
-1,1-Dichloroethene (3.464)+
-Iodomethane (3.643)
-Acrolein (3.886)
-Allyl Chloride (4.058)
-Methylene Chloride (4.193)+
-trans-1,2-Dichloroethene (4.415)+
Methyl tert-butyl ether (4.572)
-Tertiary-butyl alcohol (4.715)
-Acetonitrile (4.980)
-Di-isopropyl ether (5.166)
-Chloroprene (5.337)+
-Acrylonitrile (5.487)
-Ethyl tertiary-butyl ethe (5.816)+
-cis-1,2-Dichloroethene (6.366)
-2,2-Dichloropropane (6.574)
Bromochloromethane (6.724)+
-Chloroform (6.874)
-Carbon Tetrachloride (7.167)+
-1,1-Dichloropropene (7.453)+
-Propionitrile (7.882)+
-1,2-Dichloroethane-D4 (8.125)+
Methacrylonitrile (8.003)+
-1,2-Dichloroethane (8.232)
-Isobutyl Alcohol (8.346)
-Trichloroethene (8.872)+
-1,4-Difluorobenzene (8.947)
-Dibromomethane (9.540)
-1,2-Dichloropropane (9.705)
-Bromodichloromethane (9.819)
-Ethyl Methacrylate (10.119)+
-1,2-Dichloroethylene (tot (10.268)
-cis-1,3-dichloropropene (10.813)
-Toluene-D8 (11.091)
Toluene (11.170)
-Tetrachloroethene (11.735)
4-methyl-2-pentanone (11.792)+
-Methyl Methacrylate (12.056)+
-Dibromochloromethane (12.306)
-1,3-Dichloropropane (12.457)
-1,2-Dibromoethane (12.642)
-2-Hexanone (13.036)
-Chlorobenzene-D5 (13.407)+
1-Chlorohexane (13.464)+
m+p-Xylenes (13.672)
-o-Xylene (14.251)
Styrene (14.329)+
-Isopropylbenzene (14.672)
-P-Bromofluorobenzene (15.030)
-cis-1,4-Dichloro-2-Butene (15.158)+
-1,1,2,2-Tetrachloroethane (15.216)
-2-Chlorotoluene (15.402)
-4-Chlorotoluene (15.616)
-1,3,5-Trimethylbenzene (15.473)+
-1,2,4-Trimethylbenzene (15.959)
-sec-Butylbenzene (16.088)
-P-Isopropyltoluene (16.274)
-1,3-Dichlorobenzene (16.345)
-1,4-Dichlorobenzene-D4 (16.459)+
-N-Butylbenzene (16.788)
-1,2-Dichlorobenzene (16.974)
-1,2-Dibromo-3-Chloropropa (17.953)
-1,3,5-Trichlorobenzene (17.982)
-Hexachlorobutadiene (18.748)
1,2,4-Trichlorobenzene (18.754)
-Naphthalene (19.147)
-1,2,3-Trichlorobenzene (19.376)

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
SDG: SL4180
Lab ID : WG228846-5
Analytical Date: 05/22/18 19:20
Lab File ID : W4117.D
Instrument ID: GCMS-W
Initial Calibration Date(s): 05/21/18 08:39 05/21/18 11:44
Column ID:

	Compound	$\overline{RRF}$/Amount	RF50	CCAL RRF50	Min	%D/ %Drift	Max %D/ %Drift	Curve Type
1	Dichlorodifluoromethane	0.79287	0.63649	0.63649	0.010	-19.72381	20.00000	Averaged
2	Chloromethane	0.99616	0.90914	0.90914	0.100	-8.73538	20.00000	Averaged
3	Vinyl chloride	0.91057	0.82966	0.82966	0.010	-8.88545	20.00000	Averaged
4	Bromomethane	0.45871	0.44475	0.44475	0.010	-3.04277	20.00000	Averaged
5	Chloroethane	50.00000	58.20207	0.54707	0.010	16.40414	20.00000	Linear
6	Trichlorofluoromethane	1.17352	1.13597	1.13597	0.010	-3.20028	20.00000	Averaged
9	1,1-Dichloroethene	0.60029	0.53710	0.53710	0.010	-10.52653	20.00000	Averaged
10	Carbon Disulfide	1.95418	1.80062	1.80062	0.010	-7.85805	20.00000	Averaged
11	Freon-113	0.43003	0.38999	0.38999	0.010	-9.31099	20.00000	Averaged
14	Methylene Chloride	0.76563	0.71671	0.71671	0.010	-6.38990	20.00000	Averaged
15	Acetone	0.27657	0.23398	0.23398	0.010	-15.40184	20.00000	Averaged
17	trans-1,2-Dichloroethene	0.64305	0.57853	0.57853	0.010	-10.03389	20.00000	Averaged
19	Methyl tert-butyl ether	1.73077	1.64289	1.64289	0.010	-5.07785	20.00000	Averaged
25	1,1-Dichloroethane	1.19279	1.09178	1.09178	0.100	-8.46839	20.00000	Averaged
29	cis-1,2-Dichloroethene	0.71515	0.65018	0.65018	0.010	-9.08440	20.00000	Averaged
32	2,2-Dichloropropane	0.61775	0.54745	0.54745	0.010	-11.38030	20.00000	Averaged
33	Bromochloromethane	0.32388	0.31270	0.31270	0.010	-3.45137	20.00000	Averaged
34	Chloroform	1.15708	1.06494	1.06494	0.010	-7.96305	20.00000	Averaged
35	Carbon Tetrachloride	0.41556	0.37106	0.37106	0.010	-10.70911	20.00000	Averaged
38	1,1,1-Trichloroethane	0.92612	0.82193	0.82193	0.010	-11.25098	20.00000	Averaged
39	1,1-Dichloropropene	0.57680	0.48879	0.48879	0.010	-15.25792	20.00000	Averaged
40	2-Butanone	0.42549	0.38268	0.38268	0.010	-10.06027	20.00000	Averaged
41	Benzene	1.76867	1.56967	1.56967	0.010	-11.25136	20.00000	Averaged
47	1,2-Dichloroethane	0.61079	0.54951	0.54951	0.010	-10.03265	20.00000	Averaged
48	Trichloroethene	0.43120	0.37211	0.37211	0.010	-13.70397	20.00000	Averaged
50	Dibromomethane	0.27138	0.24272	0.24272	0.010	-10.56168	20.00000	Averaged
51	1,2-Dichloropropane	0.45103	0.41720	0.41720	0.010	-7.49919	20.00000	Averaged
52	Bromodichloromethane	0.56284	0.50342	0.50342	0.010	-10.55695	20.00000	Averaged
53	cis-1,3-dichloropropene	0.69004	0.62302	0.62302	0.010	-9.71192	20.00000	Averaged
57	Toluene	1.08865	0.95246	0.95246	0.010	-12.51026	20.00000	Averaged
58	4-methyl-2-pentanone	0.57060	0.51061	0.51061	0.010	-10.51486	20.00000	Averaged
59	Tetrachloroethene	0.34627	0.29958	0.29958	0.010	-13.48137	20.00000	Averaged
60	trans-1,3-Dichloropropene	0.56171	0.51649	0.51649	0.010	-8.05004	20.00000	Averaged
61	1,1,2-Trichloroethane	0.34570	0.30044	0.30044	0.010	-13.09292	20.00000	Averaged
62	Dibromochloromethane	0.43772	0.40662	0.40662	0.010	-7.10557	20.00000	Averaged
63	1,3-Dichloropropane	0.75463	0.70255	0.70255	0.010	-6.90173	20.00000	Averaged
64	1,2-Dibromoethane	0.40654	0.35988	0.35988	0.010	-11.47787	20.00000	Averaged
65	2-Hexanone	0.41553	0.38840	0.38840	0.010	-6.52953	20.00000	Averaged
67	Chlorobenzene	1.25523	1.15341	1.15341	0.300	-8.11218	20.00000	Averaged
68	Ethylbenzene	0.69189	0.61033	0.61033	0.010	-11.78842	20.00000	Averaged
69	1,1,1,2-Tetrachloroethane	0.40740	0.38186	0.38186	0.010	-6.26846	20.00000	Averaged

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
SDG: SL4180
Lab ID : WG228846-5
Analytical Date: 05/22/18 19:20
Lab File ID : W4117.D
Instrument ID: GCMS-W
Initial Calibration Date(s): 05/21/18 08:39 05/21/18 11:44
Column ID:

Compound	RRF/Amount	RF50	CCAL RRF50	Min	%D/ %Drift	Max %D/ %Drift	Curve Type
71 m+p-Xylenes	0.85040	0.75900	0.75900	0.010	-10.74793	20.00000	Averaged
72 o-Xylene	0.84977	0.76092	0.76092	0.010	-10.45534	20.00000	Averaged
73 Styrene	1.42597	1.31042	1.31042	0.010	-8.10294	20.00000	Averaged
74 Bromoform	0.32916	0.29310	0.29310	0.100	-10.95487	20.00000	Averaged
75 Isopropylbenzene	3.24991	2.98990	2.98990	0.010	-8.00054	20.00000	Averaged
79 Bromobenzene	0.91499	0.84117	0.84117	0.010	-8.06719	20.00000	Averaged
80 N-Propylbenzene	4.19966	3.82733	3.82733	0.010	-8.86562	20.00000	Averaged
81 1,1,2,2-Tetrachloroethane	1.04804	0.98079	0.98079	0.300	-6.41674	20.00000	Averaged
82 1,3,5-Trimethylbenzene	2.98636	2.74624	2.74624	0.010	-8.04068	20.00000	Averaged
83 2-Chlorotoluene	2.55576	2.33849	2.33849	0.010	-8.50136	20.00000	Averaged
84 1,2,3-Trichloropropane	0.90956	0.85233	0.85233	0.010	-6.29117	20.00000	Averaged
85 4-Chlorotoluene	2.67392	2.42856	2.42856	0.010	-9.17606	20.00000	Averaged
86 tert-Butylbenzene	3.02732	2.82552	2.82552	0.010	-6.66589	20.00000	Averaged
88 1,2,4-Trimethylbenzene	3.14888	2.91854	2.91854	0.010	-7.31494	20.00000	Averaged
89 P-Isopropyltoluene	3.31297	3.04915	3.04915	0.010	-7.96320	20.00000	Averaged
90 1,3-Dichlorobenzene	1.81697	1.65650	1.65650	0.010	-8.83152	20.00000	Averaged
92 1,4-Dichlorobenzene	1.85909	1.70757	1.70757	0.010	-8.15024	20.00000	Averaged
93 N-Butylbenzene	3.10535	2.83124	2.83124	0.010	-8.82695	20.00000	Averaged
94 sec-Butylbenzene	3.94694	3.62910	3.62910	0.010	-8.05271	20.00000	Averaged
95 1,2-Dichlorobenzene	1.82350	1.70191	1.70191	0.010	-6.66783	20.00000	Averaged
96 1,2-Dibromo-3-Chloropropane	0.23653	0.22823	0.22823	0.010	-3.50770	20.00000	Averaged
98 Hexachlorobutadiene	0.56237	0.48221	0.48221	0.010	-14.25425	20.00000	Averaged
99 1,2,4-Trichlorobenzene	1.06437	0.96834	0.96834	0.010	-9.02201	20.00000	Averaged
101 Naphthalene	2.93775	2.84474	2.84474	0.010	-3.16587	20.00000	Averaged
102 1,2,3-Trichlorobenzene	0.98861	0.94293	0.94293	0.010	-4.62123	20.00000	Averaged
37 Dibromofluoromethane	0.45358	0.46600	0.46600	0.010	2.73693	20.00000	Averaged
45 1,2-Dichloroethane-D4	0.59572	0.61344	0.61344	0.010	2.97388	20.00000	Averaged
55 Toluene-D8	1.25503	1.22587	1.22587	0.010	-2.32351	20.00000	Averaged
76 P-Bromofluorobenzene	0.53023	0.51088	0.51088	0.010	-3.64770	20.00000	Averaged

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Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
Lab ID : WG228846-5
Lab File ID : W4117.D
Initial Calibration Date(s): 05/21/18 08:39 05/21/18 11:44

SDG: SL4180
Analytical Date: 05/22/18 19:20
Instrument ID: GCMS-W
Column ID:

*** = Compound out of QC criteria**

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029

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sales@katahdinlab.com

Data File: \\target_server\gg\chem\gcms-w.i\W052218.b\W4117.D
Report Date: 25-May-2018 12:32

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W052218.b\W4117.D
Lab Smp Id: WG228846-5
Inj Date : 22-MAY-2018 19:20 MS Autotune Date: 10-APR-2016 11:00
Operator : JSS Inst ID: gcms-w.i
Smp Info : WG228846-5,SL4180
Misc Info : WG228846,WG228751-4,SL4180-1
Comment : SW846 5035
Method : \\target_server\gg\chem\gcms-w.i\W052218.b\W8SDI(13)D.m
Meth Date : 23-May-2018 07:11 jsampson Quant Type: ISTD
Cal Date : 21-MAY-2018 11:44 Cal File: W4068.D
Als bottle: 18 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: VOA-WS

Concentration Formula: Amt * DF * (100/(100-M))*(Vt/Ws) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
M	0.00000	% Moisture
Vt	5.000	Volume of DI Water (mL)
Ws	5.000	Weight of Sample (g)
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/kg)	ON-COL (ug/kg)	REVIEW CODE
1	Dichlorodifluoromethane	85	1.976	1.966	(0.244)	218521	50.0000	40.1	
2	Chloromethane	50	2.205	2.187	(0.272)	312130	50.0000	45.6	
3	Vinyl chloride	62	2.269	2.259	(0.280)	284842	50.0000	45.6	
4	Bromomethane	94	2.619	2.609	(0.324)	152694	50.0000	48.5	
5	Chloroethane	64	2.748	2.738	(0.339)	187823	50.0000	58.2	
6	Trichlorofluoromethane	101	2.898	2.888	(0.358)	390003	50.0000	48.4	
7	Diethyl Ether	59	3.234	3.224	(0.400)	200618	50.0000	48.0	
8	Tertiary-butyl alcohol	59	4.735	4.710	(0.585)	118281	250.000	220	
9	1,1-Dichloroethene	96	3.477	3.459	(0.430)	184399	50.0000	44.7	
10	Carbon Disulfide	76	3.520	3.502	(0.435)	618193	50.0000	46.1	
11	Freon-113	151	3.513	3.502	(0.434)	133893	50.0000	45.3	
12	Iodomethane	142	3.656	3.638	(0.452)	139348	50.0000	45.4	
13	Acrolein	56	3.899	3.881	(0.482)	187049	250.000	214	
14	Methylene Chloride	84	4.206	4.189	(0.520)	246063	50.0000	46.8	
15	Acetone	43	4.292	4.274	(0.530)	401645	250.000	211	
16	Isobutyl Alcohol	43	8.366	8.342	(1.034)	271352	1000.00	919	
17	trans-1,2-Dichloroethene	96	4.428	4.410	(0.547)	198622	50.0000	45.0	
18	Allyl Chloride	41	4.070	4.053	(0.503)	322955	50.0000	46.0	
19	Methyl tert-butyl ether	73	4.592	4.567	(0.567)	564041	50.0000	47.5	
20	Acetonitrile	39	4.992	4.968	(0.617)	69250	500.000	415	
21	Di-isopropyl ether	45	5.178	5.161	(0.640)	721259	50.0000	47.3	

Data File: \\target_server\gg\chem\gcms-w.i\W052218.b\W4117.D
Report Date: 25-May-2018 12:32

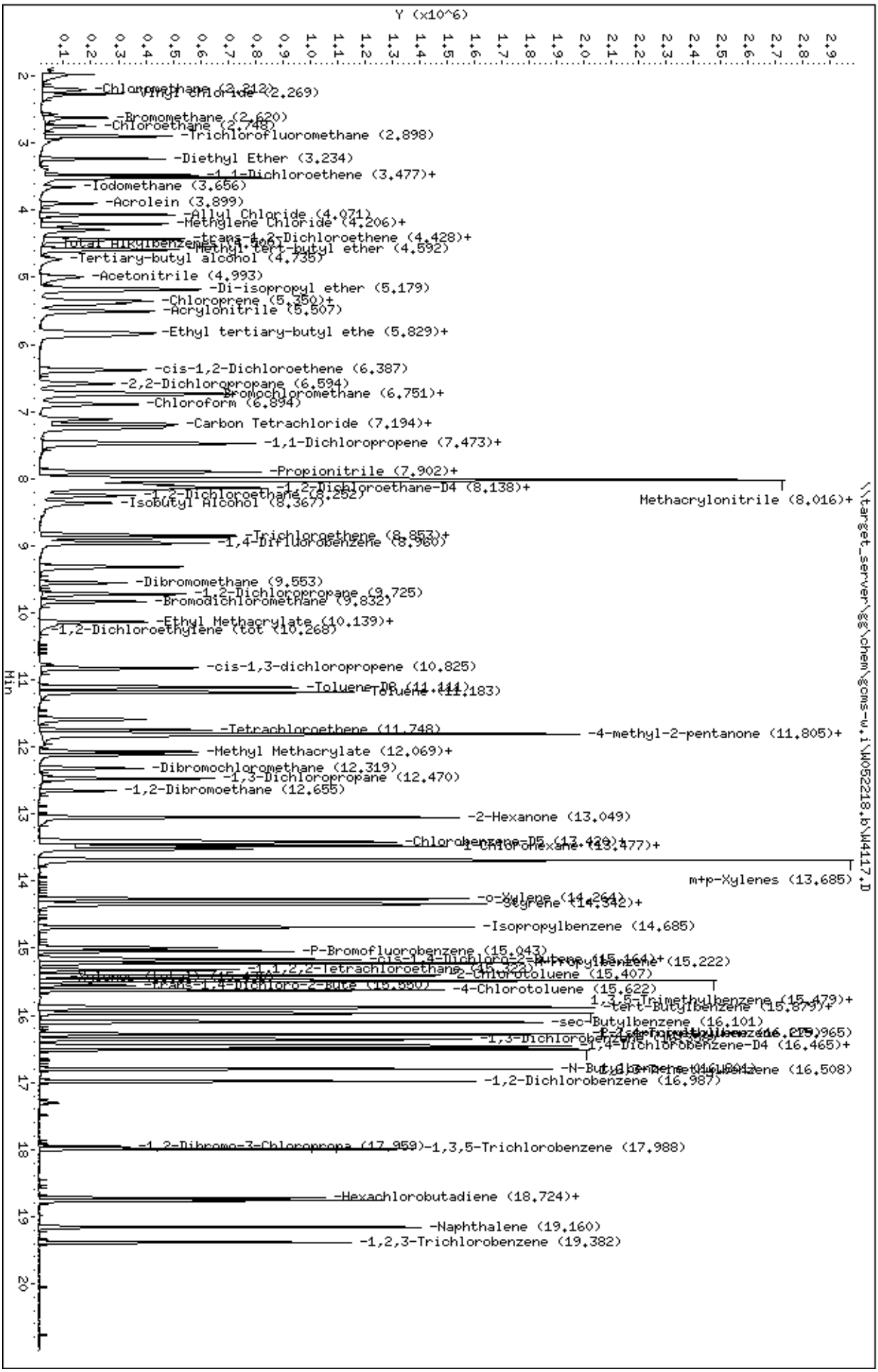
			QUANT SIG					AMOUNTS		
		Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ug/kg)	ON-COL (ug/kg)	REVIEW CODE
	22	Chloroprene	53	5.350	5.332	(0.661)	308757	50.0000	46.0	
	23	Propionitrile	54	7.994	7.970	(0.988)	394227	500.000	460	
	24	Methacrylonitrile	41	8.016	7.998	(0.990)	1643787	500.000	474	
	25	1,1-Dichloroethane	63	5.400	5.375	(0.667)	374833	50.0000	45.8	
	26	Acrylonitrile	52	5.507	5.482	(0.680)	373861	250.000	227	
	27	Ethyl tertiary-butyl ether	59	5.829	5.804	(0.720)	474740	50.0000	47.3	
	28	Vinyl Acetate	43	5.871	5.847	(0.655)	487511	50.0000	47.2	
	29	cis-1,2-Dichloroethene	96	6.386	6.362	(0.789)	223222	50.0000	45.4	
M	30	1,2-Dichloroethylene (total)	96				421844	100.000	90.4	
	31	Methyl Methacrylate	41	12.112	12.094	(1.352)	232853	50.0000	47.9	
	32	2,2-Dichloropropane	77	6.593	6.562	(0.815)	187951	50.0000	44.3	
	33	Bromochloromethane	128	6.751	6.726	(0.834)	107358	50.0000	48.3	
	34	Chloroform	83	6.894	6.869	(0.852)	365620	50.0000	46.0	
	35	Carbon Tetrachloride	117	7.115	7.091	(0.794)	208620	50.0000	44.6	
	36	Tetrahydrofuran	42	7.187	7.162	(0.888)	433357	250.000	229	
$	37	Dibromofluoromethane	113	7.222	7.198	(0.892)	159987	50.0000	51.4	
	38	1,1,1-Trichloroethane	97	7.251	7.226	(0.896)	282186	50.0000	44.4	
	39	1,1-Dichloropropene	75	7.473	7.448	(0.834)	274811	50.0000	42.4	
	40	2-Butanone	43	7.480	7.455	(0.924)	656919	250.000	225	
	41	Benzene	78	7.901	7.877	(0.882)	882513	50.0000	44.4	
*	42	Pentafluorobenzene	168	8.094	8.070	(1.000)	343323	50.0000		
	43	Cyclohexane	56	6.729	6.705	(0.831)	337486	50.0000	43.8	
	44	Ethyl Methacrylate	69	10.139	10.114	(1.132)	164025	50.0000	46.2	
$	45	1,2-Dichloroethane-D4	65	8.137	8.119	(1.005)	210608	50.0000	51.5	
	46	Tertiary-amyl methyl ether	73	8.137	8.113	(1.005)	441541	50.0000	46.3	
	47	1,2-Dichloroethane	62	8.252	8.234	(0.921)	308953	50.0000	45.0	
	48	Trichloroethene	95	8.881	8.856	(0.991)	209212	50.0000	43.1	
*	49	1,4-Difluorobenzene	114	8.959	8.942	(1.000)	562229	50.0000		
	50	Dibromomethane	93	9.553	9.528	(1.066)	136465	50.0000	44.7	
	51	1,2-Dichloropropane	63	9.724	9.707	(1.085)	234564	50.0000	46.2	
	52	Bromodichloromethane	83	9.831	9.814	(1.097)	283038	50.0000	44.7	
	53	cis-1,3-dichloropropene	75	10.825	10.808	(1.208)	350281	50.0000	45.1	
	54	1,4-Dioxane	88	10.182	10.164	(1.136)	72362	1000.00	907	
$	55	Toluene-D8	98	11.111	11.094	(1.240)	689221	50.0000	48.8	
	57	Toluene	92	11.182	11.165	(1.248)	535499	50.0000	43.7	
	58	4-methyl-2-pentanone	43	11.804	11.787	(1.318)	1435385	250.000	224	
	59	Tetrachloroethene	164	11.747	11.730	(0.877)	162176	50.0000	43.2	
	60	trans-1,3-Dichloropropene	75	11.833	11.815	(1.321)	290386	50.0000	46.0	
	61	1,1,2-Trichloroethane	83	12.069	12.051	(1.347)	168917	50.0000	43.4	
	62	Dibromochloromethane	129	12.319	12.294	(0.919)	220118	50.0000	46.4	
	63	1,3-Dichloropropane	76	12.469	12.452	(0.931)	380315	50.0000	46.5	
	64	1,2-Dibromoethane	107	12.655	12.638	(1.412)	202336	50.0000	44.3	
	65	2-Hexanone	43	13.048	13.031	(0.974)	1051270	250.000	234	
*	66	Chlorobenzene-D5	117	13.398	13.381	(1.000)	541336	50.0000		
	67	Chlorobenzene	112	13.420	13.409	(1.002)	624380	50.0000	45.9	
	152	1-Chlorohexane	91	13.477	13.460	(1.665)	1040198	50.0000	(a)	
	68	Ethylbenzene	106	13.477	13.460	(1.006)	330393	50.0000	44.1	
	69	1,1,1,2-Tetrachloroethane	131	13.520	13.502	(1.009)	206715	50.0000	46.9	
M	70	Xylenes (total)	106				1233667	150.000	134	
	71	m+p-Xylenes	106	13.684	13.674	(1.021)	821751	100.000	89.2	
	72	o-Xylene	106	14.263	14.253	(1.065)	411916	50.0000	44.8	
	73	Styrene	104	14.335	14.324	(1.070)	709380	50.0000	45.9	
	74	Bromoform	173	14.356	14.339	(1.071)	158665	50.0000	44.5	
	75	Isopropylbenzene	105	14.685	14.675	(0.893)	993295	50.0000	46.0	

Data File: \\target_server\gg\chem\gcms-w.i\W052218.b\W4117.D
Report Date: 25-May-2018 12:32

								AMOUNTS		
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ug/kg)	ON-COL (ug/kg)	REVIEW CODE
$	76 P-Bromofluorobenzene	95	15.042	15.032	(1.679)	287234	50.0000	48.2	
	77 cis-1,4-Dichloro-2-Butene	53	15.142	15.132	(0.920)	82013	50.0000	44.0	
	78 trans-1,4-Dichloro-2-Butene	53	15.550	15.532	(0.945)	69061	50.0000	43.2	
	79 Bromobenzene	156	15.171	15.154	(0.922)	279452	50.0000	46.0	
	80 N-Propylbenzene	91	15.221	15.211	(0.925)	1271505	50.0000	45.6	
	81 1,1,2,2-Tetrachloroethane	83	15.321	15.311	(0.931)	325836	50.0000	46.8	
	82 1,3,5-Trimethylbenzene	105	15.478	15.468	(0.941)	912347	50.0000	46.0	
	83 2-Chlorotoluene	91	15.407	15.397	(0.937)	776885	50.0000	45.7	
	84 1,2,3-Trichloropropane	75	15.485	15.475	(0.941)	283160	50.0000	46.8	
	85 4-Chlorotoluene	91	15.628	15.611	(0.950)	806810	50.0000	45.4	
	86 tert-Butylbenzene	119	15.879	15.868	(0.965)	938686	50.0000	46.7	
	87 Pentachloroethane	117	15.893	15.883	(0.966)	181078	50.0000	47.6	
	88 1,2,4-Trimethylbenzene	105	15.964	15.954	(0.970)	969589	50.0000	46.3	
	89 P-Isopropyltoluene	119	16.279	16.268	(0.990)	1012979	50.0000	46.0	
	90 1,3-Dichlorobenzene	146	16.358	16.347	(0.994)	550318	50.0000	45.6	
*	91 1,4-Dichlorobenzene-D4	152	16.450	16.440	(1.000)	332217	50.0000		
	92 1,4-Dichlorobenzene	146	16.472	16.454	(1.001)	567283	50.0000	45.9	
	93 N-Butylbenzene	91	16.801	16.783	(1.021)	940587	50.0000	45.6	
	94 sec-Butylbenzene	105	16.100	16.082	(0.979)	1205649	50.0000	46.0	
	95 1,2-Dichlorobenzene	146	16.987	16.969	(1.033)	565404	50.0000	46.7	
	96 1,2-Dibromo-3-Chloropropane	75	17.959	17.941	(1.092)	75822	50.0000	48.2	
	97 1,3,5-Trichlorobenzene	180	17.987	17.977	(2.222)	360299	50.0000	43.2	
	98 Hexachlorobutadiene	225	18.724	18.713	(1.138)	160197	50.0000	42.9	
	99 1,2,4-Trichlorobenzene	180	18.759	18.749	(1.140)	321699	50.0000	45.5	
	100 1,2,3-Trimethylbenzene	105	16.508	16.489	(2.039)	1008978	50.0000	47.0	
	101 Naphthalene	128	19.160	19.142	(1.165)	945072	50.0000	48.4	
	102 1,2,3-Trichlorobenzene	180	19.388	19.371	(1.179)	313256	50.0000	47.7	
	103 Methyl Acetate	43	4.456	4.439	(0.551)	204931	50.0000	45.9	
	104 Methylcyclohexane	83	8.845	8.828	(1.093)	347036	50.0000	45.4	
M	153 Total Alkylbenzenes	100				7251342	50.0000	322	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).


Data File: \\target_server\gg\chem\gcms-w.i\W052218.b\W4117.D
Date : 22-MAY-2018 19:20
Client ID:
Sample Info: WG228846-5,SL4180
Column phase: RTX-VMS
Instrument: gcms-w.i
Operator: JSS
Column diameter: 0.18
\\target_server\gg\chem\gcms-w.i\W052218.b\W4117.D
Y (x10^6)
Min
Vinyl Chloride (2.269)
Bromomethane (2.620)
Chloroethane (2.748)
Trichlorofluoromethane (2.898)
Diethyl Ether (3.234)
1,1-Dichloroethene (3.477)+
Iodomethane (3.656)
Acrolein (3.899)
Allyl Chloride (4.071)
Methylene Chloride (4.206)+
trans-1,2-Dichloroethene (4.428)+
Methyl tert-butyl ether (4.592)
Tertiary-butyl alcohol (4.735)
Acetonitrile (4.993)
Di-isopropyl ether (5.179)
Chloroprene (5.350)+
Acrylonitrile (5.507)
Ethyl tertiary-butyl ethe (5.829)+
cis-1,2-Dichloroethene (6.387)
2,2-Dichloropropane (6.594)
Bromochloromethane (6.751)+
Chloroform (6.894)
Carbon Tetrachloride (7.194)+
1,1-Dichloropropene (7.473)+
Propionitrile (7.902)+
1,2-Dichloroethane-D4 (8.138)+
1,2-Dichloroethane (8.252)
Methacrylonitrile (8.016)+
Isobutyl Alcohol (8.367)
Trichloroethene (8.853)+
1,4-Difluorobenzene (8.960)
Dibromomethane (9.553)
1,2-Dichloropropane (9.725)
Bromodichloromethane (9.832)
Ethyl Methacrylate (10.139)+
1,2-Dichloroethylene (tot (10.268)
cis-1,3-dichloropropene (10.825)
Toluene-D8 (11.111)
Toluene (11.183)
Tetrachloroethene (11.748)
4-methyl-2-pentanone (11.805)+
Methyl Methacrylate (12.069)+
Dibromochloromethane (12.319)
1,3-Dichloropropane (12.470)
1,2-Dibromoethane (12.655)
2-Hexanone (13.049)
Chlorobenzene-D5 (13.420)+
1-Chlorohexane (13.477)+
m+p-Xylenes (13.685)
o-Xylene (14.264)
Styrene (14.342)+
Isopropylbenzene (14.685)
P-Bromofluorobenzene (15.043)
cis-1,4-Dichloro-2-Butene (15.164)+
n-Propylbenzene (15.222)
1,1,2,2-Tetrachloroethane (15.272)
2-Chlorotoluene (15.407)
trans-1,4-Dichloro-2-Bute (15.580)
4-Chlorotoluene (15.622)
1,3,5-Trimethylbenzene (15.479)+
tert-Butylbenzene (15.879)+
sec-Butylbenzene (16.101)
1,3-Dichlorobenzene (16.275)
1,4-Dichlorobenzene-D4 (16.465)+
1,4-Dichlorobenzene (16.508)
1,2-Dichlorobenzene (16.987)
1,2-Dibromo-3-Chloropropa (17.959)
1,3,5-Trichlorobenzene (17.988)
Hexachlorobutadiene (18.724)+
Naphthalene (19.160)
1,2,3-Trichlorobenzene (19.382)

Data File: \\target_server\gg\chem\gcms-d.i\D051718.b\DB180A.d

Date : 17-MAY-2018 07:31

Client ID:

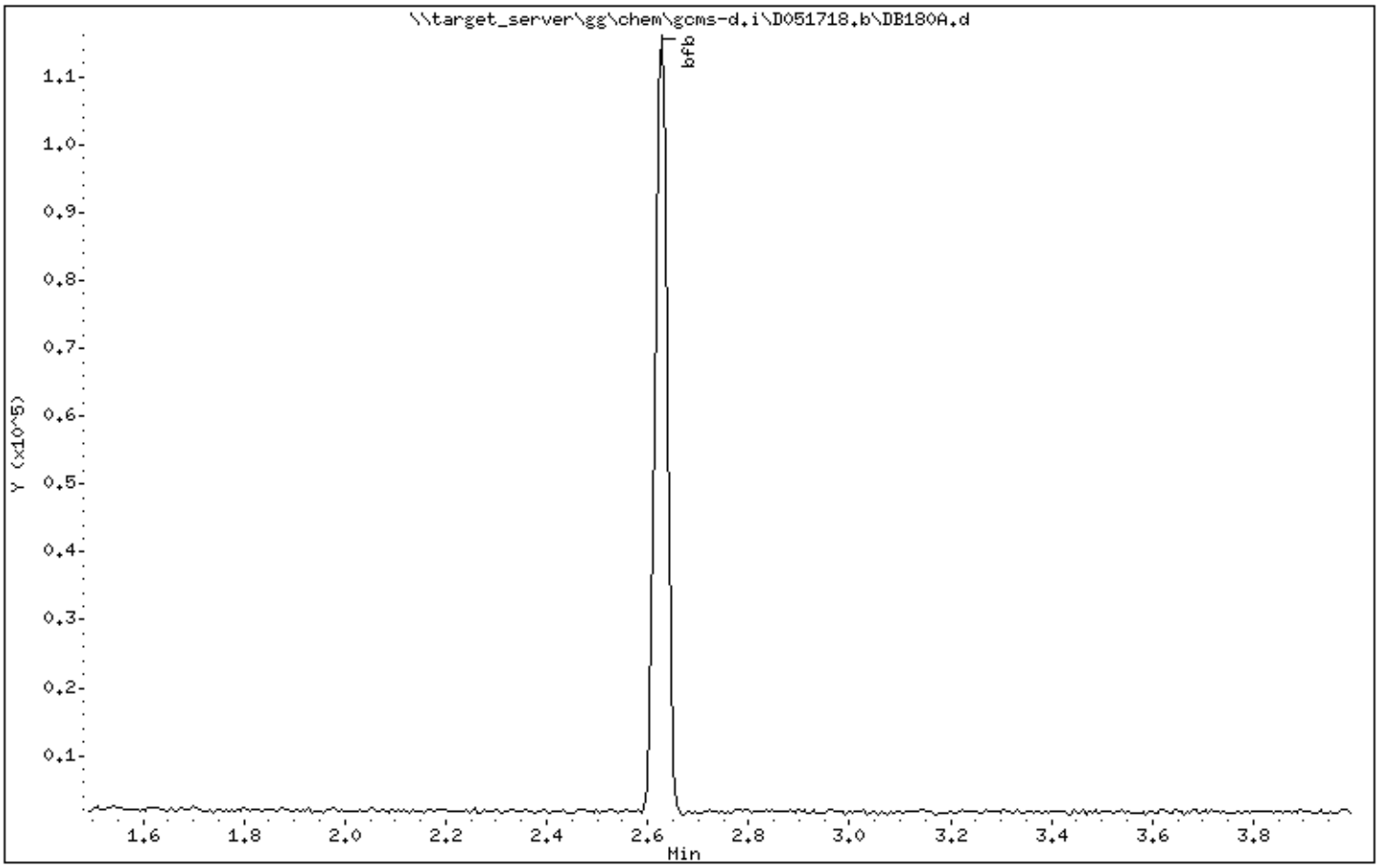
Instrument: gcms-d.i

Sample Info: WG228547-7,SL4180

Operator: JSS

Column phase: RTX-VMS

Column diameter: 0.18



Data File: \\target_server\gg\chem\gcms-d.i\D051718.b\DB180A.d

Date : 17-MAY-2018 07:31

Client ID:

Instrument: gcms-d.i

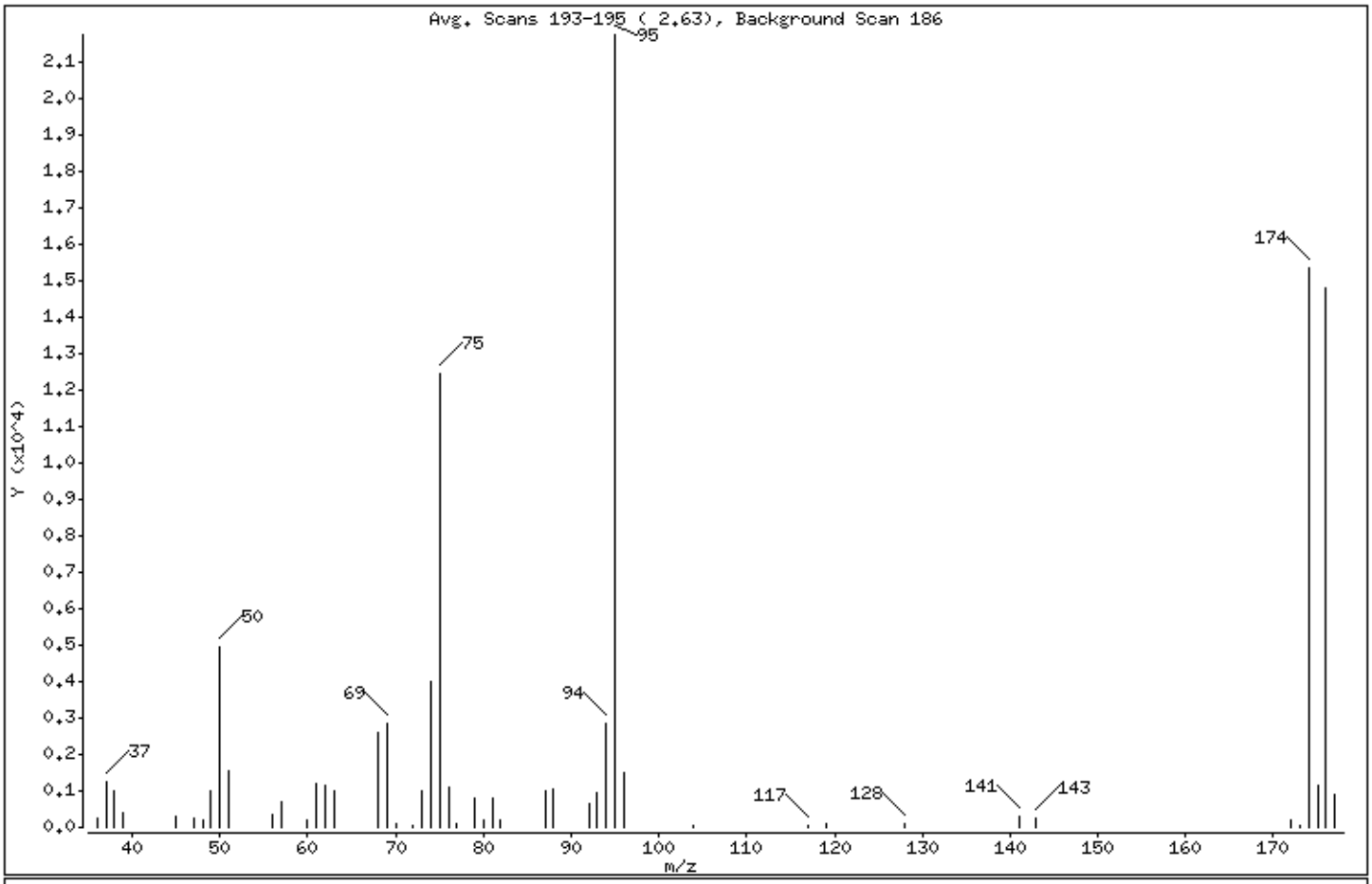
Sample Info: WG228547-7,SL4180

Operator: JSS

Column phase: RTX-VMS

Column diameter: 0.18

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	22.71
75	30.00 - 60.00% of mass 95	57.31
96	5.00 - 9.00% of mass 95	6.79
173	Less than 2.00% of mass 174	0.24 (0.34)
174	Greater than 50.00% of mass 95	70.66
175	5.00 - 9.00% of mass 174	5.37 (7.60)
176	95.00 - 101.00% of mass 174	68.02 (96.27)
177	5.00 - 9.00% of mass 176	4.12 (6.06)

Date : 17-MAY-2018 07:31

Client ID: Instrument: gcms-d.i

Sample Info: WG228547-7,SL4180

Operator: JSS

Column phase: RTX-VMS Column diameter: 0.18

Data File: DB180A.d
Spectrum: Avg. Scans 193-195 (2.63), Background Scan 186
Location of Maximum: 95.00
Number of points: 48

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	227	61.00	1184	80.00	202	128.00	121
37.00	1268	62.00	1174	81.00	802	141.00	308
38.00	1006	63.00	1007	82.00	225	143.00	275
39.00	409	68.00	2619	87.00	1001	172.00	223
45.00	288	69.00	2850	88.00	1036	173.00	53
47.00	275	70.00	119	92.00	674	174.00	15369
48.00	210	72.00	62	93.00	972	175.00	1168
49.00	980	73.00	1006	94.00	2848	176.00	14795
50.00	4940	74.00	4025	95.00	21752	177.00	896
51.00	1527	75.00	12467	96.00	1477		
56.00	370	76.00	1081	104.00	65		
57.00	714	77.00	87	117.00	56		
60.00	198	79.00	807	119.00	120		

Data File: \\target_server\gg\chem\gcms-d.i\D052118.b\DB186a.d

Date : 21-MAY-2018 07:08

Client ID:

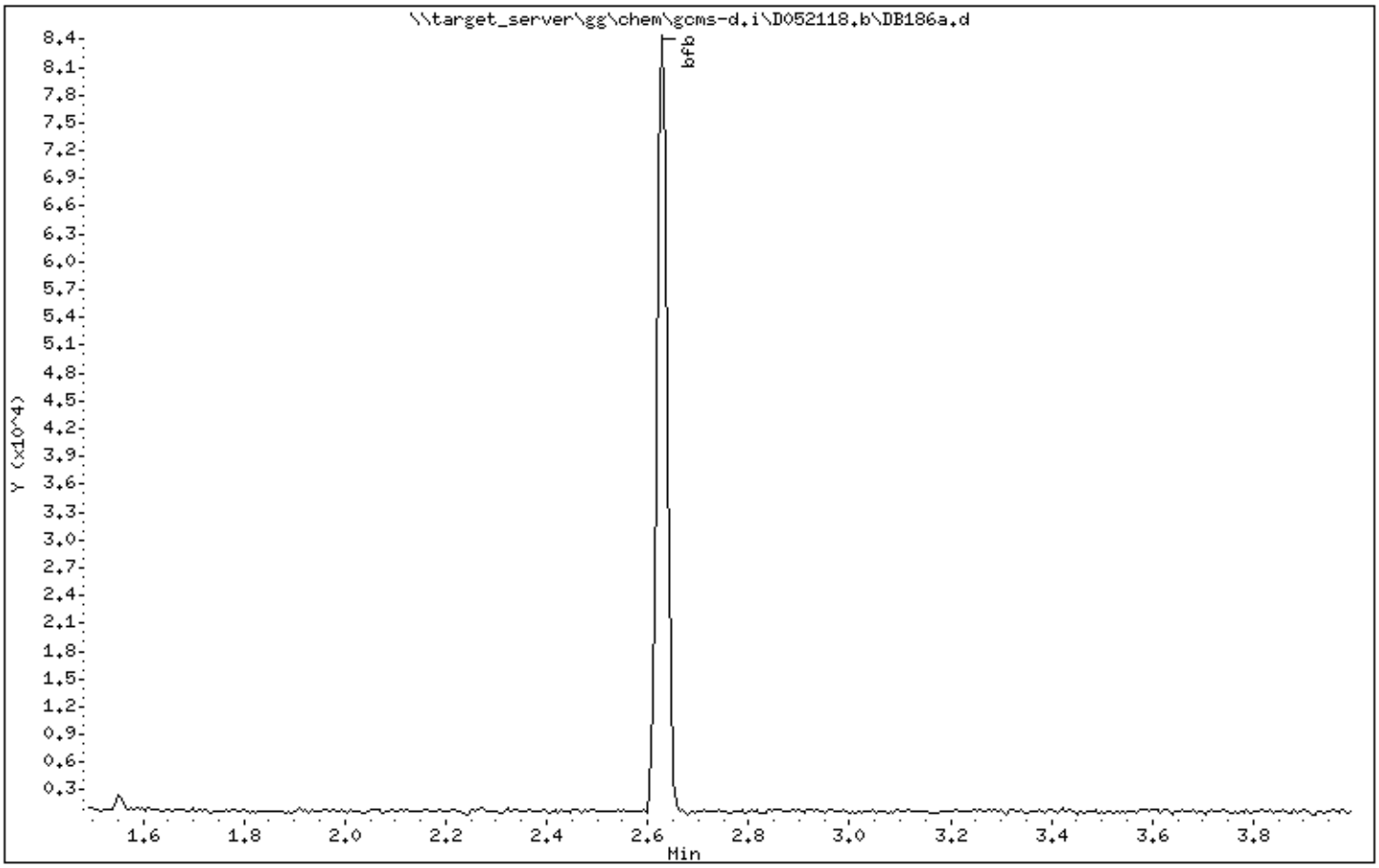
Instrument: gcms-d.i

Sample Info: WG228752-3,SL4180

Operator: JSS

Column phase: RTX-VMS

Column diameter: 0.18



Data File: \\target_server\gg\chem\gcms-d.i\D052118.b\DB186a.d

Date : 21-MAY-2018 07:08

Client ID:

Instrument: gcms-d.i

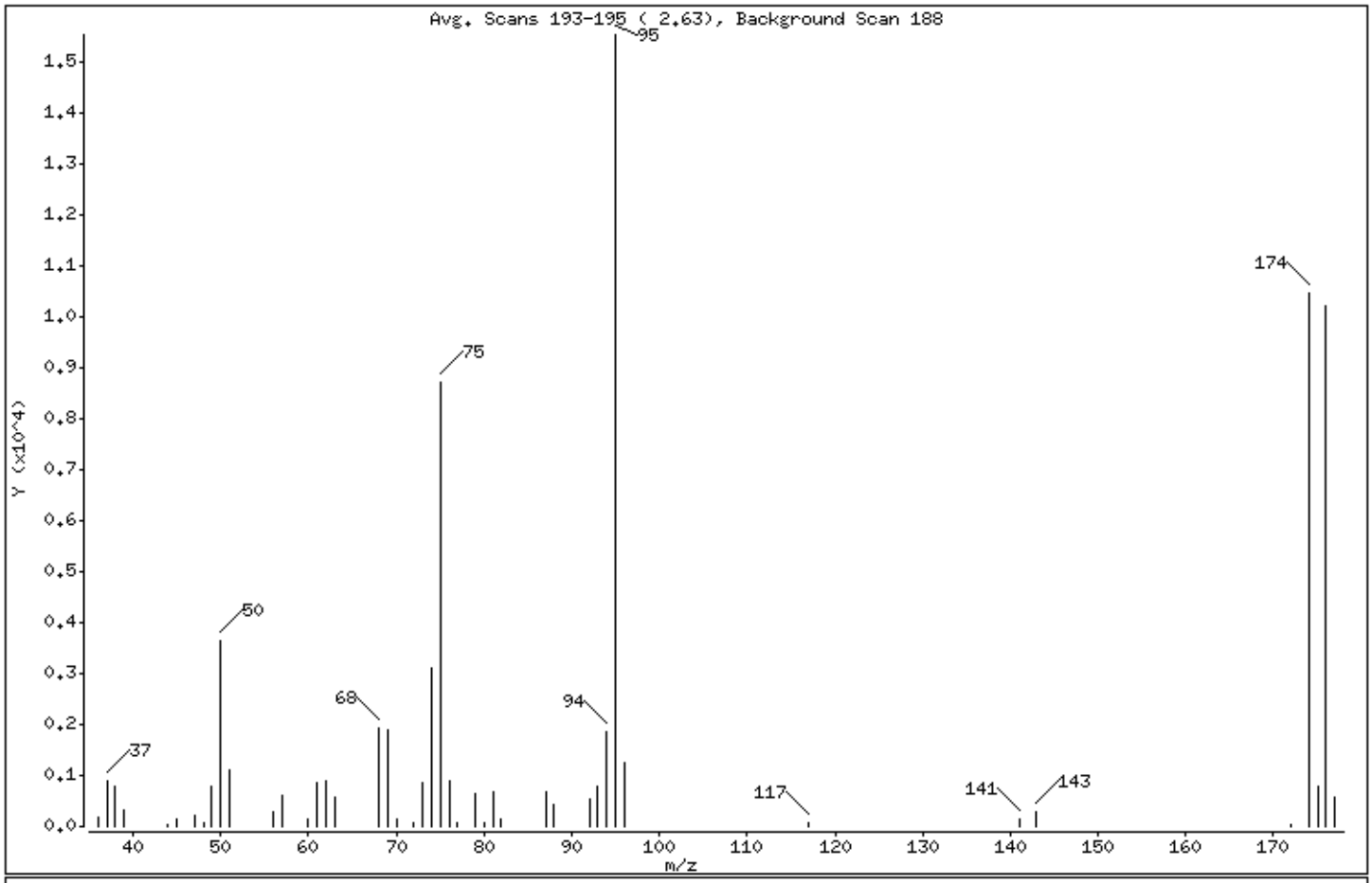
Sample Info: WG228752-3,SL4180

Operator: JSS

Column phase: RTX-VMS

Column diameter: 0.18

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	23.41
75	30.00 - 60.00% of mass 95	56.06
96	5.00 - 9.00% of mass 95	8.07
173	Less than 2.00% of mass 174	0.00 (0.00)
174	Greater than 50.00% of mass 95	67.44
175	5.00 - 9.00% of mass 174	5.12 (7.59)
176	95.00 - 101.00% of mass 174	65.82 (97.60)
177	5.00 - 9.00% of mass 176	3.66 (5.55)

Date : 21-MAY-2018 07:08

Client ID:

Instrument: gcms-d.i

Sample Info: WG228752-3,SL4180

Operator: JSS

Column phase: RTX-VMS

Column diameter: 0.18

Data File: DB186a.d
Spectrum: Avg. Scans 193-195 (2.63), Background Scan 188
Location of Maximum: 95.00
Number of points: 45

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	184	57.00	594	76.00	876	96.00	1254
37.00	882	60.00	129	77.00	60	117.00	54
38.00	792	61.00	840	79.00	632	141.00	153
39.00	330	62.00	876	80.00	60	143.00	275
44.00	29	63.00	587	81.00	685	172.00	50
45.00	139	68.00	1943	82.00	141	174.00	10480
47.00	224	69.00	1902	87.00	661	175.00	795
48.00	57	70.00	152	88.00	441	176.00	10228
49.00	771	72.00	56	92.00	519	177.00	568
50.00	3638	73.00	855	93.00	783		
51.00	1121	74.00	3096	94.00	1868		
56.00	286	75.00	8711	95.00	15540		

Data File: \\target_server\gg\chem\gcms-w.i\W051818C.b\WB842a.D

Date : 18-MAY-2018 13:00

Client ID:

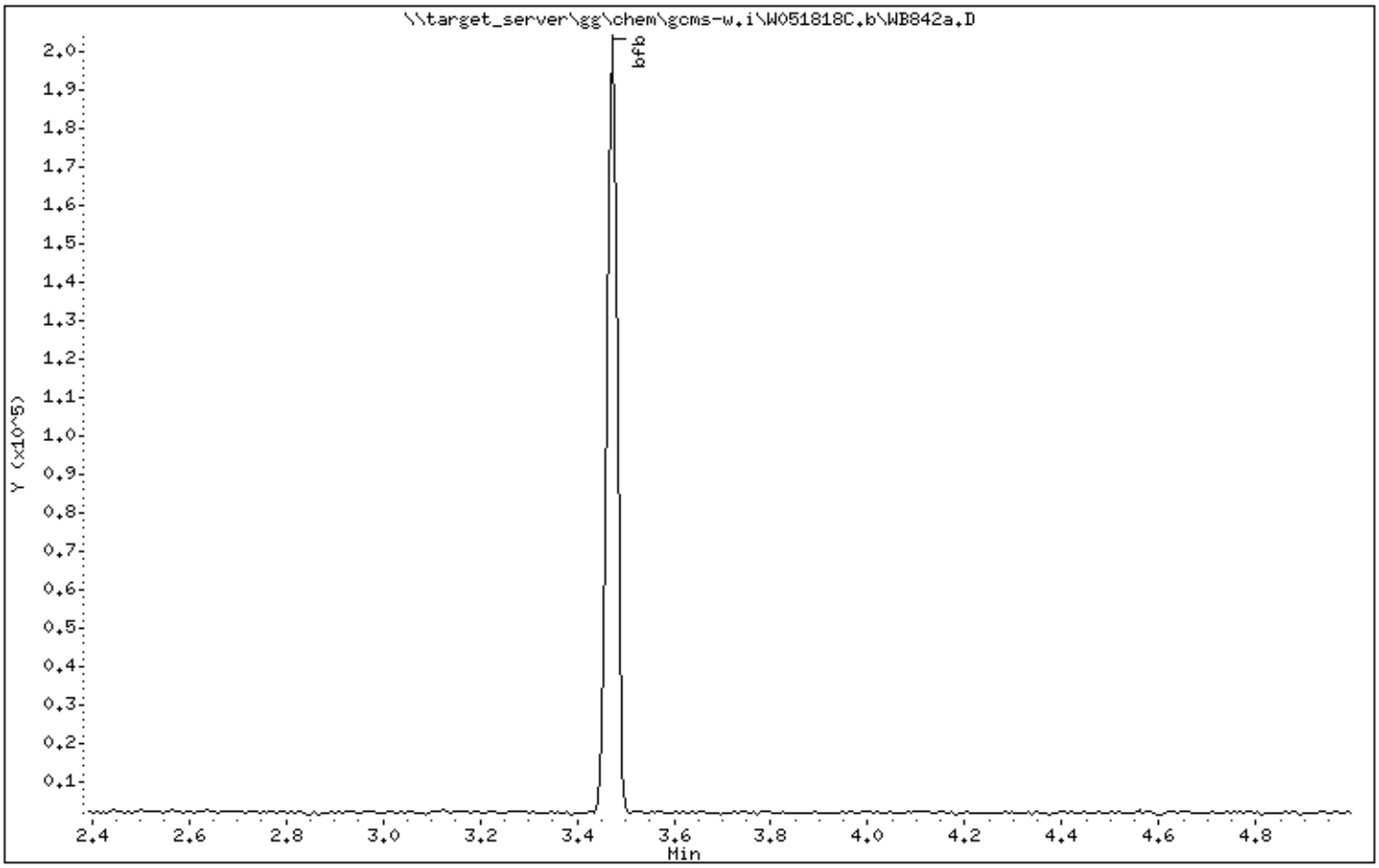
Instrument: gcms-w.i

Sample Info: WG228635-8,SL4180

Operator: JSS

Column phase: RTX-VMS

Column diameter: 0.18



Data File: \\target_server\gg\chem\gcms-w.i\W051818C.b\WB842a.D

Date : 18-MAY-2018 13:00

Client ID:

Instrument: gcms-w.i

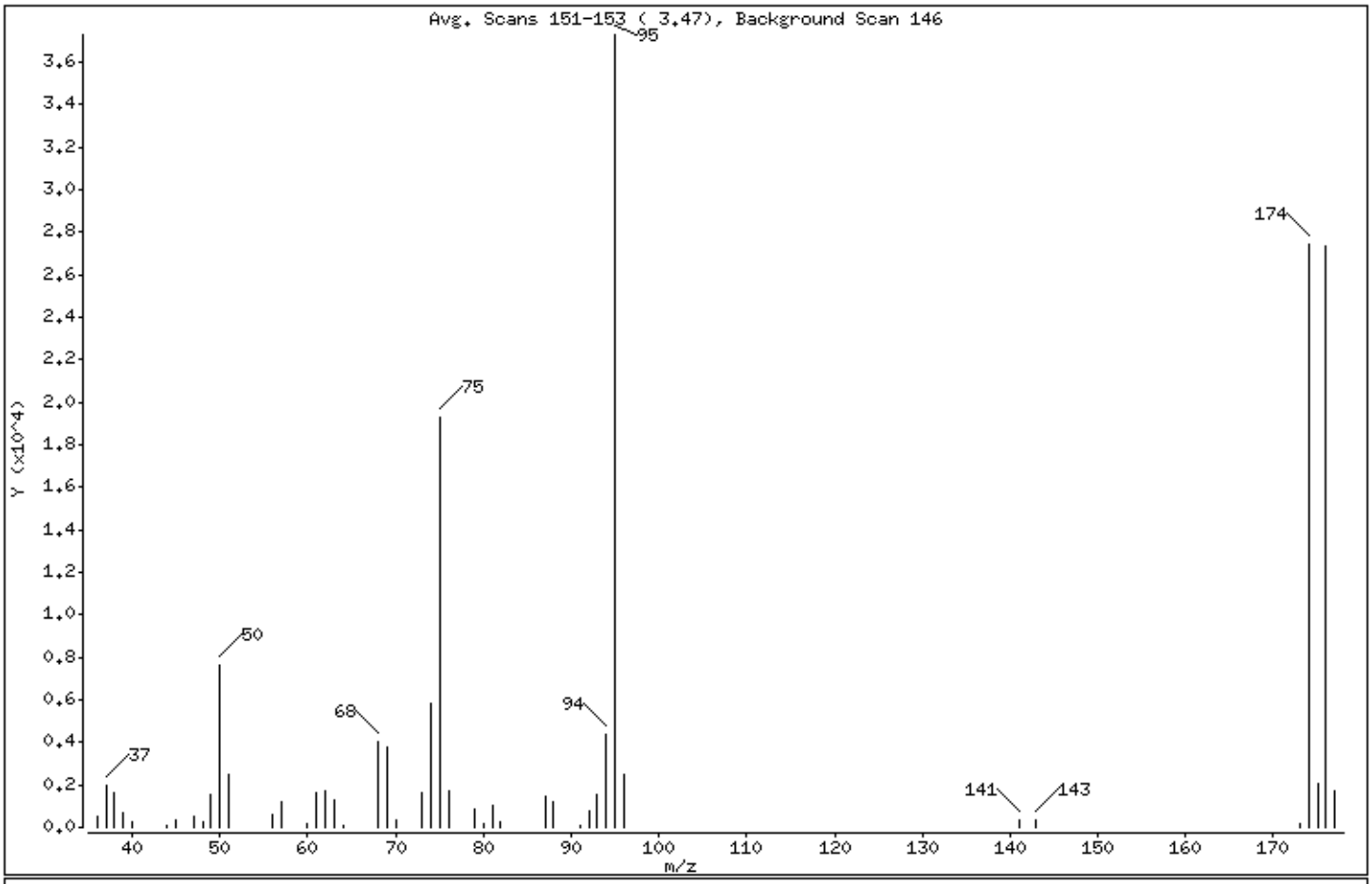
Sample Info: WG228635-8,SL4180

Operator: JSS

Column phase: RTX-VMS

Column diameter: 0.18

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	20.50
75	30.00 - 60.00% of mass 95	51.84
96	5.00 - 9.00% of mass 95	6.72
173	Less than 2.00% of mass 174	0.38 (0.51)
174	Greater than 50.00% of mass 95	73.62
175	5.00 - 9.00% of mass 174	5.59 (7.59)
176	95.00 - 101.00% of mass 174	73.38 (99.68)
177	5.00 - 9.00% of mass 176	4.65 (6.34)

Data File: \\target_server\gg\chem\gcms-w.i\W051818C.b\WB842a.D

Date : 18-MAY-2018 13:00

Client ID:

Instrument: gcms-w.i

Sample Info: WG228635-8,SL4180

Operator: JSS

Column phase: RTX-VMS

Column diameter: 0.18

Data File: WB842a.D
Spectrum: Avg. Scans 151-153 (3.47), Background Scan 146
Location of Maximum: 95.00
Number of points: 45

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	475	56.00	578	75.00	19320	95.00	37272
37.00	1933	57.00	1166	76.00	1674	96.00	2506
38.00	1641	60.00	130	79.00	857	141.00	345
39.00	707	61.00	1667	80.00	211	143.00	361
40.00	242	62.00	1726	81.00	1036	173.00	140
44.00	70	63.00	1302	82.00	258	174.00	27440
45.00	353	64.00	87	87.00	1480	175.00	2082
47.00	492	68.00	4023	88.00	1217	176.00	27352
48.00	297	69.00	3812	91.00	90	177.00	1735
49.00	1554	70.00	373	92.00	794		
50.00	7640	73.00	1645	93.00	1575		
51.00	2475	74.00	5816	94.00	4371		

Data File: \\target_server\gg\chem\gcms-w.i\W051918.b\WB843a.D

Date : 19-MAY-2018 07:25

Client ID:

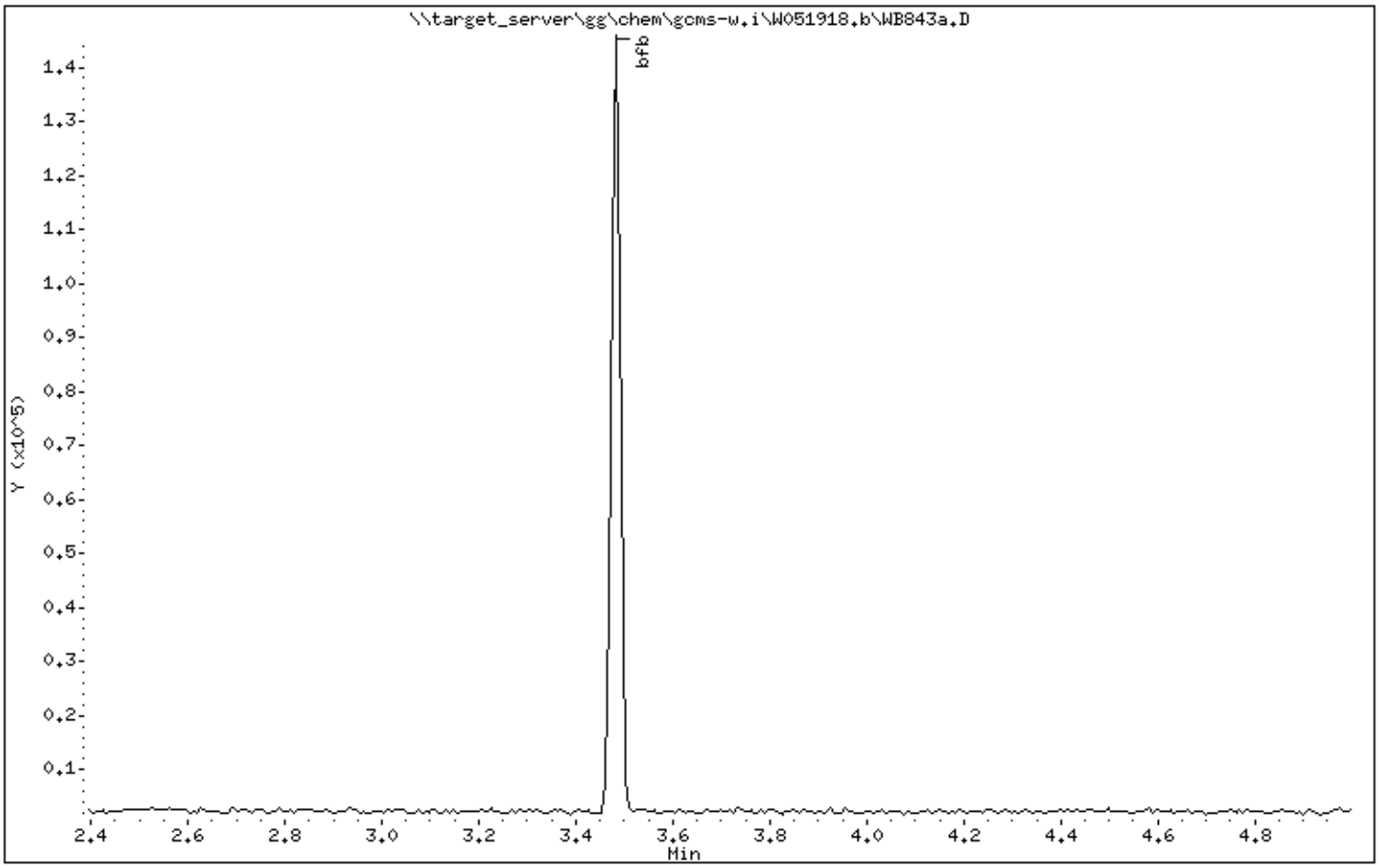
Instrument: gcms-w.i

Sample Info: WG228693-3,SL4180

Operator: JSS

Column phase: RTX-VMS

Column diameter: 0.18



Data File: \\target_server\gg\chem\gcms-w.i\W051918.b\WB843a.D

Date : 19-MAY-2018 07:25

Client ID:

Instrument: gcms-w.i

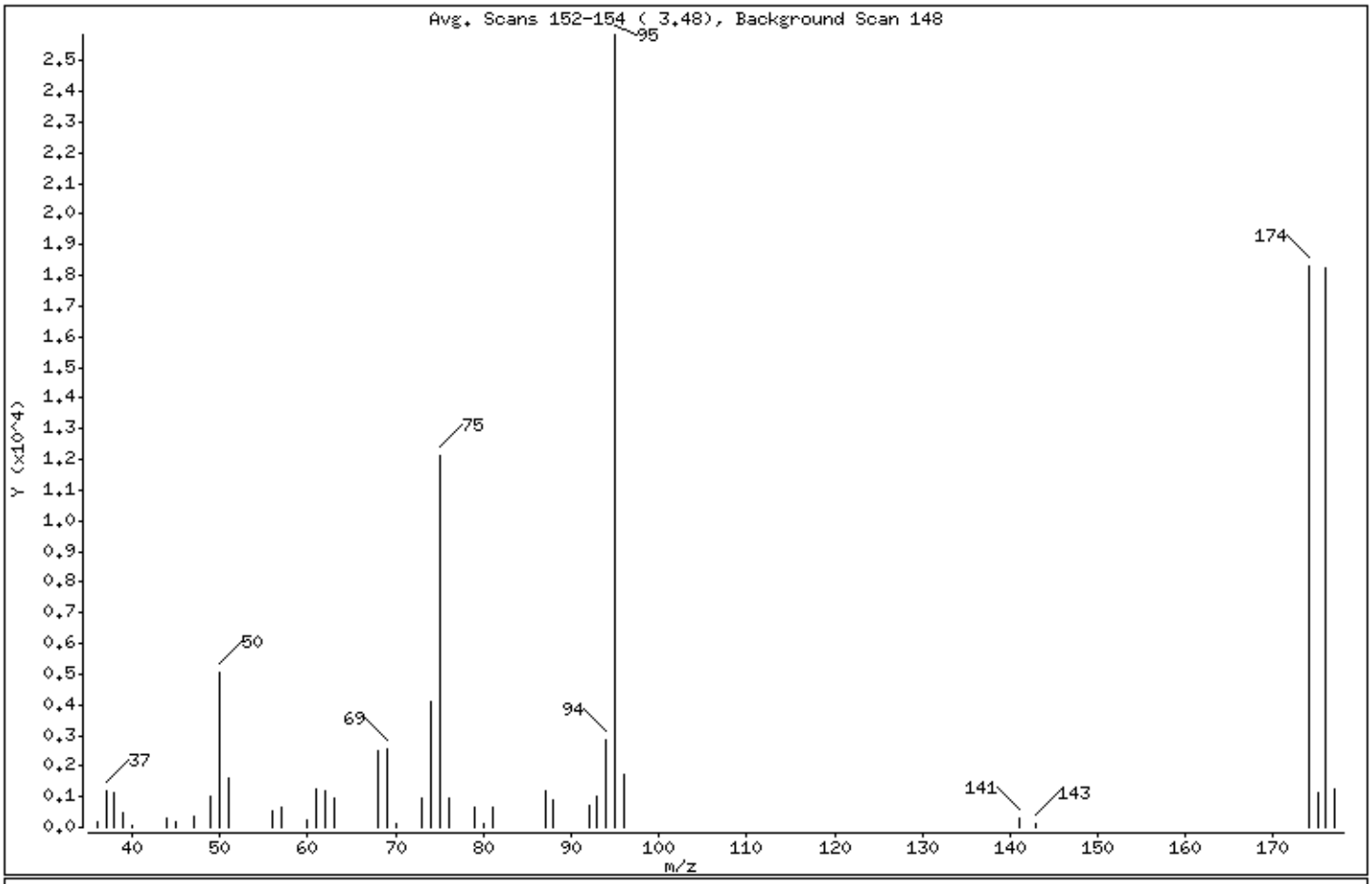
Sample Info: WG228693-3,SL4180

Operator: JSS

Column phase: RTX-VMS

Column diameter: 0.18

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	19.53
75	30.00 - 60.00% of mass 95	46.94
96	5.00 - 9.00% of mass 95	6.66
173	Less than 2.00% of mass 174	0.00 (0.00)
174	Greater than 50.00% of mass 95	70.81
175	5.00 - 9.00% of mass 174	4.27 (6.03)
176	95.00 - 101.00% of mass 174	70.47 (99.52)
177	5.00 - 9.00% of mass 176	4.86 (6.90)

Data File: \\target_server\gg\chem\gcms-w.i\W051918.b\WB843a.D

Date : 19-MAY-2018 07:25

Client ID:

Instrument: gcms-w.i

Sample Info: WG228693-3,SL4180

Operator: JSS

Column phase: RTX-VMS

Column diameter: 0.18

Data File: WB843a.D
Spectrum: Avg. Scans 152-154 (3.48), Background Scan 148
Location of Maximum: 95.00
Number of points: 40

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	181	56.00	507	75.00	12133	96.00	1722
37.00	1174	57.00	658	76.00	940	141.00	272
38.00	1119	60.00	208	79.00	659	143.00	110
39.00	504	61.00	1243	80.00	98	174.00	18304
40.00	31	62.00	1166	81.00	662	175.00	1104
44.00	281	63.00	937	87.00	1159	176.00	18216
45.00	192	68.00	2491	88.00	876	177.00	1256
47.00	378	69.00	2544	92.00	692		
49.00	992	70.00	117	93.00	1020		
50.00	5049	73.00	929	94.00	2873		
51.00	1615	74.00	4071	95.00	25848		

Data File: \\target_server\gg\chem\gcms-w.i\W052118.b\WB845a.D

Date : 21-MAY-2018 07:30

Client ID:

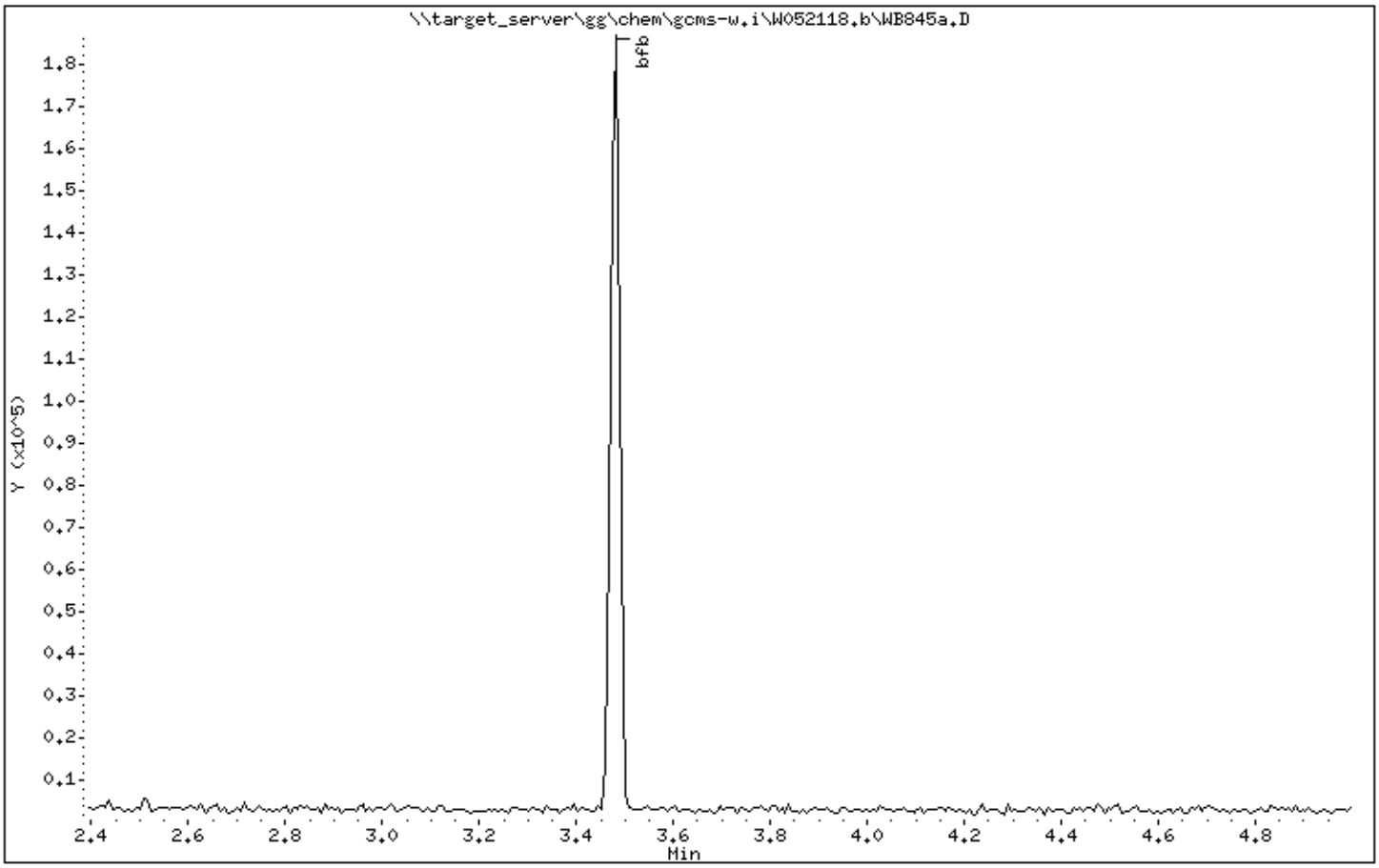
Instrument: gcms-w.i

Sample Info: WG228751-10,SL4180

Operator: JSS

Column phase: RTX-VMS

Column diameter: 0.18



Data File: \\target_server\gg\chem\gcms-w.i\W052118.b\WB845a.D

Date : 21-MAY-2018 07:30

Client ID:

Instrument: gcms-w.i

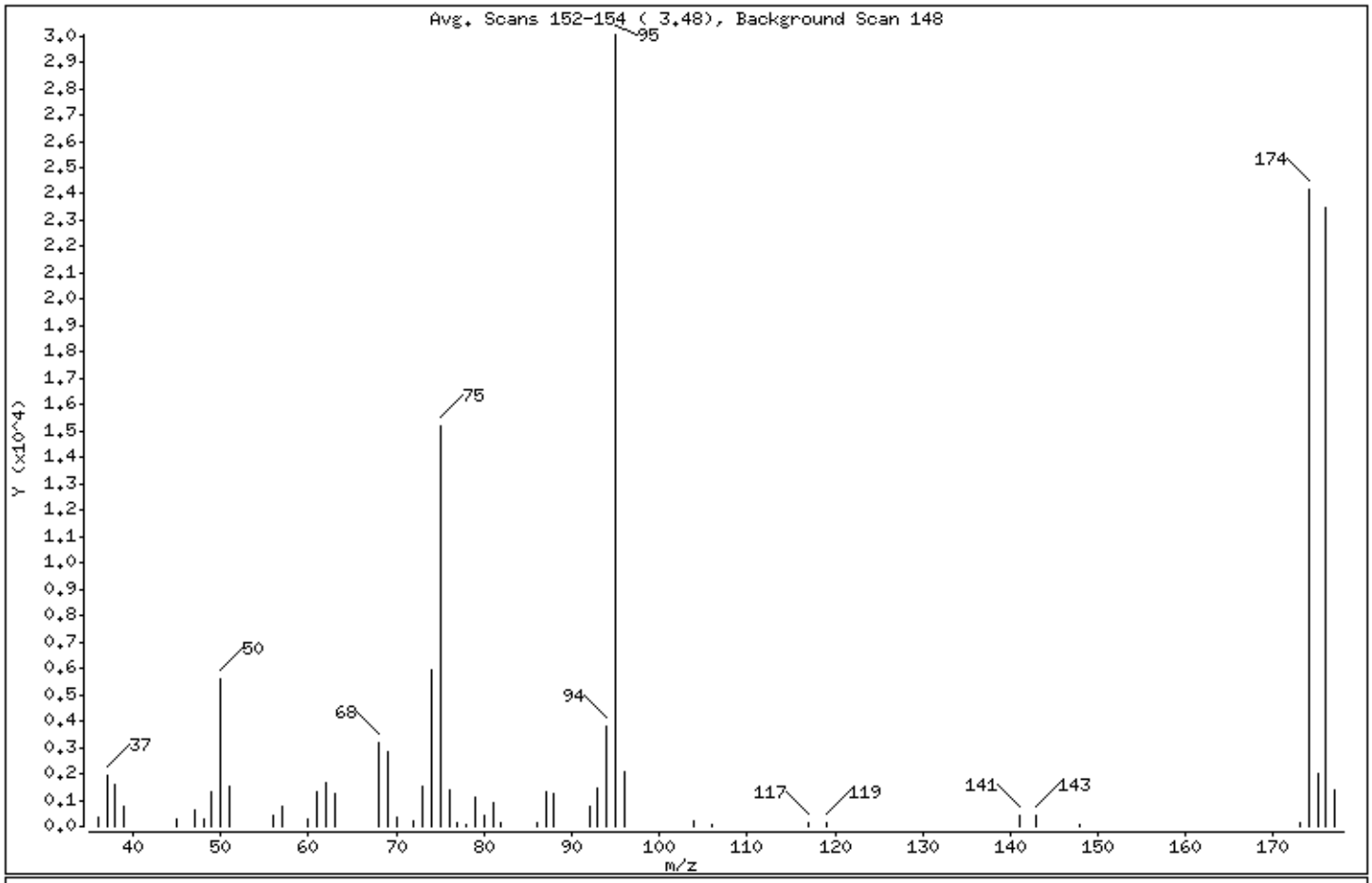
Sample Info: WG228751-10,SL4180

Operator: JSS

Column phase: RTX-VMS

Column diameter: 0.18

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	18.63
75	30.00 - 60.00% of mass 95	50.64
96	5.00 - 9.00% of mass 95	6.80
173	Less than 2.00% of mass 174	0.39 (0.48)
174	Greater than 50.00% of mass 95	80.45
175	5.00 - 9.00% of mass 174	6.68 (8.30)
176	95.00 - 101.00% of mass 174	78.06 (97.02)
177	5.00 - 9.00% of mass 176	4.56 (5.85)

Data File: \\target_server\gg\chem\gcms-w.i\W052118.b\WB845a.D

Date : 21-MAY-2018 07:30

Client ID:

Instrument: gcms-w.i

Sample Info: WG228751-10,SL4180

Operator: JSS

Column phase: RTX-VMS

Column diameter: 0.18

Data File: WB845a.D
Spectrum: Avg. Scans 152-154 (3.48), Background Scan 148
Location of Maximum: 95.00
Number of points: 50

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	338	61.00	1296	79.00	1100	106.00	87
37.00	1906	62.00	1663	80.00	435	117.00	112
38.00	1557	63.00	1245	81.00	889	119.00	123
39.00	763	68.00	3156	82.00	138	141.00	391
45.00	274	69.00	2860	86.00	115	143.00	391
47.00	630	70.00	363	87.00	1294	148.00	87
48.00	250	72.00	182	88.00	1273	173.00	116
49.00	1340	73.00	1513	92.00	738	174.00	24168
50.00	5597	74.00	5947	93.00	1463	175.00	2006
51.00	1502	75.00	15211	94.00	3783	176.00	23448
56.00	382	76.00	1363	95.00	30040	177.00	1371
57.00	733	77.00	118	96.00	2042		
60.00	293	78.00	90	104.00	195		

Data File: \\target_server\gg\chem\gcms-w.i\W052118B.b\WB846a.D

Date : 21-MAY-2018 19:07

Client ID:

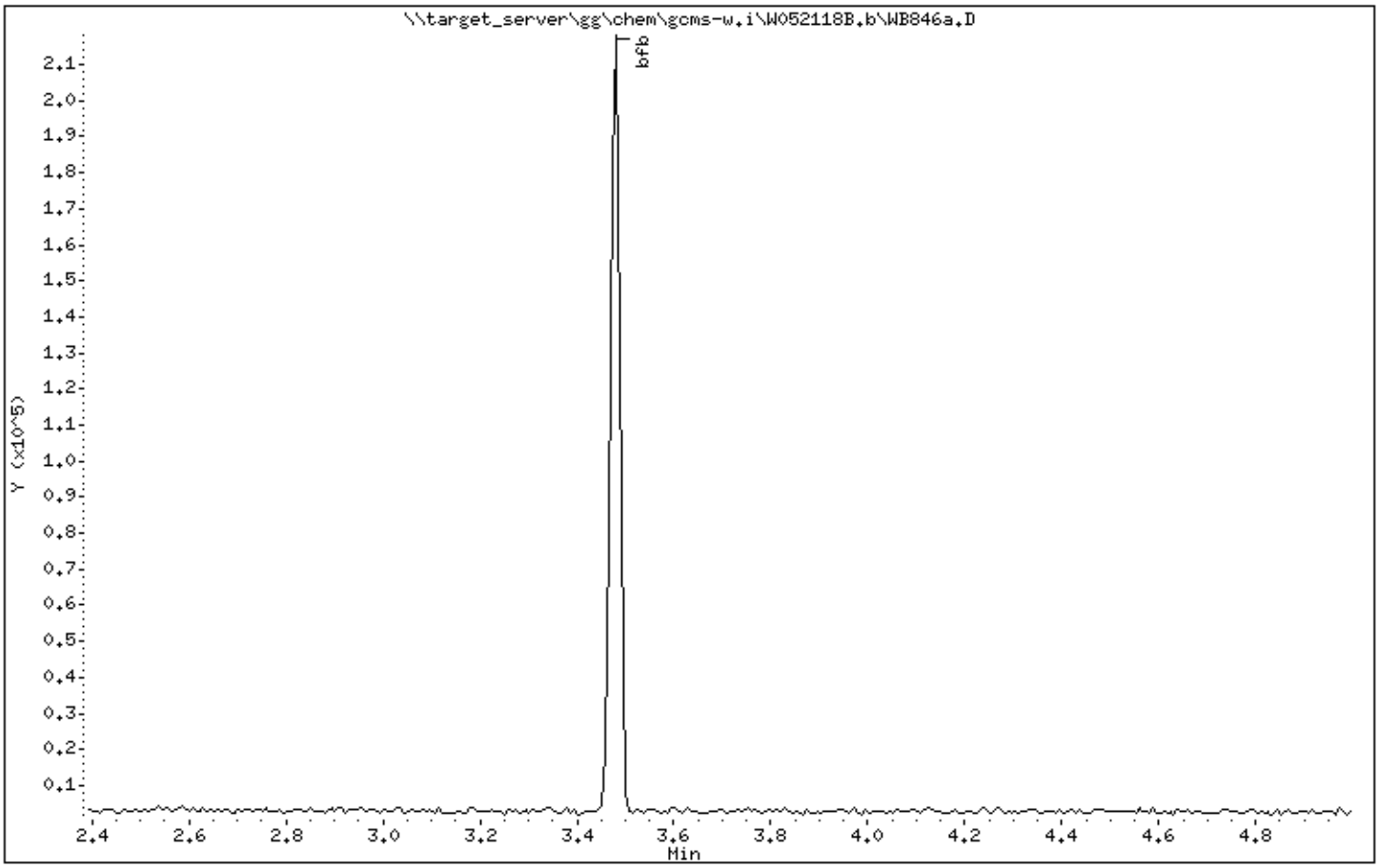
Instrument: gcms-w.i

Sample Info: WG228825-3,SL4180

Operator: JSS

Column phase: RTX-VMS

Column diameter: 0.18



Data File: \\target_server\gg\chem\gcms-w.i\W052118B.b\WB846a.D

Date : 21-MAY-2018 19:07

Client ID:

Instrument: gcms-w.i

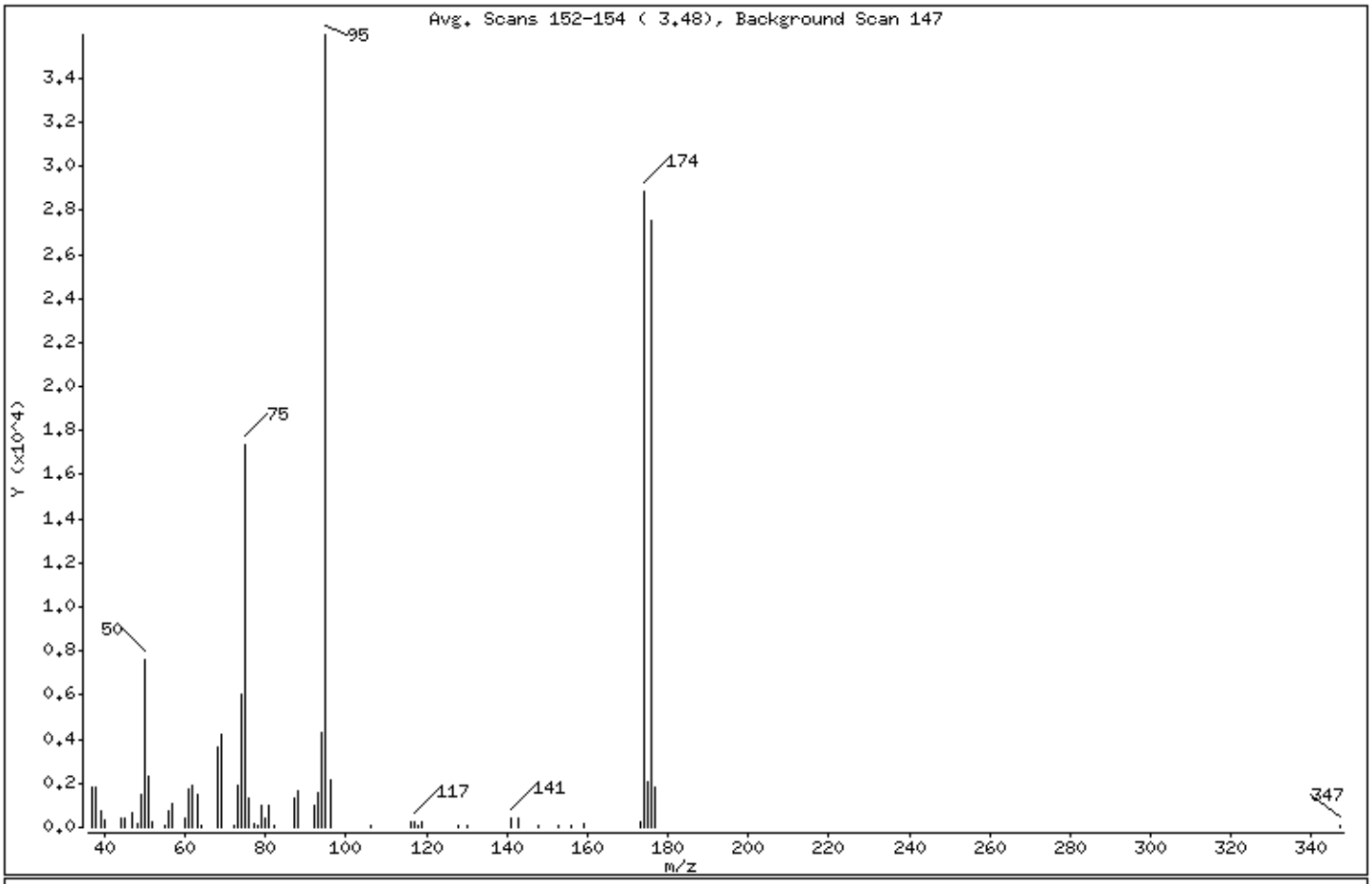
Sample Info: WG228825-3,SL4180

Operator: JSS

Column phase: RTX-VMS

Column diameter: 0.18

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	21.21
75	30.00 - 60.00% of mass 95	48.20
96	5.00 - 9.00% of mass 95	5.93
173	Less than 2.00% of mass 174	0.79 (0.98)
174	Greater than 50.00% of mass 95	80.32
175	5.00 - 9.00% of mass 174	5.67 (7.06)
176	95.00 - 101.00% of mass 174	76.58 (95.35)
177	5.00 - 9.00% of mass 176	5.15 (6.72)

Date : 21-MAY-2018 19:07

Client ID:

Instrument: gcms-w.i

Sample Info: WG228825-3,SL4180

Operator: JSS

Column phase: RTX-VMS

Column diameter: 0.18

Data File: WB846a.D
Spectrum: Avg. Scans 152-154 (3.48), Background Scan 147
Location of Maximum: 95.00
Number of points: 59

m/z	Y	m/z	Y	m/z	Y	m/z	Y
37.00	1783	60.00	390	80.00	398	128.00	105
38.00	1817	61.00	1749	81.00	986	130.00	86
39.00	744	62.00	1902	82.00	120	141.00	454
40.00	325	63.00	1463	87.00	1318	143.00	426
44.00	377	64.00	116	88.00	1616	148.00	106
45.00	418	68.00	3666	92.00	988	153.00	99
47.00	660	69.00	4208	93.00	1561	156.00	87
48.00	138	72.00	86	94.00	4271	159.00	201
49.00	1527	73.00	1939	95.00	35968	173.00	284
50.00	7628	74.00	6021	96.00	2133	174.00	28888
51.00	2294	75.00	17336	106.00	107	175.00	2039
52.00	229	76.00	1346	116.00	226	176.00	27544
55.00	104	77.00	203	117.00	289	177.00	1852
56.00	747	78.00	92	118.00	110	347.00	91
57.00	1042	79.00	995	119.00	215		

Data File: \\target_server\gg\chem\gcms-w.i\W052218.b\WB847a.D

Date : 22-MAY-2018 08:03

Client ID:

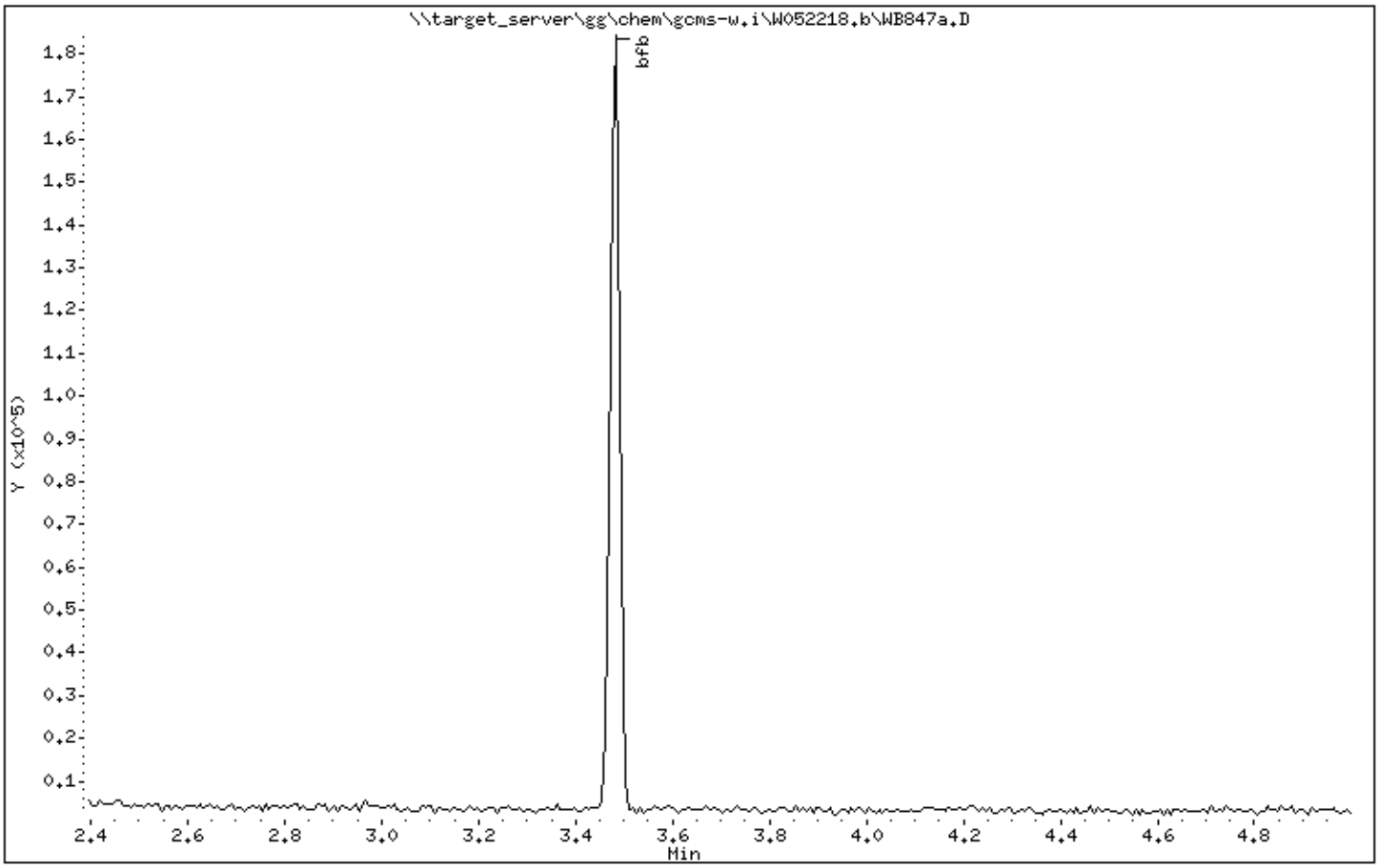
Instrument: gcms-w.i

Sample Info: WG228846-3,SL4180

Operator: JSS

Column phase: RTX-VMS

Column diameter: 0.18



Data File: \\target_server\gg\chem\gcms-w.i\W052218.b\WB847a.D

Date : 22-MAY-2018 08:03

Client ID:

Instrument: gcms-w.i

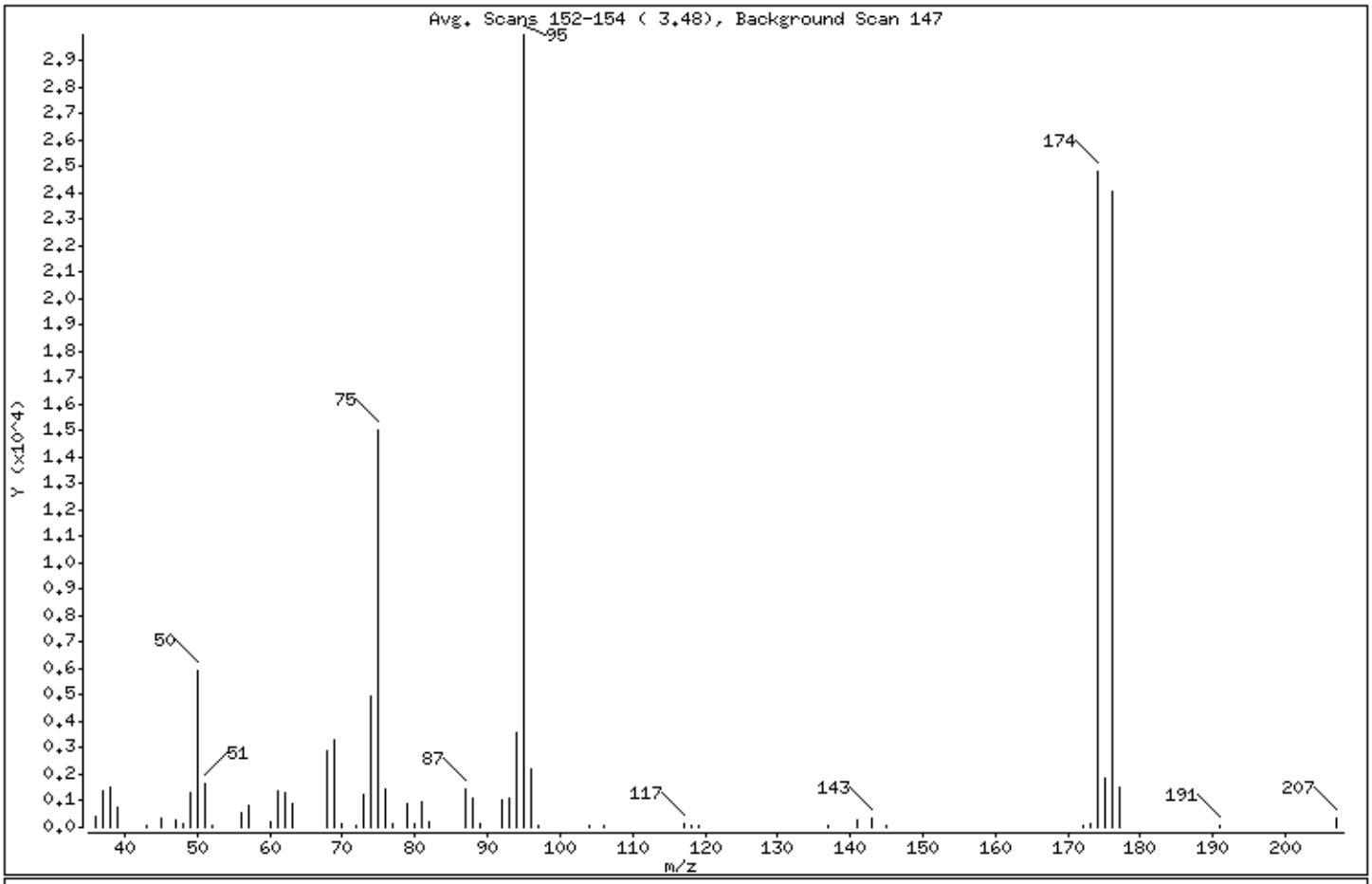
Sample Info: WG228846-3,SL4180

Operator: JSS

Column phase: RTX-VMS

Column diameter: 0.18

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	19.76
75	30.00 - 60.00% of mass 95	50.06
96	5.00 - 9.00% of mass 95	7.24
173	Less than 2.00% of mass 174	0.38 (0.46)
174	Greater than 50.00% of mass 95	82.84
175	5.00 - 9.00% of mass 174	6.30 (7.61)
176	95.00 - 101.00% of mass 174	80.30 (96.94)
177	5.00 - 9.00% of mass 176	4.94 (6.16)

Data File: \\target_server\gg\chem\gcms-w.i\W052218.b\WB847a.D

Date : 22-MAY-2018 08:03

Client ID:

Instrument: gcms-w.i

Sample Info: WG228846-3,SL4180

Operator: JSS

Column phase: RTX-VMS

Column diameter: 0.18

Data File: WB847a.D
Spectrum: Avg. Scans 152-154 (3.48), Background Scan 147
Location of Maximum: 95.00
Number of points: 57

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	440	61.00	1362	82.00	209	137.00	83
37.00	1410	62.00	1298	87.00	1433	141.00	304
38.00	1517	63.00	928	88.00	1090	143.00	354
39.00	786	68.00	2905	89.00	126	145.00	83
43.00	85	69.00	3288	92.00	1036	172.00	92
45.00	338	70.00	159	93.00	1078	173.00	113
47.00	281	72.00	91	94.00	3549	174.00	24832
48.00	116	73.00	1213	95.00	29976	175.00	1889
49.00	1284	74.00	4971	96.00	2171	176.00	24072
50.00	5924	75.00	15007	97.00	92	177.00	1482
51.00	1675	76.00	1438	104.00	86	191.00	96
52.00	90	77.00	112	106.00	86	207.00	326
56.00	571	79.00	886	117.00	123		
57.00	825	80.00	118	118.00	101		
60.00	207	81.00	998	119.00	88		

Raw QC Data Section

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client:
Lab ID: WG228752-2
Client ID: Method Blank Sample
Project:
SDG: SL4180
Lab File ID: D1450.D

Sample Date:
Received Date:
Extract Date: 21-MAY-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG228752

Analysis Date: 21-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,1,1,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.19	0.50
1,1,1-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1,2,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.38	0.50
Freon-113	U	0.50	ug/L	1	1	1.0	0.31	0.50
1,1,2-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
1,1-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
1,1-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.35	0.50
1,1-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.21	0.50
1,2,3-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.27	0.50
1,2,3-Trichloropropane	U	0.50	ug/L	1	1	1.0	0.19	0.50
1,2,4-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.37	0.50
1,2,4-Trimethylbenzene	U	0.50	ug/L	1	1	1.0	0.19	0.50
1,2-Dibromo-3-Chloropropane	U	0.50	ug/L	1	1	1.0	0.50	0.50
1,2-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.15	0.50
1,2-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
1,3,5-Trimethylbenzene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,3-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,3-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.22	0.50
1,4-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.24	0.50
2,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
2-Butanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
2-Chlorotoluene	U	0.50	ug/L	1	1	1.0	0.20	0.50
2-Hexanone	U	2.5	ug/L	1	5	5.0	1.7	2.5
4-Chlorotoluene	U	0.50	ug/L	1	1	1.0	0.26	0.50
P-Isopropyltoluene	U	0.50	ug/L	1	1	1.0	0.25	0.50
4-Methyl-2-Pentanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Acetone	U	2.5	ug/L	1	5	5.0	2.2	2.5
Benzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
Bromobenzene	U	0.50	ug/L	1	1	1.0	0.24	0.50
Bromoform	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromomethane	U	1.0	ug/L	1	2	2.0	0.49	1.0
Carbon Disulfide	U	0.50	ug/L	1	1	1.0	0.25	0.50
Carbon Tetrachloride	U	0.50	ug/L	1	1	1.0	0.22	0.50

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Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client:
Lab ID: WG228752-2
Client ID: Method Blank Sample
Project:
SDG: SL4180
Lab File ID: D1450.D

Sample Date:
Received Date:
Extract Date: 21-MAY-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG228752

Analysis Date: 21-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Chlorobenzene	U	0.50	ug/L	1	1	1.0	0.22	0.50
Bromochloromethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
Dibromochloromethane	U	0.50	ug/L	1	1	1.0	0.30	0.50
Chloroethane	U	1.0	ug/L	1	2	2.0	0.55	1.0
Chloroform	U	0.50	ug/L	1	1	1.0	0.32	0.50
Chloromethane	U	1.0	ug/L	1	2	2.0	0.36	1.0
cis-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.21	0.50
cis-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.19	0.50
Dibromomethane	U	0.50	ug/L	1	1	1.0	0.46	0.50
Bromodichloromethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
Dichlorodifluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
Ethylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50
1,2-Dibromoethane	U	0.50	ug/L	1	1	1.0	0.22	0.50
Hexachlorobutadiene	U	0.75	ug/L	1	1	1.0	0.52	0.75
Isopropylbenzene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Methyl tert-butyl Ether	U	0.50	ug/L	1	1	1.0	0.36	0.50
Methylene Chloride	U	2.5	ug/L	1	5	5.0	1.1	2.5
m+p-Xylenes	U	1.0	ug/L	1	2	2.0	0.59	1.0
Naphthalene	U	0.50	ug/L	1	1	1.0	0.30	0.50
N-Butylbenzene	U	0.50	ug/L	1	1	1.0	0.23	0.50
N-Propylbenzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
o-Xylene	U	0.50	ug/L	1	1	1.0	0.25	0.50
sec-Butylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50
Styrene	U	0.50	ug/L	1	1	1.0	0.23	0.50
tert-Butylbenzene	U	0.50	ug/L	1	1	1.0	0.31	0.50
Tetrachloroethene	U	0.50	ug/L	1	1	1.0	0.40	0.50
Toluene	U	0.50	ug/L	1	1	1.0	0.27	0.50
trans-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.25	0.50
trans-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.20	0.50
Trichloroethene	U	0.50	ug/L	1	1	1.0	0.28	0.50
Trichlorofluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
Vinyl Chloride	U	1.0	ug/L	1	2	2.0	0.25	1.0
Dibromofluoromethane		102.	%					
1,2-Dichloroethane-d4		114.	%					

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ANALYTICAL SERVICES

Report of Analytical Results

Client:
Lab ID: WG228752-2
Client ID: Method Blank Sample
Project:
SDG: SL4180
Lab File ID: D1450.D

Sample Date:
Received Date:
Extract Date: 21-MAY-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG228752

Analysis Date: 21-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Toluene-d8		101.	%					
P-Bromofluorobenzene		99.3	%					

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Data File: \\target_server\gg\chem\gcms-d.i\D052118.b\D1450.d
Report Date: 25-May-2018 11:49

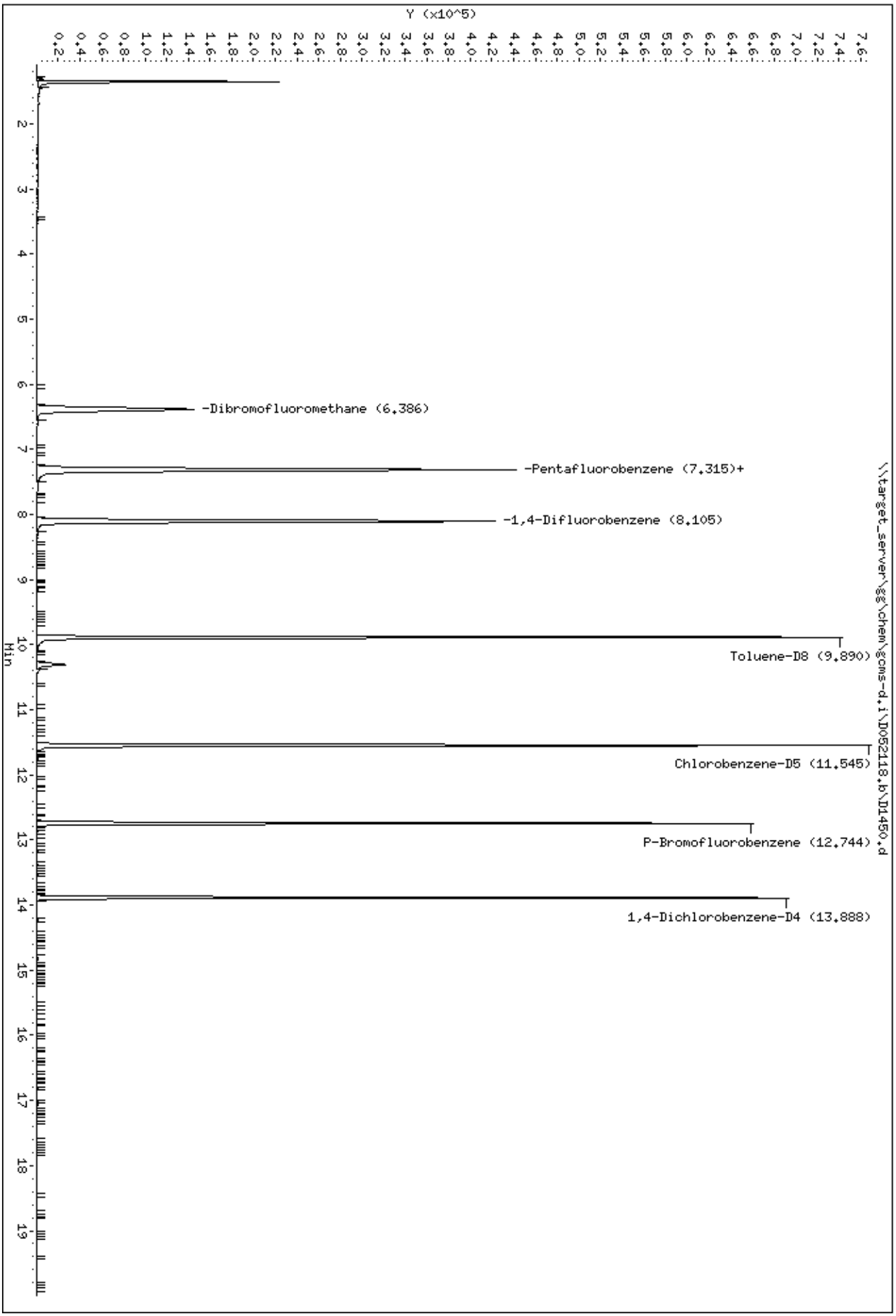
Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-d.i\D052118.b\D1450.d
Lab Smp Id: WG228752-2 Client Smp ID: WG228752-Blank
Inj Date : 21-MAY-2018 10:22 MS Autotune Date: 05-OCT-2017 14:30
Operator : JSS Inst ID: gcms-d.i
Smp Info : WG228752-2,SL4180
Misc Info : WG228752,WG228547-4,SL4180-29
Comment : SW846 5030
Method : \\target_server\gg\chem\gcms-d.i\D052118.b\D8A05(22)D.m
Meth Date : 25-May-2018 11:48 gcms-d.i Quant Type: ISTD
Cal Date : 17-MAY-2018 11:09 Cal File: D1356.d
Als bottle: 5 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
$	37 Dibromofluoromethane	113	6.385	6.376	(0.872)	149981	51.0243	51.0	
*	42 Pentafluorobenzene	168	7.324	7.315	(1.000)	239905	50.0000		
$	45 1,2-Dichloroethane-D4	65	7.305	7.297	(0.997)	229619	57.2556	57.2	
*	49 1,4-Difluorobenzene	114	8.105	8.096	(1.000)	394566	50.0000		
$	55 Toluene-D8	98	9.890	9.881	(1.220)	487498	50.6910	50.7	
*	66 Chlorobenzene-D5	117	11.545	11.536	(1.000)	362057	50.0000		
$	76 P-Bromofluorobenzene	95	12.744	12.735	(1.572)	196763	49.6715	49.7	
*	91 1,4-Dichlorobenzene-D4	152	13.887	13.879	(1.000)	178792	50.0000		


Y (x10^5)
Min
-Dibromofluoromethane (6.386)
-Pentafluorobenzene (7.315)+
-1,4-Difluorobenzene (8.105)
Toluene-D8 (9.890)
Chlorobenzene-D5 (11.545)
P-Bromofluorobenzene (12.744)
1,4-Dichlorobenzene-D4 (13.888)
\\target_server\gg\chem\gcms-d.i\D052118.b\D1450.d
Data File: \\target_server\gg\chem\gcms-d.i\D052118.b\D1450.d
Date : 21-MAY-2018 10:22
Client ID: WG228752-Blank
Sample Info: WG228752-2,SL4180
Instrument: gcms-d.i

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client:
Lab ID: WG228693-2
Client ID: Method Blank Sample
Project:
SDG: SL4180
Lab File ID: W4037.D

Sample Date:
Received Date:
Extract Date: 19-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228693

Analysis Date: 19-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: NA
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,1,1,2-Tetrachloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.70	2.5
1,1,1-Trichloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.42	2.5
1,1,2,2-Tetrachloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.84	2.5
Freon-113	U	2.5	ug/Kgdrywt	1	5	5.0	0.90	2.5
1,1,2-Trichloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.97	2.5
1,1-Dichloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	1.7	2.5
1,1-Dichloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	0.93	2.5
1,1-Dichloropropene	U	2.5	ug/Kgdrywt	1	5	5.0	0.91	2.5
1,2,3-Trichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.76	2.5
1,2,3-Trichloropropane	U	2.5	ug/Kgdrywt	1	5	5.0	1.2	2.5
1,2,4-Trichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.79	2.5
1,2,4-Trimethylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.87	2.5
1,2-Dibromo-3-Chloropropane	U	2.5	ug/Kgdrywt	1	5	5.0	1.5	2.5
1,2-Dibromoethane	U	2.5	ug/Kgdrywt	1	5	5.0	1.2	2.5
1,2-Dichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.78	2.5
1,2-Dichloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	1.0	2.5
1,2-Dichloropropane	U	2.5	ug/Kgdrywt	1	5	5.0	1.4	2.5
1,3,5-Trimethylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.67	2.5
1,3-Dichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.62	2.5
1,3-Dichloropropane	U	2.5	ug/Kgdrywt	1	5	5.0	0.94	2.5
1,4-Dichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.44	2.5
2,2-Dichloropropane	U	2.5	ug/Kgdrywt	1	5	5.0	0.50	2.5
2-Butanone	U	12	ug/Kgdrywt	1	25	25.	5.9	12.
2-Chlorotoluene	U	2.5	ug/Kgdrywt	1	5	5.0	1.1	2.5
2-Hexanone	U	12	ug/Kgdrywt	1	25	25.	4.8	12.
4-Chlorotoluene	U	2.5	ug/Kgdrywt	1	5	5.0	0.49	2.5
P-Isopropyltoluene	U	2.5	ug/Kgdrywt	1	5	5.0	0.76	2.5
4-Methyl-2-Pentanone	U	12	ug/Kgdrywt	1	25	25.	5.9	12.
Acetone	U	12	ug/Kgdrywt	1	25	25.	5.1	12.
Benzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.92	2.5
Bromobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.74	2.5
Bromochloromethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.91	2.5
Bromodichloromethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.60	2.5
Bromoform	U	2.5	ug/Kgdrywt	1	5	5.0	0.70	2.5

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Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client:
Lab ID: WG228693-2
Client ID: Method Blank Sample
Project:
SDG: SL4180
Lab File ID: W4037.D

Sample Date:
Received Date:
Extract Date: 19-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228693

Analysis Date: 19-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: NA
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Bromomethane	U	5.0	ug/Kgdrywt	1	10	10.	1.1	5.0
Carbon Disulfide	U	2.5	ug/Kgdrywt	1	5	5.0	0.78	2.5
Carbon Tetrachloride	U	2.5	ug/Kgdrywt	1	5	5.0	1.3	2.5
Chlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.51	2.5
Dibromochloromethane	U	2.5	ug/Kgdrywt	1	5	5.0	7.0	2.5
Chloroethane	U	5.0	ug/Kgdrywt	1	10	10.	1.3	5.0
Chloroform	U	2.5	ug/Kgdrywt	1	5	5.0	0.35	2.5
Chloromethane	U	5.0	ug/Kgdrywt	1	10	10.	1.4	5.0
cis-1,2-Dichloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	0.91	2.5
cis-1,3-Dichloropropene	U	2.5	ug/Kgdrywt	1	5	5.0	0.72	2.5
Dibromomethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.51	2.5
Dichlorodifluoromethane	U	5.0	ug/Kgdrywt	1	10	10.	0.92	5.0
Ethylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.65	2.5
Hexachlorobutadiene	U	2.5	ug/Kgdrywt	1	5	5.0	0.74	2.5
Isopropylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.92	2.5
m+p-Xylenes	U	5.0	ug/Kgdrywt	1	10	10.	1.7	5.0
Methyl tert-butyl Ether	U	2.5	ug/Kgdrywt	1	5	5.0	1.1	2.5
Methylene Chloride	U	12	ug/Kgdrywt	1	25	25.	7.9	12.
N-Butylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.92	2.5
N-Propylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.83	2.5
Naphthalene	J	1.0	ug/Kgdrywt	1	5	5.0	0.88	2.5
o-Xylene	U	2.5	ug/Kgdrywt	1	5	5.0	1.3	2.5
sec-Butylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.91	2.5
Styrene	U	2.5	ug/Kgdrywt	1	5	5.0	0.51	2.5
tert-Butylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.90	2.5
Tetrachloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	1.2	2.5
Toluene	U	2.5	ug/Kgdrywt	1	5	5.0	1.4	2.5
trans-1,2-Dichloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	0.71	2.5
trans-1,3-Dichloropropene	U	2.5	ug/Kgdrywt	1	5	5.0	0.86	2.5
Trichloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	0.59	2.5
Trichlorofluoromethane	U	5.0	ug/Kgdrywt	1	10	10.	0.91	5.0
Vinyl Chloride	U	5.0	ug/Kgdrywt	1	10	10.	0.87	5.0
1,2-Dichloroethane-D4		102.	%					
p-Bromofluorobenzene		96.1	%					

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Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client:
Lab ID: WG228693-2
Client ID: Method Blank Sample
Project:
SDG: SL4180
Lab File ID: W4037.D

Sample Date:
Received Date:
Extract Date: 19-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228693

Analysis Date: 19-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: NA
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dibromofluoromethane		103.	%					
Toluene-D8		100.	%					

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Data File: \\target_server\gg\chem\gcms-w.i\W051918.b\W4037.D
Report Date: 25-May-2018 12:03

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W051918.b\W4037.D
Lab Smp Id: WG228693-2 Client Smp ID: WG228693-Blank
Inj Date : 19-MAY-2018 10:02 MS Autotune Date: 10-APR-2016 11:00
Operator : JSS Inst ID: gcms-w.i
Smp Info : WG228693-2,SL4180
Misc Info : WG228693,WG228635-4,SL4180-1
Comment : SW846 5035
Method : \\target_server\gg\chem\gcms-w.i\W051918.b\W8SDI(12)D.m
Meth Date : 20-May-2018 08:58 hgould Quant Type: ISTD
Cal Date : 18-MAY-2018 15:04 Cal File: W4025.D
Als bottle: 4 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: VOA-WS

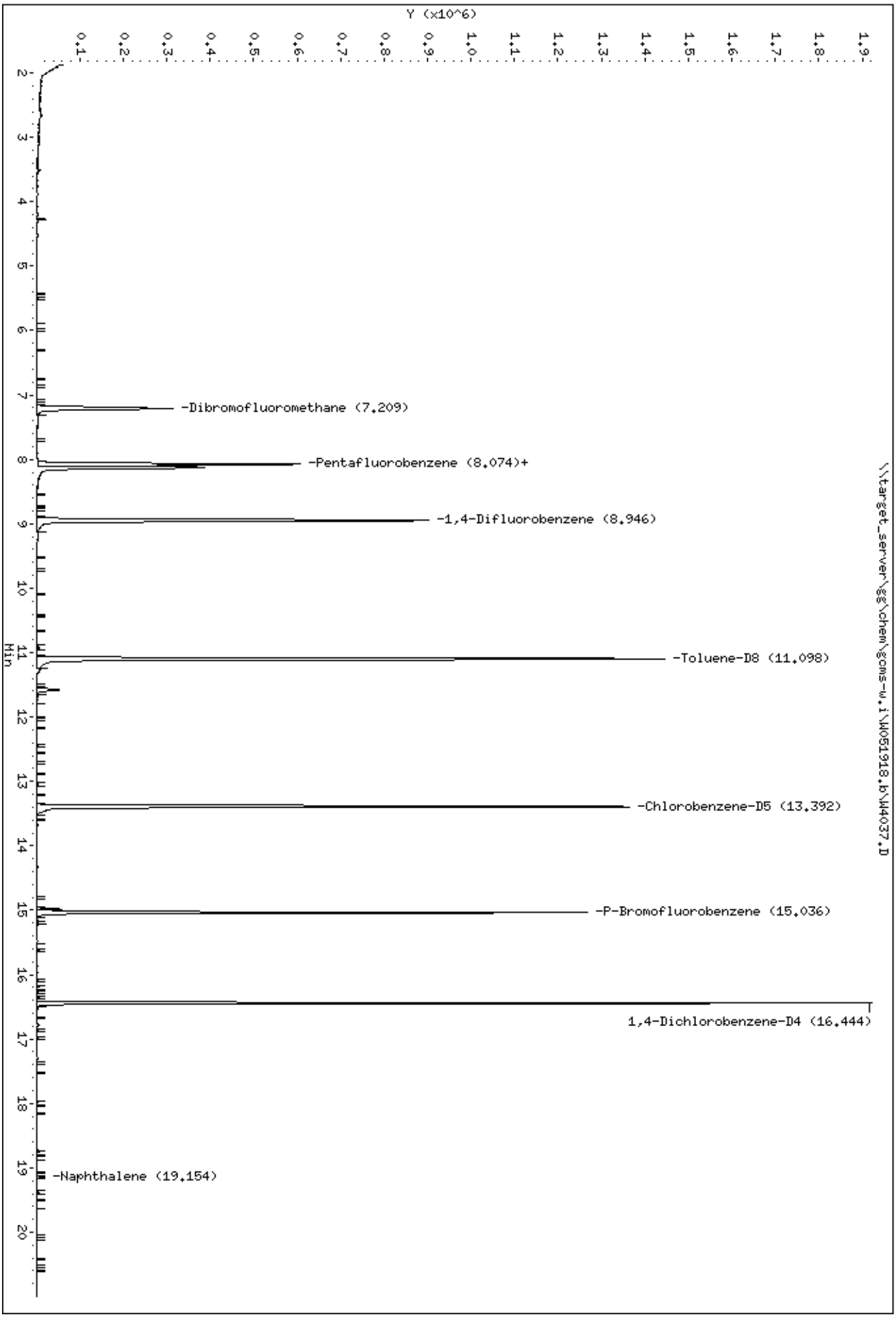
Concentration Formula: Amt * DF * (100/(100-M))*(Vt/Ws) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
M	0.00000	% Moisture
Vt	5.000	Volume of DI Water (mL)
Ws	5.000	Weight of Sample (g)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/kg)	FINAL (ug/Kgdrywt)	REVIEW COD
$ 37 Dibromofluoromethane	113	7.209	7.188	(0.893)	242181	51.4890	51.5	
* 42 Pentafluorobenzene	168	8.074	8.060	(1.000)	478723	50.0000		
$ 45 1,2-Dichloroethane-D4	65	8.124	8.109	(1.006)	313852	50.8157	50.8	
* 49 1,4-Difluorobenzene	114	8.946	8.932	(1.000)	837210	50.0000		
$ 55 Toluene-D8	98	11.097	11.084	(1.240)	1022729	50.2802	50.3	
* 66 Chlorobenzene-D5	117	13.392	13.378	(1.000)	779819	50.0000		
$ 76 P-Bromofluorobenzene	95	15.036	15.022	(1.681)	410531	48.0704	48.1	
* 91 1,4-Dichlorobenzene-D4	152	16.444	16.430	(1.000)	414167	50.0000		
101 Naphthalene	128	19.153	19.139	(1.165)	14240	1.03719	1.0(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).


Data File: \\target_server\gc\chem\gcms-w.i\W051918.b\W4037.D
Date : 19-MAY-2018 10:02
Client ID: WG228693-Blank
Sample Info: WG228693-2,SL4180
Instrument: gcms-w.i
\\target_server\gc\chem\gcms-w.i\W051918.b\W4037.D
Y (x10^6)
Min
-Dibromofluoromethane (7.209)
-Pentafluorobenzene (8.074)+
-1,4-Difluorobenzene (8.946)
-Toluene-D8 (11.098)
-Chlorobenzene-D5 (13.392)
-P-Bromofluorobenzene (15.036)
1,4-Dichlorobenzene-D4 (16.444)
-Naphthalene (19.154)

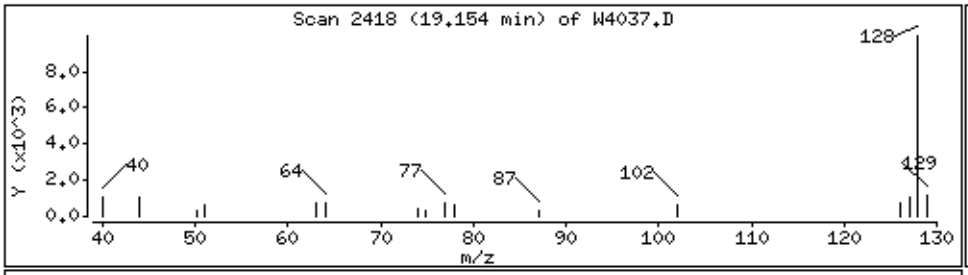
Data File: \\target_server\gg\chem\gcms-w.i\W051918.b\W4037.D

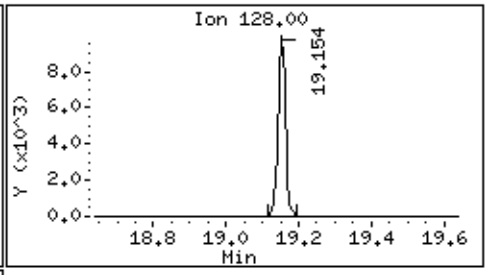
Date : 19-MAY-2018 10:02

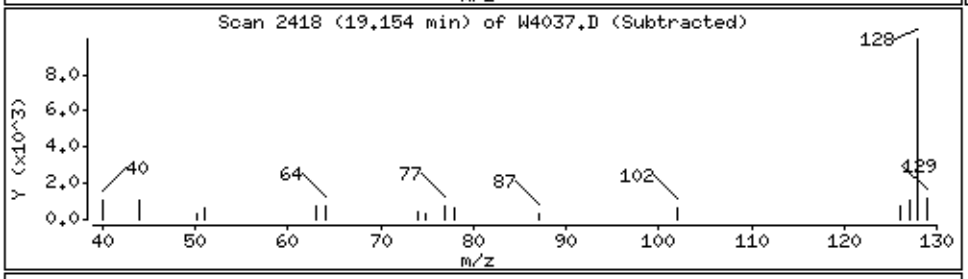
Client ID: WG228693-Blank Instrument: gcms-w.i

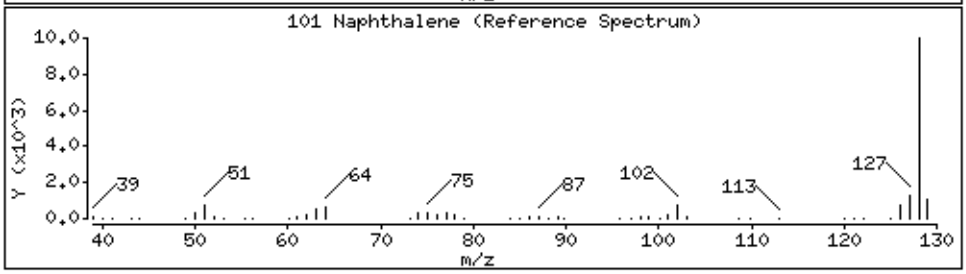
Sample Info: WG228693-2,SL4180

101 Naphthalene Concentration: 1.0 ug/Kgdrywt









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ANALYTICAL SERVICES

Report of Analytical Results

Client:
Lab ID: WG228751-9
Client ID: Method Blank Sample
Project:
SDG: SL4180
Lab File ID: W4071.D

Sample Date:
Received Date:
Extract Date: 21-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228751

Analysis Date: 21-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: NA
Report Date: 29-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,1,1,2-Tetrachloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.70	2.5
1,1,1-Trichloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.42	2.5
1,1,2,2-Tetrachloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.84	2.5
Freon-113	U	2.5	ug/Kgdrywt	1	5	5.0	0.90	2.5
1,1,2-Trichloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.97	2.5
1,1-Dichloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	1.7	2.5
1,1-Dichloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	0.93	2.5
1,1-Dichloropropene	U	2.5	ug/Kgdrywt	1	5	5.0	0.91	2.5
1,2,3-Trichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.76	2.5
1,2,3-Trichloropropane	U	2.5	ug/Kgdrywt	1	5	5.0	1.2	2.5
1,2,4-Trichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.79	2.5
1,2,4-Trimethylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.87	2.5
1,2-Dibromo-3-Chloropropane	U	2.5	ug/Kgdrywt	1	5	5.0	1.5	2.5
1,2-Dibromoethane	U	2.5	ug/Kgdrywt	1	5	5.0	1.2	2.5
1,2-Dichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.78	2.5
1,2-Dichloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	1.0	2.5
1,2-Dichloropropane	U	2.5	ug/Kgdrywt	1	5	5.0	1.4	2.5
1,3,5-Trimethylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.67	2.5
1,3-Dichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.62	2.5
1,3-Dichloropropane	U	2.5	ug/Kgdrywt	1	5	5.0	0.94	2.5
1,4-Dichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.44	2.5
2,2-Dichloropropane	U	2.5	ug/Kgdrywt	1	5	5.0	0.50	2.5
2-Butanone	U	12	ug/Kgdrywt	1	25	25.	5.9	12.
2-Chlorotoluene	U	2.5	ug/Kgdrywt	1	5	5.0	1.1	2.5
2-Hexanone	U	12	ug/Kgdrywt	1	25	25.	4.8	12.
4-Chlorotoluene	U	2.5	ug/Kgdrywt	1	5	5.0	0.49	2.5
P-Isopropyltoluene	U	2.5	ug/Kgdrywt	1	5	5.0	0.76	2.5
4-Methyl-2-Pentanone	U	12	ug/Kgdrywt	1	25	25.	5.9	12.
Acetone	U	12	ug/Kgdrywt	1	25	25.	5.1	12.
Benzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.92	2.5
Bromobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.74	2.5
Bromochloromethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.91	2.5
Bromodichloromethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.60	2.5
Bromoform	U	2.5	ug/Kgdrywt	1	5	5.0	0.70	2.5

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ANALYTICAL SERVICES

Report of Analytical Results

Client:
Lab ID: WG228751-9
Client ID: Method Blank Sample
Project:
SDG: SL4180
Lab File ID: W4071.D

Sample Date:
Received Date:
Extract Date: 21-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228751

Analysis Date: 21-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: NA
Report Date: 29-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Bromomethane	U	5.0	ug/Kgdrywt	1	10	10.	1.1	5.0
Carbon Disulfide	U	2.5	ug/Kgdrywt	1	5	5.0	0.78	2.5
Carbon Tetrachloride	U	2.5	ug/Kgdrywt	1	5	5.0	1.3	2.5
Chlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.51	2.5
Dibromochloromethane	U	2.5	ug/Kgdrywt	1	5	5.0	7.0	2.5
Chloroethane	U	5.0	ug/Kgdrywt	1	10	10.	1.3	5.0
Chloroform	U	2.5	ug/Kgdrywt	1	5	5.0	0.35	2.5
Chloromethane	U	5.0	ug/Kgdrywt	1	10	10.	1.4	5.0
cis-1,2-Dichloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	0.91	2.5
cis-1,3-Dichloropropene	U	2.5	ug/Kgdrywt	1	5	5.0	0.72	2.5
Dibromomethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.51	2.5
Dichlorodifluoromethane	U	5.0	ug/Kgdrywt	1	10	10.	0.92	5.0
Ethylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.65	2.5
Hexachlorobutadiene	U	2.5	ug/Kgdrywt	1	5	5.0	0.74	2.5
Isopropylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.92	2.5
m+p-Xylenes	U	5.0	ug/Kgdrywt	1	10	10.	1.7	5.0
Methyl tert-butyl Ether	U	2.5	ug/Kgdrywt	1	5	5.0	1.1	2.5
Methylene Chloride	U	12	ug/Kgdrywt	1	25	25.	7.9	12.
N-Butylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.92	2.5
N-Propylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.83	2.5
Naphthalene	J	1.0	ug/Kgdrywt	1	5	5.0	0.88	2.5
o-Xylene	U	2.5	ug/Kgdrywt	1	5	5.0	1.3	2.5
sec-Butylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.91	2.5
Styrene	U	2.5	ug/Kgdrywt	1	5	5.0	0.51	2.5
tert-Butylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.90	2.5
Tetrachloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	1.2	2.5
Toluene	U	2.5	ug/Kgdrywt	1	5	5.0	1.4	2.5
trans-1,2-Dichloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	0.71	2.5
trans-1,3-Dichloropropene	U	2.5	ug/Kgdrywt	1	5	5.0	0.86	2.5
Trichloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	0.59	2.5
Trichlorofluoromethane	U	5.0	ug/Kgdrywt	1	10	10.	0.91	5.0
Vinyl Chloride	U	5.0	ug/Kgdrywt	1	10	10.	0.87	5.0
1,2-Dichloroethane-D4		101.	%					
p-Bromofluorobenzene		93.4	%					

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Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client:
Lab ID: WG228751-9
Client ID: Method Blank Sample
Project:
SDG: SL4180
Lab File ID: W4071.D

Sample Date:
Received Date:
Extract Date: 21-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228751

Analysis Date: 21-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: NA
Report Date: 29-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dibromofluoromethane		101.	%					
Toluene-D8		98.5	%					

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Data File: \\target_server\gg\chem\gcms-w.i\W052118.b\W4071.D
Report Date: 29-May-2018 10:52

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W052118.b\W4071.D
Lab Smp Id: WG228751-9
Inj Date : 21-MAY-2018 13:45 MS Autotune Date: 10-APR-2016 11:00
Operator : JSS Inst ID: gcms-w.i
Smp Info : WG228751-9,SL4180
Misc Info : WG228751,WG228751-4,SL4180-1
Comment : SW846 5035
Method : \\TARGET_SERVER\GG\chem\gcms-w.i\W052118.b\W8SDI(13)D.m
Meth Date : 25-May-2018 12:05 gcms-w.i Quant Type: ISTD
Cal Date : 21-MAY-2018 11:44 Cal File: W4068.D
Als bottle: 10 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12

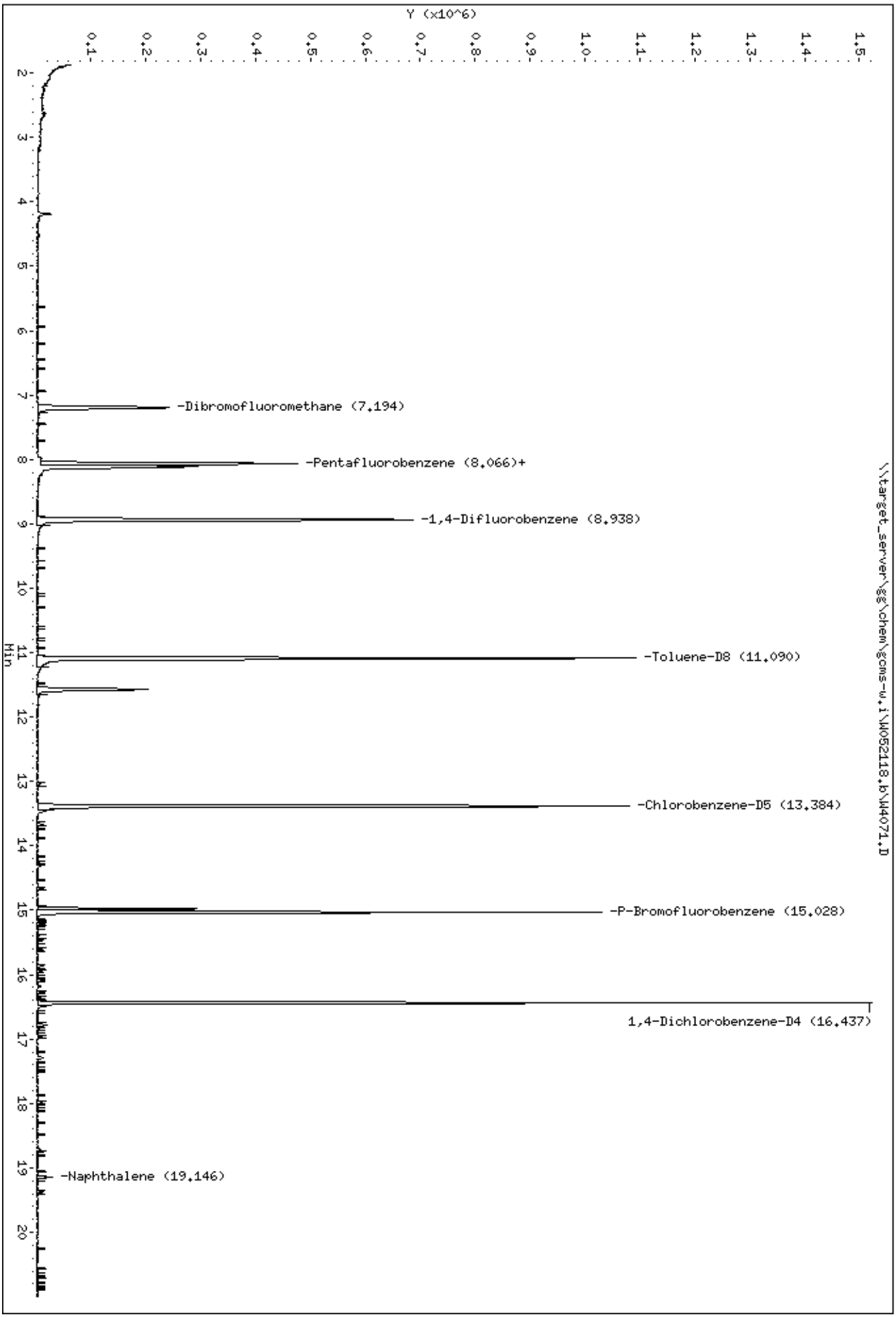
Concentration Formula: Amt * DF * (100/(100-M))*(Vt/Ws) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
M	0.00000	% Moisture
Vt	5.000	Volume of DI Water (mL)
Ws	5.000	Weight of Sample (g)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/kg)	FINAL (ug/Kgdrywt)	REVIEW COD
$ 37 Dibromofluoromethane	113	7.194	7.197	(0.892)	184546	50.7039	50.7	
* 42 Pentafluorobenzene	168	8.066	8.069	(1.000)	401216	50.0000		
$ 45 1,2-Dichloroethane-D4	65	8.116	8.119	(1.006)	241562	50.5330	50.5	
* 49 1,4-Difluorobenzene	114	8.938	8.941	(1.000)	632949	50.0000		
$ 55 Toluene-D8	98	11.089	11.093	(1.241)	782289	49.2395	49.2	
* 66 Chlorobenzene-D5	117	13.384	13.380	(1.000)	601922	50.0000		
$ 76 P-Bromofluorobenzene	95	15.028	15.032	(1.681)	313431	46.6963	46.7	
* 91 1,4-Dichlorobenzene-D4	152	16.436	16.440	(1.000)	340065	50.0000		
101 Naphthalene	128	19.145	19.142	(1.165)	19918	0.99687	1.00(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).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Date : 21-MAY-2018 13:45
Client ID:
Sample Info: WG228751-9,SL4180
Instrument: gcms-w.i
\\target_server\gg\chem\gcms-w.i\W052118.b\W4071.D
Y (x10^6)
Min
-Dibromofluoromethane (7.194)
-Pentafluorobenzene (8.066)+
-1,4-Difluorobenzene (8.938)
-Toluene-D8 (11.090)
-Chlorobenzene-D5 (13.384)
-P-Bromofluorobenzene (15.028)
1,4-Dichlorobenzene-D4 (16.437)
-Naphthalene (19.146)

Data File: \\target_server\gg\chem\gcms-w.i\W052118.b\W4071.D

Date : 21-MAY-2018 13:45

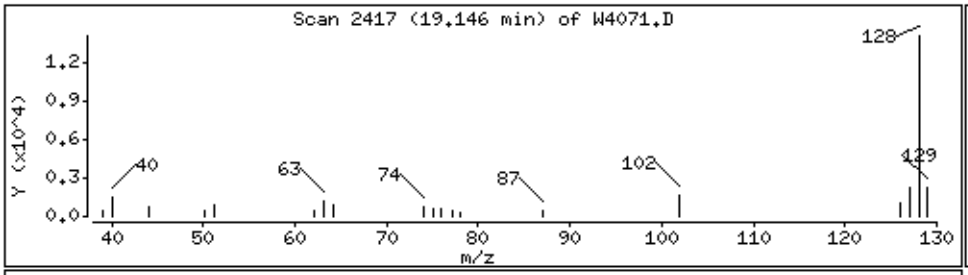
Client ID:

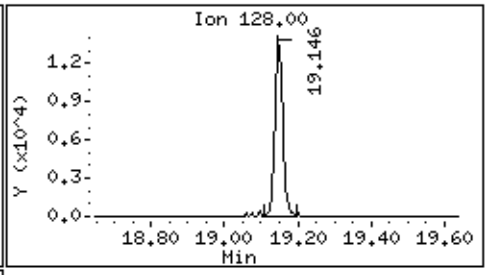
Instrument: gcms-w.i

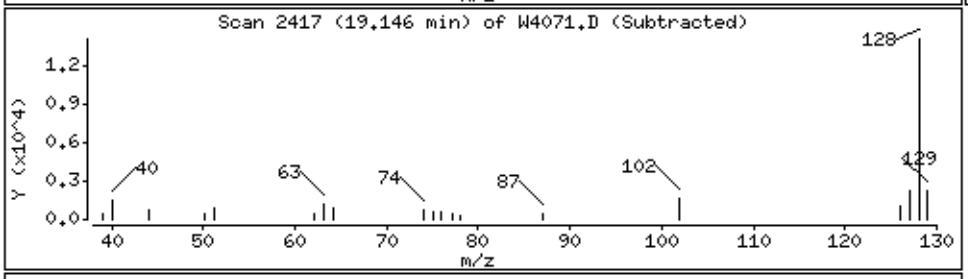
Sample Info: WG228751-9,SL4180

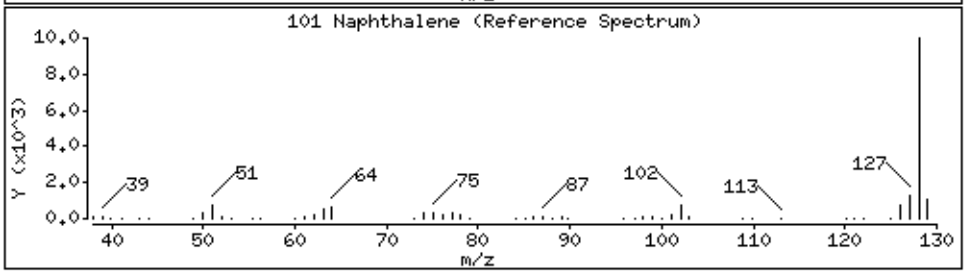
101 Naphthalene

Concentration: 1.00 ug/Kgdrywt









Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client:
Lab ID: WG228825-2
Client ID: Method Blank Sample
Project:
SDG: SL4180
Lab File ID: W4083.D

Sample Date:
Received Date:
Extract Date: 21-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228825

Analysis Date: 21-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: NA
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,1,1,2-Tetrachloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.70	2.5
1,1,1-Trichloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.42	2.5
1,1,2,2-Tetrachloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.84	2.5
Freon-113	U	2.5	ug/Kgdrywt	1	5	5.0	0.90	2.5
1,1,2-Trichloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.97	2.5
1,1-Dichloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	1.7	2.5
1,1-Dichloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	0.93	2.5
1,1-Dichloropropene	U	2.5	ug/Kgdrywt	1	5	5.0	0.91	2.5
1,2,3-Trichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.76	2.5
1,2,3-Trichloropropane	U	2.5	ug/Kgdrywt	1	5	5.0	1.2	2.5
1,2,4-Trichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.79	2.5
1,2,4-Trimethylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.87	2.5
1,2-Dibromo-3-Chloropropane	U	2.5	ug/Kgdrywt	1	5	5.0	1.5	2.5
1,2-Dibromoethane	U	2.5	ug/Kgdrywt	1	5	5.0	1.2	2.5
1,2-Dichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.78	2.5
1,2-Dichloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	1.0	2.5
1,2-Dichloropropane	U	2.5	ug/Kgdrywt	1	5	5.0	1.4	2.5
1,3,5-Trimethylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.67	2.5
1,3-Dichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.62	2.5
1,3-Dichloropropane	U	2.5	ug/Kgdrywt	1	5	5.0	0.94	2.5
1,4-Dichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.44	2.5
2,2-Dichloropropane	U	2.5	ug/Kgdrywt	1	5	5.0	0.50	2.5
2-Butanone	U	12	ug/Kgdrywt	1	25	25.	5.9	12.
2-Chlorotoluene	U	2.5	ug/Kgdrywt	1	5	5.0	1.1	2.5
2-Hexanone	U	12	ug/Kgdrywt	1	25	25.	4.8	12.
4-Chlorotoluene	U	2.5	ug/Kgdrywt	1	5	5.0	0.49	2.5
P-Isopropyltoluene	U	2.5	ug/Kgdrywt	1	5	5.0	0.76	2.5
4-Methyl-2-Pentanone	U	12	ug/Kgdrywt	1	25	25.	5.9	12.
Acetone	U	12	ug/Kgdrywt	1	25	25.	5.1	12.
Benzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.92	2.5
Bromobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.74	2.5
Bromochloromethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.91	2.5
Bromodichloromethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.60	2.5
Bromoform	U	2.5	ug/Kgdrywt	1	5	5.0	0.70	2.5

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Tel:(207) 874-2400 Fax:(207) 775-4029
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Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client:
Lab ID: WG228825-2
Client ID: Method Blank Sample
Project:
SDG: SL4180
Lab File ID: W4083.D

Sample Date:
Received Date:
Extract Date: 21-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228825

Analysis Date: 21-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: NA
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Bromomethane	U	5.0	ug/Kgdrywt	1	10	10.	1.1	5.0
Carbon Disulfide	U	2.5	ug/Kgdrywt	1	5	5.0	0.78	2.5
Carbon Tetrachloride	U	2.5	ug/Kgdrywt	1	5	5.0	1.3	2.5
Chlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.51	2.5
Dibromochloromethane	U	2.5	ug/Kgdrywt	1	5	5.0	7.0	2.5
Chloroethane	U	5.0	ug/Kgdrywt	1	10	10.	1.3	5.0
Chloroform	U	2.5	ug/Kgdrywt	1	5	5.0	0.35	2.5
Chloromethane	U	5.0	ug/Kgdrywt	1	10	10.	1.4	5.0
cis-1,2-Dichloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	0.91	2.5
cis-1,3-Dichloropropene	U	2.5	ug/Kgdrywt	1	5	5.0	0.72	2.5
Dibromomethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.51	2.5
Dichlorodifluoromethane	U	5.0	ug/Kgdrywt	1	10	10.	0.92	5.0
Ethylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.65	2.5
Hexachlorobutadiene	U	2.5	ug/Kgdrywt	1	5	5.0	0.74	2.5
Isopropylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.92	2.5
m+p-Xylenes	U	5.0	ug/Kgdrywt	1	10	10.	1.7	5.0
Methyl tert-butyl Ether	U	2.5	ug/Kgdrywt	1	5	5.0	1.1	2.5
Methylene Chloride	U	12	ug/Kgdrywt	1	25	25.	7.9	12.
N-Butylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.92	2.5
N-Propylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.83	2.5
Naphthalene	J	0.88	ug/Kgdrywt	1	5	5.0	0.88	2.5
o-Xylene	U	2.5	ug/Kgdrywt	1	5	5.0	1.3	2.5
sec-Butylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.91	2.5
Styrene	U	2.5	ug/Kgdrywt	1	5	5.0	0.51	2.5
tert-Butylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.90	2.5
Tetrachloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	1.2	2.5
Toluene	U	2.5	ug/Kgdrywt	1	5	5.0	1.4	2.5
trans-1,2-Dichloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	0.71	2.5
trans-1,3-Dichloropropene	U	2.5	ug/Kgdrywt	1	5	5.0	0.86	2.5
Trichloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	0.59	2.5
Trichlorofluoromethane	U	5.0	ug/Kgdrywt	1	10	10.	0.91	5.0
Vinyl Chloride	U	5.0	ug/Kgdrywt	1	10	10.	0.87	5.0
1,2-Dichloroethane-D4		101.	%					
p-Bromofluorobenzene		90.0	%					

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Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client:
Lab ID: WG228825-2
Client ID: Method Blank Sample
Project:
SDG: SL4180
Lab File ID: W4083.D

Sample Date:
Received Date:
Extract Date: 21-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228825

Analysis Date: 21-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: NA
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dibromofluoromethane		104.	%					
Toluene-D8		99.4	%					

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Data File: \\target_server\gg\chem\gcms-w.i\W052118B.b\W4083.D
Report Date: 25-May-2018 12:21

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W052118B.b\W4083.D
Lab Smp Id: WG228825-2
Inj Date : 21-MAY-2018 21:42 MS Autotune Date: 10-APR-2016 11:00
Operator : JSS Inst ID: gcms-w.i
Smp Info : WG228825-2,SL4180
Misc Info : WG228825,WG228751-4,SL4180-1
Comment : SW846 5035
Method : \\TARGET_SERVER\GG\chem\gcms-w.i\W052118B.b\W8SDI(13)D.m
Meth Date : 22-May-2018 08:59 jsampson Quant Type: ISTD
Cal Date : 21-MAY-2018 11:44 Cal File: W4068.D
Als bottle: 5 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: TARGET_SERVER

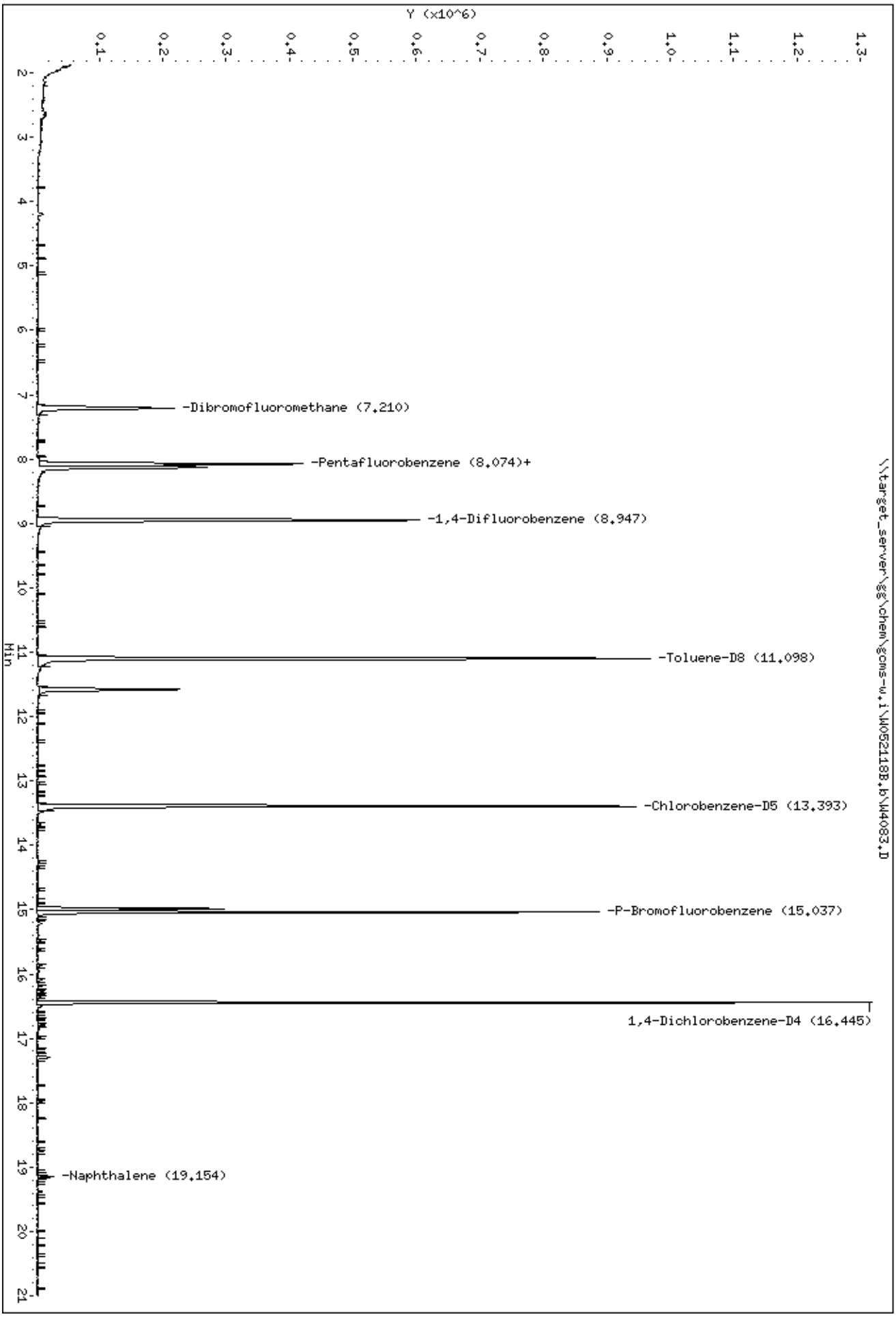
Concentration Formula: Amt * DF * (100/(100-M))*(Vt/Ws) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
M	0.00000	% Moisture
Vt	5.000	Volume of DI Water (mL)
Ws	5.000	Weight of Sample (g)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/kg)	FINAL (ug/Kgdrywt)	REVIEW COD
$ 37 Dibromofluoromethane	113	7.209	7.198	(0.893)	162559	52.0244	52.0	
* 42 Pentafluorobenzene	168	8.074	8.070	(1.000)	344444	50.0000		
$ 45 1,2-Dichloroethane-D4	65	8.124	8.119	(1.006)	207696	50.6098	50.6	
* 49 1,4-Difluorobenzene	114	8.946	8.942	(1.000)	553354	50.0000		
$ 55 Toluene-D8	98	11.098	11.094	(1.240)	690700	49.7280	49.7	
* 66 Chlorobenzene-D5	117	13.392	13.381	(1.000)	522980	50.0000		
$ 76 P-Bromofluorobenzene	95	15.036	15.032	(1.681)	264034	44.9952	45.0	
* 91 1,4-Dichlorobenzene-D4	152	16.444	16.440	(1.000)	293617	50.0000		
101 Naphthalene	128	19.153	19.142	(1.165)	15263	0.88474	0.88(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).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Date : 21-MAY-2018 21:42
Client ID:
Sample Info: WG228825-2,SL4180
Instrument: gcms-w.i
\\target_server\gg\chem\gcms-w.i\W052118B.b\W4083.D
Y (x10^6)
Min
-Dibromofluoromethane (7.210)
-Pentafluorobenzene (8.074)+
-1,4-Difluorobenzene (8.947)
-Toluene-D8 (11.098)
-Chlorobenzene-D5 (13.393)
-P-Bromofluorobenzene (15.037)
1,4-Dichlorobenzene-D4 (16.445)
-Naphthalene (19.154)

Data File: \\target_server\gg\chem\gcms-w.i\W052118B.b\W4083.D

Date : 21-MAY-2018 21:42

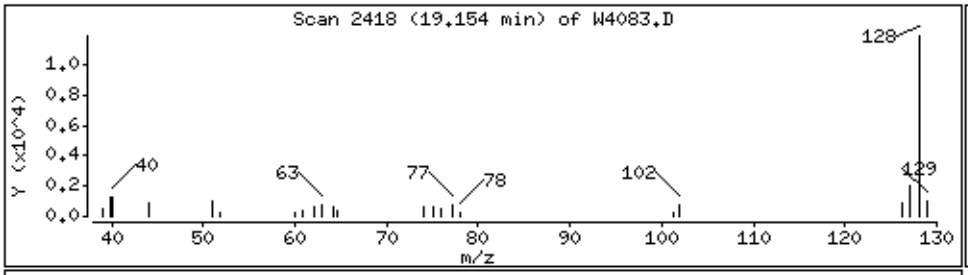
Client ID:

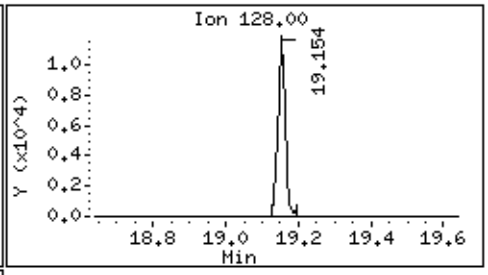
Instrument: gcms-w.i

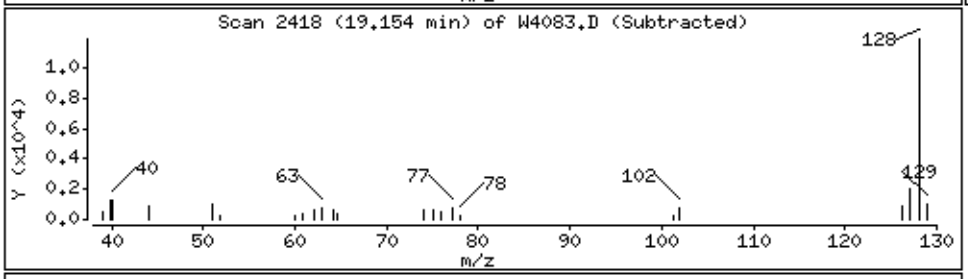
Sample Info: WG228825-2,SL4180

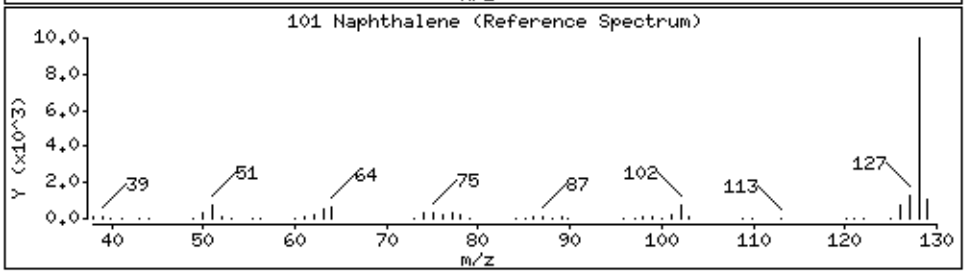
101 Naphthalene

Concentration: 0.88 ug/Kgdrywt









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ANALYTICAL SERVICES

Report of Analytical Results

Client:
Lab ID: WG228846-2
Client ID: Method Blank Sample
Project:
SDG: SL4180
Lab File ID: W4103.D

Sample Date:
Received Date:
Extract Date: 22-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228846

Analysis Date: 22-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: NA
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,1,1,2-Tetrachloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.70	2.5
1,1,1-Trichloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.42	2.5
1,1,2,2-Tetrachloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.84	2.5
Freon-113	U	2.5	ug/Kgdrywt	1	5	5.0	0.90	2.5
1,1,2-Trichloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.97	2.5
1,1-Dichloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	1.7	2.5
1,1-Dichloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	0.93	2.5
1,1-Dichloropropene	U	2.5	ug/Kgdrywt	1	5	5.0	0.91	2.5
1,2,3-Trichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.76	2.5
1,2,3-Trichloropropane	U	2.5	ug/Kgdrywt	1	5	5.0	1.2	2.5
1,2,4-Trichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.79	2.5
1,2,4-Trimethylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.87	2.5
1,2-Dibromo-3-Chloropropane	U	2.5	ug/Kgdrywt	1	5	5.0	1.5	2.5
1,2-Dibromoethane	U	2.5	ug/Kgdrywt	1	5	5.0	1.2	2.5
1,2-Dichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.78	2.5
1,2-Dichloroethane	U	2.5	ug/Kgdrywt	1	5	5.0	1.0	2.5
1,2-Dichloropropane	U	2.5	ug/Kgdrywt	1	5	5.0	1.4	2.5
1,3,5-Trimethylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.67	2.5
1,3-Dichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.62	2.5
1,3-Dichloropropane	U	2.5	ug/Kgdrywt	1	5	5.0	0.94	2.5
1,4-Dichlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.44	2.5
2,2-Dichloropropane	U	2.5	ug/Kgdrywt	1	5	5.0	0.50	2.5
2-Butanone	U	12	ug/Kgdrywt	1	25	25.	5.9	12.
2-Chlorotoluene	U	2.5	ug/Kgdrywt	1	5	5.0	1.1	2.5
2-Hexanone	U	12	ug/Kgdrywt	1	25	25.	4.8	12.
4-Chlorotoluene	U	2.5	ug/Kgdrywt	1	5	5.0	0.49	2.5
P-Isopropyltoluene	U	2.5	ug/Kgdrywt	1	5	5.0	0.76	2.5
4-Methyl-2-Pentanone	U	12	ug/Kgdrywt	1	25	25.	5.9	12.
Acetone	U	12	ug/Kgdrywt	1	25	25.	5.1	12.
Benzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.92	2.5
Bromobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.74	2.5
Bromochloromethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.91	2.5
Bromodichloromethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.60	2.5
Bromoform	U	2.5	ug/Kgdrywt	1	5	5.0	0.70	2.5

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Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client:
Lab ID: WG228846-2
Client ID: Method Blank Sample
Project:
SDG: SL4180
Lab File ID: W4103.D

Sample Date:
Received Date:
Extract Date: 22-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228846

Analysis Date: 22-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: NA
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Bromomethane	U	5.0	ug/Kgdrywt	1	10	10.	1.1	5.0
Carbon Disulfide	U	2.5	ug/Kgdrywt	1	5	5.0	0.78	2.5
Carbon Tetrachloride	U	2.5	ug/Kgdrywt	1	5	5.0	1.3	2.5
Chlorobenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.51	2.5
Dibromochloromethane	U	2.5	ug/Kgdrywt	1	5	5.0	7.0	2.5
Chloroethane	U	5.0	ug/Kgdrywt	1	10	10.	1.3	5.0
Chloroform	U	2.5	ug/Kgdrywt	1	5	5.0	0.35	2.5
Chloromethane	U	5.0	ug/Kgdrywt	1	10	10.	1.4	5.0
cis-1,2-Dichloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	0.91	2.5
cis-1,3-Dichloropropene	U	2.5	ug/Kgdrywt	1	5	5.0	0.72	2.5
Dibromomethane	U	2.5	ug/Kgdrywt	1	5	5.0	0.51	2.5
Dichlorodifluoromethane	U	5.0	ug/Kgdrywt	1	10	10.	0.92	5.0
Ethylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.65	2.5
Hexachlorobutadiene	U	2.5	ug/Kgdrywt	1	5	5.0	0.74	2.5
Isopropylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.92	2.5
m+p-Xylenes	U	5.0	ug/Kgdrywt	1	10	10.	1.7	5.0
Methyl tert-butyl Ether	U	2.5	ug/Kgdrywt	1	5	5.0	1.1	2.5
Methylene Chloride	U	12	ug/Kgdrywt	1	25	25.	7.9	12.
N-Butylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.92	2.5
N-Propylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.83	2.5
Naphthalene	U	2.5	ug/Kgdrywt	1	5	5.0	0.88	2.5
o-Xylene	U	2.5	ug/Kgdrywt	1	5	5.0	1.3	2.5
sec-Butylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.91	2.5
Styrene	U	2.5	ug/Kgdrywt	1	5	5.0	0.51	2.5
tert-Butylbenzene	U	2.5	ug/Kgdrywt	1	5	5.0	0.90	2.5
Tetrachloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	1.2	2.5
Toluene	U	2.5	ug/Kgdrywt	1	5	5.0	1.4	2.5
trans-1,2-Dichloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	0.71	2.5
trans-1,3-Dichloropropene	U	2.5	ug/Kgdrywt	1	5	5.0	0.86	2.5
Trichloroethene	U	2.5	ug/Kgdrywt	1	5	5.0	0.59	2.5
Trichlorofluoromethane	U	5.0	ug/Kgdrywt	1	10	10.	0.91	5.0
Vinyl Chloride	U	5.0	ug/Kgdrywt	1	10	10.	0.87	5.0
1,2-Dichloroethane-D4		106.	%					
p-Bromofluorobenzene		92.2	%					

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ANALYTICAL SERVICES

Report of Analytical Results

Client:
Lab ID: WG228846-2
Client ID: Method Blank Sample
Project:
SDG: SL4180
Lab File ID: W4103.D

Sample Date:
Received Date:
Extract Date: 22-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228846

Analysis Date: 22-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: NA
Report Date: 25-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dibromofluoromethane		109.	%					
Toluene-D8		99.8	%					

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Data File: \\target_server\gg\chem\gcms-w.i\W052218.b\W4103.D
Report Date: 25-May-2018 12:32

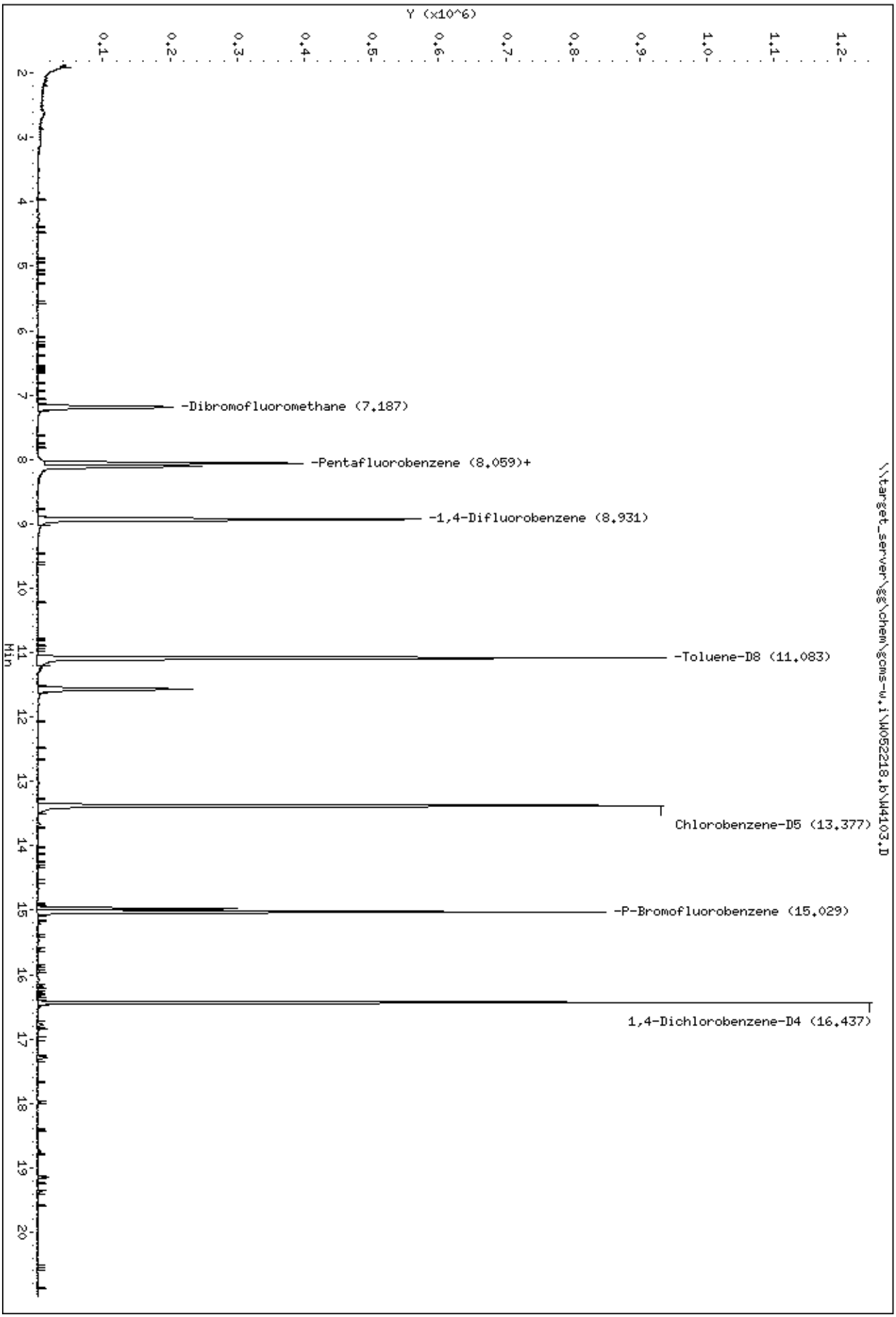
Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W052218.b\W4103.D
Lab Smp Id: WG228846-2
Inj Date : 22-MAY-2018 10:40 MS Autotune Date: 10-APR-2016 11:00
Operator : JSS Inst ID: gcms-w.i
Smp Info : WG228846-2,SL4180
Misc Info : WG228846,WG228751-4,SL4180-1
Comment : SW846 5035
Method : \\target_server\gg\chem\gcms-w.i\W052218.b\W8SDI(13)D.m
Meth Date : 23-May-2018 07:11 jsampson Quant Type: ISTD
Cal Date : 21-MAY-2018 11:44 Cal File: W4068.D
Als bottle: 4 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: VOA-WS

Concentration Formula: Amt * DF * (100/(100-M))*(Vt/Ws) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
M	0.00000	% Moisture
Vt	5.000	Volume of DI Water (mL)
Ws	5.000	Weight of Sample (g)
Cpnd Variable		Local Compound Variable

		QUANT SIG					CONCENTRATIONS ON-COLUMN	FINAL	
Compounds		MASS	RT	EXP RT	REL RT	RESPONSE	(ug/kg)	(ug/Kgdrywt)	REVIEW COD
$	37 Dibromofluoromethane	113	7.187	7.198	(0.892)	157680	54.4126	54.4	
*	42 Pentafluorobenzene	168	8.059	8.070	(1.000)	319442	50.0000		
$	45 1,2-Dichloroethane-D4	65	8.109	8.119	(1.006)	201021	52.8171	52.8	
*	49 1,4-Difluorobenzene	114	8.931	8.942	(1.000)	534268	50.0000		
$	55 Toluene-D8	98	11.082	11.094	(1.241)	669388	49.9153	49.9	
*	66 Chlorobenzene-D5	117	13.377	13.381	(1.000)	507656	50.0000		
$	76 P-Bromofluorobenzene	95	15.028	15.032	(1.683)	261132	46.0904	46.1	
*	91 1,4-Dichlorobenzene-D4	152	16.436	16.440	(1.000)	276375	50.0000		


Data File: \\target_server\gg\chem\gcms-w.i\W052218.b\W4103.D
Date : 22-MAY-2018 10:40
Client ID:
Sample Info: WG228846-2,SL4180
Instrument: gcms-w.i
\\target_server\gg\chem\gcms-w.i\W052218.b\W4103.D
Y (x10^6)
Min
-Dibromofluoromethane (7.187)
-Pentafluorobenzene (8.059)+
-1,4-Difluorobenzene (8.931)
-Toluene-D8 (11.083)
Chlorobenzene-D5 (13.377)
-P-Bromofluorobenzene (15.029)
1,4-Dichlorobenzene-D4 (16.437)

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ANALYTICAL SERVICES

LCS Recovery Report

Client:
Lab ID: WG228752-1
Client ID: LCS
Project:
SDG: SL4180
LCS File ID: D1448.D

Sample Date:
Received Date:
Extract Date: 21-MAY-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG228752

Analysis Date: 21-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-MAY-18

Compound	Recovery (%)	Conc Added	Conc Recovered	Conc Units	Limits
1,1,1,2-Tetrachloroethane	108.	50.0	54.2	ug/L	78-125
1,1,1-Trichloroethane	102.	50.0	51.2	ug/L	74-131
1,1,2,2-Tetrachloroethane	107.	50.0	53.4	ug/L	71-121
Freon-113	103.	50.0	51.3	ug/L	70-136
1,1,2-Trichloroethane	105.	50.0	52.7	ug/L	80-120
1,1-Dichloroethane	107.	50.0	53.6	ug/L	77-125
1,1-Dichloroethene	102.	50.0	51.0	ug/L	71-131
1,1-Dichloropropene	106.	50.0	53.2	ug/L	79-125
1,2,3-Trichlorobenzene	102.	50.0	51.0	ug/L	69-129
1,2,3-Trichloropropane	106.	50.0	52.8	ug/L	73-122
1,2,4-Trichlorobenzene	106.	50.0	53.2	ug/L	69-130
1,2,4-Trimethylbenzene	107.	50.0	53.3	ug/L	76-124
1,2-Dibromo-3-Chloropropane	107.	50.0	53.6	ug/L	62-128
1,2-Dichlorobenzene	104.	50.0	52.0	ug/L	80-120
1,2-Dichloroethane	104.	50.0	51.8	ug/L	73-128
1,2-Dichloropropane	104.	50.0	52.0	ug/L	78-122
1,3,5-Trimethylbenzene	108.	50.0	53.8	ug/L	75-124
1,3-Dichlorobenzene	101.	50.0	50.6	ug/L	80-120
1,3-Dichloropropane	103.	50.0	51.3	ug/L	80-120
1,4-Dichlorobenzene	98.8	50.0	49.4	ug/L	79-120
2,2-Dichloropropane	115.	50.0	57.4	ug/L	60-139
2-Butanone	110.	50.0	55.0	ug/L	56-143
2-Chlorotoluene	103.	50.0	51.5	ug/L	79-122
2-Hexanone	117.	50.0	58.6	ug/L	57-139
4-Chlorotoluene	104.	50.0	51.8	ug/L	78-122
P-Isopropyltoluene	108.	50.0	54.0	ug/L	77-127
4-Methyl-2-Pentanone	115.	50.0	57.5	ug/L	67-130
Acetone	106.	50.0	53.1	ug/L	39-160
Benzene	103.	50.0	51.5	ug/L	79-120
Bromobenzene	100.	50.0	50.1	ug/L	80-120
Bromoform	118.	50.0	58.9	ug/L	66-130
Bromomethane	93.6	50.0	46.8	ug/L	53-141
Carbon Disulfide	99.4	50.0	49.7	ug/L	64-133
Carbon Tetrachloride	107.	50.0	53.4	ug/L	72-136
Chlorobenzene	100.	50.0	50.1	ug/L	82-120

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ANALYTICAL SERVICES

LCS Recovery Report

Client:
Lab ID: WG228752-1
Client ID: LCS
Project:
SDG: SL4180
LCS File ID: D1448.D

Sample Date:
Received Date:
Extract Date: 21-MAY-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG228752

Analysis Date: 21-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-MAY-18

Compound	Recovery (%)	Conc Added	Conc Recovered	Conc Units	Limits
Bromochloromethane	103.	50.0	51.6	ug/L	78-123
Dibromochloromethane	114.	50.0	57.2	ug/L	74-126
Chloroethane	104.	50.0	51.8	ug/L	60-138
Chloroform	103.	50.0	51.7	ug/L	79-124
Chloromethane	96.4	50.0	48.2	ug/L	50-139
cis-1,2-Dichloroethene	102.	50.0	50.9	ug/L	78-123
cis-1,3-Dichloropropene	99.2	50.0	49.6	ug/L	75-124
Dibromomethane	108.	50.0	54.2	ug/L	79-123
Bromodichloromethane	112.	50.0	56.0	ug/L	79-125
Dichlorodifluoromethane	106.	50.0	53.1	ug/L	32-152
Ethylbenzene	101.	50.0	50.6	ug/L	79-121
1,2-Dibromoethane	105.	50.0	52.7	ug/L	77-121
Hexachlorobutadiene	94.2	50.0	47.1	ug/L	66-134
Isopropylbenzene	112.	50.0	56.0	ug/L	72-131
Methyl tert-butyl Ether	112.	50.0	56.0	ug/L	71-124
Methylene Chloride	99.2	50.0	49.6	ug/L	74-124
m+p-Xylenes	105.	100.	105.	ug/L	80-121
Naphthalene	98.2	50.0	49.1	ug/L	61-128
N-Butylbenzene	109.	50.0	54.3	ug/L	75-128
N-Propylbenzene	103.	50.0	51.3	ug/L	76-126
o-Xylene	109.	50.0	54.4	ug/L	78-122
sec-Butylbenzene	105.	50.0	52.7	ug/L	77-126
Styrene	110.	50.0	54.9	ug/L	78-123
tert-Butylbenzene	106.	50.0	52.8	ug/L	78-124
Tetrachloroethene	100.	50.0	50.0	ug/L	74-129
Toluene	102.	50.0	50.9	ug/L	80-121
trans-1,2-Dichloroethene	100.	50.0	50.2	ug/L	75-124
trans-1,3-Dichloropropene	119.	50.0	59.6	ug/L	73-127
Trichloroethene	101.	50.0	50.6	ug/L	79-123
Trichlorofluoromethane	99.0	50.0	49.5	ug/L	65-141
Vinyl Chloride	100.	50.0	50.0	ug/L	58-137
Dibromofluoromethane	99.9				80-120
1,2-Dichloroethane-d4	105.				81-120
Toluene-d8	102.				89-120
P-Bromofluorobenzene	102.				85-120

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Data File: \\target_server\gg\chem\gcms-d.i\D052118.b\D1448.d
Report Date: 25-May-2018 11:49

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Data file : \\target_server\gg\chem\gcms-d.i\D052118.b\D1448.d
Lab Smp Id: WG228752-1
Inj Date : 21-MAY-2018 09:06 MS Autotune Date: 05-OCT-2017 14:30
Operator : JSS Inst ID: gcms-d.i
Smp Info : WG228752-1,SL4180
Misc Info : WG228752,WG228547-4,SL4180-29
Comment : SW846 5030
Method : \\target_server\gg\chem\gcms-d.i\D052118.b\D8A05(22)D.m
Meth Date : 25-May-2018 11:48 gcms-d.i Quant Type: ISTD
Cal Date : 17-MAY-2018 11:09 Cal File: D1356.d
Als bottle: 3 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

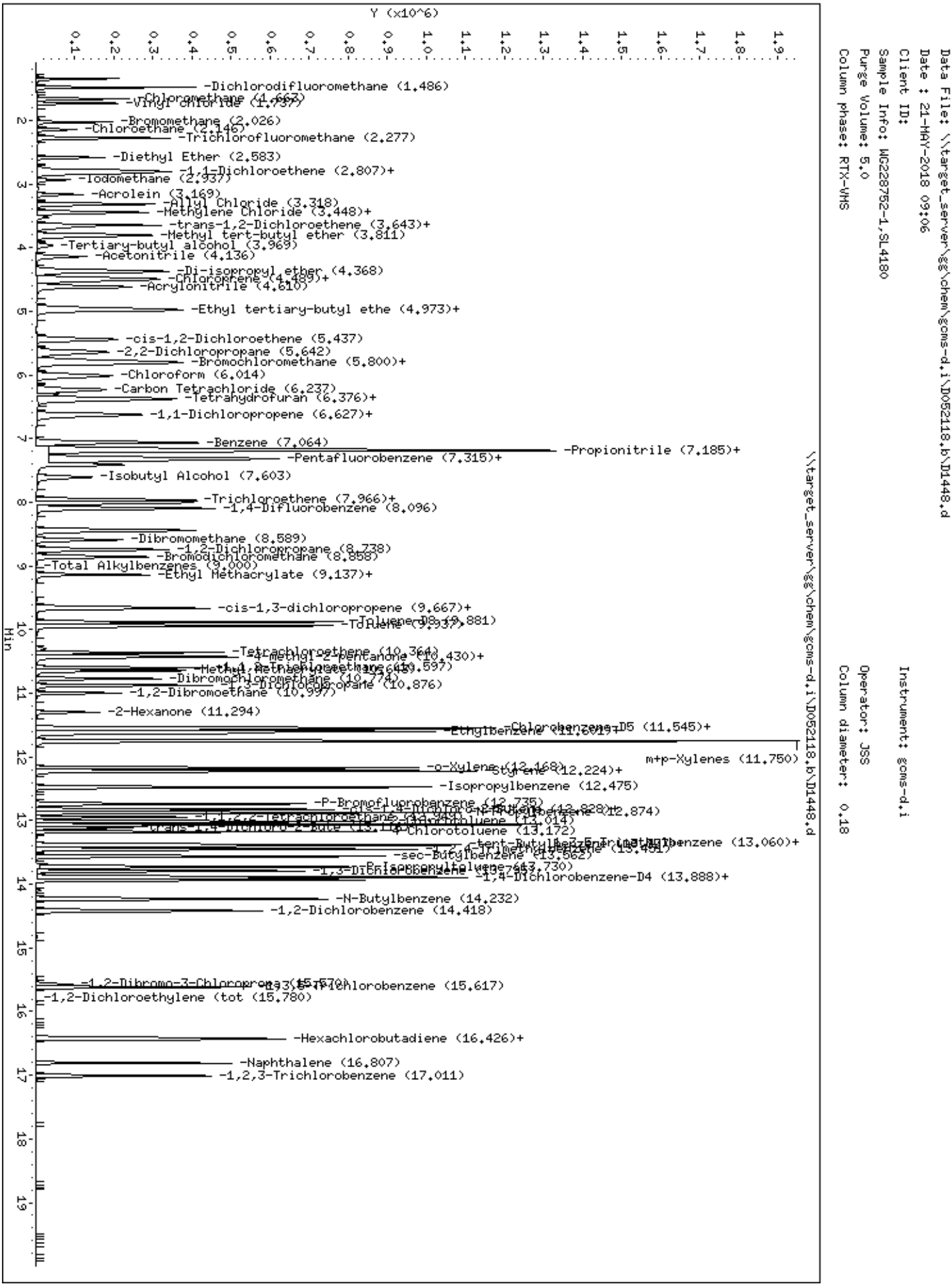
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)	REVIEW CODE
1	Dichlorodifluoromethane	85	1.486	1.486	(0.203)	249174	53.1381	53.1	
2	Chloromethane	50	1.663	1.654	(0.227)	207494	48.2319	48.2	
3	Vinyl chloride	62	1.737	1.728	(0.238)	168526	50.0022	50.0	
4	Bromomethane	94	2.025	2.025	(0.277)	79812	46.7984	46.8	
5	Chloroethane	64	2.146	2.137	(0.293)	81225	51.7709	51.8	
6	Trichlorofluoromethane	101	2.276	2.277	(0.311)	262029	49.5021	49.5	
7	Diethyl Ether	59	2.583	2.583	(0.353)	94815	57.1493	57.1	
8	Tertiary-butyl alcohol	59	3.968	3.969	(0.542)	53002	276.510	276	
9	1,1-Dichloroethene	96	2.787	2.779	(0.381)	100538	50.9833	51.0	
10	Carbon Disulfide	76	2.806	2.807	(0.384)	315895	49.6891	49.7	
11	Freon-113	151	2.834	2.834	(0.387)	83032	51.3372	51.3	
12	Iodomethane	142	2.936	2.937	(0.401)	103309	50.6469	50.6	
13	Acrolein	56	3.169	3.160	(0.433)	117348	319.191	319	
14	Methylene Chloride	84	3.447	3.448	(0.471)	148305	49.6326	49.6	
15	Acetone	43	3.522	3.522	(0.482)	46419	53.0789	53.1	
16	Isobutyl Alcohol	43	7.603	7.613	(1.039)	115655	1060.35	1060	
17	trans-1,2-Dichloroethene	96	3.643	3.643	(0.498)	136751	50.1807	50.2	
18	Allyl Chloride	41	3.317	3.318	(0.454)	220856	53.2666	53.3	
19	Methyl tert-butyl ether	73	3.810	3.811	(0.521)	396989	56.0284	56.0	
20	Acetonitrile	39	4.135	4.136	(0.565)	41797	565.506	566	
21	Di-isopropyl ether	45	4.368	4.368	(0.597)	473357	50.1092	50.1	
22	Chloroprene	53	4.479	4.480	(0.612)	243083	55.6207	55.6	
23	Propionitrile	54	7.147	7.148	(0.977)	207622	566.813	567	
24	Methacrylonitrile	41	7.185	7.185	(0.982)	1006538	577.863	578	

Data File: \\target_server\gg\chem\gcms-d.i\D052118.b\D1448.d
Report Date: 25-May-2018 11:49

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)	REVIEW CODE
	25 1,1-Dichloroethane	63	4.517	4.517	(0.617)	293938	53.6514	53.6	
	26 Acrylonitrile	52	4.610	4.610	(0.630)	237423	269.293	269	
	27 Ethyl tertiary-butyl ether	59	4.963	4.963	(0.678)	415486	50.8731	50.9	
	28 Vinyl Acetate	43	4.981	4.982	(0.615)	403995	65.1184	65.1	
	29 cis-1,2-Dichloroethene	96	5.437	5.437	(0.743)	146839	50.8975	50.9	
M	30 1,2-Dichloroethylene (total)	96				283590	101.078	101	
	31 Methyl Methacrylate	41	10.643	10.643	(1.315)	145422	53.0412	53.0	
	32 2,2-Dichloropropane	77	5.641	5.642	(0.771)	220045	57.3937	57.4	
	33 Bromochloromethane	128	5.818	5.809	(0.795)	74455	51.5609	51.6	
	34 Chloroform	83	6.013	6.014	(0.822)	296676	51.7203	51.7	
	35 Carbon Tetrachloride	117	6.236	6.237	(0.770)	218027	53.3880	53.4	
	36 Tetrahydrofuran	42	6.311	6.311	(0.863)	39930	53.2381	53.2	
$	37 Dibromofluoromethane	113	6.376	6.376	(0.872)	164718	49.9585	50.0	
	38 1,1,1-Trichloroethane	97	6.376	6.376	(0.872)	253084	51.1539	51.2	
	39 1,1-Dichloropropene	75	6.618	6.627	(0.817)	215646	53.1839	53.2	
	40 2-Butanone	43	6.655	6.655	(0.910)	71479	54.9864	55.0	
	41 Benzene	78	7.064	7.064	(0.873)	541346	51.5069	51.5	
*	42 Pentafluorobenzene	168	7.315	7.315	(1.000)	269099	50.0000		
	43 Cyclohexane	56	5.790	5.791	(0.792)	230566	52.7903	52.8	
	44 Ethyl Methacrylate	69	9.137	9.137	(1.129)	100040	51.2078	51.2	
$	45 1,2-Dichloroethane-D4	65	7.296	7.297	(0.997)	235440	52.3381	52.3	
	46 Tertiary-amyl methyl ether	73	7.333	7.334	(1.003)	337615	50.9807	51.0	
	47 1,2-Dichloroethane	62	7.408	7.408	(0.915)	255026	51.7937	51.8	
	48 Trichloroethene	95	8.003	8.003	(0.989)	152632	50.5651	50.6	
*	49 1,4-Difluorobenzene	114	8.096	8.096	(1.000)	430190	50.0000		
	50 Dibromomethane	93	8.588	8.589	(1.061)	108085	54.2283	54.2	
	51 1,2-Dichloropropane	63	8.737	8.738	(1.079)	151445	51.9639	52.0	
	52 Bromodichloromethane	83	8.858	8.858	(1.094)	231288	56.0104	56.0	
	53 cis-1,3-dichloropropene	75	9.667	9.667	(1.194)	255417	49.5831	49.6	
	54 1,4-Dioxane	88	9.137	9.137	(1.129)	29687	1194.95	1190	
$	55 Toluene-D8	98	9.881	9.881	(1.220)	535923	51.1116	51.1	
	56 2-Chloroethylvinylether	63	9.639	9.639	(1.191)	91851	54.3132	54.3	
	57 Toluene	92	9.936	9.937	(1.227)	331160	50.9087	50.9	
	58 4-methyl-2-pentanone	43	10.410	10.411	(1.286)	152341	57.5023	57.5	
	59 Tetrachloroethene	164	10.364	10.364	(0.898)	105809	49.9792	50.0	
	60 trans-1,3-Dichloropropene	75	10.429	10.430	(1.288)	249121	59.6184	59.6	
	61 1,1,2-Trichloroethane	83	10.596	10.597	(1.309)	118934	52.6687	52.7	
	62 Dibromochloromethane	129	10.773	10.774	(0.934)	168629	57.2427	57.2	
	63 1,3-Dichloropropane	76	10.875	10.876	(0.943)	242224	51.2814	51.3	
	64 1,2-Dibromoethane	107	10.996	10.997	(1.358)	143762	52.6750	52.7	
	65 2-Hexanone	43	11.294	11.294	(0.979)	104421	58.6177	58.6	
*	66 Chlorobenzene-D5	117	11.535	11.536	(1.000)	394685	50.0000		
	67 Chlorobenzene	112	11.554	11.554	(1.002)	362880	50.1129	50.1	
	68 Ethylbenzene	91	11.600	11.601	(1.006)	649636	50.6286	50.6	
	69 1,1,1,2-Tetrachloroethane	131	11.628	11.629	(1.008)	143127	54.1984	54.2	
M	70 Xylenes (total)	106				1531521	159.453	159	
	71 m+p-Xylenes	91	11.749	11.750	(1.019)	1018167	105.013	105	
	72 o-Xylene	91	12.167	12.168	(1.055)	513354	54.4409	54.4	
	73 Styrene	104	12.223	12.224	(1.060)	384740	54.9031	54.9	
	74 Bromoform	173	12.233	12.233	(1.060)	100809	58.9016	58.9	
	75 Isopropylbenzene	105	12.474	12.475	(0.899)	608150	56.0027	56.0	
$	76 P-Bromofluorobenzene	95	12.735	12.735	(1.573)	220061	50.9526	51.0	
	77 cis-1,4-Dichloro-2-Butene	53	12.809	12.809	(0.923)	62028	52.9961	53.0	
	78 trans-1,4-Dichloro-2-Butene	53	13.116	13.116	(0.945)	49946	53.4657	53.5	

Data File: \\target_server\gg\chem\gcms-d.i\D052118.b\D1448.d
Report Date: 25-May-2018 11:49

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)	REVIEW CODE
	79 Bromobenzene	156	12.828	12.828	(0.924)	149005	50.1277	50.1	
	80 N-Propylbenzene	91	12.874	12.874	(0.928)	756012	51.2813	51.3	
	81 1,1,2,2-Tetrachloroethane	83	12.948	12.949	(0.933)	181387	53.4533	53.4	
	82 1,3,5-Trimethylbenzene	105	13.060	13.060	(0.941)	507673	53.8104	53.8	
	83 2-Chlorotoluene	91	13.013	13.014	(0.938)	443901	51.5320	51.5	
	84 1,2,3-Trichloropropane	75	13.069	13.070	(0.942)	159717	52.7950	52.8	
	85 4-Chlorotoluene	91	13.171	13.172	(0.949)	477753	51.8004	51.8	
	86 tert-Butylbenzene	119	13.376	13.377	(0.964)	471707	52.7913	52.8	
	87 Pentachloroethane	117	13.395	13.395	(0.965)	112672	53.7011	53.7	
	88 1,2,4-Trimethylbenzene	105	13.450	13.451	(0.969)	519527	53.3232	53.3	
	89 P-Isopropyltoluene	119	13.729	13.720	(0.989)	507521	53.9894	54.0	
	90 1,3-Dichlorobenzene	146	13.794	13.795	(0.994)	271431	50.5944	50.6	
*	91 1,4-Dichlorobenzene-D4	152	13.878	13.879	(1.000)	202437	50.0000		
	92 1,4-Dichlorobenzene	146	13.897	13.897	(1.001)	275752	49.3562	49.4	
	93 N-Butylbenzene	91	14.231	14.222	(1.025)	500120	54.3372	54.3	
	94 sec-Butylbenzene	105	13.562	13.562	(0.977)	614002	52.7430	52.7	
	95 1,2-Dichlorobenzene	146	14.417	14.418	(1.039)	259374	51.9509	52.0	
	96 1,2-Dibromo-3-Chloropropane	75	15.570	15.570	(1.122)	31102	53.6312	53.6	
	97 1,3,5-Trichlorobenzene	180	15.616	15.617	(1.125)	181762	53.1422	53.1	
	98 Hexachlorobutadiene	225	16.407	16.407	(1.182)	68321	47.1460	47.1	
	99 1,2,4-Trichlorobenzene	180	16.435	16.434	(1.184)	157098	53.2553	53.2	
	100 1,2,3-Trimethylbenzene	105	13.934	13.934	(1.004)	520408	53.9981	54.0	
	101 Naphthalene	128	16.806	16.806	(1.211)	338665	49.1201	49.1	
	102 1,2,3-Trichlorobenzene	180	17.011	17.011	(1.226)	125600	51.0180	51.0	
	103 Methyl Acetate	43	3.689	3.690	(0.504)	120750	53.2286	53.2	
	104 Methylcyclohexane	83	7.966	7.966	(1.089)	221293	49.6794	49.7	
M	153 Total Alkylbenzenes	100				3876562	372.276	372	


Data File: \\target_server\gg\chem\gcms-d.i\D052118.b\D1448.d
Date : 21-MAY-2018 09:06
Client ID:
Sample Info: WG228752-1,SL4180
Purge Volume: 5.0
Column phase: RTX-VMS
Instrument: gcms-d.i
Operator: JSS
Column diameter: 0.18
\\target_server\gg\chem\gcms-d.i\D052118.b\D1448.d
Y (x10^6)
Min
-Dichlorodifluoromethane (1.486)
-Chloromethane (1.663)
-Vinyl chloride (1.737)
-Bromomethane (2.026)
-Chloroethane (2.146)
-Trichlorofluoromethane (2.277)
-Diethyl Ether (2.583)
-1,1-Dichloroethene (2.807)+
-Iodomethane (2.937)
-Acrolein (3.169)
-Allyl Chloride (3.318)
-Methylene Chloride (3.448)+
-trans-1,2-Dichloroethene (3.643)+
-Methyl tert-butyl ether (3.811)
-Tertiary-butyl alcohol (3.969)
-Acetonitrile (4.136)
-Di-isopropyl ether (4.368)
-Chloroprene (4.489)+
-Acrylonitrile (4.610)
-Ethyl tertiary-butyl ethe (4.973)+
-cis-1,2-Dichloroethene (5.437)
-2,2-Dichloropropane (5.642)
-Bromochloromethane (5.800)+
-Chloroform (6.014)
-Carbon Tetrachloride (6.237)
-Tetrahydrofuran (6.376)+
-1,1-Dichloropropene (6.627)+
-Benzene (7.064)
-Propionitrile (7.185)+
-Pentafluorobenzene (7.315)+
-Isobutyl Alcohol (7.603)
-Trichloroethene (7.966)+
-1,4-Difluorobenzene (8.096)
-Dibromomethane (8.589)
-1,2-Dichloropropane (8.738)
-Bromodichloromethane (8.858)
-Total Alkylbenzenes (9.000)
-Ethyl Methacrylate (9.137)+
-cis-1,3-dichloropropene (9.667)+
-Toluene-D8 (9.881)
-Toluene (9.937)
-Tetrachloroethene (10.364)
-4-methyl-2-pentanone (10.430)+
-Methyl Methacrylate (10.597)
-Dibromochloromethane (10.774)
-1,3-Dichloropropane (10.876)
-1,2-Dibromoethane (10.997)
-2-Hexanone (11.294)
-Chlorobenzene-D5 (11.545)+
-Ethylbenzene (11.601)+
m+p-Xylenes (11.750)
-o-Xylene (12.168)
-Styrene (12.224)+
-Isopropylbenzene (12.475)
-P-Bromofluorobenzene (12.735)
-cis-1,4-Dichloro-2-Butene (12.828)+
-N-Propylbenzene (12.874)
-1,1,2,2-Tetrachloroethane (12.949)
-2-Chlorotoluene (13.014)
-trans-1,4-Dichloro-2-Bute (13.116)
-4-Chlorotoluene (13.172)
-tert-Butylbenzene (13.451)
-1,2,4-Trimethylbenzene (13.060)+
-sec-Butylbenzene (13.562)
-P-Isopropyltoluene (13.730)
-1,3-Dichlorobenzene (13.795)
-1,4-Dichlorobenzene-D4 (13.888)+
-N-Butylbenzene (14.232)
-1,2-Dichlorobenzene (14.418)
-1,2-Dibromo-3-Chloropropa (15.570)
-1,3,5-Trichlorobenzene (15.617)
-1,2-Dichloroethylene (tot (15.780)
-Hexachlorobutadiene (16.426)+
-Naphthalene (16.807)
-1,2,3-Trichlorobenzene (17.011)

Katahdin
ANALYTICAL SERVICES

LCS Recovery Report

Client:
Lab ID: WG228693-1
Client ID: LCS
Project:
SDG: SL4180
LCS File ID: W4035.D

Sample Date:
Received Date:
Extract Date: 19-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228693

Analysis Date: 19-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: NA
Report Date: 25-MAY-18

Compound	Recovery (%)	Conc Added	Conc Recovered	Conc Units	Limits
1,1,1,2-Tetrachloroethane	110.	50.0	54.9	ug/Kgdrywt	78-125
1,1,1-Trichloroethane	109.	50.0	54.7	ug/Kgdrywt	73-130
1,1,2,2-Tetrachloroethane	107.	50.0	53.4	ug/Kgdrywt	70-125
Freon-113	117.	50.0	58.4	ug/Kgdrywt	66-136
1,1,2-Trichloroethane	105.	50.0	52.7	ug/Kgdrywt	78-125
1,1-Dichloroethane	114.	50.0	56.9	ug/Kgdrywt	76-125
1,1-Dichloroethene	103.	50.0	51.5	ug/Kgdrywt	70-131
1,1-Dichloropropene	110.	50.0	54.8	ug/Kgdrywt	76-125
1,2,3-Trichlorobenzene	118.	50.0	58.8	ug/Kgdrywt	66-130
1,2,3-Trichloropropane	105.	50.0	52.4	ug/Kgdrywt	73-125
1,2,4-Trichlorobenzene	121.	50.0	60.4	ug/Kgdrywt	67-129
1,2,4-Trimethylbenzene	109.	50.0	54.6	ug/Kgdrywt	75-125
1,2-Dibromo-3-Chloropropane	118.	50.0	59.1	ug/Kgdrywt	61-132
1,2-Dibromoethane	109.	50.0	54.4	ug/Kgdrywt	78-125
1,2-Dichlorobenzene	110.	50.0	54.8	ug/Kgdrywt	78-125
1,2-Dichloroethane	106.	50.0	53.1	ug/Kgdrywt	73-128
1,2-Dichloropropane	106.	50.0	53.2	ug/Kgdrywt	76-125
1,3,5-Trimethylbenzene	111.	50.0	55.3	ug/Kgdrywt	73-125
1,3-Dichlorobenzene	112.	50.0	55.9	ug/Kgdrywt	77-125
1,3-Dichloropropane	104.	50.0	52.1	ug/Kgdrywt	77-125
1,4-Dichlorobenzene	111.	50.0	55.6	ug/Kgdrywt	75-120
2,2-Dichloropropane	122.	50.0	60.9	ug/Kgdrywt	67-133
2-Butanone	126.	50.0	63.0	ug/Kgdrywt	51-148
2-Chlorotoluene	107.	50.0	53.5	ug/Kgdrywt	75-125
2-Hexanone	121.	50.0	60.6	ug/Kgdrywt	53-145
4-Chlorotoluene	109.	50.0	54.3	ug/Kgdrywt	72-125
P-Isopropyltoluene	112.	50.0	55.9	ug/Kgdrywt	73-127
4-Methyl-2-Pentanone	115.	50.0	57.4	ug/Kgdrywt	65-135
Acetone	142.	50.0	71.2	ug/Kgdrywt	36-164
Benzene	108.	50.0	54.0	ug/Kgdrywt	77-125
Bromobenzene	104.	50.0	51.9	ug/Kgdrywt	78-125
Bromochloromethane	112.	50.0	55.9	ug/Kgdrywt	78-125
Bromodichloromethane	114.	50.0	57.2	ug/Kgdrywt	75-127
Bromoform	111.	50.0	55.3	ug/Kgdrywt	67-132
Bromomethane	116.	50.0	57.8	ug/Kgdrywt	53-143

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Katahdin
ANALYTICAL SERVICES

LCS Recovery Report

Client:
Lab ID: WG228693-1
Client ID: LCS
Project:
SDG: SL4180
LCS File ID: W4035.D

Sample Date:
Received Date:
Extract Date: 19-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228693

Analysis Date: 19-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: NA
Report Date: 25-MAY-18

Compound	Recovery (%)	Conc Added	Conc Recovered	Conc Units	Limits
Carbon Disulfide	109.	50.0	54.4	ug/Kgdrywt	63-132
Carbon Tetrachloride	109.	50.0	54.3	ug/Kgdrywt	70-135
Chlorobenzene	108.	50.0	53.8	ug/Kgdrywt	79-125
Dibromochloromethane	110.	50.0	54.8	ug/Kgdrywt	74-126
Chloroethane	138.	50.0	68.8	ug/Kgdrywt	59-139
Chloroform	109.	50.0	54.5	ug/Kgdrywt	78-125
Chloromethane	132.	50.0	65.9	ug/Kgdrywt	50-136
cis-1,2-Dichloroethene	106.	50.0	53.0	ug/Kgdrywt	77-125
cis-1,3-Dichloropropene	106.	50.0	53.2	ug/Kgdrywt	74-126
Dibromomethane	107.	50.0	53.3	ug/Kgdrywt	78-125
Dichlorodifluoromethane	* 155.	50.0	77.3	ug/Kgdrywt	29-149
Ethylbenzene	107.	50.0	53.6	ug/Kgdrywt	76-125
Hexachlorobutadiene	114.	50.0	56.9	ug/Kgdrywt	61-135
Isopropylbenzene	112.	50.0	56.0	ug/Kgdrywt	68-134
m+p-Xylenes	109.	100.	109.	ug/Kgdrywt	77-125
Methyl tert-butyl Ether	110.	50.0	54.8	ug/Kgdrywt	73-125
Methylene Chloride	103.	50.0	51.4	ug/Kgdrywt	70-128
N-Butylbenzene	119.	50.0	59.5	ug/Kgdrywt	70-128
N-Propylbenzene	110.	50.0	55.2	ug/Kgdrywt	73-125
Naphthalene	116.	50.0	57.8	ug/Kgdrywt	62-129
o-Xylene	108.	50.0	54.2	ug/Kgdrywt	77-125
sec-Butylbenzene	112.	50.0	55.8	ug/Kgdrywt	73-126
Styrene	108.	50.0	54.2	ug/Kgdrywt	76-125
tert-Butylbenzene	106.	50.0	53.1	ug/Kgdrywt	73-125
Tetrachloroethene	126.	50.0	63.1	ug/Kgdrywt	73-128
Toluene	106.	50.0	53.2	ug/Kgdrywt	77-125
trans-1,2-Dichloroethene	107.	50.0	53.6	ug/Kgdrywt	74-125
trans-1,3-Dichloropropene	119.	50.0	59.3	ug/Kgdrywt	71-130
Trichloroethene	110.	50.0	54.9	ug/Kgdrywt	77-125
Trichlorofluoromethane	119.	50.0	59.6	ug/Kgdrywt	62-140
Vinyl Chloride	129.	50.0	64.6	ug/Kgdrywt	56-135
1,2-Dichloroethane-D4	100.				71-136
p-Bromofluorobenzene	100.				79-125
Dibromofluoromethane	101.				78-125
Toluene-D8	99.6				85-125

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Data File: \\target_server\gg\chem\gcms-w.i\W051918.b\W4035.D
Report Date: 25-May-2018 12:03

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W051918.b\W4035.D
Lab Smp Id: WG228693-1
Inj Date : 19-MAY-2018 08:36 MS Autotune Date: 10-APR-2016 11:00
Operator : JSS Inst ID: gcms-w.i
Smp Info : WG228693-1,SL4180
Misc Info : WG228693,WG228635-4,SL4180-1
Comment : SW846 5035
Method : \\target_server\gg\chem\gcms-w.i\W051918.b\W8SDI(12)D.m
Meth Date : 20-May-2018 08:58 hgould Quant Type: ISTD
Cal Date : 18-MAY-2018 15:04 Cal File: W4025.D
Als bottle: 2 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: VOA-WS

Concentration Formula: Amt * DF * (100/(100-M))*(Vt/Ws) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
M	0.00000	% Moisture
Vt	5.000	Volume of DI Water (mL)
Ws	5.000	Weight of Sample (g)
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/kg)	FINAL (ug/Kgdrywt)	REVIEW COD
1	Dichlorodifluoromethane	85	1.970	1.963	(0.244)	293677	77.2794	77.3(R)	
2	Chloromethane	50	2.192	2.192	(0.271)	357404	65.9108	65.9	
3	Vinyl chloride	62	2.263	2.256	(0.280)	287990	64.6172	64.6	
4	Bromomethane	94	2.606	2.599	(0.323)	110257	57.8305	57.8	
5	Chloroethane	64	2.742	2.735	(0.340)	151803	68.7712	68.8	
6	Trichlorofluoromethane	101	2.892	2.885	(0.358)	319051	59.5795	59.6	
7	Diethyl Ether	59	3.228	3.221	(0.400)	181356	54.9916	55.0	
8	Tertiary-butyl alcohol	59	4.715	4.708	(0.584)	116870	291.246	291	
9	1,1-Dichloroethene	96	3.464	3.457	(0.429)	166744	51.4701	51.5	
10	Carbon Disulfide	76	3.507	3.500	(0.434)	598058	54.4360	54.4	
11	Freon-113	151	3.507	3.493	(0.434)	136790	58.3751	58.4	
12	Iodomethane	142	3.650	3.635	(0.452)	165508	58.9676	59.0	
13	Acrolein	56	3.886	3.879	(0.481)	200116	278.076	278	
14	Methylene Chloride	84	4.200	4.186	(0.520)	212426	51.3782	51.4	
15	Acetone	43	4.286	4.272	(0.531)	107641	71.2322	71.2	
16	Isobutyl Alcohol	43	8.353	8.346	(1.035)	261464	1127.19	1130	
17	trans-1,2-Dichloroethene	96	4.415	4.407	(0.547)	188430	53.6009	53.6	
18	Allyl Chloride	41	4.057	4.043	(0.503)	337089	57.2703	57.3	
19	Methyl tert-butyl ether	73	4.579	4.565	(0.567)	522666	54.8113	54.8	
20	Acetonitrile	39	4.980	4.958	(0.617)	71857	545.473	545	
21	Di-isopropyl ether	45	5.173	5.151	(0.641)	694267	54.9896	55.0	

Data File: \\target_server\gg\chem\gcms-w.i\W051918.b\W4035.D
Report Date: 25-May-2018 12:03

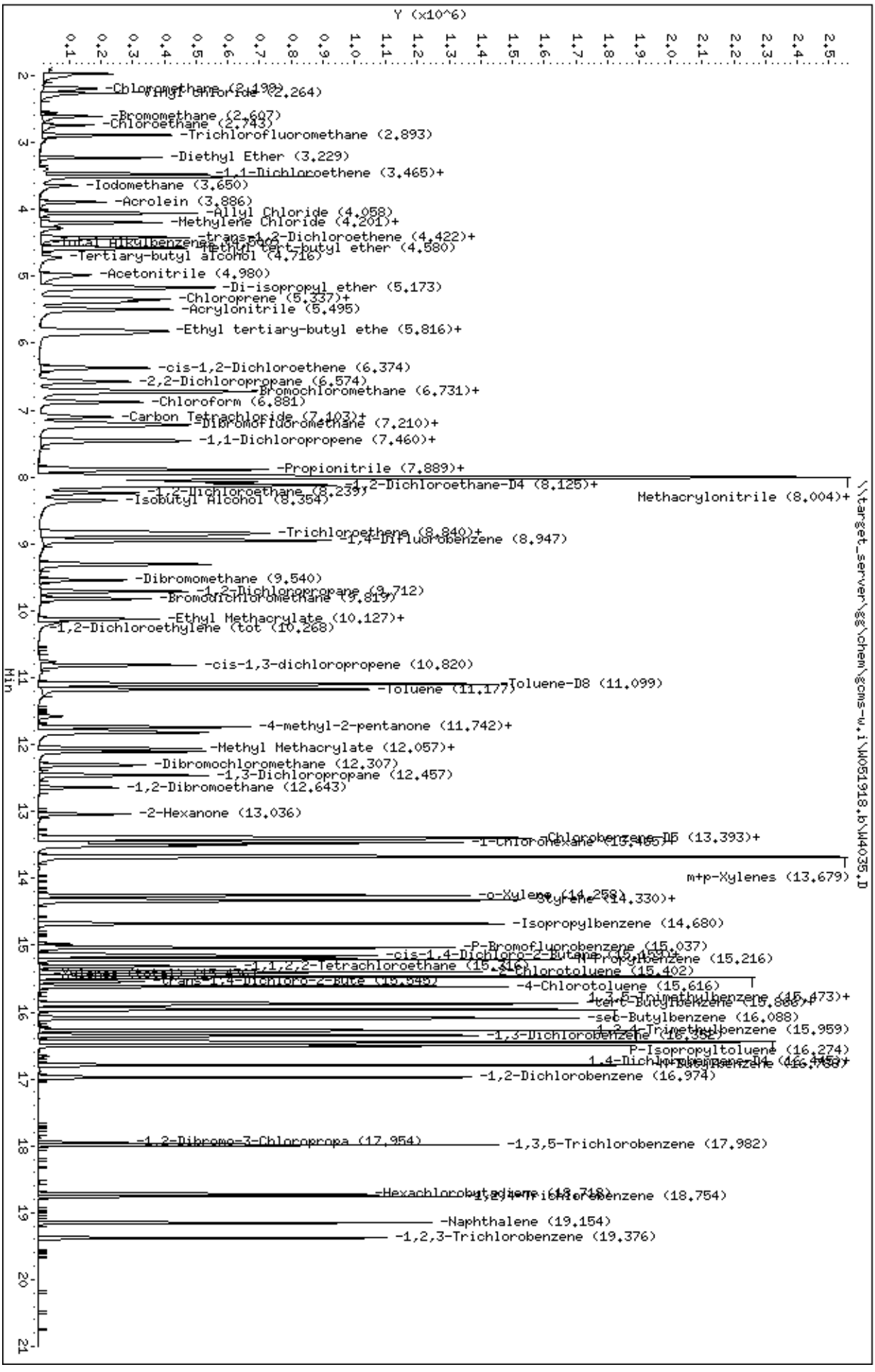
		Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/kg)	FINAL (ug/Kgdrywt)	REVIEW COD
	22	Chloroprene	53	5.337	5.322	(0.661)	311297	56.5451	56.5	
	23	Propionitrile	54	7.975	7.960	(0.988)	389780	583.564	584	
	24	Methacrylonitrile	41	8.003	7.989	(0.991)	1538968	574.651	575	
	25	1,1-Dichloroethane	63	5.380	5.365	(0.666)	372617	56.8801	56.9	
	26	Acrylonitrile	52	5.494	5.473	(0.680)	391774	283.641	284	
	27	Ethyl tertiary-butyl ether	59	5.816	5.794	(0.720)	470688	56.2014	56.2	
	28	Vinyl Acetate	43	5.859	5.837	(0.655)	500880	63.7336	63.7	
	29	cis-1,2-Dichloroethene	96	6.373	6.352	(0.789)	203440	53.0590	53.0	
M	30	1,2-Dichloroethylene (total)	96				391870	106.660	107	
	31	Methyl Methacrylate	41	12.106	12.092	(1.353)	211607	58.4362	58.4	
	32	2,2-Dichloropropane	77	6.574	6.559	(0.814)	204674	60.9187	60.9	
	33	Bromochloromethane	128	6.731	6.716	(0.834)	95802	55.9319	55.9	
	34	Chloroform	83	6.881	6.859	(0.852)	333605	54.4883	54.5	
	35	Carbon Tetrachloride	117	7.102	7.088	(0.794)	193627	54.3165	54.3	
	36	Tetrahydrofuran	42	7.188	7.167	(0.890)	87998	60.3611	60.4	
$	37	Dibromofluoromethane	113	7.210	7.188	(0.893)	246168	50.6241	50.6	
	38	1,1,1-Trichloroethane	97	7.231	7.217	(0.896)	268810	54.7129	54.7	
	39	1,1-Dichloropropene	75	7.453	7.438	(0.833)	267444	54.8237	54.8	
	40	2-Butanone	43	7.474	7.453	(0.926)	146597	63.0262	63.0	
	41	Benzene	78	7.889	7.867	(0.882)	811787	54.0472	54.0	
*	42	Pentafluorobenzene	168	8.075	8.060	(1.000)	494918	50.0000		
	43	Cyclohexane	56	6.716	6.695	(0.832)	346553	55.8118	55.8	
	44	Ethyl Methacrylate	69	10.126	10.112	(1.132)	156719	57.3703	57.4	
$	45	1,2-Dichloroethane-D4	65	8.125	8.109	(1.006)	320343	50.1694	50.2	
	46	Tertiary-amyl methyl ether	73	8.117	8.109	(1.005)	439167	57.6650	57.7	
	47	1,2-Dichloroethane	62	8.239	8.224	(0.921)	284425	53.1013	53.1	
	48	Trichloroethene	95	8.868	8.846	(0.991)	197569	54.9203	54.9	
*	49	1,4-Difluorobenzene	114	8.947	8.932	(1.000)	836447	50.0000		
	50	Dibromomethane	93	9.540	9.518	(1.066)	120328	53.3258	53.3	
	51	1,2-Dichloropropane	63	9.711	9.697	(1.085)	206177	53.2174	53.2	
	52	Bromodichloromethane	83	9.819	9.804	(1.097)	263197	57.2355	57.2	
	53	cis-1,3-dichloropropene	75	10.819	10.805	(1.209)	304912	53.1787	53.2	
	54	1,4-Dioxane	88	10.169	10.169	(1.137)	71779	1249.14	1250	
$	55	Toluene-D8	98	11.098	11.084	(1.240)	1012453	49.8204	49.8	
	57	Toluene	92	11.177	11.162	(1.249)	478051	53.2141	53.2	
	58	4-methyl-2-pentanone	43	11.792	11.777	(1.318)	270684	57.4392	57.4	
	59	Tetrachloroethene	164	11.742	11.727	(0.877)	173984	63.0989	63.1	
	60	trans-1,3-Dichloropropene	75	11.827	11.813	(1.322)	266590	59.3484	59.3	
	61	1,1,2-Trichloroethane	83	12.056	12.042	(1.348)	151245	52.7445	52.7	
	62	Dibromochloromethane	129	12.306	12.292	(0.919)	189425	54.8397	54.8	
	63	1,3-Dichloropropane	76	12.456	12.449	(0.931)	333164	52.1007	52.1	
	64	1,2-Dibromoethane	107	12.642	12.628	(1.413)	182579	54.4096	54.4	
	65	2-Hexanone	43	13.035	13.028	(0.974)	215243	60.6446	60.6	
*	66	Chlorobenzene-D5	117	13.386	13.378	(1.000)	797147	50.0000		
	67	Chlorobenzene	112	13.414	13.400	(1.002)	558110	53.8011	53.8	
	152	1-Chlorohexane	91	13.464	13.457	(1.667)	967428		(aR)	
	68	Ethylbenzene	106	13.464	13.457	(1.006)	301985	53.5987	53.6	
	69	1,1,1,2-Tetrachloroethane	131	13.507	13.500	(1.009)	177596	54.8900	54.9	
M	70	Xylenes (total)	106				1123053	162.969	163	
	71	m+p-Xylenes	106	13.679	13.664	(1.022)	748711	108.735	109	
	72	o-Xylene	106	14.258	14.243	(1.065)	374342	54.2347	54.2	
	73	Styrene	104	14.329	14.315	(1.070)	634335	54.1671	54.2	
	74	Bromoform	173	14.343	14.329	(1.072)	133273	55.3377	55.3	
	75	Isopropylbenzene	105	14.679	14.665	(0.893)	950983	56.0216	56.0	

Data File: \\target_server\gg\chem\gcms-w.i\W051918.b\W4035.D
Report Date: 25-May-2018 12:03

								CONCENTRATIONS		
			QUANT SIG					ON-COLUMN	FINAL	
	Compounds		MASS	RT	EXP RT	REL RT	RESPONSE	(ug/kg)	(ug/Kgdrywt)	REVIEW COD
$	76	P-Bromofluorobenzene	95	15.037	15.022	(1.681)	427870	50.1464	50.1	
	77	cis-1,4-Dichloro-2-Butene	53	15.137	15.129	(0.920)	87158	58.6550	58.6	
	78	trans-1,4-Dichloro-2-Butene	53	15.537	15.530	(0.945)	71578	59.8265	59.8	
	79	Bromobenzene	156	15.158	15.151	(0.922)	239660	51.8946	51.9	
	80	N-Propylbenzene	91	15.215	15.201	(0.925)	1208531	55.1660	55.2	
	81	1,1,2,2-Tetrachloroethane	83	15.316	15.301	(0.931)	290669	53.4091	53.4	
	82	1,3,5-Trimethylbenzene	105	15.473	15.458	(0.941)	845702	55.3404	55.3	
	83	2-Chlorotoluene	91	15.401	15.394	(0.937)	717672	53.5284	53.5	
	84	1,2,3-Trichloropropane	75	15.480	15.465	(0.941)	244815	52.3549	52.4	
	85	4-Chlorotoluene	91	15.616	15.608	(0.950)	756378	54.2672	54.3	
	86	tert-Butylbenzene	119	15.866	15.859	(0.965)	811339	53.0884	53.1	
	87	Pentachloroethane	117	15.887	15.873	(0.966)	136788	50.2189	50.2	
	88	1,2,4-Trimethylbenzene	105	15.959	15.944	(0.970)	880761	54.6236	54.6	
	89	P-Isopropyltoluene	119	16.273	16.265	(0.990)	940854	55.8935	55.9	
	90	1,3-Dichlorobenzene	146	16.352	16.337	(0.994)	496463	55.9299	55.9	
*	91	1,4-Dichlorobenzene-D4	152	16.445	16.430	(1.000)	454675	50.0000		
	92	1,4-Dichlorobenzene	146	16.459	16.452	(1.001)	504354	55.5703	55.6	
	93	N-Butylbenzene	91	16.788	16.780	(1.021)	954023	59.4657	59.5	
	94	sec-Butylbenzene	105	16.088	16.079	(0.978)	1124412	55.8106	55.8	
	95	1,2-Dichlorobenzene	146	16.981	16.966	(1.033)	491061	54.8342	54.8	
	96	1,2-Dibromo-3-Chloropropane	75	17.953	17.939	(1.092)	69065	59.1423	59.1	
	97	1,3,5-Trichlorobenzene	180	17.982	17.974	(2.227)	374481	63.2676	63.3	
	98	Hexachlorobutadiene	225	18.718	18.711	(1.138)	159366	56.8719	56.9	
	99	1,2,4-Trichlorobenzene	180	18.754	18.746	(1.140)	324257	60.3894	60.4	
	100	1,2,3-Trimethylbenzene	105	16.495	16.488	(2.043)	920939	56.8901	56.9	
	101	Naphthalene	128	19.154	19.139	(1.165)	871331	57.8104	57.8	
	102	1,2,3-Trichlorobenzene	180	19.376	19.368	(1.178)	300070	58.8005	58.8	
	103	Methyl Acetate	43	4.443	4.436	(0.550)	187802	51.6905	51.7	
	104	Methylcyclohexane	83	8.832	8.818	(1.094)	359893	59.8419	59.8	
M	153	Total Alkylbenzenes	100				6765622	389.388	389	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
R - Spike/Surrogate failed recovery limits.


Data File: \\target_server\gg\chem\gcms-w.i\W051918.b\W4035.D
Date : 19-MAY-2018 08:36
Client ID:
Sample Info: WG228693-1,SL4180
Column phase: RTX-VMS
Instrument: gcms-w.i
Operator: JSS
Column diameter: 0.18
Y (x10^6)
Min
\\target_server\gg\chem\gcms-w.i\W051918.b\W4035.D
-Chloromethane (2.198)
-Vinyl Chloride (2.264)
-Bromomethane (2.607)
-Chloroethane (2.743)
-Trichlorofluoromethane (2.893)
-Diethyl Ether (3.229)
-1,1-Dichloroethene (3.465)+
-Iodomethane (3.650)
-Acrolein (3.886)
-Allyl Chloride (4.058)
-Methylene Chloride (4.201)+
-trans-1,2-Dichloroethene (4.422)+
-Methyl tert-butyl ether (4.580)
-Tertiary-butyl alcohol (4.716)
-Acetonitrile (4.980)
-Di-isopropyl ether (5.173)
-Chloroprene (5.337)+
-Acrylonitrile (5.495)
-Ethyl tertiary-butyl ethe (5.816)+
-cis-1,2-Dichloroethene (6.374)
-2,2-Dichloropropane (6.574)
-Bromochloromethane (6.731)+
-Chloroform (6.881)
-Carbon Tetrachloride (7.103)+
-Dibromofluoromethane (7.210)+
-1,1-Dichloropropene (7.460)+
-Propionitrile (7.889)+
-1,2-Dichloroethane-D4 (8.125)+
Methacrylonitrile (8.004)+
-Isobutyl Alcohol (8.354)
-Trichloroethene (8.840)+
-1,4-Difluorobenzene (8.947)
-Dibromomethane (9.540)
-1,2-Dichloropropane (9.712)
-Bromodichloromethane (9.819)
-Ethyl Methacrylate (10.127)+
-1,2-Dichloroethylene (tot (10.268)
-cis-1,3-dichloropropene (10.820)
-Toluene (11.177)
Toluene-D8 (11.099)
-4-methyl-2-pentanone (11.742)+
-Methyl Methacrylate (12.057)+
-Dibromochloromethane (12.307)
-1,3-Dichloropropane (12.457)
-1,2-Dibromoethane (12.643)
-2-Hexanone (13.036)
-Chlorobenzene-D5 (13.393)+
-1-Chlorohexane (13.485)+
m+p-Xylenes (13.679)
-o-Xylene (14.258)
-Styrene (14.330)+
-Isopropylbenzene (14.680)
-P-Bromofluorobenzene (15.037)
-cis-1,4-Dichloro-2-Butene (15.091)
-n-Propylbenzene (15.216)
-1,1,2,2-Tetrachloroethane (15.316)
-2-Chlorotoluene (15.402)
-trans-1,4-Dichloro-2-Bute (15.545)
-4-Chlorotoluene (15.616)
-1,3,5-Trimethylbenzene (15.673)+
-tert-Butylbenzene (15.866)+
-sec-Butylbenzene (16.088)
-1,2,4-Trimethylbenzene (15.959)
-1,3-Dichlorobenzene (16.352)
P-Isopropyltoluene (16.274)
-1,4-Dichlorobenzene-D4 (16.445)+
-n-Butylbenzene (16.788)
-1,2-Dichlorobenzene (16.974)
-1,2-Dibromo-3-Chloropropa (17.954)
-1,3,5-Trichlorobenzene (17.982)
-Hexachlorobutadiene (18.718)
-1,2,4-Trichlorobenzene (18.754)
-Naphthalene (19.154)
-1,2,3-Trichlorobenzene (19.376)

Katahdin
ANALYTICAL SERVICES

LCS Recovery Report

Client:
Lab ID: WG228751-8
Client ID: LCS
Project:
SDG: SL4180
LCS File ID: W4069.D

Sample Date:
Received Date:
Extract Date: 21-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228751

Analysis Date: 21-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: NA
Report Date: 25-MAY-18

Compound	Recovery (%)	Conc Added	Conc Recovered	Conc Units	Limits
1,1,1,2-Tetrachloroethane	98.2	50.0	49.1	ug/Kgdrywt	78-125
1,1,1-Trichloroethane	92.8	50.0	46.4	ug/Kgdrywt	73-130
1,1,2,2-Tetrachloroethane	94.8	50.0	47.4	ug/Kgdrywt	70-125
Freon-113	95.6	50.0	47.8	ug/Kgdrywt	66-136
1,1,2-Trichloroethane	88.4	50.0	44.2	ug/Kgdrywt	78-125
1,1-Dichloroethane	95.8	50.0	47.9	ug/Kgdrywt	76-125
1,1-Dichloroethene	87.8	50.0	43.9	ug/Kgdrywt	70-131
1,1-Dichloropropene	91.2	50.0	45.6	ug/Kgdrywt	76-125
1,2,3-Trichlorobenzene	95.2	50.0	47.6	ug/Kgdrywt	66-130
1,2,3-Trichloropropane	89.2	50.0	44.6	ug/Kgdrywt	73-125
1,2,4-Trichlorobenzene	95.8	50.0	47.9	ug/Kgdrywt	67-129
1,2,4-Trimethylbenzene	94.4	50.0	47.2	ug/Kgdrywt	75-125
1,2-Dibromo-3-Chloropropane	90.8	50.0	45.4	ug/Kgdrywt	61-132
1,2-Dibromoethane	88.4	50.0	44.2	ug/Kgdrywt	78-125
1,2-Dichlorobenzene	93.0	50.0	46.5	ug/Kgdrywt	78-125
1,2-Dichloroethane	91.6	50.0	45.8	ug/Kgdrywt	73-128
1,2-Dichloropropane	91.0	50.0	45.5	ug/Kgdrywt	76-125
1,3,5-Trimethylbenzene	94.4	50.0	47.2	ug/Kgdrywt	73-125
1,3-Dichlorobenzene	94.6	50.0	47.3	ug/Kgdrywt	77-125
1,3-Dichloropropane	93.4	50.0	46.7	ug/Kgdrywt	77-125
1,4-Dichlorobenzene	91.8	50.0	45.9	ug/Kgdrywt	75-120
2,2-Dichloropropane	101.	50.0	50.6	ug/Kgdrywt	67-133
2-Butanone	88.6	50.0	44.3	ug/Kgdrywt	51-148
2-Chlorotoluene	94.0	50.0	47.0	ug/Kgdrywt	75-125
2-Hexanone	100.	50.0	50.2	ug/Kgdrywt	53-145
4-Chlorotoluene	92.8	50.0	46.4	ug/Kgdrywt	72-125
P-Isopropyltoluene	95.0	50.0	47.5	ug/Kgdrywt	73-127
4-Methyl-2-Pentanone	91.4	50.0	45.7	ug/Kgdrywt	65-135
Acetone	92.2	50.0	46.1	ug/Kgdrywt	36-164
Benzene	92.0	50.0	46.0	ug/Kgdrywt	77-125
Bromobenzene	94.2	50.0	47.1	ug/Kgdrywt	78-125
Bromochloromethane	94.4	50.0	47.2	ug/Kgdrywt	78-125
Bromodichloromethane	97.2	50.0	48.6	ug/Kgdrywt	75-127
Bromoform	97.6	50.0	48.8	ug/Kgdrywt	67-132
Bromomethane	97.8	50.0	48.9	ug/Kgdrywt	53-143

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http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

LCS Recovery Report

Client:
Lab ID: WG228751-8
Client ID: LCS
Project:
SDG: SL4180
LCS File ID: W4069.D

Sample Date:
Received Date:
Extract Date: 21-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228751

Analysis Date: 21-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: NA
Report Date: 25-MAY-18

Compound	Recovery (%)	Conc Added	Conc Recovered	Conc Units	Limits
Carbon Disulfide	92.6	50.0	46.3	ug/Kgdrywt	63-132
Carbon Tetrachloride	98.4	50.0	49.2	ug/Kgdrywt	70-135
Chlorobenzene	95.8	50.0	47.9	ug/Kgdrywt	79-125
Dibromochloromethane	101.	50.0	50.5	ug/Kgdrywt	74-126
Chloroethane	113.	50.0	56.3	ug/Kgdrywt	59-139
Chloroform	90.8	50.0	45.4	ug/Kgdrywt	78-125
Chloromethane	111.	50.0	55.5	ug/Kgdrywt	50-136
cis-1,2-Dichloroethene	90.6	50.0	45.3	ug/Kgdrywt	77-125
cis-1,3-Dichloropropene	93.0	50.0	46.5	ug/Kgdrywt	74-126
Dibromomethane	92.2	50.0	46.1	ug/Kgdrywt	78-125
Dichlorodifluoromethane	114.	50.0	57.0	ug/Kgdrywt	29-149
Ethylbenzene	93.2	50.0	46.6	ug/Kgdrywt	76-125
Hexachlorobutadiene	92.8	50.0	46.4	ug/Kgdrywt	61-135
Isopropylbenzene	97.6	50.0	48.8	ug/Kgdrywt	68-134
m+p-Xylenes	94.6	100.	94.6	ug/Kgdrywt	77-125
Methyl tert-butyl Ether	98.6	50.0	49.3	ug/Kgdrywt	73-125
Methylene Chloride	89.8	50.0	44.9	ug/Kgdrywt	70-128
N-Butylbenzene	96.4	50.0	48.2	ug/Kgdrywt	70-128
N-Propylbenzene	94.2	50.0	47.1	ug/Kgdrywt	73-125
Naphthalene	97.2	50.0	48.6	ug/Kgdrywt	62-129
o-Xylene	96.2	50.0	48.1	ug/Kgdrywt	77-125
sec-Butylbenzene	93.8	50.0	46.9	ug/Kgdrywt	73-126
Styrene	96.6	50.0	48.3	ug/Kgdrywt	76-125
tert-Butylbenzene	94.8	50.0	47.4	ug/Kgdrywt	73-125
Tetrachloroethene	93.4	50.0	46.7	ug/Kgdrywt	73-128
Toluene	90.8	50.0	45.4	ug/Kgdrywt	77-125
trans-1,2-Dichloroethene	90.8	50.0	45.4	ug/Kgdrywt	74-125
trans-1,3-Dichloropropene	94.2	50.0	47.1	ug/Kgdrywt	71-130
Trichloroethene	89.8	50.0	44.9	ug/Kgdrywt	77-125
Trichlorofluoromethane	87.2	50.0	43.6	ug/Kgdrywt	62-140
Vinyl Chloride	100.	50.0	50.1	ug/Kgdrywt	56-135
1,2-Dichloroethane-D4	97.7				71-136
p-Bromofluorobenzene	96.7				79-125
Dibromofluoromethane	98.6				78-125
Toluene-D8	100.				85-125

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Data File: \\target_server\gg\chem\gcms-w.i\W052118.b\W4069.D
Report Date: 25-May-2018 12:07

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W052118.b\W4069.D
Lab Smp Id: WG228751-8
Inj Date : 21-MAY-2018 12:31 MS Autotune Date: 10-APR-2016 11:00
Operator : JSS Inst ID: gcms-w.i
Smp Info : WG228751-8,SL4180
Misc Info : WG228751,WG228751-4,SL4180-1
Comment : SW846 5035
Method : \\target_server\gg\chem\gcms-w.i\W052118.b\W8SDI(13)D.m
Meth Date : 25-May-2018 12:05 gcms-w.i Quant Type: ISTD
Cal Date : 21-MAY-2018 11:44 Cal File: W4068.D
Als bottle: 8 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12

Concentration Formula: Amt * DF * (100/(100-M))*(Vt/Ws) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
M	0.00000	% Moisture
Vt	5.000	Volume of DI Water (mL)
Ws	5.000	Weight of Sample (g)
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/kg)	FINAL (ug/Kgdrywt)	REVIEW COD
1	Dichlorodifluoromethane	85	1.963	1.965	(0.243)	401801	56.9746	57.0	
2	Chloromethane	50	2.177	2.187	(0.270)	491867	55.5125	55.5	
3	Vinyl chloride	62	2.256	2.258	(0.280)	405635	50.0836	50.1	
4	Bromomethane	94	2.606	2.608	(0.323)	199591	48.9188	48.9	
5	Chloroethane	64	2.742	2.737	(0.340)	235944	56.2950	56.3	
6	Trichlorofluoromethane	101	2.885	2.887	(0.358)	454627	43.5550	43.6	
7	Diethyl Ether	59	3.221	3.223	(0.399)	259354	47.8830	47.9	
8	Tertiary-butyl alcohol	59	4.707	4.710	(0.584)	164348	235.062	235	
9	1,1-Dichloroethene	96	3.457	3.459	(0.429)	234191	43.8614	43.9	
10	Carbon Disulfide	76	3.507	3.502	(0.435)	804710	46.2966	46.3	
11	Freon-113	151	3.499	3.502	(0.434)	182784	47.7872	47.8	
12	Iodomethane	142	3.642	3.638	(0.452)	234764	59.0089	59.0	
13	Acrolein	56	3.878	3.881	(0.481)	252769	222.814	223	
14	Methylene Chloride	84	4.193	4.188	(0.520)	305915	44.9214	44.9	
15	Acetone	43	4.279	4.274	(0.530)	113527	46.1492	46.1	
16	Isobutyl Alcohol	43	8.339	8.341	(1.034)	350951	918.183	918	
17	trans-1,2-Dichloroethene	96	4.407	4.410	(0.546)	259817	45.4251	45.4	
18	Allyl Chloride	41	4.050	4.052	(0.502)	445613	49.0370	49.0	
19	Methyl tert-butyl ether	73	4.565	4.567	(0.566)	759421	49.3306	49.3	
20	Acetonitrile	39	4.965	4.967	(0.615)	98720	456.772	457	
21	Di-isopropyl ether	45	5.158	5.160	(0.639)	968214	48.9815	49.0	
22	Chloroprene	53	5.329	5.332	(0.661)	416900	47.9537	48.0	

Data File: \\target_server\gg\chem\gcms-w.i\W052118.b\W4069.D
Report Date: 25-May-2018 12:07

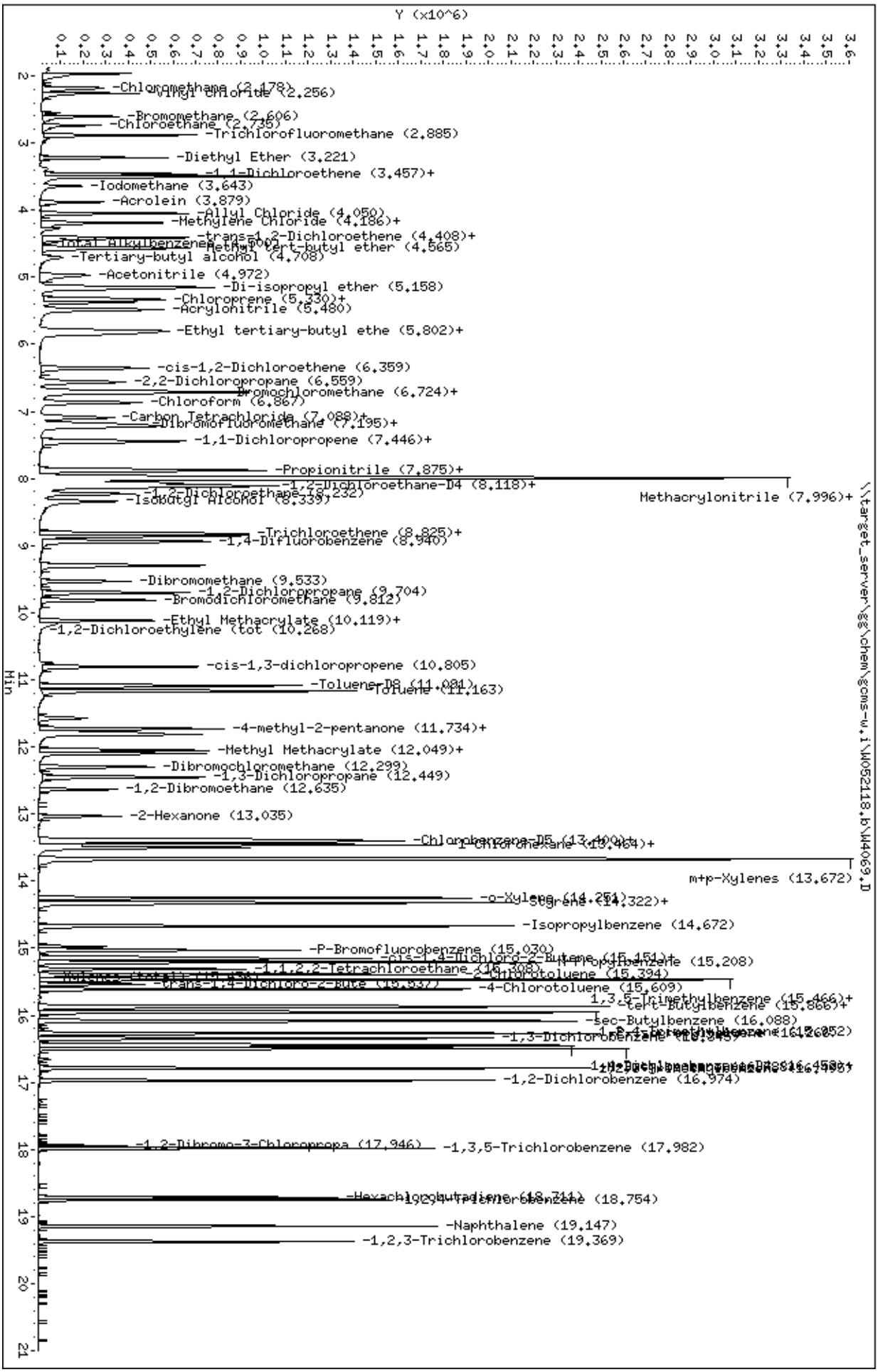
		Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/kg)	CONCENTRATIONS FINAL (ug/Kgdrywt)	REVIEW COD
	23	Propionitrile	54	7.967	7.969	(0.988)	497836	448.542	448	
	24	Methacrylonitrile	41	7.996	7.998	(0.991)	2021338	450.307	450	
	25	1,1-Dichloroethane	63	5.372	5.375	(0.666)	508703	47.9484	47.9	
	26	Acrylonitrile	52	5.479	5.482	(0.679)	487188	227.958	228	
	27	Ethyl tertiary-butyl ether	59	5.801	5.804	(0.719)	673970	51.8439	51.8	
	28	Vinyl Acetate	43	5.844	5.846	(0.654)	697282	55.3036	55.3	
	29	cis-1,2-Dichloroethene	96	6.359	6.361	(0.788)	288145	45.2990	45.3	
M	30	1,2-Dichloroethylene (total)	96				547962	90.7241	90.7	
	31	Methyl Methacrylate	41	12.099	12.094	(1.353)	290429	48.9648	49.0	
	32	2,2-Dichloropropane	77	6.559	6.561	(0.813)	278275	50.6450	50.6	
	33	Bromochloromethane	128	6.723	6.726	(0.833)	136034	47.2211	47.2	
	34	Chloroform	83	6.866	6.869	(0.851)	467681	45.4421	45.4	
	35	Carbon Tetrachloride	117	7.088	7.090	(0.793)	280749	49.2253	49.2	
	36	Tetrahydrofuran	42	7.174	7.162	(0.889)	113946	46.5490	46.5	
$	37	Dibromofluoromethane	113	7.195	7.197	(0.892)	198908	49.3027	49.3	
	38	1,1,1-Trichloroethane	97	7.224	7.226	(0.895)	382693	46.4574	46.4	
	39	1,1-Dichloropropene	75	7.445	7.448	(0.833)	360628	45.5558	45.6	
	40	2-Butanone	43	7.459	7.455	(0.925)	167556	44.2737	44.3	
	41	Benzene	78	7.874	7.876	(0.881)	1115734	45.9643	46.0	
*	42	Pentafluorobenzene	168	8.067	8.069	(1.000)	444730	50.0000		
	43	Cyclohexane	56	6.709	6.704	(0.832)	458375	45.9214	45.9	
	44	Ethyl Methacrylate	69	10.119	10.114	(1.132)	220740	50.8885	50.9	
$	45	1,2-Dichloroethane-D4	65	8.117	8.119	(1.006)	258972	48.8744	48.9	
	46	Tertiary-amyl methyl ether	73	8.110	8.112	(1.005)	631600	51.1420	51.1	
	47	1,2-Dichloroethane	62	8.231	8.234	(0.921)	383661	45.7677	45.8	
	48	Trichloroethene	95	8.860	8.856	(0.991)	265701	44.8969	44.9	
*	49	1,4-Difluorobenzene	114	8.939	8.941	(1.000)	686221	50.0000		
	50	Dibromomethane	93	9.532	9.528	(1.066)	171780	46.1205	46.1	
	51	1,2-Dichloropropane	63	9.704	9.706	(1.086)	281835	45.5301	45.5	
	52	Bromodichloromethane	83	9.811	9.814	(1.098)	375537	48.6154	48.6	
	53	cis-1,3-dichloropropene	75	10.805	10.807	(1.209)	440083	46.4695	46.5	
	54	1,4-Dioxane	88	10.161	10.164	(1.137)	92978	955.127	955	
$	55	Toluene-D8	98	11.091	11.093	(1.241)	862050	50.0476	50.0	
	57	Toluene	92	11.162	11.165	(1.249)	678012	45.3790	45.4	
	58	4-methyl-2-pentanone	43	11.784	11.786	(1.318)	357805	45.6897	45.7	
	59	Tetrachloroethene	164	11.734	11.729	(0.877)	210318	46.6689	46.7	
	60	trans-1,3-Dichloropropene	75	11.813	11.815	(1.321)	363049	47.0934	47.1	
	61	1,1,2-Trichloroethane	83	12.048	12.051	(1.348)	209887	44.2371	44.2	
	62	Dibromochloromethane	129	12.299	12.294	(0.919)	287819	50.5221	50.5	
	63	1,3-Dichloropropane	76	12.449	12.451	(0.930)	458363	46.6698	46.7	
	64	1,2-Dibromoethane	107	12.635	12.637	(1.413)	246696	44.2140	44.2	
	65	2-Hexanone	43	13.035	13.030	(0.974)	271443	50.1923	50.2	
*	66	Chlorobenzene-D5	117	13.385	13.380	(1.000)	650742	50.0000		
	67	Chlorobenzene	112	13.407	13.409	(1.002)	782950	47.9260	47.9	
	152	1-Chlorohexane	91	13.464	13.459	(1.669)	1333214		(aR)	
	68	Ethylbenzene	106	13.464	13.459	(1.006)	419454	46.5808	46.6	
	69	1,1,1,2-Tetrachloroethane	131	13.507	13.502	(1.009)	260356	49.1032	49.1	
M	70	Xylenes (total)	106				1580151	142.805	143	
	71	m+p-Xylenes	106	13.671	13.673	(1.021)	1047649	94.6568	94.6	
	72	o-Xylene	106	14.250	14.252	(1.065)	532502	48.1482	48.1	
	73	Styrene	104	14.322	14.324	(1.070)	896818	48.3231	48.3	
	74	Bromoform	173	14.336	14.338	(1.071)	209176	48.8280	48.8	
	75	Isopropylbenzene	105	14.672	14.674	(0.893)	1315420	48.8338	48.8	
$	76	P-Bromofluorobenzene	95	15.029	15.032	(1.681)	351963	48.3663	48.4	

Data File: \\target_server\gg\chem\gcms-w.i\W052118.b\W4069.D
Report Date: 25-May-2018 12:07

			QUANT SIG					CONCENTRATIONS		
		Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN (ug/kg)	FINAL (ug/Kgdrywt)	REVIEW COD
	77	cis-1,4-Dichloro-2-Butene	53	15.129	15.132	(0.920)	114299	49.1403	49.1	
	78	trans-1,4-Dichloro-2-Butene	53	15.537	15.532	(0.945)	89865	44.9600	45.0	
	79	Bromobenzene	156	15.158	15.153	(0.922)	357080	47.0845	47.1	
	80	N-Propylbenzene	91	15.208	15.210	(0.925)	1639074	47.0882	47.1	
	81	1,1,2,2-Tetrachloroethane	83	15.308	15.310	(0.931)	412154	47.4469	47.4	
	82	1,3,5-Trimethylbenzene	105	15.465	15.468	(0.941)	1169025	47.2290	47.2	
	83	2-Chlorotoluene	91	15.394	15.396	(0.937)	996868	47.0592	47.0	
	84	1,2,3-Trichloropropane	75	15.472	15.475	(0.941)	336675	44.6590	44.6	
	85	4-Chlorotoluene	91	15.608	15.611	(0.950)	1028742	46.4178	46.4	
	86	tert-Butylbenzene	119	15.866	15.868	(0.965)	1189431	47.4033	47.4	
	87	Pentachloroethane	117	15.880	15.882	(0.966)	236475	49.8339	49.8	
	88	1,2,4-Trimethylbenzene	105	15.951	15.954	(0.970)	1230963	47.1646	47.2	
	89	P-Isopropyltoluene	119	16.266	16.268	(0.990)	1303455	47.4686	47.5	
	90	1,3-Dichlorobenzene	146	16.344	16.347	(0.994)	712741	47.3273	47.3	
*	91	1,4-Dichlorobenzene-D4	152	16.437	16.440	(1.000)	414422	50.0000		
	92	1,4-Dichlorobenzene	146	16.459	16.454	(1.001)	707137	45.8914	45.9	
	93	N-Butylbenzene	91	16.788	16.783	(1.021)	1241413	48.2317	48.2	
	94	sec-Butylbenzene	105	16.087	16.082	(0.979)	1535870	46.9485	46.9	
	95	1,2-Dichlorobenzene	146	16.973	16.969	(1.033)	703475	46.5447	46.5	
	96	1,2-Dibromo-3-Chloropropane	75	17.946	17.941	(1.092)	89024	45.4102	45.4	
	97	1,3,5-Trichlorobenzene	180	17.981	17.977	(2.229)	489788	45.3418	45.3	
	98	Hexachlorobutadiene	225	18.718	18.713	(1.139)	216425	46.4317	46.4	
	99	1,2,4-Trichlorobenzene	180	18.753	18.749	(1.141)	422671	47.9113	47.9	
	100	1,2,3-Trimethylbenzene	105	16.495	16.490	(2.045)	1327966	47.7644	47.8	
	101	Naphthalene	128	19.146	19.142	(1.165)	1182380	48.5590	48.6	
	102	1,2,3-Trichlorobenzene	180	19.375	19.370	(1.179)	389711	47.5602	47.6	
	103	Methyl Acetate	43	4.436	4.438	(0.550)	249359	43.1192	43.1	
	104	Methylcyclohexane	83	8.825	8.827	(1.094)	464528	46.9214	46.9	
M	153	Total Alkylbenzenes	100				9309231	331.534	332	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
R - Spike/Surrogate failed recovery limits.


Data File: \\target_server\gg\chem\gcms-w.i\W052118.b\W4069.D
Date : 21-MAY-2018 12:31
Client ID:
Sample Info: WG228751-8,SL4180
Column phase: RTX-VMS
Instrument: gcms-w.i
Operator: JSS
Column diameter: 0.18
Y (x10^6)
Min
\\target_server\gg\chem\gcms-w.i\W052118.b\W4069.D
-Chloromethane (2.178)
-Vinyl Chloride (2.256)
-Bromomethane (2.606)
-Chloroethane (2.735)
-Trichlorofluoromethane (2.885)
-Diethyl Ether (3.221)
-1,1-Dichloroethene (3.457)+
-Iodomethane (3.643)
-Acrolein (3.879)
-Allyl Chloride (4.050)
-Methylene Chloride (4.186)+
-trans-1,2-Dichloroethene (4.408)+
-Total Alkylbenzenes
-Methyl tert-butyl ether (4.565)
-Tertiary-butyl alcohol (4.708)
-Acetonitrile (4.972)
-Di-isopropyl ether (5.158)
-Chloroprene (5.330)+
-Acrylonitrile (5.480)
-Ethyl tertiary-butyl ethe (5.802)+
-cis-1,2-Dichloroethene (6.359)
-2,2-Dichloropropane (6.559)
-Bromochloromethane (6.724)+
-Chloroform (6.867)
-Carbon Tetrachloride (7.088)+
-Dibromofluoromethane (7.195)+
-1,1-Dichloropropene (7.446)+
-Propionitrile (7.875)+
-1,2-Dichloroethane-D4 (8.118)+
Methacrylonitrile (7.996)+
-1,2-Dichloroethane (8.232)
-Isobutyl Alcohol (8.339)
-Trichloroethene (8.825)+
-1,4-Difluorobenzene (8.940)
-Dibromomethane (9.533)
-1,2-Dichloropropane (9.704)
-Bromodichloromethane (9.812)
-Ethyl Methacrylate (10.119)+
-1,2-Dichloroethylene (tot (10.268)
-cis-1,3-dichloropropene (10.805)
-Toluene-D8 (11.081)
Toluene (11.163)
-4-methyl-2-pentanone (11.734)+
-Methyl Methacrylate (12.049)+
-Dibromochloromethane (12.299)
-1,3-Dichloropropane (12.449)
-1,2-Dibromoethane (12.635)
-2-Hexanone (13.035)
-Chlorobenzene-D5 (13.400)+
1-Chlorohexane (13.464)+
m+p-Xylenes (13.672)
-o-Xylene (14.251)
Styrene (14.322)+
-Isopropylbenzene (14.672)
-P-Bromofluorobenzene (15.030)
-cis-1,4-Dichloro-2-Butene (15.151)+
n-Propylbenzene (15.208)
-1,1,2,2-Tetrachloroethane (15.308)
2-Chlorotoluene (15.394)
Xylenes (total) (13.938)
-trans-1,4-Dichloro-2-Bute (15.537)
-4-Chlorotoluene (15.609)
1,3,5-Trimethylbenzene (15.466)+
-tert-Butylbenzene (15.866)+
-sec-Butylbenzene (16.088)
-1,3-Dichlorobenzene (16.
-1,2-Dichlorobenzene (16.974)
-1,2-Dibromo-3-Chloropropa (17.946)
-1,3,5-Trichlorobenzene (17.982)
-Hexachlorobutadiene (18.741)
1,2,4-Trichlorobenzene (18.754)
-Naphthalene (19.147)
-1,2,3-Trichlorobenzene (19.369)

Katahdin
ANALYTICAL SERVICES

LCS Recovery Report

Client:
Lab ID: WG228825-1
Client ID: LCS
Project:
SDG: SL4180
LCS File ID: W4081.D

Sample Date:
Received Date:
Extract Date: 21-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228825

Analysis Date: 21-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: NA
Report Date: 25-MAY-18

Compound	Recovery (%)	Conc Added	Conc Recovered	Conc Units	Limits
1,1,1,2-Tetrachloroethane	92.4	50.0	46.2	ug/Kgdrywt	78-125
1,1,1-Trichloroethane	88.6	50.0	44.3	ug/Kgdrywt	73-130
1,1,2,2-Tetrachloroethane	92.6	50.0	46.3	ug/Kgdrywt	70-125
Freon-113	88.4	50.0	44.2	ug/Kgdrywt	66-136
1,1,2-Trichloroethane	86.8	50.0	43.4	ug/Kgdrywt	78-125
1,1-Dichloroethane	92.8	50.0	46.4	ug/Kgdrywt	76-125
1,1-Dichloroethene	82.4	50.0	41.2	ug/Kgdrywt	70-131
1,1-Dichloropropene	86.8	50.0	43.4	ug/Kgdrywt	76-125
1,2,3-Trichlorobenzene	93.2	50.0	46.6	ug/Kgdrywt	66-130
1,2,3-Trichloropropane	89.0	50.0	44.5	ug/Kgdrywt	73-125
1,2,4-Trichlorobenzene	97.2	50.0	48.6	ug/Kgdrywt	67-129
1,2,4-Trimethylbenzene	95.4	50.0	47.7	ug/Kgdrywt	75-125
1,2-Dibromo-3-Chloropropane	87.2	50.0	43.6	ug/Kgdrywt	61-132
1,2-Dibromoethane	85.2	50.0	42.6	ug/Kgdrywt	78-125
1,2-Dichlorobenzene	92.0	50.0	46.0	ug/Kgdrywt	78-125
1,2-Dichloroethane	87.0	50.0	43.5	ug/Kgdrywt	73-128
1,2-Dichloropropane	87.4	50.0	43.7	ug/Kgdrywt	76-125
1,3,5-Trimethylbenzene	95.4	50.0	47.7	ug/Kgdrywt	73-125
1,3-Dichlorobenzene	95.2	50.0	47.6	ug/Kgdrywt	77-125
1,3-Dichloropropane	87.2	50.0	43.6	ug/Kgdrywt	77-125
1,4-Dichlorobenzene	94.0	50.0	47.0	ug/Kgdrywt	75-120
2,2-Dichloropropane	95.6	50.0	47.8	ug/Kgdrywt	67-133
2-Butanone	91.0	50.0	45.5	ug/Kgdrywt	51-148
2-Chlorotoluene	92.2	50.0	46.1	ug/Kgdrywt	75-125
2-Hexanone	98.8	50.0	49.4	ug/Kgdrywt	53-145
4-Chlorotoluene	92.6	50.0	46.3	ug/Kgdrywt	72-125
P-Isopropyltoluene	99.0	50.0	49.5	ug/Kgdrywt	73-127
4-Methyl-2-Pentanone	90.0	50.0	45.0	ug/Kgdrywt	65-135
Acetone	89.2	50.0	44.6	ug/Kgdrywt	36-164
Benzene	86.8	50.0	43.4	ug/Kgdrywt	77-125
Bromobenzene	91.8	50.0	45.9	ug/Kgdrywt	78-125
Bromochloromethane	91.6	50.0	45.8	ug/Kgdrywt	78-125
Bromodichloromethane	91.6	50.0	45.8	ug/Kgdrywt	75-127
Bromoform	91.0	50.0	45.5	ug/Kgdrywt	67-132
Bromomethane	99.4	50.0	49.7	ug/Kgdrywt	53-143

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ANALYTICAL SERVICES

LCS Recovery Report

Client:
Lab ID: WG228825-1
Client ID: LCS
Project:
SDG: SL4180
LCS File ID: W4081.D

Sample Date:
Received Date:
Extract Date: 21-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228825

Analysis Date: 21-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: NA
Report Date: 25-MAY-18

Compound	Recovery (%)	Conc Added	Conc Recovered	Conc Units	Limits
Carbon Disulfide	89.8	50.0	44.9	ug/Kgdrywt	63-132
Carbon Tetrachloride	93.4	50.0	46.7	ug/Kgdrywt	70-135
Chlorobenzene	89.0	50.0	44.5	ug/Kgdrywt	79-125
Dibromochloromethane	93.6	50.0	46.8	ug/Kgdrywt	74-126
Chloroethane	116.	50.0	58.1	ug/Kgdrywt	59-139
Chloroform	88.4	50.0	44.2	ug/Kgdrywt	78-125
Chloromethane	107.	50.0	53.3	ug/Kgdrywt	50-136
cis-1,2-Dichloroethene	86.4	50.0	43.2	ug/Kgdrywt	77-125
cis-1,3-Dichloropropene	85.4	50.0	42.7	ug/Kgdrywt	74-126
Dibromomethane	88.2	50.0	44.1	ug/Kgdrywt	78-125
Dichlorodifluoromethane	115.	50.0	57.7	ug/Kgdrywt	29-149
Ethylbenzene	89.8	50.0	44.9	ug/Kgdrywt	76-125
Hexachlorobutadiene	94.8	50.0	47.4	ug/Kgdrywt	61-135
Isopropylbenzene	97.8	50.0	48.9	ug/Kgdrywt	68-134
m+p-Xylenes	92.0	100.	92.0	ug/Kgdrywt	77-125
Methyl tert-butyl Ether	90.0	50.0	45.0	ug/Kgdrywt	73-125
Methylene Chloride	87.2	50.0	43.6	ug/Kgdrywt	70-128
N-Butylbenzene	102.	50.0	51.2	ug/Kgdrywt	70-128
N-Propylbenzene	95.6	50.0	47.8	ug/Kgdrywt	73-125
Naphthalene	91.8	50.0	45.9	ug/Kgdrywt	62-129
o-Xylene	91.6	50.0	45.8	ug/Kgdrywt	77-125
sec-Butylbenzene	96.0	50.0	48.0	ug/Kgdrywt	73-126
Styrene	93.0	50.0	46.5	ug/Kgdrywt	76-125
tert-Butylbenzene	93.4	50.0	46.7	ug/Kgdrywt	73-125
Tetrachloroethene	92.6	50.0	46.3	ug/Kgdrywt	73-128
Toluene	88.4	50.0	44.2	ug/Kgdrywt	77-125
trans-1,2-Dichloroethene	87.6	50.0	43.8	ug/Kgdrywt	74-125
trans-1,3-Dichloropropene	94.0	50.0	47.0	ug/Kgdrywt	71-130
Trichloroethene	88.2	50.0	44.1	ug/Kgdrywt	77-125
Trichlorofluoromethane	91.0	50.0	45.5	ug/Kgdrywt	62-140
Vinyl Chloride	100.	50.0	50.0	ug/Kgdrywt	56-135
1,2-Dichloroethane-D4	103.				71-136
p-Bromofluorobenzene	95.8				79-125
Dibromofluoromethane	102.				78-125
Toluene-D8	99.3				85-125

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Data File: \\target_server\gg\chem\gcms-w.i\W052118B.b\W4081.D
Report Date: 25-May-2018 12:21

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W052118B.b\W4081.D
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Inj Date : 21-MAY-2018 20:21 MS Autotune Date: 10-APR-2016 11:00
Operator : JSS Inst ID: gcms-w.i
Smp Info : WG228825-1,SL4180
Misc Info : WG228825,WG228751-4,SL4180-1
Comment : SW846 5035
Method : \\TARGET_SERVER\GG\chem\gcms-w.i\W052118B.b\W8SDI(13)D.m
Meth Date : 22-May-2018 08:59 jsampson Quant Type: ISTD
Cal Date : 21-MAY-2018 11:44 Cal File: W4068.D
Als bottle: 3 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: VOA-WS

Concentration Formula: Amt * DF * (100/(100-M))*(Vt/Ws) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
M	0.00000	% Moisture
Vt	5.000	Volume of DI Water (mL)
Ws	5.000	Weight of Sample (g)
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/kg)	FINAL (ug/Kgdrywt)	REVIEW COD
1	Dichlorodifluoromethane	85	1.965	1.966	(0.244)	352831	57.6996	57.7	
2	Chloromethane	50	2.179	2.187	(0.270)	409246	53.2677	53.3	
3	Vinyl chloride	62	2.258	2.259	(0.280)	350997	49.9804	50.0	
4	Bromomethane	94	2.601	2.609	(0.323)	176002	49.7494	49.7	
5	Chloroethane	64	2.737	2.738	(0.339)	210570	58.0845	58.1	
6	Trichlorofluoromethane	101	2.880	2.888	(0.357)	412224	45.5462	45.5	
7	Diethyl Ether	59	3.216	3.224	(0.399)	210768	44.8775	44.9	
8	Tertiary-butyl alcohol	59	4.702	4.710	(0.583)	122378	203.507	204	
9	1,1-Dichloroethene	96	3.459	3.459	(0.429)	190915	41.2371	41.2	
10	Carbon Disulfide	76	3.502	3.502	(0.434)	676629	44.8948	44.9	
11	Freon-113	151	3.494	3.502	(0.433)	146527	44.1801	44.2	
12	Iodomethane	142	3.637	3.638	(0.451)	203249	58.9183	58.9	
13	Acrolein	56	3.873	3.881	(0.480)	216556	220.153	220	
14	Methylene Chloride	84	4.188	4.189	(0.519)	257330	43.5792	43.6	
15	Acetone	43	4.266	4.274	(0.529)	95108	44.5880	44.6	
16	Isobutyl Alcohol	43	8.334	8.342	(1.034)	263392	808.980	809	
17	trans-1,2-Dichloroethene	96	4.409	4.410	(0.547)	217519	43.8592	43.8	
18	Allyl Chloride	41	4.045	4.053	(0.502)	357275	45.3424	45.3	
19	Methyl tert-butyl ether	73	4.559	4.567	(0.566)	600202	44.9642	45.0	
20	Acetonitrile	39	4.967	4.968	(0.616)	71930	383.831	384	
21	Di-isopropyl ether	45	5.153	5.161	(0.639)	782470	45.6525	45.6	

Data File: \\target_server\gg\chem\gcms-w.i\W052118B.b\W4081.D
Report Date: 25-May-2018 12:21

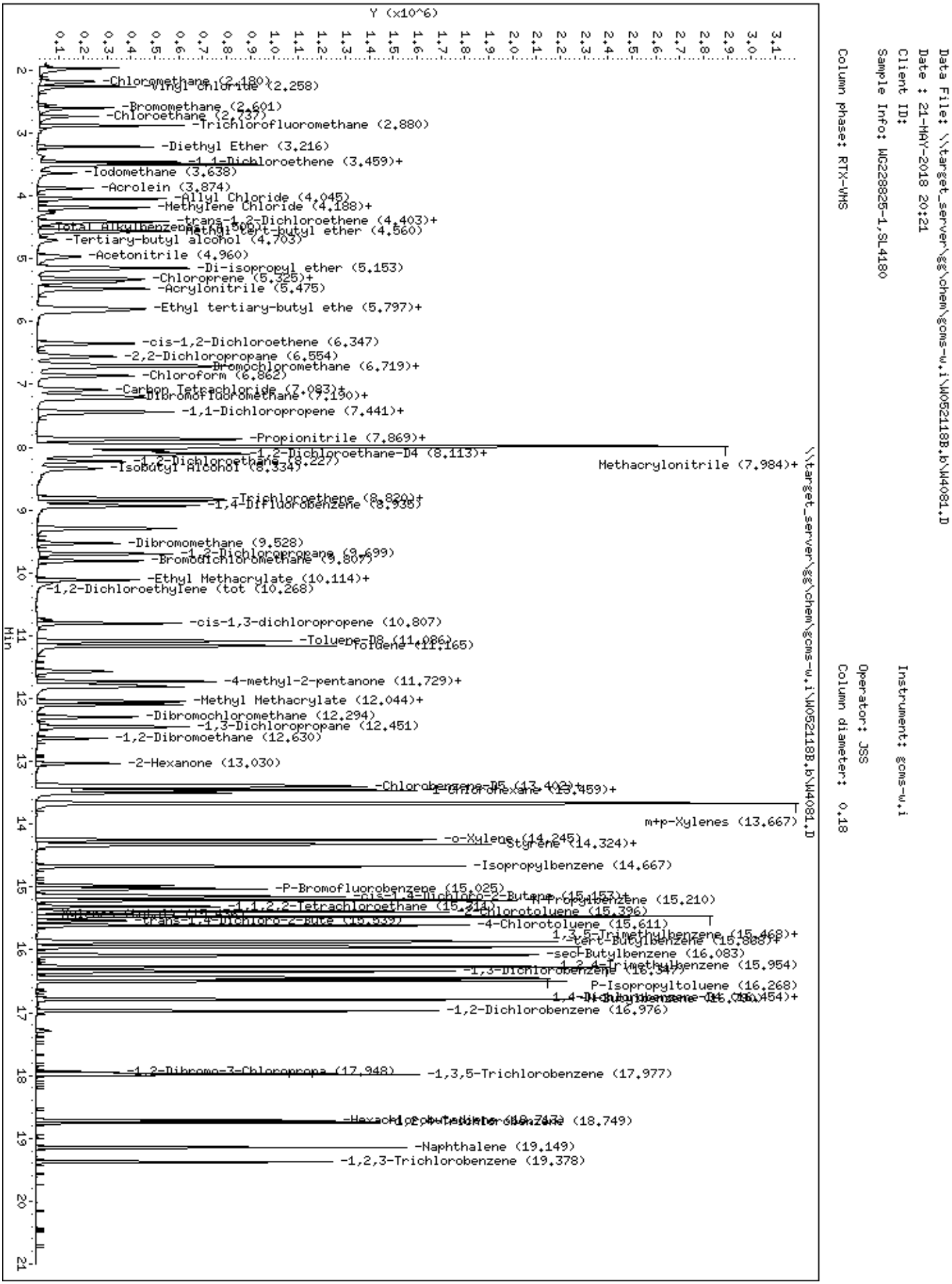
		Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/kg)	CONCENTRATIONS FINAL (ug/Kgdrywt)	REVIEW COD
	22	Chloroprene	53	5.324	5.332	(0.660)	334502	44.3736	44.4	
	23	Propionitrile	54	7.962	7.970	(0.988)	417161	433.467	433	
	24	Methacrylonitrile	41	7.983	7.998	(0.990)	1759557	452.073	452	
	25	1,1-Dichloroethane	63	5.367	5.375	(0.666)	427044	46.4214	46.4	
	26	Acrylonitrile	52	5.474	5.482	(0.679)	414058	223.437	223	
	27	Ethyl tertiary-butyl ether	59	5.796	5.804	(0.719)	513622	45.5656	45.6	
	28	Vinyl Acetate	43	5.839	5.847	(0.654)	572596	50.9924	51.0	
	29	cis-1,2-Dichloroethene	96	6.354	6.362	(0.788)	238566	43.2536	43.2	
M	30	1,2-Dichloroethylene (total)	96				456085	87.1128	87.1	
	31	Methyl Methacrylate	41	12.093	12.094	(1.354)	241619	45.7390	45.7	
	32	2,2-Dichloropropane	77	6.554	6.562	(0.813)	227680	47.7884	47.8	
	33	Bromochloromethane	128	6.718	6.726	(0.833)	114444	45.8160	45.8	
	34	Chloroform	83	6.861	6.869	(0.851)	394660	44.2250	44.2	
	35	Carbon Tetrachloride	117	7.083	7.091	(0.793)	237451	46.7473	46.7	
	36	Tetrahydrofuran	42	7.161	7.162	(0.888)	100143	47.1811	47.2	
$	37	Dibromofluoromethane	113	7.190	7.198	(0.892)	179088	51.1942	51.2	
	38	1,1,1-Trichloroethane	97	7.219	7.226	(0.895)	316668	44.3348	44.3	
	39	1,1-Dichloropropene	75	7.440	7.448	(0.833)	306315	43.4475	43.4	
	40	2-Butanone	43	7.454	7.455	(0.925)	149370	45.5182	45.5	
	41	Benzene	78	7.869	7.877	(0.881)	939389	43.4527	43.4	
*	42	Pentafluorobenzene	168	8.062	8.070	(1.000)	385621	50.0000		
	43	Cyclohexane	56	6.697	6.705	(0.831)	397302	45.9040	45.9	
	44	Ethyl Methacrylate	69	10.113	10.114	(1.132)	174236	45.1012	45.1	
$	45	1,2-Dichloroethane-D4	65	8.112	8.119	(1.006)	236035	51.3737	51.4	
	46	Tertiary-amyl methyl ether	73	8.105	8.113	(1.005)	483455	45.1469	45.1	
	47	1,2-Dichloroethane	62	8.226	8.234	(0.921)	325001	43.5320	43.5	
	48	Trichloroethene	95	8.848	8.856	(0.990)	232570	44.1254	44.1	
*	49	1,4-Difluorobenzene	114	8.934	8.942	(1.000)	611156	50.0000		
	50	Dibromomethane	93	9.527	9.528	(1.066)	146374	44.1263	44.1	
	51	1,2-Dichloropropane	63	9.699	9.707	(1.086)	240722	43.6648	43.7	
	52	Bromodichloromethane	83	9.806	9.814	(1.098)	315073	45.7978	45.8	
	53	cis-1,3-dichloropropene	75	10.807	10.808	(1.210)	360549	42.7474	42.7	
	54	1,4-Dioxane	88	10.156	10.164	(1.137)	77349	892.170	892	
$	55	Toluene-D8	98	11.086	11.094	(1.241)	761379	49.6322	49.6	
	57	Toluene	92	11.164	11.165	(1.250)	588577	44.2316	44.2	
	58	4-methyl-2-pentanone	43	11.786	11.787	(1.319)	313785	44.9900	45.0	
	59	Tetrachloroethene	164	11.729	11.730	(0.877)	189084	46.2889	46.3	
	60	trans-1,3-Dichloropropene	75	11.815	11.815	(1.322)	323049	47.0517	47.0	
	61	1,1,2-Trichloroethane	83	12.043	12.051	(1.348)	183629	43.4564	43.4	
	62	Dibromochloromethane	129	12.294	12.294	(0.919)	241741	46.8148	46.8	
	63	1,3-Dichloropropane	76	12.451	12.452	(0.931)	388595	43.6510	43.6	
	64	1,2-Dibromoethane	107	12.630	12.638	(1.414)	211570	42.5759	42.6	
	65	2-Hexanone	43	13.030	13.031	(0.974)	242077	49.3836	49.4	
*	66	Chlorobenzene-D5	117	13.380	13.381	(1.000)	589845	50.0000		
	67	Chlorobenzene	112	13.402	13.409	(1.002)	659271	44.5217	44.5	
	152	1-Chlorohexane	91	13.459	13.460	(1.669)	1150615		(aR)	
	68	Ethylbenzene	106	13.459	13.460	(1.006)	366300	44.8777	44.9	
	69	1,1,1,2-Tetrachloroethane	131	13.502	13.502	(1.009)	222274	46.2489	46.2	
M	70	Xylenes (total)	106				1381505	137.742	138	
	71	m+p-Xylenes	106	13.666	13.674	(1.021)	922486	91.9532	92.0	
	72	o-Xylene	106	14.245	14.253	(1.065)	459019	45.7890	45.8	
	73	Styrene	104	14.324	14.324	(1.071)	782077	46.4912	46.5	
	74	Bromoform	173	14.338	14.339	(1.072)	176605	45.4811	45.5	
	75	Isopropylbenzene	105	14.667	14.675	(0.892)	1175149	48.9370	48.9	

Data File: \\target_server\gg\chem\gcms-w.i\W052118B.b\W4081.D
Report Date: 25-May-2018 12:21

							CONCENTRATIONS		
		QUANT SIG					ON-COLUMN	FINAL	
	Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	(ug/kg)	(ug/Kgdrywt)	REVIEW COD
$	76 P-Bromofluorobenzene	95	15.024	15.032	(1.682)	310485	47.9069	47.9	
	77 cis-1,4-Dichloro-2-Butene	53	15.131	15.132	(0.920)	99992	48.2224	48.2	
	78 trans-1,4-Dichloro-2-Butene	53	15.539	15.532	(0.945)	78622	44.1663	44.2	
	79 Bromobenzene	156	15.153	15.154	(0.922)	310065	45.8620	45.9	
	80 N-Propylbenzene	91	15.210	15.211	(0.925)	1482295	47.7679	47.8	
	81 1,1,2,2-Tetrachloroethane	83	15.310	15.311	(0.931)	358874	46.3424	46.3	
	82 1,3,5-Trimethylbenzene	105	15.467	15.468	(0.941)	1052472	47.6962	47.7	
	83 2-Chlorotoluene	91	15.396	15.397	(0.937)	870234	46.0820	46.1	
	84 1,2,3-Trichloropropane	75	15.474	15.475	(0.941)	299392	44.5478	44.5	
	85 4-Chlorotoluene	91	15.610	15.611	(0.950)	915519	46.3376	46.3	
	86 tert-Butylbenzene	119	15.860	15.868	(0.965)	1044926	46.7136	46.7	
	87 Pentachloroethane	117	15.882	15.883	(0.966)	197175	46.6101	46.6	
	88 1,2,4-Trimethylbenzene	105	15.953	15.954	(0.970)	1109148	47.6704	47.7	
	89 P-Isopropyltoluene	119	16.268	16.268	(0.990)	1211328	49.4835	49.5	
	90 1,3-Dichlorobenzene	146	16.347	16.347	(0.994)	638588	47.5652	47.6	
*	91 1,4-Dichlorobenzene-D4	152	16.439	16.440	(1.000)	369449	50.0000		
	92 1,4-Dichlorobenzene	146	16.454	16.454	(1.001)	645291	46.9755	47.0	
	93 N-Butylbenzene	91	16.790	16.783	(1.021)	1173878	51.1597	51.2	
	94 sec-Butylbenzene	105	16.082	16.082	(0.978)	1398554	47.9551	48.0	
	95 1,2-Dichlorobenzene	146	16.976	16.969	(1.033)	619660	45.9900	46.0	
	96 1,2-Dibromo-3-Chloropropane	75	17.948	17.941	(1.092)	76294	43.6541	43.6	
	97 1,3,5-Trichlorobenzene	180	17.983	17.977	(2.231)	441344	47.1198	47.1	
	98 Hexachlorobutadiene	225	18.712	18.713	(1.138)	196940	47.3947	47.4	
	99 1,2,4-Trichlorobenzene	180	18.755	18.749	(1.141)	382387	48.6214	48.6	
	100 1,2,3-Trimethylbenzene	105	16.489	16.489	(2.045)	1128482	46.8110	46.8	
	101 Naphthalene	128	19.149	19.142	(1.165)	996978	45.9289	45.9	
	102 1,2,3-Trichlorobenzene	180	19.377	19.371	(1.179)	340209	46.5731	46.6	
	103 Methyl Acetate	43	4.431	4.439	(0.550)	209098	41.6995	41.7	
	104 Methylcyclohexane	83	8.820	8.828	(1.094)	385197	44.8723	44.9	
M	153 Total Alkylbenzenes	100				8472601	338.446	338	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
R - Spike/Surrogate failed recovery limits.


Data File: \\target_server\gg\chem\gcms-w.i\W052118B.b\W4081.D
Date : 21-MAY-2018 20:21
Client ID:
Sample Info: WG228825-1,SL4180
Column phase: RTX-VMS
Instrument: gcms-w.i
Operator: JSS
Column diameter: 0.18
Y (x10^6)
Min
\\target_server\gg\chem\gcms-w.i\W052118B.b\W4081.D
-Chloromethane (2.180)
-Vinyl Chloride (2.258)
-Bromomethane (2.601)
-Chloroethane (2.737)
-Trichlorofluoromethane (2.880)
-Diethyl Ether (3.216)
-1,1-Dichloroethene (3.459)+
-Iodomethane (3.638)
-Acrolein (3.874)
-Allyl Chloride (4.045)
-Methylene Chloride (4.188)+
-trans-1,2-Dichloroethene (4.403)+
Total Alkylbenzene
-Methyl tert-butyl ether (4.560)
-Tertiary-butyl alcohol (4.703)
-Acetonitrile (4.960)
-Di-isopropyl ether (5.153)
-Chloroprene (5.325)+
-Acrylonitrile (5.475)
-Ethyl tertiary-butyl ethe (5.797)+
-cis-1,2-Dichloroethene (6.347)
-2,2-Dichloropropane (6.554)
-Bromochloromethane (6.719)+
-Chloroform (6.862)
-Carbon Tetrachloride (7.083)+
-Dibromofluoromethane (7.190)+
-1,1-Dichloropropene (7.441)+
-Propionitrile (7.869)+
-1,2-Dichloroethane-D4 (8.113)+
-1,2-Dichloroethane (8.227)
-Isobutyl Alcohol (8.334)
Methacrylonitrile (7.984)+
-Trichloroethene (8.820)+
-1,4-Difluorobenzene (8.935)
-Dibromomethane (9.528)
-1,2-Dichloropropane (9.699)
-Bromodichloromethane (9.807)
-Ethyl Methacrylate (10.114)+
-1,2-Dichloroethylene (tot (10.268)
-cis-1,3-dichloropropene (10.807)
-Toluene-D8 (11.086)
Toluene (11.165)
-4-methyl-2-pentanone (11.729)+
-Methyl Methacrylate (12.044)+
-Dibromochloromethane (12.294)
-1,3-Dichloropropane (12.451)
-1,2-Dibromoethane (12.630)
-2-Hexanone (13.030)
-Chlorobenzene-D5 (13.402)+
1-Chlorohexane (13.459)+
m+p-Xylenes (13.667)
-o-Xylene (14.245)
Styrene (14.324)+
-Isopropylbenzene (14.667)
-P-Bromofluorobenzene (15.025)
-cis-1,4-Dichloro-2-Butene (15.153)+
-N-Propylbenzene (15.210)
-1,1,2,2-Tetrachloroethane (15.211)
-2-Chlorotoluene (15.396)
-trans-1,4-Dichloro-2-Bute (15.539)
-4-Chlorotoluene (15.611)
1,3,5-Trimethylbenzene (15.468)+
-tert-Butylbenzene (15.888)+
-sec-Butylbenzene (16.083)
1,2,4-Trimethylbenzene (15.954)
-1,3-Dichlorobenzene (16.347)
P-Isopropyltoluene (16.268)
-1,2-Dichlorobenzene (16.976)
-1,2-Dibromo-3-Chloropropa (17.948)
-1,3,5-Trichlorobenzene (17.977)
-Hexachlorobutadiene (18.713)
-1,2,4-Trichlorobenzene (18.749)
-Naphthalene (19.149)
-1,2,3-Trichlorobenzene (19.378)

Katahdin
ANALYTICAL SERVICES

LCS Recovery Report

Client:
Lab ID: WG228846-1
Client ID: LCS
Project:
SDG: SL4180
LCS File ID: W4101.D

Sample Date:
Received Date:
Extract Date: 22-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228846

Analysis Date: 22-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: NA
Report Date: 25-MAY-18

Compound	Recovery (%)	Conc Added	Conc Recovered	Conc Units	Limits
1,1,1,2-Tetrachloroethane	99.4	50.0	49.7	ug/Kgdrywt	78-125
1,1,1-Trichloroethane	96.0	50.0	48.0	ug/Kgdrywt	73-130
1,1,2,2-Tetrachloroethane	97.4	50.0	48.7	ug/Kgdrywt	70-125
Freon-113	97.4	50.0	48.7	ug/Kgdrywt	66-136
1,1,2-Trichloroethane	90.0	50.0	45.0	ug/Kgdrywt	78-125
1,1-Dichloroethane	102.	50.0	51.2	ug/Kgdrywt	76-125
1,1-Dichloroethene	90.6	50.0	45.3	ug/Kgdrywt	70-131
1,1-Dichloropropene	93.6	50.0	46.8	ug/Kgdrywt	76-125
1,2,3-Trichlorobenzene	84.8	50.0	42.4	ug/Kgdrywt	66-130
1,2,3-Trichloropropane	92.2	50.0	46.1	ug/Kgdrywt	73-125
1,2,4-Trichlorobenzene	93.0	50.0	46.5	ug/Kgdrywt	67-129
1,2,4-Trimethylbenzene	99.6	50.0	49.8	ug/Kgdrywt	75-125
1,2-Dibromo-3-Chloropropane	93.2	50.0	46.6	ug/Kgdrywt	61-132
1,2-Dibromoethane	88.4	50.0	44.2	ug/Kgdrywt	78-125
1,2-Dichlorobenzene	95.8	50.0	47.9	ug/Kgdrywt	78-125
1,2-Dichloroethane	94.2	50.0	47.1	ug/Kgdrywt	73-128
1,2-Dichloropropane	90.0	50.0	45.0	ug/Kgdrywt	76-125
1,3,5-Trimethylbenzene	100.	50.0	50.1	ug/Kgdrywt	73-125
1,3-Dichlorobenzene	97.4	50.0	48.7	ug/Kgdrywt	77-125
1,3-Dichloropropane	92.4	50.0	46.2	ug/Kgdrywt	77-125
1,4-Dichlorobenzene	96.8	50.0	48.4	ug/Kgdrywt	75-120
2,2-Dichloropropane	104.	50.0	51.9	ug/Kgdrywt	67-133
2-Butanone	90.4	50.0	45.2	ug/Kgdrywt	51-148
2-Chlorotoluene	97.2	50.0	48.6	ug/Kgdrywt	75-125
2-Hexanone	94.4	50.0	47.2	ug/Kgdrywt	53-145
4-Chlorotoluene	97.6	50.0	48.8	ug/Kgdrywt	72-125
P-Isopropyltoluene	99.6	50.0	49.8	ug/Kgdrywt	73-127
4-Methyl-2-Pentanone	89.2	50.0	44.6	ug/Kgdrywt	65-135
Acetone	92.0	50.0	46.0	ug/Kgdrywt	36-164
Benzene	92.6	50.0	46.3	ug/Kgdrywt	77-125
Bromobenzene	96.4	50.0	48.2	ug/Kgdrywt	78-125
Bromochloromethane	100.	50.0	50.1	ug/Kgdrywt	78-125
Bromodichloromethane	96.2	50.0	48.1	ug/Kgdrywt	75-127
Bromoform	97.0	50.0	48.5	ug/Kgdrywt	67-132
Bromomethane	115.	50.0	57.6	ug/Kgdrywt	53-143

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

LCS Recovery Report

Client:
Lab ID: WG228846-1
Client ID: LCS
Project:
SDG: SL4180
LCS File ID: W4101.D

Sample Date:
Received Date:
Extract Date: 22-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228846

Analysis Date: 22-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: NA
Report Date: 25-MAY-18

Compound	Recovery (%)	Conc Added	Conc Recovered	Conc Units	Limits
Carbon Disulfide	96.2	50.0	48.1	ug/Kgdrywt	63-132
Carbon Tetrachloride	96.8	50.0	48.4	ug/Kgdrywt	70-135
Chlorobenzene	95.4	50.0	47.7	ug/Kgdrywt	79-125
Dibromochloromethane	97.6	50.0	48.8	ug/Kgdrywt	74-126
Chloroethane	132.	50.0	65.8	ug/Kgdrywt	59-139
Chloroform	97.8	50.0	48.9	ug/Kgdrywt	78-125
Chloromethane	111.	50.0	55.3	ug/Kgdrywt	50-136
cis-1,2-Dichloroethene	95.4	50.0	47.7	ug/Kgdrywt	77-125
cis-1,3-Dichloropropene	88.4	50.0	44.2	ug/Kgdrywt	74-126
Dibromomethane	91.4	50.0	45.7	ug/Kgdrywt	78-125
Dichlorodifluoromethane	121.	50.0	60.3	ug/Kgdrywt	29-149
Ethylbenzene	98.0	50.0	49.0	ug/Kgdrywt	76-125
Hexachlorobutadiene	90.4	50.0	45.2	ug/Kgdrywt	61-135
Isopropylbenzene	102.	50.0	50.9	ug/Kgdrywt	68-134
m+p-Xylenes	97.4	100.	97.4	ug/Kgdrywt	77-125
Methyl tert-butyl Ether	102.	50.0	50.8	ug/Kgdrywt	73-125
Methylene Chloride	95.0	50.0	47.5	ug/Kgdrywt	70-128
N-Butylbenzene	101.	50.0	50.4	ug/Kgdrywt	70-128
N-Propylbenzene	98.8	50.0	49.4	ug/Kgdrywt	73-125
Naphthalene	85.4	50.0	42.7	ug/Kgdrywt	62-129
o-Xylene	96.4	50.0	48.2	ug/Kgdrywt	77-125
sec-Butylbenzene	98.8	50.0	49.4	ug/Kgdrywt	73-126
Styrene	99.2	50.0	49.6	ug/Kgdrywt	76-125
tert-Butylbenzene	97.8	50.0	48.9	ug/Kgdrywt	73-125
Tetrachloroethene	92.4	50.0	46.2	ug/Kgdrywt	73-128
Toluene	93.0	50.0	46.5	ug/Kgdrywt	77-125
trans-1,2-Dichloroethene	96.8	50.0	48.4	ug/Kgdrywt	74-125
trans-1,3-Dichloropropene	97.0	50.0	48.5	ug/Kgdrywt	71-130
Trichloroethene	90.4	50.0	45.2	ug/Kgdrywt	77-125
Trichlorofluoromethane	98.8	50.0	49.4	ug/Kgdrywt	62-140
Vinyl Chloride	108.	50.0	54.2	ug/Kgdrywt	56-135
1,2-Dichloroethane-D4	103.				71-136
p-Bromofluorobenzene	96.6				79-125
Dibromofluoromethane	105.				78-125
Toluene-D8	99.2				85-125

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
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http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-w.i\W052218.b\W4101.D
Report Date: 25-May-2018 12:32

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W052218.b\W4101.D
Lab Smp Id: WG228846-1
Inj Date : 22-MAY-2018 09:19 MS Autotune Date: 10-APR-2016 11:00
Operator : JSS Inst ID: gcms-w.i
Smp Info : WG228846-1,SL4180
Misc Info : WG228846,WG228751-4,SL4180-1
Comment : SW846 5035
Method : \\TARGET_SERVER\GG\chem\gcms-w.i\W052218.b\W8SDI(13)D.m
Meth Date : 23-May-2018 07:11 jsampson Quant Type: ISTD
Cal Date : 21-MAY-2018 11:44 Cal File: W4068.D
Als bottle: 3 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: VOA-WS

Concentration Formula: Amt * DF * (100/(100-M))*(Vt/Ws) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
M	0.00000	% Moisture
Vt	5.000	Volume of DI Water (mL)
Ws	5.000	Weight of Sample (g)
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/kg)	FINAL (ug/Kgdrywt)	REVIEW COD
1	Dichlorodifluoromethane	85	1.958	1.966	(0.243)	347170	60.3442	60.3	
2	Chloromethane	50	2.172	2.187	(0.270)	399904	55.3251	55.3	
3	Vinyl chloride	62	2.251	2.259	(0.279)	357788	54.1513	54.2	
4	Bromomethane	94	2.594	2.609	(0.322)	191616	57.5691	57.6	
5	Chloroethane	64	2.730	2.738	(0.339)	222296	65.7702	65.8	
6	Trichlorofluoromethane	101	2.873	2.888	(0.357)	421131	49.4565	49.4	
7	Diethyl Ether	59	3.209	3.224	(0.398)	219720	49.7258	49.7	
8	Tertiary-butyl alcohol	59	4.695	4.710	(0.583)	125257	220.371	220	
9	1,1-Dichloroethene	96	3.452	3.459	(0.429)	197453	45.3314	45.3	
10	Carbon Disulfide	76	3.495	3.502	(0.434)	682301	48.1182	48.1	
11	Freon-113	151	3.487	3.502	(0.433)	152093	48.7423	48.7	
12	Iodomethane	142	3.630	3.638	(0.451)	223546	68.8773	68.9(R)	
13	Acrolein	56	3.866	3.881	(0.480)	214883	232.190	232	
14	Methylene Chloride	84	4.181	4.189	(0.519)	264001	47.5206	47.5	
15	Acetone	43	4.259	4.274	(0.529)	92410	46.0476	46.0	
16	Isobutyl Alcohol	43	8.327	8.342	(1.034)	279629	899.254	899	
17	trans-1,2-Dichloroethene	96	4.395	4.410	(0.546)	225632	48.3562	48.4	
18	Allyl Chloride	41	4.038	4.053	(0.501)	370649	49.9979	50.0	
19	Methyl tert-butyl ether	73	4.552	4.567	(0.565)	637844	50.7892	50.8	
20	Acetonitrile	39	4.953	4.968	(0.615)	82500	467.920	468	
21	Di-isopropyl ether	45	5.139	5.161	(0.638)	814939	50.5370	50.5	

Data File: \\target_server\gg\chem\gcms-w.i\W052218.b\W4101.D
Report Date: 25-May-2018 12:32

		Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/kg)	FINAL (ug/Kgdrywt)	REVIEW COD
	22	Chloroprene	53	5.310	5.332	(0.659)	353457	49.8368	49.8	
	23	Propionitrile	54	7.948	7.970	(0.987)	424185	468.484	468	
	24	Methacrylonitrile	41	7.976	7.998	(0.990)	1777922	485.518	486	
	25	1,1-Dichloroethane	63	5.353	5.375	(0.665)	443654	51.2598	51.2	
	26	Acrylonitrile	52	5.460	5.482	(0.678)	425739	244.188	244	
	27	Ethyl tertiary-butyl ether	59	5.789	5.804	(0.719)	557065	52.5275	52.5	
	28	Vinyl Acetate	43	5.825	5.847	(0.653)	596077	54.1914	54.2	
	29	cis-1,2-Dichloroethene	96	6.339	6.362	(0.787)	247611	47.7168	47.7	
M	30	1,2-Dichloroethylene (total)	96				473243	96.0729	96.1	
	31	Methyl Methacrylate	41	12.086	12.094	(1.354)	252895	48.8728	48.9	
	32	2,2-Dichloropropane	77	6.547	6.562	(0.813)	232546	51.8793	51.9	
	33	Bromochloromethane	128	6.704	6.726	(0.832)	117676	50.0725	50.1	
	34	Chloroform	83	6.854	6.869	(0.851)	410510	48.8940	48.9	
	35	Carbon Tetrachloride	117	7.076	7.091	(0.793)	241010	48.4383	48.4	
	36	Tetrahydrofuran	42	7.154	7.162	(0.888)	92915	46.5287	46.5	
$	37	Dibromofluoromethane	113	7.183	7.198	(0.892)	172372	52.3731	52.4	
	38	1,1,1-Trichloroethane	97	7.204	7.226	(0.894)	322249	47.9534	48.0	
	39	1,1-Dichloropropene	75	7.426	7.448	(0.832)	322938	46.7613	46.8	
	40	2-Butanone	43	7.447	7.455	(0.925)	139703	45.2496	45.2	
	41	Benzene	78	7.862	7.877	(0.881)	980371	46.2949	46.3	
*	42	Pentafluorobenzene	168	8.055	8.070	(1.000)	362805	50.0000		
	43	Cyclohexane	56	6.690	6.705	(0.831)	391435	48.0703	48.1	
	44	Ethyl Methacrylate	69	10.106	10.114	(1.132)	183163	48.4016	48.4	
$	45	1,2-Dichloroethane-D4	65	8.105	8.119	(1.006)	221793	51.3097	51.3	
	46	Tertiary-amyl methyl ether	73	8.098	8.113	(1.005)	515274	51.1443	51.1	
	47	1,2-Dichloroethane	62	8.219	8.234	(0.921)	344545	47.1130	47.1	
	48	Trichloroethene	95	8.841	8.856	(0.990)	233328	45.1932	45.2	
*	49	1,4-Difluorobenzene	114	8.927	8.942	(1.000)	598661	50.0000		
	50	Dibromomethane	93	9.520	9.528	(1.066)	148423	45.6779	45.7	
	51	1,2-Dichloropropane	63	9.692	9.707	(1.086)	243083	45.0133	45.0	
	52	Bromodichloromethane	83	9.799	9.814	(1.098)	323900	48.0635	48.1	
	53	cis-1,3-dichloropropene	75	10.800	10.808	(1.210)	365494	44.2381	44.2	
	54	1,4-Dioxane	88	10.149	10.164	(1.137)	71847	846.004	846	
$	55	Toluene-D8	98	11.079	11.094	(1.241)	744968	49.5760	49.6	
	57	Toluene	92	11.157	11.165	(1.250)	606604	46.5378	46.5	
	58	4-methyl-2-pentanone	43	11.779	11.787	(1.319)	304492	44.5688	44.6	
	59	Tetrachloroethene	164	11.722	11.730	(0.876)	183902	46.1850	46.2	
	60	trans-1,3-Dichloropropene	75	11.808	11.815	(1.323)	326436	48.5374	48.5	
	61	1,1,2-Trichloroethane	83	12.044	12.051	(1.349)	186335	45.0172	45.0	
	62	Dibromochloromethane	129	12.294	12.294	(0.919)	245577	48.7880	48.8	
	63	1,3-Dichloropropane	76	12.444	12.452	(0.930)	400809	46.1877	46.2	
	64	1,2-Dibromoethane	107	12.630	12.638	(1.415)	215009	44.1710	44.2	
	65	2-Hexanone	43	13.030	13.031	(0.974)	225547	47.2018	47.2	
*	66	Chlorobenzene-D5	117	13.380	13.381	(1.000)	574971	50.0000		
	67	Chlorobenzene	112	13.402	13.409	(1.002)	689177	47.7453	47.7	
	152	1-Chlorohexane	91	13.452	13.460	(1.670)	1190056		(aR)	
	68	Ethylbenzene	106	13.452	13.460	(1.005)	389763	48.9876	49.0	
	69	1,1,1,2-Tetrachloroethane	131	13.502	13.502	(1.009)	233040	49.7434	49.7	
M	70	Xylenes (total)	106				1423119	145.562	146	
	71	m+p-Xylenes	106	13.666	13.674	(1.021)	952158	97.3662	97.4	
	72	o-Xylene	106	14.245	14.253	(1.065)	470961	48.1956	48.2	
	73	Styrene	104	14.317	14.324	(1.070)	813690	49.6218	49.6	
	74	Bromoform	173	14.331	14.339	(1.071)	183650	48.5189	48.5	
	75	Isopropylbenzene	105	14.667	14.675	(0.893)	1201072	50.8897	50.9	

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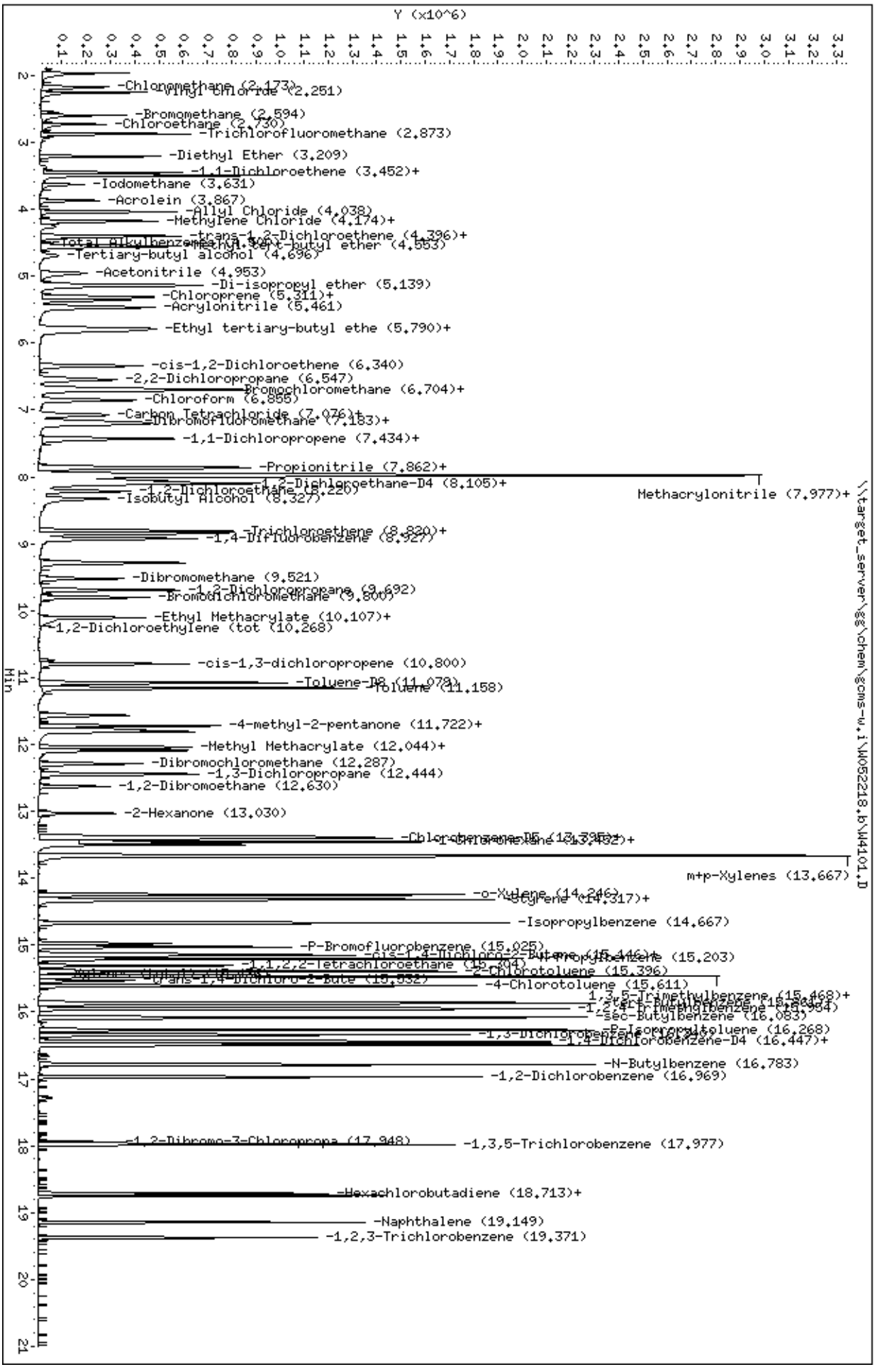
Report Date: 25-May-2018 12:32

			QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/kg)	FINAL (ug/Kgdrywt)	REVIEW COD
$	76	P-Bromofluorobenzene	95	15.024	15.032	(1.683)	306719	48.3136	48.3	
	77	cis-1,4-Dichloro-2-Butene	53	15.131	15.132	(0.921)	98486	48.3253	48.3	
	78	trans-1,4-Dichloro-2-Butene	53	15.532	15.532	(0.945)	79228	45.2253	45.2	
	79	Bromobenzene	156	15.153	15.154	(0.922)	320146	48.1798	48.2	
	80	N-Propylbenzene	91	15.203	15.211	(0.925)	1506915	49.4091	49.4	
	81	1,1,2,2-Tetrachloroethane	83	15.303	15.311	(0.931)	370834	48.7228	48.7	
	82	1,3,5-Trimethylbenzene	105	15.460	15.468	(0.941)	1087296	50.1346	50.1	
	83	2-Chlorotoluene	91	15.396	15.397	(0.937)	901838	48.5892	48.6	
	84	1,2,3-Trichloropropane	75	15.467	15.475	(0.941)	304728	46.1333	46.1	
	85	4-Chlorotoluene	91	15.610	15.611	(0.950)	947129	48.7744	48.8	
	86	tert-Butylbenzene	119	15.861	15.868	(0.965)	1074718	48.8842	48.9	
	87	Pentachloroethane	117	15.875	15.883	(0.966)	211468	50.8615	50.9	
	88	1,2,4-Trimethylbenzene	105	15.953	15.954	(0.971)	1139829	49.8443	49.8	
	89	P-Isopropyltoluene	119	16.268	16.268	(0.990)	1197255	49.7624	49.8	
	90	1,3-Dichlorobenzene	146	16.339	16.347	(0.994)	642737	48.7100	48.7	
*	91	1,4-Dichlorobenzene-D4	152	16.432	16.440	(1.000)	363110	50.0000		
	92	1,4-Dichlorobenzene	146	16.454	16.454	(1.001)	652889	48.3583	48.4	
	93	N-Butylbenzene	91	16.783	16.783	(1.021)	1135636	50.3571	50.4	
	94	sec-Butylbenzene	105	16.082	16.082	(0.979)	1417216	49.4433	49.4	
	95	1,2-Dichlorobenzene	146	16.968	16.969	(1.033)	634907	47.9442	47.9	
	96	1,2-Dibromo-3-Chloropropane	75	17.948	17.941	(1.092)	79993	46.5697	46.6	
	97	1,3,5-Trichlorobenzene	180	17.976	17.977	(2.232)	436540	49.5379	49.5	
	98	Hexachlorobutadiene	225	18.713	18.713	(1.139)	184672	45.2182	45.2	
	99	1,2,4-Trichlorobenzene	180	18.748	18.749	(1.141)	359271	46.4796	46.5	
	100	1,2,3-Trimethylbenzene	105	16.490	16.489	(2.047)	1190528	52.4905	52.5	
	101	Naphthalene	128	19.149	19.142	(1.165)	910496	42.6771	42.7	
	102	1,2,3-Trichlorobenzene	180	19.370	19.371	(1.179)	304501	42.4126	42.4	
	103	Methyl Acetate	43	4.424	4.439	(0.549)	209924	44.4970	44.5	
	104	Methylcyclohexane	83	8.813	8.828	(1.094)	399567	49.4734	49.5	
M	153	Total Alkylbenzenes	100				8558865	347.835	348	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
R - Spike/Surrogate failed recovery limits.


Data File: \\target_server\gg\chem\gcms-w.i\W052218.b\W4101.D
Date : 22-MAY-2018 09:19
Client ID:
Sample Info: WG228846-1,SL4180
Column phase: RTX-VMS
Instrument: gcms-w.i
Operator: JSS
Column diameter: 0.18
\\target_server\gg\chem\gcms-w.i\W052218.b\W4101.D
Y (x10^6)
Min
-Chloromethane (2.173)
-Vinyl Chloride (2.251)
-Bromomethane (2.594)
-Chloroethane (2.730)
-Trichlorofluoromethane (2.873)
-Diethyl Ether (3.209)
-1,1-Dichloroethene (3.452)+
-Iodomethane (3.631)
-Acrolein (3.867)
-Allyl Chloride (4.038)
-Methylene Chloride (4.174)+
-trans-1,2-Dichloroethene (4.396)+
-Methyl tert-butyl ether (4.553)
-Tertiary-butyl alcohol (4.696)
-Acetonitrile (4.953)
-Di-isopropyl ether (5.139)
-Chloroprene (5.311)+
-Acrylonitrile (5.461)
-Ethyl tertiary-butyl ethe (5.790)+
-cis-1,2-Dichloroethene (6.340)
-2,2-Dichloropropane (6.547)
-Bromochloromethane (6.704)+
-Chloroform (6.855)
-Carbon Tetrachloride (7.076)+
-Dibromofluoromethane (7.183)+
-1,1-Dichloropropene (7.434)+
-Propionitrile (7.862)+
Methacrylonitrile (7.977)+
-1,2-Dichloroethane-D4 (8.105)+
-1,2-Dichloroethane (8.220)
-Isobutyl Alcohol (8.327)
-Trichloroethene (8.820)+
-1,4-Difluorobenzene (8.927)
-Dibromomethane (9.521)
-1,2-Dichloropropane (9.692)
-Bromodichloromethane (9.800)
-Ethyl Methacrylate (10.107)+
-1,2-Dichloroethylene (tot (10.268)
-cis-1,3-dichloropropene (10.800)
-Toluene-D8 (11.078)
-Toluene (11.158)
-4-methyl-2-pentanone (11.722)+
-Methyl Methacrylate (12.044)+
-Dibromochloromethane (12.287)
-1,3-Dichloropropane (12.444)
-1,2-Dibromoethane (12.630)
-2-Hexanone (13.030)
-Chlorobenzene-D5 (13.335)+
-1,1,1,2-Tetrachloroethane (13.432)+
m+p-Xylenes (13.667)
-o-Xylene (14.246)
-Styrene (14.317)+
-Isopropylbenzene (14.667)
-P-Bromofluorobenzene (15.025)
-cis-1,4-Dichloro-2-Butene (15.146)+
-n-Propylbenzene (15.203)
-1,1,2,2-Tetrachloroethane (15.204)
-2-Chlorotoluene (15.396)
-trans-1,4-Dichloro-2-Bute (15.532)
-4-Chlorotoluene (15.611)
-1,3,5-Trimethylbenzene (15.468)+
-tert-Butylbenzene (15.864)
-1,2,4-Trimethylbenzene (15.964)
-sec-Butylbenzene (16.083)
-1,3-Dichlorobenzene (16.240)
-p-Isopropyltoluene (16.268)
-1,4-Dichlorobenzene-D4 (16.447)+
-N-Butylbenzene (16.783)
-1,2-Dichlorobenzene (16.969)
-1,2-Dibromo-3-Chloropropa (17.948)
-1,3,5-Trichlorobenzene (17.977)
-Hexachlorobutadiene (18.713)+
-Naphthalene (19.149)
-1,2,3-Trichlorobenzene (19.371)

Katahdin
ANALYTICAL SERVICES

MS/MSD Recovery Report

MS ID: WG228846-6
MSD ID: WG228846-7
Sample ID: SL4180-18
Client ID: CHAAP-21B-DS-SB11-5
Project:
SDG: SL4180
MS File ID: W4112.D

Received Date:
Extract Date: 22-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228846
Report Date: 25-MAY-18
MSD File ID: W4113.D

Analysis Date: 22-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 80.

Compound	MS Spike	MSD Spike	Conc Units	Samp Conc	MS Conc	MSD Conc	MS Rec (%)	MSD Rec (%)	RPD (%)	RPD Limit	Limits
1,1,1,2-Tetrachloroethane	67.0	49.0	ug/Kgdrywt	UM3.0	53.	24.	79.7	48.8*	76*	20	78-125
1,1,1-Trichloroethane	67.0	49.0	ug/Kgdrywt	U3.0	56.	37.	84.0	76.3	40*	20	73-130
1,1,2,2-Tetrachloroethane	67.0	49.0	ug/Kgdrywt	UM3.0	49.	17.	72.5	35.3*	95*	20	70-125
Freon-113	67.0	49.0	ug/Kgdrywt	U3.0	72.	54.	107.	110.	29*	20	66-136
1,1,2-Trichloroethane	67.0	49.0	ug/Kgdrywt	UMM3.0	50.	20.	75.1*	41.2*	85*	20	78-125
1,1-Dichloroethane	67.0	49.0	ug/Kgdrywt	UM3.0	60.	34.	90.0	69.4*	56*	20	76-125
1,1-Dichloroethene	67.0	49.0	ug/Kgdrywt	U3.0	57.	38.	85.1	78.6	39*	20	70-131
1,1-Dichloropropene	67.0	49.0	ug/Kgdrywt	U3.0	54.	38.	80.4	76.5	36*	20	76-125
1,2,3-Trichlorobenzene	67.0	49.0	ug/Kgdrywt	UM3.0	50.	16.	75.1	31.6*	106*	20	66-130
1,2,3-Trichloropropane	67.0	49.0	ug/Kgdrywt	UM3.0	49.	18.	73.7	36.5*	94*	20	73-125
1,2,4-Trichlorobenzene	67.0	49.0	ug/Kgdrywt	UM3.0	50.	17.	74.3	34.3*	99*	20	67-129
1,2,4-Trimethylbenzene	67.0	49.0	ug/Kgdrywt	UM3.0	52.	27.	78.4	55.9*	63*	20	75-125
1,2-Dibromo-3-Chloropropane	67.0	49.0	ug/Kgdrywt	UM3.0	48.	17.	71.5	33.9*	97*	20	61-132
1,2-Dibromoethane	67.0	49.0	ug/Kgdrywt	UMM3.0	47.	18.	70.6*	37.3*	88*	20	78-125
1,2-Dichlorobenzene	67.0	49.0	ug/Kgdrywt	UM3.0	53.	20.	78.8	41.4*	89*	20	78-125
1,2-Dichloroethane	67.0	49.0	ug/Kgdrywt	UM3.0	52.	21.	76.9	42.4*	85*	20	73-128
1,2-Dichloropropane	67.0	49.0	ug/Kgdrywt	UM3.0	52.	25.	78.0	50.2*	72*	20	76-125
1,3,5-Trimethylbenzene	67.0	49.0	ug/Kgdrywt	UM3.0	52.	30.	78.2	61.8*	53*	20	73-125
1,3-Dichlorobenzene	67.0	49.0	ug/Kgdrywt	UM3.0	54.	24.	80.4	48.2*	78*	20	77-125
1,3-Dichloropropane	67.0	49.0	ug/Kgdrywt	UMM3.0	50.	19.	75.1*	39.0*	90*	20	77-125
1,4-Dichlorobenzene	67.0	49.0	ug/Kgdrywt	UM3.0	52.	22.	76.9	45.5*	79*	20	75-120
2,2-Dichloropropane	67.0	49.0	ug/Kgdrywt	U3.0	55.	36.	81.9	73.5	42*	20	67-133
2-Butanone	67.0	49.0	ug/Kgdrywt	UM15	52.	21.	77.3	42.8*	85*	20	51-148
2-Chlorotoluene	67.0	49.0	ug/Kgdrywt	UM3.0	52.	27.	77.8	55.9*	62*	20	75-125
2-Hexanone	67.0	49.0	ug/Kgdrywt	UM15	48.	16.	71.8	33.1*	99*	20	53-145
4-Chlorotoluene	67.0	49.0	ug/Kgdrywt	UM3.0	51.	26.	76.6	53.1*	65*	20	72-125
P-Isopropyltoluene	67.0	49.0	ug/Kgdrywt	UM3.0	53.	33.	79.1	67.3*	46*	20	73-127
4-Methyl-2-Pentanone	67.0	49.0	ug/Kgdrywt	UM15	47.	16.	69.7	33.5*	96*	20	65-135
Acetone	67.0	49.0	ug/Kgdrywt	U15	89.	32.	132.	65.1	94*	20	36-164
Benzene	67.0	49.0	ug/Kgdrywt	UM3.0	53.	30.	79.6	61.2*	56*	20	77-125
Bromobenzene	67.0	49.0	ug/Kgdrywt	UMM3.0	51.	22.	76.3*	45.5*	78*	20	78-125
Bromochloromethane	67.0	49.0	ug/Kgdrywt	UM3.0	57.	24.	84.8	48.2*	82*	20	78-125
Bromodichloromethane	67.0	49.0	ug/Kgdrywt	UM3.0	55.	24.	82.4	49.2*	78*	20	75-127

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ANALYTICAL SERVICES

MS/MSD Recovery Report

MS ID: WG228846-6
MSD ID: WG228846-7
Sample ID: SL4180-18
Client ID: CHAAP-21B-DS-SB11-5
Project:
SDG: SL4180
MS File ID: W4112.D

Received Date:
Extract Date: 22-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228846
Report Date: 25-MAY-18
MSD File ID: W4113.D

Analysis Date: 22-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 80.

Compound	MS Spike	MSD Spike	Conc Units	Samp Conc	MS Conc	MSD Conc	MS Rec (%)	MSD Rec (%)	RPD (%)	RPD Limit	Limits
Bromoform	67.0	49.0	ug/Kgdrywt	UM3.0	51.	18.	76.3	36.7*	96*	20	67-132
Bromomethane	67.0	49.0	ug/Kgdrywt	U6.0	63.	40.	94.6	80.6	46*	20	53-143
Carbon Disulfide	67.0	49.0	ug/Kgdrywt	U3.0	57.	38.	84.5	77.6	39*	20	63-132
Carbon Tetrachloride	67.0	49.0	ug/Kgdrywt	U3.0	54.	41.	81.0	83.3	28*	20	70-135
Chlorobenzene	67.0	49.0	ug/Kgdrywt	UMM3.0	52.	26.	77.8*	53.5*	66*	20	79-125
Dibromochloromethane	67.0	49.0	ug/Kgdrywt	UM3.0	54.	21.	80.3	42.6*	88*	20	74-126
Chloroethane	67.0	49.0	ug/Kgdrywt	U6.0	87.	55.	130.	113.	44*	20	59-139
Chloroform	67.0	49.0	ug/Kgdrywt	UM3.0	57.	29.	85.2	59.4*	65*	20	78-125
Chloromethane	67.0	49.0	ug/Kgdrywt	U6.0	72.	46.	108.	93.5	45*	20	50-136
cis-1,2-Dichloroethene	67.0	49.0	ug/Kgdrywt	UM3.0	56.	28.	83.9	57.6*	66*	20	77-125
cis-1,3-Dichloropropene	67.0	49.0	ug/Kgdrywt	UMM3.0	48.	20.	72.2*	41.6*	81*	20	74-126
Dibromomethane	67.0	49.0	ug/Kgdrywt	UM3.0	52.	19.	78.2	39.6*	92*	20	78-125
Dichlorodifluoromethane	67.0	49.0	ug/Kgdrywt	U6.0	77.	58.	115.	119.	27*	20	29-149
Ethylbenzene	67.0	49.0	ug/Kgdrywt	UMM3.0	51.	30.	76.0*	61.2*	52*	20	76-125
Hexachlorobutadiene	67.0	49.0	ug/Kgdrywt	UM3.0	48.	29.	71.5	58.4*	50*	20	61-135
Isopropylbenzene	67.0	49.0	ug/Kgdrywt	U3.0	56.	34.	83.3	70.4	47*	20	68-134
m+p-Xylenes	130.	98.0	ug/Kgdrywt	UM6.0	110	62.	82.3	63.2*	53*	20	77-125
Methyl tert-butyl Ether	67.0	49.0	ug/Kgdrywt	UM3.0	51.	19.	76.4	38.0*	93*	20	73-125
Methylene Chloride	67.0	49.0	ug/Kgdrywt	UM15	55.	26.	81.6	52.2*	72*	20	70-128
N-Butylbenzene	67.0	49.0	ug/Kgdrywt	UM3.0	54.	34.	79.8	69.6*	44*	20	70-128
N-Propylbenzene	67.0	49.0	ug/Kgdrywt	UM3.0	53.	33.	79.2	67.6*	46*	20	73-125
Naphthalene	67.0	49.0	ug/Kgdrywt	UM3.0	50.	15.	74.2	30.6*	107*	20	62-129
o-Xylene	67.0	49.0	ug/Kgdrywt	UM3.0	52.	27.	77.6	55.9*	62*	20	77-125
sec-Butylbenzene	67.0	49.0	ug/Kgdrywt	UM3.0	53.	35.	79.0	71.4*	41*	20	73-126
Styrene	67.0	49.0	ug/Kgdrywt	UM3.0	53.	25.	79.1	51.8*	70*	20	76-125
tert-Butylbenzene	67.0	49.0	ug/Kgdrywt	UMM3.0	47.	29.	70.6*	59.8*	47*	20	73-125
Tetrachloroethene	67.0	49.0	ug/Kgdrywt	UM3.0	96.	44.	143.*	90.6	74*	20	73-128
Toluene	67.0	49.0	ug/Kgdrywt	UM3.0	53.	30.	78.8	62.0*	54*	20	77-125
trans-1,2-Dichloroethene	67.0	49.0	ug/Kgdrywt	UM3.0	57.	35.	84.5	71.4*	47*	20	74-125
trans-1,3-Dichloropropene	67.0	49.0	ug/Kgdrywt	UM3.0	50.	19.	74.9	39.0*	90*	20	71-130
Trichloroethene	67.0	49.0	ug/Kgdrywt	UM3.0	57.	34.	84.9	69.6*	50*	20	77-125
Trichlorofluoromethane	67.0	49.0	ug/Kgdrywt	U6.0	68.	50.	101.	102.	30*	20	62-140
Vinyl Chloride	67.0	49.0	ug/Kgdrywt	U6.0	70.	49.	104.	99.4	36*	20	56-135

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MS/MSD Recovery Report

MS ID: WG228846-6
MSD ID: WG228846-7
Sample ID: SL4180-18
Client ID: CHAAP-21B-DS-SB11-5
Project:
SDG: SL4180
MS File ID: W4112.D

Received Date:
Extract Date: 22-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228846
Report Date: 25-MAY-18
MSD File ID: W4113.D

Analysis Date: 22-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 80.

1,2-Dichloroethane-D4	105.	111.	71-136
p-Bromofluorobenzene	92.9	96.0	79-125
Dibromofluoromethane	105.	108.	78-125
Toluene-D8	99.9	101.	85-125

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Data File: \\target_server\gg\chem\gcms-w.i\W052218.b\W4112.D
Report Date: 25-May-2018 12:31

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W052218.b\W4112.D
Lab Smp Id: WG228846-6 Client Smp ID: CHAAP-21B-DS-SB11-5
Inj Date : 22-MAY-2018 16:14 MS Autotune Date: 10-APR-2016 11:00
Operator : JSS Inst ID: gcms-w.i
Smp Info : WG228846-6,SL4180
Misc Info : WG228846,WG228751-4,SL4180-18
Comment : SW846 5035
Method : \\target_server\gg\chem\gcms-w.i\W052218.b\W8SDI(13)D.m
Meth Date : 23-May-2018 07:11 jsampson Quant Type: ISTD
Cal Date : 21-MAY-2018 11:44 Cal File: W4068.D
Als bottle: 13 QC Sample: MS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: T6-O360

Concentration Formula: Amt * DF * (100/(100-M))*(Vt/Ws) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
M	19.820	% Moisture
Vt	5.000	Volume of DI Water (mL)
Ws	4.660	Weight of Sample (g)
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/kg)	FINAL (ug/Kgdrywt)	REVIEW COD
1	Dichlorodifluoromethane	85	1.970	1.966	(0.244)	276934	57.3655	76.8	
2	Chloromethane	50	2.199	2.187	(0.272)	326671	53.8590	72.1	
3	Vinyl chloride	62	2.263	2.259	(0.280)	289836	52.2778	70.0	
4	Bromomethane	94	2.613	2.609	(0.323)	132416	47.4111	63.4	
5	Chloroethane	64	2.742	2.738	(0.339)	184581	65.0318	87.0	
6	Trichlorofluoromethane	101	2.892	2.888	(0.358)	361411	50.5812	67.7	
7	Diethyl Ether	59	3.228	3.224	(0.399)	181441	48.9360	65.5	
8	Tertiary-butyl alcohol	59	4.722	4.710	(0.584)	82906	176.287	236	
9	1,1-Dichloroethene	96	3.471	3.459	(0.430)	155748	42.6127	57.0	
10	Carbon Disulfide	76	3.514	3.502	(0.435)	503664	42.3307	56.6	
11	Freon-113	151	3.507	3.502	(0.434)	140716	53.7429	71.9	
12	Iodomethane	142	3.650	3.638	(0.452)	149031	54.7227	73.2	
13	Acrolein	56	3.893	3.881	(0.482)	68840	88.6469	119(R)	
14	Methylene Chloride	84	4.200	4.189	(0.520)	190460	40.8565	54.7	
15	Acetone	43	4.293	4.274	(0.531)	111748	66.3605	88.8	
16	Isobutyl Alcohol	43	8.353	8.342	(1.034)	186633	736.950	986	
17	trans-1,2-Dichloroethene	96	4.422	4.410	(0.547)	165756	42.3352	56.6	
18	Allyl Chloride	41	4.064	4.053	(0.503)	311514	50.0782	67.0	
19	Methyl tert-butyl ether	73	4.579	4.567	(0.567)	403637	38.3027	51.2	
20	Acetonitrile	39	4.979	4.968	(0.616)	57860	391.091	523	
21	Di-isopropyl ether	45	5.172	5.161	(0.640)	669193	49.4558	66.2	

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Report Date: 25-May-2018 12:31

		Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/kg)	FINAL (ug/Kgdrywt)	REVIEW COD
	22	Chloroprene	53	5.344	5.332	(0.661)	304676	51.1957	68.5	
	23	Propionitrile	54	7.981	7.970	(0.988)	292137	384.510	514	
	24	Methacrylonitrile	41	8.010	7.998	(0.991)	1261745	410.626	549	
	25	1,1-Dichloroethane	63	5.387	5.375	(0.667)	327353	45.0745	60.3	
	26	Acrylonitrile	52	5.494	5.482	(0.680)	295277	201.833	270	
	27	Ethyl tertiary-butyl ether	59	5.823	5.804	(0.721)	396751	44.5841	59.7	
	28	Vinyl Acetate	43	5.816	5.847	(0.650)	51893	5.61447	7.5(R)	
	29	cis-1,2-Dichloroethene	96	6.380	6.362	(0.790)	182708	41.9605	56.2	
M	30	1,2-Dichloroethylene (total)	96				348464	84.2957	113	
	31	Methyl Methacrylate	41	12.106	12.094	(1.352)	75636	17.3951	23.3(R)	
	32	2,2-Dichloropropane	77	6.573	6.562	(0.813)	154209	40.9993	54.9	
	33	Bromochloromethane	128	6.738	6.726	(0.834)	83629	42.4082	56.8	
	34	Chloroform	83	6.888	6.869	(0.852)	300656	42.6760	57.1	
	35	Carbon Tetrachloride	117	7.109	7.091	(0.794)	169609	40.5672	54.3	
	36	Tetrahydrofuran	42	7.188	7.162	(0.889)	64046	38.2216	51.1	
$	37	Dibromofluoromethane	113	7.209	7.198	(0.892)	144628	52.3691	70.1	
	38	1,1,1-Trichloroethane	97	7.238	7.226	(0.896)	237416	42.1036	56.3	
	39	1,1-Dichloropropene	75	7.460	7.448	(0.833)	233916	40.3088	53.9	
	40	2-Butanone	43	7.474	7.455	(0.925)	100241	38.6934	51.8	
	41	Benzene	78	7.888	7.877	(0.881)	708797	39.8325	53.3	
*	42	Pentafluorobenzene	168	8.081	8.070	(1.000)	304433	50.0000		
	43	Cyclohexane	56	6.723	6.705	(0.832)	301658	44.1482	59.1	
	44	Ethyl Methacrylate	69	10.126	10.114	(1.131)	189263	59.5196	79.6	
$	45	1,2-Dichloroethane-D4	65	8.131	8.119	(1.006)	190053	52.3972	70.1	
	46	Tertiary-amyl methyl ether	73	8.124	8.113	(1.005)	377157	44.6131	59.7	
	47	1,2-Dichloroethane	62	8.246	8.234	(0.921)	236654	38.5107	51.5	
	48	Trichloroethene	95	8.868	8.856	(0.990)	184522	42.5331	56.9	
*	49	1,4-Difluorobenzene	114	8.954	8.942	(1.000)	503047	50.0000		
	50	Dibromomethane	93	9.547	9.528	(1.066)	106938	39.1660	52.4	
	51	1,2-Dichloropropane	63	9.711	9.707	(1.085)	177403	39.0949	52.3	
	52	Bromodichloromethane	83	9.826	9.814	(1.097)	233502	41.2351	55.2	
	53	cis-1,3-dichloropropene	75	10.819	10.808	(1.208)	251058	36.1628	48.4(R)	
	54	1,4-Dioxane	88	10.176	10.164	(1.137)	76269	1068.77	1430	
$	55	Toluene-D8	98	11.098	11.094	(1.239)	630797	49.9569	66.8	
	57	Toluene	92	11.177	11.165	(1.248)	432315	39.4706	52.8	
	58	4-methyl-2-pentanone	43	11.798	11.787	(1.318)	200523	34.9294	46.7(R)	
	59	Tetrachloroethene	164	11.741	11.730	(0.877)	239566	71.7316	96.0(R)	
	60	trans-1,3-Dichloropropene	75	11.827	11.815	(1.321)	211859	37.4884	50.2	
	61	1,1,2-Trichloroethane	83	12.063	12.051	(1.347)	130776	37.5997	50.3(R)	
	62	Dibromochloromethane	129	12.306	12.294	(0.919)	169760	40.2098	53.8	
	63	1,3-Dichloropropane	76	12.463	12.452	(0.931)	273678	37.6011	50.3(R)	
	64	1,2-Dibromoethane	107	12.642	12.638	(1.412)	144697	35.3763	47.3(R)	
	65	2-Hexanone	43	13.042	13.031	(0.974)	144206	35.9812	48.1	
*	66	Chlorobenzene-D5	117	13.392	13.381	(1.000)	482253	50.0000		
	67	Chlorobenzene	112	13.414	13.409	(1.002)	471648	38.9573	52.1(R)	
	68	Ethylbenzene	106	13.471	13.460	(1.006)	253889	38.0453	50.9	
	69	1,1,1,2-Tetrachloroethane	131	13.514	13.502	(1.009)	156670	39.8714	53.4	
M	70	Xylenes (total)	106				973201	118.680	159	
	71	m+p-Xylenes	106	13.678	13.674	(1.021)	654646	79.8135	107	
	72	o-Xylene	106	14.257	14.253	(1.065)	318555	38.8667	52.0	
	73	Styrene	104	14.329	14.324	(1.070)	544723	39.6059	53.0	
	74	Bromoform	173	14.350	14.339	(1.072)	121203	38.1772	51.1	
	75	Isopropylbenzene	105	14.679	14.675	(0.893)	813073	41.6936	55.8	
$	76	P-Bromofluorobenzene	95	15.036	15.032	(1.679)	247804	46.4525	62.2	

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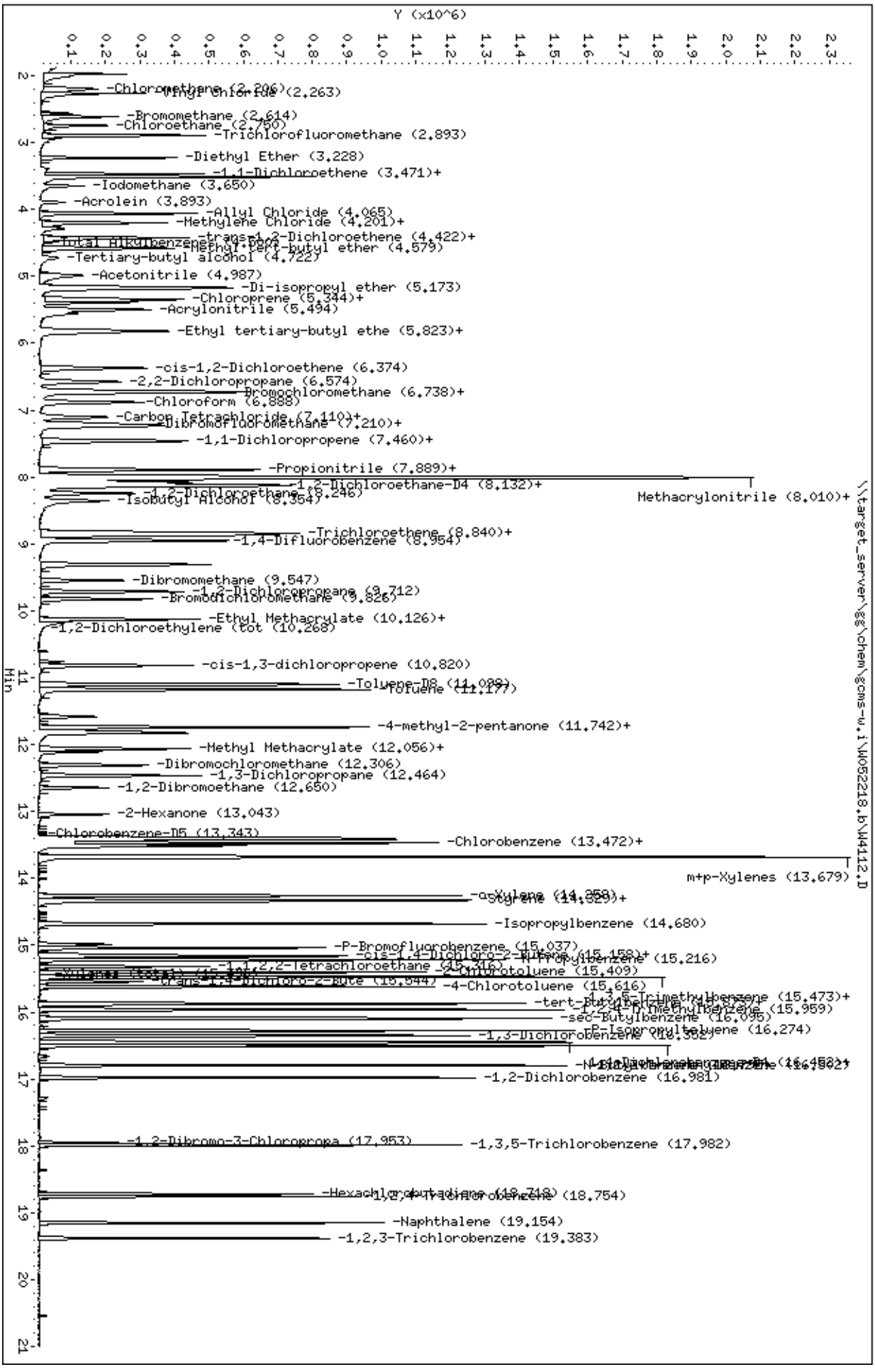
Report Date: 25-May-2018 12:31

			QUANT SIG					CONCENTRATIONS		
		Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN (ug/kg)	FINAL (ug/Kgdrywt)	REVIEW COD
	77	cis-1,4-Dichloro-2-Butene	53	15.144	15.132	(0.921)	72489	43.0479	57.6	
	78	trans-1,4-Dichloro-2-Butene	53	15.544	15.532	(0.945)	58917	40.9338	54.8	
	79	Bromobenzene	156	15.165	15.154	(0.922)	209683	38.1909	51.1(R)	
	80	N-Propylbenzene	91	15.215	15.211	(0.925)	999450	39.6605	53.1	
	81	1,1,2,2-Tetrachloroethane	83	15.315	15.311	(0.931)	228607	36.3514	48.6	
	82	1,3,5-Trimethylbenzene	105	15.472	15.468	(0.941)	701662	39.1558	52.4	
	83	2-Chlorotoluene	91	15.408	15.397	(0.937)	597152	38.9382	52.1	
	84	1,2,3-Trichloropropane	75	15.480	15.475	(0.941)	201566	36.9317	49.4	
	85	4-Chlorotoluene	91	15.615	15.611	(0.950)	615588	38.3665	51.3	
	86	tert-Butylbenzene	119	15.873	15.868	(0.965)	642145	35.3497	47.3(R)	
	87	Pentachloroethane	117	15.887	15.883	(0.966)	54309	15.8087	21.2(R)	
	88	1,2,4-Trimethylbenzene	105	15.959	15.954	(0.970)	741830	39.2608	52.5	
	89	P-Isopropyltoluene	119	16.273	16.268	(0.990)	787059	39.5914	53.0	
	90	1,3-Dichlorobenzene	146	16.352	16.347	(0.994)	439524	40.3131	53.9	
*	91	1,4-Dichlorobenzene-D4	152	16.445	16.440	(1.000)	300026	50.0000		
	92	1,4-Dichlorobenzene	146	16.466	16.454	(1.001)	429692	38.5184	51.5	
	93	N-Butylbenzene	91	16.795	16.783	(1.021)	745166	39.9902	53.5	
	94	sec-Butylbenzene	105	16.094	16.082	(0.979)	936636	39.5478	52.9	
	95	1,2-Dichlorobenzene	146	16.981	16.969	(1.033)	431416	39.4277	52.8	
	96	1,2-Dibromo-3-Chloropropane	75	17.953	17.941	(1.092)	50839	35.8202	47.9	
	97	1,3,5-Trichlorobenzene	180	17.989	17.977	(2.226)	327852	44.3377	59.3	
	98	Hexachlorobutadiene	225	18.718	18.713	(1.138)	120902	35.8282	47.9	
	99	1,2,4-Trichlorobenzene	180	18.761	18.749	(1.141)	237706	37.2186	49.8	
	100	1,2,3-Trimethylbenzene	105	16.502	16.489	(2.042)	899662	47.2717	63.2	
	101	Naphthalene	128	19.154	19.142	(1.165)	655086	37.1616	49.7	
	102	1,2,3-Trichlorobenzene	180	19.382	19.371	(1.179)	222803	37.5583	50.3	
	103	Methyl Acetate	43	4.450	4.439	(0.551)	151190	38.1921	51.1	
	104	Methylcyclohexane	83	8.839	8.828	(1.094)	362855	53.5423	71.6	
M	153	Total Alkylbenzenes	100				5553948	272.556	365(R)	

QC Flag Legend

R - Spike/Surrogate failed recovery limits.


Data File: \\target_server\gg\chem\gcms-w.i\W052218.b\W4112.D
Date : 22-MAY-2018 16:14
Client ID: CHAAP-21B-DS-SB11-5
Sample Info: WG228846-6,SL4180
Column phase: RTX-VMS
Instrument: gcms-w.i
Operator: JSS
Column diameter: 0.18
Y (x10^6)
Min
\\target_server\gg\chem\gcms-w.i\W052218.b\W4112.D
-Chloromethane (2.206)
-Vinyl Chloride (2.263)
-Bromomethane (2.614)
-Chloroethane (2.750)
-Trichlorofluoromethane (2.893)
-Diethyl Ether (3.228)
-1,1-Dichloroethene (3.471)+
-Iodomethane (3.650)
-Acrolein (3.893)
-Allyl Chloride (4.065)
-Methylene Chloride (4.201)+
-trans-1,2-Dichloroethene (4.422)+
-Methyl tert-butyl ether (4.579)
-Tertiary-butyl alcohol (4.722)
-Acetonitrile (4.987)
-Di-isopropyl ether (5.173)
-Chloroprene (5.344)+
-Acrylonitrile (5.494)
-Ethyl tertiary-butyl ethe (5.823)+
-cis-1,2-Dichloroethene (6.374)
-2,2-Dichloropropane (6.574)
-Bromochloromethane (6.738)+
-Chloroform (6.888)
-Carbon Tetrachloride (7.110)+
-Dibromofluoromethane (7.210)+
-1,1-Dichloropropene (7.460)+
-Propionitrile (7.889)+
-1,2-Dichloroethane-D4 (8.132)+
Methacrylonitrile (8.010)+
-1,2-Dichloroethane (8.246)
-Isobutyl Alcohol (8.354)
-Trichloroethene (8.840)+
-1,4-Difluorobenzene (8.954)
-Dibromomethane (9.547)
-1,2-Dichloropropane (9.712)
-Bromodichloromethane (9.826)
-Ethyl Methacrylate (10.126)+
-1,2-Dichloroethylene (tot (10.268)
-cis-1,3-dichloropropene (10.820)
-Toluene-D8 (11.089)
-Toluene (11.177)
-4-methyl-2-pentanone (11.742)+
-Methyl Methacrylate (12.056)+
-Dibromochloromethane (12.306)
-1,3-Dichloropropane (12.464)
-1,2-Dibromoethane (12.650)
-2-Hexanone (13.043)
-Chlorobenzene-D5 (13.343)
-Chlorobenzene (13.472)+
m+p-Xylenes (13.679)
-o-Xylene (14.358)
-Styrene (14.525)+
-Isopropylbenzene (14.680)
-P-Bromofluorobenzene (15.037)
-cis-1,4-Dichloro-2-Butene (15.158)+
-n-Propylbenzene (15.216)
-1,1,2,2-Tetrachloroethane (15.316)
-2-Chlorotoluene (15.409)
-trans-1,4-Dichloro-2-Bute (15.544)
-4-Chlorotoluene (15.616)
-1,3,5-Trimethylbenzene (15.473)+
-tert-Butylbenzene (15.759)
-1,2,4-Trimethylbenzene (15.959)
-sec-Butylbenzene (16.095)
-P-Isopropyltelwene (16.274)
-1,3-Dichlorobenzene (16.382)
-1,2-Dichlorobenzene (16.981)
-1,2-Dibromo-3-Chloropropa (17.953)
-1,3,5-Trichlorobenzene (17.982)
-Hexachlorobutadiene (18.718)
-1,2,4-Trichlorobenzene (18.754)
-Naphthalene (19.154)
-1,2,3-Trichlorobenzene (19.383)

Data File: \\target_server\gg\chem\gcms-w.i\W052218.b\W4113.D
Report Date: 25-May-2018 12:31

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W052218.b\W4113.D
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Inj Date : 22-MAY-2018 16:51 MS Autotune Date: 10-APR-2016 11:00
Operator : JSS Inst ID: gcms-w.i
Smp Info : WG228846-7,SL4180
Misc Info : WG228846,WG228751-4,SL4180-18
Comment : SW846 5035
Method : \\target_server\gg\chem\gcms-w.i\W052218.b\W8SDI(13)D.m
Meth Date : 23-May-2018 07:11 jsampson Quant Type: ISTD
Cal Date : 21-MAY-2018 11:44 Cal File: W4068.D
Als bottle: 14 QC Sample: MSD
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: T6-O360

Concentration Formula: Amt * DF * (100/(100-M))*(Vt/Ws) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
M	19.820	% Moisture
Vt	5.000	Volume of DI Water (mL)
Ws	6.340	Weight of Sample (g)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/kg)	FINAL (ug/Kgdrywt)	REVIEW COD
1 Dichlorodifluoromethane	85	1.972	1.966	(0.244)	274134	59.3009	58.3	
2 Chloromethane	50	2.208	2.187	(0.273)	270623	46.5947	45.8	
3 Vinyl chloride	62	2.265	2.259	(0.280)	262976	49.5341	48.7	
4 Bromomethane	94	2.609	2.609	(0.323)	107323	40.1287	39.5	
5 Chloroethane	64	2.744	2.738	(0.340)	154793	56.3472	55.4	
6 Trichlorofluoromethane	101	2.894	2.888	(0.358)	348919	50.9959	50.2	
7 Diethyl Ether	59	3.230	3.224	(0.400)	83670	23.5660	23.2(R)	
8 Tertiary-butyl alcohol	59	4.724	4.710	(0.584)	72730	162.476	160(R)	
9 1,1-Dichloroethene	96	3.466	3.459	(0.429)	137074	39.1647	38.5	
10 Carbon Disulfide	76	3.509	3.502	(0.434)	440565	38.6677	38.0	
11 Freon-113	151	3.509	3.502	(0.434)	136841	54.5780	53.7	
12 Iodomethane	142	3.652	3.638	(0.452)	105652	40.5128	39.8	
13 Acrolein	56	3.895	3.881	(0.482)	8492	11.4197	11.2(aR)	
14 Methylene Chloride	84	4.203	4.189	(0.520)	116297	26.0525	25.6(R)	
15 Acetone	43	4.288	4.274	(0.530)	52326	32.4497	31.9	
16 Isobutyl Alcohol	43	8.363	8.342	(1.034)	131700	570.950	562(R)	
17 trans-1,2-Dichloroethene	96	4.424	4.410	(0.547)	133311	35.5568	35.0(R)	
18 Allyl Chloride	41	4.060	4.053	(0.502)	217904	36.5813	36.0	
19 Methyl tert-butyl ether	73	4.581	4.567	(0.567)	190529	18.8809	18.6(R)	
20 Acetonitrile	39	4.989	4.968	(0.617)	37096	261.848	258(R)	
21 Di-isopropyl ether	45	5.175	5.161	(0.640)	325295	25.1053	24.7(R)	

Data File: \\target_server\gg\chem\gcms-w.i\W052218.b\W4113.D
Report Date: 25-May-2018 12:31

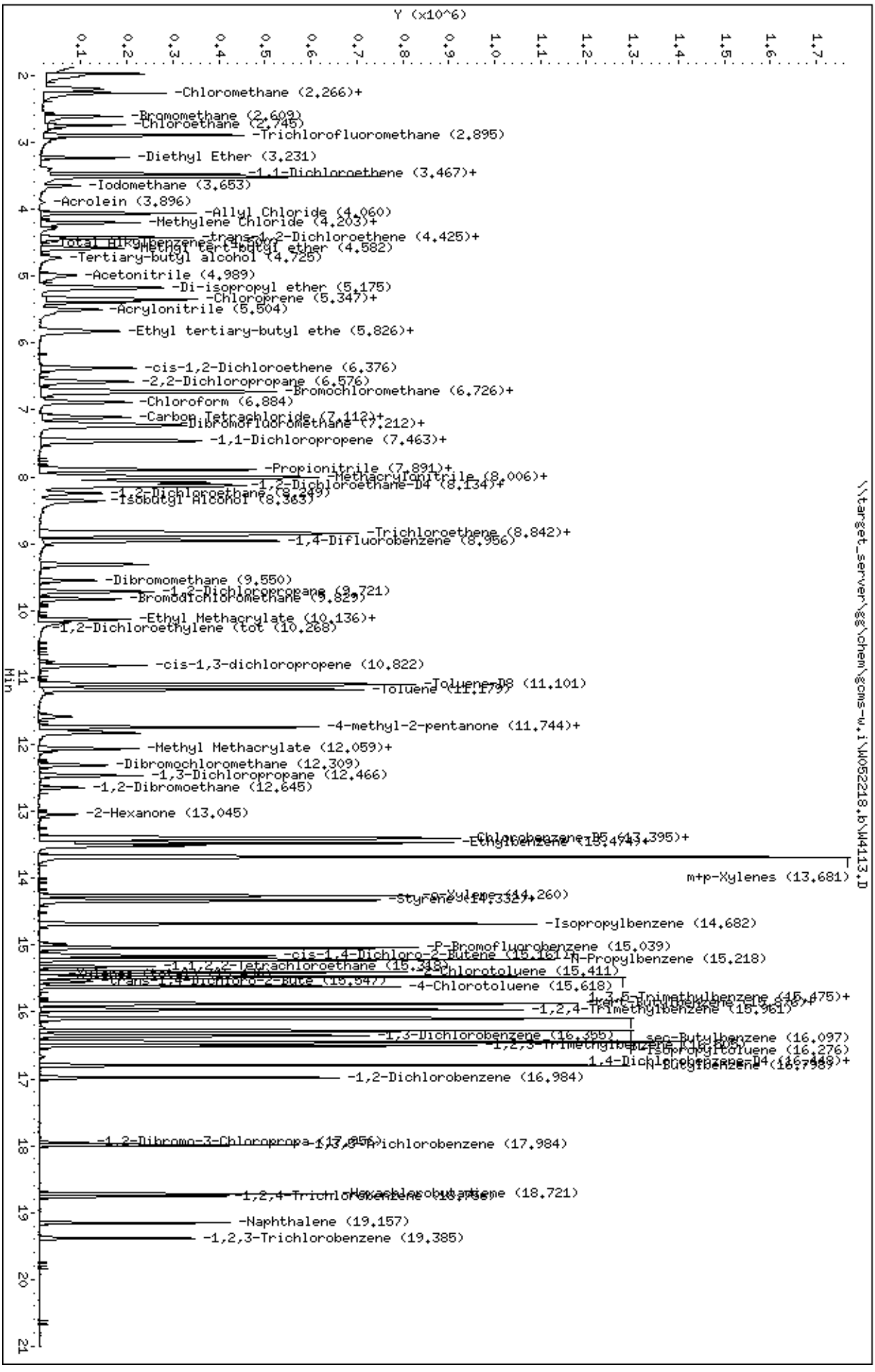
		Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/kg)	CONCENTRATIONS FINAL (ug/Kgdrywt)	REVIEW COD
	22	Chloroprene	53	5.346	5.332	(0.661)	254128	44.5935	43.9	
	23	Propionitrile	54	7.984	7.970	(0.988)	127952	175.870	173(R)	
	24	Methacrylonitrile	41	8.005	7.998	(0.990)	365364	124.172	122(R)	
	25	1,1-Dichloroethane	63	5.389	5.375	(0.667)	240213	34.5410	34.0(R)	
	26	Acrylonitrile	52	5.503	5.482	(0.681)	122141	87.1862	85.8(R)	
	27	Ethyl tertiary-butyl ether	59	5.825	5.804	(0.721)	187291	21.9787	21.6(R)	
	28	Vinyl Acetate	43	5.818	5.847	(0.650)	24808	2.84863	2.8(aR)	
	29	cis-1,2-Dichloroethene	96	6.376	6.362	(0.789)	119487	28.6567	28.2(R)	
M	30	1,2-Dichloroethylene (total)	96				252798	64.2135	63.2(R)	
	31	Methyl Methacrylate	41	12.108	12.094	(1.352)	9969	2.43329	2.4(aR)	
	32	2,2-Dichloropropane	77	6.576	6.562	(0.813)	131834	36.6031	36.0	
	33	Bromochloromethane	128	6.747	6.726	(0.835)	45342	24.0114	23.6(R)	
	34	Chloroform	83	6.883	6.869	(0.851)	199785	29.6142	29.1(R)	
	35	Carbon Tetrachloride	117	7.105	7.091	(0.793)	163380	41.4733	40.8	
	36	Tetrahydrofuran	42	7.205	7.162	(0.891)	32441	20.2178	19.9(aR)	
$	37	Dibromofluoromethane	113	7.212	7.198	(0.892)	142865	54.0222	53.1	
	38	1,1,1-Trichloroethane	97	7.240	7.226	(0.896)	205521	38.0618	37.4	
	39	1,1-Dichloropropene	75	7.455	7.448	(0.832)	208350	38.1046	37.5	
	40	2-Butanone	43	7.483	7.455	(0.926)	52860	21.3079	21.0(aR)	
	41	Benzene	78	7.891	7.877	(0.881)	512058	30.5407	30.0(R)	
*	42	Pentafluorobenzene	168	8.084	8.070	(1.000)	291520	50.0000		
	43	Cyclohexane	56	6.719	6.705	(0.831)	291287	44.5188	43.8	
	44	Ethyl Methacrylate	69	10.128	10.114	(1.131)	85984	28.6983	28.2(R)	
$	45	1,2-Dichloroethane-D4	65	8.134	8.119	(1.006)	193082	55.5902	54.7	
	46	Tertiary-amyl methyl ether	73	8.127	8.113	(1.005)	164250	20.2894	20.0(R)	
	47	1,2-Dichloroethane	62	8.248	8.234	(0.921)	122428	21.1442	20.8(R)	
	48	Trichloroethene	95	8.870	8.856	(0.990)	141799	34.6893	34.1(R)	
*	49	1,4-Difluorobenzene	114	8.956	8.942	(1.000)	473985	50.0000		
	50	Dibromomethane	93	9.549	9.528	(1.066)	50887	19.7801	19.4(R)	
	51	1,2-Dichloropropane	63	9.714	9.707	(1.085)	107088	25.0463	24.6(R)	
	52	Bromodichloromethane	83	9.828	9.814	(1.097)	130947	24.5423	24.1(R)	
	53	cis-1,3-dichloropropene	75	10.822	10.808	(1.208)	135793	20.7592	20.4(R)	
	54	1,4-Dioxane	88	10.178	10.164	(1.136)	82701	1229.96	1210	
$	55	Toluene-D8	98	11.100	11.094	(1.239)	600453	50.4695	49.6	
	57	Toluene	92	11.179	11.165	(1.248)	319099	30.9202	30.4(R)	
	58	4-methyl-2-pentanone	43	11.801	11.787	(1.318)	89975	16.6339	16.4(aR)	
	59	Tetrachloroethene	164	11.744	11.730	(0.877)	143527	45.0971	44.4	
	60	trans-1,3-Dichloropropene	75	11.829	11.815	(1.321)	103571	19.4506	19.1(R)	
	61	1,1,2-Trichloroethane	83	12.058	12.051	(1.346)	67242	20.5183	20.2(R)	
	62	Dibromochloromethane	129	12.308	12.294	(0.919)	85583	21.2723	20.9(R)	
	63	1,3-Dichloropropane	76	12.466	12.452	(0.931)	134879	19.4462	19.1(R)	
	64	1,2-Dibromoethane	107	12.644	12.638	(1.412)	71649	18.5912	18.3(R)	
	65	2-Hexanone	43	13.045	13.031	(0.974)	63099	16.5213	16.2(aR)	
*	66	Chlorobenzene-D5	117	13.395	13.381	(1.000)	459563	50.0000		
	67	Chlorobenzene	112	13.416	13.409	(1.002)	307228	26.6294	26.2(R)	
	68	Ethylbenzene	106	13.473	13.460	(1.006)	194162	30.5317	30.0(R)	
	69	1,1,1,2-Tetrachloroethane	131	13.516	13.502	(1.009)	91161	24.3453	23.9(R)	
M	70	Xylenes (total)	106				709531	90.7968	89.3(R)	
	71	m+p-Xylenes	106	13.681	13.674	(1.021)	491992	62.9445	61.9(R)	
	72	o-Xylene	106	14.260	14.253	(1.065)	217539	27.8522	27.4(R)	
	73	Styrene	104	14.331	14.324	(1.070)	338145	25.7999	25.4(R)	
	74	Bromoform	173	14.353	14.339	(1.072)	55478	18.3376	18.0(R)	
	75	Isopropylbenzene	105	14.682	14.675	(0.893)	666029	35.0689	34.5	
$	76	P-Bromofluorobenzene	95	15.039	15.032	(1.679)	241295	48.0057	47.2	

Data File: \\target_server\gg\chem\gcms-w.i\W052218.b\W4113.D
Report Date: 25-May-2018 12:31

			QUANT SIG					CONCENTRATIONS		
		Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN (ug/kg)	FINAL (ug/Kgdrywt)	REVIEW COD
	77	cis-1,4-Dichloro-2-Butene	53	15.139	15.132	(0.920)	30524	18.6127	18.3(R)	
	78	trans-1,4-Dichloro-2-Butene	53	15.546	15.532	(0.945)	23375	18.0457	17.7(R)	
	79	Bromobenzene	156	15.168	15.154	(0.922)	121453	22.7140	22.3(R)	
	80	N-Propylbenzene	91	15.218	15.211	(0.925)	826950	33.6950	33.1(R)	
	81	1,1,2,2-Tetrachloroethane	83	15.318	15.311	(0.931)	107884	17.6148	17.3(R)	
	82	1,3,5-Trimethylbenzene	105	15.475	15.468	(0.941)	537485	30.7981	30.3(R)	
	83	2-Chlorotoluene	91	15.411	15.397	(0.937)	416121	27.8612	27.4(R)	
	84	1,2,3-Trichloropropane	75	15.482	15.475	(0.941)	96756	18.2032	17.9(R)	
	85	4-Chlorotoluene	91	15.618	15.611	(0.950)	413205	26.4434	26.0(R)	
	86	tert-Butylbenzene	119	15.875	15.868	(0.965)	526975	29.7874	29.3(R)	
	87	Pentachloroethane	117	15.890	15.883	(0.966)	55381	16.5529	16.3(R)	
	88	1,2,4-Trimethylbenzene	105	15.961	15.954	(0.970)	511782	27.8118	27.4(R)	
	89	P-Isopropyltoluene	119	16.276	16.268	(0.990)	649040	33.5239	33.0(R)	
	90	1,3-Dichlorobenzene	146	16.354	16.347	(0.994)	255263	24.0404	23.6(R)	
*	91	1,4-Dichlorobenzene-D4	152	16.447	16.440	(1.000)	292193	50.0000		
	92	1,4-Dichlorobenzene	146	16.469	16.454	(1.001)	246287	22.6695	22.3(R)	
	93	N-Butylbenzene	91	16.797	16.783	(1.021)	629683	34.6986	34.1(R)	
	94	sec-Butylbenzene	105	16.097	16.082	(0.979)	819613	35.5344	35.0(R)	
	95	1,2-Dichlorobenzene	146	16.983	16.969	(1.033)	220381	20.6809	20.3(R)	
	96	1,2-Dibromo-3-Chloropropane	75	17.955	17.941	(1.092)	23350	16.8930	16.6(R)	
	97	1,3,5-Trichlorobenzene	180	17.984	17.977	(2.225)	153681	21.7039	21.3(R)	
	98	Hexachlorobutadiene	225	18.720	18.713	(1.138)	95618	29.0951	28.6(R)	
	99	1,2,4-Trichlorobenzene	180	18.763	18.749	(1.141)	106504	17.1228	16.8(R)	
	100	1,2,3-Trimethylbenzene	105	16.504	16.489	(2.042)	479788	26.3266	25.9(R)	
	101	Naphthalene	128	19.156	19.142	(1.165)	262520	15.2914	15.0(R)	
	102	1,2,3-Trichlorobenzene	180	19.385	19.371	(1.179)	91251	15.7947	15.5(R)	
	103	Methyl Acetate	43	4.453	4.439	(0.551)	40528	10.6913	10.5(R)	
	104	Methylcyclohexane	83	8.842	8.828	(1.094)	348910	53.7651	52.9	
M	153	Total Alkylbenzenes	100				4501528	225.849	222(R)	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
R - Spike/Surrogate failed recovery limits.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Date : 22-MAY-2018 16:51
Client ID: CHAAP-21B-DS-SB11-5
Sample Info: WG228846-7,SL4180
Column phase: RTX-VMS
Instrument: gcms-w.i
Operator: JSS
Column diameter: 0.18
Y (x10^6)
Min
\\target_server\gg\chem\gcms-w.i\W052218.b\W4113.D
-Chloromethane (2.266)+
-Bromomethane (2.603)
-Chloroethane (2.745)
-Trichlorofluoromethane (2.895)
-Diethyl Ether (3.231)
-1,1-Dichloroethene (3.467)+
-Iodomethane (3.653)
-Acrolein (3.896)
-Allyl Chloride (4.060)
-Methylene Chloride (4.203)+
-trans-1,2-Dichloroethene (4.425)+
-Methyl tert-butyl ether (4.582)
-Tertiary-butyl alcohol (4.725)
-Acetonitrile (4.989)
-Di-isopropyl ether (5.175)
-Chloroprene (5.347)+
-Acrylonitrile (5.504)
-Ethyl tertiary-butyl ethe (5.826)+
-cis-1,2-Dichloroethene (6.376)
-2,2-Dichloropropane (6.576)
-Bromochloromethane (6.726)+
-Chloroform (6.884)
-Carbon Tetrachloride (7.112)+
-Dibromofluoromethane (7.212)+
-1,1-Dichloropropene (7.463)+
-Propionitrile (7.891)+
-Methacrylonitrile (8.006)+
-1,2-Dichloroethane-D4 (8.134)+
-1,2-Dichloroethane (8.249)
-Isobutyl Alcohol (8.363)
-Trichloroethene (8.842)+
-1,4-Difluorobenzene (8.956)
-Dibromomethane (9.550)
-1,2-Dichloropropane (9.721)
-Bromodichloromethane (9.829)
-Ethyl Methacrylate (10.136)+
-1,2-Dichloroethylene (tot (10.268)
-cis-1,3-dichloropropene (10.822)
-Toluene-D8 (11.101)
-Toluene (11.179)
-4-methyl-2-pentanone (11.744)+
-Methyl Methacrylate (12.059)+
-Dibromochloromethane (12.309)
-1,3-Dichloropropane (12.466)
-1,2-Dibromoethane (12.645)
-2-Hexanone (13.045)
-Chlorobenzene-D5 (13.395)+
-Ethylbenzene (13.474)+
m+p-Xylenes (13.681)
-o-Xylene (14.260)
-Styrene (14.332)+
-Isopropylbenzene (14.682)
-P-Bromofluorobenzene (15.039)
-cis-1,4-Dichloro-2-Butene (15.161)+
-N-Propylbenzene (15.218)
-1,1,2,2-Tetrachloroethane (15.348)
-2-Chlorotoluene (15.411)
-4-Chlorotoluene (15.618)
-1,2,4-Trimethylbenzene (15.961)
-1,3-Dichlorobenzene (16.355)
-sec-Butylbenzene (16.097)
-1,4-Dichlorobenzene-D4 (16.448)+
-1,2-Dichlorobenzene (16.984)
-1,2,4-Trichlorobenzene (17.984)
-Hexachlorobutadiene (18.721)
-Naphthalene (19.157)
-1,2,3-Trichlorobenzene (19.385)

Katahdin
ANALYTICAL SERVICES

MS/MSD Recovery Report

MS ID: WG228846-8
MSD ID: WG228846-9
Sample ID: SL4180-8
Client ID: CHAAP-21B-DS-SS07
Project:
SDG: SL4180
MS File ID: W4114.D

Received Date:
Extract Date: 22-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228846
Report Date: 25-MAY-18
MSD File ID: W4115.D

Analysis Date: 22-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 81.

Compound	MS Spike	MSD Spike	Conc Units	Samp Conc	MS Conc	MSD Conc	MS Rec (%)	MSD Rec (%)	RPD (%)	RPD Limit	Limits
1,1,1,2-Tetrachloroethane	54.0	61.0	ug/Kgdrywt	UM2.8	47.	47.	86.3	77.5*	1	20	78-125
1,1,1-Trichloroethane	54.0	61.0	ug/Kgdrywt	U2.8	51.	48.	94.4	79.0	6	20	73-130
1,1,2,2-Tetrachloroethane	54.0	61.0	ug/Kgdrywt	U2.8	51.	50.	94.4	82.6	1	20	70-125
Freon-113	54.0	61.0	ug/Kgdrywt	U2.8	58.	73.	106.	119.	23*	20	66-136
1,1,2-Trichloroethane	54.0	61.0	ug/Kgdrywt	UM2.8	43.	42.	79.1	68.4*	2	20	78-125
1,1-Dichloroethane	54.0	61.0	ug/Kgdrywt	U2.8	55.	52.	101.	85.4	5	20	76-125
1,1-Dichloroethene	54.0	61.0	ug/Kgdrywt	U2.8	50.	50.	92.8	81.5	1	20	70-131
1,1-Dichloropropene	54.0	61.0	ug/Kgdrywt	UM2.8	44.	45.	81.7	74.3*	3	20	76-125
1,2,3-Trichlorobenzene	54.0	61.0	ug/Kgdrywt	UMM2.8	20.	20.	37.0*	33.6*	2	20	66-130
1,2,3-Trichloropropane	54.0	61.0	ug/Kgdrywt	U2.8	49.	48.	90.7	78.7	2	20	73-125
1,2,4-Trichlorobenzene	54.0	61.0	ug/Kgdrywt	UMM2.8	22.	22.	41.1*	36.7*	1	20	67-129
1,2,4-Trimethylbenzene	54.0	61.0	ug/Kgdrywt	U2.8	44.	49.	81.7	80.0	10	20	75-125
1,2-Dibromo-3-Chloropropane	54.0	61.0	ug/Kgdrywt	U2.8	40.	41.	74.1	67.2	2	20	61-132
1,2-Dibromoethane	54.0	61.0	ug/Kgdrywt	UMM2.8	38.	38.	71.1*	62.0*	2	20	78-125
1,2-Dichlorobenzene	54.0	61.0	ug/Kgdrywt	UMM2.8	38.	39.	70.0*	63.6*	3	20	78-125
1,2-Dichloroethane	54.0	61.0	ug/Kgdrywt	UM2.8	46.	43.	85.2	70.6*	6	20	73-128
1,2-Dichloropropane	54.0	61.0	ug/Kgdrywt	UM2.8	46.	45.	84.8	73.3*	2	20	76-125
1,3,5-Trimethylbenzene	54.0	61.0	ug/Kgdrywt	U2.8	45.	52.	83.9	85.9	14	20	73-125
1,3-Dichlorobenzene	54.0	61.0	ug/Kgdrywt	UMM2.8	38.	41.	70.6*	66.9*	7	20	77-125
1,3-Dichloropropane	54.0	61.0	ug/Kgdrywt	UM2.8	45.	45.	83.5	73.8*	0	20	77-125
1,4-Dichlorobenzene	54.0	61.0	ug/Kgdrywt	UMM2.8	36.	38.	66.8*	63.0*	6	20	75-120
2,2-Dichloropropane	54.0	61.0	ug/Kgdrywt	U2.8	51.	48.	94.1	78.7	6	20	67-133
2-Butanone	54.0	61.0	ug/Kgdrywt	UM14	32.	30.	59.4	48.7*	8	20	51-148
2-Chlorotoluene	54.0	61.0	ug/Kgdrywt	U2.8	45.	50.	83.3	81.3	10	20	75-125
2-Hexanone	54.0	61.0	ug/Kgdrywt	UMM14	20.	16.	37.8*	25.7*	26*	20	53-145
4-Chlorotoluene	54.0	61.0	ug/Kgdrywt	U2.8	42.	46.	77.4	75.2	9	20	72-125
P-Isopropyltoluene	54.0	61.0	ug/Kgdrywt	U2.8	40.	50.	73.7	82.3	23*	20	73-127
4-Methyl-2-Pentanone	54.0	61.0	ug/Kgdrywt	UMM14	30.	27.	56.5*	43.8*	13	20	65-135
Acetone	54.0	61.0	ug/Kgdrywt	U14	40.	38.	74.2	62.1	6	20	36-164
Benzene	54.0	61.0	ug/Kgdrywt	UM2.8	44.	45.	82.2	73.6*	1	20	77-125
Bromobenzene	54.0	61.0	ug/Kgdrywt	UM2.8	43.	45.	80.2	73.6*	4	20	78-125
Bromochloromethane	54.0	61.0	ug/Kgdrywt	U2.8	54.	50.	99.2	82.3	6	20	78-125
Bromodichloromethane	54.0	61.0	ug/Kgdrywt	UM2.8	45.	44.	82.6	72.4*	1	20	75-127

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ANALYTICAL SERVICES

MS/MSD Recovery Report

MS ID: WG228846-8
MSD ID: WG228846-9
Sample ID: SL4180-8
Client ID: CHAAP-21B-DS-SS07
Project:
SDG: SL4180
MS File ID: W4114.D

Received Date:
Extract Date: 22-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228846
Report Date: 25-MAY-18
MSD File ID: W4115.D

Analysis Date: 22-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 81.

Compound	MS Spike	MSD Spike	Conc Units	Samp Conc	MS Conc	MSD Conc	MS Rec (%)	MSD Rec (%)	RPD (%)	RPD Limit	Limits
Bromoform	54.0	61.0	ug/Kgdrywt	UMM2.8	34.	31.	62.2*	51.3*	7	20	67-132
Bromomethane	54.0	61.0	ug/Kgdrywt	U5.5	35.	38.	65.4	62.4	8	20	53-143
Carbon Disulfide	54.0	61.0	ug/Kgdrywt	U2.8	50.	49.	92.0	80.2	2	20	63-132
Carbon Tetrachloride	54.0	61.0	ug/Kgdrywt	U2.8	47.	46.	87.0	76.1	1	20	70-135
Chlorobenzene	54.0	61.0	ug/Kgdrywt	UMM2.8	41.	44.	75.6*	72.0*	7	20	79-125
Dibromochloromethane	54.0	61.0	ug/Kgdrywt	UM2.8	43.	43.	78.9	70.5*	1	20	74-126
Chloroethane	54.0	61.0	ug/Kgdrywt	UM5.5	77.	74.	142.*	121.	4	20	59-139
Chloroform	54.0	61.0	ug/Kgdrywt	U2.8	50.	49.	93.5	80.8	2	20	78-125
Chloromethane	54.0	61.0	ug/Kgdrywt	U5.5	66.	63.	123.	103.	6	20	50-136
cis-1,2-Dichloroethene	54.0	61.0	ug/Kgdrywt	U2.8	49.	47.	91.1	77.7	4	20	77-125
cis-1,3-Dichloropropene	54.0	61.0	ug/Kgdrywt	UMM2.8	32.	32.	59.1*	52.4*	0	20	74-126
Dibromomethane	54.0	61.0	ug/Kgdrywt	UM2.8	50.	47.	91.8	76.9*	6	20	78-125
Dichlorodifluoromethane	54.0	61.0	ug/Kgdrywt	U5.5	73.	68.	135.	112.	6	20	29-149
Ethylbenzene	54.0	61.0	ug/Kgdrywt	UMM2.8	40.	45.	74.6*	73.3*	10	20	76-125
Hexachlorobutadiene	54.0	61.0	ug/Kgdrywt	UMM2.8	25.	32.	45.9*	52.1*	25*	20	61-135
Isopropylbenzene	54.0	61.0	ug/Kgdrywt	U2.8	49.	58.	91.5	95.2	16	20	68-134
m+p-Xylenes	110.	120.	ug/Kgdrywt	UMM5.5	79.	91.	71.9*	75.8*	14	20	77-125
Methyl tert-butyl Ether	54.0	61.0	ug/Kgdrywt	U2.8	49.	48.	90.9	77.9	3	20	73-125
Methylene Chloride	54.0	61.0	ug/Kgdrywt	U14	52.	49.	95.9	80.8	5	20	70-128
N-Butylbenzene	54.0	61.0	ug/Kgdrywt	UM2.8	35.	46.	65.2*	75.9	27*	20	70-128
N-Propylbenzene	54.0	61.0	ug/Kgdrywt	U2.8	42.	52.	78.7	85.6	20	20	73-125
Naphthalene	54.0	61.0	ug/Kgdrywt	UMM2.8	18.	18.	34.1*	29.3*	3	20	62-129
o-Xylene	54.0	61.0	ug/Kgdrywt	UMM2.8	40.	45.	74.1*	73.6*	12	20	77-125
sec-Butylbenzene	54.0	61.0	ug/Kgdrywt	U2.8	40.	51.	73.7	83.8	25*	20	73-126
Styrene	54.0	61.0	ug/Kgdrywt	UMM2.8	34.	36.	62.2*	59.7*	8	20	76-125
tert-Butylbenzene	54.0	61.0	ug/Kgdrywt	U2.8	44.	53.	81.1	87.2	19	20	73-125
Tetrachloroethene	54.0	61.0	ug/Kgdrywt	U2.8	44.	50.	81.1	82.0	13	20	73-128
Toluene	54.0	61.0	ug/Kgdrywt	UMM2.8	40.	41.	74.2*	67.9*	3	20	77-125
trans-1,2-Dichloroethene	54.0	61.0	ug/Kgdrywt	U2.8	50.	50.	92.4	81.5	0	20	74-125
trans-1,3-Dichloropropene	54.0	61.0	ug/Kgdrywt	UMM2.8	36.	34.	67.6*	56.6*	6	20	71-130
Trichloroethene	54.0	61.0	ug/Kgdrywt	UM2.8	43.	45.	79.4	73.1*	4	20	77-125
Trichlorofluoromethane	54.0	61.0	ug/Kgdrywt	U5.5	62.	59.	114.	97.4	4	20	62-140
Vinyl Chloride	54.0	61.0	ug/Kgdrywt	U5.5	66.	62.	121.	102.	5	20	56-135

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MS/MSD Recovery Report

MS ID: WG228846-8
MSD ID: WG228846-9
Sample ID: SL4180-8
Client ID: CHAAP-21B-DS-SS07
Project:
SDG: SL4180
MS File ID: W4114.D

Received Date:
Extract Date: 22-MAY-18
Extracted By: JSS
Extraction Method: SW846 5035
Lab Prep Batch: WG228846
Report Date: 25-MAY-18
MSD File ID: W4115.D

Analysis Date: 22-MAY-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: SL
% Solids: 81.

1,2-Dichloroethane-D4	104.	103.	71-136
p-Bromofluorobenzene	81.4	81.2	79-125
Dibromofluoromethane	106.	107.	78-125
Toluene-D8	99.6	98.0	85-125

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Data File: \\target_server\gg\chem\gcms-w.i\W052218.b\W4114.D
Report Date: 25-May-2018 12:31

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W052218.b\W4114.D
Lab Smp Id: WG228846-8 Client Smp ID: CHAAP-21B-DS-SS07MS
Inj Date : 22-MAY-2018 17:28 MS Autotune Date: 10-APR-2016 11:00
Operator : JSS Inst ID: gcms-w.i
Smp Info : WG228846-8,SL4180
Misc Info : WG228846,WG228751-4,SL4180-8
Comment : SW846 5035
Method : \\target_server\gg\chem\gcms-w.i\W052218.b\W8SDI(13)D.m
Meth Date : 23-May-2018 07:11 jsampson Quant Type: ISTD
Cal Date : 21-MAY-2018 11:44 Cal File: W4068.D
Als bottle: 15 QC Sample: MS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: T6-O360

Concentration Formula: Amt * DF * (100/(100-M))*(Vt/Ws) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
M	18.848	% Moisture
Vt	5.000	Volume of DI Water (mL)
Ws	5.660	Weight of Sample (g)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/kg)	FINAL (ug/Kgdrywt)	REVIEW COD
1 Dichlorodifluoromethane	85	1.969	1.966	(0.244)	312259	66.7635	72.7	
2 Chloromethane	50	2.205	2.187	(0.273)	358437	60.9972	66.4	
3 Vinyl chloride	62	2.263	2.259	(0.280)	323551	60.2361	65.6	
4 Bromomethane	94	2.613	2.609	(0.323)	87734	32.4232	35.3	
5 Chloroethane	64	2.749	2.738	(0.340)	192785	70.4873	76.7(R)	
6 Trichlorofluoromethane	101	2.892	2.888	(0.358)	391772	56.5939	61.6	
7 Diethyl Ether	59	3.235	3.224	(0.400)	175876	48.9609	53.3	
8 Tertiary-butyl alcohol	59	4.729	4.710	(0.585)	100154	216.938	236	
9 1,1-Dichloroethene	96	3.471	3.459	(0.429)	163052	46.0460	50.1	
10 Carbon Disulfide	76	3.513	3.502	(0.434)	525952	45.6257	49.7	
11 Freon-113	151	3.513	3.502	(0.434)	133942	52.8012	57.5	
12 Iodomethane	142	3.656	3.638	(0.452)	62454	23.6701	25.8(R)	
13 Acrolein	56	3.899	3.881	(0.482)	11471	15.2466	16.6(aR)	
14 Methylene Chloride	84	4.207	4.189	(0.520)	214760	47.5511	51.8	
15 Acetone	43	4.293	4.274	(0.531)	60143	36.8641	40.1	
16 Isobutyl Alcohol	43	8.367	8.342	(1.034)	24062	189.931	207(R)	
17 trans-1,2-Dichloroethene	96	4.428	4.410	(0.548)	174053	45.8842	49.9	
18 Allyl Chloride	41	4.064	4.053	(0.502)	275159	45.6566	49.7	
19 Methyl tert-butyl ether	73	4.586	4.567	(0.567)	460749	45.1286	49.1	
20 Acetonitrile	39	5.179	4.968	(0.640)	53977	376.580	410	
21 Di-isopropyl ether	45	5.179	5.161	(0.640)	637068	48.5960	52.9	

Data File: \\target_server\gg\chem\gcms-w.i\W052218.b\W4114.D
Report Date: 25-May-2018 12:31

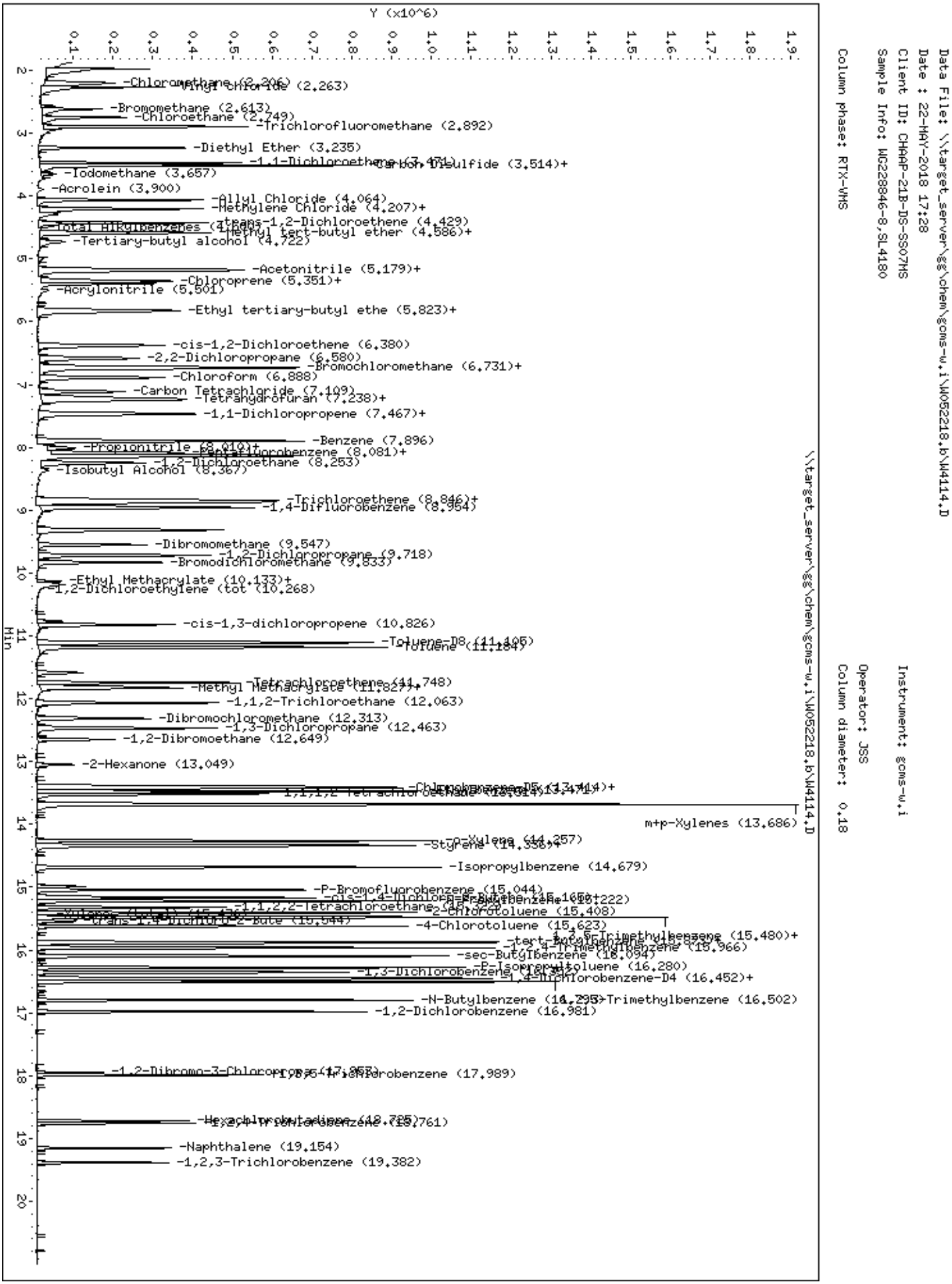
		Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/kg)	FINAL (ug/Kgdrywt)	REVIEW COD
	22	Chloroprene	53	5.350	5.332	(0.662)	249714	43.3099	47.1	
	23	Propionitrile	54	7.988	7.970	(0.988)	30879	41.9501	45.7(aR)	
	24	Methacrylonitrile	41	8.017	7.998	(0.991)	54063	18.1603	19.8(aR)	
	25	1,1-Dichloroethane	63	5.386	5.375	(0.666)	352877	50.1519	54.6	
	26	Acrylonitrile	52	5.501	5.482	(0.680)	19326	13.6350	14.8(aR)	
	27	Ethyl tertiary-butyl ether	59	5.829	5.804	(0.721)	393012	45.5845	49.6	
	28	Vinyl Acetate	43	5.829	5.847	(0.651)	49030	5.40600	5.9(R)	
	29	cis-1,2-Dichloroethene	96	6.380	6.362	(0.789)	190818	45.2326	49.2	
M	30	1,2-Dichloroethylene (total)	96				364871	91.1168	99.2	
	31	Methyl Methacrylate	41	11.805	12.094	(1.319)	36989	8.66933	9.4(R)	
	32	2,2-Dichloropropane	77	6.580	6.562	(0.814)	170216	46.7107	50.8	
	33	Bromochloromethane	128	6.744	6.726	(0.834)	94118	49.2623	53.6	
	34	Chloroform	83	6.887	6.869	(0.852)	316501	46.3701	50.5	
	35	Carbon Tetrachloride	117	7.109	7.091	(0.794)	177170	43.1847	47.0	
	36	Tetrahydrofuran	42	7.195	7.162	(0.890)	70015	43.1277	46.9	
$	37	Dibromofluoromethane	113	7.216	7.198	(0.892)	142569	53.2841	58.0	
	38	1,1,1-Trichloroethane	97	7.245	7.226	(0.896)	255994	46.8585	51.0	
	39	1,1-Dichloropropene	75	7.459	7.448	(0.833)	230600	40.4961	44.1	
	40	2-Butanone	43	7.481	7.455	(0.925)	74088	29.5181	32.1	
	41	Benzene	78	7.895	7.877	(0.882)	712804	40.8225	44.4	
*	42	Pentafluorobenzene	168	8.088	8.070	(1.000)	294946	50.0000		
	43	Cyclohexane	56	6.723	6.705	(0.831)	318497	48.1120	52.4	
	44	Ethyl Methacrylate	69	10.132	10.114	(1.132)	27768	8.89923	9.7(R)	
$	45	1,2-Dichloroethane-D4	65	8.131	8.119	(1.005)	183033	52.0849	56.7	
	46	Tertiary-amyl methyl ether	73	8.131	8.113	(1.005)	356956	43.5817	47.4	
	47	1,2-Dichloroethane	62	8.253	8.234	(0.922)	255079	42.3015	46.0	
	48	Trichloroethene	95	8.874	8.856	(0.991)	167619	39.3746	42.9	
*	49	1,4-Difluorobenzene	114	8.953	8.942	(1.000)	493622	50.0000		
	50	Dibromomethane	93	9.546	9.528	(1.066)	122106	45.5752	49.6	
	51	1,2-Dichloropropane	63	9.718	9.707	(1.085)	187563	42.1231	45.8	
	52	Bromodichloromethane	83	9.832	9.814	(1.098)	227703	40.9788	44.6	
	53	cis-1,3-dichloropropene	75	10.826	10.808	(1.209)	199584	29.2973	31.9(R)	
	54	1,4-Dioxane	88	10.182	10.164	(1.137)	90648	1294.52	1410	
$	55	Toluene-D8	98	11.105	11.094	(1.240)	616917	49.7906	54.2	
	57	Toluene	92	11.183	11.165	(1.249)	395883	36.8344	40.1(R)	
	58	4-methyl-2-pentanone	43	11.798	11.787	(1.318)	157731	28.0000	30.5(R)	
	59	Tetrachloroethene	164	11.748	11.730	(0.877)	123967	40.2138	43.8	
	60	trans-1,3-Dichloropropene	75	11.834	11.815	(1.322)	186050	33.5501	36.5(R)	
	61	1,1,2-Trichloroethane	83	12.062	12.051	(1.347)	133923	39.2397	42.7	
	62	Dibromochloromethane	129	12.313	12.294	(0.919)	152633	39.1678	42.6	
	63	1,3-Dichloropropane	76	12.470	12.452	(0.931)	278404	41.4400	45.1	
	64	1,2-Dibromoethane	107	12.649	12.638	(1.413)	141726	35.3116	38.4(R)	
	65	2-Hexanone	43	13.049	13.031	(0.974)	69262	18.7228	20.4(aR)	
*	66	Chlorobenzene-D5	117	13.392	13.381	(1.000)	445134	50.0000		
	67	Chlorobenzene	112	13.421	13.409	(1.002)	418815	37.4781	40.8(R)	
	68	Ethylbenzene	106	13.478	13.460	(1.006)	227978	37.0113	40.3(R)	
	69	1,1,1,2-Tetrachloroethane	131	13.513	13.502	(1.009)	155284	42.8141	46.6	
M	70	Xylenes (total)	106				828216	109.422	119(R)	
	71	m+p-Xylenes	106	13.685	13.674	(1.022)	550093	72.6591	79.1(R)	
	72	o-Xylene	106	14.264	14.253	(1.065)	278123	36.7633	40.0(R)	
	73	Styrene	104	14.335	14.324	(1.070)	392527	30.9199	33.6(R)	
	74	Bromoform	173	14.350	14.339	(1.072)	90516	30.8888	33.6(R)	
	75	Isopropylbenzene	105	14.679	14.675	(0.892)	668265	45.3472	49.4	
$	76	P-Bromofluorobenzene	95	15.036	15.032	(1.679)	213089	40.7076	44.3	

Data File: \\target_server\gg\chem\gcms-w.i\W052218.b\W4114.D
Report Date: 25-May-2018 12:31

		QUANT SIG					CONCENTRATIONS ON-COLUMN	FINAL	
	Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	(ug/kg)	(ug/Kgdrywt)	REVIEW COD
	77 cis-1,4-Dichloro-2-Butene	53	15.143	15.132	(0.920)	24656	19.3760	21.1(R)	
	78 trans-1,4-Dichloro-2-Butene	53	15.543	15.532	(0.945)	20117	19.7628	21.5(R)	
	79 Bromobenzene	156	15.165	15.154	(0.922)	164883	39.7405	43.3	
	80 N-Propylbenzene	91	15.222	15.211	(0.925)	743039	39.0185	42.5	
	81 1,1,2,2-Tetrachloroethane	83	15.322	15.311	(0.931)	222880	46.8991	51.0	
	82 1,3,5-Trimethylbenzene	105	15.479	15.468	(0.941)	564003	41.6497	45.3	
	83 2-Chlorotoluene	91	15.408	15.397	(0.937)	478672	41.3038	45.0	
	84 1,2,3-Trichloropropane	75	15.479	15.475	(0.941)	185523	44.9822	49.0	
	85 4-Chlorotoluene	91	15.622	15.611	(0.950)	465125	38.3613	41.8	
	86 tert-Butylbenzene	119	15.872	15.868	(0.965)	552270	40.2315	43.8	
	87 Pentachloroethane	117	15.894	15.883	(0.966)	109299	42.1019	45.8	
	88 1,2,4-Trimethylbenzene	105	15.965	15.954	(0.970)	578777	40.5348	44.1	
	89 P-Isopropyltoluene	119	16.280	16.268	(0.990)	549007	36.5454	39.8	
	90 1,3-Dichlorobenzene	146	16.351	16.347	(0.994)	288282	34.9899	38.1(R)	
*	91 1,4-Dichlorobenzene-D4	152	16.451	16.440	(1.000)	226724	50.0000		
	92 1,4-Dichlorobenzene	146	16.466	16.454	(1.001)	279539	33.1600	36.1(R)	
	93 N-Butylbenzene	91	16.794	16.783	(1.021)	455207	32.3274	35.2(R)	
	94 sec-Butylbenzene	105	16.094	16.082	(0.978)	655054	36.6007	39.8	
	95 1,2-Dichlorobenzene	146	16.980	16.969	(1.032)	286963	34.7051	37.8(R)	
	96 1,2-Dibromo-3-Chloropropane	75	17.952	17.941	(1.091)	39454	36.7860	40.0	
	97 1,3,5-Trichlorobenzene	180	17.988	17.977	(2.224)	149452	20.8615	22.7(R)	
	98 Hexachlorobutadiene	225	18.724	18.713	(1.138)	58013	22.7498	24.8(R)	
	99 1,2,4-Trichlorobenzene	180	18.760	18.749	(1.140)	98318	20.3711	22.2(R)	
	100 1,2,3-Trimethylbenzene	105	16.501	16.489	(2.040)	622958	33.7855	36.8(R)	
	101 Naphthalene	128	19.153	19.142	(1.164)	225291	16.9123	18.4(R)	
	102 1,2,3-Trichlorobenzene	180	19.382	19.371	(1.178)	82431	18.3881	20.0(R)	
	103 Methyl Acetate	43	4.578	4.439	(0.566)	93738	24.4408	26.6(R)	
	104 Methylcyclohexane	83	8.839	8.828	(1.093)	301421	45.9078	50.0	
M	153 Total Alkylbenzenes	100				4097357	266.908	290(R)	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
R - Spike/Surrogate failed recovery limits.


Data File: \\target_server\gg\chem\gcms-w.i\W052218.b\W4114.D
Date : 22-MAY-2018 17:28
Client ID: CHAAP-21B-DS-SS07MS
Sample Info: WG228846-8,SL4180
Column phase: RTX-VMS
Instrument: gcms-w.i
Operator: JSS
Column diameter: 0.18
Y (x10^6)
Min
\\target_server\gg\chem\gcms-w.i\W052218.b\W4114.D
-Chloromethane (2.206)
-Vinyl chloride (2.263)
-Bromomethane (2.613)
-Chloroethane (2.749)
-Trichlorofluoromethane (2.892)
-Diethyl Ether (3.235)
-1,1-Dichloroethene (3.471)
-Carbon Disulfide (3.514)+
-Iodomethane (3.657)
-Acrolein (3.900)
-Allyl Chloride (4.064)
-Methylene Chloride (4.207)+
-trans-1,2-Dichloroethene (4.429)
-Total Alkylbenzenes (4.[illegible])
-Methyl tert-butyl ether (4.586)+
-Tertiary-butyl alcohol (4.722)
-Acetonitrile (5.179)+
-Chloroprene (5.351)+
-Acrylonitrile (5.501)
-Ethyl tertiary-butyl ethe (5.823)+
-cis-1,2-Dichloroethene (6.380)
-2,2-Dichloropropane (6.580)
-Bromochloromethane (6.731)+
-Chloroform (6.888)
-Carbon Tetrachloride (7.109)
-Tetrahydrofuran (7.238)+
-1,1-Dichloropropene (7.467)+
-Benzene (7.896)
-Propionitrile (8.010)+
-Pentafluorobenzene (8.081)+
-1,2-Dichloroethane (8.253)
-Isobutyl Alcohol (8.367)
-Trichloroethene (8.846)+
-1,4-Difluorobenzene (8.954)
-Dibromomethane (9.547)
-1,2-Dichloropropane (9.718)
-Bromodichloromethane (9.833)
-Ethyl Methacrylate (10.133)+
-1,2-Dichloroethylene (tot (10.268)
-cis-1,3-dichloropropene (10.826)
-Toluene-D8 (11.105)
-Toluene (11.184)
-Tetrachloroethene (11.748)
-Methyl Methacrylate (11.827)+
-1,1,2-Trichloroethane (12.063)
-Dibromochloromethane (12.313)
-1,3-Dichloropropane (12.463)
-1,2-Dibromoethane (12.649)
-2-Hexanone (13.049)
-Chlorobenzene-D5 (13.414)+
1,1,1,2-Tetrachloroethane (13.514)
m+p-Xylenes (13.686)
-o-Xylene (14.257)
-Styrene (14.336)+
-Isopropylbenzene (14.679)
-P-Bromofluorobenzene (15.044)
-cis-1,4-Dichloro-2-Butene (15.165)+
-1,1,2,2-Tetrachloroethane (15.222)
-2-Chlorotoluene (15.408)
-trans-1,4-Dichloro-2-Bute (15.544)
-4-Chlorotoluene (15.623)
-1,3,5-Trimethylbenzene (15.480)+
-tert-Butylbenzene (15.[illegible])
-1,2,4-Trimethylbenzene (15.966)
-sec-Butylbenzene (16.094)
-P-Isopropyltoluene (16.280)
-1,3-Dichlorobenzene (16.[illegible])
-1,4-Dichlorobenzene-D4 (16.452)+
-N-Butylbenzene (16.[illegible])
-1,2,3-Trimethylbenzene (16.502)
-1,2-Dichlorobenzene (16.981)
-1,2-Dibromo-3-Chloropropa (17.957)
-1,3,5-Trichlorobenzene (17.989)
-Hexachlorobutadiene (18.725)
-1,2,4-Trichlorobenzene (18.761)
-Naphthalene (19.154)
-1,2,3-Trichlorobenzene (19.382)

Data File: \\target_server\gg\chem\gcms-w.i\W052218.b\W4115.D
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Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W052218.b\W4115.D
Lab Smp Id: WG228846-9 Client Smp ID: CHAAP-21B-DS-SS07MS
Inj Date : 22-MAY-2018 18:05 MS Autotune Date: 10-APR-2016 11:00
Operator : JSS Inst ID: gcms-w.i
Smp Info : WG228846-9,SL4180
Misc Info : WG228846,WG228751-4,SL4180-8
Comment : SW846 5035
Method : \\target_server\gg\chem\gcms-w.i\W052218.b\W8SDI(13)D.m
Meth Date : 23-May-2018 07:11 jsampson Quant Type: ISTD
Cal Date : 21-MAY-2018 11:44 Cal File: W4068.D
Als bottle: 16 QC Sample: MSD
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: T6-O360

Concentration Formula: Amt * DF * (100/(100-M))*(Vt/Ws) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
M	18.848	% Moisture
Vt	5.000	Volume of DI Water (mL)
Ws	5.060	Weight of Sample (g)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/kg)	FINAL (ug/Kgdrywt)	REVIEW COD
1 Dichlorodifluoromethane	85	1.971	1.966	(0.244)	269668	56.1524	68.4	
2 Chloromethane	50	2.214	2.187	(0.274)	310659	51.4868	62.7	
3 Vinyl chloride	62	2.271	2.259	(0.281)	281446	51.0298	62.1	
4 Bromomethane	94	2.614	2.609	(0.323)	86894	31.2747	38.1	
5 Chloroethane	64	2.750	2.738	(0.340)	172259	60.7062	73.9	
6 Trichlorofluoromethane	101	2.900	2.888	(0.359)	346837	48.7952	59.4	
7 Diethyl Ether	59	3.236	3.224	(0.400)	199384	54.0565	65.8	
8 Tertiary-butyl alcohol	59	4.730	4.710	(0.585)	120400	251.997	307	
9 1,1-Dichloroethene	96	3.472	3.459	(0.429)	148443	40.8264	49.7	
10 Carbon Disulfide	76	3.522	3.502	(0.435)	475394	40.1636	48.9	
11 Freon-113	151	3.515	3.502	(0.435)	155830	59.8264	72.8	
12 Iodomethane	142	3.658	3.638	(0.452)	53050	19.5812	23.8(R)	
13 Acrolein	56	3.901	3.881	(0.482)	10840	14.0319	17.1(aR)	
14 Methylene Chloride	84	4.208	4.189	(0.520)	187950	40.5288	49.3	
15 Acetone	43	4.294	4.274	(0.531)	52188	31.1533	37.9	
16 Isobutyl Alcohol	43	8.361	8.342	(1.034)	34726	223.982	273(R)	
17 trans-1,2-Dichloroethene	96	4.430	4.410	(0.548)	158978	40.8163	49.7	
18 Allyl Chloride	41	4.065	4.053	(0.503)	311217	50.2919	61.2	
19 Methyl tert-butyl ether	73	4.587	4.567	(0.567)	408681	38.9840	47.5	
20 Acetonitrile	39	5.180	4.968	(0.640)	65603	445.746	543	
21 Di-isopropyl ether	45	5.180	5.161	(0.640)	734343	54.5543	66.4	

Data File: \\target_server\gg\chem\gcms-w.i\W052218.b\W4115.D
Report Date: 25-May-2018 12:31

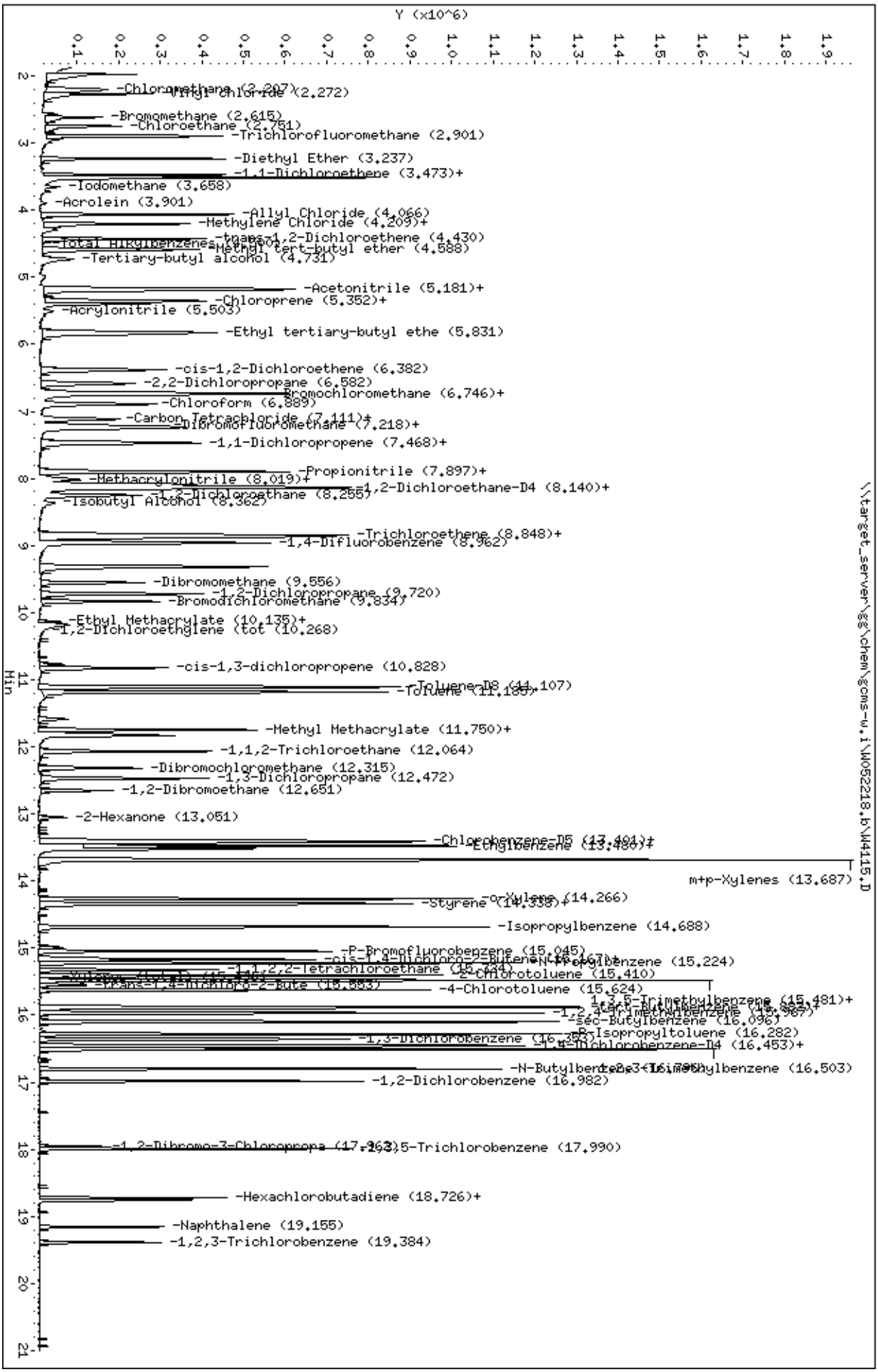
		Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/kg)	FINAL (ug/Kgdrywt)	REVIEW COD
	22	Chloroprene	53	5.352	5.332	(0.662)	287624	48.5830	59.2	
	23	Propionitrile	54	7.990	7.970	(0.988)	28716	37.9935	46.3(aR)	
	24	Methacrylonitrile	41	8.018	7.998	(0.991)	49854	16.3094	19.8(aR)	
	25	1,1-Dichloroethane	63	5.395	5.375	(0.667)	309041	42.7755	52.1	
	26	Acrylonitrile	52	5.502	5.482	(0.680)	21419	14.7172	17.9(aR)	
	27	Ethyl tertiary-butyl ether	59	5.831	5.804	(0.721)	471126	53.2186	64.8	
	29	cis-1,2-Dichloroethene	96	6.381	6.362	(0.789)	168631	38.9300	47.4	
M	30	1,2-Dichloroethylene (total)	96				327609	79.7463	97.1	
	31	Methyl Methacrylate	41	11.799	12.094	(1.317)	29863	6.84839	8.3(R)	
	32	2,2-Dichloropropane	77	6.581	6.562	(0.814)	147489	39.4176	48.0	
	33	Bromochloromethane	128	6.746	6.726	(0.834)	80885	41.2311	50.2	
	34	Chloroform	83	6.889	6.869	(0.852)	283982	40.5199	49.3	
	35	Carbon Tetrachloride	117	7.110	7.091	(0.793)	159967	38.1516	46.4	
	36	Tetrahydrofuran	42	7.196	7.162	(0.890)	61610	36.9600	45.0	
$	37	Dibromofluoromethane	113	7.218	7.198	(0.892)	146887	53.4651	65.1	
	38	1,1,1-Trichloroethane	97	7.246	7.226	(0.896)	222110	39.5951	48.2	
	39	1,1-Dichloropropene	75	7.468	7.448	(0.833)	216524	37.2050	45.3(R)	
	40	2-Butanone	43	7.482	7.455	(0.925)	62919	24.4139	29.7(aR)	
	41	Benzene	78	7.897	7.877	(0.881)	657755	36.8583	44.9(R)	
*	42	Pentafluorobenzene	168	8.090	8.070	(1.000)	302850	50.0000		
	43	Cyclohexane	56	6.732	6.705	(0.832)	282299	41.5310	50.6	
	44	Ethyl Methacrylate	69	10.134	10.114	(1.131)	20492	6.42591	7.8(R)	
$	45	1,2-Dichloroethane-D4	65	8.140	8.119	(1.006)	185962	51.5373	62.8	
	46	Tertiary-amyl methyl ether	73	8.133	8.113	(1.005)	416860	49.5673	60.4	
	47	1,2-Dichloroethane	62	8.254	8.234	(0.921)	218025	35.3777	43.1(R)	
	48	Trichloroethene	95	8.876	8.856	(0.990)	159291	36.6122	44.6(R)	
*	49	1,4-Difluorobenzene	114	8.962	8.942	(1.000)	504490	50.0000		
	50	Dibromomethane	93	9.555	9.528	(1.066)	105446	38.5091	46.9(R)	
	51	1,2-Dichloropropane	63	9.719	9.707	(1.085)	167030	36.7037	44.7(R)	
	52	Bromodichloromethane	83	9.834	9.814	(1.097)	206095	36.2911	44.2(R)	
	53	cis-1,3-dichloropropene	75	10.827	10.808	(1.208)	183099	26.2985	32.0(R)	
	54	1,4-Dioxane	88	10.177	10.164	(1.136)	104625	1461.93	1780(R)	
$	55	Toluene-D8	98	11.106	11.094	(1.239)	620853	49.0288	59.7	
	57	Toluene	92	11.185	11.165	(1.248)	373764	34.0272	41.4(R)	
	58	4-methyl-2-pentanone	43	11.807	11.787	(1.317)	126172	21.9152	26.7(aR)	
	59	Tetrachloroethene	164	11.749	11.730	(0.877)	128071	41.0836	50.0	
	60	trans-1,3-Dichloropropene	75	11.835	11.815	(1.321)	160640	28.3439	34.5(R)	
	61	1,1,2-Trichloroethane	83	12.064	12.051	(1.346)	119554	34.2749	41.7(R)	
	62	Dibromochloromethane	129	12.314	12.294	(0.919)	139287	35.3460	43.0(R)	
	63	1,3-Dichloropropane	76	12.471	12.452	(0.931)	251062	36.9551	45.0(R)	
	64	1,2-Dibromoethane	107	12.650	12.638	(1.412)	127489	31.0801	37.8(R)	
	65	2-Hexanone	43	13.050	13.031	(0.974)	48204	12.8857	15.7(aR)	
*	66	Chlorobenzene-D5	117	13.401	13.381	(1.000)	450134	50.0000		
	67	Chlorobenzene	112	13.422	13.409	(1.002)	407539	36.0639	43.9(R)	
	68	Ethylbenzene	106	13.479	13.460	(1.006)	228884	36.7456	44.7(R)	
	69	1,1,1,2-Tetrachloroethane	131	13.515	13.502	(1.009)	142425	38.8325	47.3(R)	
M	70	Xylenes (total)	106				853909	111.563	136(R)	
	71	m+p-Xylenes	106	13.687	13.674	(1.021)	571869	74.6964	91.0(R)	
	72	o-Xylene	106	14.266	14.253	(1.065)	282040	36.8669	44.9(R)	
	73	Styrene	104	14.337	14.324	(1.070)	384362	29.9404	36.4(R)	
	74	Bromoform	173	14.351	14.339	(1.071)	76184	25.7092	31.3(R)	
	75	Isopropylbenzene	105	14.687	14.675	(0.893)	726505	47.7404	58.1	
$	76	P-Bromofluorobenzene	95	15.045	15.032	(1.679)	217093	40.5791	49.4	
	77	cis-1,4-Dichloro-2-Butene	53	15.145	15.132	(0.920)	29975	22.8111	27.8(R)	

Data File: \\target_server\gg\chem\gcms-w.i\W052218.b\W4115.D
Report Date: 25-May-2018 12:31

			QUANT SIG					CONCENTRATIONS		
		Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN (ug/kg)	FINAL (ug/Kgdrywt)	REVIEW COD
	78	trans-1,4-Dichloro-2-Butene	53	15.545	15.532	(0.945)	25474	23.7111	28.9(R)	
	79	Bromobenzene	156	15.166	15.154	(0.922)	157934	36.8620	44.9(R)	
	80	N-Propylbenzene	91	15.223	15.211	(0.925)	842533	42.8441	52.2	
	81	1,1,2,2-Tetrachloroethane	83	15.323	15.311	(0.931)	203325	41.4315	50.4	
	82	1,3,5-Trimethylbenzene	105	15.481	15.468	(0.941)	601293	42.9994	52.4	
	83	2-Chlorotoluene	91	15.409	15.397	(0.937)	487595	40.7434	49.6	
	84	1,2,3-Trichloropropane	75	15.488	15.475	(0.941)	167742	39.3850	48.0	
	85	4-Chlorotoluene	91	15.624	15.611	(0.950)	471929	37.6917	45.9	
	86	tert-Butylbenzene	119	15.874	15.868	(0.965)	618994	43.6663	53.2	
	87	Pentachloroethane	117	15.895	15.883	(0.966)	134560	50.1935	61.1	
	88	1,2,4-Trimethylbenzene	105	15.967	15.954	(0.970)	591547	40.1191	48.8	
	89	P-Isopropyltoluene	119	16.281	16.268	(0.990)	640009	41.2560	50.2	
	90	1,3-Dichlorobenzene	146	16.360	16.347	(0.994)	285259	33.5282	40.8(R)	
*	91	1,4-Dichlorobenzene-D4	152	16.453	16.440	(1.000)	234127	50.0000		
	92	1,4-Dichlorobenzene	146	16.467	16.454	(1.001)	274595	31.5436	38.4(R)	
	93	N-Butylbenzene	91	16.796	16.783	(1.021)	553426	38.0599	46.3	
	94	sec-Butylbenzene	105	16.095	16.082	(0.978)	775374	41.9536	51.1	
	95	1,2-Dichlorobenzene	146	16.982	16.969	(1.032)	272044	31.8605	38.8(R)	
	96	1,2-Dibromo-3-Chloropropane	75	17.961	17.941	(1.092)	37266	33.6473	41.0	
	97	1,3,5-Trichlorobenzene	180	17.990	17.977	(2.224)	186032	25.2899	30.8(R)	
	98	Hexachlorobutadiene	225	18.726	18.713	(1.138)	68713	26.0938	31.8(R)	
	99	1,2,4-Trichlorobenzene	180	18.762	18.749	(1.140)	91491	18.3572	22.4(R)	
	100	1,2,3-Trimethylbenzene	105	16.503	16.489	(2.040)	794272	41.9523	51.1	
	101	Naphthalene	128	19.155	19.142	(1.164)	202167	14.6965	17.9(R)	
	102	1,2,3-Trichlorobenzene	180	19.384	19.371	(1.178)	77853	16.8178	20.5(R)	
	103	Methyl Acetate	43	4.294	4.439	(0.531)	52188	13.2521	16.1(R)	
	104	Methylcyclohexane	83	8.847	8.828	(1.094)	365264	54.1795	66.0	
M	153	Total Alkylbenzenes	100				4623176	290.899	354	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
R - Spike/Surrogate failed recovery limits.


Data File: \\target_server\gg\chem\gcms-w.i\W052218.b\W4115.D
Date : 22-MAY-2018 18:05
Client ID: CHAAP-21B-DS-SS07MS
Sample Info: WG228846-9,SL4180
Column phase: RTX-VMS
Instrument: gcms-w.i
Operator: JSS
Column diameter: 0.18
\\target_server\gg\chem\gcms-w.i\W052218.b\W4115.D
Y (x10^6)
Min
Vinyl Chloride (2.272)
-Bromomethane (2.615)
-Chloroethane (2.751)
-Trichlorofluoromethane (2.901)
-Diethyl Ether (3.237)
-1,1-Dichloroethene (3.473)+
-Iodomethane (3.658)
-Acrolein (3.901)
-Allyl Chloride (4.066)
-Methylene Chloride (4.209)+
-trans-1,2-Dichloroethene (4.430)
-Methyl tert-butyl ether (4.588)
-Tertiary-butyl alcohol (4.731)
-Acetonitrile (5.181)+
-Chloroprene (5.352)+
-Acrylonitrile (5.503)
-Ethyl tertiary-butyl ethe (5.831)
-cis-1,2-Dichloroethene (6.382)
-2,2-Dichloropropane (6.582)
-Bromochloromethane (6.746)+
-Chloroform (6.889)
-Carbon Tetrachloride (7.111)+
-1,1-Dichloropropene (7.468)+
-Propionitrile (7.897)+
-Methacrylonitrile (8.019)+
-1,2-Dichloroethane-D4 (8.140)+
-1,2-Dichloroethane (8.255)
-Isobutyl Alcohol (8.362)
-Trichloroethene (8.848)+
-1,4-Difluorobenzene (8.962)
-Dibromomethane (9.556)
-1,2-Dichloropropane (9.720)
-Bromodichloromethane (9.834)
-Ethyl Methacrylate (10.135)+
-1,2-Dichloroethylene (tot (10.268)
-cis-1,3-dichloropropene (10.828)
-Toluene-D8 (11.107)
-Toluene (11.186)+
-Methyl Methacrylate (11.750)+
-1,1,2-Trichloroethane (12.064)
-Dibromochloromethane (12.315)
-1,3-Dichloropropane (12.472)
-1,2-Dibromoethane (12.651)
-2-Hexanone (13.051)
-Chlorobenzene-D5 (13.404)+
-Ethylbenzene (13.480)+
m+p-Xylenes (13.687)
-o-Xylene (14.266)
-Styrene (14.338)+
-Isopropylbenzene (14.688)
-P-Bromofluorobenzene (15.045)
-Bromoform (15.224)
-1,1,2,2-Tetrachloroethane (15.244)
-2-Chlorotoluene (15.410)
-4-Chlorotoluene (15.624)
-1,2,4-Trimethylbenzene (15.987)
-sec-Butylbenzene (16.096)
-P-Isopropyltoluene (16.282)
-1,3-Dichlorobenzene (16.358)
-1,4-Dichlorobenzene-D4 (16.453)+
-N-Butylbenzene (16.503)
-1,2-Dichlorobenzene (16.982)
-1,2,3-Trichlorobenzene (17.990)
-Hexachlorobutadiene (18.726)+
-Naphthalene (19.155)
-1,2,3-Trichlorobenzene (19.384)

Logbooks and Supporting Documents

KATAHDIN ANAI KATAHDIN ANALYTICAL SERVICES

Organics Vial Prep I Organics Vial Prep Log

Methods: SW8260 SW8015 ME DEP 4.2.17 MA DEP VPH

Balance ID: B-105

Date Initial Weighing	Analyst Initial Weighing	Date Final Weighing	Analyst Final Weighing	Vial Number	Vial + Preservative (g)	Vial + Preservative + Sample (g)	Sample Weight (g)	Preservative	Pres. Volume (mL)	Sample Name	Comments
5-7-18	GN			109280	29.37			DI / MEOH / NaHSO4	5 / 10		
				109281	29.40			DI / MEOH / NaHSO4	5 / 10		
				109282	29.50			DI / MEOH / NaHSO4	5 / 10		
				109283	29.51			DI / MEOH / NaHSO4	5 / 10		
				109284	29.38			DI / MEOH / NaHSO4	5 / 10		
				109285	29.44			DI / MEOH / NaHSO4	5 / 10		
				109286	29.58			DI / MEOH / NaHSO4	5 / 10		
				109287	29.49			DI / MEOH / NaHSO4	5 / 10		
				109288	31.41			DI / MEOH / NaHSO4	5 / 10		
				109289	31.50			DI / MEOH / NaHSO4	5 / 10		
				109290	31.50			DI / MEOH / NaHSO4	5 / 10		
				109291	31.75			DI / MEOH / NaHSO4	5 / 10		
		5-19-18		109292	31.76	37.12	5.63	DI / MEOH / NaHSO4	5 / 10	SL4180-5B	
		5-21-18		109293	31.78	37.30	5.52	DI / MEOH / NaHSO4	5 / 10	SL4180-5C	
				109294	31.96			DI / MEOH / NaHSO4	5 / 10		
				109295	31.83			DI / MEOH / NaHSO4	5 / 10		
		5-19-18		109296	31.49	36.25	4.81	DI / MEOH / NaHSO4	5 / 10	SL4180-1B	
		↓		109297	31.39	37.43	6.09	DI / MEOH / NaHSO4	5 / 10	SL4180-6B	
				109298	31.31			DI / MEOH / NaHSO4	5 / 10		
				109299	31.34			DI / MEOH / NaHSO4	5 / 10		

40 mL Vial Lot # 2470

MeOH Lot #: DT140

NaSO4 Lot #:

DI Preservative = Deionized Water +Stirbar

NaHSO4 Preservative = 20% NaSO4 Solution + stirbar

KATAHDIN ANAI KATAHDIN ANALYTICAL SERVICES

Organics Vial Prep I Organics Vial Prep Log

Methods: SW8260 SW8015 ME DEP 4.2.17 MA DEP VPH

Balance ID: Bal 05

Date Initial Weighing	Analyst Initial Weighing	Date Final Weighing	Analyst Final Weighing	Vial Number	Vial + Preservative (g)	Vial + Preservative + Sample (g)	Sample Weight (g)	Preservative	Pres. Volume (mL)	Sample Name	Comments
5-7-18	GW			109300	31.30			DI / MEOH / NaHSO4	5 / 10		
		5-21-18		109301	31.46	36.70	5.24	DI / MEOH / NaHSO4	5 / 10	SL4180-2C	
		5-19-18		109302	31.41	36.76	5.53	DI / MEOH / NaHSO4	5 / 10	SL4180-2B	
				109303	31.69			DI / MEOH / NaHSO4	5 / 10		
		5-19-18		109304	31.63	37.58	5.95	DI / MEOH / NaHSO4	5 / 10	SL4180-3B	
				109305	31.81			DI / MEOH / NaHSO4	5 / 10		
				109306	31.92			DI / MEOH / NaHSO4	5 / 10		
		5-21-18		109307	31.78	36.78	5.00	DI / MEOH / NaHSO4	5 / 10	SL~~4180~~4238-2A	
		5-22-18		109308	31.73	36.33	4.6	DI / MEOH / NaHSO4	5 / 10	SL4233-2D	
				109309	31.86			DI / MEOH / NaHSO4	5 / 10		
				109310	31.64			DI / MEOH / NaHSO4	5 / 10		
		5-19-18		109311	31.49	37.90	6.41	DI / MEOH / NaHSO4	5 / 10	SL4180-4B	
		↓	↓	109312	31.73	38.27	6.54	DI / MEOH / NaHSO4	5 / 10	SL4180-7B	
				109313	31.63			DI / MEOH / NaHSO4	5 / 10		
				109314	31.72			DI / MEOH / NaHSO4	5 / 10		
				109315	31.37			DI / MEOH / NaHSO4	5 / 10		
				109316	31.57			DI / MEOH / NaHSO4	5 / 10		
				109317	31.21			DI / MEOH / NaHSO4	5 / 10		
				109318	31.51			DI / MEOH / NaHSO4	5 / 10		
↓	↓			109319	31.34			DI / MEOH / NaHSO4	5 / 10		

40 mL Vial Lot # 2427

MeOH Lot #: _____

NaSO4 Lot #: _____

DI Preservative = Deionized Water +Stirbar

NaHSO4 Preservative = 20% NaSO4 Solution + stirbar

KATAHDIN ANAI KATAHDIN ANALYTICAL SERVICES

Organics Vial Prep I Organics Vial Prep Log

Methods: SW8260 SW8015 ME DEP 4.2.17 MA DEP VPH

Balance ID: Bal 05

Date Initial Weighing	Analyst Initial Weighing	Date Final Weighing	Analyst Final Weighing	Vial Number	Vial + Preservative (g)	Vial + Preservative + Sample (g)	Sample Weight (g)	Preservative	Pres. Volume (mL)	Sample Name	Comments
5-7-18	GV			109320	31.37			DI / MEOH / NaHSO4	5 / 10		
		5-21-18	TB	109321	31.42	37.22	5.80	DI / MEOH / NaHSO4	5 / 10	SL4180-16C	
				109322	31.47			DI / MEOH / NaHSO4	5 / 10		
				109323	31.50			DI / MEOH / NaHSO4	5 / 10		
		5-14-18	JH	109324	31.36	38.15	6.79	DI / MEOH / NaHSO4	5 / 10	SL4180-13B	
		5-21-18	JH	109325	31.57	37.51	5.94	DI / MEOH / NaHSO4	5 / 10	SL4180-8F	
		5-22-18	TB	109326	31.33	36.99	5.66	DI / MEOH / NaHSO4	5 / 10	SL4180-8H	
				109327	31.23			DI / MEOH / NaHSO4	5 / 10		
		5-21-18	TB	109328	31.33	36.18	4.85	DI / MEOH / NaHSO4	5 / 10	SL4180-21B	
		5-22-18	TB	109329	31.16	37.30	6.14	DI / MEOH / NaHSO4	5 / 10	SL4180-21D	
		5-21-18	JH	109330	31.39	36.05	4.66	DI / MEOH / NaHSO4	5 / 10	SL4180-18E	
		5-21-18	TB	109331	31.34	36.40	5.06	DI / MEOH / NaHSO4	5 / 10	SL4180-17B	
				109332	31.39			DI / MEOH / NaHSO4	5 / 10		
		5-14-18	JH	109333	31.36	36.34	4.98	DI / MEOH / NaHSO4	5 / 10	SL4180-16B	
		5-21-18	TB	109334	31.57	37.84	6.27	DI / MEOH / NaHSO4	5 / 10	SL4180-22B	
				109335	31.41			DI / MEOH / NaHSO4	5 / 10		
				109336	31.49			DI / MEOH / NaHSO4	5 / 10		
		5-22-18	TB	109337	31.46	36.52	5.06	DI / MEOH / NaHSO4	5 / 10	SL4180-81	
		5-8-18	JH	109338	31.45	37.52	6.07	DI / MEOH / NaHSO4	5 / 10	SL4180-8E	
		5-21-18	TB	109339	31.33	37.92	6.59	DI / MEOH / NaHSO4	5 / 10	SL4180-26B	

40 mL Vial Lot # 2427

MeOH Lot #: _____

NaSO4 Lot #: _____

DI Preservative = Deionized Water +Stirbar

NaHSO4 Preservative = 20% NaSO4 Solution + stirbar

Katahdin Analytical Services 1000462

KATAHDIN ANAI KATAHDIN ANALYTICAL SERVICES

Organics Vial Prep I Organics Vial Prep Log

Methods: SW8260 SW8015 ME DEP 4.2.17 MA DEP VPH

Balance ID: Bal 05

Date Initial Weighing	Analyst Initial Weighing	Date Final Weighing	Analyst Final Weighing	Vial Number	Vial + Preservative (g)	Vial + Preservative + Sample (g)	Sample Weight (g)	Preservative	Pres. Volume (mL)	Sample Name	Comments
5-7-18	GV	5-22-18		109340	31.55	35.81	4.26	DI / MEOH / NaHSO4	5 / 10	SL4180-24C	
		5-21-18		109341	31.44	36.66	5.22	DI / MEOH / NaHSO4	5 / 10	SL4180-21B	
				109342	31.47			DI / MEOH / NaHSO4	5 / 10		
		5-22-18		109343	31.61	36.40	4.79	DI / MEOH / NaHSO4	5 / 10	SL4180-17C	
		5-19-18		109344	31.46	37.55	6.09	DI / MEOH / NaHSO4	5 / 10	SL4180-15B	
				109345	31.56			DI / MEOH / NaHSO4	5 / 10		
				109346	31.55			DI / MEOH / NaHSO4	5 / 10		
		5-21-18		109347	31.49	37.00	5.51	DI / MEOH / NaHSO4	5 / 10	SL4180-14C	
				109348	31.41			DI / MEOH / NaHSO4	5 / 10		
		5-21-18		109349	31.47	37.19	5.72	DI / MEOH / NaHSO4	5 / 10	SL4180-8D	
		5-22-18		109350	31.46	37.05	5.65	DI / MEOH / NaHSO4	5 / 10	SL4180-8C	
		5-22-18		109351	31.24	37.61	6.37	DI / MEOH / NaHSO4	5 / 10	SL4180-27B	
				109352	31.50			DI / MEOH / NaHSO4	5 / 10		
		5-21-18		109353	31.42	36.40	4.98	DI / MEOH / NaHSO4	5 / 10	SL4180-25B	
		↓		109354	31.38	36.35	4.97	DI / MEOH / NaHSO4	5 / 10	SL4180-19D	
		5-21-18		109355	31.53	36.51	4.98	DI / MEOH / NaHSO4	5 / 10	SL4180-19B	
				109356	31.45			DI / MEOH / NaHSO4	5 / 10		
				109357	31.60			DI / MEOH / NaHSO4	5 / 10		
		5-21-18		109358	31.47	37.57	6.1	DI / MEOH / NaHSO4	5 / 10	SL4180-23B	
↓	↓			109359	31.51			DI / MEOH / NaHSO4	5 / 10		

40 mL Vial Lot # 2427

MeOH Lot #: _____

NaSO4 Lot #: _____

DI Preservative = Deionized Water +Stirbar

NaHSO4 Preservative = 20% NaSO4 Solution + stirbar

Katahdin Analytical Services 1000463

KATAHDIN ANAI KATAHDIN ANALYTICAL SERVICES

Organics Vial Prep I Organics Vial Prep Log

Methods: SW8260 SW8015 ME DEP 4.2.17 MA DEP VPH

Balance ID: Bal05

Date Initial Weighing	Analyst Initial Weighing	Date Final Weighing	Analyst Final Weighing	Vial Number	Vial + Preservative (g)	Vial + Preservative + Sample (g)	Sample Weight (g)	Preservative	Pres. Volume (mL)	Sample Name	Comments
5-7-18	GV	5-19-18	[illegible]	109360	31.52	36.80	5.28	DI / MEOH / NaHSO4	5 / 10	SL 4180-14B	
		5-19-18	[illegible]	109361	31.46	37.43	5.97	DI / MEOH / NaHSO4	5 / 10	SL4180-11B	
				109362	31.51			DI / MEOH / NaHSO4	5 / 10		
				109363	31.55			DI / MEOH / NaHSO4	5 / 10		
		5-21-18	[illegible]	109364	31.41	36.10	4.69	DI / MEOH / NaHSO4	5 / 10	SL4180-12C	
				109365	31.49			DI / MEOH / NaHSO4	5 / 10		
				109366	31.50			DI / MEOH / NaHSO4	5 / 10		
				109367	31.39			DI / MEOH / NaHSO4	5 / 10		
				109368	31.55			DI / MEOH / NaHSO4	5 / 10		
				109369	31.46			DI / MEOH / NaHSO4	5 / 10		
				109370	31.45			DI / MEOH / NaHSO4	5 / 10		
		5-14-18	[illegible]	109371	31.43	37.40	5.97	DI / MEOH / NaHSO4	5 / 10	SL4180-9B	
				109372	31.54			DI / MEOH / NaHSO4	5 / 10		
				109373	31.51			DI / MEOH / NaHSO4	5 / 10		
		5-21-18	[illegible]	109374	31.50	37.54	6.04	DI / MEOH / NaHSO4	5 / 10	SL4233-3A	
				109375	31.45			DI / MEOH / NaHSO4	5 / 10		
		5-14-18	[illegible]	109376	31.53	36.20	4.67	DI / MEOH / NaHSO4	5 / 10	SL4180-12B	
		5-[illegible]-18	[illegible]	109377	31.51	36.08	4.57	DI / MEOH / NaHSO4	5 / 10	SL4180-25C	
		5-21-18	[illegible]	109378	31.50	37.84	6.34	DI / MEOH / NaHSO4	5 / 10	SL4180-18F	
				109379	31.47			DI / MEOH / NaHSO4	5 / 10		

40 mL Vial Lot # 2427

MeOH Lot #:

NaSO4 Lot #:

DI Preservative = Deionized Water +Stirbar

NaHSO4 Preservative = 20% NaSO4 Solution + stirbar

KATAHDIN ANAI KATAHDIN ANALYTICAL SERVICES

Organics Vial Prep l Organics Vial Prep Log

Methods: SW8260 SW8015 ME DEP 4.2.17 MA DEP VPH

Balance ID: B405

Date Initial Weighing	Analyst Initial Weighing	Date Final Weighing	Analyst Final Weighing	Vial Number	Vial + Preservative (g)	Vial + Preservative + Sample (g)	Sample Weight (g)	Preservative	Pres. Volume (mL)	Sample Name	Comments
5-7-18	GW			109380	31.44			DI / MEOH / NaHSO4	5 / 10		
		5-24-18	RS	109381	31.38	37.69	6.31	DI / MEOH / NaHSO4	5 / 10	SL4180-20D	
				109382	31.50			DI / MEOH / NaHSO4	5 / 10		
				109383	31.60			DI / MEOH / NaHSO4	5 / 10		
		5-14-18	RS	109384	31.48	38.14	6.66	DI / MEOH / NaHSO4	5 / 10	SL4180-10C	
				109385	31.51			DI / MEOH / NaHSO4	5 / 10		
				109386	31.56			DI / MEOH / NaHSO4	5 / 10		
5-14-18	GW			109387	37.21			DI / MEOH / NaHSO4	5 / 10		
				109388	37.37			DI / MEOH / NaHSO4	5 / 10		
				109389	37.32			DI / MEOH / NaHSO4	5 / 10		
				109390	37.21			DI / MEOH / NaHSO4	5 / 10		
				109391	37.22			DI / MEOH / NaHSO4	5 / 10		
				109392	37.40			DI / MEOH / NaHSO4	5 / 10		
				109393	37.29			DI / MEOH / NaHSO4	5 / 10		
				109394	37.28			DI / MEOH / NaHSO4	5 / 10		
				109395	37.21			DI / MEOH / NaHSO4	5 / 10		
				109396	37.29			DI / MEOH / NaHSO4	5 / 10		
				109397	37.26			DI / MEOH / NaHSO4	5 / 10		
				109398	37.33			DI / MEOH / NaHSO4	5 / 10		
				109399	37.37			DI / MEOH / NaHSO4	5 / 10		

40 mL Vial Lot # 2427

MeOH Lot #: DT140

NaSO4 Lot #:

DI Preservative = Deionized Water +Stirbar

NaHSO4 Preservative = 20% NaSO4 Solution + stirbar

KATAHDIN ANALYTICAL SERVICES

GCMS-D INSTRUMENT RUNLOG

DATE/TIME OF BFB INJECTION: 5-17-18 7:31

					PREP METHOD			Criteria			pH Paper Lot #				KI Paper Lot #
SAMPLE NAME	DATAFILE	DF	ALS #	METHOD	5030	5035	1311	KAS	DoD	QAPP	Y/N	ANALYST	PH	TRC	COMMENTS
W6228547-7	DB180	1	—	10ABCD150	✓						Y	[illegible]			
50 -4	D1351		1	DTA95(22)							Y				
20 -3	52		2								Y				
5 -2	53		3								Y				[illegible]
1 -1	54		4								Y				[illegible]
150 -6	55		5								Y				
100 -5	56		6												
															5-17-18

STANDARD	CODE
BFB	V1095
CAL. STD.	V1102 / V1100A
LCS/MS MIX	V1094
EXTRAS MIX	V1103

STANDARD	CODE
IS MIX	V1095
SS MIX	

Circle Methods:

SW846 8260	OLM 04.2
SW846 8260 SIM	OLC 03.2
SW846 8260 SIM	EPA 624
(heated purge)	EPA 524

KATAHDIN ANALYTICAL SERVICES

GCMS-D INSTRUMENT RUNLOG

DATE/TIME OF BFB INJECTION: 5-17-18 11:45

SAMPLE NAME	DATAFILE	DF	ALS #	METHOD	PREP METHOD 5030	5035	1311	KAS	Criteria DoD	QAPP	pH Paper Lot # YN	ANALYST	PH	TRC	K-Paper Lot # COMMENTS
VBBLK0516-3	D0151	1	—	VBABFM02	✓						Y	KL	7		
YSt250	D1357		1	DTA05(22)							Y				
LCS	58		2								Y				(A)=IND-8
YP3onKA	59		3								N				Target hits
↓ B	60		4								Y				
SL3952-1A	61		5						5.0		Y		<2		
-1BA	62		6								Y		<2		
SL3902-5A	63		7								Y		<2		
-10A	64		8								Y		<2		
SL3952-2A	65		9								Y		<2		
-4A	66		10								Y		<2		
-6A	67		11								Y		<2		
-8A	68		12								Y		<2		
-10A	69		13								Y		<2		
-12A	70		14								Y		<2		
SL3902-12A	71		15								Y		<2		DL 1:10
12MS3-6	72		16								Y		<2		
12MS5-7	73		17						↓		Y		<2		
CCV1 -5	74		18								Y		7		2234✓
↓ 2	75		19								N				Not marked
3	76		20								N				↓
Rinse	77		21								↓				
↓	78	↓	22	↓	↓						↓	↓	↓		
															TIC 5/18/18

STANDARD	CODE
BFB	V1095
CAL. STD.	V1128 V1130A
LCS/MS MIX	V1091A
EXTRAS MIX	V1103

STANDARD	CODE
IS MIX	V1095
SS MIX	↓

Circle Methods:

SW846 8260	OLM 04.2
SW846 8260 SIM	OLC 03.2
SW846 8260 SIM (heated purge)	EPA 624
	EPA 524

Katahdin Analytical Services 1000467

GCMS-D INSTRUMENT RUNLOG

KATAHDIN ANALYTICAL SERVICES

DATE/TIME OF BFB INJECTION: 5-21-18 7:08

SAMPLE NAME	DATAFILE	DF	ALS #	METHOD	PREP METHOD 5030	PREP METHOD 5035	PREP METHOD 1311	Criteria KAS	Criteria DoD	Criteria QAPP	pH Paper Lot #: Y/N	pH Paper Lot #: ANALYST	pH Paper Lot #: PH	KI Paper Lot #: TRC	COMMENTS
WG228752-3	DB180	1	—	VGABOBA2	✓						Y	[illegible]			
Vstd50	D1446		1	D8A05(22)							N				
↓ -4	47		2								Y				
LCS -1	48		3								Y				
VBlankA	49		4								N				
B -2	50		5								Y				target hits
SL4180-28A	51		6						5.0		Y		<2		
SL4206-1A	52		7						5.0		Y		<2		1ss↑
SL4180-29A	53		8						5.0		Y		<2		1ss↑
SL4094-1DL A+B+C	54	20	9				✓		5.0		Y		—		1ss↑
SL4093-2DA2 Δ	55	1	10						5.0		Y		<2		1ss↑
SL4206-2A	56		11						5.0		Y		<2		1ss↑
-3A	57		12						5.0		Y		<2		1ss↑
-4A	58		13						5.0		Y		<2		1ss↑
-5A	59		14						5.0		Y		<2		1ss↑
-6A	60		15						5.0		Y		<2		1ss↑
SL3994-4MS H	61		16						5.1		Y		<2		
-4MS I	62		17						5.1		Y		<2		
CCV, -5	63		18								Y		—		18:04 ✓

STANDARD	CODE
BFB	V1098
CAL. STD.	V1105 / V1108A
LCS/MS MIX	V1096
EXTRAS MIX	V1107

STANDARD	CODE
IS MIX	V1095
SS MIX	✓

Circle Methods:

SW846 8260	OLM 04.2
SW846 8260 SIM	OLC 03.2
SW846 8260 SIM (heated purge)	EPA 624
	EPA 524

VOA-012 - Revision 2 - 11/22/2017

QAMS655

0000022

KATAHDIN ANALYTICAL SERVICES

GCMS-W INSTRUMENT RUNLOG

DATE/TIME OF BFB INJECTION: 051818 C

	SAMPLE NAME	DATAFILE	DF	ALS #	METHOD	PREP METHOD 5030	5035	1311	Criteria KAS	DoD	QAPP	Y/N	ANALYST	PH	TRCv	COMMENTS
	WG228635-10	WB048	1	-1	VOABFB5L							Y				
	-4	W4023	1	1	W8SIM(LB)							N				
*	-3	24	1	2												Curve OK
*	-2	25	1	3												
*	-1	26	1	4												051918
*	-6	27	1	5												
*	-5	28	1	6												
*	-4	29	1	7												
	-7	30	1	8												
	VBLK	31	1	9								N				
	WG228635-9	32	1	10								N				
	Rinse	33	1	1								N				

051918

STANDARD	CODE
BFB	V1098
CAL. STD.	V1105/V1104A
LCS/MS MIX	V1096
EXTRAS MIX	V1103

STANDARD	CODE
IS MIX	V1106
SS MIX	

Circle Methods:

SW846 8260 EPA 624

SW846 8260 SIM EPA 524

SW846 8260 SIM (heated purge)

GCMS-W INSTRUMENT RUNLOG

KATAHDIN ANALYTICAL SERVICES

DATE/TIME OF BFB INJECTION: 051918 7:25

SAMPLE NAME	DATAFILE	DF	ALS #	METHOD	PREP METHOD 5030	PREP METHOD 5035	PREP METHOD 1311	Criteria KAS	Criteria DoD	Criteria QAPP	Y/N	ANALYST	PH	TRCV	COMMENTS
WG228693-3	WB843	1	-1	VOABFBSL		✓					Y	JJ	NA		
-4	W4034	1	1	W8SDI(12)							Y	JJ			
-1	35	1	2								Y				
VBLK	36	1	3								N				
WG228693-2	37	1	4								Y				
SL41180-1 B	38	1	5						5.0		Y				
-2 B	39	1	6								N				1 IS↓
-3 B	40	1	7								Y				
-4 B	41	1	8								Y				
-5 B	42	1	9								~~N~~ Y	WS 5-25-18			1 IS↓
-6 B	43	1	10								Y				
-7 B	44	1	11								Y				
-9 B	45	1	12								Y				
-10 C	46	1	13								Y				
-11 B	47	1	14								Y				
-12 B	48	1	15								Y				
-13 B	49	1	16								~~N~~ Y	WS 5-25-18			1 IS↓
-14 B	50	1	17								Y				
-15 B	51		18								~~N~~ Y	WS 5-25-18			1 IS✓
CCV1	52		19								Y				
2	53		20								Y				19:20✓
3	54		21								N				heated purge ↓
Rinse	55		22								N				
Rinse	56		23								—				
											—				

STANDARD	CODE
BFB	V1098
CAL. STD.	V1105/V1104A
LCS/MS MIX	V1096
EXTRAS MIX	V1103

STANDARD	CODE
IS MIX	V1106
SS MIX	✓

Circle Methods:

(SW846 8260)

SW846 8260 SIM

SW846 8260 SIM (heated purge)

EPA 624

EPA 524

VOA-023 – Revision 2 – 12/07/2017

QAMS654

0000023

Katahdin Analytical Services 1000470

GCMS-W INSTRUMENT RUNLOG

KATAHDIN ANALYTICAL SERVICES

DATE/TIME OF BFB INJECTION: 5-21-18 7:30

SAMPLE NAME	DATAFILE	DF	ALS #	METHOD	PREP METHOD 5030	PREP METHOD 5035	PREP METHOD 1311	Criteria KAS	Criteria DoD	Criteria QAPP	Y/N	ANALYST	PH	TRCv	COMMENTS
WG22T751- 40	WB845	1	—	[illegible]		✓					Y	JJS	NA		
Rmse	W4062		1	W8SD1(13)							N				
50 -4	63		2								Y				
20 -3	64		3								Y				
10 -2	65		4								Y				Curve
5 -1	66		5								Y				[illegible]
150 -6	67		6								Y				5-21-18
100 -5	68		7								Y				
Ind/LCS -7/8	69		8								Y				
VBlmkA	70		9								N				
B -10 9	71		10								Y				
SL4180-16B	72		11						50	[illegible]	Y ~~N~~				1SS↓
-17B	73		12							5-21-18	Y ~~N~~				1SS↓
-19B	74		13								Y				
-20B	75		14								Y				
-21B	76		15							5-21-18	Y ~~N~~				1IS↓ 1SS↓
-22B	77		16								Y				
-23B	78		17								Y				
CCV 1	79		18			✓					Y	✓	✓		18:42✓
2	80		19												
3	81		20												
Rinse 5-21-18	82		21												

[illegible] 5-21-18

STANDARD	CODE
BFB	V1098
CAL. STD.	V1105/V1108A
LCS/MS MIX	V1096
EXTRAS MIX	V1107

STANDARD	CODE
IS MIX	V1109
SS MIX	✓

Circle Methods:

SW846 8260 — EPA 624

SW846 8260 SIM — EPA 524

SW846 8260 SIM (heated purge)

VOA-023 – Revision 2 – 12/07/2017

QAMS654

0000025

KATAHDIN ANALYTICAL SERVICES

GCMS-W INSTRUMENT RUNLOG

DATE/TIME OF BFB INJECTION: 052118B

SAMPLE NAME	DATAFILE	DF	ALS #	METHOD	PREP METHOD 5030	PREP METHOD 5035	PREP METHOD 1311	Criteria KAS	Criteria DoD	Criteria QAPP	Y/N	ANALYST	PH	TRCv	COMMENTS
WG228825-3	WB846	1	—	WABFBSL		✓					Y				
-4	W4080		1	W8SDI(13)							Y				
-1	81		2								Y				
VBLK	82		3								N				Target hits
WG228825-2	83		4								Y				
SL4180-24 B	84		5						5.0		N				1 IS↓ 1 SS↓
-25 B	85		6						5.0		Y				1 IS↓ 1 SS↓
-26 B	86		7						5.0		Y				
-27 B	87		8						5.0		Y				
-BD	88		9						5.0		Y				1 SS↓
SL423352 A	89		10						5.0		N				1 IS↓ 1 SS↓ BA
-3 A	90		11						5.0		Y				
SL4180-2RA<	91		12						5.0		Y				
5RA<	92		13						5.0		Y				1 IS↓ 1 SS↓
12RA<	93		14						5.0		Y				1 IS↓ 1 SS↓
14RA<	94		15						5.0		Y				1 IS↓ 1 SS↓
SMS 8	95		16						5.0		Y				
SMSD F	96		17						5.0		N				
CCV,	97		18												
2	98		19												
3	99		20												

STANDARD	CODE
BFB	V1098
CAL. STD.	V1105/V1108A
LCS/MS MIX	V1096
EXTRAS MIX	V1107

STANDARD	CODE
IS MIX	V1109
SS MIX	↓

Circle Methods:

(SW846 8260) EPA 624

SW846 8260 SIM EPA 524

SW846 8260 SIM (heated purge)

GCMS-W INSTRUMENT RUNLOG

KATAHDIN ANALYTICAL SERVICES

DATE/TIME OF BFB INJECTION: 5-22-18 8:03

SAMPLE NAME	DATAFILE	DF	ALS #	METHOD	PREP METHOD 5030	PREP METHOD 5035	PREP METHOD 1311	Criteria KAS	Criteria DoD	Criteria QAPP	Y/N	ANALYST	PH	TRCv	COMMENTS
WG228846-3	WB847	1	—	VOABCBDR		✓					Y	~~F~~	NA		
VSTD50	W4100		1	W8SD1(13)							Y				
LCS	01		2								Y				
VBlmkA	02		3								N				
↓ B	03		4								Y				
SL4233-2RA D	04		5						5.0		Y				✓
SL4180-18 D	05		6						5.0		Y				✓
-16RA C	06		7						5.0		Y				1 IS↓ 1 SS↓
-17RA C	07		8						5.0		Y				1 IS↓ 1 SS↓
-21RA D	08		9						5.0		Y				1 SS↓
-24RA C	09		10						5.0		Y				✓
-25RA C	10		11						5.0		Y				1 IS↓
-8RA G	11		12						5.0		Y				1 IS↓ 1 SS↓
-6 -18MS E	12		13						5.0		Y				✓
-7 -18MSD ~~H~~ F	13		14						5.0		Y				✓
-8 -8MSRA ~~I~~ H	14		15						5.0		Y				✓
-9 -8MSDRA I	15		16						5.0		Y				✓
CCV1 ~~25~~ was 5-25-19	16		17								N				
2 -5	17		18								Y				✓ 1920
3	18		19								~~Y~~ N was 5-25-19				
Rmsa	19		20												

JH 052318

STANDARD	CODE
BFB	V1095
CAL. STD.	V1105 | V1108A
LCS/MS MIX	V1096
EXTRAS MIX	V1107

STANDARD	CODE
IS MIX	V1109
SS MIX	↓

Circle Methods:

SW846 8260 EPA 624

~~SW846 8260 SIM~~ EPA 524

SW846 8260 SIM (heated purge)

VOA-023 – Revision 2 – 12/07/2017

EXPLOSIVES DATA

QC Summary Section

Form 2
System Monitoring Compound Recovery

Lab Name: Katahdin Analytical Services **Project:** Cornhusker Army Ammunition Plant **Matrix:** SL
Lab Code: KAS **SDG:** SL4180

Client Sample ID	Lab Sample ID	Col. ID	DNB #
CHAAP-21B-DS-SS02	SL4180-1	B	94.8
CHAAP-21B-DS-SB107-5	SL4180-10	B	87.9
CHAAP-21B-DS-SB07-10	SL4180-11	B	88.8
CHAAP-21B-DS-SS08	SL4180-12	B	90.5
CHAAP-21B-DS-SB08-5	SL4180-13	B	93.3
CHAAP-21B-DS-SS09	SL4180-14	B	96.7
CHAAP-21B-DS-SB09-5	SL4180-15	B	95.4
CHAAP-21B-DS-SS11	SL4180-16	B	92.6
CHAAP-21B-DS-SS111	SL4180-17	B	92.1
CHAAP-21B-DS-SB11-5	SL4180-18	B	85.8
CHAAP-21B-DS-SS10	SL4180-19	B	88.2
CHAAP-21B-DS-SS102	SL4180-2	B	94.7
CHAAP-21B-DS-SB10-5	SL4180-20	B	88.1
CHAAP-21B-DS-SS04	SL4180-21	B	87.9
CHAAP-21B-DS-SB04-5	SL4180-22	B	91.3
CHAAP-21B-DS-SB04-10	SL4180-23	B	90.5
CHAAP-21B-DS-SS03	SL4180-24	B	91.5
CHAAP-21B-DS-SS103	SL4180-25	B	92.1
CHAAP-21B-DS-SB03-5	SL4180-26	B	90.9
CHAAP-21B-DS-SB03-10	SL4180-27	B	87.4
CHAAP-21B-DS-SB02-5	SL4180-3	B	94.3
CHAAP-21B-DS-SB02-10	SL4180-4RE	B	96.0
CHAAP-21B-DS-SS06	SL4180-5	B	92.8
CHAAP-21B-DS-SB06-5	SL4180-6	B	81.4
CHAAP-21B-DS-SB06-10	SL4180-7	B	91.3
CHAAP-21B-DS-SS07	SL4180-8	B	90.5
CHAAP-21B-DS-SB07-5	SL4180-9	B	93.7
Method Blank Sample	WG228437-1	B	94.0
Laboratory Control S	WG228437-2	B	104.
Method Blank Sample	WG228439-1	B	94.8
Laboratory Control S	WG228439-2	B	105.
Matrix Spike	WG228439-3	B	99.6
Matrix Spike Duplica	WG228439-4	B	104.
Matrix Spike	WG228439-5	B	104.
Matrix Spike Duplica	WG228439-6	B	100.
Method Blank Sample	WG228857-1	B	96.6

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Form 2
System Monitoring Compound Recovery

Lab Name: Katahdin Analytical Services **Project:** Cornhusker Army Ammunition Plant **Matrix:** SL
Lab Code: KAS **SDG:** SL4180

Client Sample ID	Lab Sample ID	Col. ID	DNB	#
Laboratory Control S	WG228857-2	B	97.8	

		QC Limits
DNB	1,2-DINITROBENZENE	78-125

= Column to be used to flag recovery limits.
* = Values outside of contract required QC limits.
D= System Monitoring Compound diluted out.

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Form 2
System Monitoring Compound Recovery

Lab Name: Katahdin Analytical Services **Project:** Cornhusker Army Ammunition Plant **Matrix:** AQ
Lab Code: KAS **SDG:** SL4180

Client Sample ID	Lab Sample ID	Col. ID	DNB	#
CHAAP-EB-051418	SL4180-29	B	96.0	
Method Blank Sample	WG228334-1	B	90.2	
Laboratory Control S	WG228334-2	B	92.4	

		QC Limits
DNB	1,2-DINITROBENZENE	83-120

= Column to be used to flag recovery limits.
* = Values outside of contract required QC limits.
D= System Monitoring Compound diluted out.

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Method Blank Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
Lab File ID : HLE10467.D
Instrument ID : HPLC02
Matrix : AQ

SDG : SL4180
Lab Sample ID : WG228334-1
Date Extracted : 15-MAY-18
Date Analyzed : 15-MAY-18
Time Analyzed : 19:01

This Method Blank applies to the following samples, LCS, MS and MSD:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
Laboratory Control S	WG228334-2	HLE10468.	05/15/18	19:32
CHAAP-EB-051418	SL4180-29	HLE10470.	05/15/18	20:34

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Katahdin
ANALYTICAL SERVICES

Method Blank Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
Lab File ID : HLE10518.D
Instrument ID : HPLC02
Matrix : SL

SDG : SL4180
Lab Sample ID : WG228437-1
Date Extracted : 15-MAY-18
Date Analyzed : 16-MAY-18
Time Analyzed : 22:48

This Method Blank applies to the following samples, LCS, MS and MSD:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
Laboratory Control S	WG228437-2	HLE10519.	05/16/18	23:19
CHAAP-21B-DS-SS04	SL4180-21	HLE10645.	05/22/18	18:53
CHAAP-21B-DS-SB04-5	SL4180-22	HLE10646.	05/22/18	19:24
CHAAP-21B-DS-SB04-10	SL4180-23	HLE10647.	05/22/18	19:55
CHAAP-21B-DS-SS03	SL4180-24	HLE10648.	05/22/18	20:26
CHAAP-21B-DS-SS103	SL4180-25	HLE10649.	05/22/18	20:57
CHAAP-21B-DS-SB03-5	SL4180-26	HLE10651.	05/22/18	21:59
CHAAP-21B-DS-SB03-10	SL4180-27	HLE10652.	05/22/18	22:30

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Katahdin
ANALYTICAL SERVICES

Method Blank Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
Lab File ID : HLE10525.D
Instrument ID : HPLC02
Matrix : SL

SDG : SL4180
Lab Sample ID : WG228439-1
Date Extracted : 15-MAY-18
Date Analyzed : 17-MAY-18
Time Analyzed : 02:25

This Method Blank applies to the following samples, LCS, MS and MSD:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
Laboratory Control S	WG228439-2	HLE10527.	05/17/18	03:27
Matrix Spike	WG228439-3	HLE10528.	05/17/18	03:58
Matrix Spike Duplica	WG228439-4	HLE10529.	05/17/18	04:29
Matrix Spike	WG228439-5	HLE10530.	05/17/18	05:00
Matrix Spike Duplica	WG228439-6	HLE10531.	05/17/18	05:31
CHAAP-21B-DS-SS02	SL4180-1	HLE10532.	05/17/18	06:02
CHAAP-21B-DS-SS102	SL4180-2	HLE10533.	05/17/18	06:33
CHAAP-21B-DS-SB02-5	SL4180-3	HLE10534.	05/17/18	07:04
CHAAP-21B-DS-SS06	SL4180-5	HLE10536.	05/17/18	08:06
CHAAP-21B-DS-SB06-5	SL4180-6	HLE10538.	05/17/18	09:08
CHAAP-21B-DS-SB06-10	SL4180-7	HLE10539.	05/17/18	09:39
CHAAP-21B-DS-SS07	SL4180-8	HLE10540.	05/17/18	10:10
CHAAP-21B-DS-SB07-5	SL4180-9	HLE10541.	05/17/18	10:41
CHAAP-21B-DS-SB107-5	SL4180-10	HLE10542.	05/17/18	11:12
CHAAP-21B-DS-SB07-10	SL4180-11	HLE10543.	05/17/18	11:43
CHAAP-21B-DS-SS08	SL4180-12	HLE10544.	05/17/18	12:14
CHAAP-21B-DS-SB08-5	SL4180-13	HLE10545.	05/17/18	12:45
CHAAP-21B-DS-SS09	SL4180-14	HLE10546.	05/17/18	13:16
CHAAP-21B-DS-SB09-5	SL4180-15	HLE10547.	05/17/18	13:47
CHAAP-21B-DS-SS11	SL4180-16	HLE10640.	05/22/18	16:18
CHAAP-21B-DS-SS111	SL4180-17	HLE10641.	05/22/18	16:49
CHAAP-21B-DS-SB11-5	SL4180-18	HLE10642.	05/22/18	17:20
CHAAP-21B-DS-SS10	SL4180-19	HLE10643.	05/22/18	17:51
CHAAP-21B-DS-SB10-5	SL4180-20	HLE10644.	05/22/18	18:22

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Method Blank Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
Lab File ID : HLE10686.D
Instrument ID : HPLC02
Matrix : SL

SDG : SL4180
Lab Sample ID : WG228857-1
Date Extracted : 22-MAY-18
Date Analyzed : 23-MAY-18
Time Analyzed : 17:21

This Method Blank applies to the following samples, LCS, MS and MSD:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
Laboratory Control S	WG228857-2	HLE10687.	05/23/18	17:52
CHAAP-21B-DS-SB02-10	SL4180-4RE	HLE10688.	05/23/18	18:23

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ANALYTICAL SERVICES

Method Blank Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
Lab File ID : HLE10791.D
Instrument ID : HPLC02
Matrix : SL

SDG : SL4180
Lab Sample ID : WG228439-1C
Date Extracted : 15-MAY-18
Date Analyzed : 26-MAY-18
Time Analyzed : 07:39

This Method Blank applies to the following samples, LCS, MS and MSD:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
CHAAP-21B-DS-SS06	SL4180-5C	HLE10792.	05/26/18	08:28
CHAAP-21B-DS-SB06-5	SL4180-6C	HLE10793.	05/26/18	09:18
CHAAP-21B-DS-SB06-10	SL4180-7C	HLE10794.	05/26/18	10:07

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ANALYTICAL SERVICES

Method Blank Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
Lab File ID : HLE10802.D
Instrument ID : HPLC02
Matrix : SL

SDG : SL4180
Lab Sample ID : WG228437-1C
Date Extracted : 15-MAY-18
Date Analyzed : 26-MAY-18
Time Analyzed : 16:40

This Method Blank applies to the following samples, LCS, MS and MSD:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
CHAAP-21B-DS-SS04	SL4180-21C	HLE10803.	05/26/18	17:29

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Form 8
GC Analytical Sequence

Lab Name : Katahdin Analytical Services **SDG :** SL4180
Project : Cornhusker Army Ammunition Plant **Column ID :** B
Instrument ID : HPLC02

Client Sample ID	Lab Sample ID	Date Analyzed	Time Analyzed	DNB	DNB
Initial Calibration	WG225143-7	03/20/18	14:54	8.575	
Initial Calibration	WG225143-6	03/20/18	15:26	8.57	
Initial Calibration	WG225143-5	03/20/18	15:58	8.57	
Initial Calibration	WG225143-4	03/20/18	16:30	8.57	
Initial Calibration	WG225143-3	03/20/18	17:01	8.57	
Initial Calibration	WG225143-2	03/20/18	17:33	8.574	
Initial Calibration	WG225143-1	03/20/18	18:05	8.587	
Independent Source	WG225143-8	03/20/18	18:37		
Continuing Calibrati	WG228756-2	05/15/18	16:26	8.515	
Method Blank Sample	WG228334-1	05/15/18	19:01	8.536	
Laboratory Control S	WG228334-2	05/15/18	19:32	8.529	
CHAAP-EB-051418	SL4180-29	05/15/18	20:34	8.554	
Continuing Calibrati	WG228756-3	05/15/18	22:07	8.521	
Continuing Calibrati	WG228756-7	05/16/18	21:15	8.518	
Method Blank Sample	WG228437-1	05/16/18	22:48	8.53	
Laboratory Control S	WG228437-2	05/16/18	23:19	8.522	
Method Blank Sample	WG228439-1	05/17/18	02:25	8.536	
Continuing Calibrati	WG228756-8	05/17/18	02:56	8.525	
Laboratory Control S	WG228439-2	05/17/18	03:27	8.527	
Matrix Spike	WG228439-3	05/17/18	03:58	8.547	
Matrix Spike Duplica	WG228439-4	05/17/18	04:29	8.536	
Matrix Spike	WG228439-5	05/17/18	05:00	8.542	
Matrix Spike Duplica	WG228439-6	05/17/18	05:31	8.548	
CHAAP-21B-DS-SS02	SL4180-1	05/17/18	06:02	8.543	
CHAAP-21B-DS-SS102	SL4180-2	05/17/18	06:33	8.552	
CHAAP-21B-DS-SB02-5	SL4180-3	05/17/18	07:04	8.559	
CHAAP-21B-DS-SS06	SL4180-5	05/17/18	08:06	8.554	
Continuing Calibrati	WG228756-9	05/17/18	08:37	8.539	
CHAAP-21B-DS-SB06-5	SL4180-6	05/17/18	09:08	8.56	
CHAAP-21B-DS-SB06-10	SL4180-7	05/17/18	09:39	8.553	
CHAAP-21B-DS-SS07	SL4180-8	05/17/18	10:10	8.553	
CHAAP-21B-DS-SB07-5	SL4180-9	05/17/18	10:41	8.547	
CHAAP-21B-DS-SB107-5	SL4180-10	05/17/18	11:12	8.559	
CHAAP-21B-DS-SB07-10	SL4180-11	05/17/18	11:43	8.56	
CHAAP-21B-DS-SS08	SL4180-12	05/17/18	12:14	8.555	
CHAAP-21B-DS-SB08-5	SL4180-13	05/17/18	12:45	8.559	

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Form 8
GC Analytical Sequence

Lab Name : Katahdin Analytical Services
SDG : SL4180
Project : Cornhusker Army Ammunition Plant
Column ID : B
Instrument ID : HPLC02

CHAAP-21B-DS-SS09	SL4180-14	05/17/18	13:16	8.564	
CHAAP-21B-DS-SB09-5	SL4180-15	05/17/18	13:47	8.551	
Continuing Calibrati	WG228756-10	05/17/18	14:18	8.535	
Continuing Calibrati	WG228756-15	05/22/18	15:47	8.592	
CHAAP-21B-DS-SS11	SL4180-16	05/22/18	16:18	8.611	
CHAAP-21B-DS-SS111	SL4180-17	05/22/18	16:49	8.607	
CHAAP-21B-DS-SB11-5	SL4180-18	05/22/18	17:20	8.612	
CHAAP-21B-DS-SS10	SL4180-19	05/22/18	17:51	8.602	
CHAAP-21B-DS-SB10-5	SL4180-20	05/22/18	18:22	8.624	
CHAAP-21B-DS-SS04	SL4180-21	05/22/18	18:53	8.612	
CHAAP-21B-DS-SB04-5	SL4180-22	05/22/18	19:24	8.615	
CHAAP-21B-DS-SB04-10	SL4180-23	05/22/18	19:55	8.616	
CHAAP-21B-DS-SS03	SL4180-24	05/22/18	20:26	8.587	
CHAAP-21B-DS-SS103	SL4180-25	05/22/18	20:57	8.605	
Continuing Calibrati	WG228756-16	05/22/18	21:28	8.563	
CHAAP-21B-DS-SB03-5	SL4180-26	05/22/18	21:59	8.613	
CHAAP-21B-DS-SB03-10	SL4180-27	05/22/18	22:30	8.589	
Continuing Calibrati	WG228756-17	05/23/18	03:09	8.587	
Continuing Calibrati	WG228942-6	05/23/18	13:44	8.573	
Method Blank Sample	WG228857-1	05/23/18	17:21	8.561	
Laboratory Control S	WG228857-2	05/23/18	17:52	8.586	
CHAAP-21B-DS-SB02-10	SL4180-4RE	05/23/18	18:23	8.58	
Continuing Calibrati	WG228942-7	05/23/18	19:25	8.553	

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Form 8
GC Analytical Sequence

Lab Name : Katahdin Analytical Services
SDG : SL4180
Project : Cornhusker Army Ammunition Plant
Column ID : B
Instrument ID : HPLC02

Client Sample ID	Lab Sample ID	Date Analyzed	Time Analyzed	DNB	
Initial Calibration	WG210620-15	08/01/17	09:37	13.49	
Initial Calibration	WG210620-14	08/01/17	10:27	13.48	
Initial Calibration	WG210620-13	08/01/17	11:16	13.48	
Initial Calibration	WG210620-12	08/01/17	12:05	13.47	
Initial Calibration	WG210620-11	08/01/17	12:54	13.47	
Initial Calibration	WG210620-10	08/01/17	13:44	13.47	
Initial Calibration	WG210620-9	08/01/17	14:33	13.46	
Independent Source	WG210620-16	08/01/17	17:01		
Continuing Calibrati	WG228756-12	05/26/18	01:55	13.18	
Method Blank Sample	WG228439-1C	05/26/18	07:39	13.20	
CHAAP-21B-DS-SS06	SL4180-5C	05/26/18	08:28	13.22	
CHAAP-21B-DS-SB06-5	SL4180-6C	05/26/18	09:18	13.21	
CHAAP-21B-DS-SB06-10	SL4180-7C	05/26/18	10:07	13.22	
Continuing Calibrati	WG228756-13	05/26/18	10:56	13.19	
Method Blank Sample	WG228437-1C	05/26/18	16:40	13.20	
CHAAP-21B-DS-SS04	SL4180-21C	05/26/18	17:29	13.20	
Continuing Calibrati	WG228756-14	05/26/18	19:57	13.19	

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Sample Data Section

KATAHDIN ANALYTICAL SERVICES - ORGANIC DATA QUALIFIERS

The sampled date indicated on the attached Report(s) of Analysis (ROA) is the date for which a grab sample was collected or the date for which a composite sample was completed. Beginning and start times for composite samples can be found on the Chain-of-Custody.

U Indicates the compound was analyzed for but not detected above the specified level. This level may be the Limit of Quantitation (LOQ)(previously called Practical Quantitation Level (PQL)), the Limit of Detection (LOD) or Method Detection Limit (MDL) as required by the client.

Note: All results reported as "U" MDL have a 50% rate for false negatives compared to those results reported as "U" PQL/LOQ or "U" LOD, where the rate of false negatives is <1%.

* Compound recovery or percent RPD (relative percent difference) was outside of quality control limits.

D Indicates the result was obtained from analysis of a diluted sample. Surrogate recoveries may not be calculable.

E Estimated value. This flag identifies compounds whose concentrations exceed the upper level of the calibration range of the instrument for that specific analysis.

J Estimated value. The analyte was detected in the sample at a concentration less than the laboratory Limit of Quantitation (LOQ)(previously called Practical Quantitation Limit (PQL)), but above the Method Detection Limit (MDL).

or

J Used for Pesticides, PCBs, Herbicides, Formaldehyde, Explosives and Method 504.1 analytes when there is a greater than 40% difference for detected concentrations between the two GC columns.

B Indicates the analyte was detected in the laboratory method blank analyzed concurrently with the sample.

C Indicates that the flagged compound did not meet DoD criteria in the corresponding daily calibration verification (CV).

L Indicates that the flagged compound did not meet DoD criteria in the corresponding Laboratory Control Sample (LCS) and/or Laboratory Control Sample Duplicate (LCSD) prepared and/or analyzed concurrently with the sample.

M Indicates that the flagged compound did not meet DoD criteria in the Matrix Spike and/or Matrix Spike Duplicate prepared and/or analyzed concurrently with the native sample.

N Presumptive evidence of a compound based on a mass spectral library search.

A Indicates that a tentatively identified compound is a suspected aldol-condensation product.

P Used for Pesticide/Aroclor analyte when there is a greater than 25% difference for detected concentrations between the two GC columns. (for CLP methods only).

Katahdin Analytical Services, Inc.

Manual Integration Codes For GC/MS, GC, HPLC and/or IC

M1	Peak splitting.
M2	Well defined peaks on the shoulders of the other peaks.
M3	There is additional area due to a coeluting interferant.
M4	There are negative spikes in the baseline.
M5	There are rising or falling baselines.
M6	The software has failed to detect a peak or misidentified a peak.
M7	Excessive peak tailing.
M8	Analysis such as GRO, DRO and TPH require a baseline hold.
M9	Peak was not completely integrated as in GC/MS.
M10	Primary ion was correctly integrated, but secondary or tertiary ion needed manual integration as in GC/MS.
M11	For GC analysis, when a sample is diluted by 1:10 or more, the surrogate is set to undetected and then the area under the surrogate is manually integrated.
M12	Manual integration saved in method due to TurboChrom floating point error.

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-1
Client ID: CHAAP-21B-DS-SS02
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: HLE10532.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 15-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228439

Analysis Date: 17-MAY-18
Analyst: AAB
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 85.
Report Date: 30-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	56	ug/Kgdrywt	1	100	110	9.6	56.
RDX	U	56	ug/Kgdrywt	1	100	110	7.6	56.
1,3,5-Trinitrobenzene	U	56	ug/Kgdrywt	1	100	110	7.5	56.
1,3-Dinitrobenzene	U	56	ug/Kgdrywt	1	100	110	6.9	56.
Tetryl	U	56	ug/Kgdrywt	1	100	110	6.0	56.
Nitrobenzene	U	56	ug/Kgdrywt	1	100	110	25.	56.
2,4,6-Trinitrotoluene	U	56	ug/Kgdrywt	1	100	110	7.5	56.
2-Am-DNT	U	56	ug/Kgdrywt	1	100	110	24.	56.
4-Am-DNT	U	56	ug/Kgdrywt	1	100	110	19.	56.
2,6-Dinitrotoluene	U	56	ug/Kgdrywt	1	100	110	30.	56.
2,4-Dinitrotoluene	U	56	ug/Kgdrywt	1	100	110	17.	56.
2-Nitrotoluene	U	56	ug/Kgdrywt	1	100	110	13.	56.
3-Nitrotoluene	U	56	ug/Kgdrywt	1	100	110	8.8	56.
4-Nitrotoluene	U	56	ug/Kgdrywt	1	100	110	30.	56.
Nitroglycerin	U	450	ug/Kgdrywt	1	800	900	140	450
PETN	U	450	ug/Kgdrywt	1	800	900	120	450
1,2-Dinitrobenzene		94.8	%					

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HLE10532.D
Report Date: 30-May-2018 11:17

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HLE10532.D
Lab Smp Id: SL4180-1 Client Smp ID: CHAAP-21B-DS-SS02
Inj Date : 17-MAY-2018 06:02
Operator : AAB Inst ID: hplc02.i
Smp Info : SL4180-1
Misc Info : WG228756,WG228439,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\EXPB05A.m
Meth Date : 22-May-2018 05:42 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 51
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

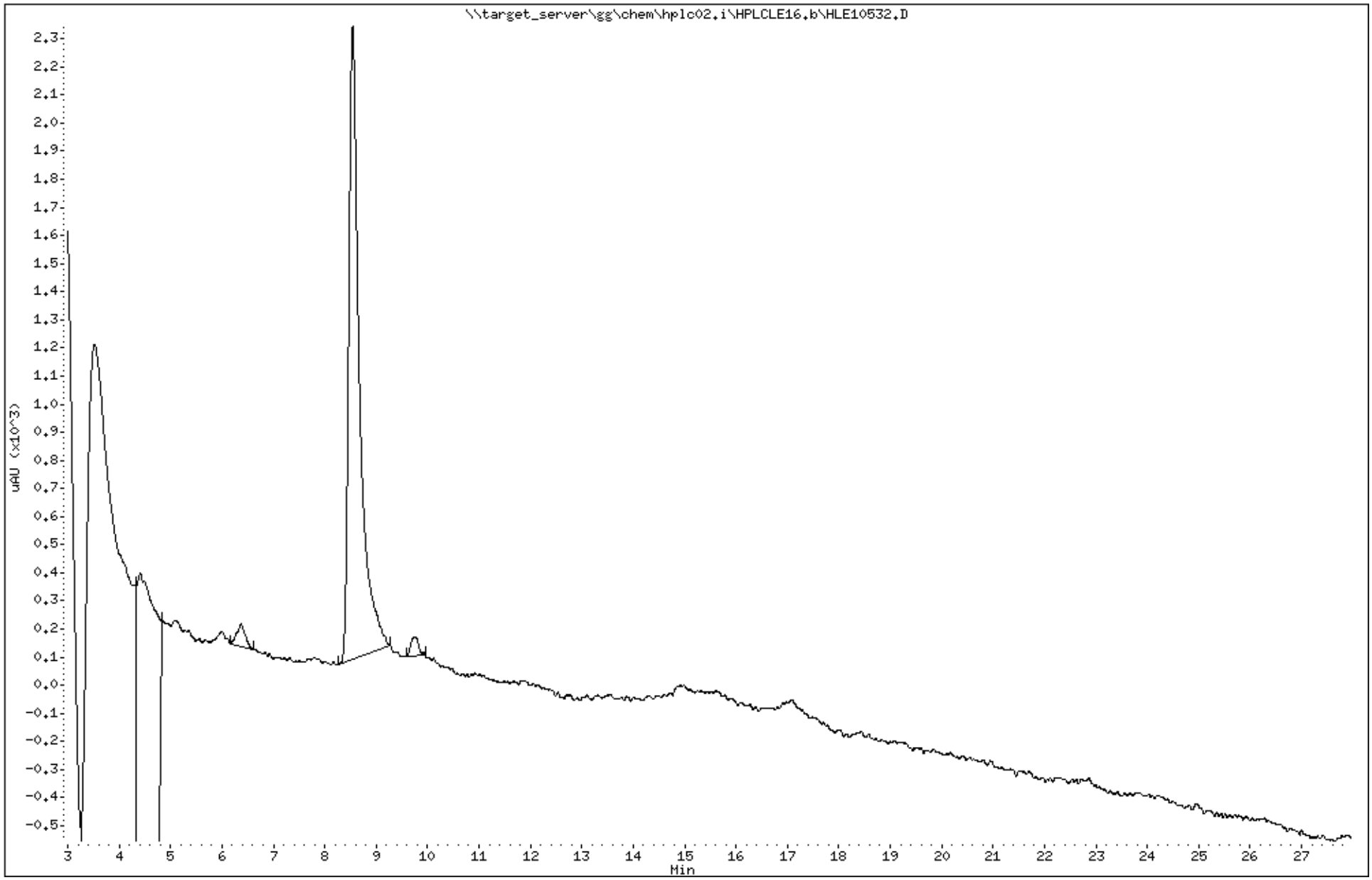
Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01050	Weight of Sample (Kg)
M	14.982	% Moisture
Cpnd Variable		Local Compound Variable

					CONCENTRATIONS	
					ON-COLUMN	FINAL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/mL)	(ug/Kgdrywt)

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HLE10532.D
Date : 17-MAY-2018 06:02
Client ID: CHAAP-21B-DS-SS02
Sample Info: SL4180-1

Instrument: hplc02.i

Operator: AAB
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 2000020

Data File: HLE10532.D
Report Date: 30-May-2018 11:23

Katahdin Analytical Services

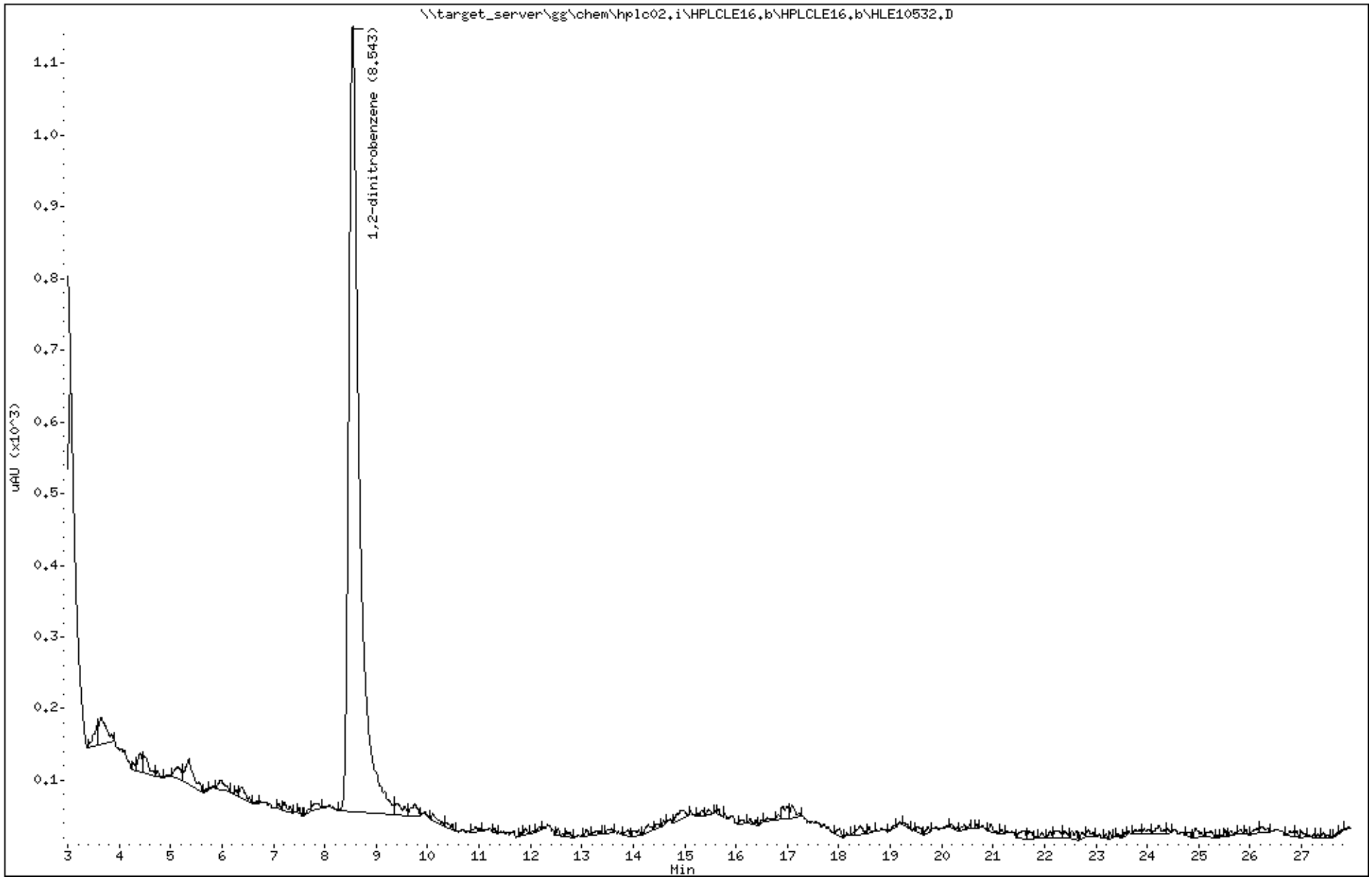
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HPLCLE16.b\HLE10532.D
Lab Smp Id: SL4180-1 Client Smp ID: CHAAP-21B-DS-SS02
Inj Date : 17-MAY-2018 06:02
Operator : AAB Inst ID: hplc02.i
Smp Info : SL4180-1
Misc Info : WG228756,WG228439,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\EXPB05A.m\EXPB05A.m
Meth Date : 22-May-2018 05:33 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 51
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01050	Weight of Sample (Kg)
M	14.982	% Moisture
Cpnd Variable		Local Compound Variable

						CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	
Compounds	RT	EXP RT	DLT RT	RESPONSE				REVIEW CODE
$ 2 1,2-dinitrobenzene	8.543	8.528	0.015	1097		0.23706	531	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HPLCLE16.b\HLE10532.D
Date : 17-MAY-2018 06:02
Client ID: CHAAP-21B-DS-SS02
Instrument: hplc02.i
Sample Info: SL4180-1
Operator: AAB
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 2000022

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-2
Client ID: CHAAP-21B-DS-SS102
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: HLE10533.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 15-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228439

Analysis Date: 17-MAY-18
Analyst: AAB
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 83.
Report Date: 30-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	58	ug/Kgdrywt	1	100	120	10.	58.
RDX	U	58	ug/Kgdrywt	1	100	120	7.9	58.
1,3,5-Trinitrobenzene	U	58	ug/Kgdrywt	1	100	120	7.8	58.
1,3-Dinitrobenzene	U	58	ug/Kgdrywt	1	100	120	7.2	58.
Tetryl	U	58	ug/Kgdrywt	1	100	120	6.3	58.
Nitrobenzene	U	58	ug/Kgdrywt	1	100	120	26.	58.
2,4,6-Trinitrotoluene	U	58	ug/Kgdrywt	1	100	120	7.8	58.
2-Am-DNT	U	58	ug/Kgdrywt	1	100	120	24.	58.
4-Am-DNT	U	58	ug/Kgdrywt	1	100	120	20.	58.
2,6-Dinitrotoluene	U	58	ug/Kgdrywt	1	100	120	32.	58.
2,4-Dinitrotoluene	U	58	ug/Kgdrywt	1	100	120	18.	58.
2-Nitrotoluene	U	58	ug/Kgdrywt	1	100	120	14.	58.
3-Nitrotoluene	U	58	ug/Kgdrywt	1	100	120	9.2	58.
4-Nitrotoluene	U	58	ug/Kgdrywt	1	100	120	32.	58.
Nitroglycerin	U	470	ug/Kgdrywt	1	800	930	140	470
PETN	U	470	ug/Kgdrywt	1	800	930	130	470
1,2-Dinitrobenzene		94.7	%					

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HLE10533.D
Report Date: 30-May-2018 11:17

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HLE10533.D
Lab Smp Id: SL4180-2 Client Smp ID: CHAAP-21B-DS-SS102
Inj Date : 17-MAY-2018 06:33
Operator : AAB Inst ID: hplc02.i
Smp Info : SL4180-2
Misc Info : WG228756,WG228439,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\EXPB05A.m
Meth Date : 22-May-2018 05:42 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 52
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

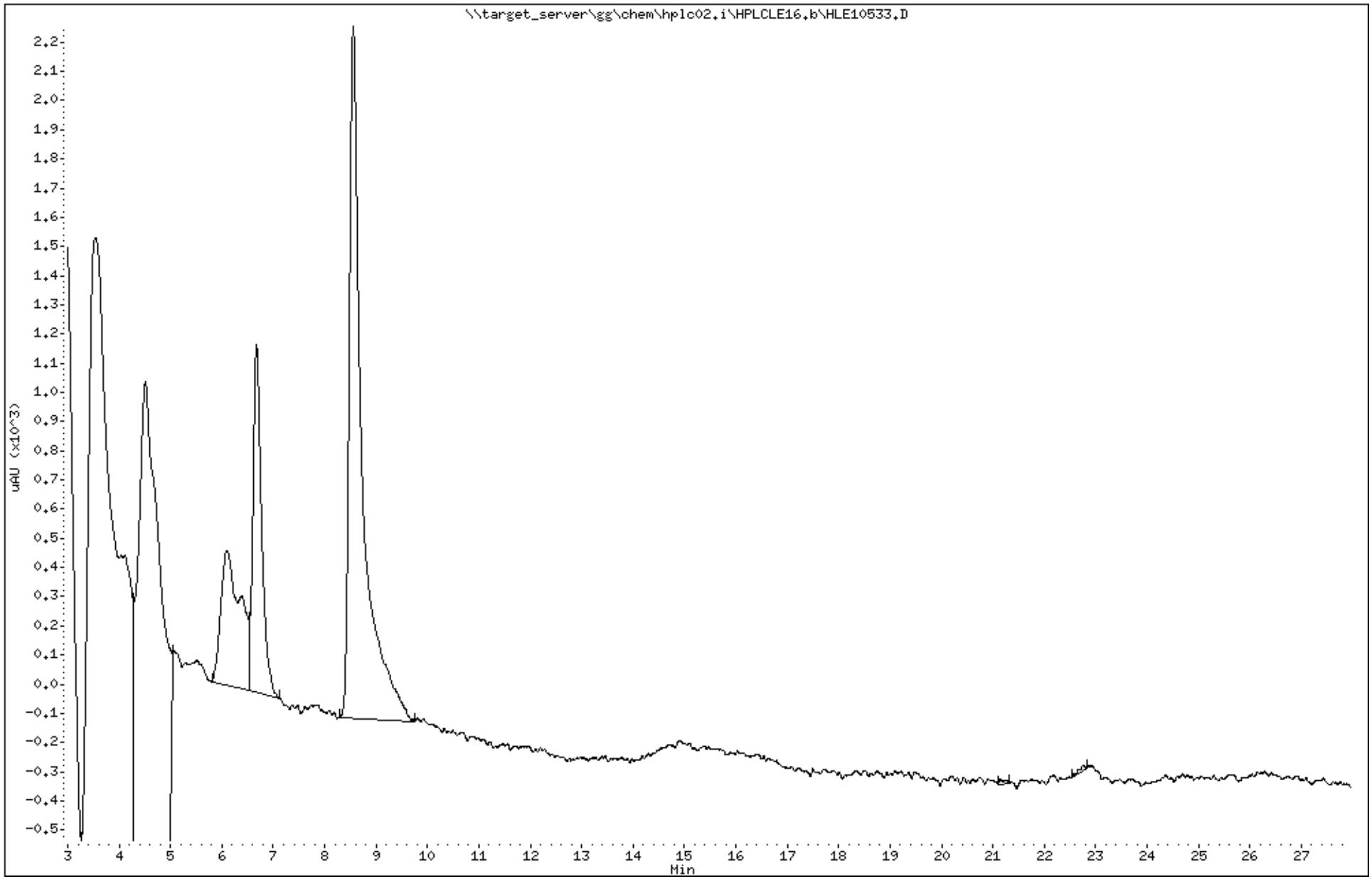
Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01030	Weight of Sample (Kg)
M	16.863	% Moisture
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HLE10533.D
Date : 17-MAY-2018 06:33
Client ID: CHAAP-21B-DS-SS102
Sample Info: SL4180-2

Instrument: hplc02.i

Operator: AAB
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 2000025

Data File: HLE10533.D
Report Date: 30-May-2018 11:23

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HPLCLE16.b\HLE10533.D
Lab Smp Id: SL4180-2 Client Smp ID: CHAAP-21B-DS-SS102
Inj Date : 17-MAY-2018 06:33
Operator : AAB Inst ID: hplc02.i
Smp Info : SL4180-2
Misc Info : WG228756,WG228439,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\EXPB05A.m\EXPB05A.m
Meth Date : 22-May-2018 05:33 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 52
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01030	Weight of Sample (Kg)
M	16.863	% Moisture
Cpnd Variable		Local Compound Variable

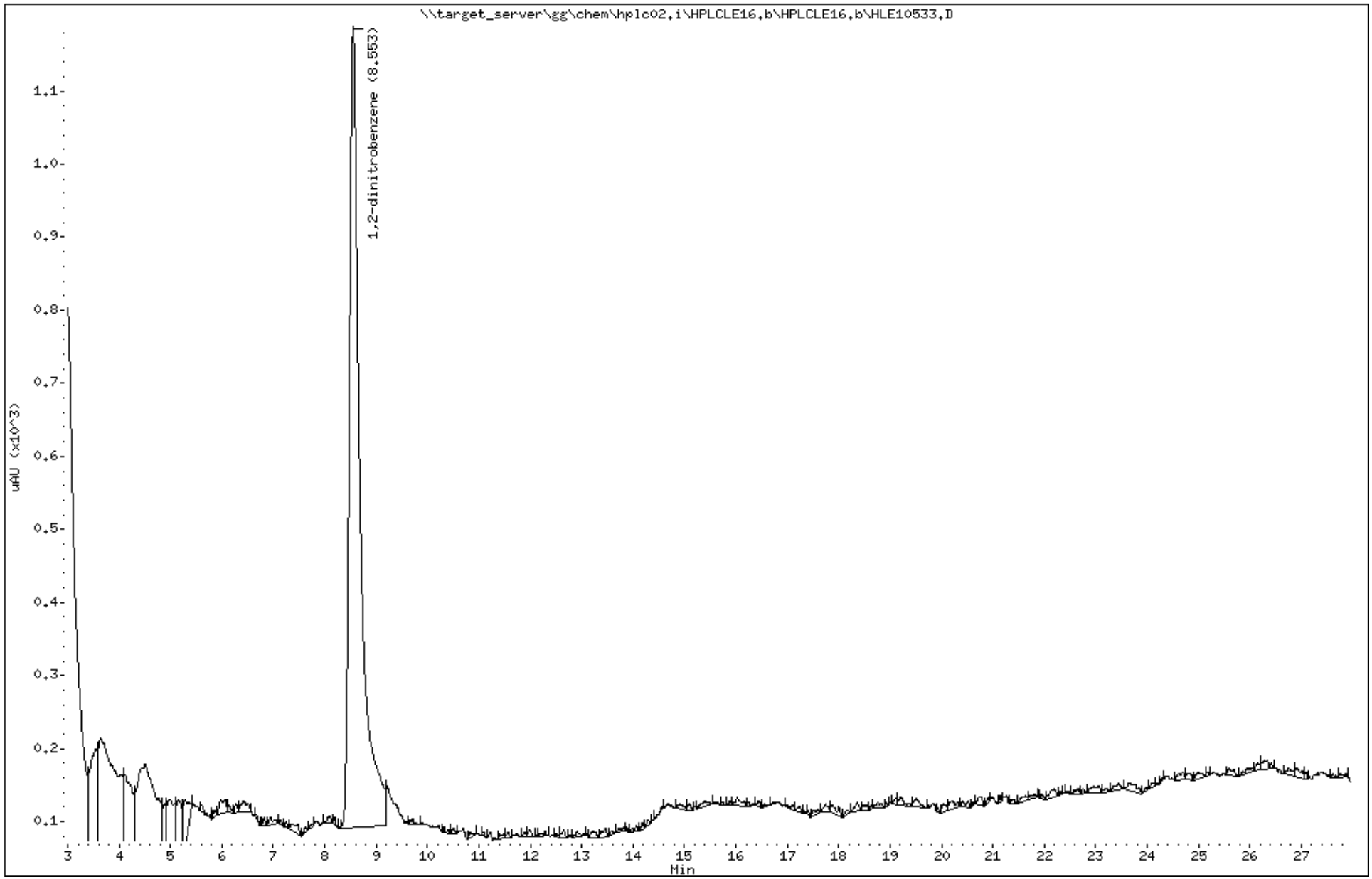
					CONCENTRATIONS		
					ON-COLUMN	FINAL	
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/mL)	(ug/Kgdrywt)	REVIEW CODE
$ 2 1,2-dinitrobenzene	8.552	8.528	0.024	1096	0.23685	553(M)	M9

QC Flag Legend

M - Compound response manually integrated.

12:54 pm, May 30, 2018

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HPLCLE16.b\HLE10533.D
Date : 17-MAY-2018 06:33
Client ID: CHAAP-21B-DS-SS102
Instrument: hplc02.i
Sample Info: SL4180-2
Operator: AAB
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 2000027

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-3
Client ID: CHAAP-21B-DS-SB02-5
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: HLE10534.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 15-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228439

Analysis Date: 17-MAY-18
Analyst: AAB
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 82.
Report Date: 30-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	58	ug/Kgdrywt	1	100	120	10.	58.
RDX	U	58	ug/Kgdrywt	1	100	120	7.9	58.
1,3,5-Trinitrobenzene	U	58	ug/Kgdrywt	1	100	120	7.8	58.
1,3-Dinitrobenzene	U	58	ug/Kgdrywt	1	100	120	7.2	58.
Tetryl	U	58	ug/Kgdrywt	1	100	120	6.3	58.
Nitrobenzene	U	58	ug/Kgdrywt	1	100	120	26.	58.
2,4,6-Trinitrotoluene	U	58	ug/Kgdrywt	1	100	120	7.8	58.
2-Am-DNT	U	58	ug/Kgdrywt	1	100	120	24.	58.
4-Am-DNT	U	58	ug/Kgdrywt	1	100	120	20.	58.
2,6-Dinitrotoluene	U	58	ug/Kgdrywt	1	100	120	32.	58.
2,4-Dinitrotoluene	U	58	ug/Kgdrywt	1	100	120	18.	58.
2-Nitrotoluene	U	58	ug/Kgdrywt	1	100	120	14.	58.
3-Nitrotoluene	U	58	ug/Kgdrywt	1	100	120	9.2	58.
4-Nitrotoluene	U	58	ug/Kgdrywt	1	100	120	32.	58.
Nitroglycerin	U	470	ug/Kgdrywt	1	800	930	140	470
PETN	U	470	ug/Kgdrywt	1	800	930	130	470
1,2-Dinitrobenzene		94.3	%					

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HLE10534.D
Report Date: 30-May-2018 11:17

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Data file : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HLE10534.D
Lab Smp Id: SL4180-3 Client Smp ID: CHAAP-21B-DS-SB02-5
Inj Date : 17-MAY-2018 07:04
Operator : AAB Inst ID: hplc02.i
Smp Info : SL4180-3
Misc Info : WG228756,WG228439,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\EXPB05A.m
Meth Date : 22-May-2018 05:42 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 53
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01050	Weight of Sample (Kg)
M	18.411	% Moisture
Cpnd Variable		Local Compound Variable

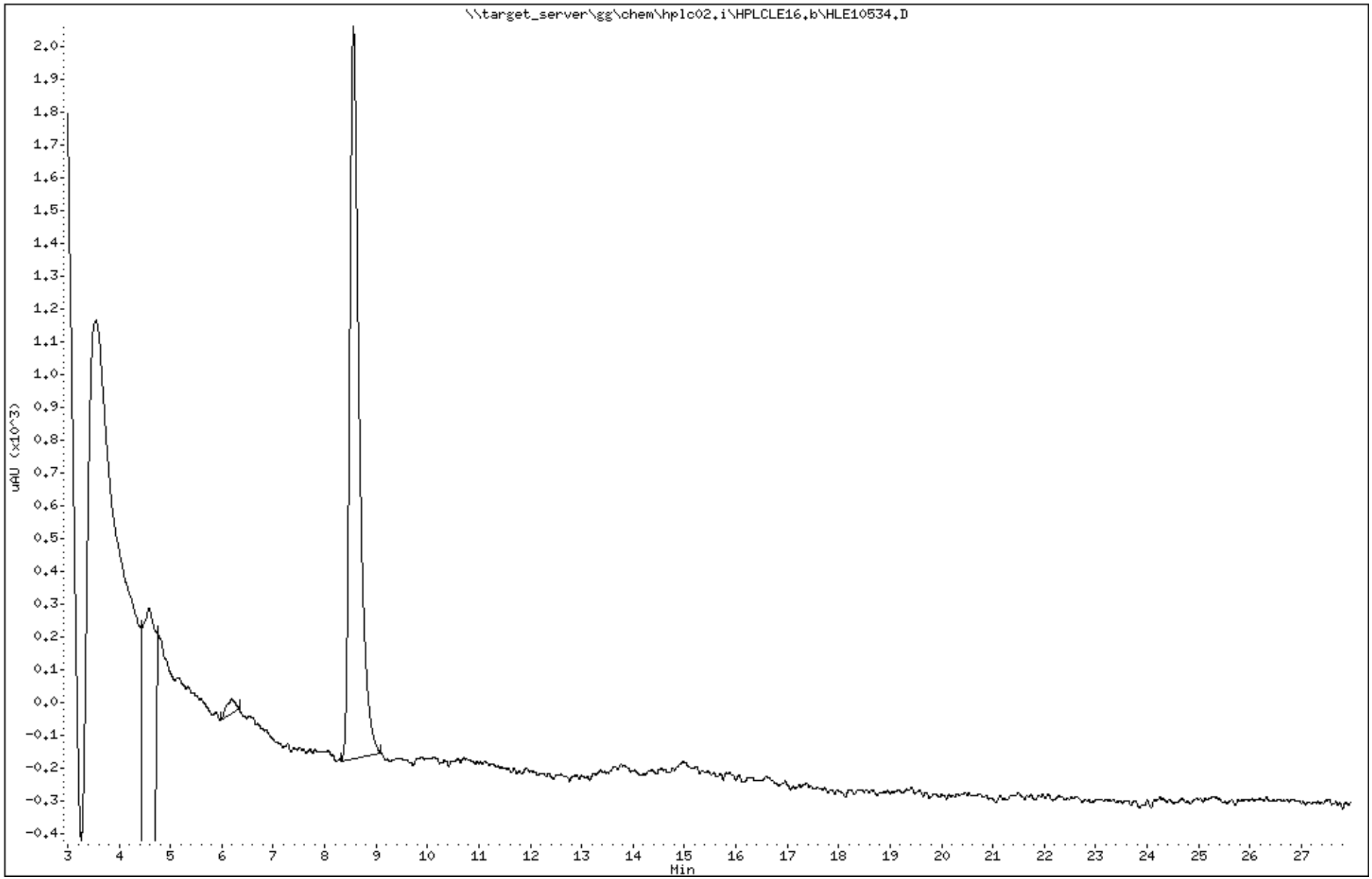
Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HLE10534.D
Date : 17-MAY-2018 07:04
Client ID: CHAAP-21B-DS-SB02-5
Sample Info: SL4180-3

Instrument: hplc02.i

Operator: AAB
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 2000030

Data File: HLE10534.D
Report Date: 30-May-2018 11:23

Katahdin Analytical Services

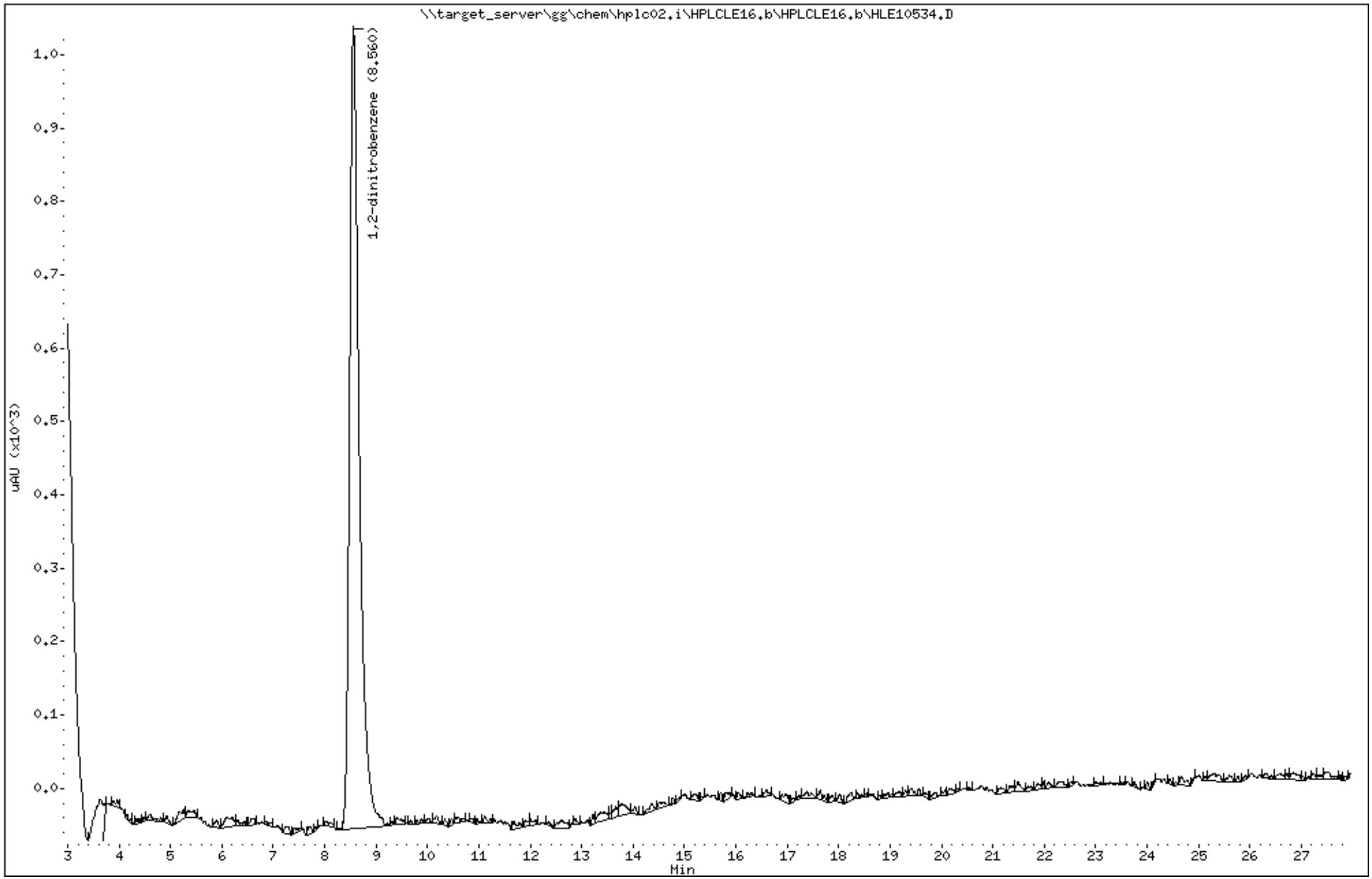
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HPLCLE16.b\HLE10534.D
Lab Smp Id: SL4180-3 Client Smp ID: CHAAP-21B-DS-SB02-5
Inj Date : 17-MAY-2018 07:04
Operator : AAB Inst ID: hplc02.i
Smp Info : SL4180-3
Misc Info : WG228756,WG228439,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\EXPB05A.m\EXPB05A.m
Meth Date : 22-May-2018 05:33 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 53
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01050	Weight of Sample (Kg)
M	18.411	% Moisture
Cpnd Variable		Local Compound Variable

					CONCENTRATIONS		
					ON-COLUMN	FINAL	
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/mL)	(ug/Kgdrywt)	REVIEW CODE
$ 2 1,2-dinitrobenzene	8.559	8.528	0.031	1093	0.23620	551	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HPLCLE16.b\HLE10534.D
Date : 17-MAY-2018 07:04
Client ID: CHAAP-21B-DS-SB02-5
Instrument: hplc02.i
Sample Info: SL4180-3
Operator: AAB
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 2000032

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-4RE
Client ID: CHAAP-21B-DS-SB02-10
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: HLE10688.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 22-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228857

Analysis Date: 23-MAY-18
Analyst: AC
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 77.
Report Date: 30-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	62	ug/Kgdrywt	1	100	120	11.	62.
RDX	U	62	ug/Kgdrywt	1	100	120	8.5	62.
1,3,5-Trinitrobenzene	U	62	ug/Kgdrywt	1	100	120	8.4	62.
1,3-Dinitrobenzene	U	62	ug/Kgdrywt	1	100	120	7.8	62.
Tetryl	U	62	ug/Kgdrywt	1	100	120	6.8	62.
Nitrobenzene	U	62	ug/Kgdrywt	1	100	120	28.	62.
2,4,6-Trinitrotoluene	U	62	ug/Kgdrywt	1	100	120	8.4	62.
2-Am-DNT	U	62	ug/Kgdrywt	1	100	120	26.	62.
4-Am-DNT	U	62	ug/Kgdrywt	1	100	120	21.	62.
2,6-Dinitrotoluene	U	62	ug/Kgdrywt	1	100	120	34.	62.
2,4-Dinitrotoluene	U	62	ug/Kgdrywt	1	100	120	19.	62.
2-Nitrotoluene	U	62	ug/Kgdrywt	1	100	120	15.	62.
3-Nitrotoluene	U	62	ug/Kgdrywt	1	100	120	9.9	62.
4-Nitrotoluene	U	62	ug/Kgdrywt	1	100	120	34.	62.
Nitroglycerin	U	500	ug/Kgdrywt	1	800	1000	160	500
PETN	U	500	ug/Kgdrywt	1	800	1000	140	500
1,2-Dinitrobenzene		96.0	%					

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10688.D
Report Date: 30-May-2018 11:34

Katahdin Analytical Services

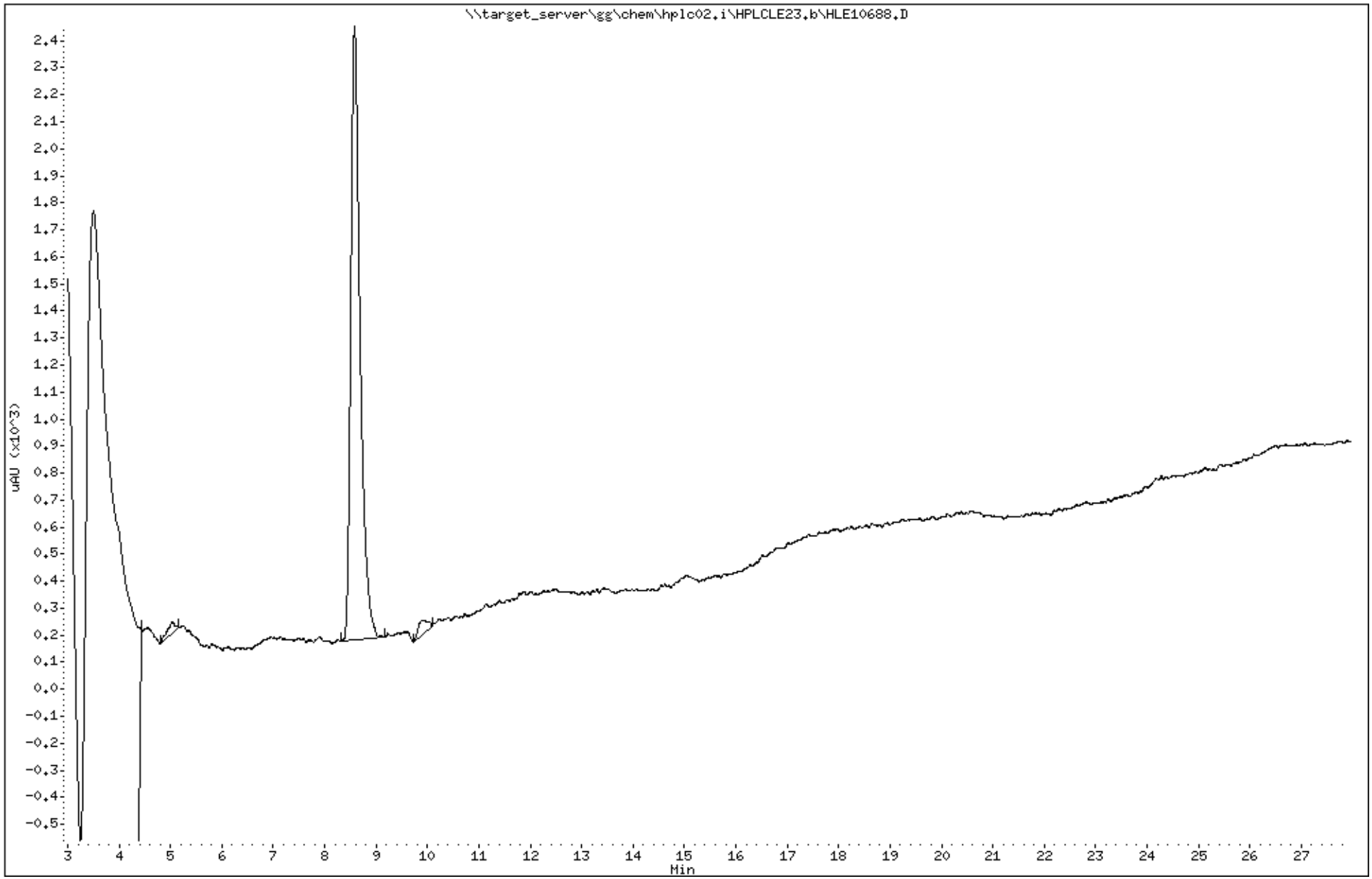
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10688.D
Lab Smp Id: SL4180-4RE Client Smp ID: HAAP-21B-DS-SB02-10
Inj Date : 23-MAY-2018 18:23
Operator : AC Inst ID: hplc02.i
Smp Info : SL4180-4RE
Misc Info : WG228942,WG228857,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\EXPB05A.m
Meth Date : 25-May-2018 03:43 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 7
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01040	Weight of Sample (Kg)
M	23.141	% Moisture
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10688.D
Date : 23-MAY-2018 18:23
Client ID: HAAP-21B-DS-SB02-10
Instrument: hplc02.i
Sample Info: SL4180-4RE
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 2000035

Data File: HLE10688.D
Report Date: 30-May-2018 11:37

Katahdin Analytical Services

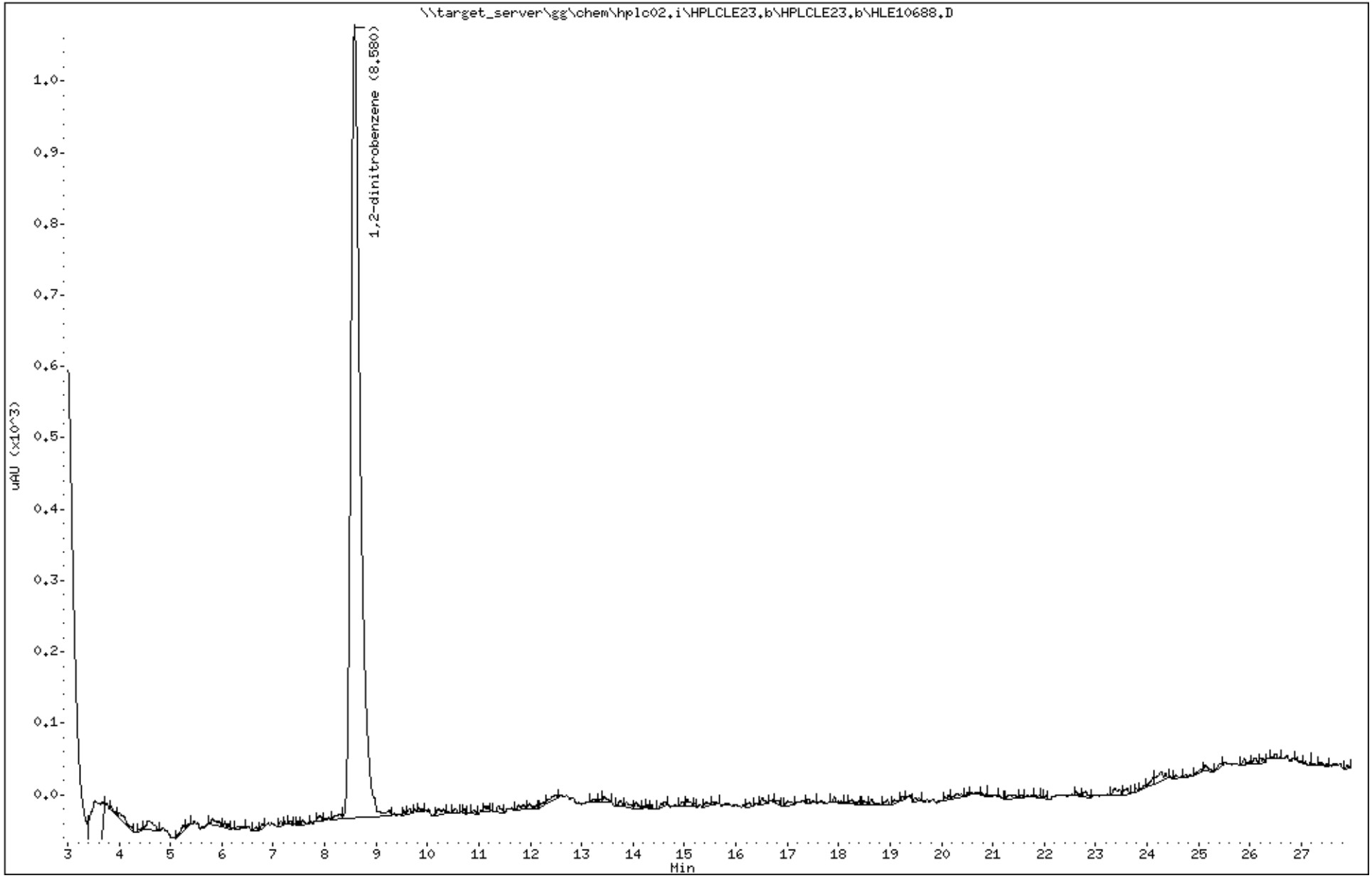
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HPLCLE23.b\HLE10688.D
Lab Smp Id: SL4180-4RE Client Smp ID: HAAP-21B-DS-SB02-10
Inj Date : 23-MAY-2018 18:23
Operator : AC Inst ID: hplc02.i
Smp Info : SL4180-4RE
Misc Info : WG228942,WG228857,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\EXPB05A.m\EXPB05A.m
Meth Date : 25-May-2018 03:41 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 7
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01040	Weight of Sample (Kg)
M	23.141	% Moisture
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	REVIEW CODE
$ 2 1,2-dinitrobenzene	8.580	8.573	0.007	1111	0.24009	601	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HPLCLE23.b\HLE10688.D
Date : 23-MAY-2018 18:23
Client ID: HAAP-21B-DS-SB02-10
Instrument: hplc02.i
Sample Info: SL4180-4RE
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 2000037

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-5
Client ID: CHAAP-21B-DS-SS06
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: HLE10536.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 15-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228439

Analysis Date: 17-MAY-18
Analyst: AAB
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 83.
Report Date: 30-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX		190	ug/Kgdrywt	1	100	110	9.3	54.
RDX	U	54	ug/Kgdrywt	1	100	110	7.4	54.
1,3,5-Trinitrobenzene	U	54	ug/Kgdrywt	1	100	110	7.3	54.
1,3-Dinitrobenzene	U	54	ug/Kgdrywt	1	100	110	6.7	54.
Tetryl	U	54	ug/Kgdrywt	1	100	110	5.8	54.
Nitrobenzene	U	54	ug/Kgdrywt	1	100	110	24.	54.
2,4,6-Trinitrotoluene	U	54	ug/Kgdrywt	1	100	110	7.3	54.
2-Am-DNT	U	54	ug/Kgdrywt	1	100	110	23.	54.
4-Am-DNT	U	54	ug/Kgdrywt	1	100	110	18.	54.
2,6-Dinitrotoluene	U	54	ug/Kgdrywt	1	100	110	29.	54.
2,4-Dinitrotoluene	U	54	ug/Kgdrywt	1	100	110	16.	54.
2-Nitrotoluene	U	54	ug/Kgdrywt	1	100	110	13.	54.
3-Nitrotoluene	U	54	ug/Kgdrywt	1	100	110	8.6	54.
4-Nitrotoluene	U	54	ug/Kgdrywt	1	100	110	29.	54.
Nitroglycerin	U	430	ug/Kgdrywt	1	800	870	130	430
PETN	U	430	ug/Kgdrywt	1	800	870	120	430
1,2-Dinitrobenzene		92.8	%					

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Katahdin
ANALYTICAL SERVICES

Form 10
Explosives Identification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant

SDG : SL4180
Lab Sample ID : SL4180-5
Client Sample ID : CHAAP-21B-DS-SS06

Column A
Instrument ID : HPLC02
Date Analyzed : 05/17/18
Time Analyzed : 08:06

Column B
Instrument ID : HPLC02
Date Analyzed : 05/26/18
Time Analyzed : 08:28

Analyte	Column	RT	Concentration	RPD
HMX	A	4.53	188	
	B	6.6	187	.5

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sales@katahdinlab.com

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HLE10536.D
Report Date: 30-May-2018 11:18

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HLE10536.D
Lab Smp Id: SL4180-5 Client Smp ID: CHAAP-21B-DS-SS06
Inj Date : 17-MAY-2018 08:06
Operator : AAB Inst ID: hplc02.i
Smp Info : SL4180-5
Misc Info : WG228756,WG228439,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\EXPB05A.m
Meth Date : 22-May-2018 05:42 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 55
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

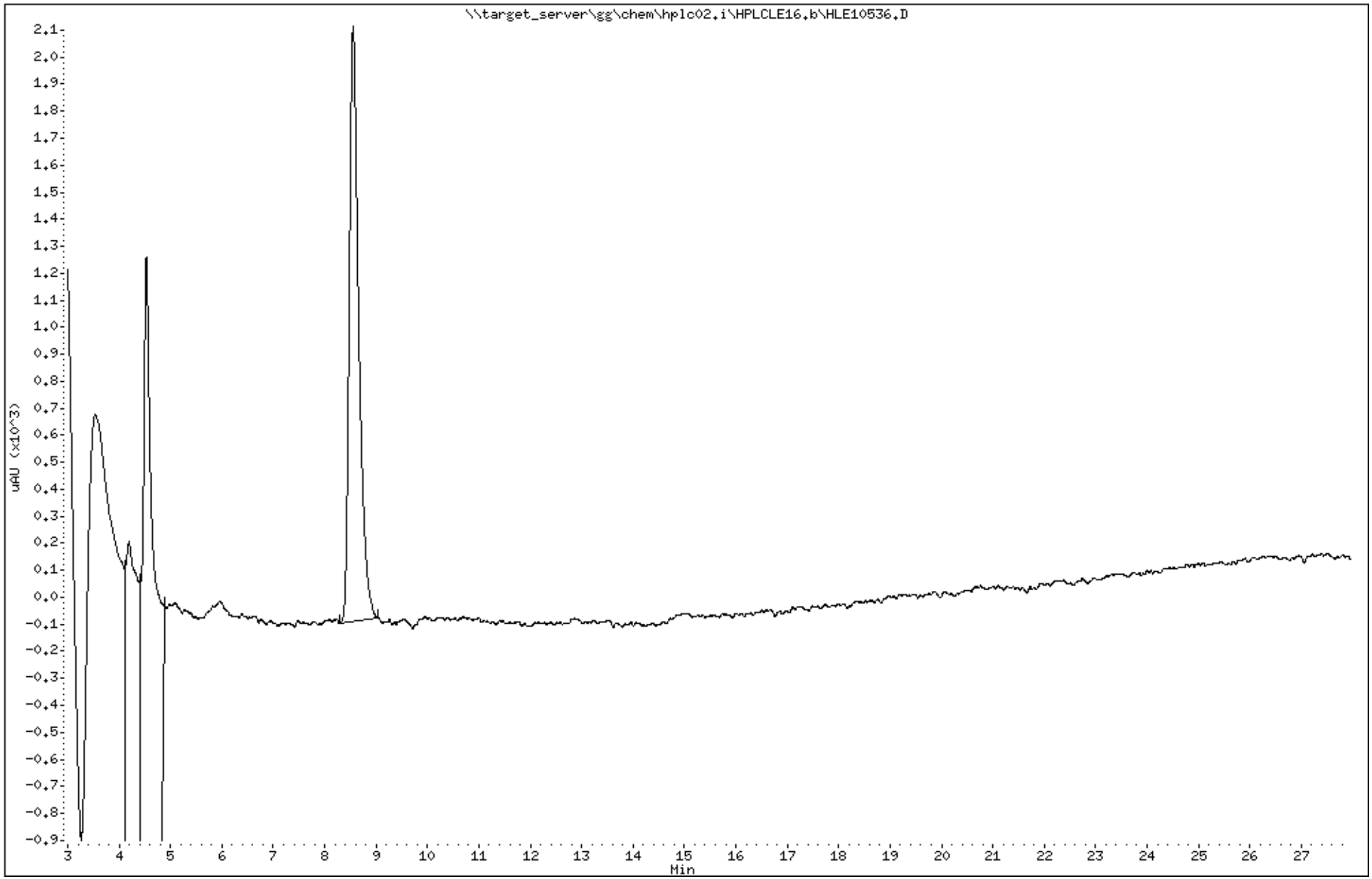
Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01110	Weight of Sample (Kg)
M	16.891	% Moisture
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HLE10536.D
Date : 17-MAY-2018 08:06
Client ID: CHAAP-21B-DS-SS06
Sample Info: SL4180-5

Instrument: hplc02.i

Operator: AAB
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 2000041

Data File: HLE10536.D
Report Date: 30-May-2018 11:23

Katahdin Analytical Services

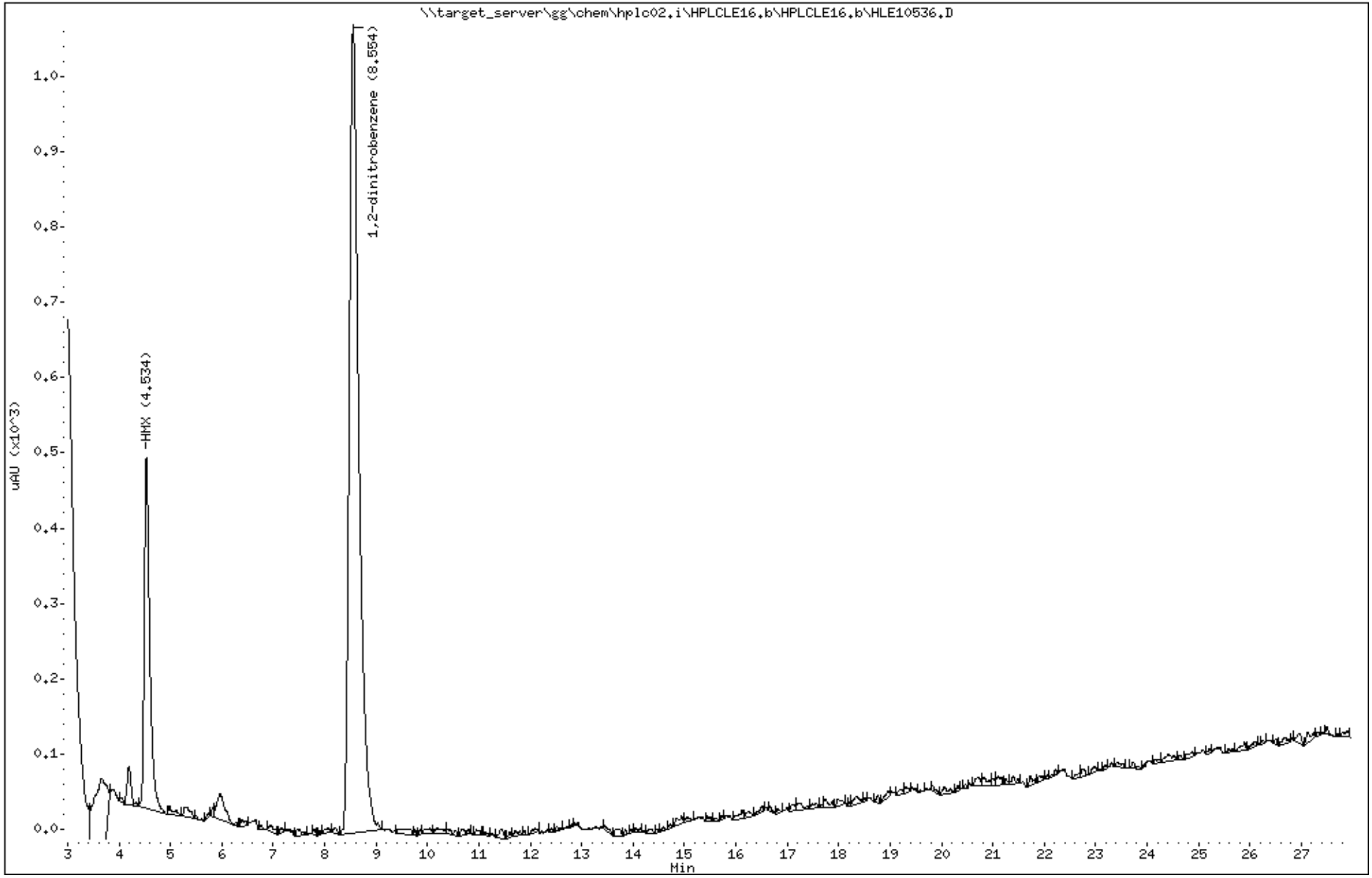
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HPLCLE16.b\HLE10536.D
Lab Smp Id: SL4180-5 Client Smp ID: CHAAP-21B-DS-SS06
Inj Date : 17-MAY-2018 08:06
Operator : AAB Inst ID: hplc02.i
Smp Info : SL4180-5
Misc Info : WG228756,WG228439,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\EXPB05A.m\EXPB05A.m
Meth Date : 22-May-2018 05:33 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 55
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01110	Weight of Sample (Kg)
M	16.891	% Moisture
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	REVIEW CODE
1	HMX	4.534	4.522	0.012	467	0.08663	188	
$ 2	1,2-dinitrobenzene	8.554	8.528	0.026	1074	0.23209	503	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HPLCLE16.b\HLE10536.D
Date : 17-MAY-2018 08:06
Client ID: CHAAP-21B-DS-SS06
Instrument: hplc02.i
Sample Info: SL4180-5
Operator: AAB
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 2000043

Data File: HLE10792.D
Report Date: 30-May-2018 11:41

Katahdin Analytical Services

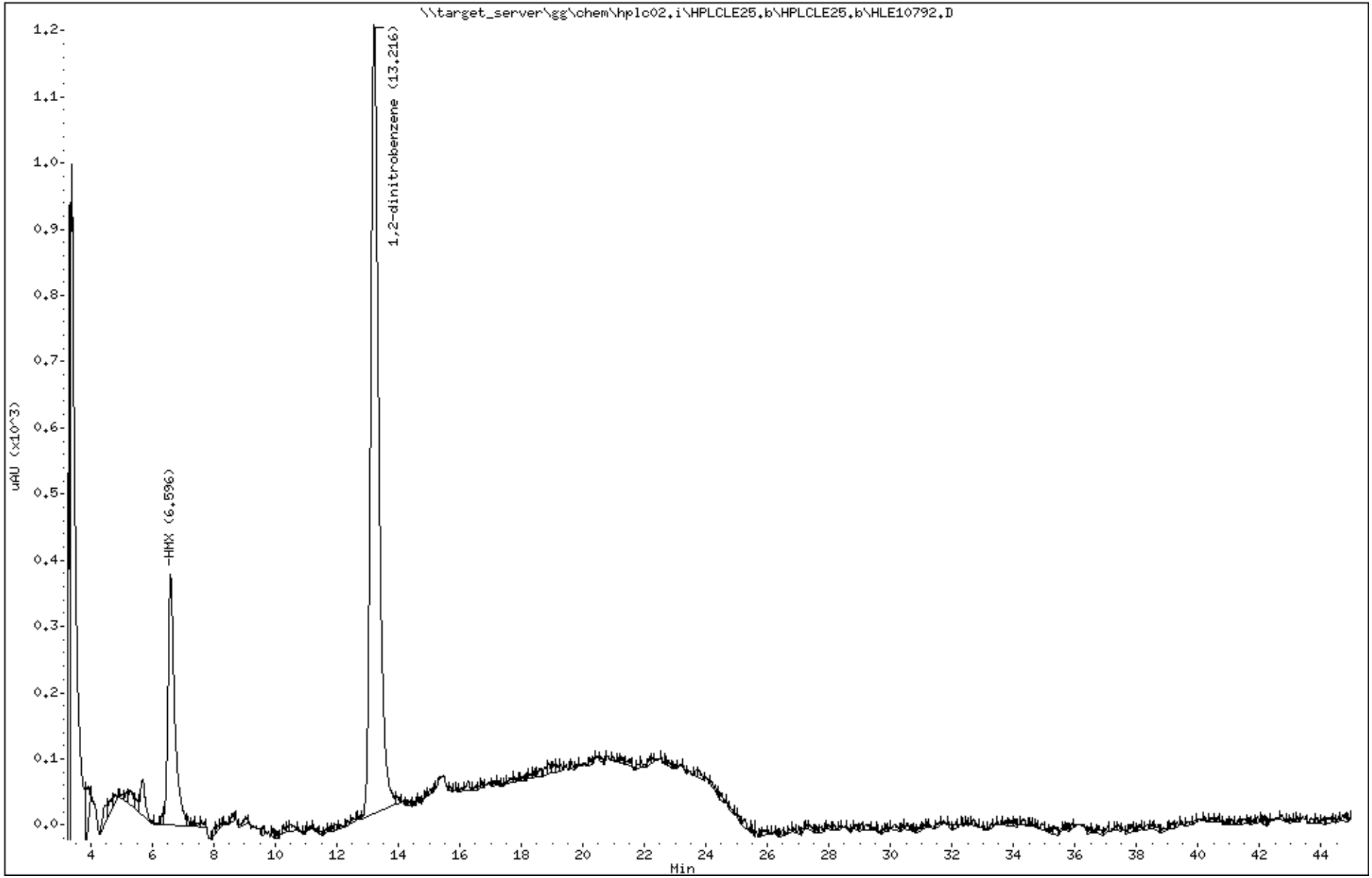
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE25.b\HPLCLE25.b\HLE10792.D
Lab Smp Id: SL4180-5C Client Smp ID: CHAAP-21B-DS-SS06
Inj Date : 26-MAY-2018 08:28
Operator : AC Inst ID: hplc02.i
Smp Info : SL4180-5C
Misc Info : WG228756,WG228439,WG210620-13
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCLE25.b\E2016A.m\E2016A.m
Meth Date : 29-May-2018 16:32 abullentin Quant Type: ESTD
Cal Date : 01-AUG-2017 14:33 Cal File: HKH10014.D
Als bottle: 11
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01110	Weight of Sample (Kg)
M	16.891	% Moisture
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	REVIEW CODE
1	HMX	6.596	6.588	0.008	379	0.08618	187	
$ 2	1,2-dinitrobenzene	13.216	13.228	-0.012	1192	0.22322	484	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE25.b\HPLCLE25.b\HLE10792.D
Date : 26-MAY-2018 08:28
Client ID: CHAAP-21B-DS-SS06
Instrument: hplc02.i
Sample Info: SL4180-5C
Operator: AC
Column phase: Acclaim Exp E2
Column diameter: 4.60



Katahdin Analytical Services 2000045

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-6
Client ID: CHAAP-21B-DS-SB06-5
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: HLE10538.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 15-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228439

Analysis Date: 17-MAY-18
Analyst: AAB
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 76.
Report Date: 30-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	49	ug/Kgdrywt	1	100	99.	8.5	49.
RDX	U	49	ug/Kgdrywt	1	100	99.	6.7	49.
1,3,5-Trinitrobenzene	U	49	ug/Kgdrywt	1	100	99.	6.6	49.
1,3-Dinitrobenzene	U	49	ug/Kgdrywt	1	100	99.	6.1	49.
Tetryl	U	49	ug/Kgdrywt	1	100	99.	5.3	49.
Nitrobenzene	U	49	ug/Kgdrywt	1	100	99.	22.	49.
2,4,6-Trinitrotoluene	U	49	ug/Kgdrywt	1	100	99.	6.6	49.
2-Am-DNT	U	49	ug/Kgdrywt	1	100	99.	21.	49.
4-Am-DNT	U	49	ug/Kgdrywt	1	100	99.	17.	49.
2,6-Dinitrotoluene	U	49	ug/Kgdrywt	1	100	99.	27.	49.
2,4-Dinitrotoluene	U	49	ug/Kgdrywt	1	100	99.	15.	49.
2-Nitrotoluene	U	49	ug/Kgdrywt	1	100	99.	12.	49.
3-Nitrotoluene	U	49	ug/Kgdrywt	1	100	99.	7.8	49.
4-Nitrotoluene	U	49	ug/Kgdrywt	1	100	99.	27.	49.
Nitroglycerin	U	400	ug/Kgdrywt	1	800	790	120	400
PETN	U	400	ug/Kgdrywt	1	800	790	110	400
1,2-Dinitrobenzene		81.4	%					

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HLE10538.D
Report Date: 30-May-2018 11:18

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HLE10538.D
Lab Smp Id: SL4180-6 Client Smp ID: CHAAP-21B-DS-SB06-5
Inj Date : 17-MAY-2018 09:08
Operator : AAB Inst ID: hplc02.i
Smp Info : SL4180-6
Misc Info : WG228756,WG228439,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\EXPB05A.m
Meth Date : 22-May-2018 05:42 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 57
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01330	Weight of Sample (Kg)
M	23.962	% Moisture
Cpnd Variable		Local Compound Variable

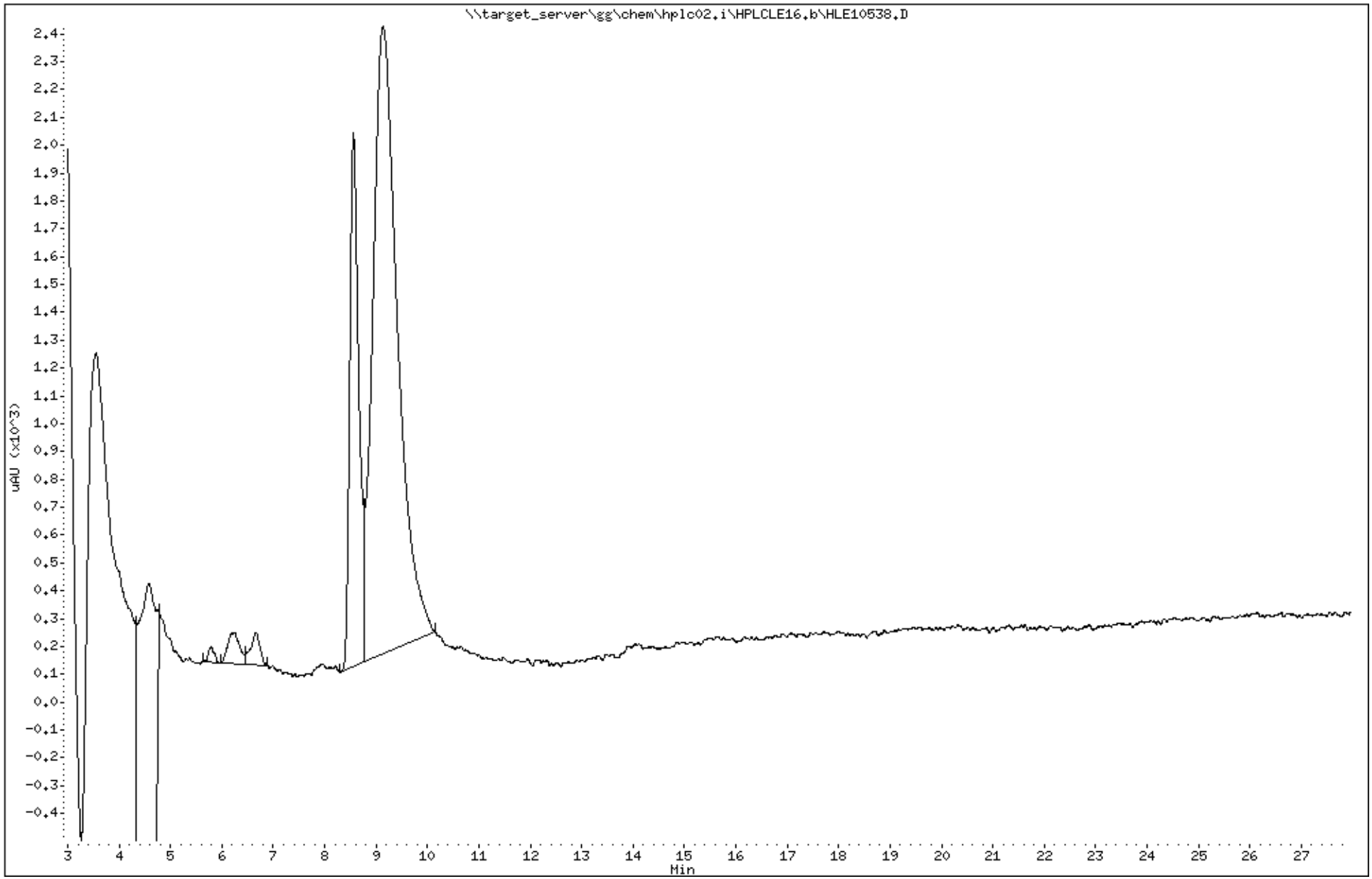
Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HLE10538.D
Date : 17-MAY-2018 09:08
Client ID: CHAAP-21B-DS-SB06-5
Sample Info: SL4180-6

Instrument: hplc02.i

Operator: AAB
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 2000048

Data File: HLE10538.D
Report Date: 30-May-2018 11:24

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HPLCLE16.b\HLE10538.D
Lab Smp Id: SL4180-6 Client Smp ID: CHAAP-21B-DS-SB06-5
Inj Date : 17-MAY-2018 09:08
Operator : AAB Inst ID: hplc02.i
Smp Info : SL4180-6
Misc Info : WG228756,WG228439,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\EXPB05A.m\EXPB05A.m
Meth Date : 22-May-2018 05:33 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 57
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01330	Weight of Sample (Kg)
M	23.962	% Moisture
Cpnd Variable		Local Compound Variable

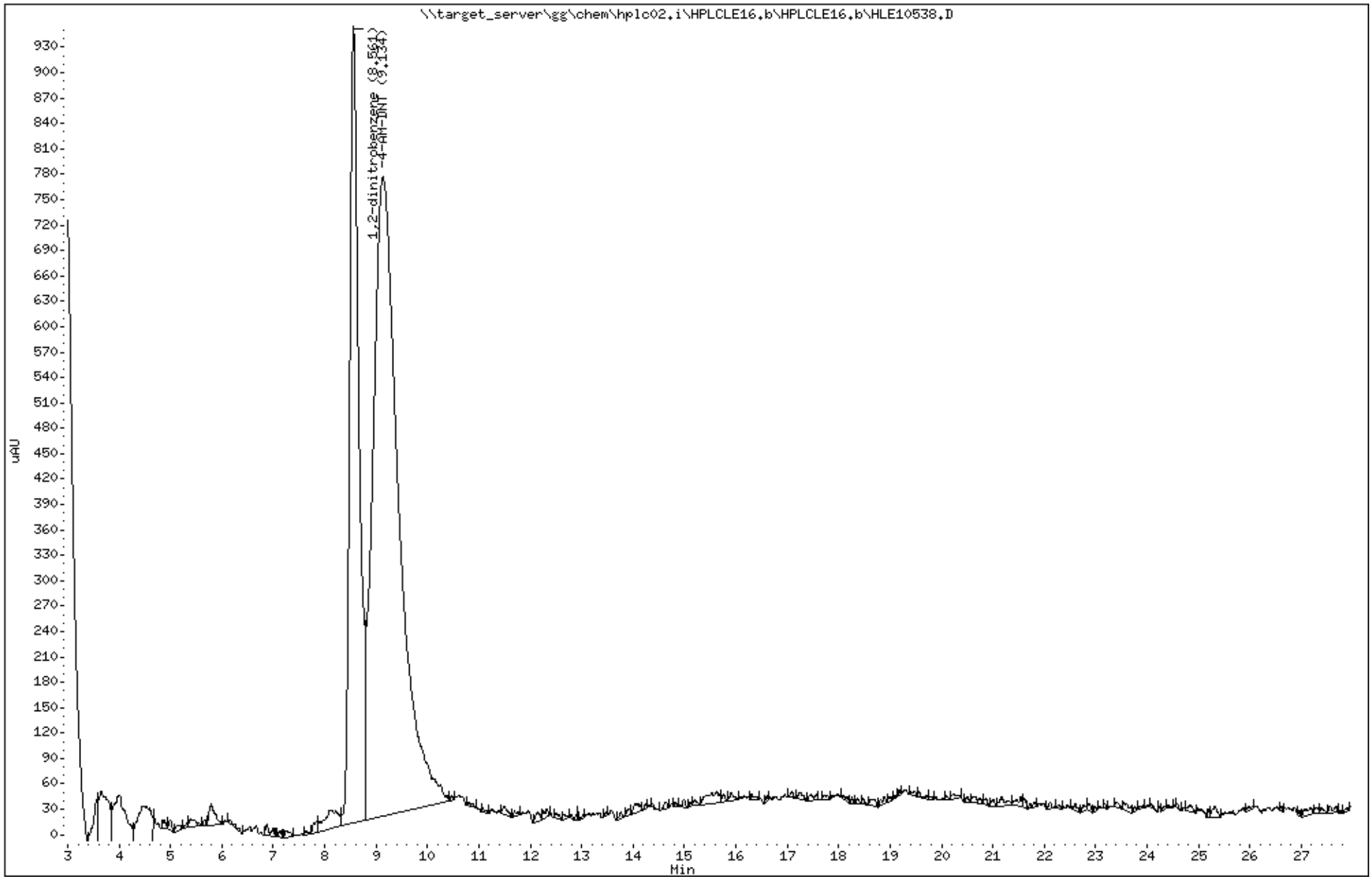
Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	REVIEW CODE
$ 2 1,2-dinitrobenzene	8.560	8.528	0.032	942	0.20357	402	
~~11 4-AM-DNT~~	~~9.133~~	~~9.095~~	~~0.038~~	~~757~~	~~0.17594~~	~~348~~	NC

12:55 pm, May 30, 2018

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HPLCLE16.b\HLE10538.D
Date : 17-MAY-2018 09:08
Client ID: CHAAP-21B-DS-SB06-5
Sample Info: SL4180-6

Instrument: hplc02.i

Operator: AAB
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 2000050

Data File: HLE10793.D
Report Date: 30-May-2018 11:41

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE25.b\HPLCLE25.b\HLE10793.D
Lab Smp Id: SL4180-6C Client Smp ID: CHAAP-21B-DS-SB06-5
Inj Date : 26-MAY-2018 09:18
Operator : AC Inst ID: hplc02.i
Smp Info : SL4180-6C
Misc Info : WG228756,WG228439,WG210620-13
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE25.b\E2016A.m\E2016A.m
Meth Date : 29-May-2018 16:32 abullentin Quant Type: ESTD
Cal Date : 01-AUG-2017 14:33 Cal File: HKH10014.D
Als bottle: 12
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01330	Weight of Sample (Kg)
M	23.962	% Moisture
Cpnd Variable		Local Compound Variable

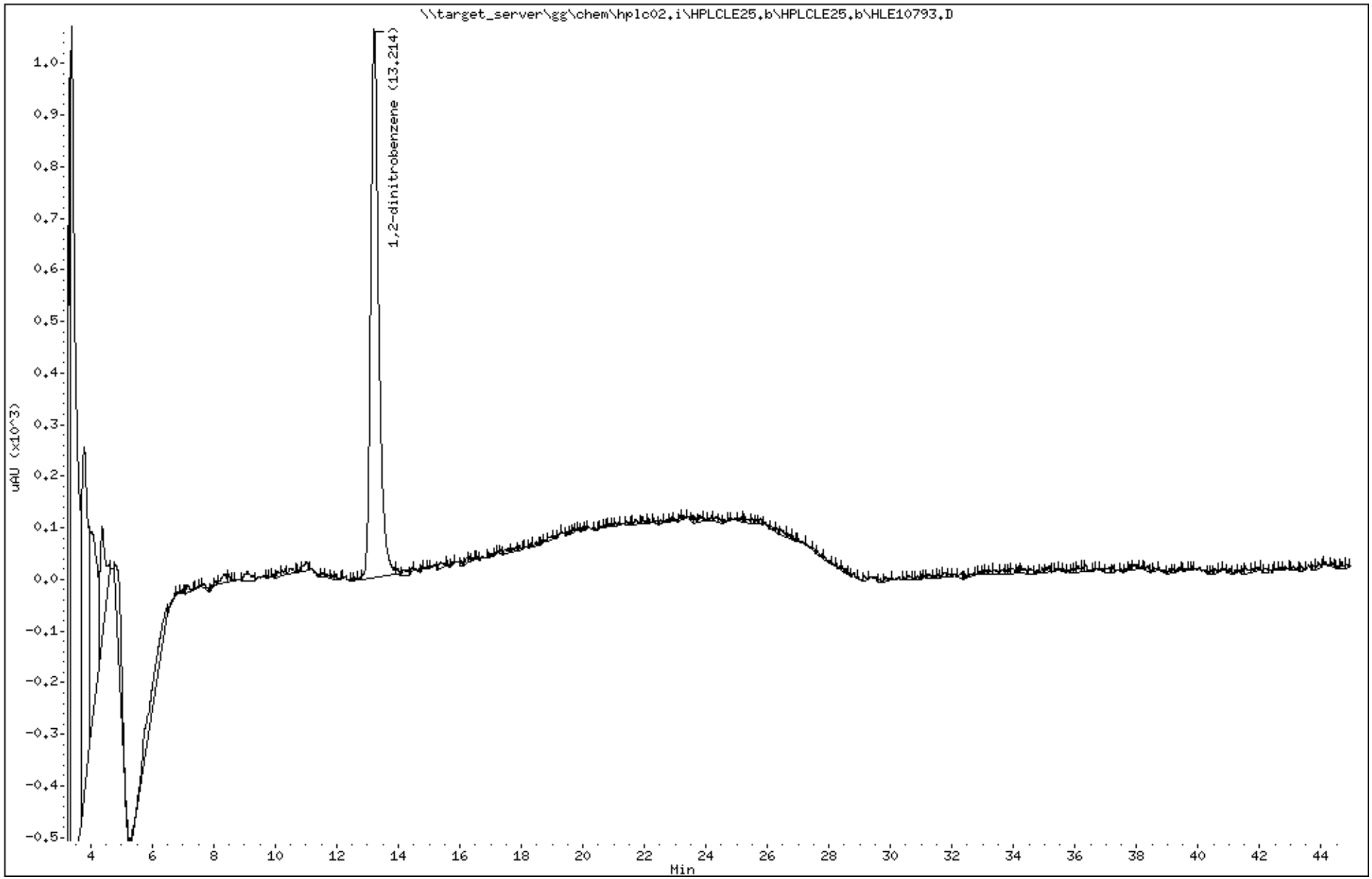
Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	REVIEW CODE
$ 2 1,2-dinitrobenzene	13.213	13.228	-0.015	1063	0.19881	393	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE25.b\HPLCLE25.b\HLE10793.D
Date : 26-MAY-2018 09:18
Client ID: CHAAP-21B-DS-SB06-5
Sample Info: SL4180-6C

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60

Column phase: Acclaim Exp E2



Katahdin Analytical Services 2000052

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-7
Client ID: CHAAP-21B-DS-SB06-10
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: HLE10539.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 15-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228439

Analysis Date: 17-MAY-18
Analyst: AAB
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 80.
Report Date: 30-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	50	ug/Kgdrywt	1	100	100	8.7	50.
RDX	U	50	ug/Kgdrywt	1	100	100	6.9	50.
1,3,5-Trinitrobenzene	U	50	ug/Kgdrywt	1	100	100	6.8	50.
1,3-Dinitrobenzene	U	50	ug/Kgdrywt	1	100	100	6.3	50.
Tetryl	U	50	ug/Kgdrywt	1	100	100	5.4	50.
Nitrobenzene	U	50	ug/Kgdrywt	1	100	100	22.	50.
2,4,6-Trinitrotoluene	U	50	ug/Kgdrywt	1	100	100	6.8	50.
2-Am-DNT	U	50	ug/Kgdrywt	1	100	100	21.	50.
4-Am-DNT	U	50	ug/Kgdrywt	1	100	100	17.	50.
2,6-Dinitrotoluene	U	50	ug/Kgdrywt	1	100	100	27.	50.
2,4-Dinitrotoluene	U	50	ug/Kgdrywt	1	100	100	15.	50.
2-Nitrotoluene	U	50	ug/Kgdrywt	1	100	100	12.	50.
3-Nitrotoluene	U	50	ug/Kgdrywt	1	100	100	8.0	50.
4-Nitrotoluene	U	50	ug/Kgdrywt	1	100	100	27.	50.
Nitroglycerin	U	400	ug/Kgdrywt	1	800	810	120	400
PETN	U	400	ug/Kgdrywt	1	800	810	110	400
1,2-Dinitrobenzene		91.3	%					

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HLE10539.D
Report Date: 30-May-2018 11:18

Katahdin Analytical Services

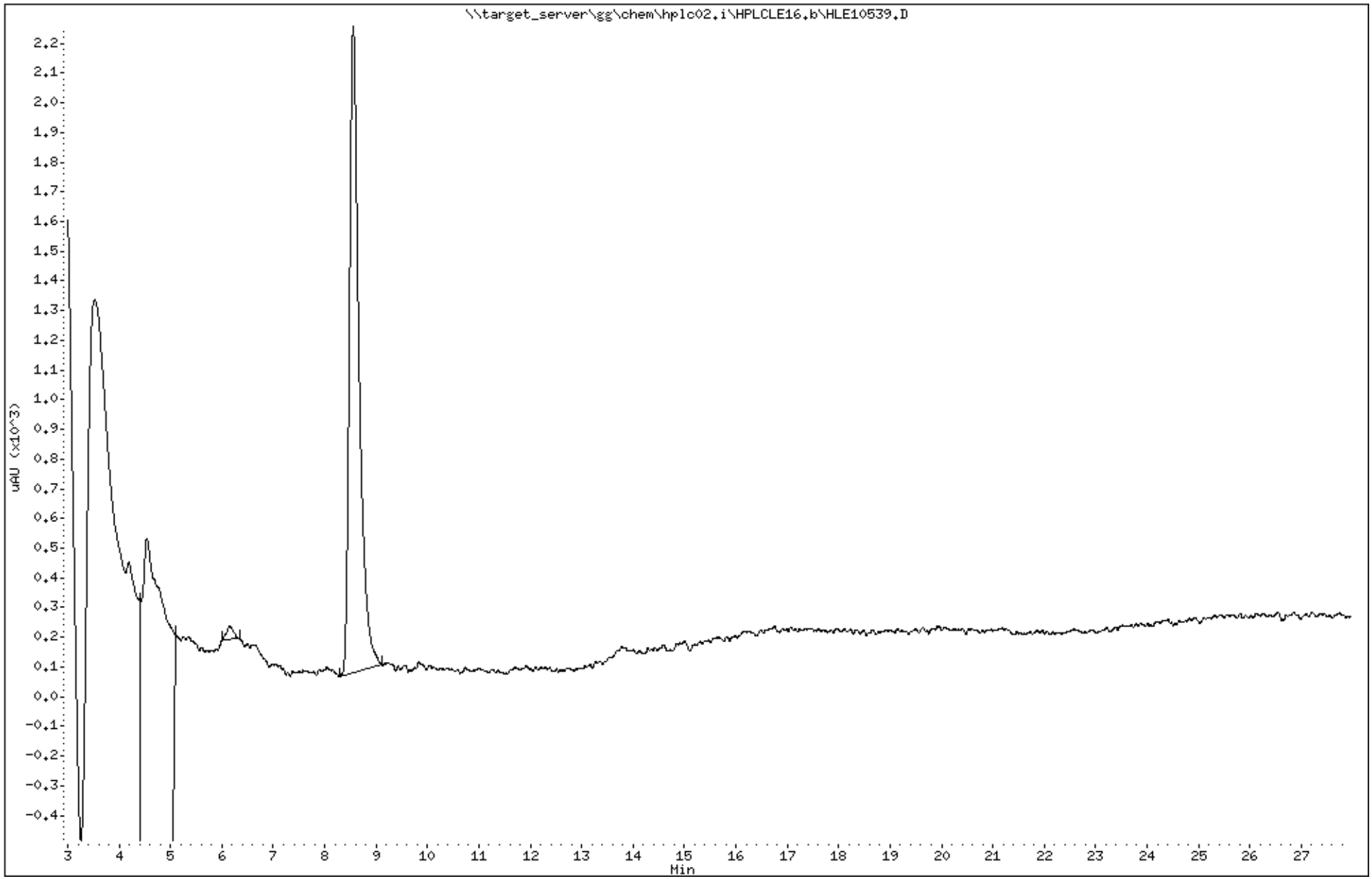
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HLE10539.D
Lab Smp Id: SL4180-7 Client Smp ID: HAAP-21B-DS-SB06-10
Inj Date : 17-MAY-2018 09:39
Operator : AAB Inst ID: hplc02.i
Smp Info : SL4180-7
Misc Info : WG228756,WG228439,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\EXPB05A.m
Meth Date : 22-May-2018 05:42 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 58
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01240	Weight of Sample (Kg)
M	20.137	% Moisture
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HLE10539.D
Date : 17-MAY-2018 09:39
Client ID: HAAP-21B-DS-SB06-10
Instrument: hplc02.i
Sample Info: SL4180-7
Operator: AAB
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 2000055

Data File: HLE10539.D
Report Date: 30-May-2018 11:24

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HPLCLE16.b\HLE10539.D
Lab Smp Id: SL4180-7 Client Smp ID: HAAP-21B-DS-SB06-10
Inj Date : 17-MAY-2018 09:39
Operator : AAB Inst ID: hplc02.i
Smp Info : SL4180-7
Misc Info : WG228756,WG228439,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\EXPB05A.m\EXPB05A.m
Meth Date : 22-May-2018 05:33 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 58
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01240	Weight of Sample (Kg)
M	20.137	% Moisture
Cpnd Variable		Local Compound Variable

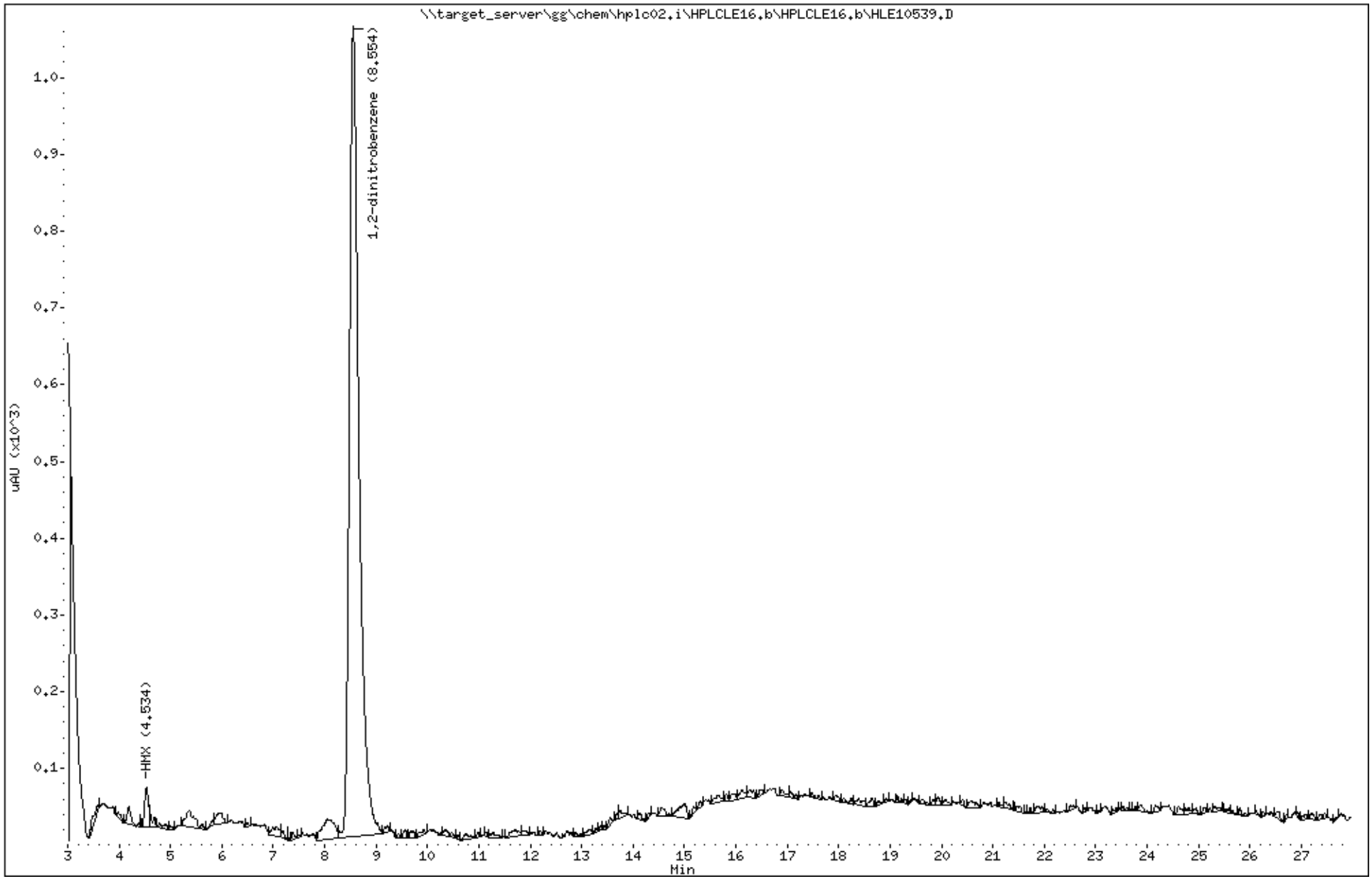
	Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	REVIEW CODE	
	~~1 HMX~~	~~4.533~~	~~4.522~~	~~0.011~~	~~51~~	~~0.00946~~	~~19.1(aM)~~	~~M3~~	NC
$	2 1,2-dinitrobenzene	8.553	8.528	0.025	1056	0.22820	461		

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.

12:56 pm, May 30, 2018

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HPLCLE16.b\HLE10539.D
Date : 17-MAY-2018 09:39
Client ID: HAAP-21B-DS-SB06-10
Instrument: hplc02.i
Sample Info: SL4180-7
Operator: AAB
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 2000057

Data File: HLE10794.D
Report Date: 30-May-2018 11:41

Katahdin Analytical Services

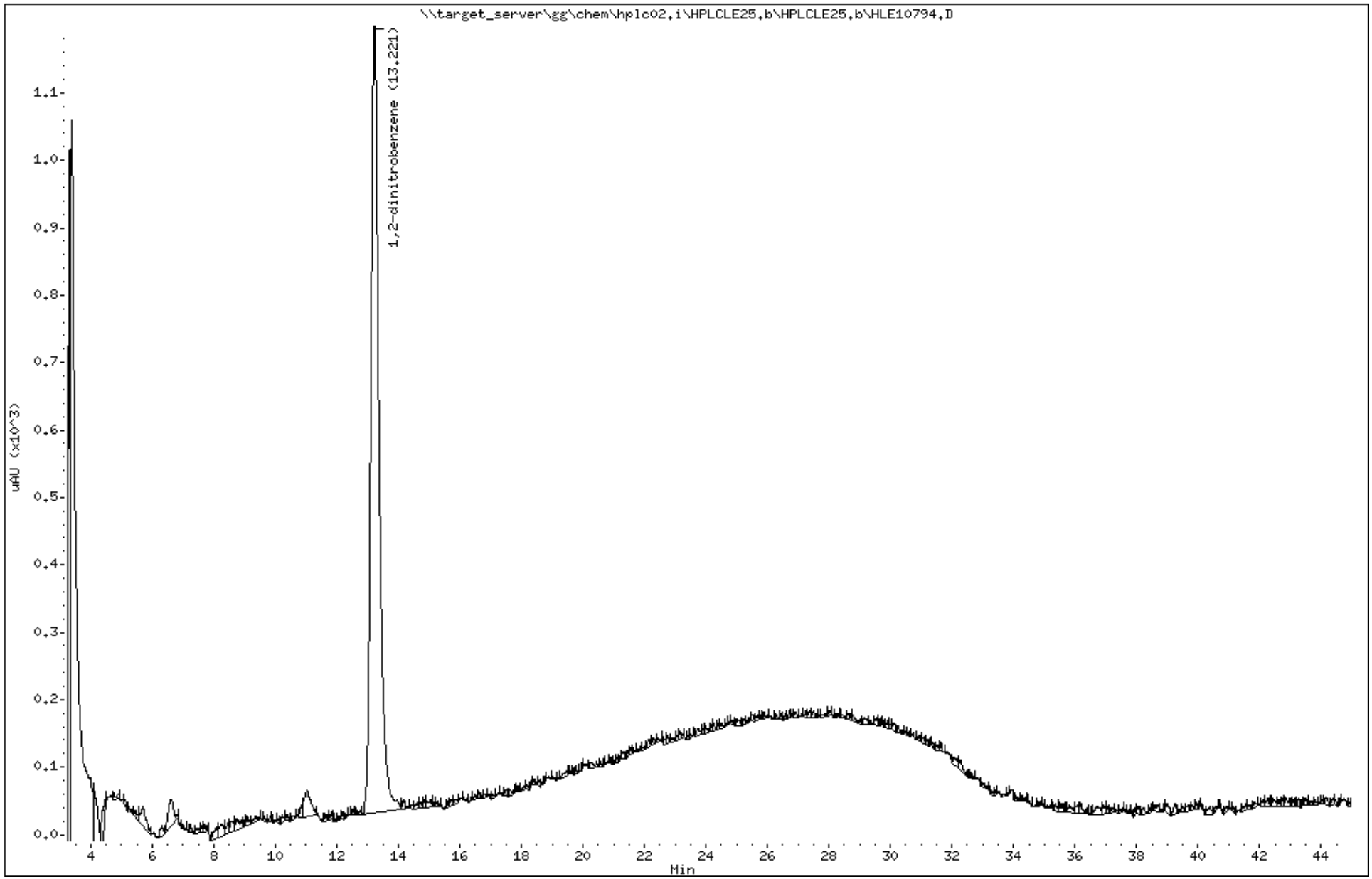
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE25.b\HPLCLE25.b\HLE10794.D
Lab Smp Id: SL4180-7C Client Smp ID: HAAP-21B-DS-SB06-10
Inj Date : 26-MAY-2018 10:07
Operator : AC Inst ID: hplc02.i
Smp Info : SL4180-7C
Misc Info : WG228756,WG228439,WG210620-13
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCLE25.b\E2016A.m\E2016A.m
Meth Date : 29-May-2018 16:32 abullentin Quant Type: ESTD
Cal Date : 01-AUG-2017 14:33 Cal File: HKH10014.D
Als bottle: 13
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01240	Weight of Sample (Kg)
M	20.137	% Moisture
Cpnd Variable		Local Compound Variable

						CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	
Compounds	RT	EXP RT	DLT RT	RESPONSE				REVIEW CODE
$ 2 1,2-dinitrobenzene	13.220	13.228	-0.008	1168		0.21868	442	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE25.b\HPLCLE25.b\HLE10794.D
Date : 26-MAY-2018 10:07
Client ID: HAAP-21B-DS-SB06-10
Instrument: hplc02.i
Sample Info: SL4180-7C
Operator: AC
Column phase: Acclaim Exp E2
Column diameter: 4.60



Katahdin Analytical Services 2000059

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-8
Client ID: CHAAP-21B-DS-SS07
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: HLE10540.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 15-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228439

Analysis Date: 17-MAY-18
Analyst: AAB
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 81.
Report Date: 30-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	55	ug/Kgdrywt	1	100	110	9.5	55.
RDX	U	55	ug/Kgdrywt	1	100	110	7.5	55.
1,3,5-Trinitrobenzene	U	55	ug/Kgdrywt	1	100	110	7.4	55.
1,3-Dinitrobenzene	U	55	ug/Kgdrywt	1	100	110	6.8	55.
Tetryl	U	55	ug/Kgdrywt	1	100	110	5.9	55.
Nitrobenzene	U	55	ug/Kgdrywt	1	100	110	24.	55.
2,4,6-Trinitrotoluene	U	55	ug/Kgdrywt	1	100	110	7.4	55.
2-Am-DNT	U	55	ug/Kgdrywt	1	100	110	23.	55.
4-Am-DNT	U	55	ug/Kgdrywt	1	100	110	19.	55.
2,6-Dinitrotoluene	U	55	ug/Kgdrywt	1	100	110	30.	55.
2,4-Dinitrotoluene	U	55	ug/Kgdrywt	1	100	110	16.	55.
2-Nitrotoluene	U	55	ug/Kgdrywt	1	100	110	13.	55.
3-Nitrotoluene	U	55	ug/Kgdrywt	1	100	110	8.7	55.
4-Nitrotoluene	U	55	ug/Kgdrywt	1	100	110	30.	55.
Nitroglycerin	U	440	ug/Kgdrywt	1	800	880	140	440
PETN	U	440	ug/Kgdrywt	1	800	880	120	440
1,2-Dinitrobenzene		90.5	%					

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HLE10540.D
Report Date: 30-May-2018 11:18

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HLE10540.D
Lab Smp Id: SL4180-8 Client Smp ID: CHAAP-21B-DS-SS07
Inj Date : 17-MAY-2018 10:10
Operator : AAB Inst ID: hplc02.i
Smp Info : SL4180-8
Misc Info : WG228756,WG228439,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\EXPB05A.m
Meth Date : 22-May-2018 05:42 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 59
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01120	Weight of Sample (Kg)
M	18.848	% Moisture
Cpnd Variable		Local Compound Variable

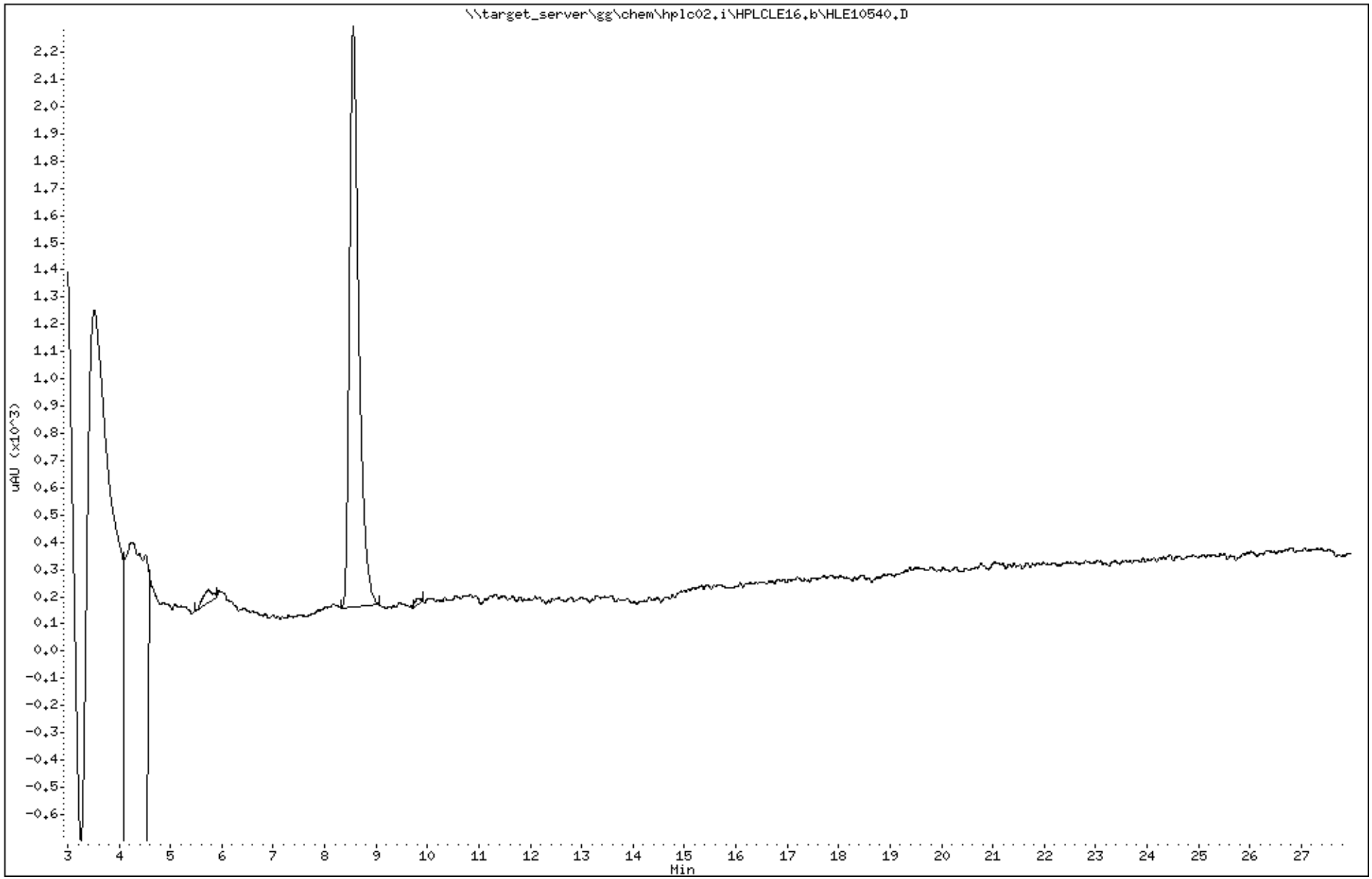
Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HLE10540.D
Date : 17-MAY-2018 10:10
Client ID: CHAAP-21B-DS-SS07
Sample Info: SL4180-8

Instrument: hplc02.i

Operator: AAB
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 2000062

Data File: HLE10540.D
Report Date: 30-May-2018 11:24

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HPLCLE16.b\HLE10540.D
Lab Smp Id: SL4180-8 Client Smp ID: CHAAP-21B-DS-SS07
Inj Date : 17-MAY-2018 10:10
Operator : AAB Inst ID: hplc02.i
Smp Info : SL4180-8
Misc Info : WG228756,WG228439,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\EXPB05A.m\EXPB05A.m
Meth Date : 22-May-2018 05:33 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 59
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

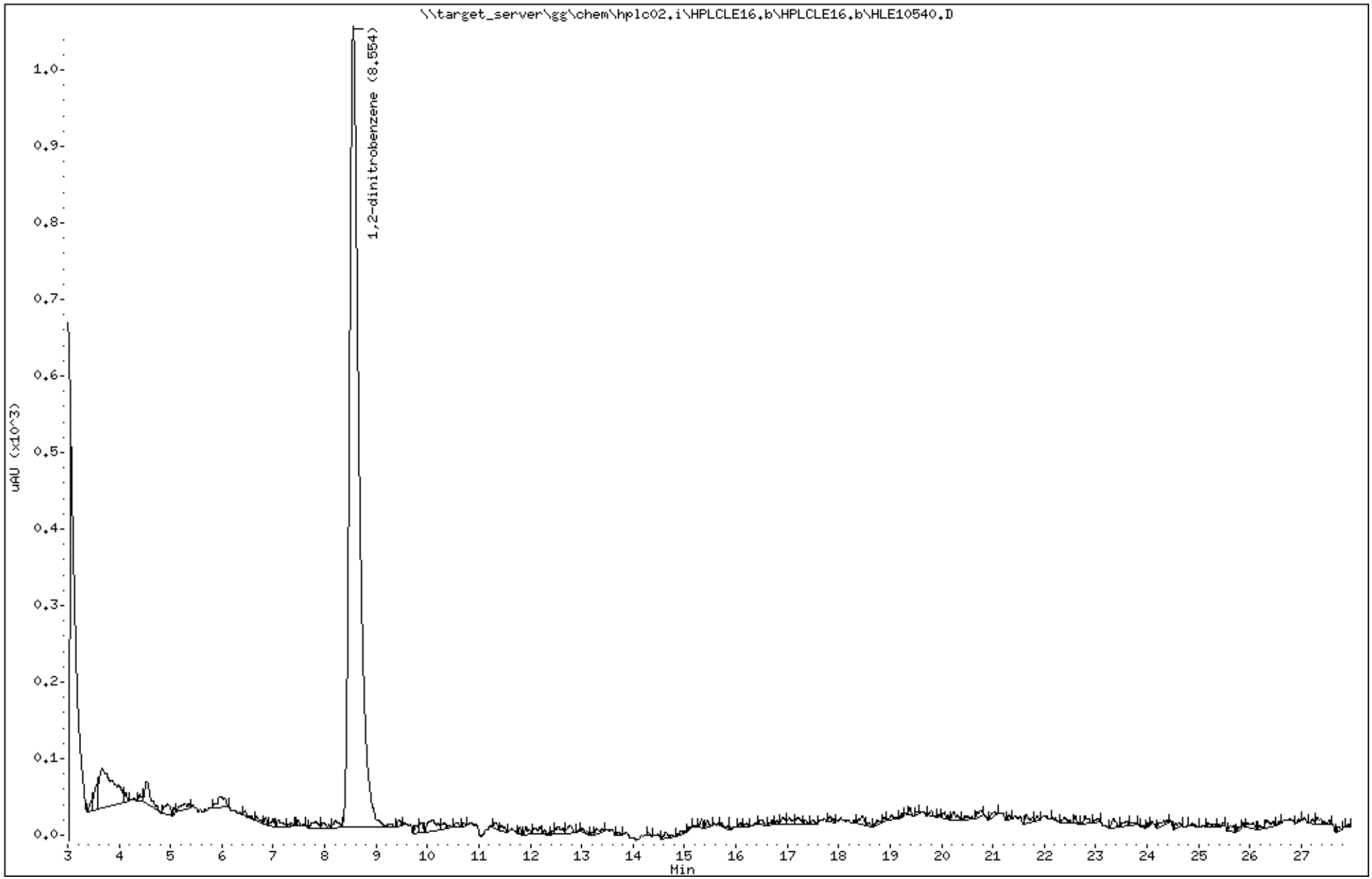
Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01120	Weight of Sample (Kg)
M	18.848	% Moisture
Cpnd Variable		Local Compound Variable

						CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	
Compounds	RT	EXP RT	DLT RT	RESPONSE				REVIEW CODE
$ 2 1,2-dinitrobenzene	8.553	8.528	0.025	1047		0.22626	498	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HPLCLE16.b\HLE10540.D
Date : 17-MAY-2018 10:10
Client ID: CHAAP-21B-DS-SS07
Sample Info: SL4180-8

Instrument: hplc02.i

Operator: AAB
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 2000064

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-9
Client ID: CHAAP-21B-DS-SB07-5
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: HLE10541.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 15-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228439

Analysis Date: 17-MAY-18
Analyst: AAB
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 81.
Report Date: 30-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	54	ug/Kgdrywt	1	100	110	9.3	54.
RDX	U	54	ug/Kgdrywt	1	100	110	7.3	54.
1,3,5-Trinitrobenzene	U	54	ug/Kgdrywt	1	100	110	7.2	54.
1,3-Dinitrobenzene	U	54	ug/Kgdrywt	1	100	110	6.7	54.
Tetryl	U	54	ug/Kgdrywt	1	100	110	5.8	54.
Nitrobenzene	U	54	ug/Kgdrywt	1	100	110	24.	54.
2,4,6-Trinitrotoluene	U	54	ug/Kgdrywt	1	100	110	7.2	54.
2-Am-DNT	U	54	ug/Kgdrywt	1	100	110	23.	54.
4-Am-DNT	U	54	ug/Kgdrywt	1	100	110	18.	54.
2,6-Dinitrotoluene	U	54	ug/Kgdrywt	1	100	110	29.	54.
2,4-Dinitrotoluene	U	54	ug/Kgdrywt	1	100	110	16.	54.
2-Nitrotoluene	U	54	ug/Kgdrywt	1	100	110	13.	54.
3-Nitrotoluene	U	54	ug/Kgdrywt	1	100	110	8.5	54.
4-Nitrotoluene	U	54	ug/Kgdrywt	1	100	110	29.	54.
Nitroglycerin	U	430	ug/Kgdrywt	1	800	860	130	430
PETN	U	430	ug/Kgdrywt	1	800	860	120	430
1,2-Dinitrobenzene		93.7	%					

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HLE10541.D
Report Date: 30-May-2018 11:18

Katahdin Analytical Services

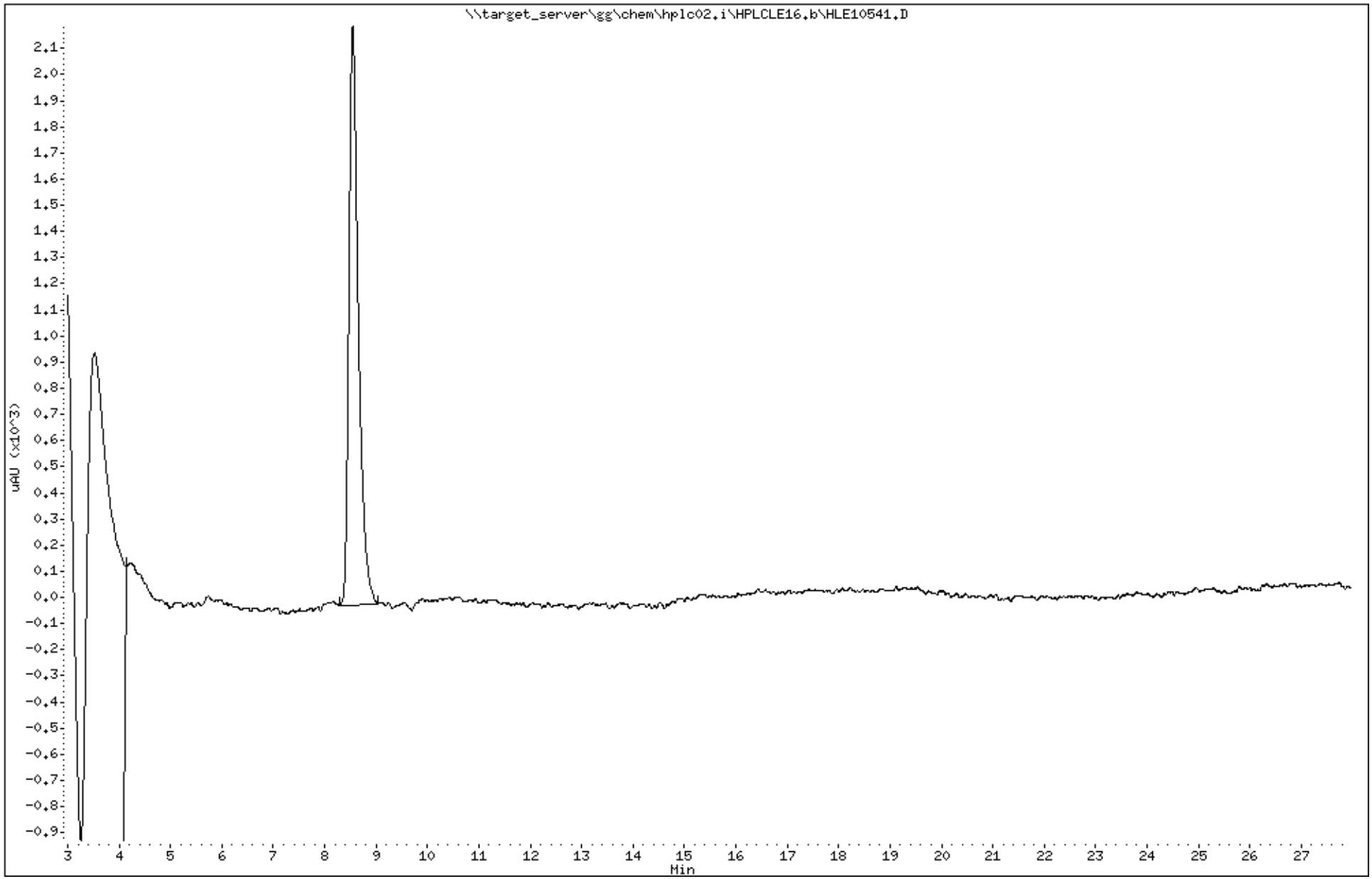
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HLE10541.D
Lab Smp Id: SL4180-9 Client Smp ID: CHAAP-21B-DS-SB07-5
Inj Date : 17-MAY-2018 10:41
Operator : AAB Inst ID: hplc02.i
Smp Info : SL4180-9
Misc Info : WG228756,WG228439,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\EXPB05A.m
Meth Date : 22-May-2018 05:42 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 60
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01140	Weight of Sample (Kg)
M	18.810	% Moisture
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HLE10541.D
Date : 17-MAY-2018 10:41
Client ID: CHAAP-21B-DS-SB07-5
Instrument: hplc02.i
Sample Info: SL4180-9
Operator: AAB
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 2000067

Data File: HLE10541.D
Report Date: 30-May-2018 11:24

Katahdin Analytical Services

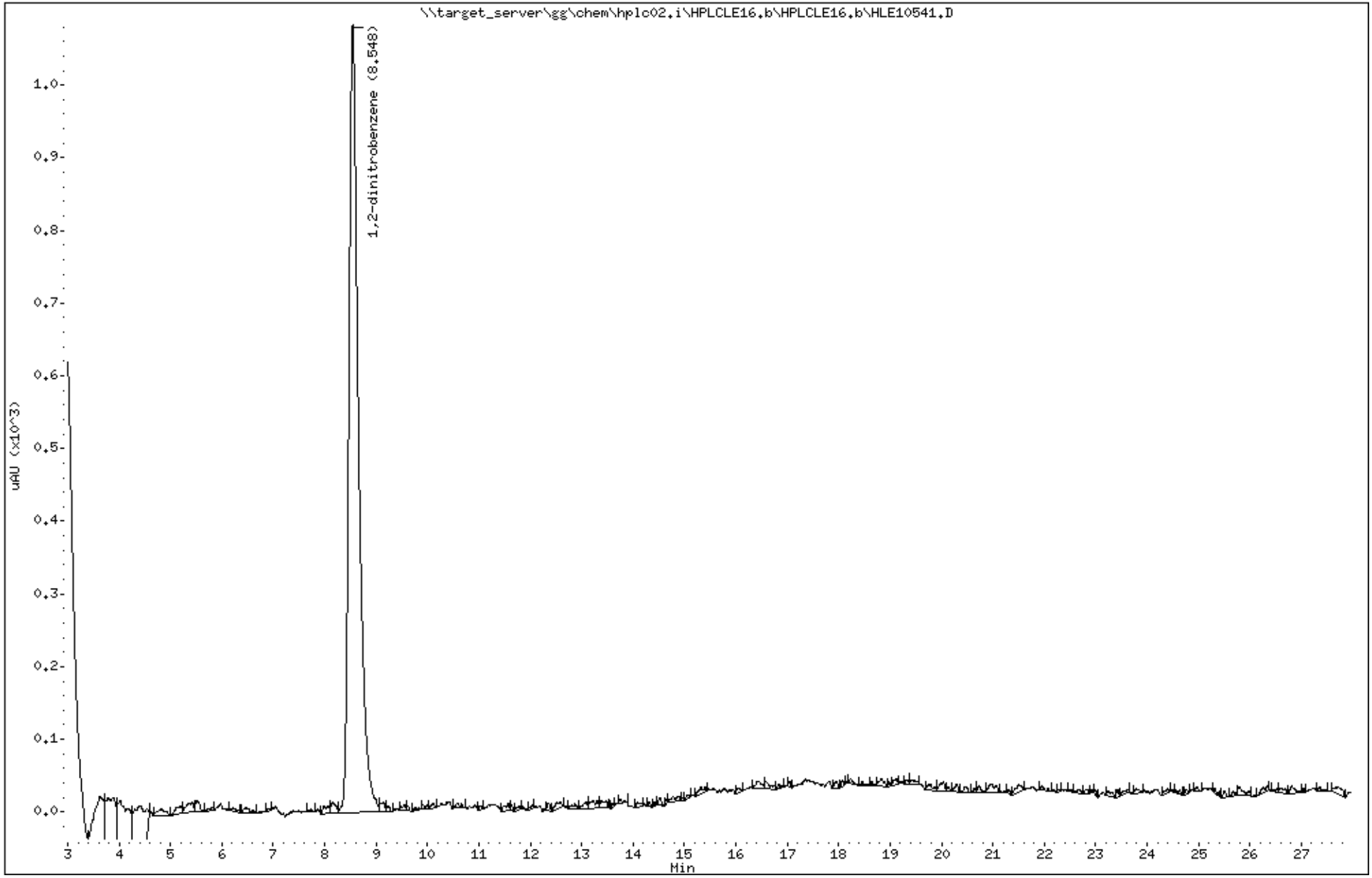
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HPLCLE16.b\HLE10541.D
Lab Smp Id: SL4180-9 Client Smp ID: CHAAP-21B-DS-SB07-5
Inj Date : 17-MAY-2018 10:41
Operator : AAB Inst ID: hplc02.i
Smp Info : SL4180-9
Misc Info : WG228756,WG228439,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\EXPB05A.m\EXPB05A.m
Meth Date : 22-May-2018 05:33 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 60
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01140	Weight of Sample (Kg)
M	18.810	% Moisture
Cpnd Variable		Local Compound Variable

					CONCENTRATIONS		
					ON-COLUMN	FINAL	
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/mL)	(ug/Kgdrywt)	REVIEW CODE
$ 2 1,2-dinitrobenzene	8.547	8.528	0.019	1084	0.23426	506	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HPLCLE16.b\HLE10541.D
Date : 17-MAY-2018 10:41
Client ID: CHAAP-21B-DS-SB07-5
Instrument: hplc02.i
Sample Info: SL4180-9
Operator: AAB
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 2000069

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-10
Client ID: CHAAP-21B-DS-SB107-5
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: HLE10542.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 15-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228439

Analysis Date: 17-MAY-18
Analyst: AAB
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 81.
Report Date: 30-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	59	ug/Kgdrywt	1	100	120	10.	59.
RDX	U	59	ug/Kgdrywt	1	100	120	8.1	59.
1,3,5-Trinitrobenzene	U	59	ug/Kgdrywt	1	100	120	8.0	59.
1,3-Dinitrobenzene	U	59	ug/Kgdrywt	1	100	120	7.4	59.
Tetryl	U	59	ug/Kgdrywt	1	100	120	6.4	59.
Nitrobenzene	U	59	ug/Kgdrywt	1	100	120	26.	59.
2,4,6-Trinitrotoluene	U	59	ug/Kgdrywt	1	100	120	8.0	59.
2-Am-DNT	U	59	ug/Kgdrywt	1	100	120	25.	59.
4-Am-DNT	U	59	ug/Kgdrywt	1	100	120	20.	59.
2,6-Dinitrotoluene	U	59	ug/Kgdrywt	1	100	120	32.	59.
2,4-Dinitrotoluene	U	59	ug/Kgdrywt	1	100	120	18.	59.
2-Nitrotoluene	U	59	ug/Kgdrywt	1	100	120	14.	59.
3-Nitrotoluene	U	59	ug/Kgdrywt	1	100	120	9.4	59.
4-Nitrotoluene	U	59	ug/Kgdrywt	1	100	120	32.	59.
Nitroglycerin	U	480	ug/Kgdrywt	1	800	950	150	480
PETN	U	480	ug/Kgdrywt	1	800	950	130	480
1,2-Dinitrobenzene		87.9	%					

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HLE10542.D
Report Date: 30-May-2018 11:18

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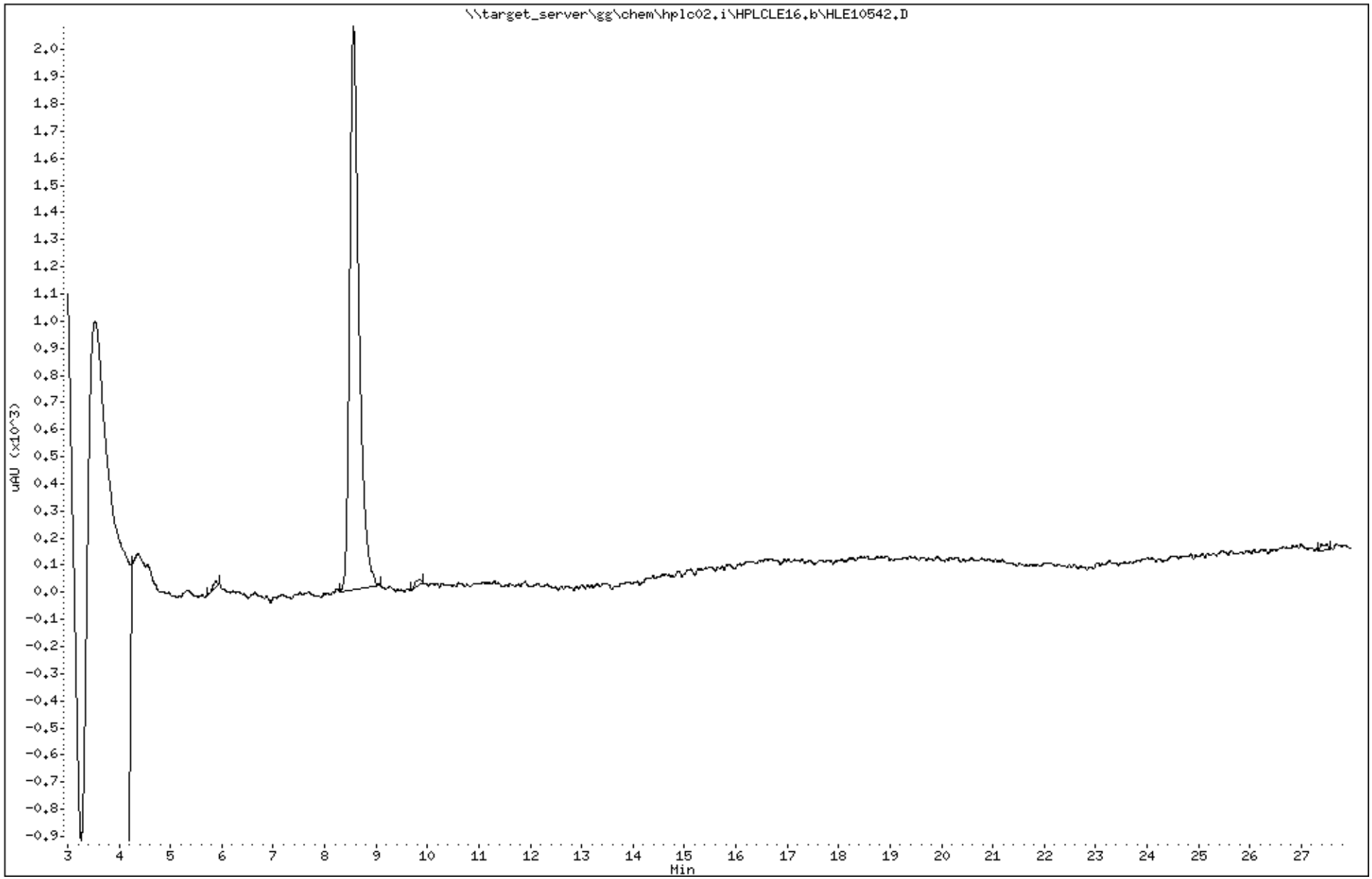
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HLE10542.D
Lab Smp Id: SL4180-10 Client Smp ID: HAAP-21B-DS-SB107-5
Inj Date : 17-MAY-2018 11:12
Operator : AAB Inst ID: hplc02.i
Smp Info : SL4180-10
Misc Info : WG228756,WG228439,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\EXPB05A.m
Meth Date : 22-May-2018 05:42 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 61
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01040	Weight of Sample (Kg)
M	19.168	% Moisture
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HLE10542.D
Date : 17-MAY-2018 11:12
Client ID: HAAP-21B-DS-SB107-5
Instrument: hplc02.i
Sample Info: SL4180-10
Operator: AAB
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 2000072

Data File: HLE10542.D
Report Date: 30-May-2018 11:24

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HPLCLE16.b\HLE10542.D
Lab Smp Id: SL4180-10 Client Smp ID: HAAP-21B-DS-SB107-5
Inj Date : 17-MAY-2018 11:12
Operator : AAB Inst ID: hplc02.i
Smp Info : SL4180-10
Misc Info : WG228756,WG228439,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\EXPB05A.m\EXPB05A.m
Meth Date : 22-May-2018 05:33 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 61
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

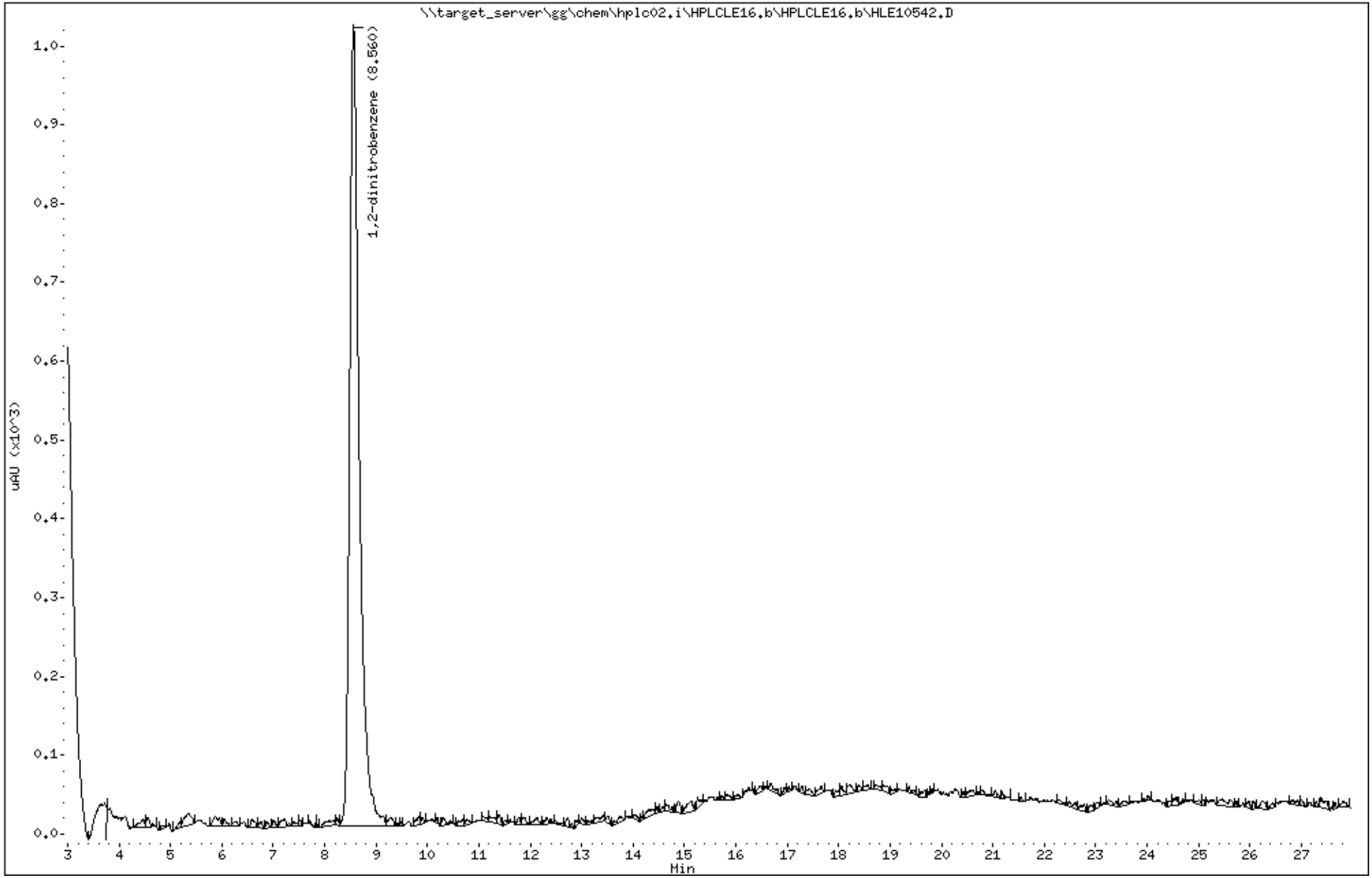
Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01040	Weight of Sample (Kg)
M	19.168	% Moisture
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	REVIEW CODE
$ 2 1,2-dinitrobenzene	8.559	8.528	0.031	1017	0.21978	523	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HPLCLE16.b\HLE10542.D
Date : 17-MAY-2018 11:12
Client ID: HAAP-21B-DS-SB107-5
Sample Info: SL4180-10

Instrument: hplc02.i

Operator: AAB
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 2000074

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-11
Client ID: CHAAP-21B-DS-SB07-10
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: HLE10543.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 15-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228439

Analysis Date: 17-MAY-18
Analyst: AAB
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 76.
Report Date: 30-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	54	ug/Kgdrywt	1	100	110	9.4	54.
RDX	U	54	ug/Kgdrywt	1	100	110	7.4	54.
1,3,5-Trinitrobenzene	U	54	ug/Kgdrywt	1	100	110	7.3	54.
1,3-Dinitrobenzene	U	54	ug/Kgdrywt	1	100	110	6.7	54.
Tetryl	U	54	ug/Kgdrywt	1	100	110	5.9	54.
Nitrobenzene	U	54	ug/Kgdrywt	1	100	110	24.	54.
2,4,6-Trinitrotoluene	U	54	ug/Kgdrywt	1	100	110	7.3	54.
2-Am-DNT	U	54	ug/Kgdrywt	1	100	110	23.	54.
4-Am-DNT	U	54	ug/Kgdrywt	1	100	110	18.	54.
2,6-Dinitrotoluene	U	54	ug/Kgdrywt	1	100	110	29.	54.
2,4-Dinitrotoluene	U	54	ug/Kgdrywt	1	100	110	16.	54.
2-Nitrotoluene	U	54	ug/Kgdrywt	1	100	110	13.	54.
3-Nitrotoluene	U	54	ug/Kgdrywt	1	100	110	8.6	54.
4-Nitrotoluene	U	54	ug/Kgdrywt	1	100	110	29.	54.
Nitroglycerin	U	440	ug/Kgdrywt	1	800	870	130	440
PETN	U	440	ug/Kgdrywt	1	800	870	120	440
1,2-Dinitrobenzene		88.8	%					

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HLE10543.D
Report Date: 30-May-2018 11:18

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HLE10543.D
Lab Smp Id: SL4180-11 Client Smp ID: HAAP-21B-DS-SB07-10
Inj Date : 17-MAY-2018 11:43
Operator : AAB Inst ID: hplc02.i
Smp Info : SL4180-11
Misc Info : WG228756,WG228439,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\EXPB05A.m
Meth Date : 22-May-2018 05:42 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 62
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

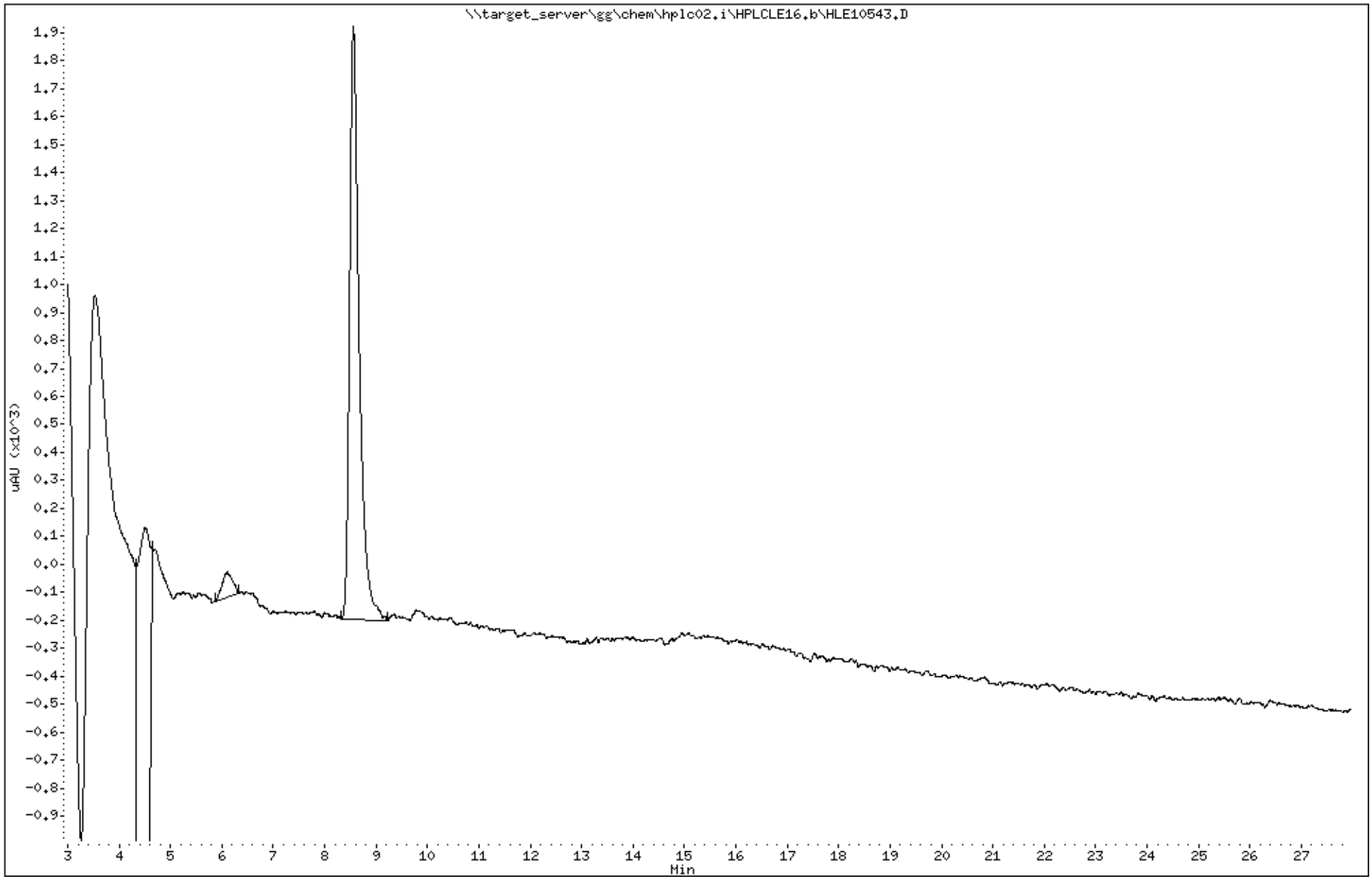
Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01200	Weight of Sample (Kg)
M	23.436	% Moisture
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HLE10543.D
Date : 17-MAY-2018 11:43
Client ID: HAAP-21B-DS-SB07-10
Sample Info: SL4180-11

Instrument: hplc02.i

Operator: AAB
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 2000077

Data File: HLE10543.D
Report Date: 30-May-2018 11:24

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HPLCLE16.b\HLE10543.D
Lab Smp Id: SL4180-11 Client Smp ID: HAAP-21B-DS-SB07-10
Inj Date : 17-MAY-2018 11:43
Operator : AAB Inst ID: hplc02.i
Smp Info : SL4180-11
Misc Info : WG228756,WG228439,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\EXPB05A.m\EXPB05A.m
Meth Date : 22-May-2018 05:33 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 62
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

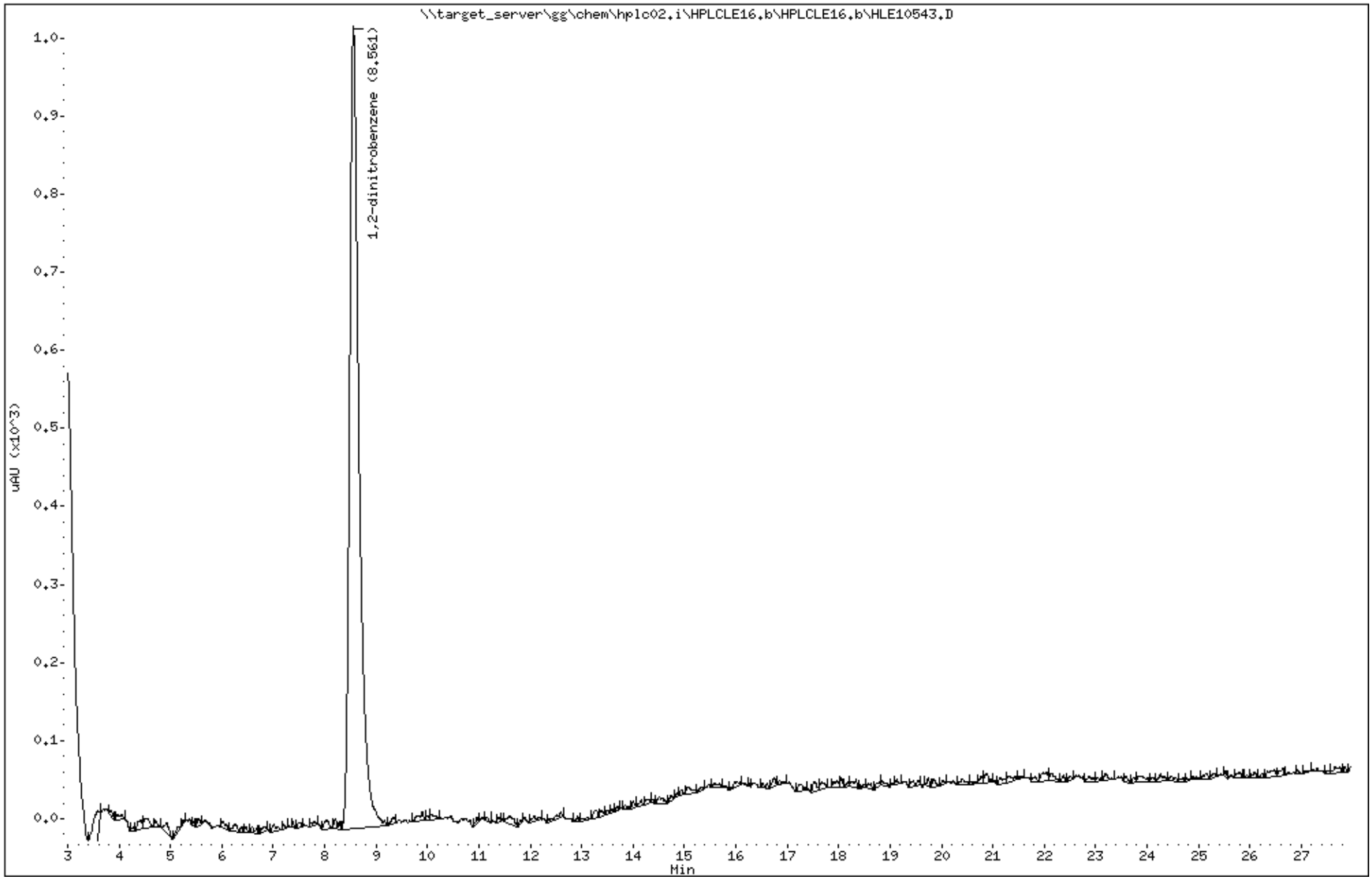
Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01200	Weight of Sample (Kg)
M	23.436	% Moisture
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	REVIEW CODE
$ 2 1,2-dinitrobenzene	8.560	8.528	0.032	1027	0.22194	483	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HPLCLE16.b\HLE10543.D
Date : 17-MAY-2018 11:43
Client ID: HAAP-21B-DS-SB07-10
Sample Info: SL4180-11

Instrument: hplc02.i

Operator: AAB
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 2000079

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-12
Client ID: CHAAP-21B-DS-SS08
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: HLE10544.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 15-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228439

Analysis Date: 17-MAY-18
Analyst: AAB
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 87.
Report Date: 30-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	55	ug/Kgdrywt	1	100	110	9.4	55.
RDX	U	55	ug/Kgdrywt	1	100	110	7.4	55.
1,3,5-Trinitrobenzene	U	55	ug/Kgdrywt	1	100	110	7.3	55.
1,3-Dinitrobenzene	U	55	ug/Kgdrywt	1	100	110	6.8	55.
Tetryl	U	55	ug/Kgdrywt	1	100	110	5.9	55.
Nitrobenzene	U	55	ug/Kgdrywt	1	100	110	24.	55.
2,4,6-Trinitrotoluene	U	55	ug/Kgdrywt	1	100	110	7.3	55.
2-Am-DNT	U	55	ug/Kgdrywt	1	100	110	23.	55.
4-Am-DNT	U	55	ug/Kgdrywt	1	100	110	18.	55.
2,6-Dinitrotoluene	U	55	ug/Kgdrywt	1	100	110	30.	55.
2,4-Dinitrotoluene	U	55	ug/Kgdrywt	1	100	110	16.	55.
2-Nitrotoluene	U	55	ug/Kgdrywt	1	100	110	13.	55.
3-Nitrotoluene	U	55	ug/Kgdrywt	1	100	110	8.6	55.
4-Nitrotoluene	U	55	ug/Kgdrywt	1	100	110	30.	55.
Nitroglycerin	U	440	ug/Kgdrywt	1	800	870	140	440
PETN	U	440	ug/Kgdrywt	1	800	870	120	440
1,2-Dinitrobenzene		90.5	%					

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HLE10544.D
Report Date: 30-May-2018 11:18

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HLE10544.D
Lab Smp Id: SL4180-12 Client Smp ID: CHAAP-21B-DS-SS08
Inj Date : 17-MAY-2018 12:14
Operator : AAB Inst ID: hplc02.i
Smp Info : SL4180-12
Misc Info : WG228756,WG228439,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\EXPB05A.m
Meth Date : 22-May-2018 05:42 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 63
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

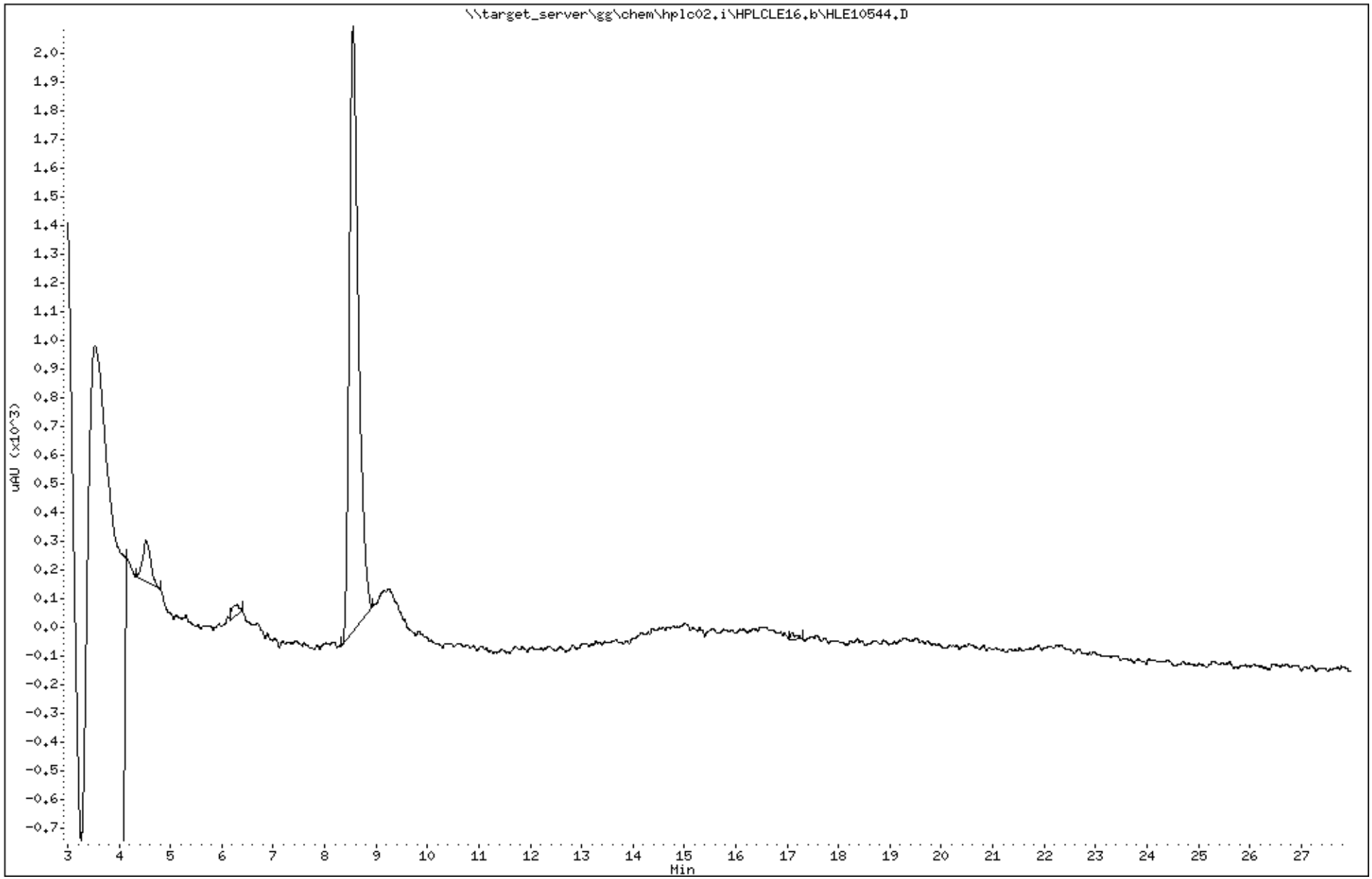
Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01050	Weight of Sample (Kg)
M	12.922	% Moisture
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HLE10544.D
Date : 17-MAY-2018 12:14
Client ID: CHAAP-21B-DS-SS08
Sample Info: SL4180-12

Instrument: hplc02.i

Operator: AAB
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 2000082

Data File: HLE10544.D
Report Date: 30-May-2018 11:24

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HPLCLE16.b\HLE10544.D
Lab Smp Id: SL4180-12 Client Smp ID: CHAAP-21B-DS-SS08
Inj Date : 17-MAY-2018 12:14
Operator : AAB Inst ID: hplc02.i
Smp Info : SL4180-12
Misc Info : WG228756,WG228439,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\EXPB05A.m\EXPB05A.m
Meth Date : 22-May-2018 05:33 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 63
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01050	Weight of Sample (Kg)
M	12.922	% Moisture
Cpnd Variable		Local Compound Variable

					CONCENTRATIONS		
					ON-COLUMN	FINAL	
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/mL)	(ug/Kgdrywt)	REVIEW CODE
$ 2 1,2-dinitrobenzene	8.555	8.528	0.027	1048	0.22648	495(M)	M9

QC Flag Legend

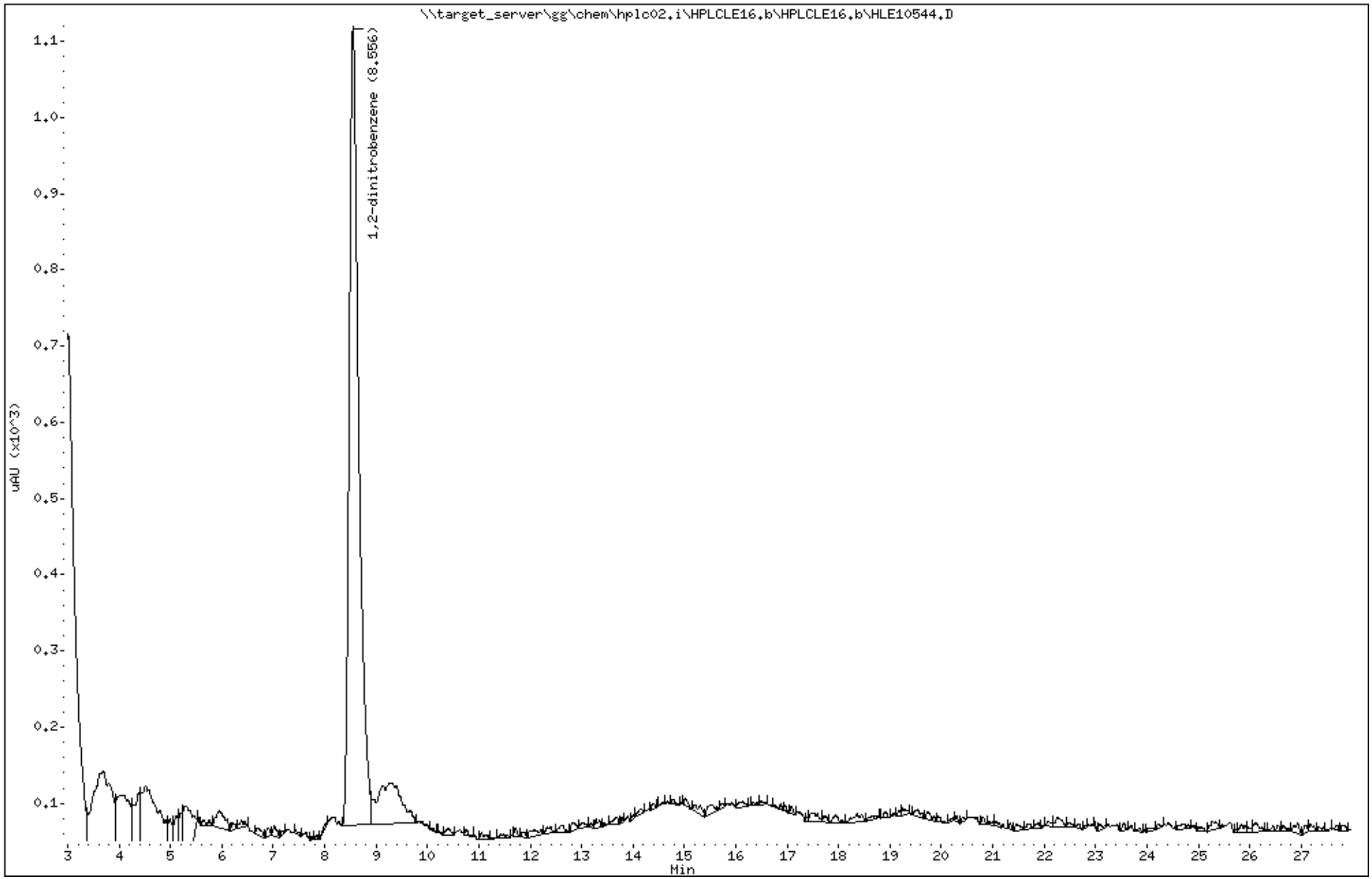
M - Compound response manually integrated.

12:56 pm, May 30, 2018

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HPLCLE16.b\HLE10544.D
Date : 17-MAY-2018 12:14
Client ID: CHAAP-21B-DS-SS08
Sample Info: SL4180-12

Instrument: hplc02.i

Operator: AAB
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 2000084

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-13
Client ID: CHAAP-21B-DS-SB08-5
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: HLE10545.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 15-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228439

Analysis Date: 17-MAY-18
Analyst: AAB
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 80.
Report Date: 30-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	56	ug/Kgdrywt	1	100	110	9.7	56.
RDX	U	56	ug/Kgdrywt	1	100	110	7.7	56.
1,3,5-Trinitrobenzene	U	56	ug/Kgdrywt	1	100	110	7.6	56.
1,3-Dinitrobenzene	U	56	ug/Kgdrywt	1	100	110	7.0	56.
Tetryl	U	56	ug/Kgdrywt	1	100	110	6.1	56.
Nitrobenzene	U	56	ug/Kgdrywt	1	100	110	25.	56.
2,4,6-Trinitrotoluene	U	56	ug/Kgdrywt	1	100	110	7.6	56.
2-Am-DNT	U	56	ug/Kgdrywt	1	100	110	24.	56.
4-Am-DNT	U	56	ug/Kgdrywt	1	100	110	19.	56.
2,6-Dinitrotoluene	U	56	ug/Kgdrywt	1	100	110	30.	56.
2,4-Dinitrotoluene	U	56	ug/Kgdrywt	1	100	110	17.	56.
2-Nitrotoluene	U	56	ug/Kgdrywt	1	100	110	14.	56.
3-Nitrotoluene	U	56	ug/Kgdrywt	1	100	110	8.9	56.
4-Nitrotoluene	U	56	ug/Kgdrywt	1	100	110	30.	56.
Nitroglycerin	U	450	ug/Kgdrywt	1	800	900	140	450
PETN	U	450	ug/Kgdrywt	1	800	900	120	450
1,2-Dinitrobenzene		93.3	%					

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HLE10545.D
Report Date: 30-May-2018 11:18

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HLE10545.D
Lab Smp Id: SL4180-13 Client Smp ID: CHAAP-21B-DS-SB08-5
Inj Date : 17-MAY-2018 12:45
Operator : AAB Inst ID: hplc02.i
Smp Info : SL4180-13
Misc Info : WG228756,WG228439,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\EXPB05A.m
Meth Date : 22-May-2018 05:42 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 64
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

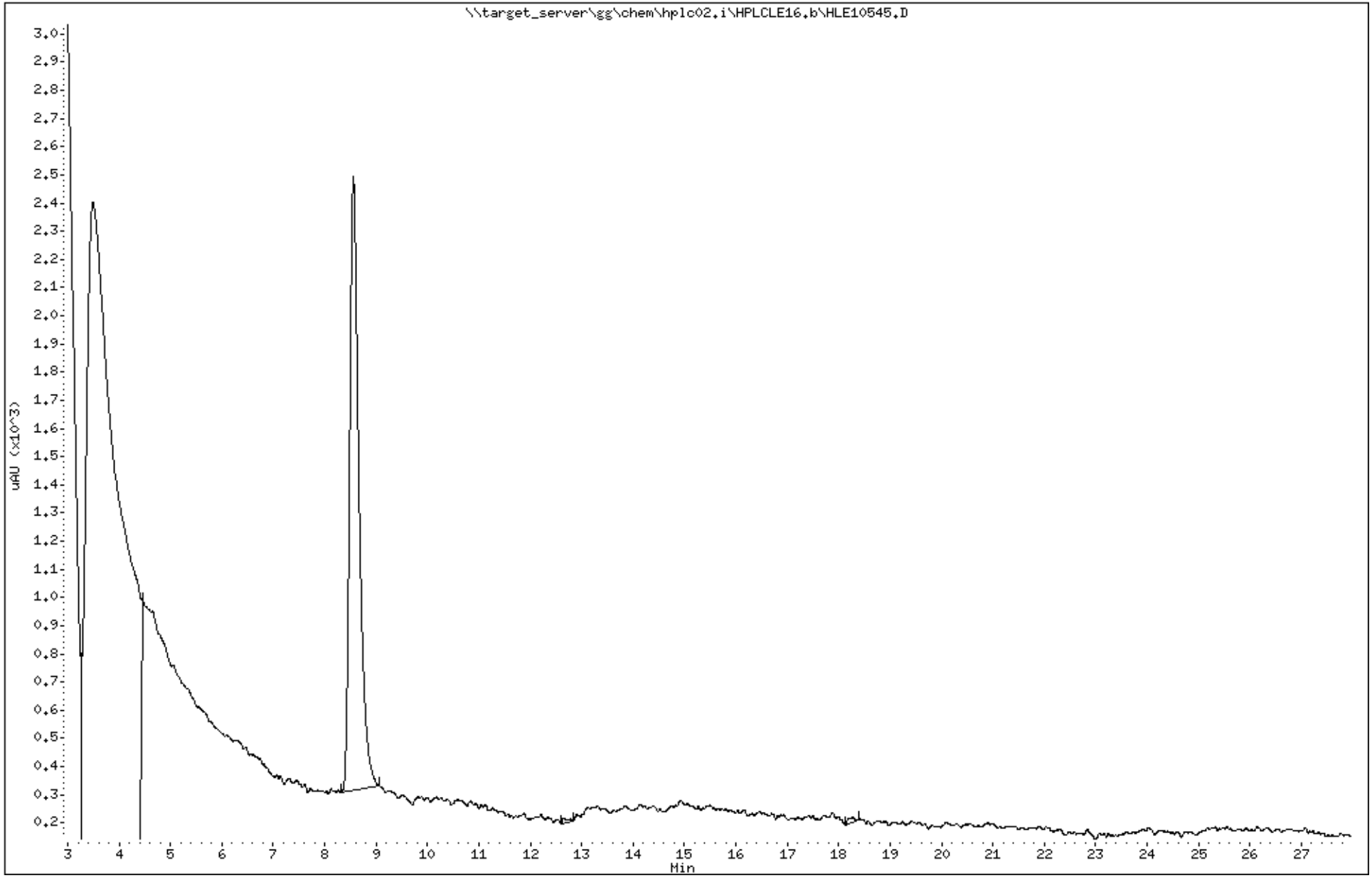
Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01100	Weight of Sample (Kg)
M	19.613	% Moisture
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HLE10545.D
Date : 17-MAY-2018 12:45
Client ID: CHAAP-21B-DS-SB08-5
Sample Info: SL4180-13

Instrument: hplc02.i

Operator: AAB
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 2000087

Data File: HLE10545.D
Report Date: 30-May-2018 11:24

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HPLCLE16.b\HLE10545.D
Lab Smp Id: SL4180-13 Client Smp ID: CHAAP-21B-DS-SB08-5
Inj Date : 17-MAY-2018 12:45
Operator : AAB Inst ID: hplc02.i
Smp Info : SL4180-13
Misc Info : WG228756,WG228439,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\EXPB05A.m\EXPB05A.m
Meth Date : 22-May-2018 05:33 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 64
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

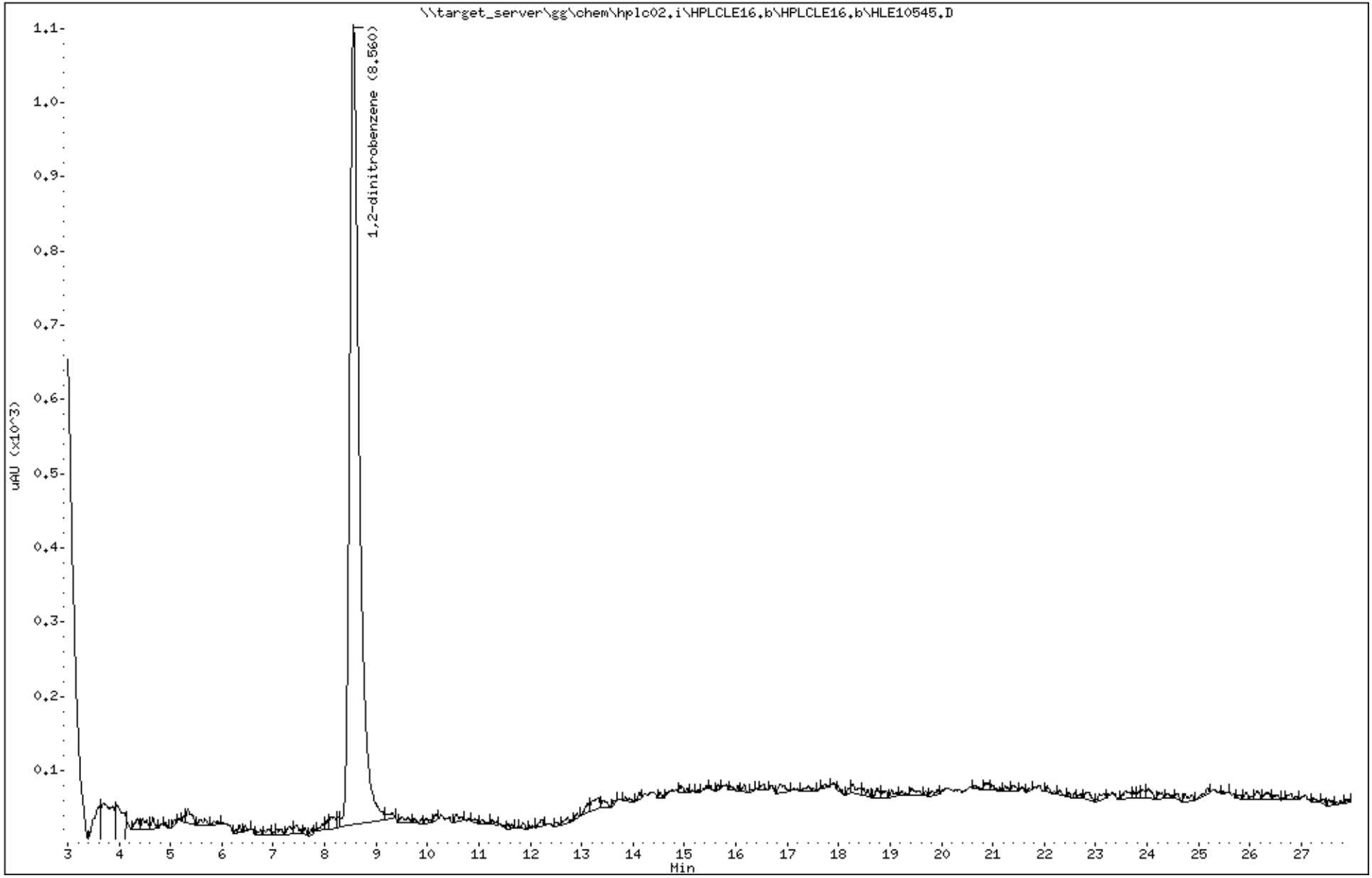
Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01100	Weight of Sample (Kg)
M	19.613	% Moisture
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	REVIEW CODE
$ 2 1,2-dinitrobenzene	8.559	8.528	0.031	1078	0.23296	527	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HPLCLE16.b\HLE10545.D
Date : 17-MAY-2018 12:45
Client ID: CHAAP-21B-DS-SB08-5
Sample Info: SL4180-13

Instrument: hplc02.i

Operator: AAB
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 2000089

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-14
Client ID: CHAAP-21B-DS-SS09
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: HLE10546.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 15-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228439

Analysis Date: 17-MAY-18
Analyst: AAB
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 83.
Report Date: 30-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	58	ug/Kgdrywt	1	100	120	10.	58.
RDX	U	58	ug/Kgdrywt	1	100	120	7.9	58.
1,3,5-Trinitrobenzene	U	58	ug/Kgdrywt	1	100	120	7.8	58.
1,3-Dinitrobenzene	U	58	ug/Kgdrywt	1	100	120	7.2	58.
Tetryl	U	58	ug/Kgdrywt	1	100	120	6.3	58.
Nitrobenzene	U	58	ug/Kgdrywt	1	100	120	26.	58.
2,4,6-Trinitrotoluene	U	58	ug/Kgdrywt	1	100	120	7.8	58.
2-Am-DNT	U	58	ug/Kgdrywt	1	100	120	24.	58.
4-Am-DNT	U	58	ug/Kgdrywt	1	100	120	20.	58.
2,6-Dinitrotoluene	U	58	ug/Kgdrywt	1	100	120	31.	58.
2,4-Dinitrotoluene	U	58	ug/Kgdrywt	1	100	120	17.	58.
2-Nitrotoluene	U	58	ug/Kgdrywt	1	100	120	14.	58.
3-Nitrotoluene	U	58	ug/Kgdrywt	1	100	120	9.2	58.
4-Nitrotoluene	U	58	ug/Kgdrywt	1	100	120	31.	58.
Nitroglycerin	U	460	ug/Kgdrywt	1	800	930	140	460
PETN	U	460	ug/Kgdrywt	1	800	930	120	460
1,2-Dinitrobenzene		96.7	%					

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HLE10546.D
Report Date: 30-May-2018 11:18

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HLE10546.D
Lab Smp Id: SL4180-14 Client Smp ID: CHAAP-21B-DS-SS09
Inj Date : 17-MAY-2018 13:16
Operator : AAB Inst ID: hplc02.i
Smp Info : SL4180-14
Misc Info : WG228756,WG228439,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\EXPB05A.m
Meth Date : 22-May-2018 05:42 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 65
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

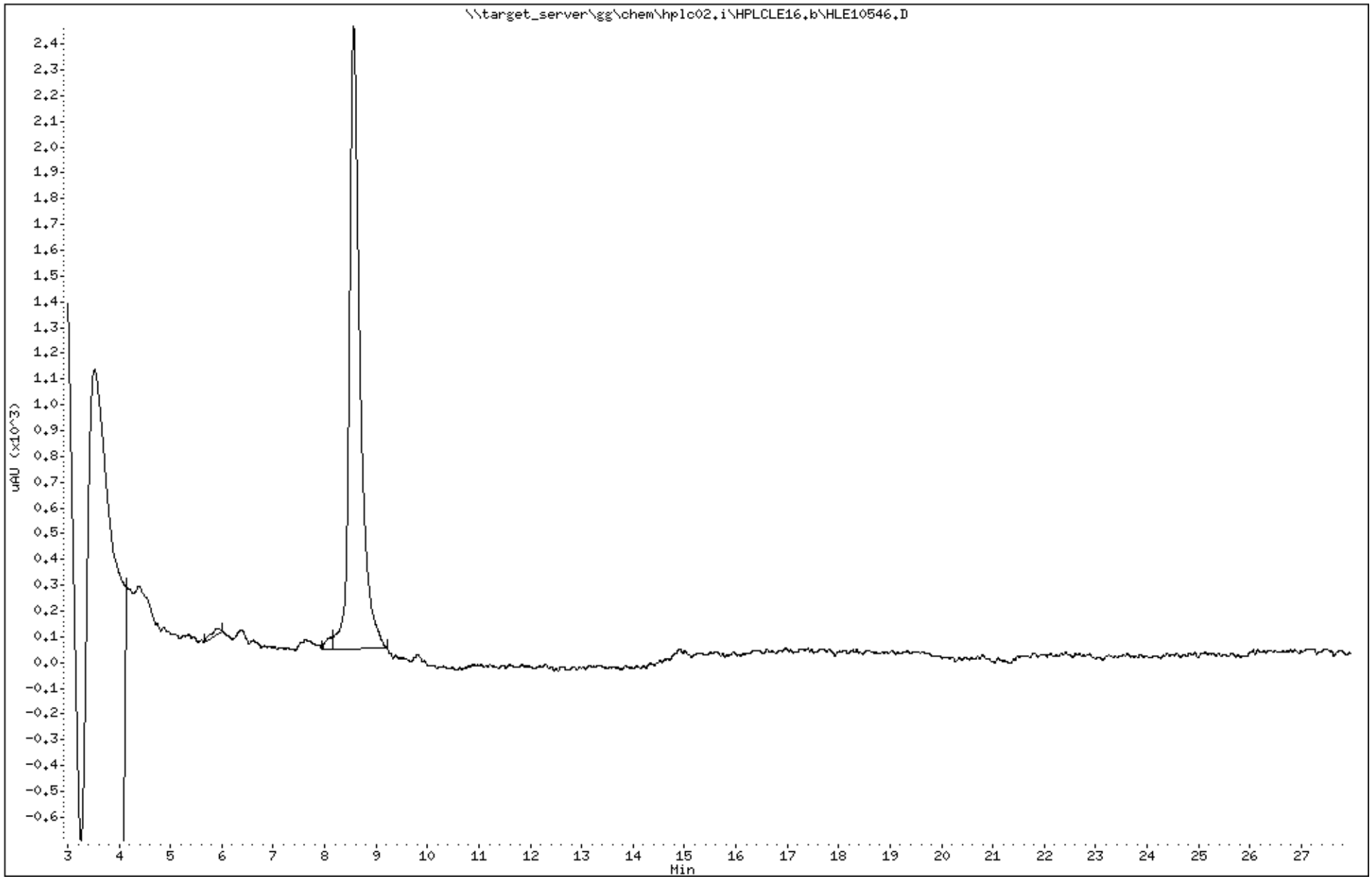
Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01040	Weight of Sample (Kg)
M	17.124	% Moisture
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HLE10546.D
Date : 17-MAY-2018 13:16
Client ID: CHAAP-21B-DS-SS09
Sample Info: SL4180-14

Instrument: hplc02.i

Operator: AAB
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 2000092

Data File: HLE10546.D
Report Date: 30-May-2018 11:24

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HPLCLE16.b\HLE10546.D
Lab Smp Id: SL4180-14 Client Smp ID: CHAAP-21B-DS-SS09
Inj Date : 17-MAY-2018 13:16
Operator : AAB Inst ID: hplc02.i
Smp Info : SL4180-14
Misc Info : WG228756,WG228439,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\EXPB05A.m\EXPB05A.m
Meth Date : 22-May-2018 05:33 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 65
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01040	Weight of Sample (Kg)
M	17.124	% Moisture
Cpnd Variable		Local Compound Variable

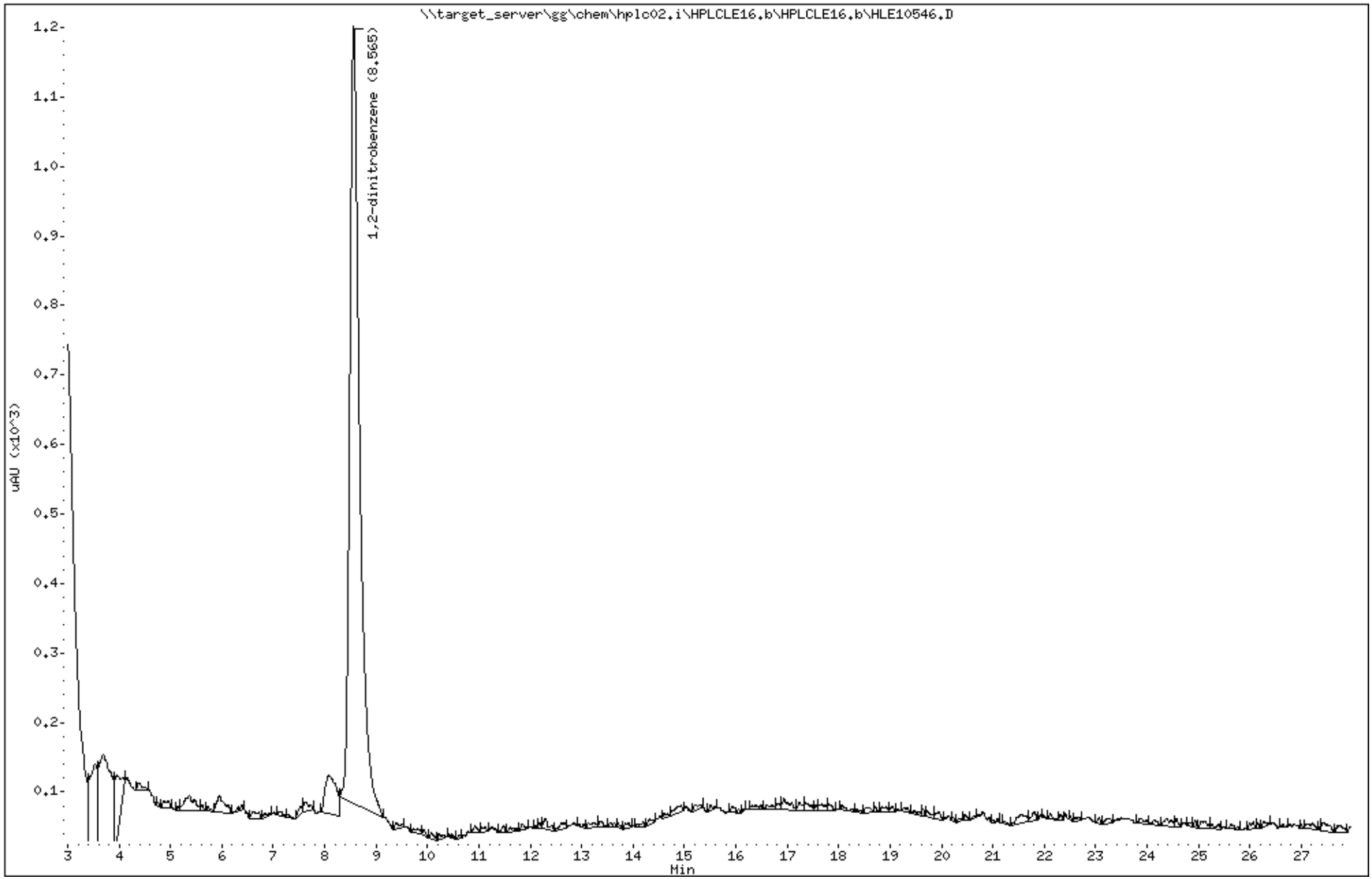
					CONCENTRATIONS		
					ON-COLUMN	FINAL	
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/mL)	(ug/Kgdrywt)	REVIEW CODE
$ 2 1,2-dinitrobenzene	8.564	8.528	0.036	1118	0.24160	561(M)	M2

QC Flag Legend

M - Compound response manually integrated.

12:56 pm, May 30, 2018

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HPLCLE16.b\HLE10546.D
Date : 17-MAY-2018 13:16
Client ID: CHAAP-21B-DS-SS09
Instrument: hplc02.i
Sample Info: SL4180-14
Operator: AAB
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 2000094

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-15
Client ID: CHAAP-21B-DS-SB09-5
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: HLE10547.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 15-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228439

Analysis Date: 17-MAY-18
Analyst: AAB
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 80.
Report Date: 30-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	57	ug/Kgdrywt	1	100	110	9.7	57.
RDX	U	57	ug/Kgdrywt	1	100	110	7.7	57.
1,3,5-Trinitrobenzene	U	57	ug/Kgdrywt	1	100	110	7.6	57.
1,3-Dinitrobenzene	U	57	ug/Kgdrywt	1	100	110	7.0	57.
Tetryl	U	57	ug/Kgdrywt	1	100	110	6.1	57.
Nitrobenzene	U	57	ug/Kgdrywt	1	100	110	25.	57.
2,4,6-Trinitrotoluene	U	57	ug/Kgdrywt	1	100	110	7.6	57.
2-Am-DNT	U	57	ug/Kgdrywt	1	100	110	24.	57.
4-Am-DNT	U	57	ug/Kgdrywt	1	100	110	19.	57.
2,6-Dinitrotoluene	U	57	ug/Kgdrywt	1	100	110	31.	57.
2,4-Dinitrotoluene	U	57	ug/Kgdrywt	1	100	110	17.	57.
2-Nitrotoluene	U	57	ug/Kgdrywt	1	100	110	14.	57.
3-Nitrotoluene	U	57	ug/Kgdrywt	1	100	110	9.0	57.
4-Nitrotoluene	U	57	ug/Kgdrywt	1	100	110	31.	57.
Nitroglycerin	U	450	ug/Kgdrywt	1	800	910	140	450
PETN	U	450	ug/Kgdrywt	1	800	910	120	450
1,2-Dinitrobenzene		95.4	%					

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HLE10547.D
Report Date: 30-May-2018 11:18

Katahdin Analytical Services

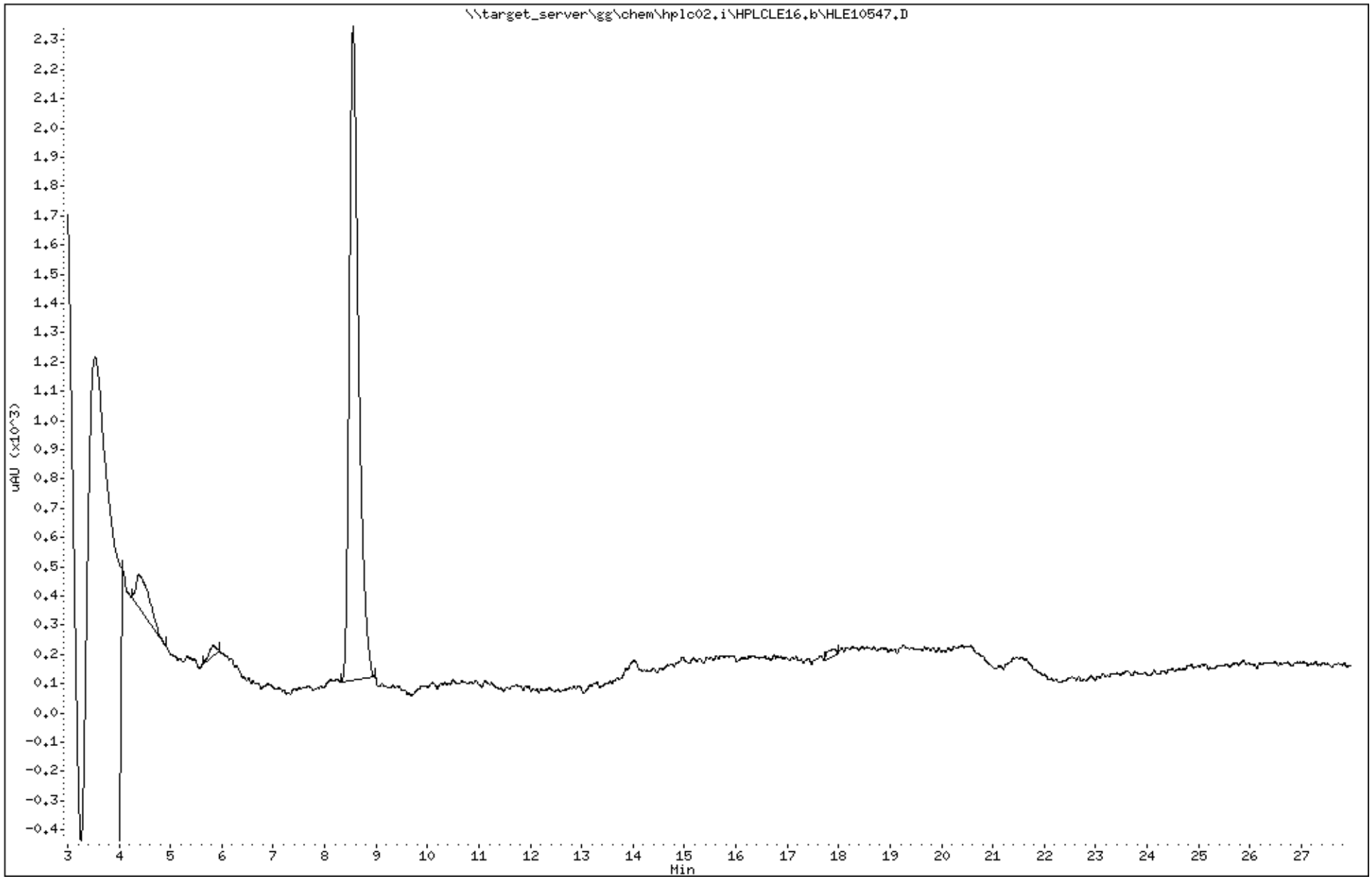
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HLE10547.D
Lab Smp Id: SL4180-15 Client Smp ID: CHAAP-21B-DS-SB09-5
Inj Date : 17-MAY-2018 13:47
Operator : AAB Inst ID: hplc02.i
Smp Info : SL4180-15
Misc Info : WG228756,WG228439,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\EXPB05A.m
Meth Date : 22-May-2018 05:42 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 66
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01100	Weight of Sample (Kg)
M	19.809	% Moisture
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HLE10547.D
Date : 17-MAY-2018 13:47
Client ID: CHAAP-21B-DS-SB09-5
Instrument: hplc02.i
Sample Info: SL4180-15
Operator: AAB
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 2000097

Data File: HLE10547.D
Report Date: 30-May-2018 11:24

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HPLCLE16.b\HLE10547.D
Lab Smp Id: SL4180-15 Client Smp ID: CHAAP-21B-DS-SB09-5
Inj Date : 17-MAY-2018 13:47
Operator : AAB Inst ID: hplc02.i
Smp Info : SL4180-15
Misc Info : WG228756,WG228439,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\EXPB05A.m\EXPB05A.m
Meth Date : 22-May-2018 05:33 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 66
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

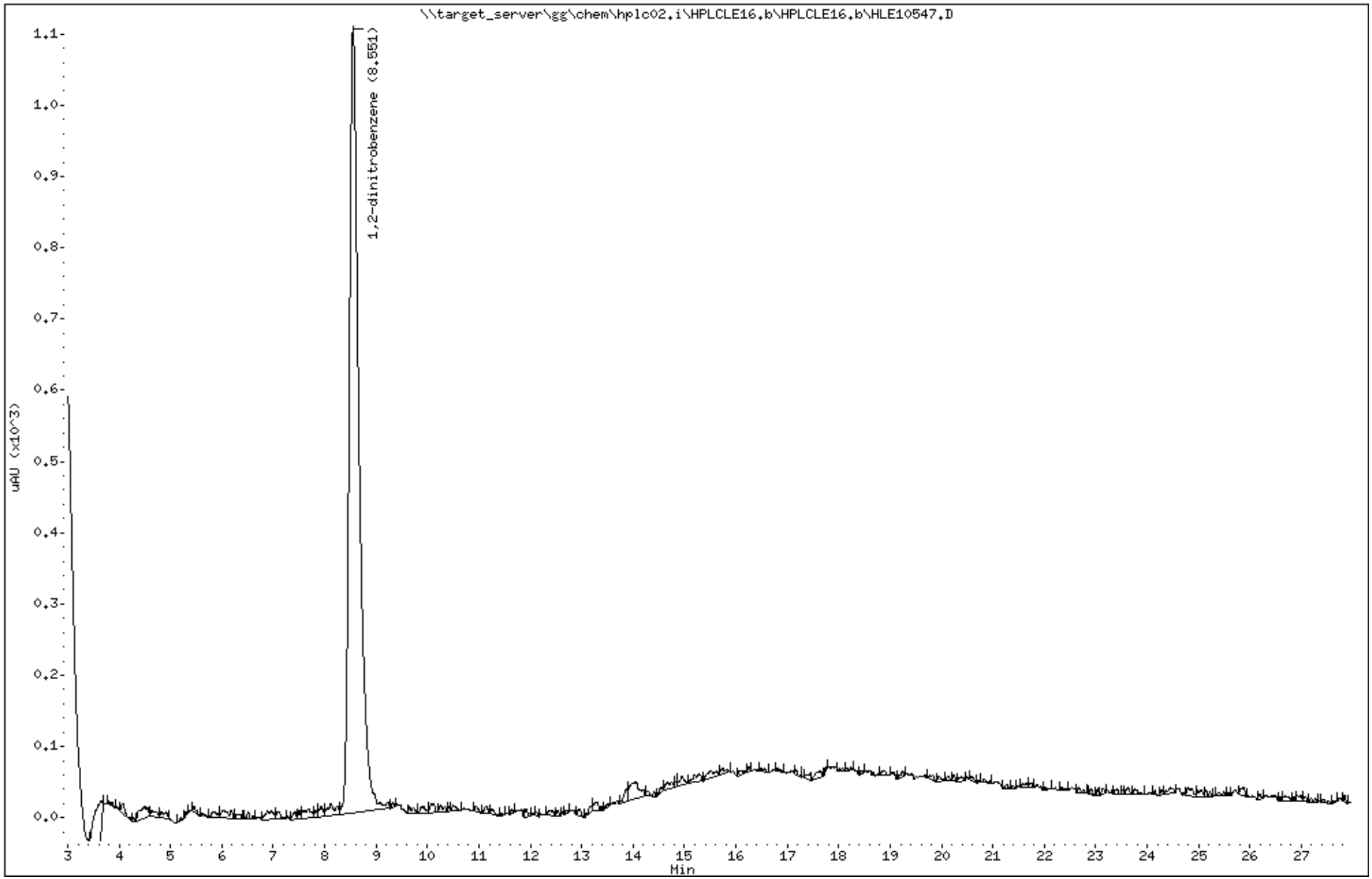
Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01100	Weight of Sample (Kg)
M	19.809	% Moisture
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	REVIEW CODE
$ 2 1,2-dinitrobenzene	8.551	8.528	0.023	1104	0.23858	541	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HPLCLE16.b\HLE10547.D
Date : 17-MAY-2018 13:47
Client ID: CHAAP-21B-DS-SB09-5
Sample Info: SL4180-15

Instrument: hplc02.i

Operator: AAB
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 2000099

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-16
Client ID: CHAAP-21B-DS-SS11
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: HLE10640.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 15-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228439

Analysis Date: 22-MAY-18
Analyst: AAB
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 82.
Report Date: 30-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	57	ug/Kgdrywt	1	100	110	9.7	57.
RDX	U	57	ug/Kgdrywt	1	100	110	7.7	57.
1,3,5-Trinitrobenzene	U	57	ug/Kgdrywt	1	100	110	7.6	57.
1,3-Dinitrobenzene	U	57	ug/Kgdrywt	1	100	110	7.0	57.
Tetryl	U	57	ug/Kgdrywt	1	100	110	6.1	57.
Nitrobenzene	U	57	ug/Kgdrywt	1	100	110	25.	57.
2,4,6-Trinitrotoluene	U	57	ug/Kgdrywt	1	100	110	7.6	57.
2-Am-DNT	U	57	ug/Kgdrywt	1	100	110	24.	57.
4-Am-DNT	U	57	ug/Kgdrywt	1	100	110	19.	57.
2,6-Dinitrotoluene	U	57	ug/Kgdrywt	1	100	110	30.	57.
2,4-Dinitrotoluene	U	57	ug/Kgdrywt	1	100	110	17.	57.
2-Nitrotoluene	U	57	ug/Kgdrywt	1	100	110	14.	57.
3-Nitrotoluene	U	57	ug/Kgdrywt	1	100	110	8.9	57.
4-Nitrotoluene	U	57	ug/Kgdrywt	1	100	110	30.	57.
Nitroglycerin	U	450	ug/Kgdrywt	1	800	900	140	450
PETN	U	450	ug/Kgdrywt	1	800	900	120	450
1,2-Dinitrobenzene		92.6	%					

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10640.D
Report Date: 30-May-2018 11:28

Katahdin Analytical Services

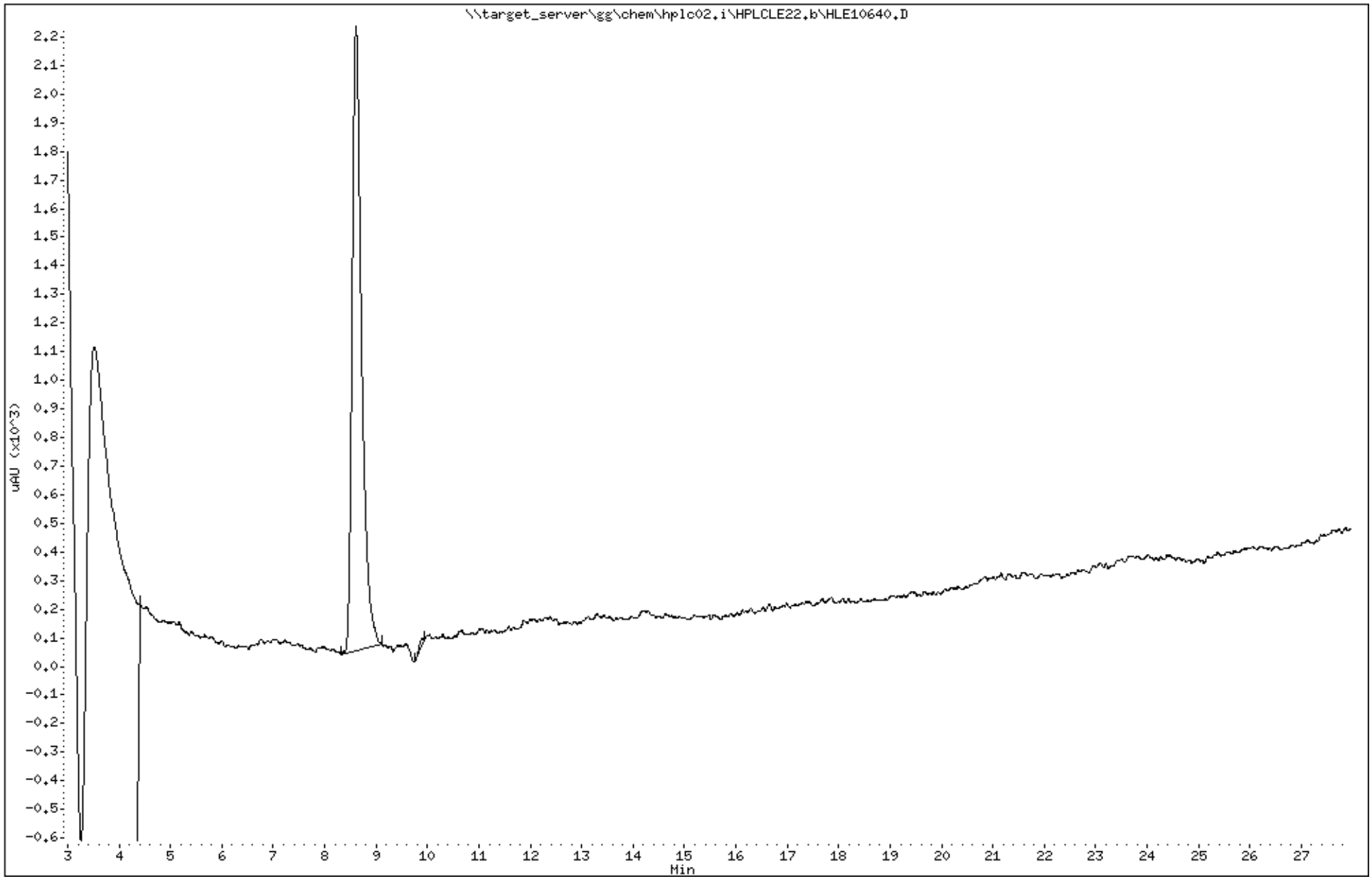
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10640.D
Lab Smp Id: SL4180-16 Client Smp ID: CHAAP-21B-DS-SS11
Inj Date : 22-MAY-2018 16:18
Operator : AC Inst ID: hplc02.i
Smp Info : SL4180-16
Misc Info : WG228756,WG228439,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\EXPB05A.m
Meth Date : 23-May-2018 13:50 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 59
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01070	Weight of Sample (Kg)
M	17.476	% Moisture
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10640.D
Date : 22-MAY-2018 16:18
Client ID: CHAAP-21B-DS-SS11
Instrument: hplc02.i
Sample Info: SL4180-16
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 2000102

Data File: HLE10640.D
Report Date: 30-May-2018 11:31

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HPLCLE22.b\HLE10640.D
Lab Smp Id: SL4180-16 Client Smp ID: CHAAP-21B-DS-SS11
Inj Date : 22-MAY-2018 16:18
Operator : AC Inst ID: hplc02.i
Smp Info : SL4180-16
Misc Info : WG228756,WG228439,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\EXPB05A.m\EXPB05A.m
Meth Date : 23-May-2018 13:40 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 59
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01070	Weight of Sample (Kg)
M	17.476	% Moisture
Cpnd Variable		Local Compound Variable

					CONCENTRATIONS		
					ON-COLUMN	FINAL	
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/mL)	(ug/Kgdrywt)	REVIEW CODE
$ 2 1,2-dinitrobenzene	8.611	8.581	0.030	1070	0.23123	524(M)	M9

QC Flag Legend

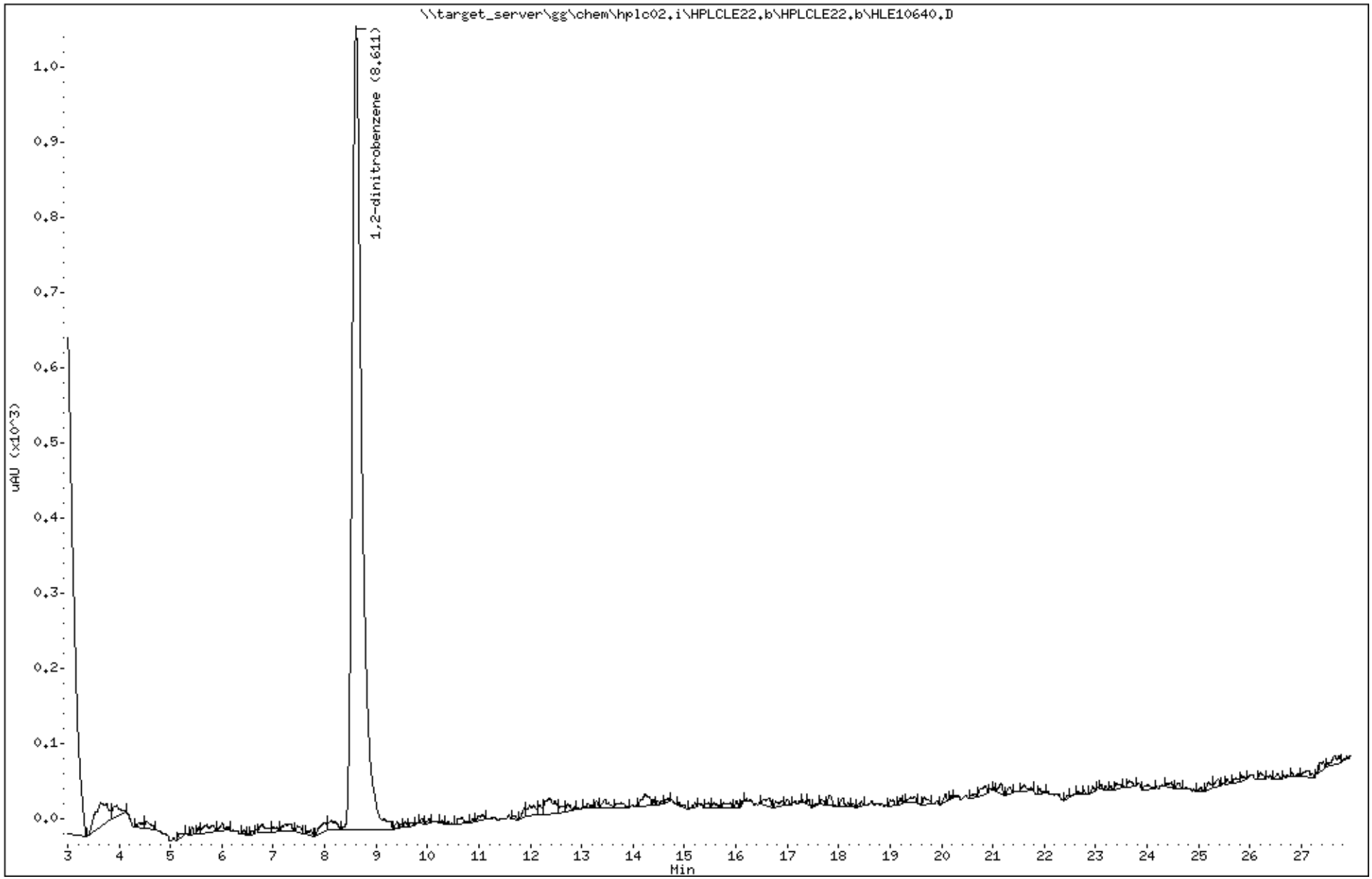
M - Compound response manually integrated.

12:56 pm, May 30, 2018

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HPLCLE22.b\HLE10640.D
Date : 22-MAY-2018 16:18
Client ID: CHAAP-21B-DS-SS11
Sample Info: SL4180-16

Instrument: hplc02.i

Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 2000104

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-17
Client ID: CHAAP-21B-DS-SS111
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: HLE10641.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 15-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228439

Analysis Date: 22-MAY-18
Analyst: AAB
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 80.
Report Date: 30-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	52	ug/Kgdrywt	1	100	100	9.0	52.
RDX	U	52	ug/Kgdrywt	1	100	100	7.1	52.
1,3,5-Trinitrobenzene	U	52	ug/Kgdrywt	1	100	100	7.0	52.
1,3-Dinitrobenzene	U	52	ug/Kgdrywt	1	100	100	6.5	52.
Tetryl	U	52	ug/Kgdrywt	1	100	100	5.6	52.
Nitrobenzene	U	52	ug/Kgdrywt	1	100	100	23.	52.
2,4,6-Trinitrotoluene	U	52	ug/Kgdrywt	1	100	100	7.0	52.
2-Am-DNT	U	52	ug/Kgdrywt	1	100	100	22.	52.
4-Am-DNT	U	52	ug/Kgdrywt	1	100	100	18.	52.
2,6-Dinitrotoluene	U	52	ug/Kgdrywt	1	100	100	28.	52.
2,4-Dinitrotoluene	U	52	ug/Kgdrywt	1	100	100	16.	52.
2-Nitrotoluene	U	52	ug/Kgdrywt	1	100	100	12.	52.
3-Nitrotoluene	U	52	ug/Kgdrywt	1	100	100	8.2	52.
4-Nitrotoluene	U	52	ug/Kgdrywt	1	100	100	28.	52.
Nitroglycerin	U	420	ug/Kgdrywt	1	800	840	130	420
PETN	U	420	ug/Kgdrywt	1	800	840	110	420
1,2-Dinitrobenzene		92.1	%					

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10641.D
Report Date: 30-May-2018 11:28

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10641.D
Lab Smp Id: SL4180-17 Client Smp ID: CHAAP-21B-DS-SS111
Inj Date : 22-MAY-2018 16:49
Operator : AC Inst ID: hplc02.i
Smp Info : SL4180-17
Misc Info : WG228756,WG228439,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\EXPB05A.m
Meth Date : 23-May-2018 13:50 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 60
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

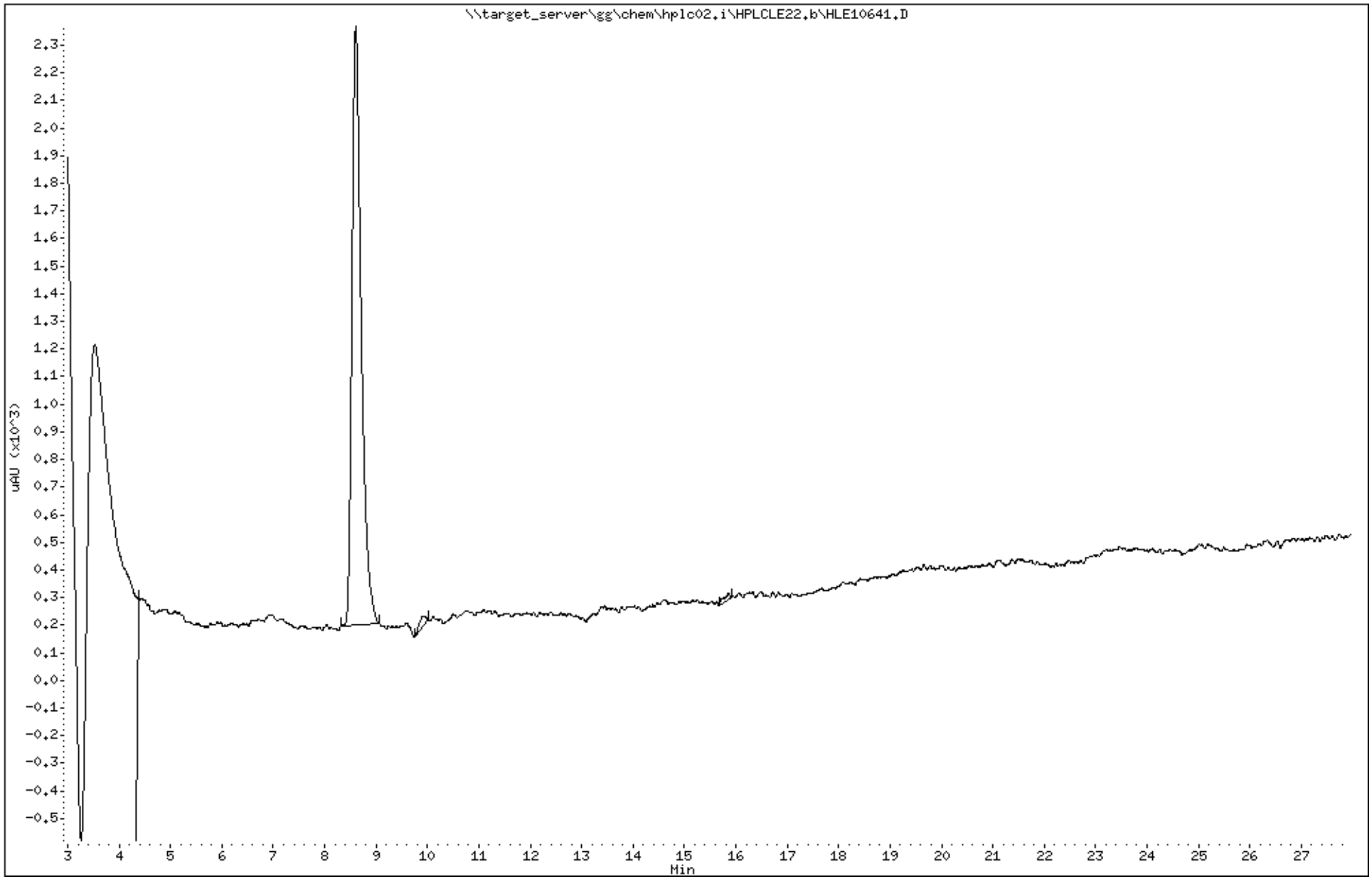
Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01190	Weight of Sample (Kg)
M	19.598	% Moisture
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10641.D
Date : 22-MAY-2018 16:49
Client ID: CHAAP-21B-DS-SS111
Sample Info: SL4180-17

Instrument: hplc02.i

Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 2000107

Data File: HLE10641.D
Report Date: 30-May-2018 11:31

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HPLCLE22.b\HLE10641.D
Lab Smp Id: SL4180-17 Client Smp ID: CHAAP-21B-DS-SS111
Inj Date : 22-MAY-2018 16:49
Operator : AC Inst ID: hplc02.i
Smp Info : SL4180-17
Misc Info : WG228756,WG228439,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\EXPB05A.m\EXPB05A.m
Meth Date : 23-May-2018 13:40 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 60
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01190	Weight of Sample (Kg)
M	19.598	% Moisture
Cpnd Variable		Local Compound Variable

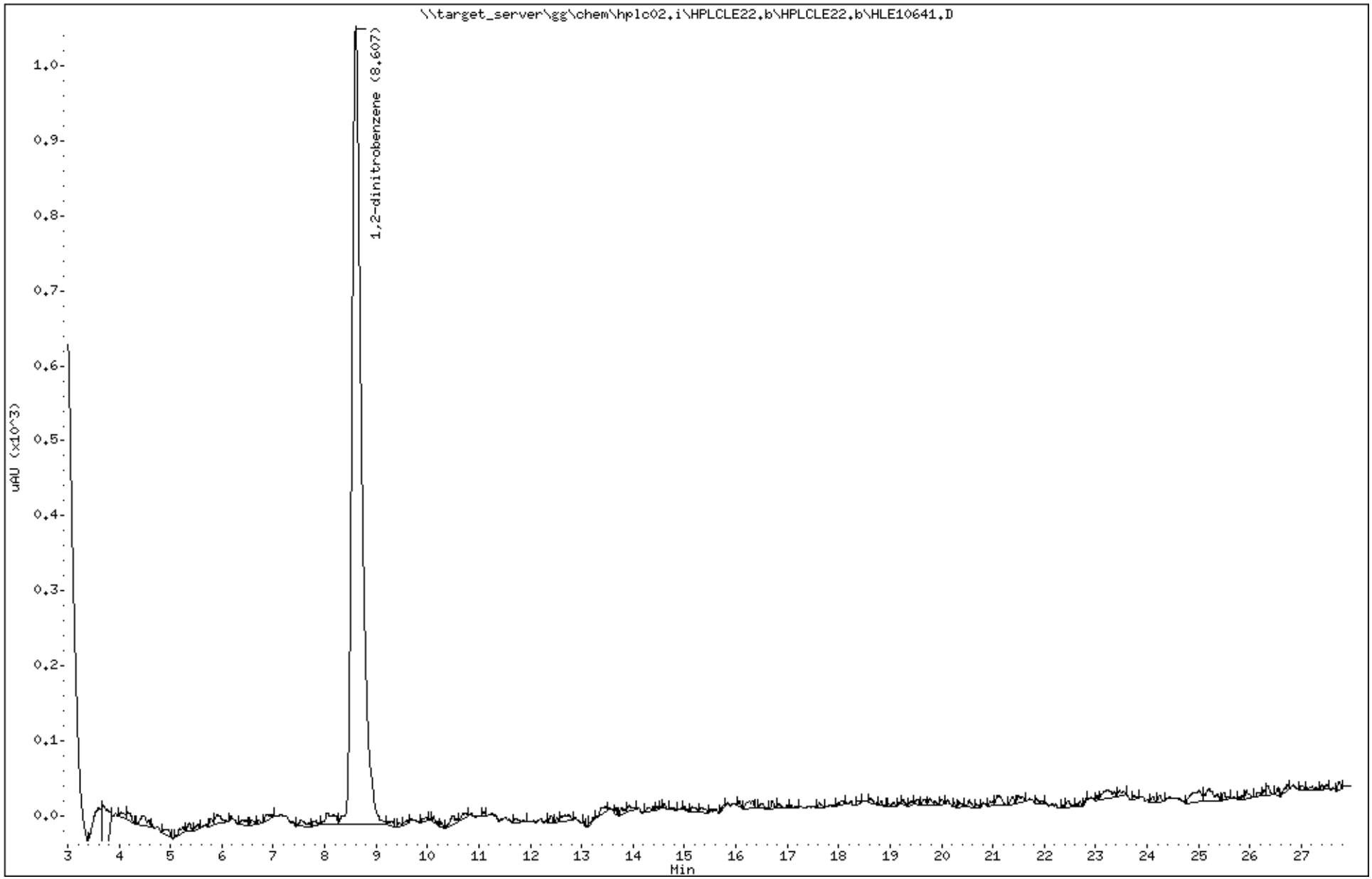
						CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	
Compounds	RT	EXP RT	DLT RT	RESPONSE				REVIEW CODE
$ 2 1,2-dinitrobenzene	8.607	8.581	0.026	1064		0.22993	481	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HPLCLE22.b\HLE10641.D
Date : 22-MAY-2018 16:49
Client ID: CHAAP-21B-DS-SS111
Sample Info: SL4180-17

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 2000109

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-18
Client ID: CHAAP-21B-DS-SB11-5
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: HLE10642.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 15-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228439

Analysis Date: 22-MAY-18
Analyst: AAB
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 80.
Report Date: 30-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	53	ug/Kgdrywt	1	100	100	9.1	53.
RDX	U	53	ug/Kgdrywt	1	100	100	7.2	53.
1,3,5-Trinitrobenzene	U	53	ug/Kgdrywt	1	100	100	7.1	53.
1,3-Dinitrobenzene	U	53	ug/Kgdrywt	1	100	100	6.6	53.
Tetryl	U	53	ug/Kgdrywt	1	100	100	5.7	53.
Nitrobenzene	U	53	ug/Kgdrywt	1	100	100	23.	53.
2,4,6-Trinitrotoluene	U	53	ug/Kgdrywt	1	100	100	7.1	53.
2-Am-DNT	U	53	ug/Kgdrywt	1	100	100	22.	53.
4-Am-DNT	U	53	ug/Kgdrywt	1	100	100	18.	53.
2,6-Dinitrotoluene	U	53	ug/Kgdrywt	1	100	100	28.	53.
2,4-Dinitrotoluene	U	53	ug/Kgdrywt	1	100	100	16.	53.
2-Nitrotoluene	U	53	ug/Kgdrywt	1	100	100	13.	53.
3-Nitrotoluene	U	53	ug/Kgdrywt	1	100	100	8.3	53.
4-Nitrotoluene	U	53	ug/Kgdrywt	1	100	100	28.	53.
Nitroglycerin	U	420	ug/Kgdrywt	1	800	840	130	420
PETN	U	420	ug/Kgdrywt	1	800	840	110	420
1,2-Dinitrobenzene		85.8	%					

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10642.D
Report Date: 30-May-2018 11:28

Katahdin Analytical Services

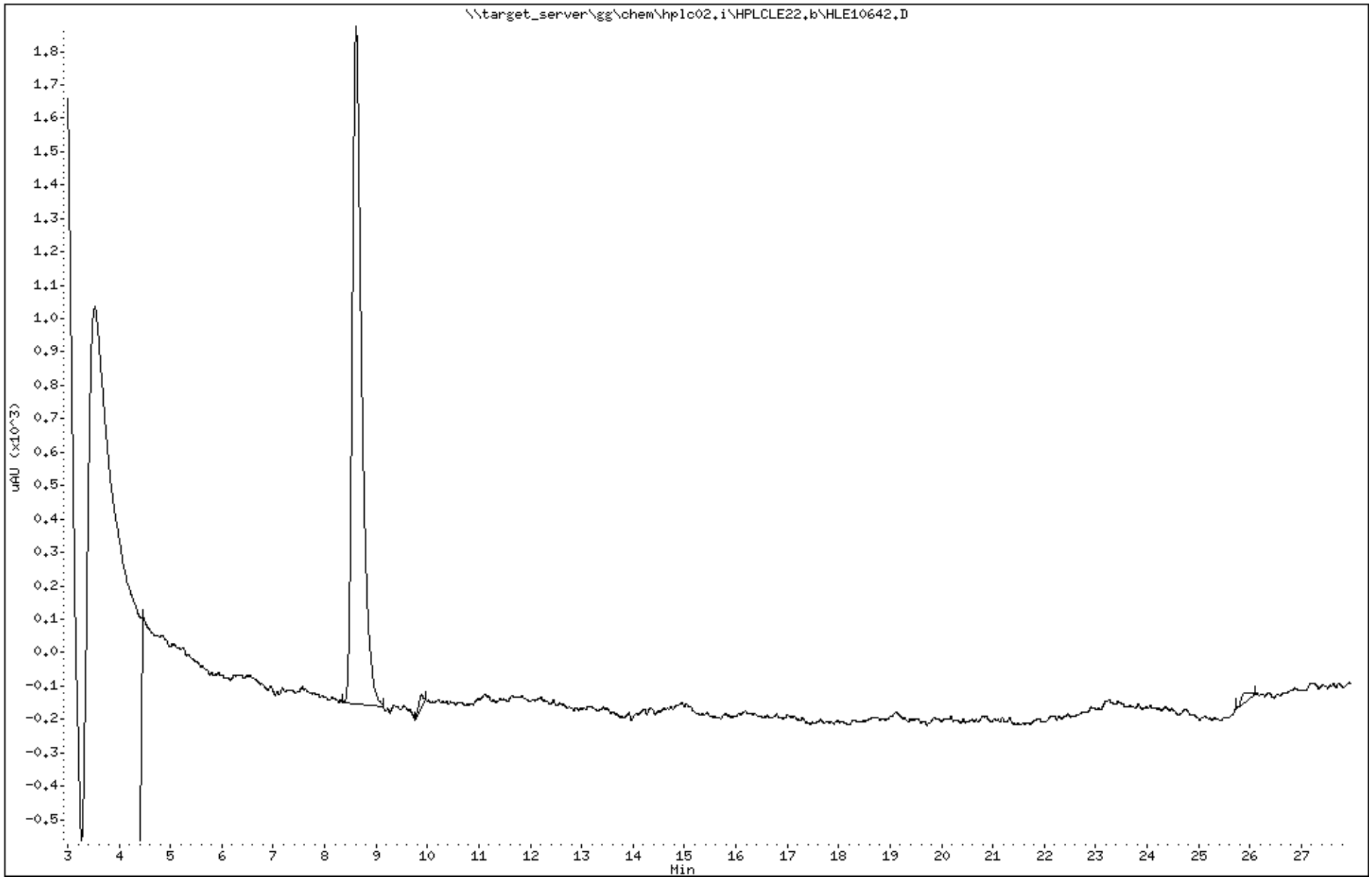
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10642.D
Lab Smp Id: SL4180-18 Client Smp ID: CHAAP-21B-DS-SB11-5
Inj Date : 22-MAY-2018 17:20
Operator : AC Inst ID: hplc02.i
Smp Info : SL4180-18
Misc Info : WG228756,WG228439,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\EXPB05A.m
Meth Date : 23-May-2018 13:50 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 61
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01180	Weight of Sample (Kg)
M	19.820	% Moisture
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10642.D
Date : 22-MAY-2018 17:20
Client ID: CHAAP-21B-DS-SB11-5
Instrument: hplc02.i
Sample Info: SL4180-18
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 2000112

Data File: HLE10642.D
Report Date: 30-May-2018 11:31

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HPLCLE22.b\HLE10642.D
Lab Smp Id: SL4180-18 Client Smp ID: CHAAP-21B-DS-SB11-5
Inj Date : 22-MAY-2018 17:20
Operator : AC Inst ID: hplc02.i
Smp Info : SL4180-18
Misc Info : WG228756,WG228439,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\EXPB05A.m\EXPB05A.m
Meth Date : 23-May-2018 13:40 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 61
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01180	Weight of Sample (Kg)
M	19.820	% Moisture
Cpnd Variable		Local Compound Variable

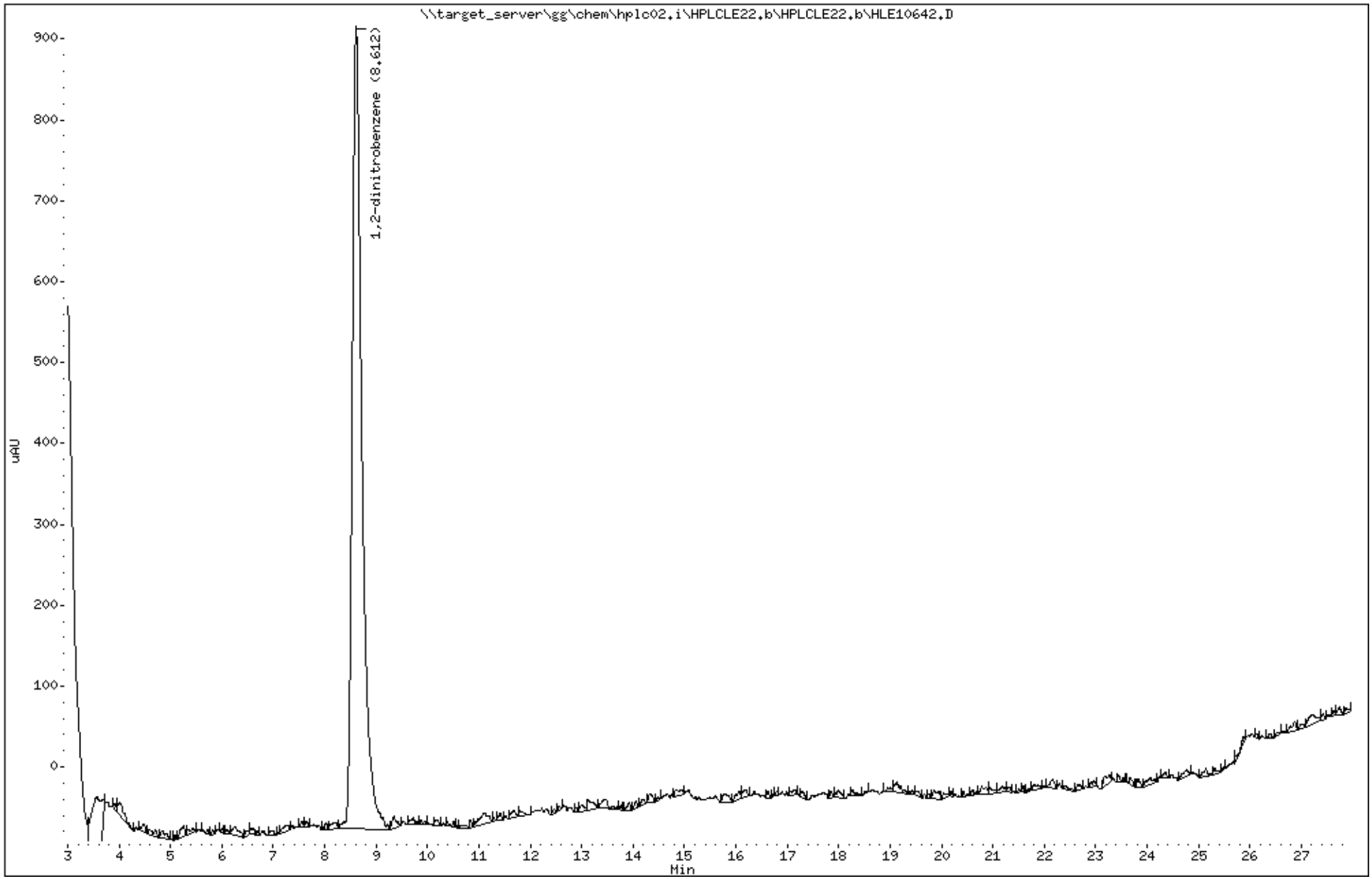
						CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	
Compounds	RT	EXP RT	DLT RT	RESPONSE				REVIEW CODE
$ 2 1,2-dinitrobenzene	8.612	8.581	0.031	992		0.21437	453	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HPLCLE22.b\HLE10642.D
Date : 22-MAY-2018 17:20
Client ID: CHAAP-21B-DS-SB11-5
Sample Info: SL4180-18

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 2000114

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-19
Client ID: CHAAP-21B-DS-SS10
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: HLE10643.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 15-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228439

Analysis Date: 22-MAY-18
Analyst: AAB
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 69.
Report Date: 30-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	60	ug/Kgdrywt	1	100	120	10.	60.
RDX	U	60	ug/Kgdrywt	1	100	120	8.2	60.
1,3,5-Trinitrobenzene	U	60	ug/Kgdrywt	1	100	120	8.0	60.
1,3-Dinitrobenzene	U	60	ug/Kgdrywt	1	100	120	7.4	60.
Tetryl	U	60	ug/Kgdrywt	1	100	120	6.5	60.
Nitrobenzene	U	60	ug/Kgdrywt	1	100	120	26.	60.
2,4,6-Trinitrotoluene	U	60	ug/Kgdrywt	1	100	120	8.0	60.
2-Am-DNT	U	60	ug/Kgdrywt	1	100	120	25.	60.
4-Am-DNT	U	60	ug/Kgdrywt	1	100	120	20.	60.
2,6-Dinitrotoluene	U	60	ug/Kgdrywt	1	100	120	32.	60.
2,4-Dinitrotoluene	U	60	ug/Kgdrywt	1	100	120	18.	60.
2-Nitrotoluene	U	60	ug/Kgdrywt	1	100	120	14.	60.
3-Nitrotoluene	U	60	ug/Kgdrywt	1	100	120	9.5	60.
4-Nitrotoluene	U	60	ug/Kgdrywt	1	100	120	32.	60.
Nitroglycerin	U	480	ug/Kgdrywt	1	800	960	150	480
PETN	U	480	ug/Kgdrywt	1	800	960	130	480
1,2-Dinitrobenzene		88.2	%					

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10643.D
Report Date: 30-May-2018 11:28

Katahdin Analytical Services

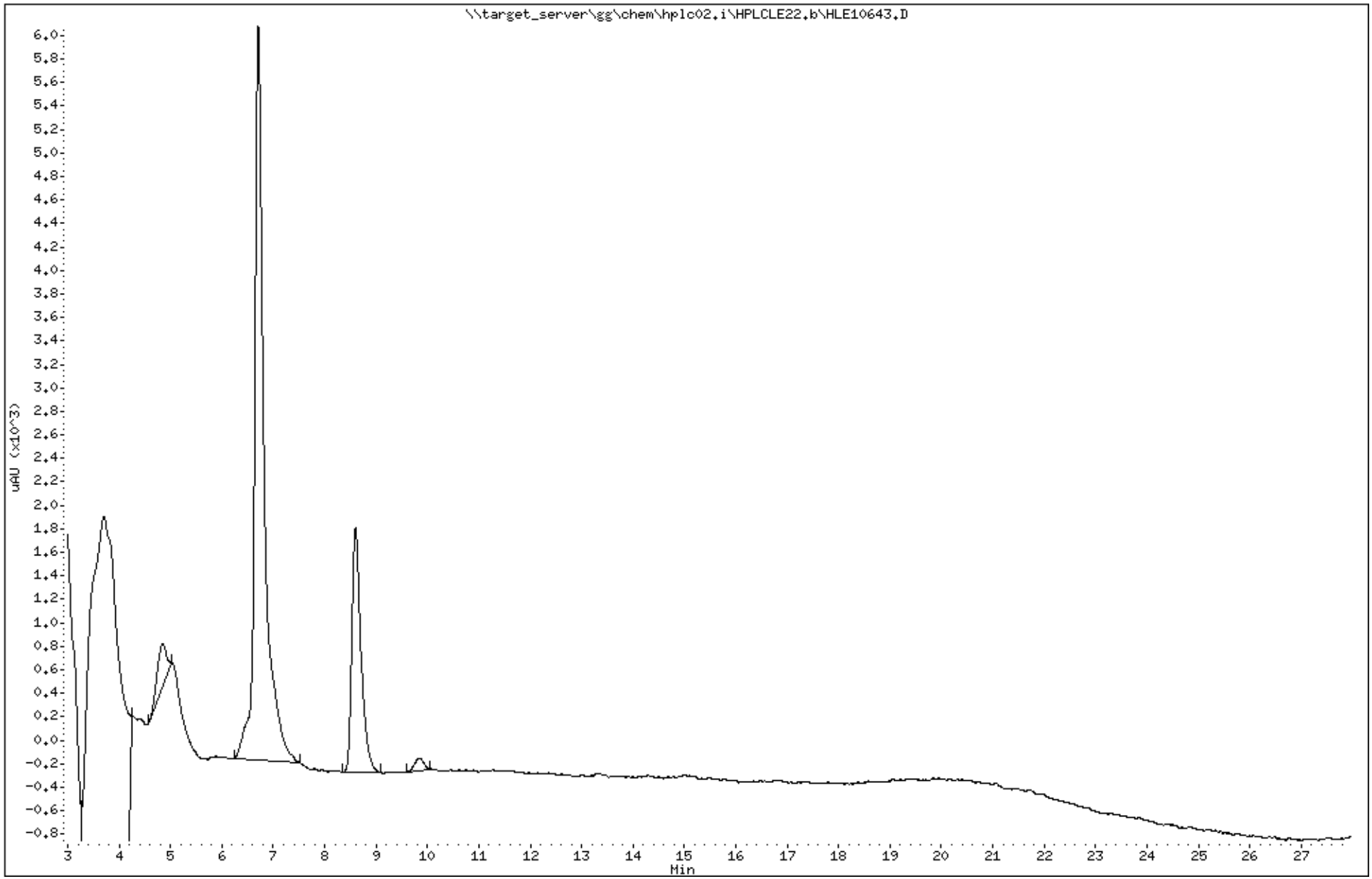
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10643.D
Lab Smp Id: SL4180-19 Client Smp ID: CHAAP-21B-DS-SS10
Inj Date : 22-MAY-2018 17:51
Operator : AC Inst ID: hplc02.i
Smp Info : SL4180-19
Misc Info : WG228756,WG228439,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\EXPB05A.m
Meth Date : 23-May-2018 13:50 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 62
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01200	Weight of Sample (Kg)
M	30.532	% Moisture
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10643.D
Date : 22-MAY-2018 17:51
Client ID: CHAAP-21B-DS-SS10
Instrument: hplc02.i
Sample Info: SL4180-19
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 2000117

Data File: HLE10643.D
Report Date: 30-May-2018 11:31

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HPLCLE22.b\HLE10643.D
Lab Smp Id: SL4180-19 Client Smp ID: CHAAP-21B-DS-SS10
Inj Date : 22-MAY-2018 17:51
Operator : AC Inst ID: hplc02.i
Smp Info : SL4180-19
Misc Info : WG228756,WG228439,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\EXPB05A.m\EXPB05A.m
Meth Date : 23-May-2018 13:40 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 62
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

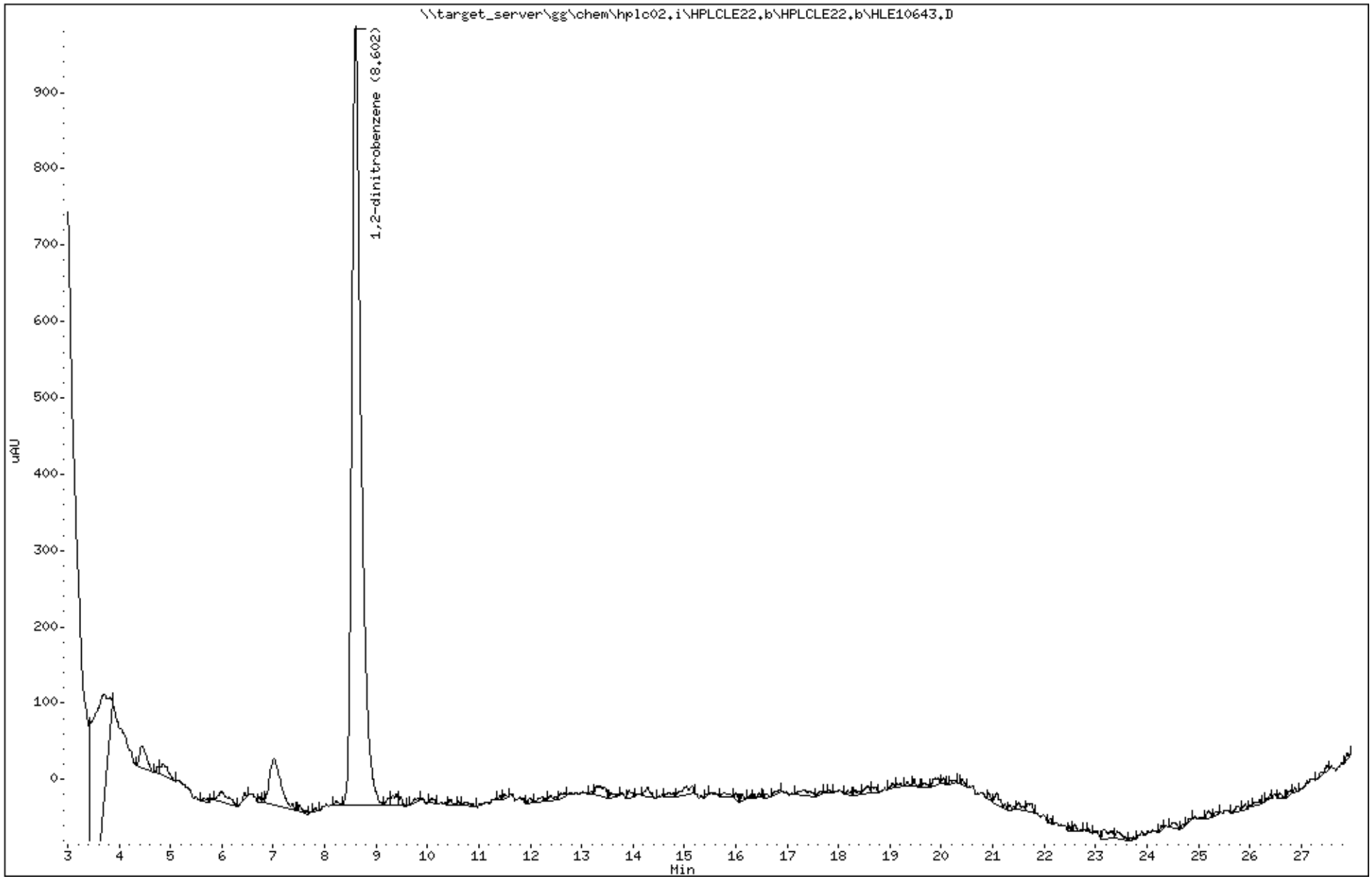
Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01200	Weight of Sample (Kg)
M	30.532	% Moisture
Cpnd Variable		Local Compound Variable

						CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	
Compounds	RT	EXP RT	DLT RT	RESPONSE				REVIEW CODE
$ 2 1,2-dinitrobenzene	8.602	8.581	0.021	1021		0.22064	529	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HPLCLE22.b\HLE10643.D
Date : 22-MAY-2018 17:51
Client ID: CHAAP-21B-DS-SS10
Sample Info: SL4180-19

Instrument: hplc02.i

Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 2000119

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-20
Client ID: CHAAP-21B-DS-SB10-5
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: HLE10644.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 15-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228439

Analysis Date: 22-MAY-18
Analyst: AAB
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 82.
Report Date: 30-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	55	ug/Kgdrywt	1	100	110	9.4	55.
RDX	U	55	ug/Kgdrywt	1	100	110	7.4	55.
1,3,5-Trinitrobenzene	U	55	ug/Kgdrywt	1	100	110	7.3	55.
1,3-Dinitrobenzene	U	55	ug/Kgdrywt	1	100	110	6.8	55.
Tetryl	U	55	ug/Kgdrywt	1	100	110	5.9	55.
Nitrobenzene	U	55	ug/Kgdrywt	1	100	110	24.	55.
2,4,6-Trinitrotoluene	U	55	ug/Kgdrywt	1	100	110	7.3	55.
2-Am-DNT	U	55	ug/Kgdrywt	1	100	110	23.	55.
4-Am-DNT	U	55	ug/Kgdrywt	1	100	110	19.	55.
2,6-Dinitrotoluene	U	55	ug/Kgdrywt	1	100	110	30.	55.
2,4-Dinitrotoluene	U	55	ug/Kgdrywt	1	100	110	16.	55.
2-Nitrotoluene	U	55	ug/Kgdrywt	1	100	110	13.	55.
3-Nitrotoluene	U	55	ug/Kgdrywt	1	100	110	8.6	55.
4-Nitrotoluene	U	55	ug/Kgdrywt	1	100	110	30.	55.
Nitroglycerin	U	440	ug/Kgdrywt	1	800	880	140	440
PETN	U	440	ug/Kgdrywt	1	800	880	120	440
1,2-Dinitrobenzene		88.1	%					

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10644.D
Report Date: 30-May-2018 11:28

Katahdin Analytical Services

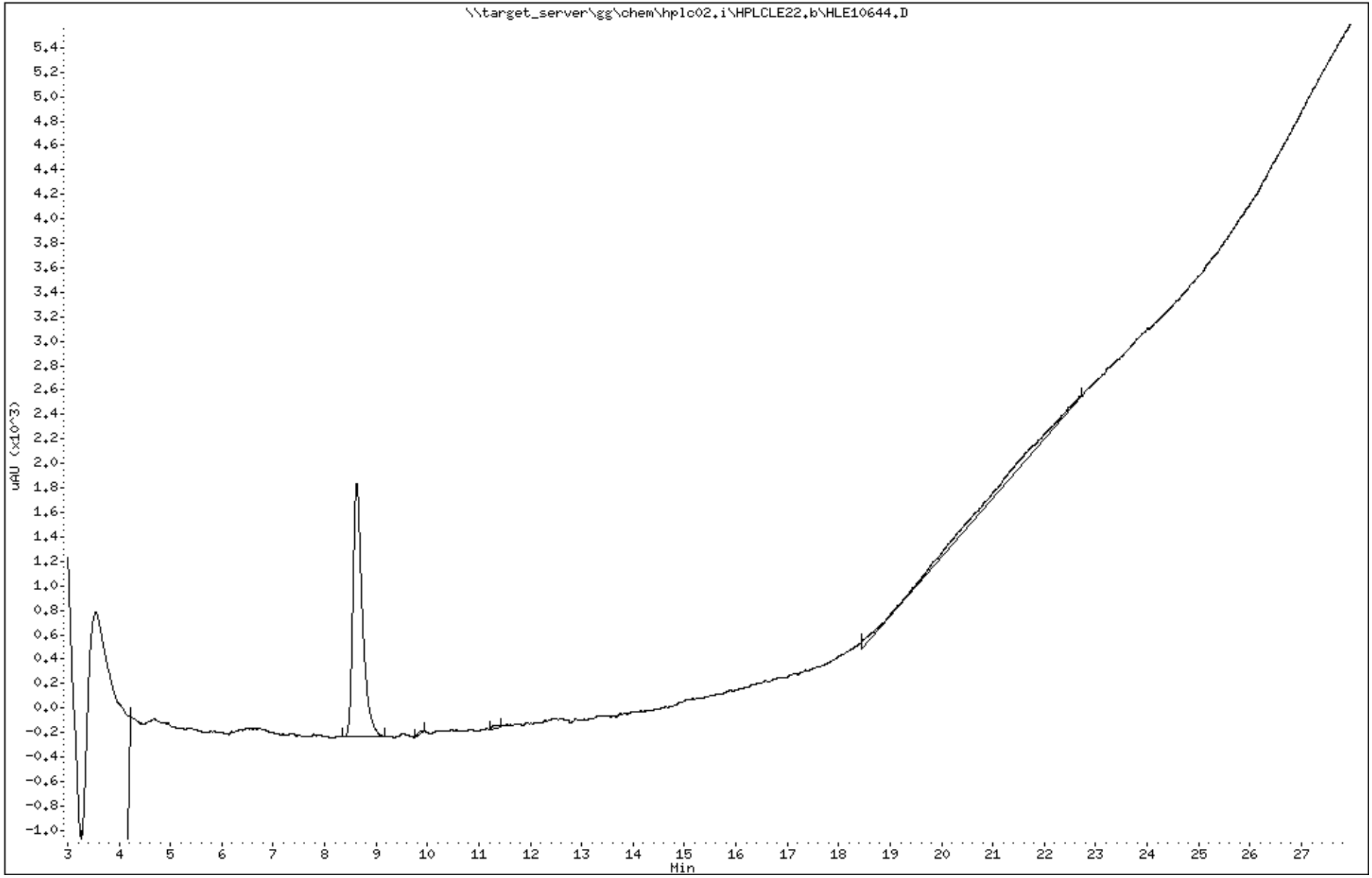
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10644.D
Lab Smp Id: SL4180-20 Client Smp ID: CHAAP-21B-DS-SB10-5
Inj Date : 22-MAY-2018 18:22
Operator : AC Inst ID: hplc02.i
Smp Info : SL4180-20
Misc Info : WG228756,WG228439,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\EXPB05A.m
Meth Date : 23-May-2018 13:50 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 63
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01120	Weight of Sample (Kg)
M	18.434	% Moisture
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10644.D
Date : 22-MAY-2018 18:22
Client ID: CHAAP-21B-DS-SB10-5
Instrument: hplc02.i
Sample Info: SL4180-20
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 2000122

Data File: HLE10644.D
Report Date: 30-May-2018 11:31

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HPLCLE22.b\HLE10644.D
Lab Smp Id: SL4180-20 Client Smp ID: CHAAP-21B-DS-SB10-5
Inj Date : 22-MAY-2018 18:22
Operator : AC Inst ID: hplc02.i
Smp Info : SL4180-20
Misc Info : WG228756,WG228439,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\EXPB05A.m\EXPB05A.m
Meth Date : 23-May-2018 13:40 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 63
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01120	Weight of Sample (Kg)
M	18.434	% Moisture
Cpnd Variable		Local Compound Variable

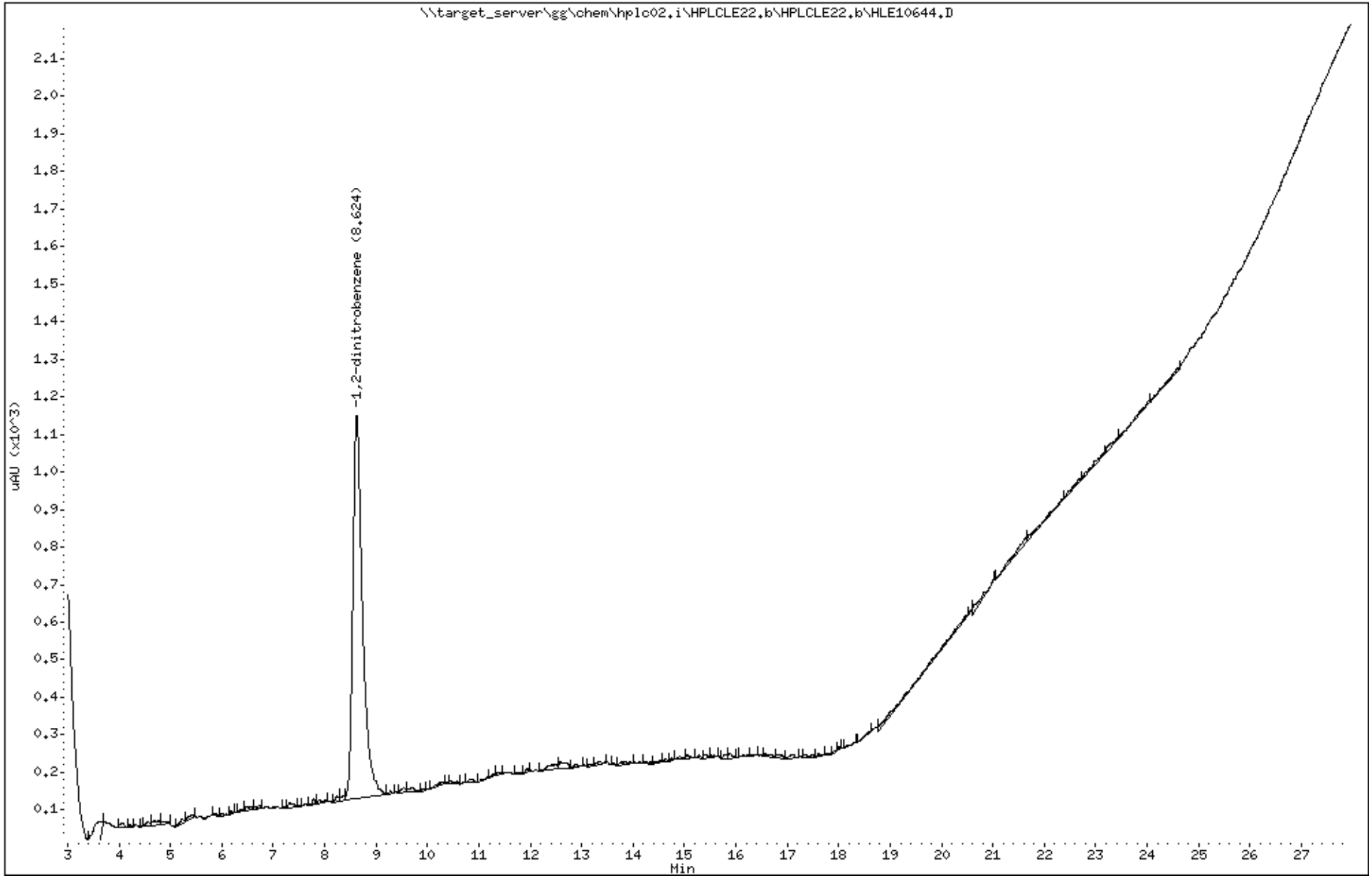
						CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	
Compounds	RT	EXP RT	DLT RT	RESPONSE				REVIEW CODE
$ 2 1,2-dinitrobenzene	8.624	8.581	0.043	1020		0.22042	482	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HPLCLE22.b\HLE10644.D
Date : 22-MAY-2018 18:22
Client ID: CHAAP-21B-DS-SB10-5
Sample Info: SL4180-20

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 2000124

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-21
Client ID: CHAAP-21B-DS-SS04
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: HLE10645.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 15-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228437

Analysis Date: 22-MAY-18
Analyst: AAB
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 74.
Report Date: 30-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	J	61	ug/Kgdrywt	1	100	120	10.	60.
RDX	U	60	ug/Kgdrywt	1	100	120	8.1	60.
1,3,5-Trinitrobenzene	U	60	ug/Kgdrywt	1	100	120	8.0	60.
1,3-Dinitrobenzene	U	60	ug/Kgdrywt	1	100	120	7.4	60.
Tetryl	U	60	ug/Kgdrywt	1	100	120	6.4	60.
Nitrobenzene	U	60	ug/Kgdrywt	1	100	120	26.	60.
2,4,6-Trinitrotoluene	U	60	ug/Kgdrywt	1	100	120	8.0	60.
2-Am-DNT	U	60	ug/Kgdrywt	1	100	120	25.	60.
4-Am-DNT	U	60	ug/Kgdrywt	1	100	120	20.	60.
2,6-Dinitrotoluene	U	60	ug/Kgdrywt	1	100	120	32.	60.
2,4-Dinitrotoluene	U	60	ug/Kgdrywt	1	100	120	18.	60.
2-Nitrotoluene	U	60	ug/Kgdrywt	1	100	120	14.	60.
3-Nitrotoluene	U	60	ug/Kgdrywt	1	100	120	9.4	60.
4-Nitrotoluene	U	60	ug/Kgdrywt	1	100	120	32.	60.
Nitroglycerin	U	480	ug/Kgdrywt	1	800	950	150	480
PETN	U	480	ug/Kgdrywt	1	800	950	130	480
1,2-Dinitrobenzene		87.9	%					

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Katahdin
ANALYTICAL SERVICES

Form 10
Explosives Identification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant

SDG : SL4180
Lab Sample ID : SL4180-21
Client Sample ID : CHAAP-21B-DS-SS04

Column A
Instrument ID : HPLC02
Date Analyzed : 05/22/18
Time Analyzed : 18:53

Column B
Instrument ID : HPLC02
Date Analyzed : 05/26/18
Time Analyzed : 17:29

Analyte	Column	RT	Concentration	RPD
HMX	A	4.56	60.6	
	B	6.6	56.7	6.6

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sales@katahdinlab.com

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10645.D
Report Date: 30-May-2018 11:28

Katahdin Analytical Services

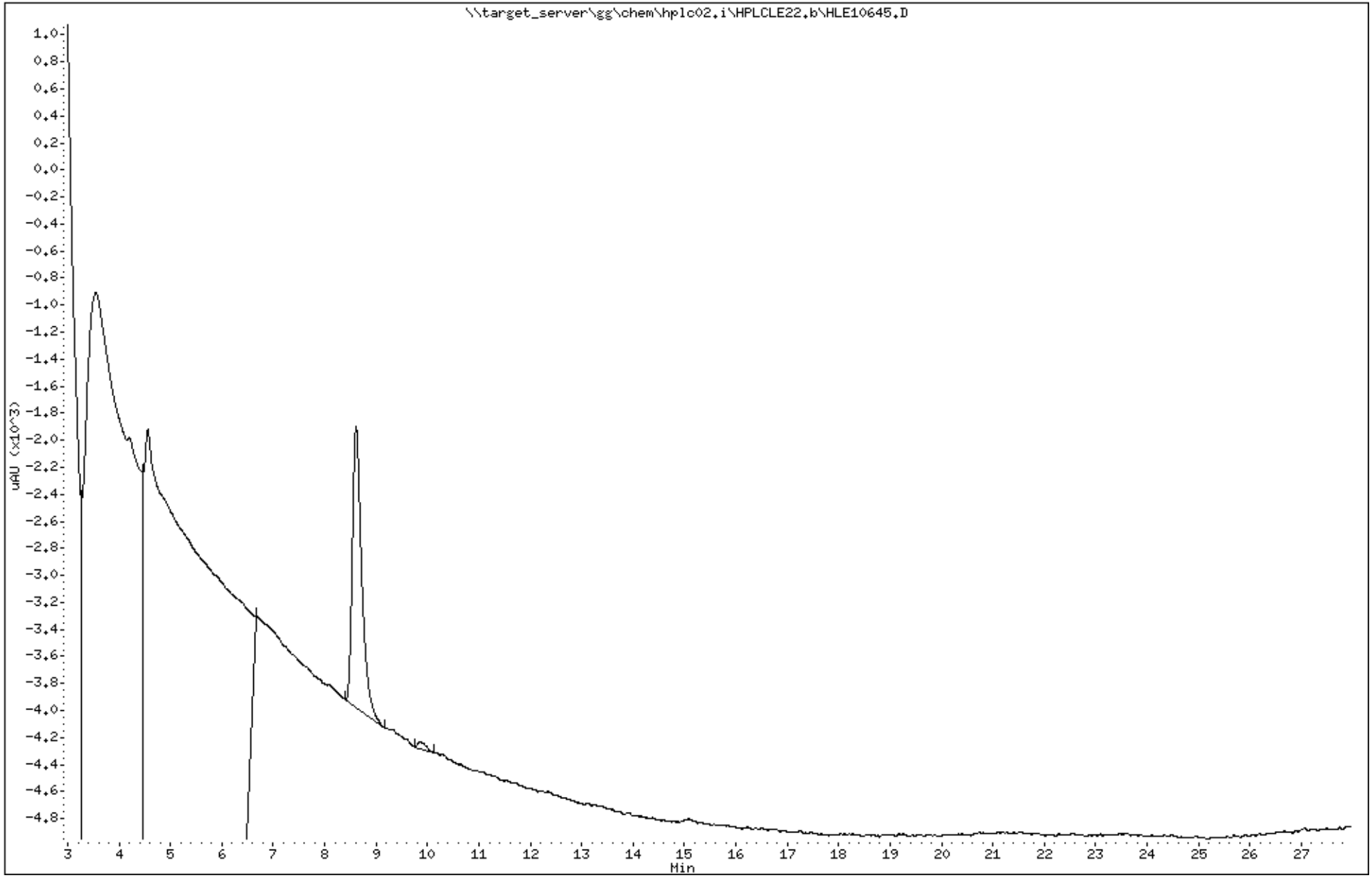
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10645.D
Lab Smp Id: SL4180-21 Client Smp ID: CHAAP-21B-DS-SS04
Inj Date : 22-MAY-2018 18:53
Operator : AC Inst ID: hplc02.i
Smp Info : SL4180-21
Misc Info : WG228756,WG228437,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\EXPB05A.m
Meth Date : 23-May-2018 13:50 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 64
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01140	Weight of Sample (Kg)
M	26.436	% Moisture
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10645.D
Date : 22-MAY-2018 18:53
Client ID: CHAAP-21B-DS-SS04
Instrument: hplc02.i
Sample Info: SL4180-21
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 2000128

Data File: HLE10645.D
Report Date: 30-May-2018 11:31

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HPLCLE22.b\HLE10645.D
Lab Smp Id: SL4180-21 Client Smp ID: CHAAP-21B-DS-SS04
Inj Date : 22-MAY-2018 18:53
Operator : AC Inst ID: hplc02.i
Smp Info : SL4180-21
Misc Info : WG228756,WG228437,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\EXPB05A.m\EXPB05A.m
Meth Date : 23-May-2018 13:40 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 64
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01140	Weight of Sample (Kg)
M	26.436	% Moisture
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	REVIEW CODE
1	HMX	4.558	4.547	0.011	137	0.02541	60.6(aM)	M9
$ 2	1,2-dinitrobenzene	8.612	8.581	0.031	1016	0.21956	524	

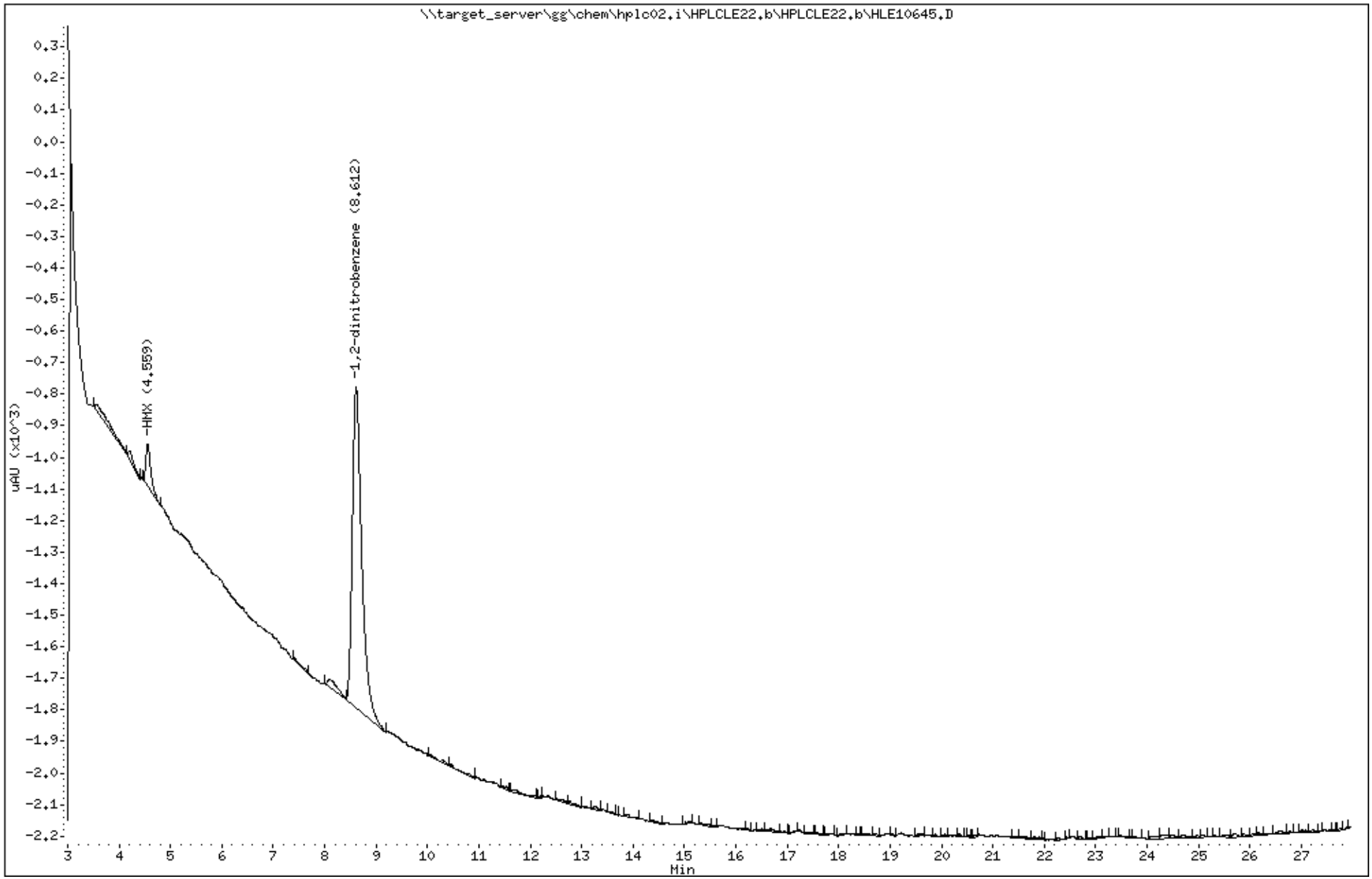
QC Flag Legend

a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.

12:57 pm, May 30, 2018

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HPLCLE22.b\HLE10645.D
Date : 22-MAY-2018 18:53
Client ID: CHAAP-21B-DS-SS04
Sample Info: SL4180-21
Column phase: Acclaim Exp E1

Instrument: hplc02.i
Operator: AC
Column diameter: 4.60



Katahdin Analytical Services 2000130

Data File: HLE10803.D
Report Date: 30-May-2018 11:41

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE25.b\HPLCLE25.b\HLE10803.D
Lab Smp Id: SL4180-21C Client Smp ID: CHAAP-21B-DS-SS04
Inj Date : 26-MAY-2018 17:29
Operator : AC Inst ID: hplc02.i
Smp Info : SL4180-21C
Misc Info : WG228756,WG228437,WG210620-13
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE25.b\E2016A.m\E2016A.m
Meth Date : 29-May-2018 16:32 abullentin Quant Type: ESTD
Cal Date : 01-AUG-2017 14:33 Cal File: HKH10014.D
Als bottle: 22
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01140	Weight of Sample (Kg)
M	26.436	% Moisture
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	REVIEW CODE
1	HMX	6.596	6.588	0.008	117	0.02380	56.7(aM)	M9
$ 2	1,2-dinitrobenzene	13.202	13.228	-0.026	1149	0.21508	513	

QC Flag Legend

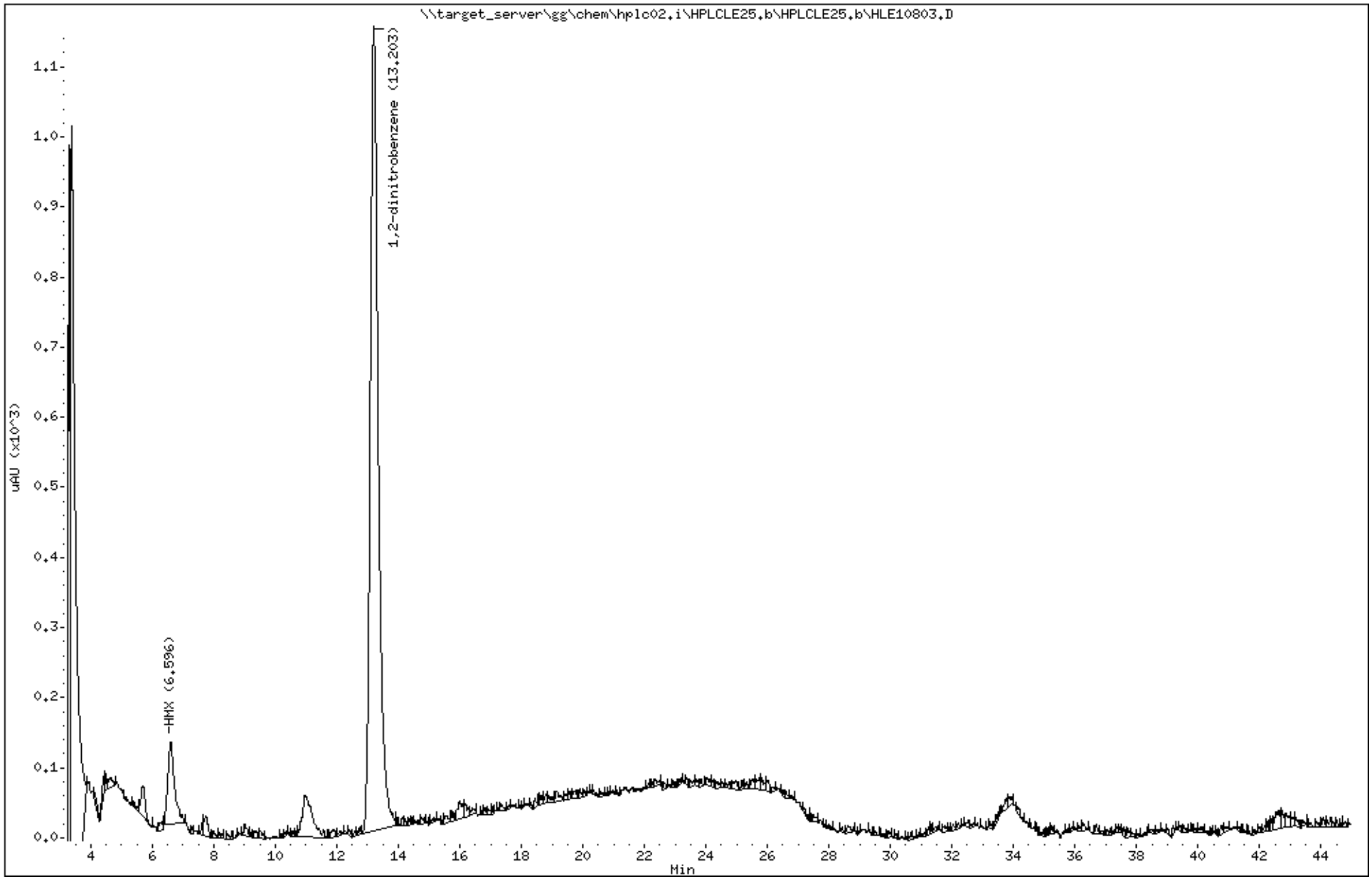
a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.

12:57 pm, May 30, 2018

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE25.b\HPLCLE25.b\HLE10803.D
Date : 26-MAY-2018 17:29
Client ID: CHAAP-21B-DS-SS04
Sample Info: SL4180-21C

Instrument: hplc02.i

Operator: AC
Column phase: Acclaim Exp E2
Column diameter: 4.60



Katahdin Analytical Services 2000132

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-22
Client ID: CHAAP-21B-DS-SB04-5
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: HLE10646.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 15-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228437

Analysis Date: 22-MAY-18
Analyst: AAB
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 74.
Report Date: 30-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	67	ug/Kgdrywt	1	100	130	11.	67.
RDX	U	67	ug/Kgdrywt	1	100	130	9.0	67.
1,3,5-Trinitrobenzene	U	67	ug/Kgdrywt	1	100	130	8.9	67.
1,3-Dinitrobenzene	U	67	ug/Kgdrywt	1	100	130	8.3	67.
Tetryl	U	67	ug/Kgdrywt	1	100	130	7.2	67.
Nitrobenzene	U	67	ug/Kgdrywt	1	100	130	29.	67.
2,4,6-Trinitrotoluene	U	67	ug/Kgdrywt	1	100	130	8.9	67.
2-Am-DNT	U	67	ug/Kgdrywt	1	100	130	28.	67.
4-Am-DNT	U	67	ug/Kgdrywt	1	100	130	23.	67.
2,6-Dinitrotoluene	U	67	ug/Kgdrywt	1	100	130	36.	67.
2,4-Dinitrotoluene	U	67	ug/Kgdrywt	1	100	130	20.	67.
2-Nitrotoluene	U	67	ug/Kgdrywt	1	100	130	16.	67.
3-Nitrotoluene	U	67	ug/Kgdrywt	1	100	130	10.	67.
4-Nitrotoluene	U	67	ug/Kgdrywt	1	100	130	36.	67.
Nitroglycerin	U	530	ug/Kgdrywt	1	800	1100	160	530
PETN	U	530	ug/Kgdrywt	1	800	1100	140	530
1,2-Dinitrobenzene		91.3	%					

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10646.D
Report Date: 30-May-2018 11:28

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10646.D
Lab Smp Id: SL4180-22 Client Smp ID: CHAAP-21B-DS-SB04-5
Inj Date : 22-MAY-2018 19:24
Operator : AC Inst ID: hplc02.i
Smp Info : SL4180-22
Misc Info : WG228756,WG228437,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\EXPB05A.m
Meth Date : 23-May-2018 13:50 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 65
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01020	Weight of Sample (Kg)
M	26.416	% Moisture
Cpnd Variable		Local Compound Variable

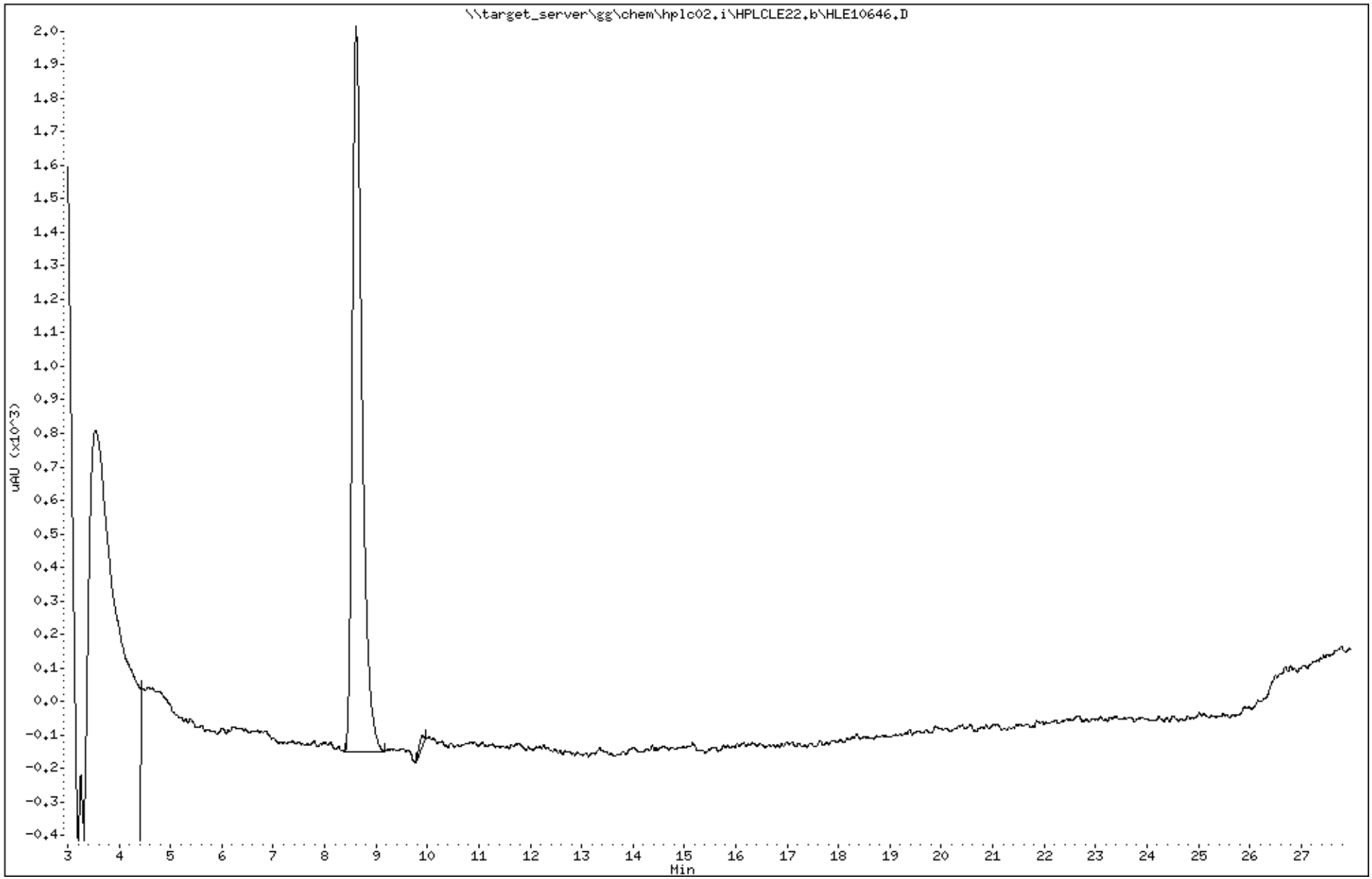
Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10646.D
Date : 22-MAY-2018 19:24
Client ID: CHAAP-21B-DS-SB04-5
Sample Info: SL4180-22

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 2000135

Data File: HLE10646.D
Report Date: 30-May-2018 11:31

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HPLCLE22.b\HLE10646.D
Lab Smp Id: SL4180-22 Client Smp ID: CHAAP-21B-DS-SB04-5
Inj Date : 22-MAY-2018 19:24
Operator : AC Inst ID: hplc02.i
Smp Info : SL4180-22
Misc Info : WG228756,WG228437,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\EXPB05A.m\EXPB05A.m
Meth Date : 23-May-2018 13:40 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 65
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

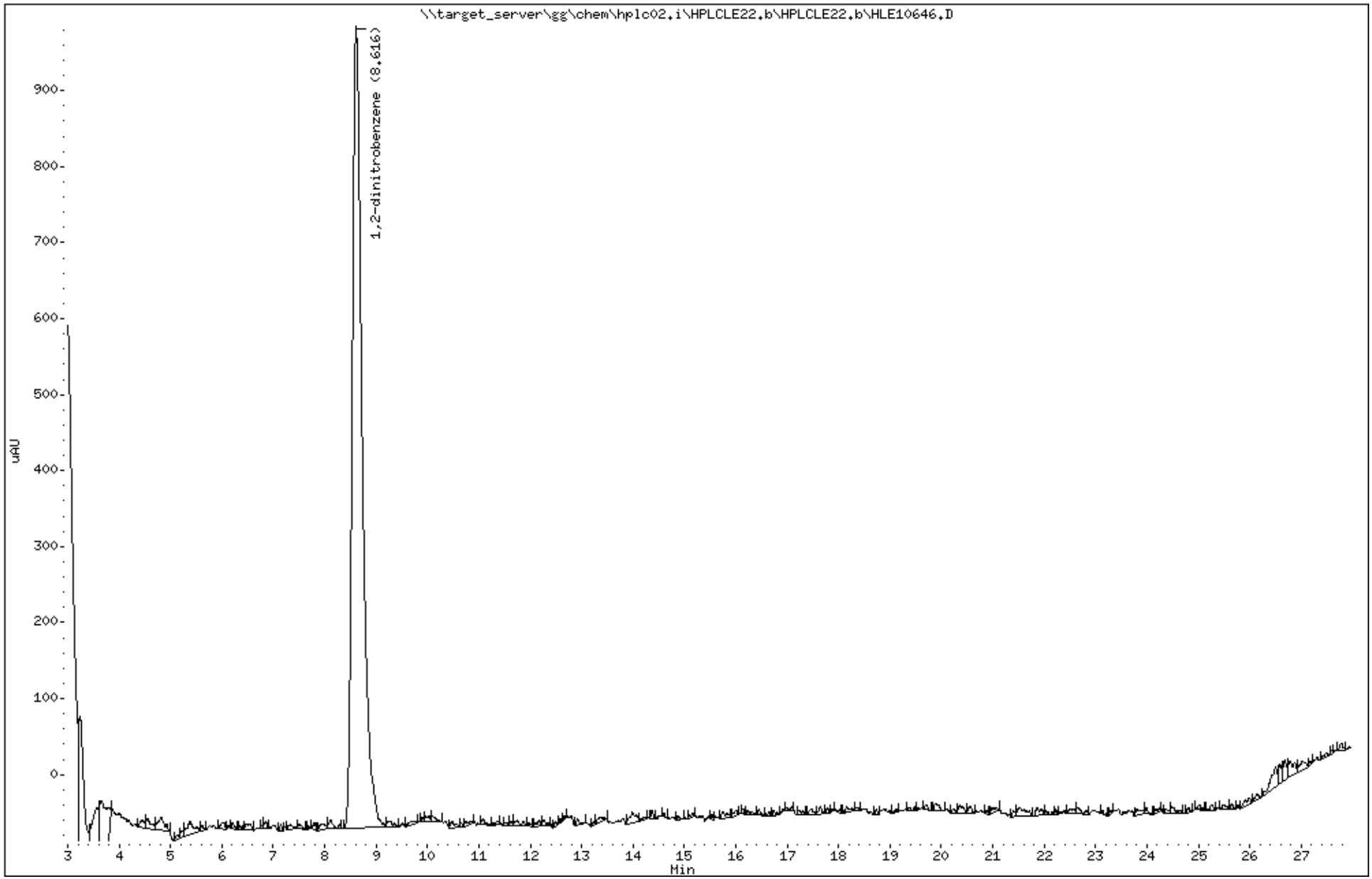
Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01020	Weight of Sample (Kg)
M	26.416	% Moisture
Cpnd Variable		Local Compound Variable

						CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	
Compounds	RT	EXP RT	DLT RT	RESPONSE				REVIEW CODE
$ 2 1,2-dinitrobenzene	8.615	8.581	0.034	1055		0.22799	608	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HPLCLE22.b\HLE10646.D
Date : 22-MAY-2018 19:24
Client ID: CHAAP-21B-DS-SB04-5
Sample Info: SL4180-22

Instrument: hplc02.i

Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 2000137

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-23
Client ID: CHAAP-21B-DS-SB04-10
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: HLE10647.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 15-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228437

Analysis Date: 22-MAY-18
Analyst: AAB
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 78.
Report Date: 30-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	57	ug/Kgdrywt	1	100	110	9.8	57.
RDX	U	57	ug/Kgdrywt	1	100	110	7.7	57.
1,3,5-Trinitrobenzene	U	57	ug/Kgdrywt	1	100	110	7.6	57.
1,3-Dinitrobenzene	U	57	ug/Kgdrywt	1	100	110	7.0	57.
Tetryl	U	57	ug/Kgdrywt	1	100	110	6.1	57.
Nitrobenzene	U	57	ug/Kgdrywt	1	100	110	25.	57.
2,4,6-Trinitrotoluene	U	57	ug/Kgdrywt	1	100	110	7.6	57.
2-Am-DNT	U	57	ug/Kgdrywt	1	100	110	24.	57.
4-Am-DNT	U	57	ug/Kgdrywt	1	100	110	19.	57.
2,6-Dinitrotoluene	U	57	ug/Kgdrywt	1	100	110	31.	57.
2,4-Dinitrotoluene	U	57	ug/Kgdrywt	1	100	110	17.	57.
2-Nitrotoluene	U	57	ug/Kgdrywt	1	100	110	14.	57.
3-Nitrotoluene	U	57	ug/Kgdrywt	1	100	110	9.0	57.
4-Nitrotoluene	U	57	ug/Kgdrywt	1	100	110	31.	57.
Nitroglycerin	U	460	ug/Kgdrywt	1	800	910	140	460
PETN	U	460	ug/Kgdrywt	1	800	910	120	460
1,2-Dinitrobenzene		90.5	%					

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10647.D
Report Date: 30-May-2018 11:28

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10647.D
Lab Smp Id: SL4180-23 Client Smp ID: HAAP-21B-DS-SB04-10
Inj Date : 22-MAY-2018 19:55
Operator : AC Inst ID: hplc02.i
Smp Info : SL4180-23
Misc Info : WG228756,WG228437,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\EXPB05A.m
Meth Date : 23-May-2018 13:50 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 66
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01130	Weight of Sample (Kg)
M	22.235	% Moisture
Cpnd Variable		Local Compound Variable

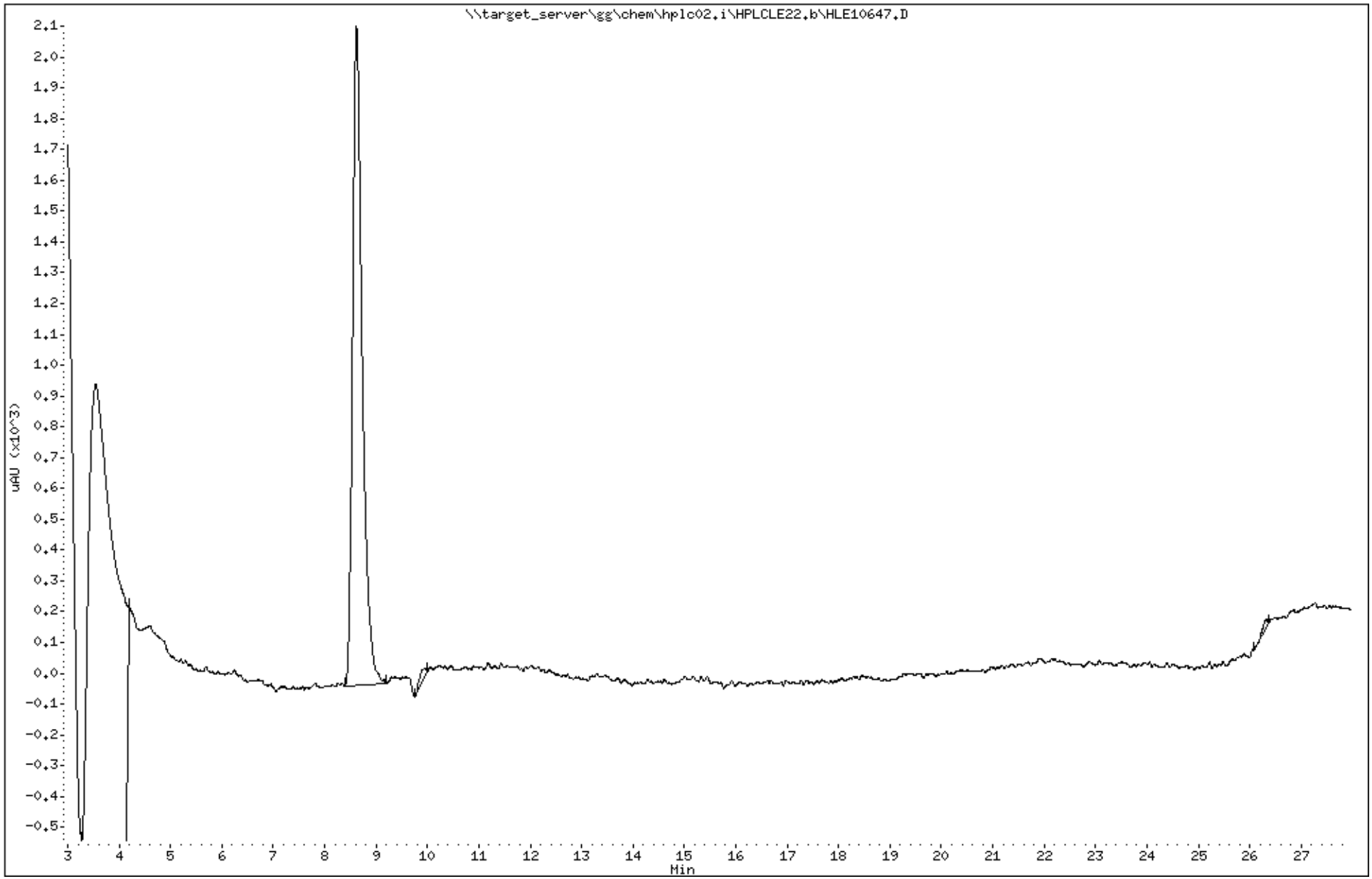
Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10647.D
Date : 22-MAY-2018 19:55
Client ID: HAAP-21B-DS-SB04-10
Sample Info: SL4180-23

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 2000140

Data File: HLE10647.D
Report Date: 30-May-2018 11:31

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HPLCLE22.b\HLE10647.D
Lab Smp Id: SL4180-23 Client Smp ID: HAAP-21B-DS-SB04-10
Inj Date : 22-MAY-2018 19:55
Operator : AC Inst ID: hplc02.i
Smp Info : SL4180-23
Misc Info : WG228756,WG228437,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\EXPB05A.m\EXPB05A.m
Meth Date : 23-May-2018 13:40 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 66
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01130	Weight of Sample (Kg)
M	22.235	% Moisture
Cpnd Variable		Local Compound Variable

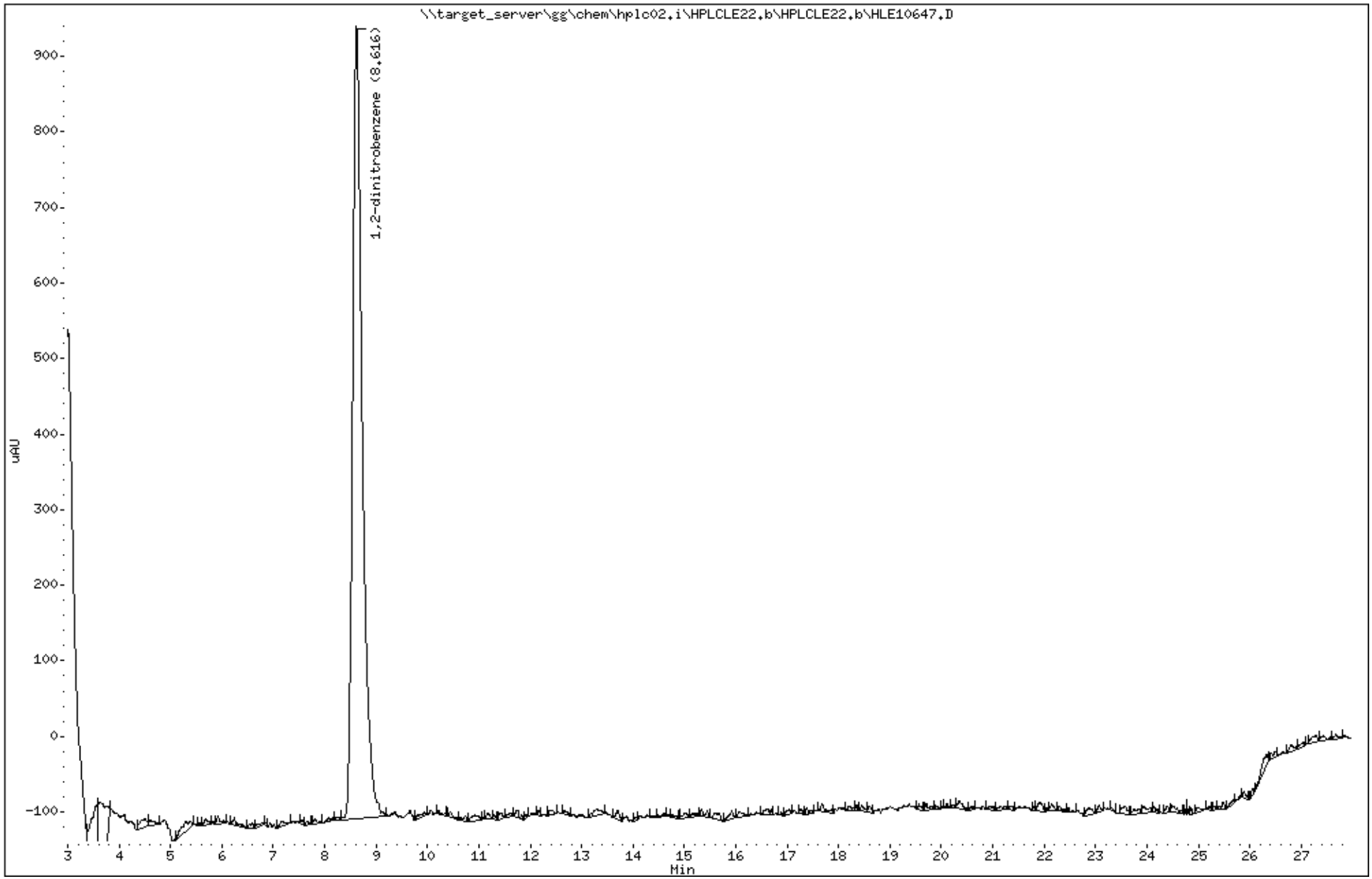
Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	REVIEW CODE
$ 2 1,2-dinitrobenzene	8.616	8.581	0.035	1048	0.22648	515	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HPLCLE22.b\HLE10647.D
Date : 22-MAY-2018 19:55
Client ID: HAAP-21B-DS-SB04-10
Sample Info: SL4180-23

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 2000142

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-24
Client ID: CHAAP-21B-DS-SS03
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: HLE10648.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 15-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228437

Analysis Date: 22-MAY-18
Analyst: AAB
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 81.
Report Date: 30-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	61	ug/Kgdrywt	1	100	120	10.	61.
RDX	U	61	ug/Kgdrywt	1	100	120	8.3	61.
1,3,5-Trinitrobenzene	U	61	ug/Kgdrywt	1	100	120	8.2	61.
1,3-Dinitrobenzene	U	61	ug/Kgdrywt	1	100	120	7.6	61.
Tetryl	U	61	ug/Kgdrywt	1	100	120	6.6	61.
Nitrobenzene	U	61	ug/Kgdrywt	1	100	120	27.	61.
2,4,6-Trinitrotoluene	U	61	ug/Kgdrywt	1	100	120	8.2	61.
2-Am-DNT	U	61	ug/Kgdrywt	1	100	120	26.	61.
4-Am-DNT	U	61	ug/Kgdrywt	1	100	120	21.	61.
2,6-Dinitrotoluene	U	61	ug/Kgdrywt	1	100	120	33.	61.
2,4-Dinitrotoluene	U	61	ug/Kgdrywt	1	100	120	18.	61.
2-Nitrotoluene	U	61	ug/Kgdrywt	1	100	120	15.	61.
3-Nitrotoluene	U	61	ug/Kgdrywt	1	100	120	9.7	61.
4-Nitrotoluene	U	61	ug/Kgdrywt	1	100	120	33.	61.
Nitroglycerin	U	490	ug/Kgdrywt	1	800	980	150	490
PETN	U	490	ug/Kgdrywt	1	800	980	130	490
1,2-Dinitrobenzene		91.5	%					

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10648.D
Report Date: 30-May-2018 11:28

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10648.D
Lab Smp Id: SL4180-24 Client Smp ID: CHAAP-21B-DS-SS03
Inj Date : 22-MAY-2018 20:26
Operator : AC Inst ID: hplc02.i
Smp Info : SL4180-24
Misc Info : WG228756,WG228437,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\EXPB05A.m
Meth Date : 23-May-2018 13:50 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 67
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

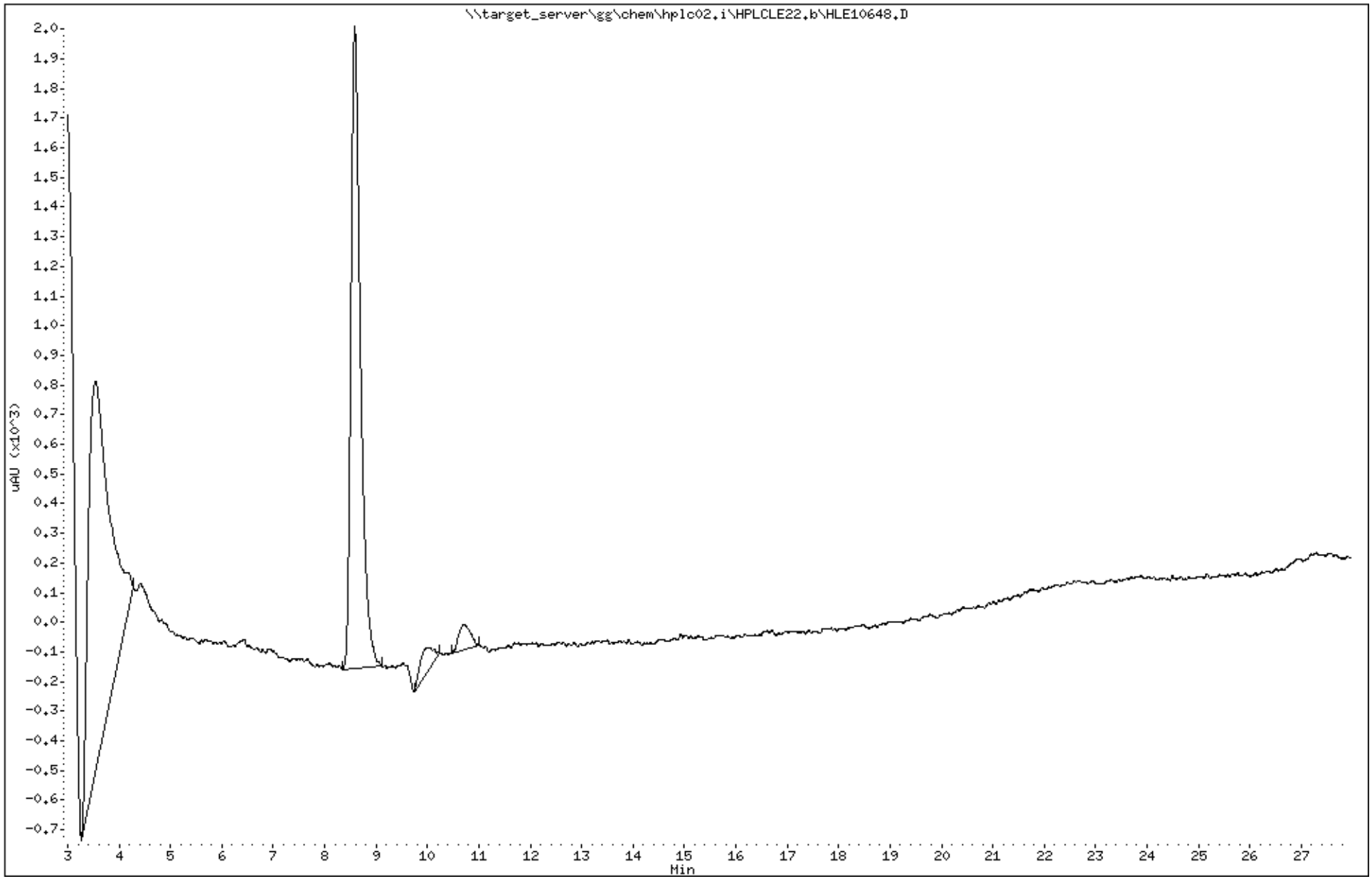
Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01010	Weight of Sample (Kg)
M	19.266	% Moisture
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10648.D
Date : 22-MAY-2018 20:26
Client ID: CHAAP-21B-DS-SS03
Sample Info: SL4180-24

Instrument: hplc02.i

Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 2000145

Data File: HLE10648.D
Report Date: 30-May-2018 11:31

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HPLCLE22.b\HLE10648.D
Lab Smp Id: SL4180-24 Client Smp ID: CHAAP-21B-DS-SS03
Inj Date : 22-MAY-2018 20:26
Operator : AC Inst ID: hplc02.i
Smp Info : SL4180-24
Misc Info : WG228756,WG228437,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\EXPB05A.m\EXPB05A.m
Meth Date : 23-May-2018 13:40 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 67
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

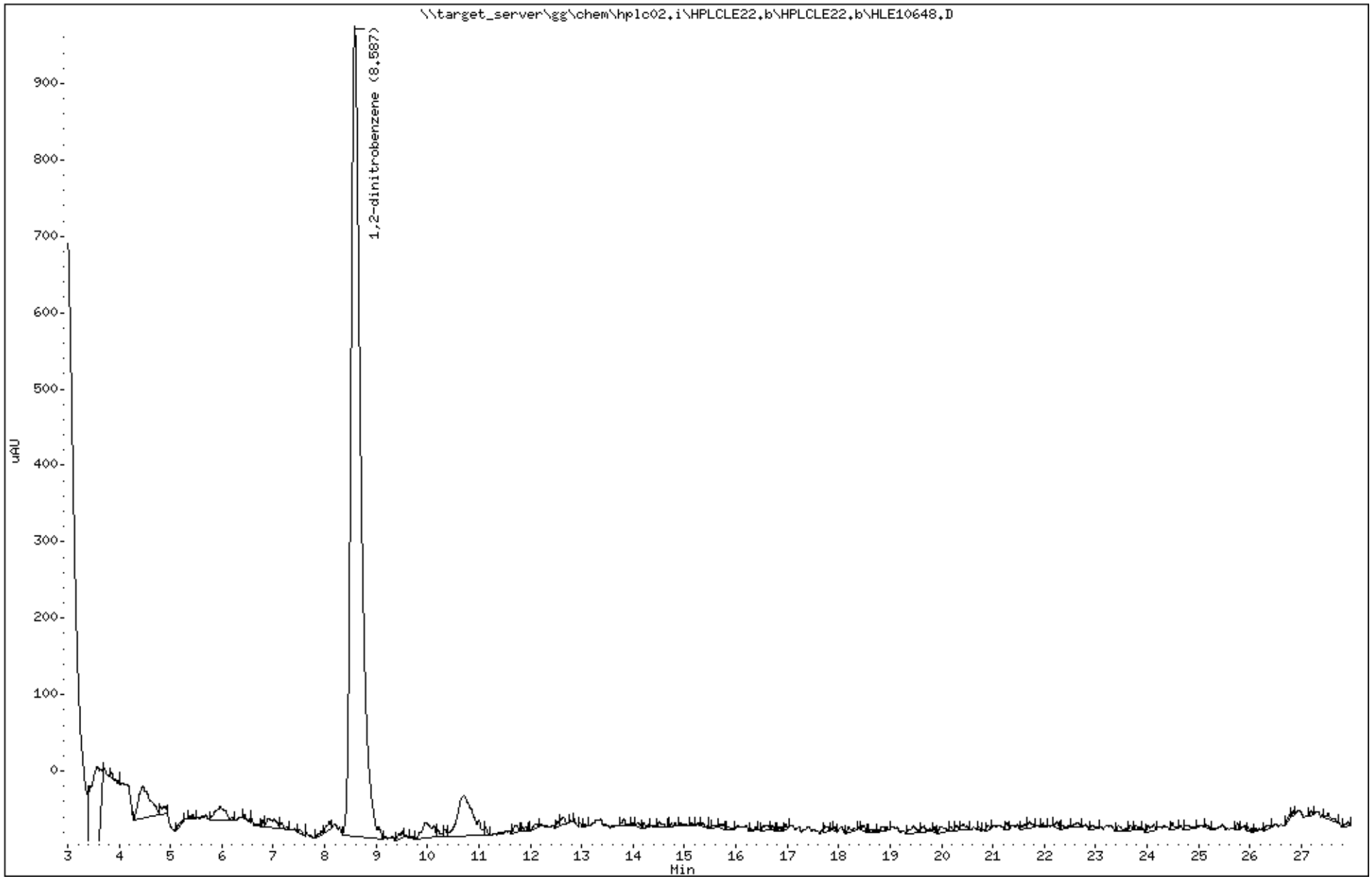
Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01010	Weight of Sample (Kg)
M	19.266	% Moisture
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	REVIEW CODE
$ 2 1,2-dinitrobenzene	8.587	8.581	0.006	1059	0.22885	561	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HPLCLE22.b\HLE10648.D
Date : 22-MAY-2018 20:26
Client ID: CHAAP-21B-DS-SS03
Sample Info: SL4180-24

Instrument: hplc02.i

Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 2000147

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-25
Client ID: CHAAP-21B-DS-SS103
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: HLE10649.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 15-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228437

Analysis Date: 22-MAY-18
Analyst: AAB
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 81.
Report Date: 30-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	57	ug/Kgdrywt	1	100	110	9.8	57.
RDX	U	57	ug/Kgdrywt	1	100	110	7.7	57.
1,3,5-Trinitrobenzene	U	57	ug/Kgdrywt	1	100	110	7.6	57.
1,3-Dinitrobenzene	U	57	ug/Kgdrywt	1	100	110	7.0	57.
Tetryl	U	57	ug/Kgdrywt	1	100	110	6.1	57.
Nitrobenzene	U	57	ug/Kgdrywt	1	100	110	25.	57.
2,4,6-Trinitrotoluene	U	57	ug/Kgdrywt	1	100	110	7.6	57.
2-Am-DNT	U	57	ug/Kgdrywt	1	100	110	24.	57.
4-Am-DNT	U	57	ug/Kgdrywt	1	100	110	19.	57.
2,6-Dinitrotoluene	U	57	ug/Kgdrywt	1	100	110	31.	57.
2,4-Dinitrotoluene	U	57	ug/Kgdrywt	1	100	110	17.	57.
2-Nitrotoluene	U	57	ug/Kgdrywt	1	100	110	14.	57.
3-Nitrotoluene	U	57	ug/Kgdrywt	1	100	110	9.0	57.
4-Nitrotoluene	U	57	ug/Kgdrywt	1	100	110	31.	57.
Nitroglycerin	U	450	ug/Kgdrywt	1	800	910	140	450
PETN	U	450	ug/Kgdrywt	1	800	910	120	450
1,2-Dinitrobenzene		92.1	%					

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10649.D
Report Date: 30-May-2018 11:28

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10649.D
Lab Smp Id: SL4180-25 Client Smp ID: CHAAP-21B-DS-SS103
Inj Date : 22-MAY-2018 20:57
Operator : AC Inst ID: hplc02.i
Smp Info : SL4180-25
Misc Info : WG228756,WG228437,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\EXPB05A.m
Meth Date : 23-May-2018 13:50 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 68
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

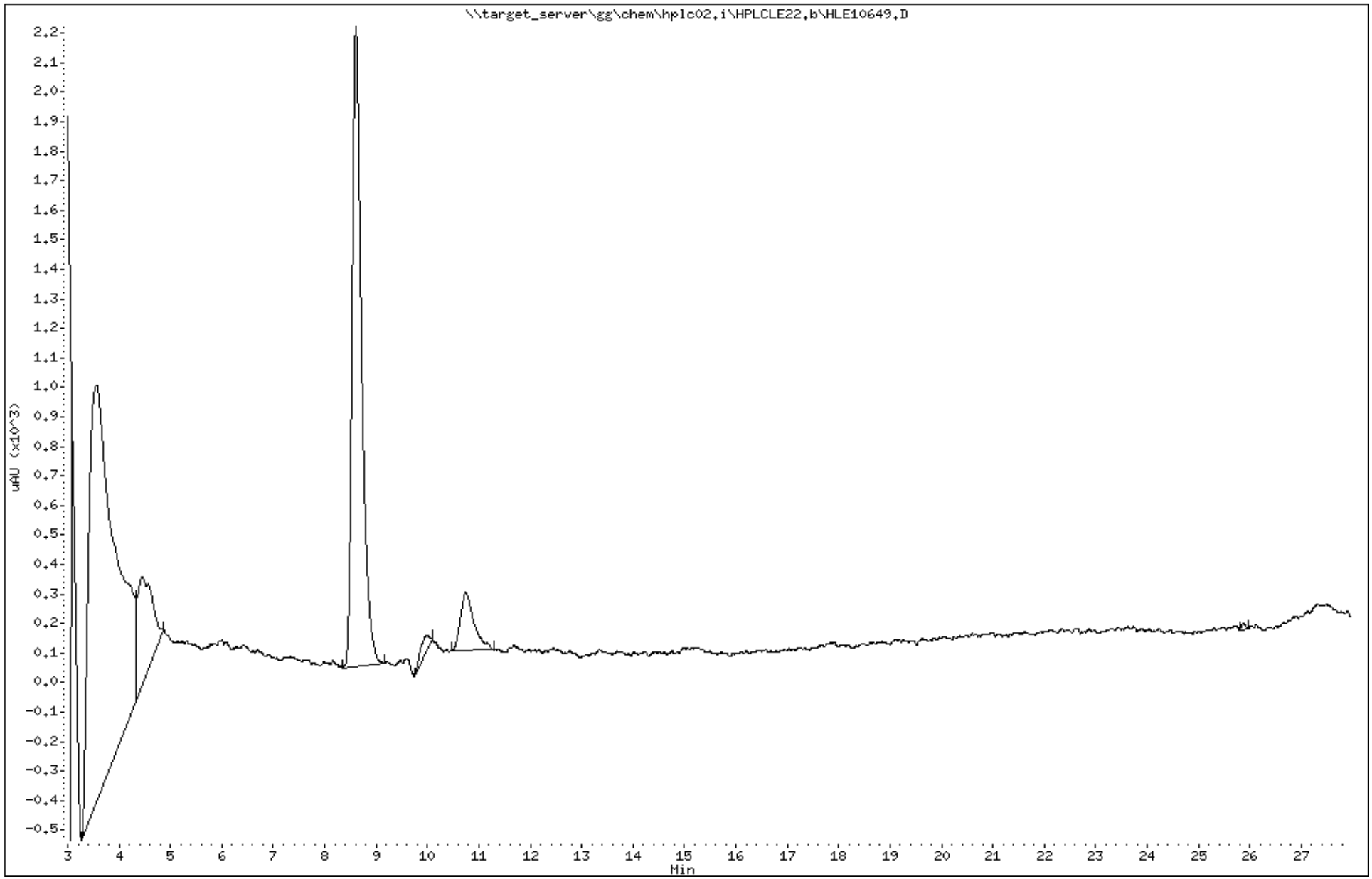
Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01080	Weight of Sample (Kg)
M	18.517	% Moisture
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10649.D
Date : 22-MAY-2018 20:57
Client ID: CHAAP-21B-DS-SS103
Sample Info: SL4180-25

Instrument: hplc02.i

Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 2000150

Data File: HLE10649.D
Report Date: 30-May-2018 11:31

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HPLCLE22.b\HLE10649.D
Lab Smp Id: SL4180-25 Client Smp ID: CHAAP-21B-DS-SS103
Inj Date : 22-MAY-2018 20:57
Operator : AC Inst ID: hplc02.i
Smp Info : SL4180-25
Misc Info : WG228756,WG228437,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\EXPB05A.m\EXPB05A.m
Meth Date : 23-May-2018 13:40 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 68
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01080	Weight of Sample (Kg)
M	18.517	% Moisture
Cpnd Variable		Local Compound Variable

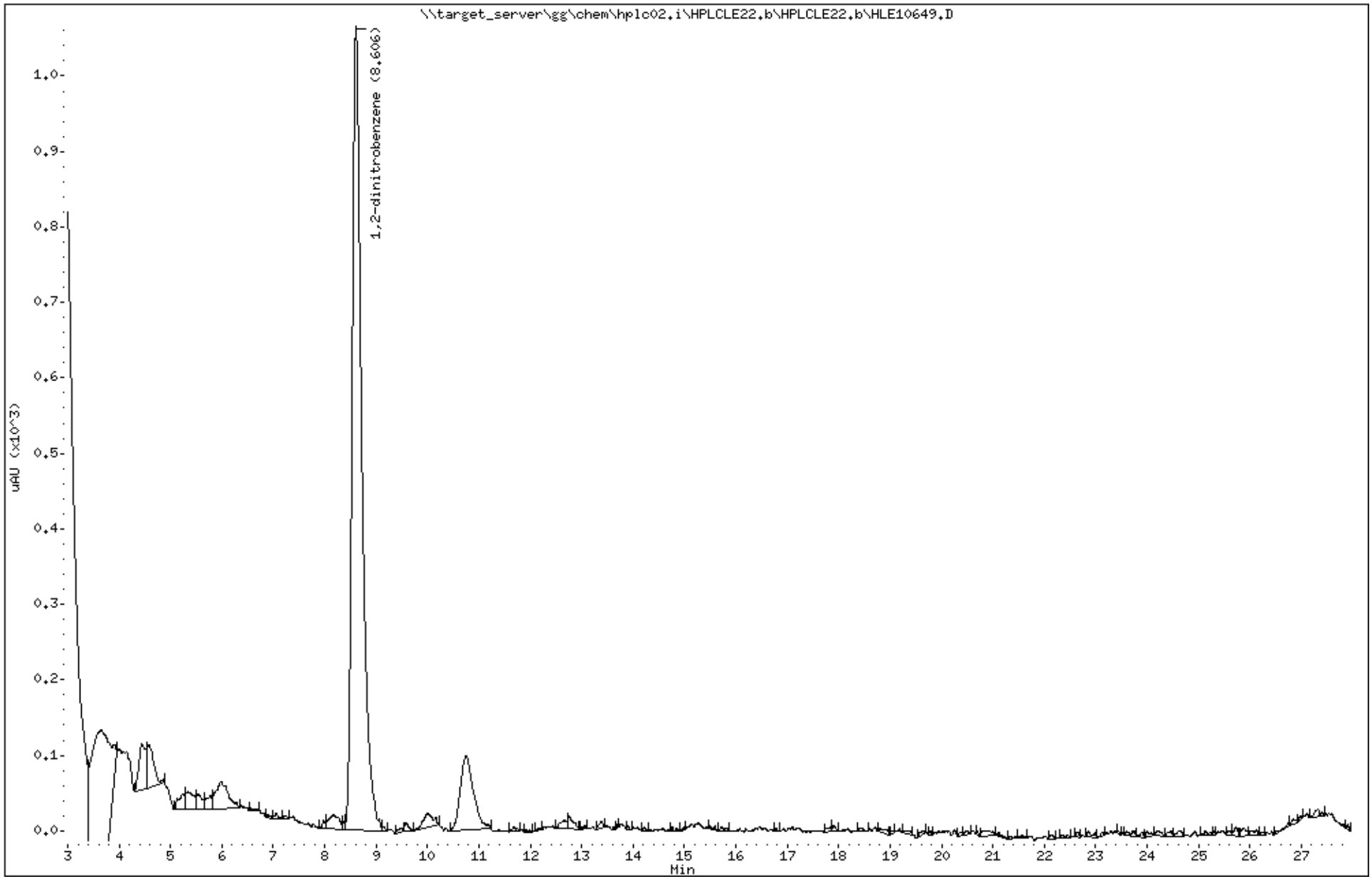
Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	REVIEW CODE
$ 2 1,2-dinitrobenzene	8.605	8.581	0.024	1065	0.23015	523	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HPLCLE22.b\HLE10649.D
Date : 22-MAY-2018 20:57
Client ID: CHAAP-21B-DS-SS103
Sample Info: SL4180-25

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 2000152

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-26
Client ID: CHAAP-21B-DS-SB03-5
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: HLE10651.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 15-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228437

Analysis Date: 22-MAY-18
Analyst: AAB
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 78.
Report Date: 30-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	55	ug/Kgdrywt	1	100	110	9.4	55.
RDX	U	55	ug/Kgdrywt	1	100	110	7.4	55.
1,3,5-Trinitrobenzene	U	55	ug/Kgdrywt	1	100	110	7.3	55.
1,3-Dinitrobenzene	U	55	ug/Kgdrywt	1	100	110	6.8	55.
Tetryl	U	55	ug/Kgdrywt	1	100	110	5.9	55.
Nitrobenzene	U	55	ug/Kgdrywt	1	100	110	24.	55.
2,4,6-Trinitrotoluene	U	55	ug/Kgdrywt	1	100	110	7.3	55.
2-Am-DNT	U	55	ug/Kgdrywt	1	100	110	23.	55.
4-Am-DNT	U	55	ug/Kgdrywt	1	100	110	19.	55.
2,6-Dinitrotoluene	U	55	ug/Kgdrywt	1	100	110	30.	55.
2,4-Dinitrotoluene	U	55	ug/Kgdrywt	1	100	110	16.	55.
2-Nitrotoluene	U	55	ug/Kgdrywt	1	100	110	13.	55.
3-Nitrotoluene	U	55	ug/Kgdrywt	1	100	110	8.7	55.
4-Nitrotoluene	U	55	ug/Kgdrywt	1	100	110	30.	55.
Nitroglycerin	U	440	ug/Kgdrywt	1	800	880	140	440
PETN	U	440	ug/Kgdrywt	1	800	880	120	440
1,2-Dinitrobenzene		90.9	%					

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10651.D
Report Date: 30-May-2018 11:28

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10651.D
Lab Smp Id: SL4180-26 Client Smp ID: CHAAP-21B-DS-SB03-5
Inj Date : 22-MAY-2018 21:59
Operator : AC Inst ID: hplc02.i
Smp Info : SL4180-26
Misc Info : WG228756,WG228437,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\EXPB05A.m
Meth Date : 23-May-2018 13:50 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 70
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01170	Weight of Sample (Kg)
M	22.062	% Moisture
Cpnd Variable		Local Compound Variable

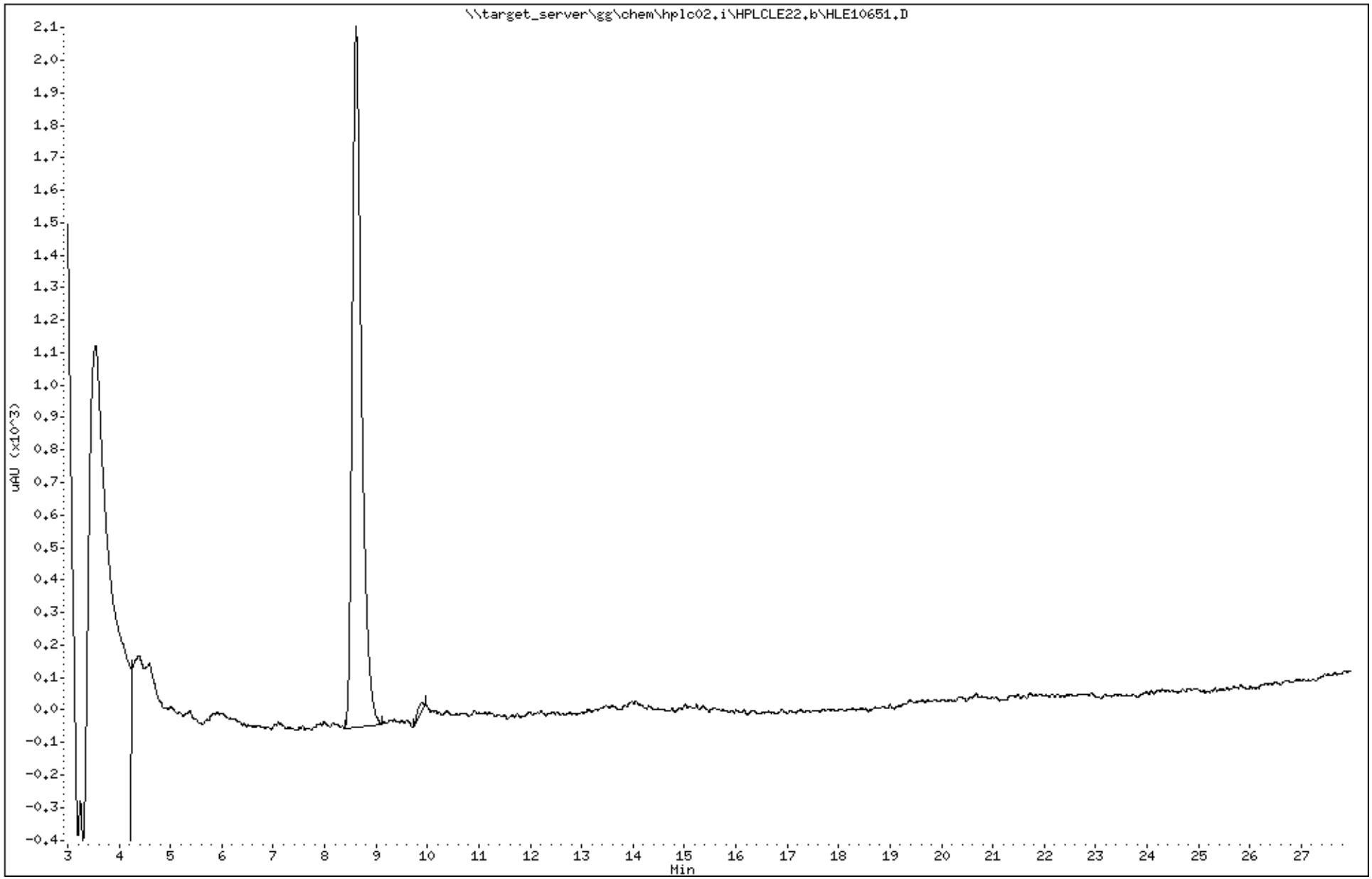
Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10651.D
Date : 22-MAY-2018 21:59
Client ID: CHAAP-21B-DS-SB03-5
Sample Info: SL4180-26

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 2000155

Data File: HLE10651.D
Report Date: 30-May-2018 11:31

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HPLCLE22.b\HLE10651.D
Lab Smp Id: SL4180-26 Client Smp ID: CHAAP-21B-DS-SB03-5
Inj Date : 22-MAY-2018 21:59
Operator : AC Inst ID: hplc02.i
Smp Info : SL4180-26
Misc Info : WG228756,WG228437,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\EXPB05A.m\EXPB05A.m
Meth Date : 23-May-2018 13:40 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 70
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01170	Weight of Sample (Kg)
M	22.062	% Moisture
Cpnd Variable		Local Compound Variable

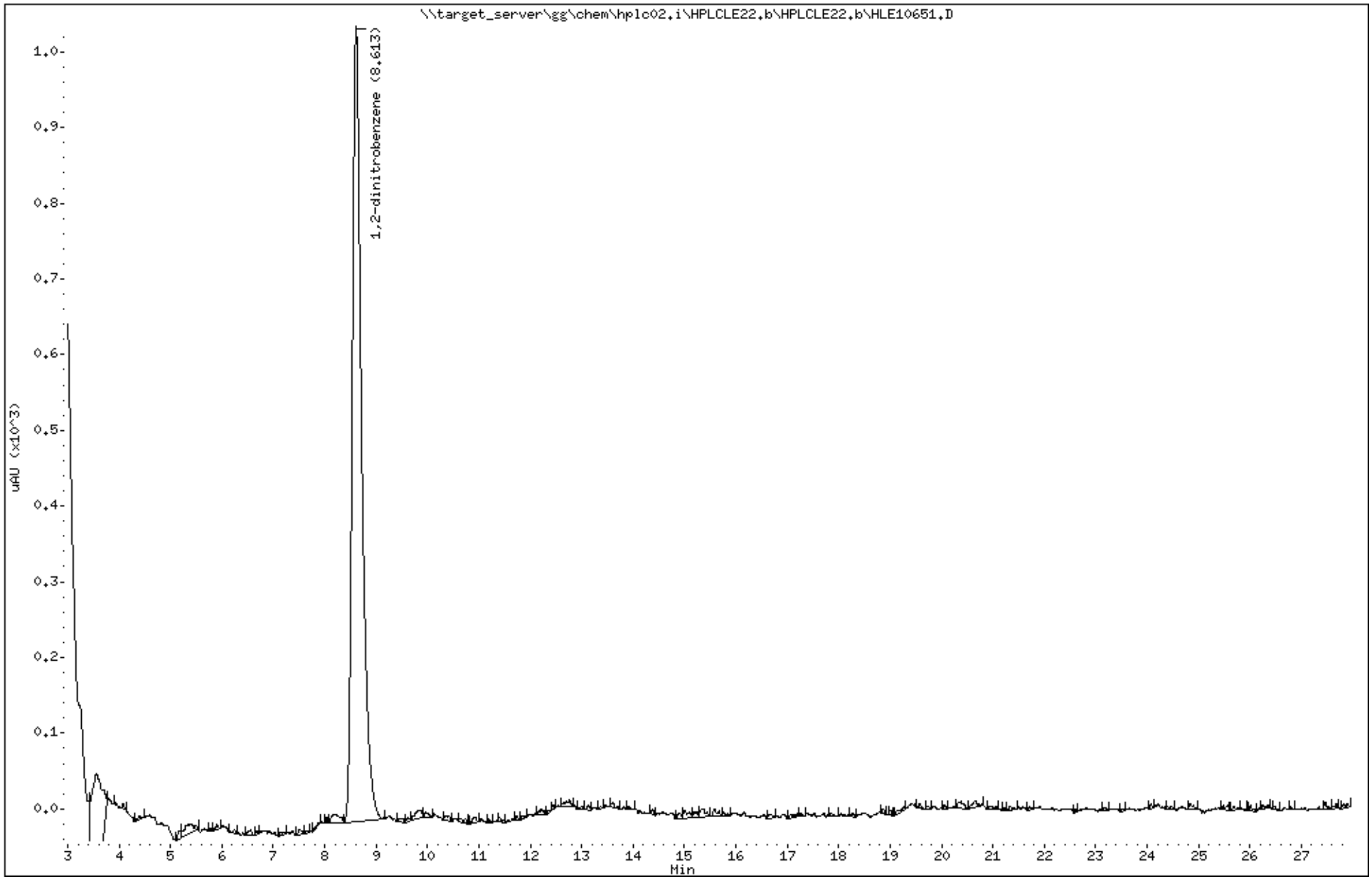
					CONCENTRATIONS		
					ON-COLUMN	FINAL	
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/mL)	(ug/Kgdrywt)	REVIEW CODE
$ 2 1,2-dinitrobenzene	8.613	8.581	0.032	1050	0.22691	498	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HPLCLE22.b\HLE10651.D
Date : 22-MAY-2018 21:59
Client ID: CHAAP-21B-DS-SB03-5
Sample Info: SL4180-26

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 2000157

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-27
Client ID: CHAAP-21B-DS-SB03-10
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: HLE10652.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 15-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228437

Analysis Date: 22-MAY-18
Analyst: AAB
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 73.
Report Date: 30-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	65	ug/Kgdrywt	1	100	130	11.	65.
RDX	U	65	ug/Kgdrywt	1	100	130	8.9	65.
1,3,5-Trinitrobenzene	U	65	ug/Kgdrywt	1	100	130	8.8	65.
1,3-Dinitrobenzene	U	65	ug/Kgdrywt	1	100	130	8.1	65.
Tetryl	U	65	ug/Kgdrywt	1	100	130	7.0	65.
Nitrobenzene	U	65	ug/Kgdrywt	1	100	130	29.	65.
2,4,6-Trinitrotoluene	U	65	ug/Kgdrywt	1	100	130	8.8	65.
2-Am-DNT	U	65	ug/Kgdrywt	1	100	130	27.	65.
4-Am-DNT	U	65	ug/Kgdrywt	1	100	130	22.	65.
2,6-Dinitrotoluene	U	65	ug/Kgdrywt	1	100	130	35.	65.
2,4-Dinitrotoluene	U	65	ug/Kgdrywt	1	100	130	20.	65.
2-Nitrotoluene	U	65	ug/Kgdrywt	1	100	130	16.	65.
3-Nitrotoluene	U	65	ug/Kgdrywt	1	100	130	10.	65.
4-Nitrotoluene	U	65	ug/Kgdrywt	1	100	130	35.	65.
Nitroglycerin	U	520	ug/Kgdrywt	1	800	1000	160	520
PETN	U	520	ug/Kgdrywt	1	800	1000	140	520
1,2-Dinitrobenzene		87.4	%					

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10652.D
Report Date: 30-May-2018 11:28

Katahdin Analytical Services

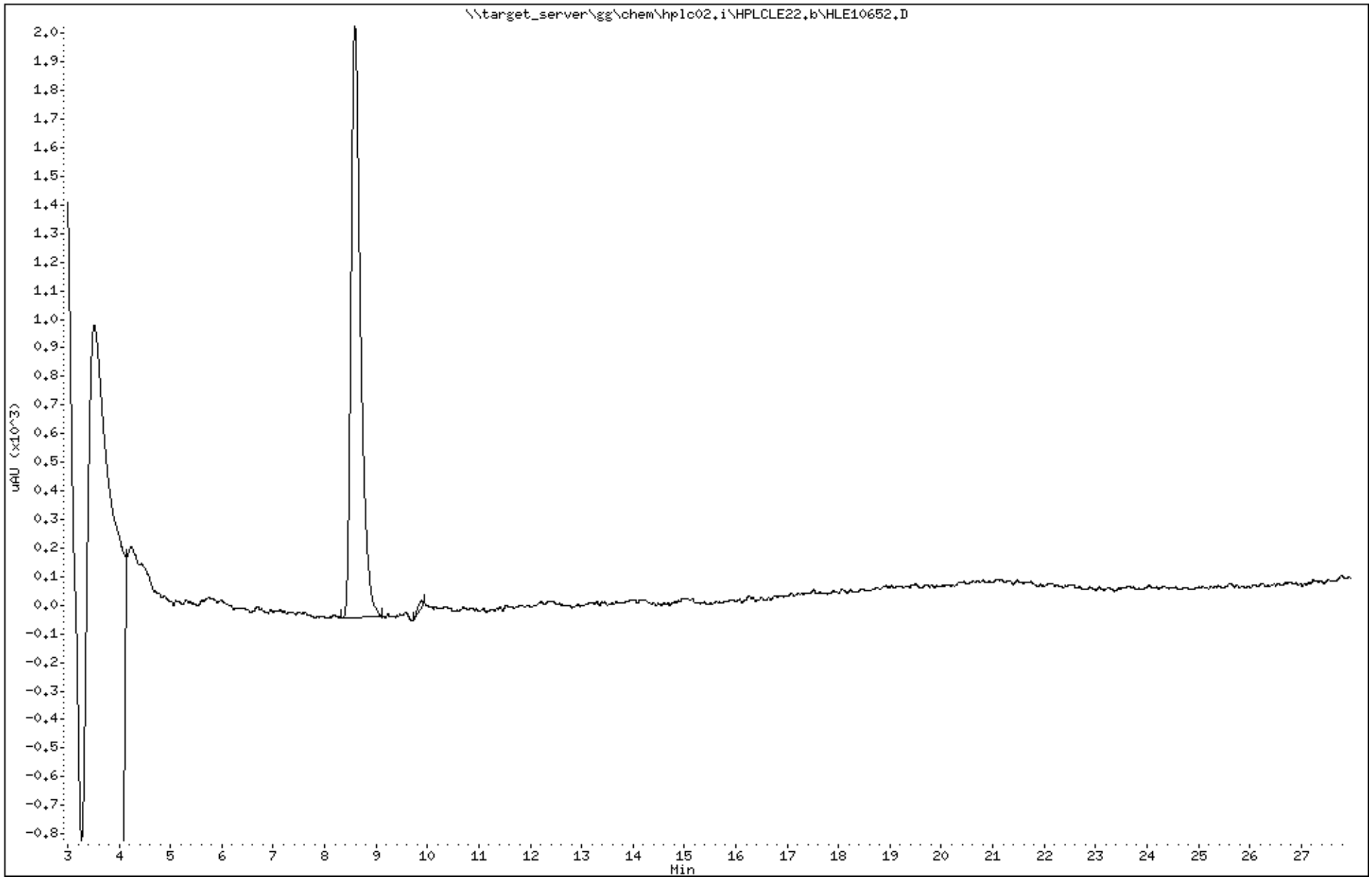
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10652.D
Lab Smp Id: SL4180-27 Client Smp ID: HAAP-21B-DS-SB03-10
Inj Date : 22-MAY-2018 22:30
Operator : AC Inst ID: hplc02.i
Smp Info : SL4180-27
Misc Info : WG228756,WG228437,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\EXPB05A.m
Meth Date : 23-May-2018 13:50 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 71
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01050	Weight of Sample (Kg)
M	27.122	% Moisture
Cpnd Variable		Local Compound Variable

					CONCENTRATIONS	
					ON-COLUMN	FINAL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/mL)	(ug/Kgdrywt)

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10652.D
Date : 22-MAY-2018 22:30
Client ID: HAAP-21B-DS-SB03-10
Instrument: hplc02.i
Sample Info: SL4180-27
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 2000160

Data File: HLE10652.D
Report Date: 30-May-2018 11:31

Katahdin Analytical Services

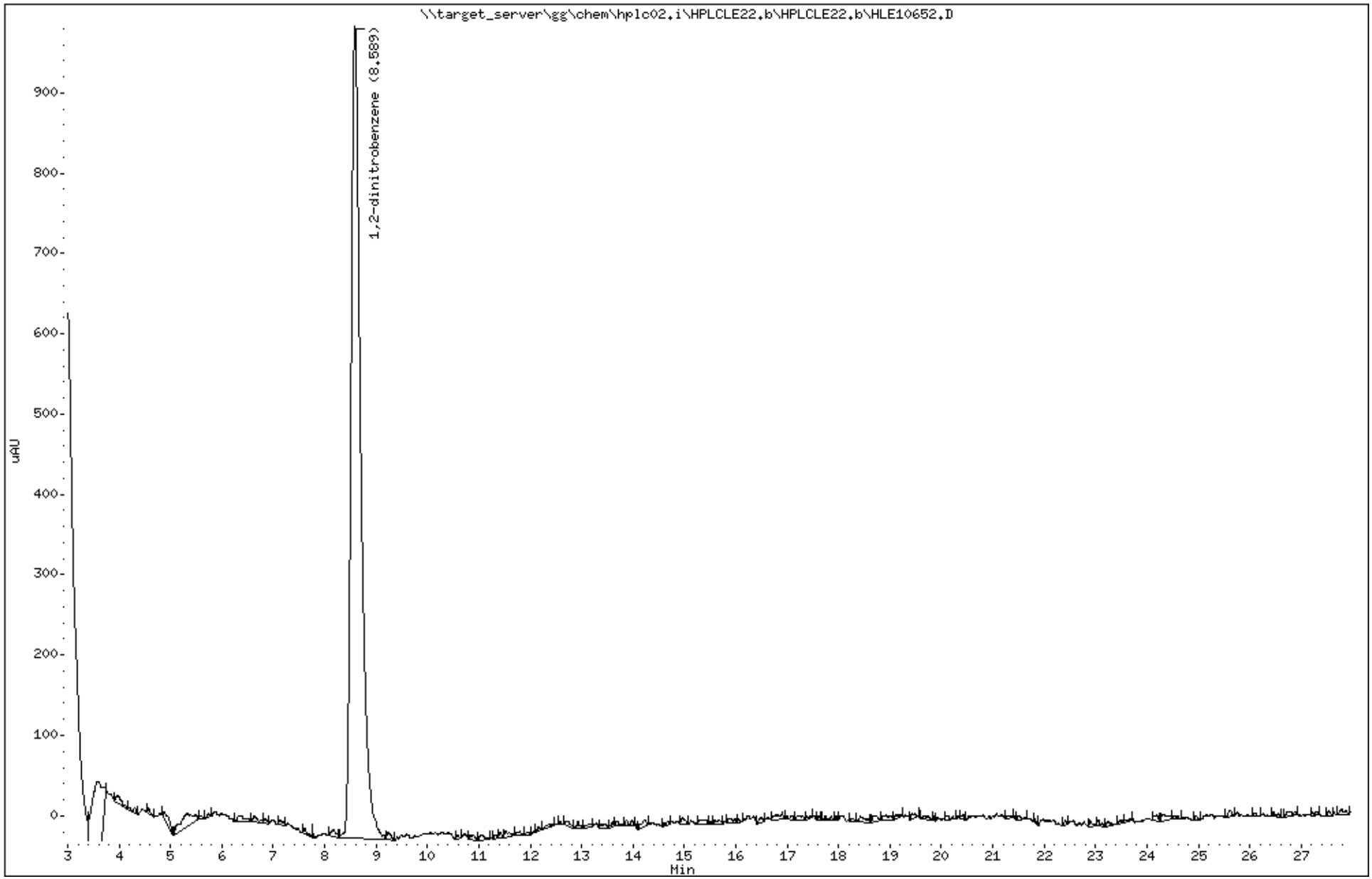
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HPLCLE22.b\HLE10652.D
Lab Smp Id: SL4180-27 Client Smp ID: HAAP-21B-DS-SB03-10
Inj Date : 22-MAY-2018 22:30
Operator : AC Inst ID: hplc02.i
Smp Info : SL4180-27
Misc Info : WG228756,WG228437,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\EXPB05A.m\EXPB05A.m
Meth Date : 23-May-2018 13:40 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 71
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01050	Weight of Sample (Kg)
M	27.122	% Moisture
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	REVIEW CODE
$ 2 1,2-dinitrobenzene	8.589	8.581	0.008	1011	0.21848	571	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HPLCLE22.b\HLE10652.D
Date : 22-MAY-2018 22:30
Client ID: HAAP-21B-DS-SB03-10
Instrument: hplc02.i
Sample Info: SL4180-27
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 2000162

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4180-29
Client ID: CHAAP-EB-051418
Project: Cornhusker Army Ammunition Plant
SDG: SL4180
Lab File ID: HLE10470.D

Sample Date: 14-MAY-18
Received Date: 15-MAY-18
Extract Date: 15-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330
Lab Prep Batch: WG228334

Analysis Date: 15-MAY-18
Analyst: AAB
Analysis Method: SW846 8330B
Matrix: AQ
% Solids: NA
Report Date: 30-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	0.12	ug/L	1	.25	0.25	0.043	0.12
RDX	U	0.12	ug/L	1	.25	0.25	0.046	0.12
1,3,5-Trinitrobenzene	U	0.12	ug/L	1	.25	0.25	0.040	0.12
1,3-Dinitrobenzene	U	0.12	ug/L	1	.25	0.25	0.045	0.12
Tetryl	U	0.12	ug/L	1	.25	0.25	0.060	0.12
Nitrobenzene	U	0.12	ug/L	1	.25	0.25	0.071	0.12
2,4,6-Trinitrotoluene	U	0.12	ug/L	1	.25	0.25	0.064	0.12
4-Am-DNT	U	0.12	ug/L	1	.25	0.25	0.053	0.12
2-Am-DNT	U	0.12	ug/L	1	.25	0.25	0.038	0.12
2,6-Dinitrotoluene	U	0.12	ug/L	1	.25	0.25	0.056	0.12
2,4-Dinitrotoluene	U	0.12	ug/L	1	.25	0.25	0.052	0.12
2-Nitrotoluene	U	0.12	ug/L	1	.25	0.25	0.071	0.12
4-Nitrotoluene	U	0.12	ug/L	1	.25	0.25	0.060	0.12
3-Nitrotoluene	U	0.12	ug/L	1	.25	0.25	0.063	0.12
Nitroglycerin	U	2.0	ug/L	1	4	4.0	0.67	2.0
PETN	U	2.0	ug/L	1	4	4.0	0.58	2.0
1,2-Dinitrobenzene		96.0	%					

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HLE10470.D
Report Date: 30-May-2018 12:13

Katahdin Analytical Services

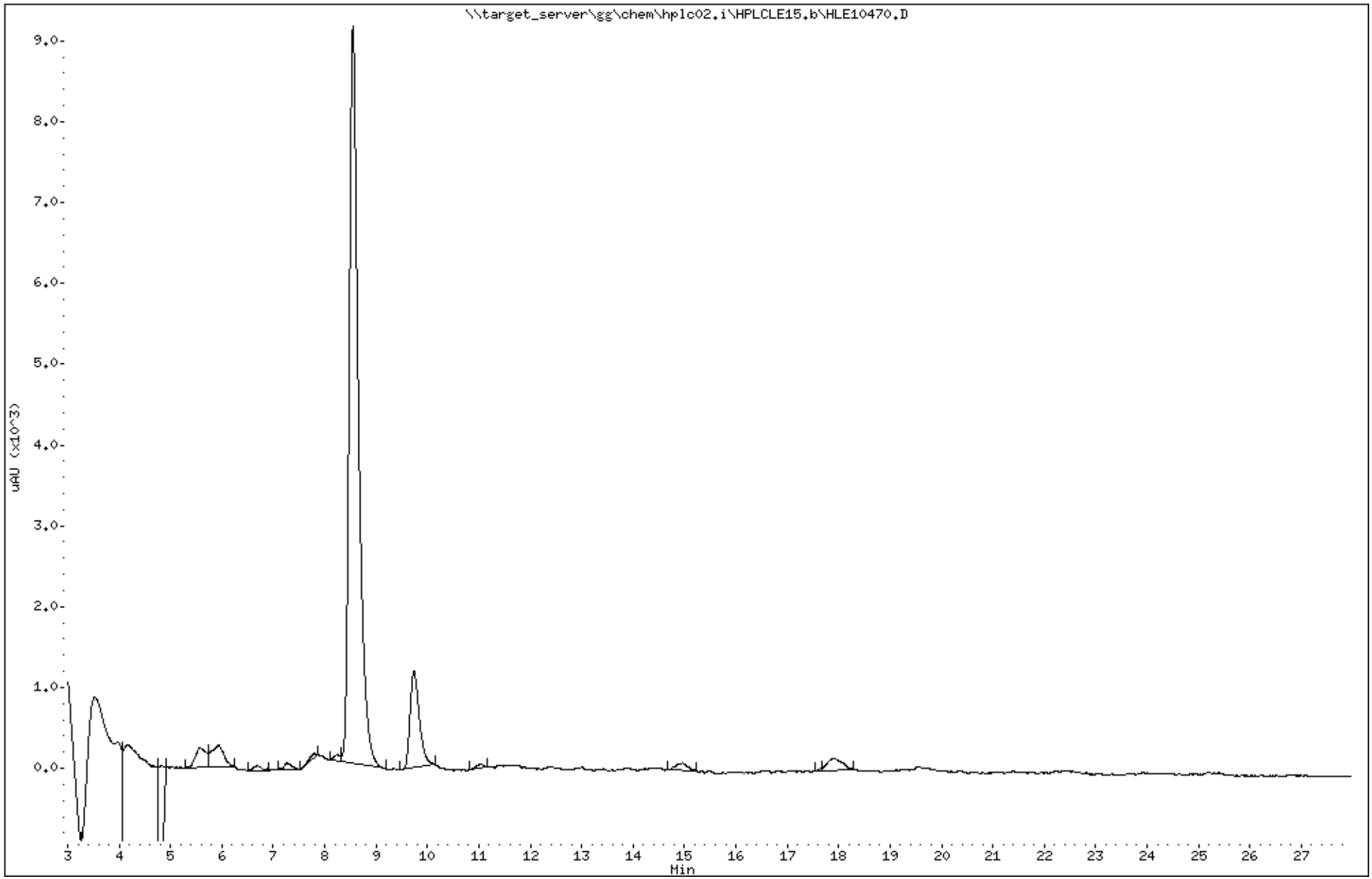
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HLE10470.D
Lab Smp Id: SL4180-29 Client Smp ID: CHAAP-EB-051418
Inj Date : 15-MAY-2018 20:34
Operator : AAB Inst ID: hplc02.i
Smp Info : SL4180-29
Misc Info : WG228756,WG228334,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE15.b\EXPB05A.m
Meth Date : 21-May-2018 08:50 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 89
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*(Vt/Vo) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00500	Final Volume (L)
Vo	0.50000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/L)

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HLE10470.D
Date : 15-MAY-2018 20:34
Client ID: CHAAP-EB-051418
Instrument: hplc02.i
Sample Info: SL4180-29
Purge Volume: 0.5
Operator: AAB
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 2000165

Data File: HLE10470.D
Report Date: 30-May-2018 12:13

Katahdin Analytical Services

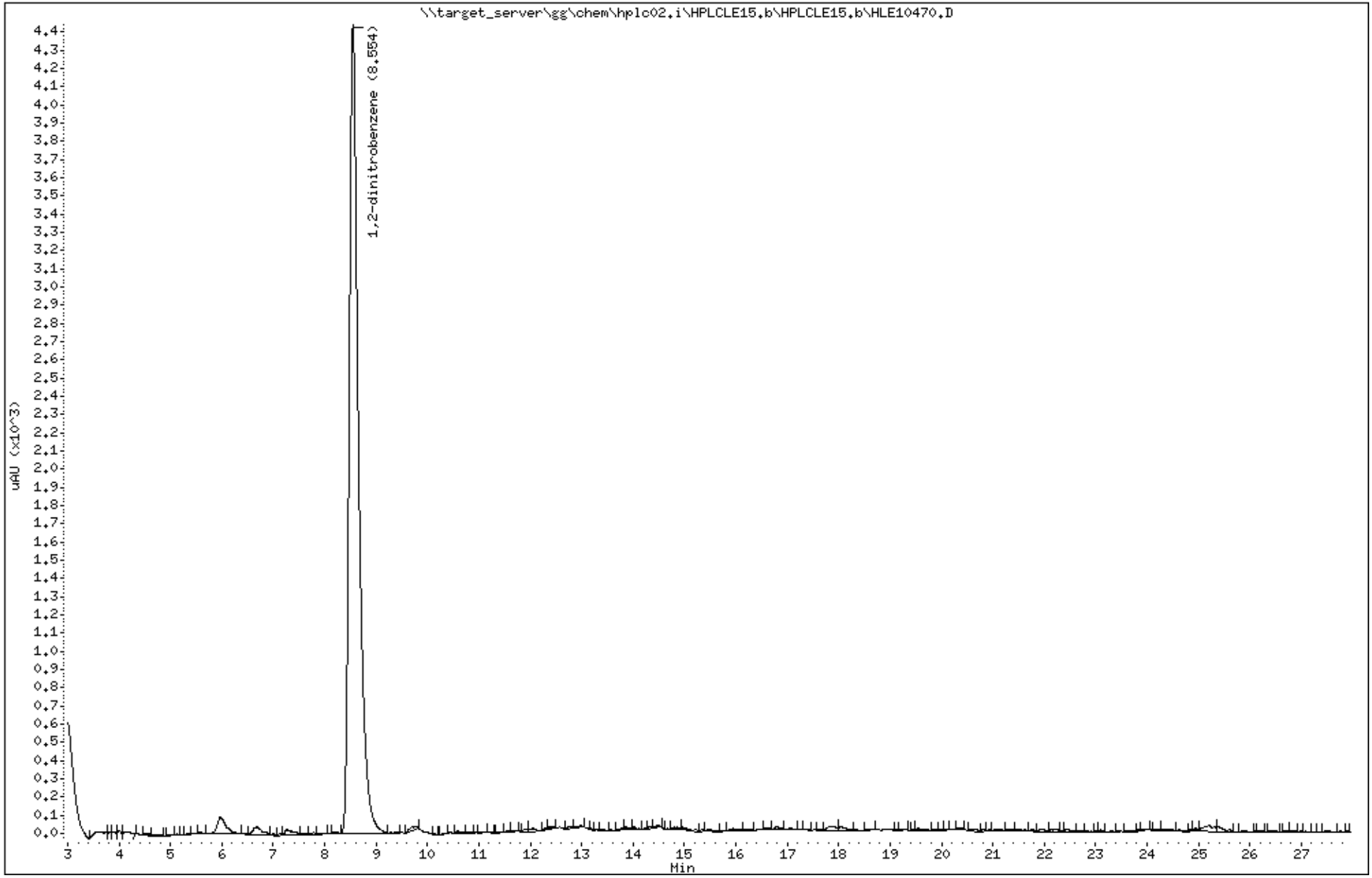
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HPLCLE15.b\HLE10470.D
Lab Smp Id: SL4180-29 Client Smp ID: CHAAP-EB-051418
Inj Date : 15-MAY-2018 20:34
Operator : AAB Inst ID: hplc02.i
Smp Info : SL4180-29
Misc Info : WG228756,WG228334,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE15.b\EXPB05A.m\EXPB05A.m
Meth Date : 21-May-2018 08:35 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 89
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*(Vt/Vo) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00500	Final Volume (L)
Vo	0.50000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/L)	REVIEW CODE
$ 2 1,2-dinitrobenzene	8.554	8.538	0.016	4441	0.95971	9.60	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HPLCLE15.b\HLE10470.D
Date : 15-MAY-2018 20:34
Client ID: CHAAP-EB-051418
Instrument: hplc02.i
Sample Info: SL4180-29
Purge Volume: 0.5
Operator: AAB
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 2000167

Standards Data Section

Katahdin
ANALYTICAL SERVICES

Form 6
Initial Calibration Summary

Lab Name : Katahdin Analytical Services
SDG: SL4180
Project : Cornhusker Army Ammunition Plant
Instrument ID: HPLC02
Lab File IDs : HKH10014.I HKH10013.I HKH10012.I HKH10011.I HKH10010.I HKH10009.I HKH10008.I
Calibration Date(s): 01-AUG-17 09:37 01-AUG-17 14:33

	0.025000(Level 1	0.050000(Level 2	0.100000(Level 3	0.250000(Level 4	0.5000000 Level 5	1.0000 Level 6	2.0000 Level 7		New Crv	b	m1	%RSD	Max %RSD	
HMX	143	204	424	1108	2190	4103	8448		LNR	-0.00406	4200	0.99963	0.99000	O
RDX	92.00000	202	389	1038	2084	3920	8183		LNR	0.00215	4071	0.99952	0.99000	O
1,3,5-trinitrobenzene	222	508	1024	2674	5383	10154	20806		LNR	-0.00071	10372	0.99973	0.99000	O
1,3-dinitrobenzene	264	581	1148	2994	6045	11405	23270		LNR	-0.00176	11603	0.99976	0.99000	O
TETRYL	98.00000	244	482	1267	2545	4803	9244		LNR	-0.01222	4644	0.99914	0.99000	O
nitrobenzene	142	331	655	1720	3466	6563	13345		LNR	-0.00158	6659	0.99979	0.99000	O
2,4,6-trinitrotoluene	135	313	627	1624	3260	6187	12320		LNR	-0.00578	6161	0.99976	0.99000	O
2-AM-DNT	65.00000	171	311	854	1698	3193	6303		LNR	-0.00832	3155	0.99955	0.99000	O
4-AM-DNT	63.00000	118	244	663	1299	2450	4682		LNR	-0.01508	2353	0.99890	0.99000	O
2,6-dinitrotoluene	76.00000	172	369	981	1970	3749	7493		LNR	-0.00306	3750	0.99978	0.99000	O
2,4-dinitrotoluene	136	329	692	1809	3639	6925	13785		LNR	-0.00420	6900	0.99976	0.99000	O
2-nitrotoluene	63.00000	115	257	686	1382	2659	5246		LNR	-0.00402	2630	0.99976	0.99000	O
3-nitrotoluene	72.00000	124	256	701	1390	2617	5111		LNR	-0.01061	2561	0.99942	0.99000	O
4-nitrotoluene	101	120	227	531	1075	2023	3902		LNR	-0.02177	1947	0.99936	0.99000	O
1,2-dinitrobenzene	117	263	530	1379	2756	5196	10604		LNR	-0.00227	5286	0.99974	0.99000	

Legend: O = Kept Original Curve
Y = Failed Minimum RF
W = Failed %RSD Value

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Tel:(207) 874-2400 Fax:(207) 775-4029

http://katahdinlab.com
sales@katahdinlab.com

Data File: HKH10016.D
Report Date: 02-Aug-2017 10:20

Katahdin Analytical Services

RECOVERY REPORT

Client Name: Client SDG: SDGa00508
Sample Matrix: LIQUID Fraction: Explosives
Lab Smp Id: WG210620-16
Level: LOW Operator: AAB
Data Type: LC DATA SampleType: LCS
SpikeList File: IND.spk Quant Type: ESTD
Sublist File: SW8330A.sub
Method File: \\target_server\gg\chem\hplc02.i\HPLCKH01B.b\E2016A.m\E2016A.m
Misc Info: WG210620,WG210205,WG210620-13,SK6535-1

SPIKE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
1 HMX	5.00	5.68	113.67	80-120
4 RDX	5.00	5.76	115.30	80-120
5 1,3,5-trinitrobenz	5.00	5.58	111.71	80-120
6 1,3-dinitrobenzene	5.00	5.59	111.84	80-120
7 nitrobenzene	5.00	5.66	113.30	80-120
9 TETRYL	5.00	6.15	123.00*	80-120
10 2,4,6-trinitrotolu	5.00	5.74	114.80	80-120
11 4-AM-DNT	5.00	6.51	130.27*	80-120
12 2-AM-DNT	5.00	5.70	114.01	80-120
13 2,6-dinitrotoluene	5.00	5.74	114.91	80-120
14 2,4-dinitrotoluene	5.00	5.80	116.03	80-120
15 2-nitrotoluene	5.00	5.84	116.91	80-120
16 4-nitrotoluene	5.00	5.92	118.33	80-120
17 3-nitrotoluene	5.00	6.25	124.99*	80-120
52 3,5-dinitroaniline	5.00	5.53	110.58	80-120

SURROGATE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
$ 2 1,2-dinitrobenzene	10.0	0.000	*	82-150

Data File: HKH10016.D
Report Date: 02-Aug-2017 10:20

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCKH01B.b\HPLCKH01B.b\HKH10016.D
Lab Smp Id: WG210620-16
Inj Date : 01-AUG-2017 17:01
Operator : AAB   Inst ID: hplc02.i
Smp Info : WG210620-16,SK6535
Misc Info : WG210620,WG210205,WG210620-13,SK6535-1
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCKH01B.b\E2016A.m\E2016A.m
Meth Date : 02-Aug-2017 10:01 abullentin Quant Type: ESTD
Cal Date : 01-AUG-2017 14:33   Cal File: HKH10014.D
Als bottle: 30   QC Sample: LCS
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: SW8330A.sub
Target Version: 4.12

Concentration Formula: Amt * DF * 1000*(Vt/Vo) * CpndVariable

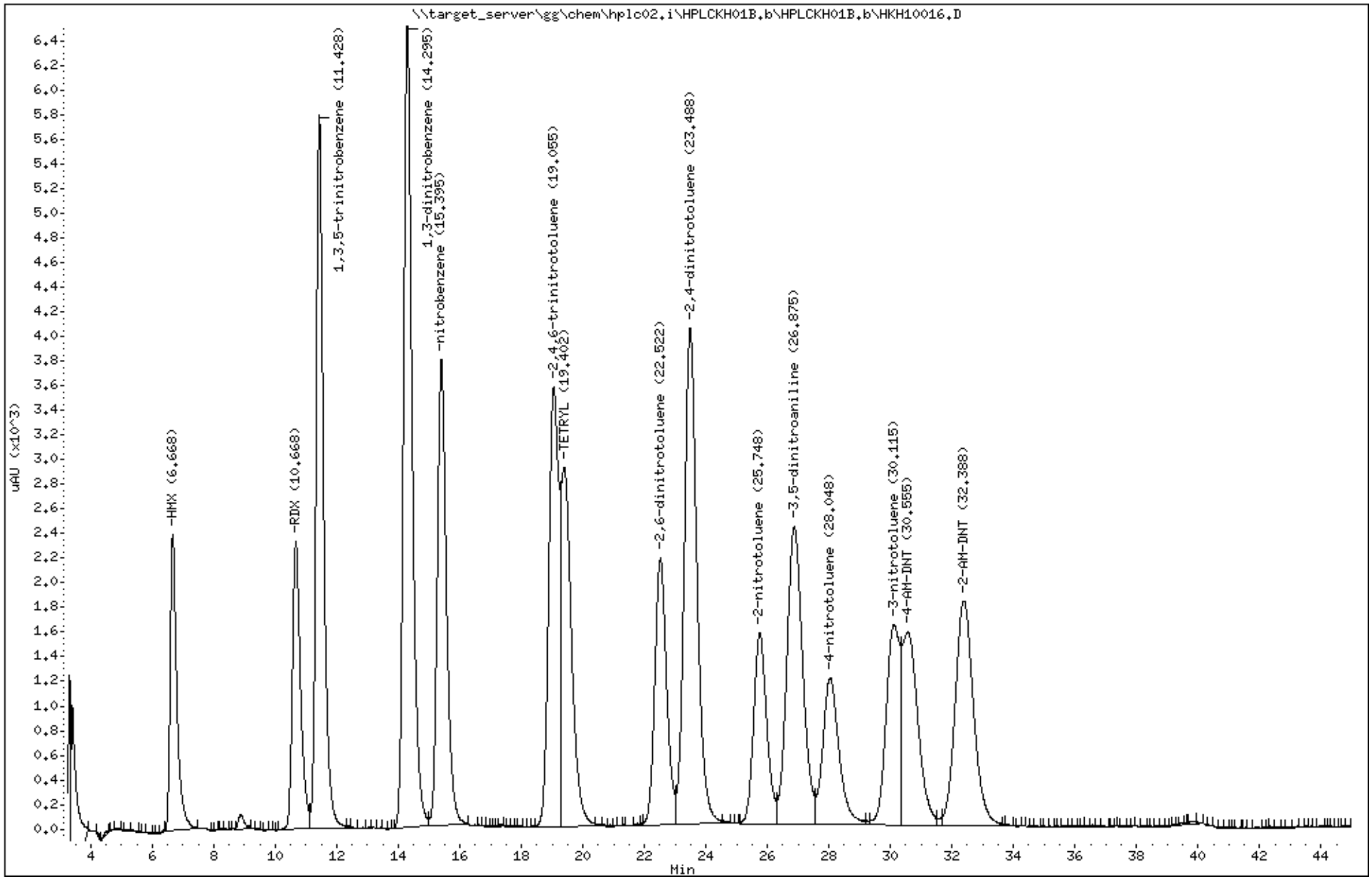
Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00500	Final Volume (L)
Vo	0.50000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

						CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/L)	
	Compounds	RT	EXP RT	DLT RT	RESPONSE			REVIEW CODE
1	HMX	6.668	6.678	-0.010	2404	0.56837	5.68	
4	RDX	10.668	10.684	-0.016	2338	0.57648	5.76	
5	1,3,5-trinitrobenzene	11.428	11.431	-0.003	5801	0.55856	5.58	
6	1,3-dinitrobenzene	14.294	14.304	-0.010	6509	0.55919	5.59	
7	nitrobenzene	15.394	15.411	-0.017	3783	0.56650	5.66	
10	2,4,6-trinitrotoluene	19.054	19.064	-0.010	3572	0.57402	5.74	
9	TETRYL	19.401	19.424	-0.023	2913	0.61500	6.15(R)	
13	2,6-dinitrotoluene	22.521	22.538	-0.017	2166	0.57456	5.74	
14	2,4-dinitrotoluene	23.488	23.511	-0.023	4032	0.58013	5.80	
15	2-nitrotoluene	25.748	25.764	-0.016	1548	0.58454	5.84	
52	3,5-dinitroaniline	26.874	26.931	-0.057	2417	0.55288	5.53	
16	4-nitrotoluene	28.048	28.058	-0.010	1194	0.59164	5.92	
17	3-nitrotoluene	30.114	30.111	0.003	1628	0.62497	6.25(R)	
11	4-AM-DNT	30.554	30.651	-0.097	1568	0.65133	6.51(R)	
12	2-AM-DNT	32.388	32.464	-0.076	1825	0.57005	5.70	

QC Flag Legend

R - Spike/Surrogate failed recovery limits.

Data File: \\target_server\gg\chem\hplc02.i\HPLCKH01B.b\HPLCKH01B.b\HKH10016.D
Date : 01-AUG-2017 17:01
Client ID:
Instrument: hplc02.i
Sample Info: WG210620-16,SK6535
Purge Volume: 0.5
Operator: AAB
Column phase: Acclaim Exp E2
Column diameter: 4.60



Katahdin Analytical Services 2000172

Data File: HKH10008.D
Report Date: 02-Aug-2017 09:55

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCKH01B.b\HPLCKH01B.b\HKH10008.D
Lab Smp Id: WG210620-15
Inj Date : 01-AUG-2017 09:37
Operator : AAB   Inst ID: hplc02.i
Smp Info : WG210620-15
Misc Info :
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCKH01B.b\E2016A.m\E2016A.m
Meth Date : 02-Aug-2017 09:51 abullentin Quant Type: ESTD
Cal Date : 01-AUG-2017 09:37   Cal File: HKH10008.D
Als bottle: 1   Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * Vt/Vo * CpndVariable

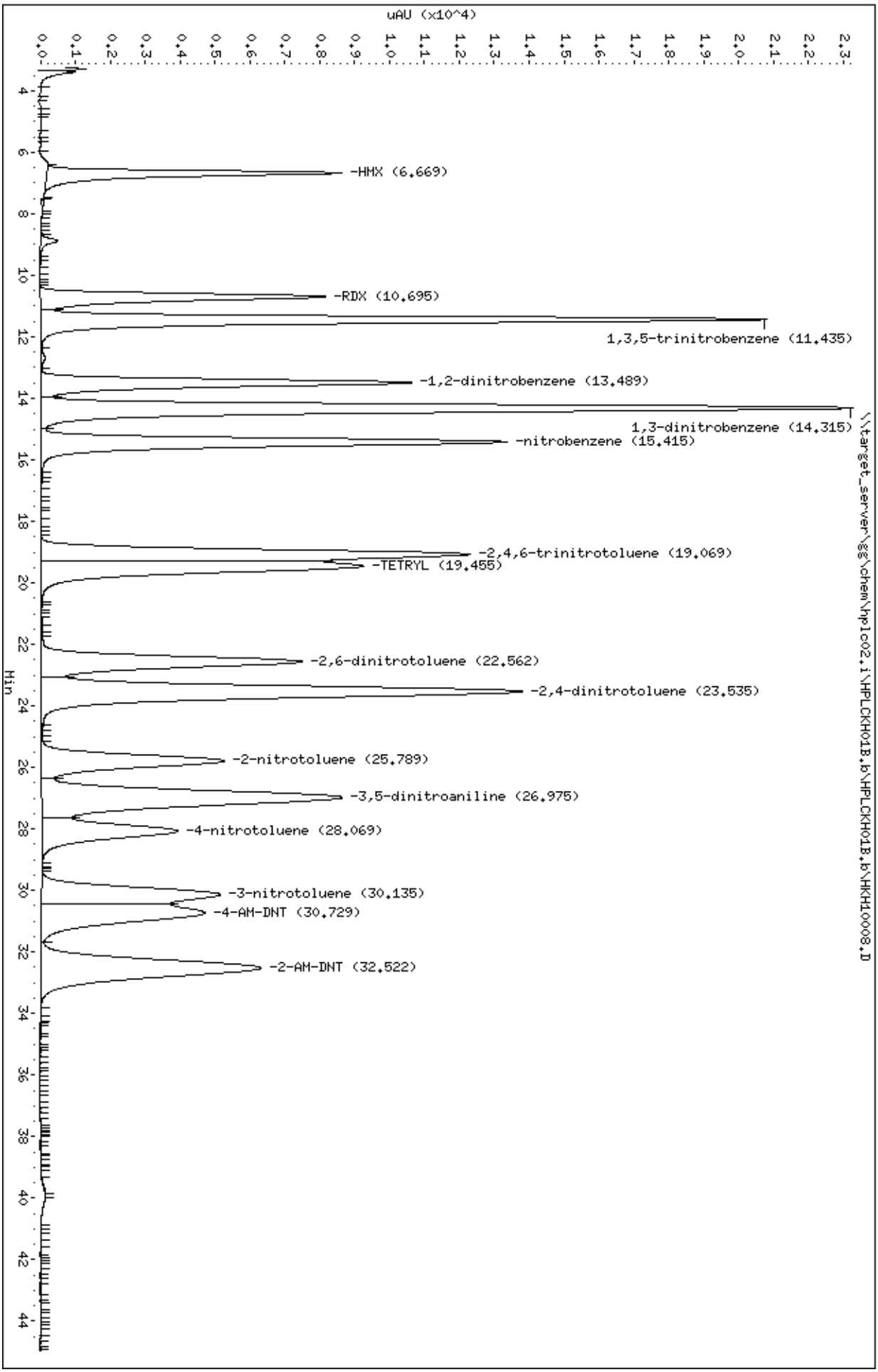
Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00500	Final Volume (L)
Vo	0.50000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)	REVIEW CODE
1	HMX	6.668	6.678	-0.010	8448	2.00000	2.01(AM)	M2
4	RDX	10.695	10.684	0.011	8183	2.00000	2.01(A)	
5	1,3,5-trinitrobenzene	11.435	11.431	0.004	20806	2.00000	2.00(A)	
$ 2	1,2-dinitrobenzene	13.488	13.478	0.010	10604	2.00000	2.00(A)	
6	1,3-dinitrobenzene	14.315	14.304	0.011	23270	2.00000	2.00(A)	
7	nitrobenzene	15.415	15.411	0.004	13345	2.00000	2.00(A)	
10	2,4,6-trinitrotoluene	19.068	19.064	0.004	12320	2.00000	1.99	
9	TETRYL	19.455	19.424	0.031	9244	2.00000	1.98	
13	2,6-dinitrotoluene	22.562	22.538	0.024	7493	2.00000	2.00	
14	2,4-dinitrotoluene	23.535	23.511	0.024	13785	2.00000	1.99	
15	2-nitrotoluene	25.788	25.764	0.024	5246	2.00000	1.99	
52	3,5-dinitroaniline	26.975	26.931	0.044	8614	2.00000	1.99	
16	4-nitrotoluene	28.068	28.058	0.010	3902	2.00000	1.98	
17	3-nitrotoluene	30.135	30.111	0.024	5111	2.00000	1.98	
11	4-AM-DNT	30.728	30.651	0.077	4682	2.00000	1.97	
12	2-AM-DNT	32.522	32.464	0.058	6303	2.00000	1.98	

AAB
10:41 am, Aug 02, 2017

QC Flag Legend

A - Target compound detected but, quantitated amount
    exceeded maximum amount.
M - Compound response manually integrated.


Data File: \\target_server\gg\chem\hplc02,i\HPLCKH01B,b\HPLCKH01B,b\HKH10008,D
Date : 01-AUG-2017 09:37
Client ID:
Sample Info: WG210620-15
Purge Volume: 0.5
Column phase: Acclaim Exp E2
Instrument: hplc02,i
Operator: AAB
Column diameter: 4.60
uAU (x10^4)
Min
-HMX (6.669)
-RDX (10.695)
1,3,5-trinitrobenzene (11.435)
-1,2-dinitrobenzene (13.489)
1,3-dinitrobenzene (14.315)
-nitrobenzene (15.415)
-2,4,6-trinitrotoluene (19.069)
-TETRYL (19.455)
-2,6-dinitrotoluene (22.562)
-2,4-dinitrotoluene (23.535)
-2-nitrotoluene (25.789)
-3,5-dinitroaniline (26.975)
-4-nitrotoluene (28.069)
-3-nitrotoluene (30.135)
-4-AM-DNT (30.729)
-2-AM-DNT (32.522)
\\target_server\gg\chem\hplc02,i\HPLCKH01B,b\HPLCKH01B,b\HKH10008,D

Data File: HKH10009.D
Report Date: 02-Aug-2017 09:55

Katahdin Analytical Services

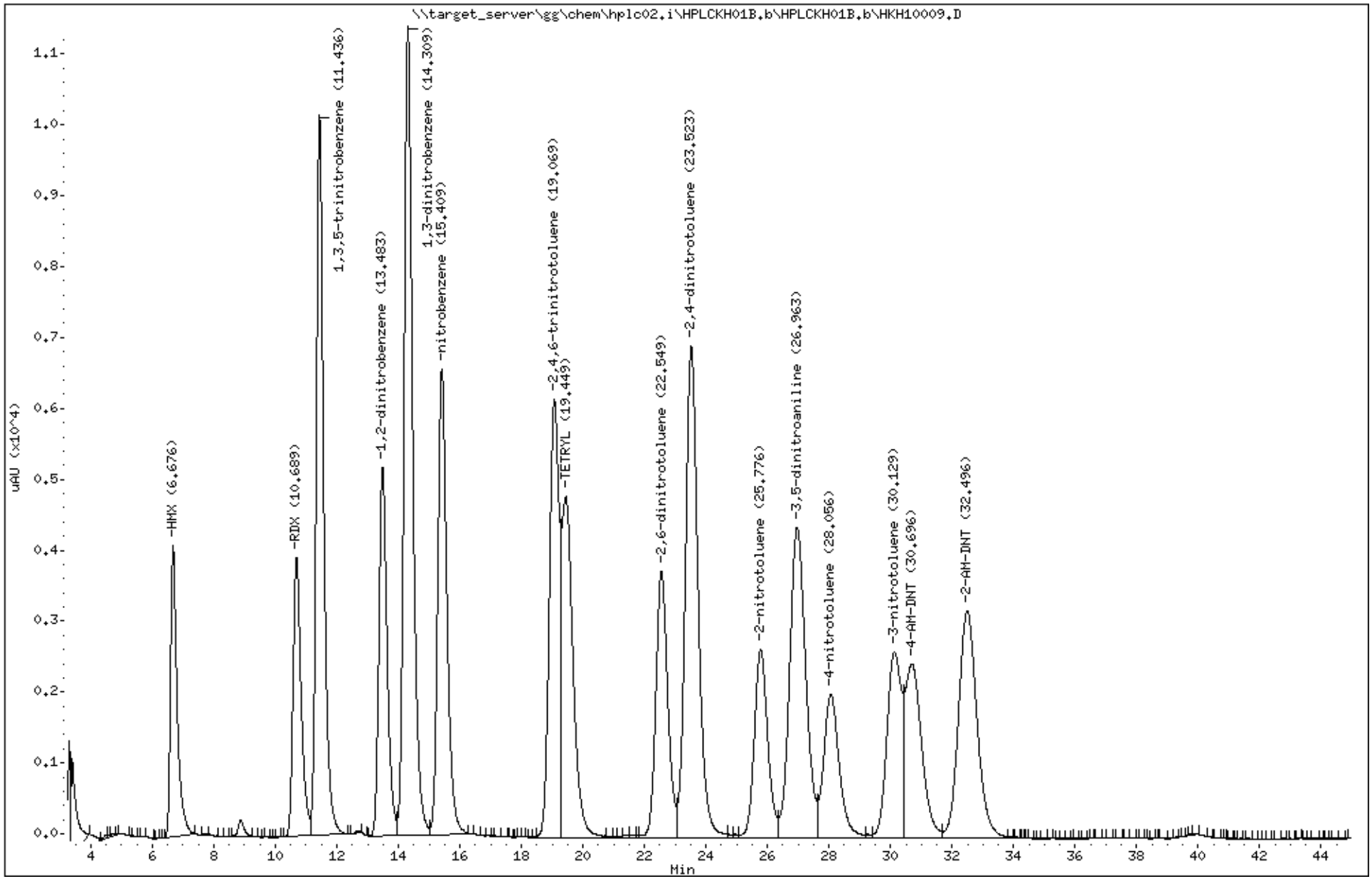
Data file : \\target_server\gg\chem\hplc02.i\HPLCKH01B.b\HPLCKH01B.b\HKH10009.D
Lab Smp Id: WG210620-14
Inj Date : 01-AUG-2017 10:27
Operator : AAB   Inst ID: hplc02.i
Smp Info : WG210620-14
Misc Info :
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCKH01B.b\E2016A.m\E2016A.m
Meth Date : 02-Aug-2017 09:51 abullentin Quant Type: ESTD
Cal Date : 01-AUG-2017 10:27   Cal File: HKH10009.D
Als bottle: 1   Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * Vt/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00500	Final Volume (L)
Vo	0.50000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)	REVIEW CODE
1	HMX	6.675	6.678	-0.003	4103	1.00000	0.952	
4	RDX	10.689	10.684	0.005	3920	1.00000	0.966	
5	1,3,5-trinitrobenzene	11.435	11.431	0.004	10154	1.00000	0.978	
$ 2	1,2-dinitrobenzene	13.482	13.478	0.004	5196	1.00000	0.980	
6	1,3-dinitrobenzene	14.309	14.304	0.005	11405	1.00000	0.981	
7	nitrobenzene	15.409	15.411	-0.002	6563	1.00000	0.983	
10	2,4,6-trinitrotoluene	19.069	19.064	0.005	6187	1.00000	0.996	
9	TETRYL	19.449	19.424	0.025	4803	1.00000	1.02	
13	2,6-dinitrotoluene	22.549	22.538	0.011	3749	1.00000	0.994	
14	2,4-dinitrotoluene	23.522	23.511	0.011	6925	1.00000	0.997	
15	2-nitrotoluene	25.775	25.764	0.011	2659	1.00000	1.00	
52	3,5-dinitroaniline	26.962	26.931	0.031	4377	1.00000	1.00	
16	4-nitrotoluene	28.055	28.058	-0.003	2023	1.00000	1.02	
17	3-nitrotoluene	30.129	30.111	0.018	2617	1.00000	1.01	
11	4-AM-DNT	30.695	30.651	0.044	2450	1.00000	1.02	
12	2-AM-DNT	32.495	32.464	0.031	3193	1.00000	1.00	

Data File: \\target_server\gg\chem\hplc02.i\HPLCKH01B.b\HPLCKH01B.b\HKH10009.D
Date : 01-AUG-2017 10:27
Client ID:
Instrument: hplc02.i
Sample Info: WG210620-14
Purge Volume: 0.5
Operator: AAB
Column phase: Acclaim Exp E2
Column diameter: 4.60



Katahdin Analytical Services 2000176

Data File: HKH10010.D
Report Date: 02-Aug-2017 09:55

Katahdin Analytical Services

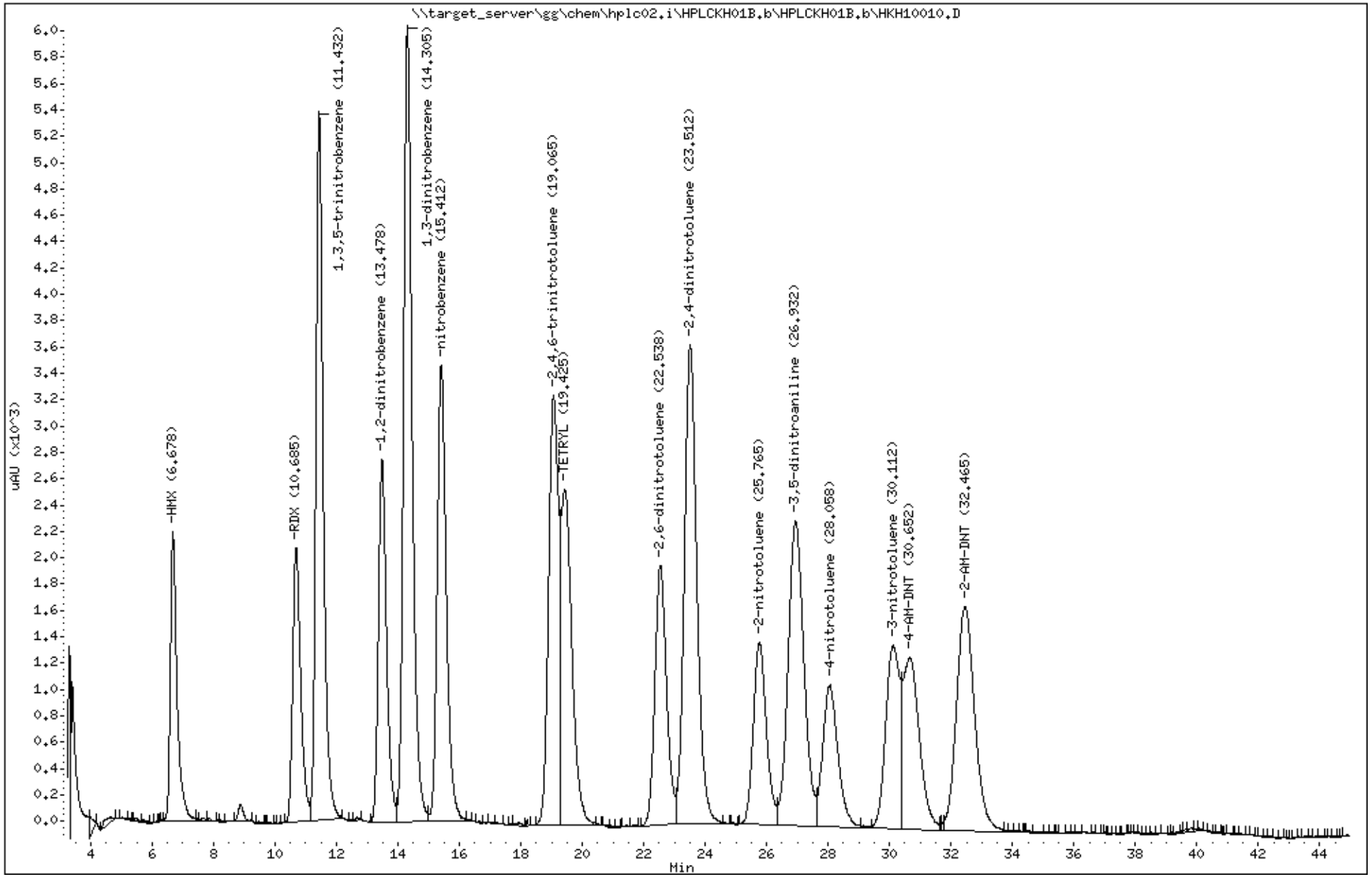
Data file : \\target_server\gg\chem\hplc02.i\HPLCKH01B.b\HPLCKH01B.b\HKH10010.D
Lab Smp Id: WG210620-13
Inj Date : 01-AUG-2017 11:16
Operator : AAB   Inst ID: hplc02.i
Smp Info : WG210620-13
Misc Info :
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCKH01B.b\E2016A.m\E2016A.m
Meth Date : 02-Aug-2017 09:51 abullentin Quant Type: ESTD
Cal Date : 09-FEB-2017 11:28   Cal File: HKB10080.D
Als bottle: 1   Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: SW8330A.sub
Target Version: 4.12

Concentration Formula: Amt * DF * Vt/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00500	Final Volume (L)
Vo	0.50000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)	REVIEW CODE
1	HMX	6.678	6.678	0.000	2190	0.50000	0.500	
4	RDX	10.684	10.684	0.000	2084	0.50000	0.500	
5	1,3,5-trinitrobenzene	11.431	11.431	0.000	5383	0.50000	0.500	
$ 2	1,2-dinitrobenzene	13.478	13.478	0.000	2756	0.50000	0.500	
6	1,3-dinitrobenzene	14.304	14.304	0.000	6045	0.50000	0.500	
7	nitrobenzene	15.411	15.411	0.000	3466	0.50000	0.500	
10	2,4,6-trinitrotoluene	19.064	19.064	0.000	3260	0.50000	0.500	
9	TETRYL	19.424	19.424	0.000	2545	0.50000	0.500	
13	2,6-dinitrotoluene	22.538	22.538	0.000	1970	0.50000	0.500	
14	2,4-dinitrotoluene	23.511	23.511	0.000	3639	0.50000	0.500	
15	2-nitrotoluene	25.764	25.764	0.000	1382	0.50000	0.500	
52	3,5-dinitroaniline	26.931	26.931	0.000	2314	0.50000	0.500	
16	4-nitrotoluene	28.058	28.058	0.000	1075	0.50000	0.500	
17	3-nitrotoluene	30.111	30.111	0.000	1390	0.50000	0.500	
11	4-AM-DNT	30.651	30.651	0.000	1299	0.50000	0.500	
12	2-AM-DNT	32.464	32.464	0.000	1698	0.50000	0.500	

Data File: \\target_server\gg\chem\hplc02.i\HPLCKH01B.b\HPLCKH01B.b\HKH10010.D
Date : 01-AUG-2017 11:16
Client ID:
Instrument: hplc02.i
Sample Info: WG210620-13
Purge Volume: 0.5
Operator: AAB
Column phase: Acclaim Exp E2
Column diameter: 4.60



Katahdin Analytical Services 2000178

Data File: HKH10011.D
Report Date: 02-Aug-2017 09:55

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCKH01B.b\HPLCKH01B.b\HKH10011.D
Lab Smp Id: WG210620-12
Inj Date : 01-AUG-2017 12:05
Operator : AAB   Inst ID: hplc02.i
Smp Info : WG210620-12
Misc Info :
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCKH01B.b\E2016A.m\E2016A.m
Meth Date : 02-Aug-2017 09:51 abullentin Quant Type: ESTD
Cal Date : 01-AUG-2017 12:05   Cal File: HKH10011.D
Als bottle: 1   Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * Vt/Vo * CpndVariable

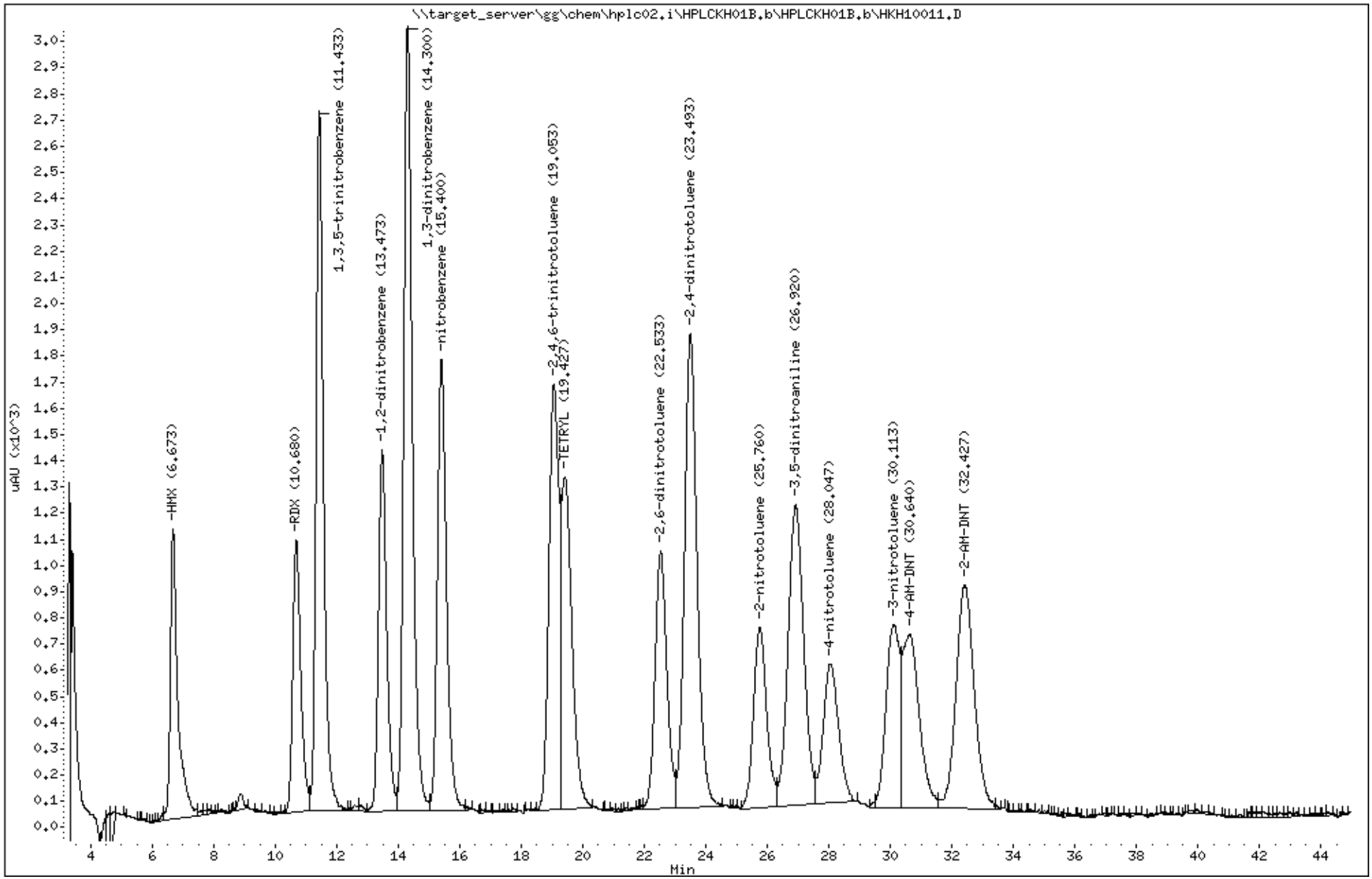
Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00500	Final Volume (L)
Vo	0.50000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)	REVIEW CODE
1	HMX	6.673	6.678	-0.005	1108	0.25000	0.262	
4	RDX	10.679	10.684	-0.005	1038	0.25000	0.257	
5	1,3,5-trinitrobenzene	11.433	11.431	0.002	2674	0.25000	0.254	
$ 2	1,2-dinitrobenzene	13.473	13.478	-0.005	1379	0.25000	0.255	
6	1,3-dinitrobenzene	14.299	14.304	-0.005	2994	0.25000	0.253	
7	nitrobenzene	15.399	15.411	-0.012	1720	0.25000	0.253	
10	2,4,6-trinitrotoluene	19.053	19.064	-0.011	1624	0.25000	0.252	
9	TETRYL	19.426	19.424	0.002	1267	0.25000	0.249(a)	
13	2,6-dinitrotoluene	22.533	22.538	-0.005	981	0.25000	0.252	
14	2,4-dinitrotoluene	23.493	23.511	-0.018	1809	0.25000	0.251	
15	2-nitrotoluene	25.759	25.764	-0.005	686	0.25000	0.249(a)	
52	3,5-dinitroaniline	26.919	26.931	-0.012	1145	0.25000	0.250	
16	4-nitrotoluene	28.046	28.058	-0.012	531	0.25000	0.248(a)	
17	3-nitrotoluene	30.113	30.111	0.002	701	0.25000	0.253	
11	4-AM-DNT	30.639	30.651	-0.012	663	0.25000	0.253	
12	2-AM-DNT	32.426	32.464	-0.038	854	0.25000	0.253	

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).

Data File: \\target_server\gg\chem\hplc02.i\HPLCKH01B.b\HPLCKH01B.b\HKH10011.D
Date : 01-AUG-2017 12:05
Client ID:
Instrument: hplc02.i
Sample Info: WG210620-12
Purge Volume: 0.5
Operator: AAB
Column phase: Acclaim Exp E2
Column diameter: 4.60



Katahdin Analytical Services 2000180

Data File: HKH10012.D
Report Date: 02-Aug-2017 09:55

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCKH01B.b\HPLCKH01B.b\HKH10012.D
Lab Smp Id: WG210620-11
Inj Date : 01-AUG-2017 12:54
Operator : AAB Inst ID: hplc02.i
Smp Info : WG210620-11
Misc Info :
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCKH01B.b\E2016A.m\E2016A.m
Meth Date : 02-Aug-2017 09:51 abullentin Quant Type: ESTD
Cal Date : 01-AUG-2017 12:54 Cal File: HKH10012.D
Als bottle: 1 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * Vt/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00500	Final Volume (L)
Vo	0.50000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

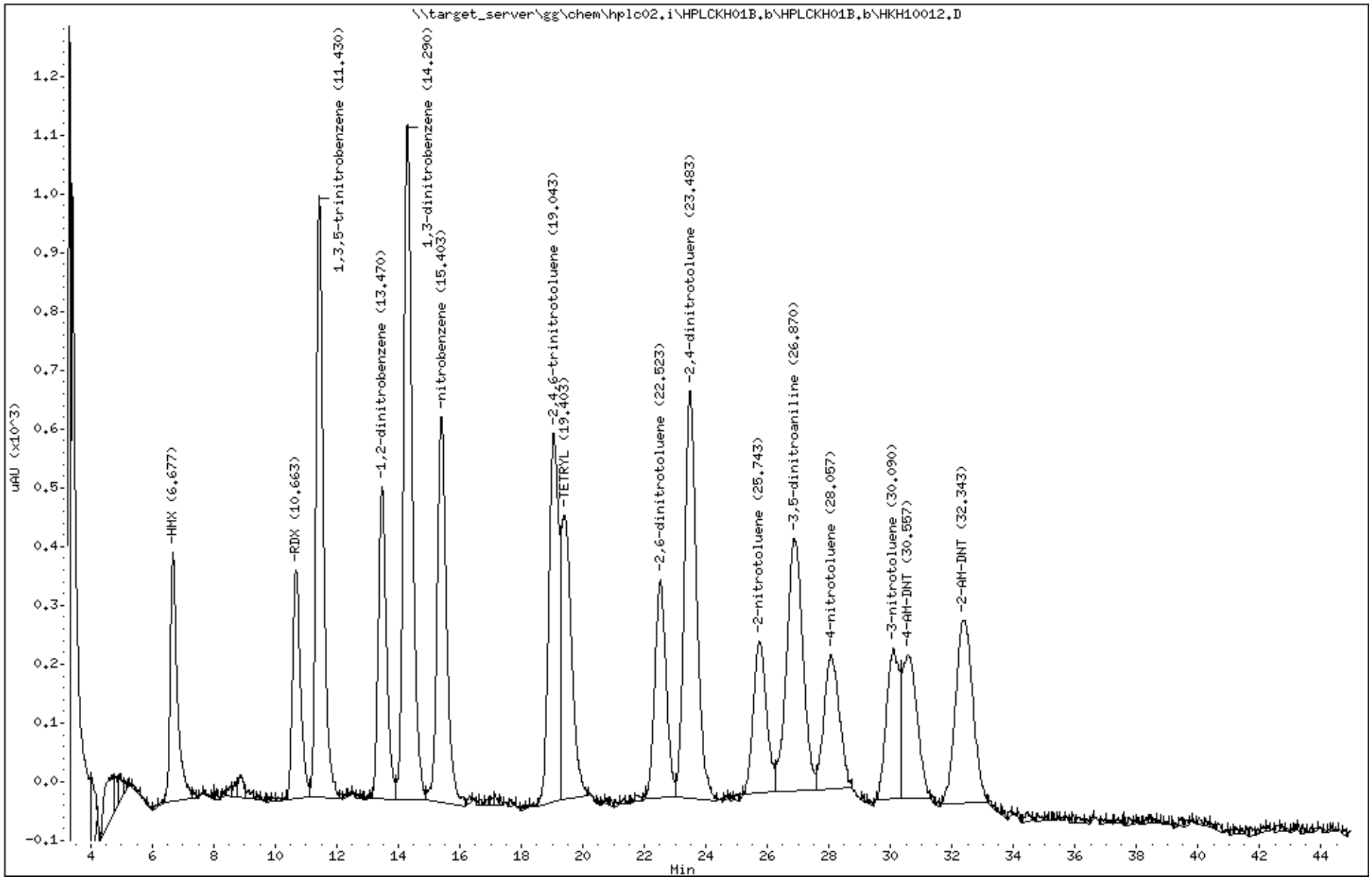
	Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	ON-COL (ug/mL)	REVIEW CODE
1	HMX	6.676	6.678	-0.002	424	0.10000	0.0860(a)	
4	RDX	10.663	10.684	-0.021	389	0.10000	0.0976(a)	
5	1,3,5-trinitrobenzene	11.430	11.431	-0.001	1024	0.10000	0.0970(a)	
$ 2	1,2-dinitrobenzene	13.470	13.478	-0.008	530	0.10000	0.0968	
6	1,3-dinitrobenzene	14.290	14.304	-0.014	1148	0.10000	0.0963(a)	
7	nitrobenzene	15.403	15.411	-0.008	655	0.10000	0.0956(a)	
10	2,4,6-trinitrotoluene	19.043	19.064	-0.021	627	0.10000	0.0940(a)	
9	TETRYL	19.403	19.424	-0.021	482	0.10000	0.0879(a)	
13	2,6-dinitrotoluene	22.523	22.538	-0.015	369	0.10000	0.0936(a)	
14	2,4-dinitrotoluene	23.483	23.511	-0.028	692	0.10000	0.0940(a)	
15	2-nitrotoluene	25.743	25.764	-0.021	257	0.10000	0.0969(a)	
52	3,5-dinitroaniline	26.870	26.931	-0.061	428	0.10000	0.0906(a)	
16	4-nitrotoluene	28.056	28.058	-0.002	227	0.10000	0.107(a)	
17	3-nitrotoluene	30.090	30.111	-0.021	256	0.10000	0.0912(aM)	M9
11	4-AM-DNT	30.556	30.651	-0.095	244	0.10000	0.0932(aM)	M9
12	2-AM-DNT	32.343	32.464	-0.121	311	0.10000	0.0874(aM)	M9

AAB
10:41 am, Aug 02, 2017

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.

Data File: \\target_server\gg\chem\hplc02.i\HPLCKH01B.b\HPLCKH01B.b\HKH10012.D
Date : 01-AUG-2017 12:54
Client ID:
Instrument: hplc02.i
Sample Info: WG210620-11
Purge Volume: 0.5
Operator: AAB
Column phase: Acclaim Exp E2
Column diameter: 4.60



Katahdin Analytical Services 2000182

Data File: HKH10013.D
Report Date: 02-Aug-2017 09:55

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCKH01B.b\HPLCKH01B.b\HKH10013.D
Lab Smp Id: WG210620-10
Inj Date : 01-AUG-2017 13:44
Operator : AAB Inst ID: hplc02.i
Smp Info : WG210620-10
Misc Info :
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCKH01B.b\E2016A.m\E2016A.m
Meth Date : 02-Aug-2017 09:51 abullentin Quant Type: ESTD
Cal Date : 01-AUG-2017 13:44 Cal File: HKH10013.D
Als bottle: 1 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * Vt/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00500	Final Volume (L)
Vo	0.50000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

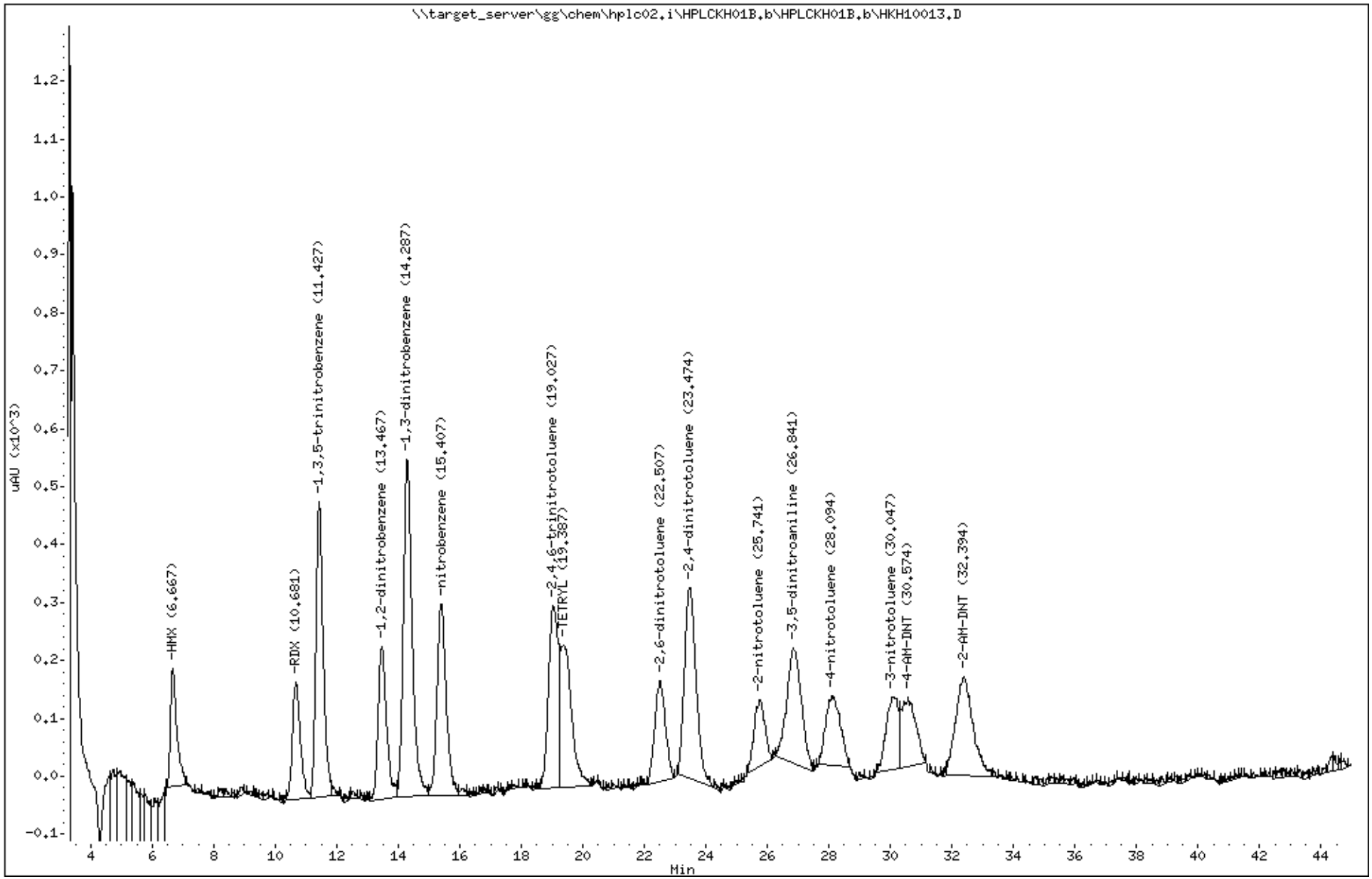
	Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	ON-COL (ug/mL)	REVIEW CODE
1	HMX	6.667	6.678	-0.011	204	0.05000	0.0456(aM)	M2
4	RDX	10.680	10.684	-0.004	202	0.05000	0.0517(a)	
5	1,3,5-trinitrobenzene	11.427	11.431	-0.004	508	0.05000	0.0473(a)	
$ 2	1,2-dinitrobenzene	13.467	13.478	-0.011	263	0.05000	0.0463(a)	
6	1,3-dinitrobenzene	14.287	14.304	-0.017	581	0.05000	0.0474(a)	
7	nitrobenzene	15.407	15.411	-0.004	331	0.05000	0.0469(a)	
10	2,4,6-trinitrotoluene	19.027	19.064	-0.037	313	0.05000	0.0430(a)	
9	TETRYL	19.387	19.424	-0.037	244	0.05000	0.0365(a)	
13	2,6-dinitrotoluene	22.507	22.538	-0.031	172	0.05000	0.0410(a)	
14	2,4-dinitrotoluene	23.473	23.511	-0.038	329	0.05000	0.0413(a)	
15	2-nitrotoluene	25.740	25.764	-0.024	115	0.05000	0.0385(aM)	M9
52	3,5-dinitroaniline	26.840	26.931	-0.091	199	0.05000	0.0375(a)	
16	4-nitrotoluene	28.093	28.058	0.035	120	0.05000	0.0410(aM)	M9
17	3-nitrotoluene	30.047	30.111	-0.064	124	0.05000	0.0361(aM)	M9
11	4-AM-DNT	30.573	30.651	-0.078	118	0.05000	0.0319(aM)	M9
12	2-AM-DNT	32.393	32.464	-0.071	171	0.05000	0.0429(a)	

10:41 am, Aug 02, 2017

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.

Data File: \\target_server\gg\chem\hplc02.i\HPLCKH01B.b\HPLCKH01B.b\HKH10013.D
Date : 01-AUG-2017 13:44
Client ID:
Instrument: hplc02.i
Sample Info: WG210620-10
Purge Volume: 0.5
Operator: AAB
Column phase: Acclaim Exp E2
Column diameter: 4.60



Katahdin Analytical Services 2000184

Data File: HKH10014.D
Report Date: 02-Aug-2017 09:55

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCKH01B.b\HPLCKH01B.b\HKH10014.D
Lab Smp Id: WG210620-9
Inj Date : 01-AUG-2017 14:33
Operator : AAB   Inst ID: hplc02.i
Smp Info : WG210620-9
Misc Info :
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCKH01B.b\E2016A.m\E2016A.m
Meth Date : 02-Aug-2017 09:51 abullentin Quant Type: ESTD
Cal Date : 01-AUG-2017 14:33   Cal File: HKH10014.D
Als bottle: 1   Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * Vt/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00500	Final Volume (L)
Vo	0.50000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	ON-COL (ug/mL)	REVIEW CODE
1	HMX	6.641	6.678	-0.037	143	0.02500	0.0300(a)	
4	RDX	10.668	10.684	-0.016	92	0.02500	0.0248(a)	
5	1,3,5-trinitrobenzene	11.428	11.431	-0.003	222	0.02500	0.0207(a)	
$ 2	1,2-dinitrobenzene	13.455	13.478	-0.023	117	0.02500	0.0199(a)	
6	1,3-dinitrobenzene	14.288	14.304	-0.016	264	0.02500	0.0210(a)	
7	nitrobenzene	15.388	15.411	-0.023	142	0.02500	0.0197(a)	
10	2,4,6-trinitrotoluene	19.048	19.064	-0.016	135	0.02500	0.0161(aM)	M9
9	TETRYL	19.301	19.424	-0.123	98	0.02500	0.00888(aM)	M6
13	2,6-dinitrotoluene	22.468	22.538	-0.070	76	0.02500	0.0172(aM)	M9
14	2,4-dinitrotoluene	23.508	23.511	-0.003	136	0.02500	0.0155(aM)	M9
15	2-nitrotoluene	25.708	25.764	-0.056	63	0.02500	0.0199(aM)	M9
52	3,5-dinitroaniline	26.795	26.931	-0.136	109	0.02500	0.0182(aM)	M9
16	4-nitrotoluene	28.141	28.058	0.083	101	0.02500	0.0301(aM)	M9
17	3-nitrotoluene	30.075	30.111	-0.036	72	0.02500	0.0175(aM)	M9
11	4-AM-DNT	30.475	30.651	-0.176	63	0.02500	0.0117(aM)	M6
12	2-AM-DNT	32.328	32.464	-0.136	65	0.02500	0.0123(aM)	M9

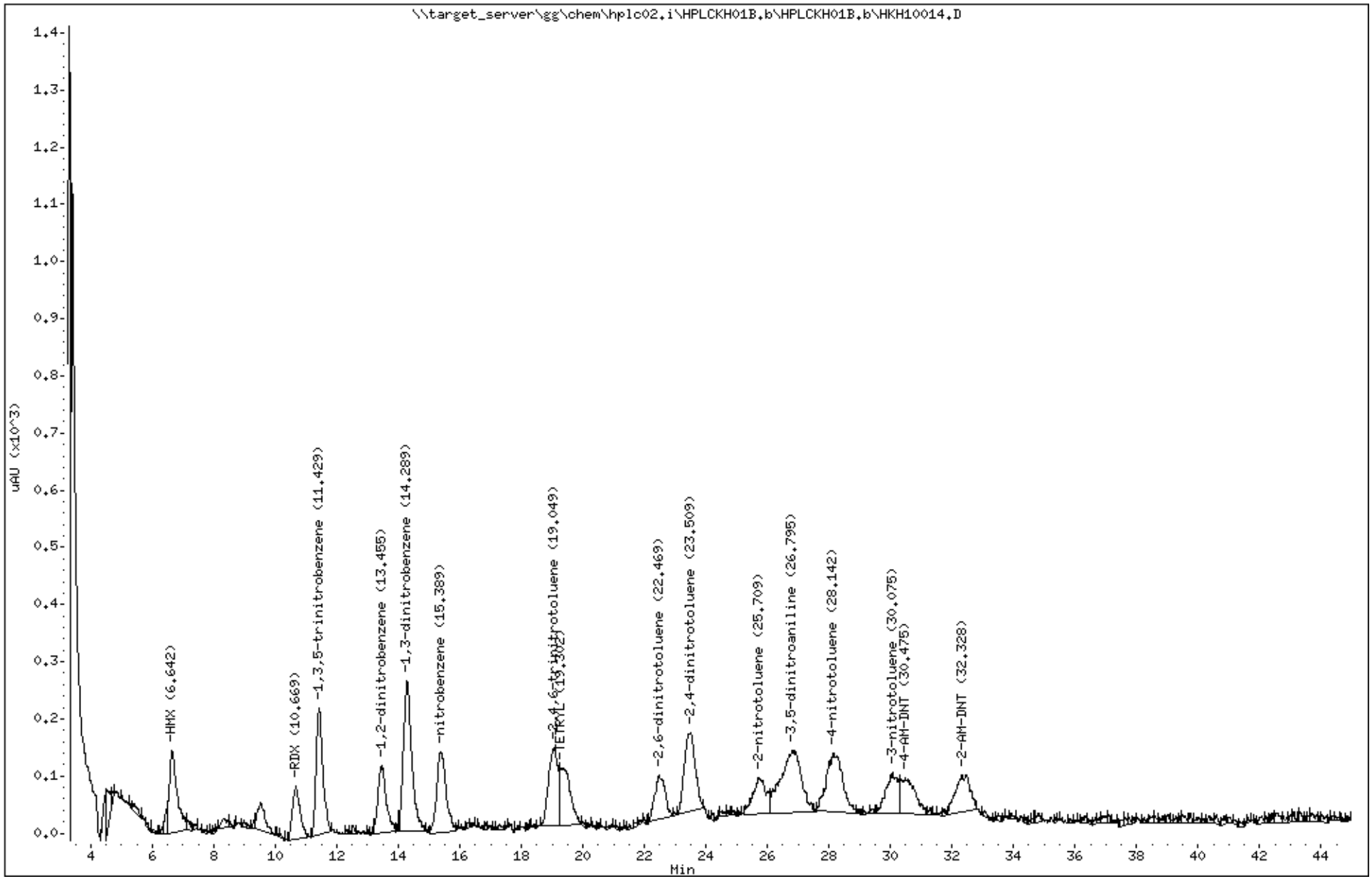


10:41 am, Aug 02, 2017

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.

Data File: \\target_server\gg\chem\hplc02.i\HPLCKH01B.b\HPLCKH01B.b\HKH10014.D
Date : 01-AUG-2017 14:33
Client ID:
Instrument: hplc02.i
Sample Info: WG210620-9
Purge Volume: 0.5
Operator: AAB
Column phase: Acclaim Exp E2
Column diameter: 4.60



Katahdin Analytical Services 2000186

Katahdin
ANALYTICAL SERVICES

Form 6
Initial Calibration Summary

Lab Name : Katahdin Analytical Services
SDG: SL4180
Project : Cornhusker Army Ammunition Plant
Instrument ID: HPLC02
Lab File IDs : HLC10037.D,HLC10036.D,HLC10035.D,HLC10034.D,HLC10033.D,HLC10032.D,HLC10031.D
Calibration Date(s): 20-MAR-18 14:54, 20-MAR-18 18:05

	0.025000(Level 1	0.050000(Level 2	0.100000(Level 3	0.250000(Level 4	0.500000(Level 5	1.0000 Level 6	2.0000 Level 7		New Crv	b	m1	%RSD	Max %RSD	
NITROGLYCERIN	5440	5685	5280	5392	5454	5917	5425		AVG		5513	3.90686	20.00000	O
PETN	3020	2970	2465	3064	2834	3010	2768		AVG		2876	7.31282	15.00000	O

Legend: O = Kept Original Curve
Y = Failed Minimum RF
W = Failed %RSD Value

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029

http://katahdinlab.com
sales@katahdinlab.com

Data File: \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HLC10038.D
Report Date: 26-Mar-2018 14:36

Katahdin Analytical Services

RECOVERY REPORT

Client Name: Client SDG: SDGa00508
Sample Matrix: LIQUID Fraction: Explosives
Lab Smp Id: WG225143-8
Level: LOW Operator: AC
Data Type: LC DATA SampleType: LCS
SpikeList File: IND.spk Quant Type: ESTD
Sublist File: ngpetnedgn.sub
Method File: \\target_server\gg\chem\hplc02.i\HPLCLC20.b\EXPB05A.m
Misc Info: WG225143,WG225143,WG225143-5,SL2295-1

SPIKE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
3 Ethylene Glycol Di	20.0	19.5	97.34	30-150
8 NITROGLYCERIN	20.0	18.5	92.69	80-120
18 PETN	20.0	19.6	97.78	80-120

Data File: \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HLC10038.D
Report Date: 26-Mar-2018 14:36

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HLC10038.D
Lab Smp Id: WG225143-8
Inj Date : 20-MAR-2018 18:37
Operator : AC Inst ID: hplc02.i
Smp Info : WG225143-8,SL2295
Misc Info : WG225143,WG225143,WG225143-5,SL2295-1
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLC20.b\EXPB05A.m
Meth Date : 21-Mar-2018 11:31 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 15 QC Sample: LCS
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetnedgn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*(Vt/Vo) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00500	Final Volume (L)
Vo	0.50000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

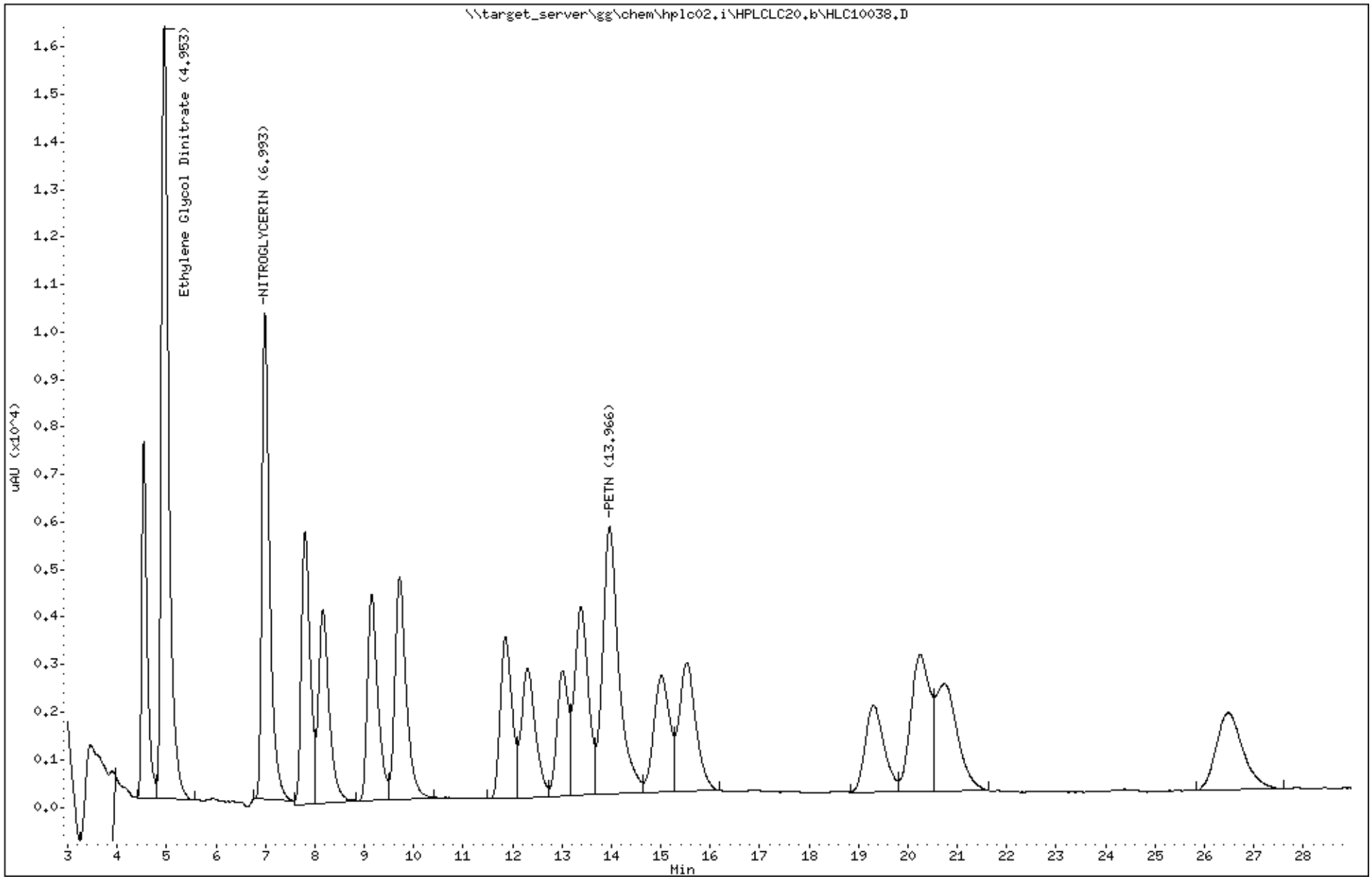
						CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/L)	
Compounds	RT	EXP RT	DLT RT	RESPONSE				
8 NITROGLYCERIN	6.992	6.997	-0.005	10220		1.85373	18.5(M)	M2
18 PETN	13.966	13.963	0.003	5624		1.95560	19.6	
3 Ethylene Glycol Dinitrate	4.952	4.957	-0.005	16261		1.94680	19.5	

QC Flag Legend

M - Compound response manually integrated.

2:37 pm, Mar 26, 2018

Data File: \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HLC10038.D
Date : 20-MAR-2018 18:37
Client ID:
Instrument: hplc02.i
Sample Info: WG225143-8,SL2295
Purge Volume: 0.5
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 2000190

Data File: \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HLC10031.D
Report Date: 26-Mar-2018 13:04

Katahdin Analytical Services

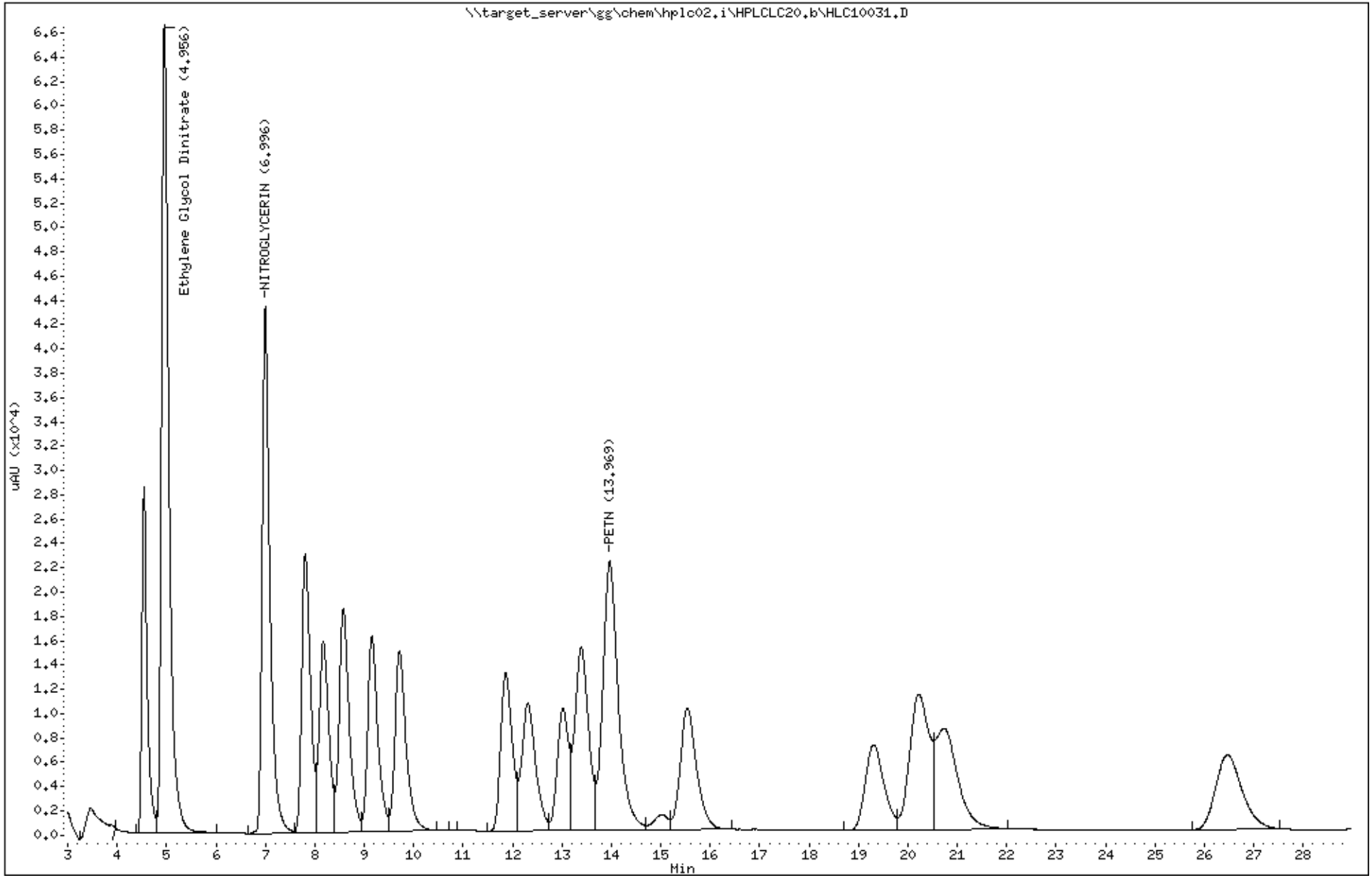
Data file : \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HLC10031.D
Lab Smp Id: WG225143-7
Inj Date : 20-MAR-2018 14:54
Operator : AC   Inst ID: hplc02.i
Smp Info : WG225143-7
Misc Info :
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCLC20.b\EXPB05A.m
Meth Date : 21-Mar-2018 11:31 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 14:54   Cal File: HLC10031.D
Als bottle: 8   Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: ngpetnedgn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*(Vt/Vo) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00500	Final Volume (L)
Vo	0.50000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

					AMOUNTS	
					CAL-AMT	ON-COL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/mL)	(ug/mL)
8 NITROGLYCERIN	6.995	6.997	-0.002	43399	8.00000	7.98
18 PETN	13.969	13.963	0.006	22141	8.00000	7.90
3 Ethylene Glycol Dinitrate	4.955	4.957	-0.002	66513	8.00000	8.00

Data File: \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HLC10031.D
Date : 20-MAR-2018 14:54
Client ID:
Instrument: hplc02.i
Sample Info: WG225143-7
Purge Volume: 0.5
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 2000192

Data File: \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HLC10032.D
Report Date: 26-Mar-2018 13:04

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HLC10032.D
Lab Smp Id: WG225143-6
Inj Date : 20-MAR-2018 15:26
Operator : AC   Inst ID: hplc02.i
Smp Info : WG225143-6
Misc Info :
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCLC20.b\EXPB05A.m
Meth Date : 21-Mar-2018 11:31 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 15:26   Cal File: HLC10032.D
Als bottle: 9   Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: ngpetnedgn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*(Vt/Vo) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00500	Final Volume (L)
Vo	0.50000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

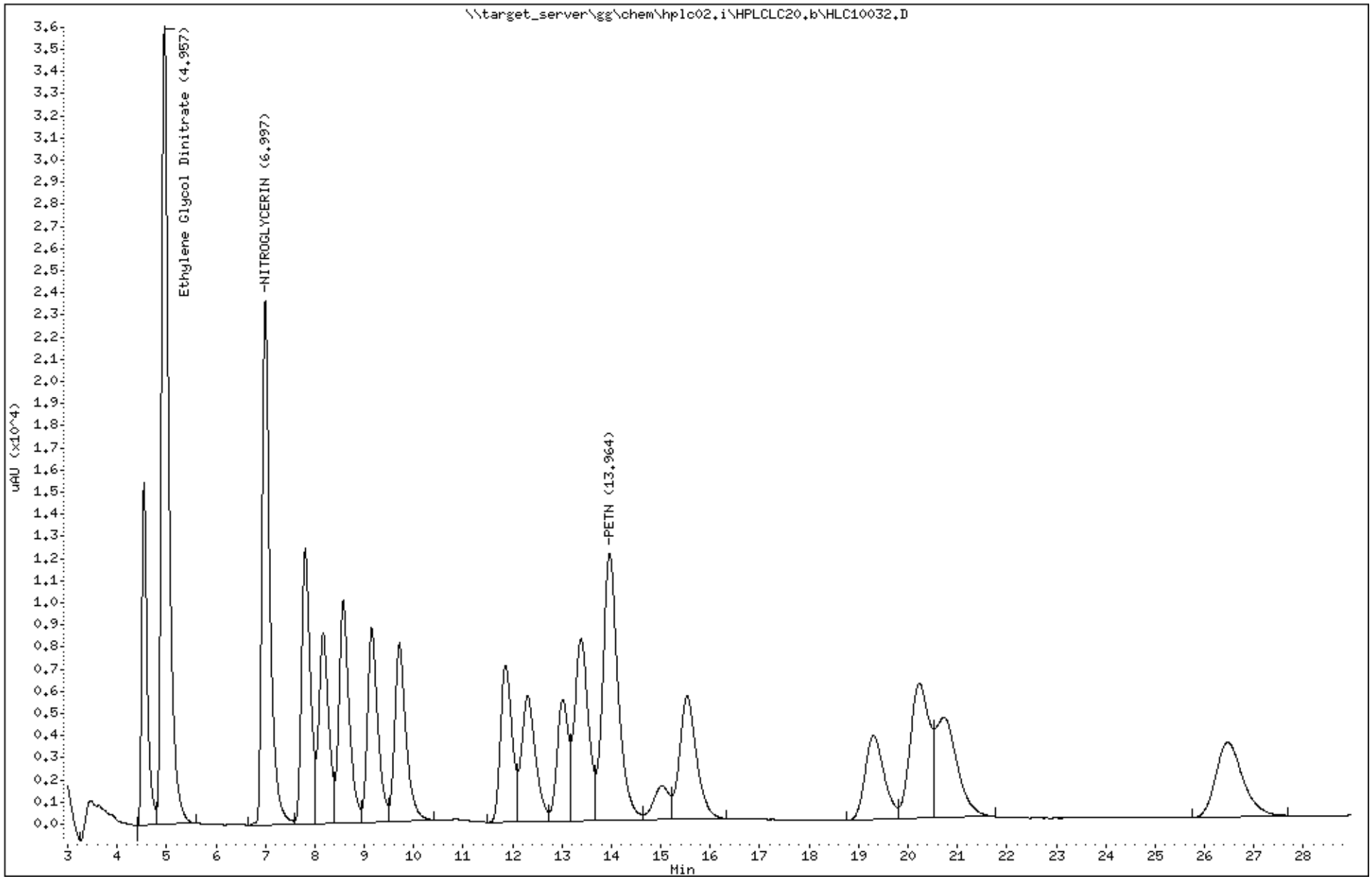
					AMOUNTS		
					CAL-AMT	ON-COL	
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/mL)	(ug/mL)	
8 NITROGLYCERIN	6.997	6.997	0.000	23668	4.00000	4.27	
18 PETN	13.963	13.963	0.000	12041	4.00000	4.43	
3 Ethylene Glycol Dinitrate	4.957	4.957	0.000	36056	4.00000	2.84(M)	M2

QC Flag Legend

M - Compound response manually integrated.

AAB
2:39 pm, Mar 26, 2018

Data File: \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HLC10032.D
Date : 20-MAR-2018 15:26
Client ID:
Instrument: hplc02.i
Sample Info: WG225143-6
Purge Volume: 0.5
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 2000194

Data File: \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HLC10033.D
Report Date: 26-Mar-2018 13:04

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HLC10033.D
Lab Smp Id: WG225143-5
Inj Date : 20-MAR-2018 15:58
Operator : AC   Inst ID: hplc02.i
Smp Info : WG225143-5
Misc Info :
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCLC20.b\EXPB05A.m
Meth Date : 21-Mar-2018 11:31 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 15:58   Cal File: HLC10033.D
Als bottle: 10   Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: ngpetnedgn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*(Vt/Vo) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00500	Final Volume (L)
Vo	0.50000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

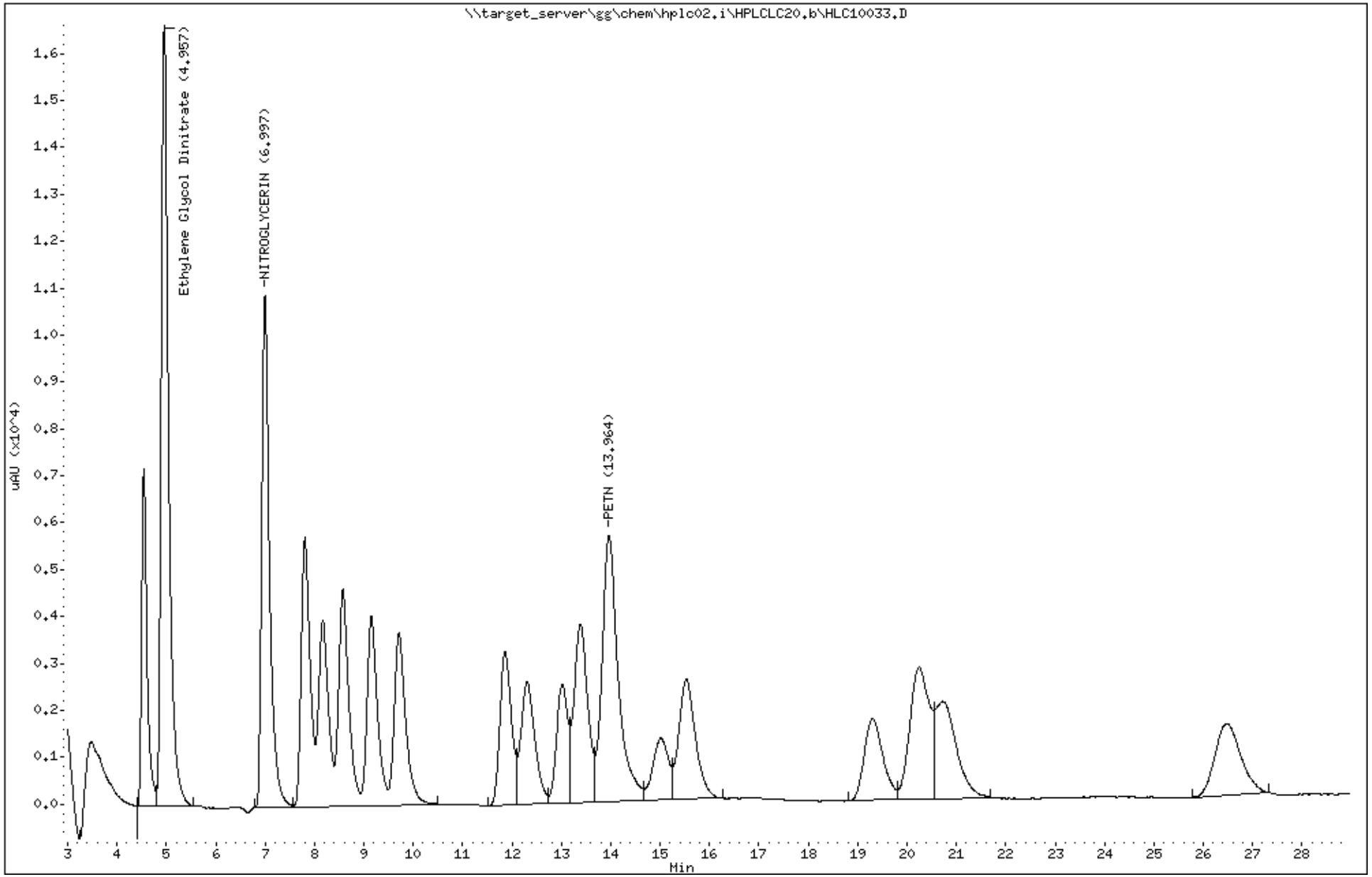
					AMOUNTS		
					CAL-AMT	ON-COL	
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/mL)	(ug/mL)	
8 NITROGLYCERIN	6.997	6.997	0.000	10907	2.00000	2.00(aM)	M2
18 PETN	13.963	13.963	0.000	5668	2.00000	2.00(a)	
3 Ethylene Glycol Dinitrate	4.957	4.957	0.000	16637	2.00000	2.00(aM)	

AB
2:42 pm, Mar 26, 2018

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.

Data File: \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HLC10033.D
Date : 20-MAR-2018 15:58
Client ID:
Instrument: hplc02.i
Sample Info: WG225143-5
Purge Volume: 0.5
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 2000196

Data File: \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HLC10034.D
Report Date: 26-Mar-2018 13:04

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HLC10034.D
Lab Smp Id: WG225143-4
Inj Date : 20-MAR-2018 16:30
Operator : AC   Inst ID: hplc02.i
Smp Info : WG225143-4
Misc Info :
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCLC20.b\EXPB05A.m
Meth Date : 21-Mar-2018 11:31 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 16:30   Cal File: HLC10034.D
Als bottle: 11   Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: ngpetnedgn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*(Vt/Vo) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00500	Final Volume (L)
Vo	0.50000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

						AMOUNTS		
						CAL-AMT	ON-COL	
Compounds		RT	EXP RT	DLT RT	RESPONSE	(ug/mL)	(ug/mL)	
8	NITROGLYCERIN	6.997	6.997	0.000	5392	1.00000	0.974(aM)	M2
18	PETN	13.977	13.963	0.014	3064	1.00000	1.13(a)	
3	Ethylene Glycol Dinitrate	4.950	4.957	-0.007	8157	1.00000	0.705(aM)	

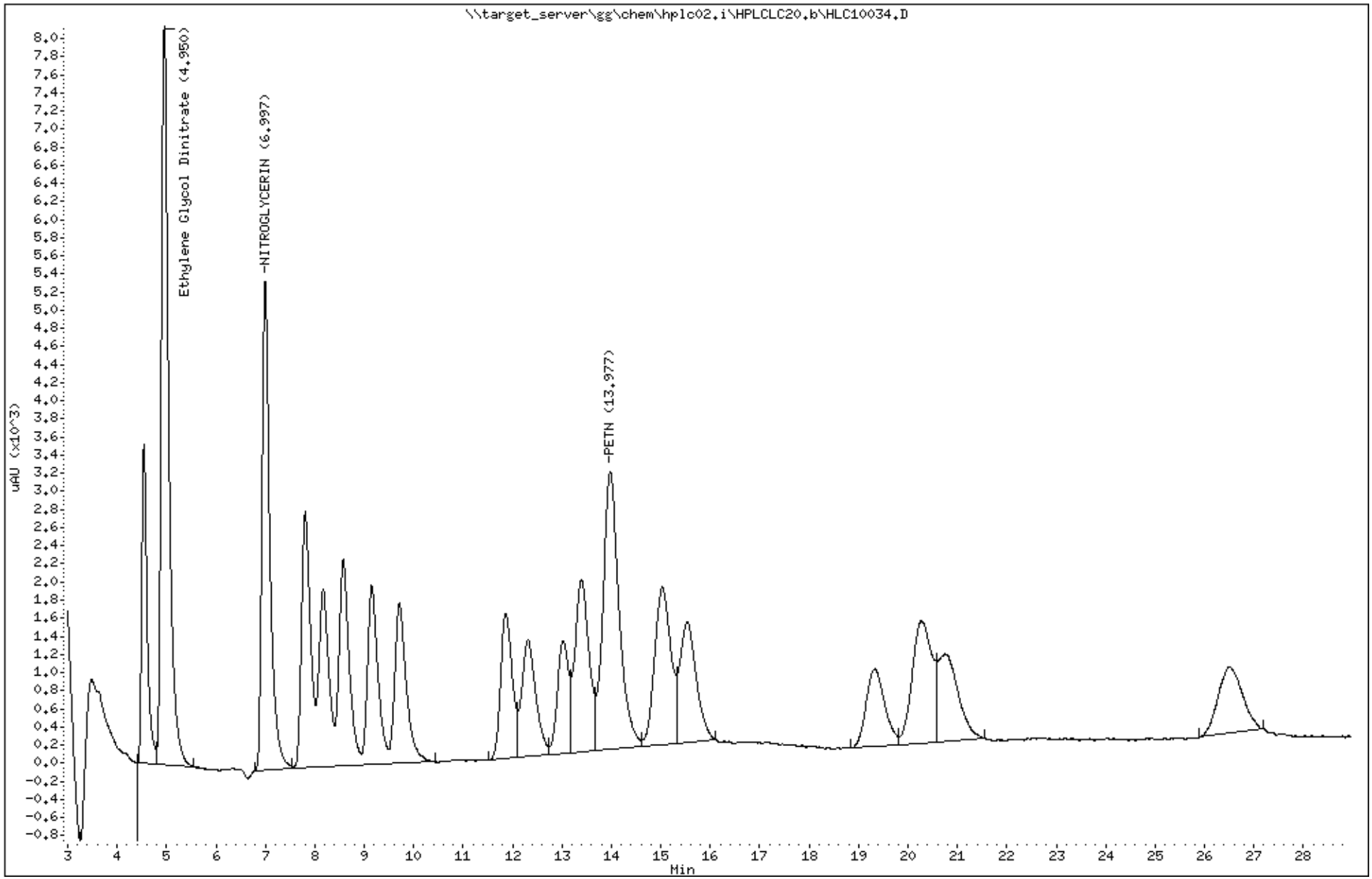


2:42 pm, Mar 26, 2018

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.

Data File: \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HLC10034.D
Date : 20-MAR-2018 16:30
Client ID:
Instrument: hplc02.i
Sample Info: WG225143-4
Purge Volume: 0.5
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 2000198

Data File: \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HLC10035.D
Report Date: 26-Mar-2018 13:04

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HLC10035.D
Lab Smp Id: WG225143-3
Inj Date : 20-MAR-2018 17:01
Operator : AC   Inst ID: hplc02.i
Smp Info : WG225143-3
Misc Info :
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCLC20.b\EXPB05A.m
Meth Date : 21-Mar-2018 11:31 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 17:01   Cal File: HLC10035.D
Als bottle: 12   Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: ngpetnedgn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*(Vt/Vo) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00500	Final Volume (L)
Vo	0.50000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

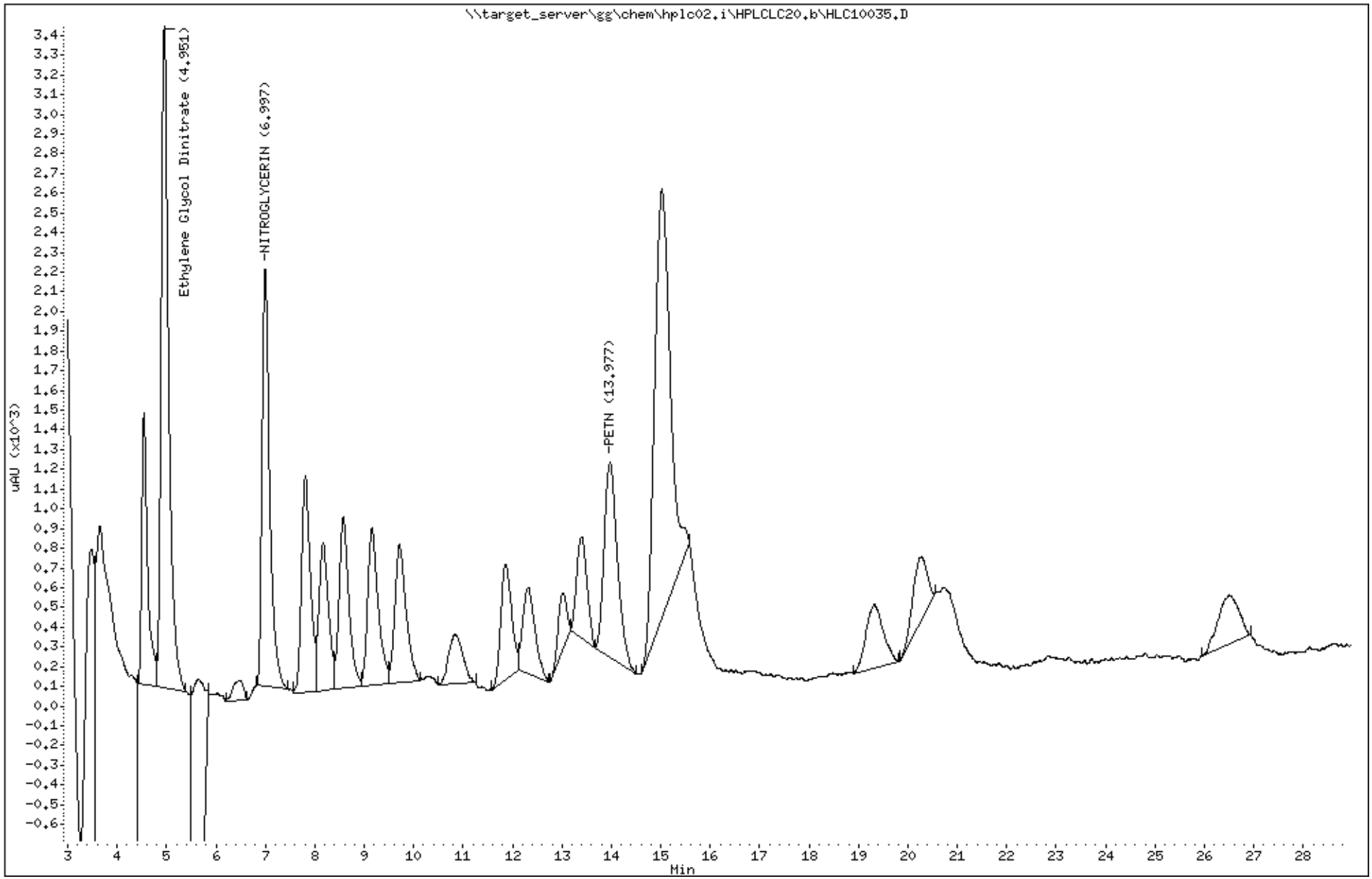
						AMOUNTS		
						CAL-AMT	ON-COL	
	Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/mL)	(ug/mL)	
8	NITROGLYCERIN	6.997	6.997	0.000	2112	0.40000	0.383(aM)	M2
18	PETN	13.977	13.963	0.014	986	0.40000	0.363(a)	
3	Ethylene Glycol Dinitrate	4.950	4.957	-0.007	3354	0.40000	0.402(aM)	

2:42 pm, Mar 26, 2018

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.

Data File: \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HLC10035.D
Date : 20-MAR-2018 17:01
Client ID:
Instrument: hplc02.i
Sample Info: WG225143-3
Purge Volume: 0.5
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 2000200

Data File: \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HLC10036.D
Report Date: 26-Mar-2018 13:04

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HLC10036.D
Lab Smp Id: WG225143-2
Inj Date : 20-MAR-2018 17:33
Operator : AC   Inst ID: hplc02.i
Smp Info : WG225143-2
Misc Info :
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCLC20.b\EXPB05A.m
Meth Date : 21-Mar-2018 11:31 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 17:33   Cal File: HLC10036.D
Als bottle: 13   Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: ngpetnedgn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*(Vt/Vo) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00500	Final Volume (L)
Vo	0.50000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

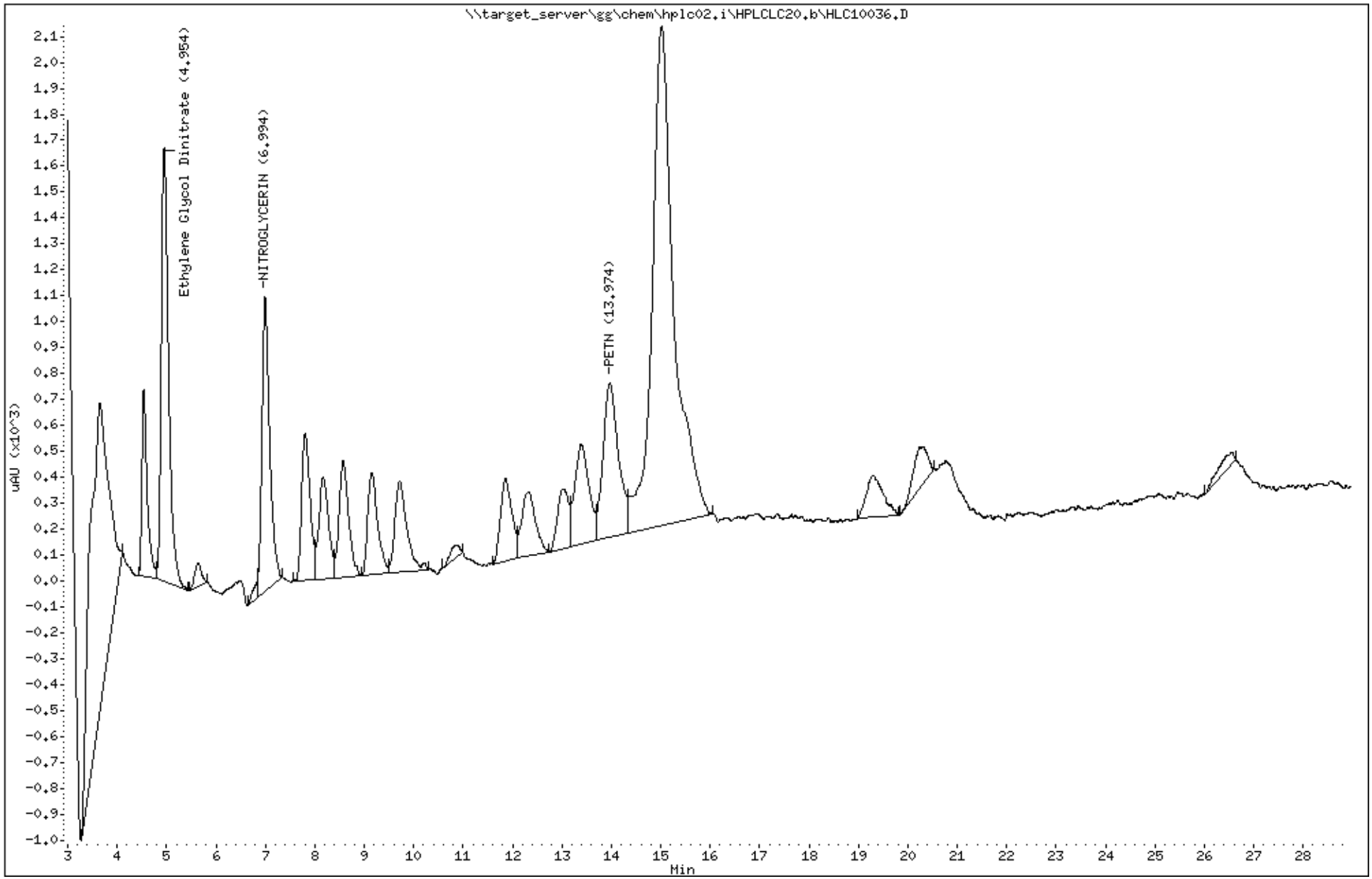
						AMOUNTS		
						CAL-AMT	ON-COL	
	Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/mL)	(ug/mL)	
8	NITROGLYCERIN	6.994	6.997	-0.003	1137	0.20000	0.206(aM)	M2
18	PETN	13.974	13.963	0.011	594	0.20000	0.218(a)	
3	Ethylene Glycol Dinitrate	4.954	4.957	-0.003	1670	0.20000	0.200(a)	

2:42 pm, Mar 26, 2018

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.

Data File: \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HLC10036.D
Date : 20-MAR-2018 17:33
Client ID:
Instrument: hplc02.i
Sample Info: WG225143-2
Purge Volume: 0.5
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 2000202

Data File: \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HLC10037.D
Report Date: 26-Mar-2018 13:04

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HLC10037.D
Lab Smp Id: WG225143-1
Inj Date : 20-MAR-2018 18:05
Operator : AC   Inst ID: hplc02.i
Smp Info : WG225143-1
Misc Info :
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCLC20.b\EXPB05A.m
Meth Date : 21-Mar-2018 11:31 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05   Cal File: HLC10037.D
Als bottle: 14   Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: ngpetnedgn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*(Vt/Vo) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00500	Final Volume (L)
Vo	0.50000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

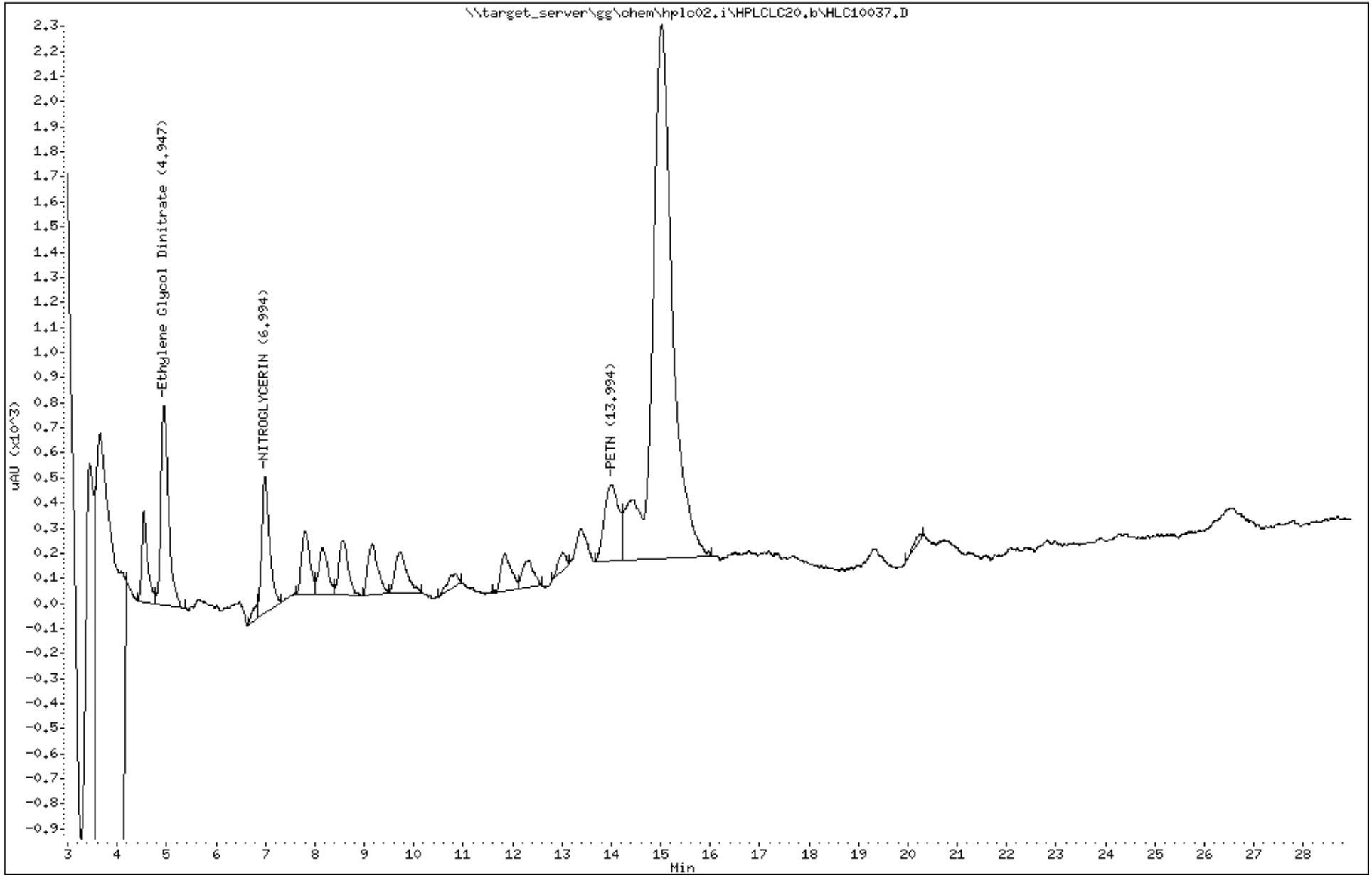
					AMOUNTS		
					CAL-AMT	ON-COL	
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/mL)	(ug/mL)	
8 NITROGLYCERIN	6.993	6.997	-0.004	544	0.10000	0.0987(aM)	M3
18 PETN	13.993	13.963	0.030	302	0.10000	0.105(aM)	
3 Ethylene Glycol Dinitrate	4.947	4.957	-0.010	793	0.10000	0.0949(a)	

2:43 pm, Mar 26, 2018

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.

Data File: \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HLC10037.D
Date : 20-MAR-2018 18:05
Client ID:
Instrument: hplc02.i
Sample Info: WG225143-1
Purge Volume: 0.5
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 2000204

Katahdin
ANALYTICAL SERVICES

Form 6
Initial Calibration Summary

Lab Name : Katahdin Analytical Services
SDG: SL4180
Project : Cornhusker Army Ammunition Plant
Instrument ID: HPLC02
Lab File IDs : HLC10037.D HLC10036.D HLC10035.D HLC10034.D HLC10033.D HLC10032.D HLC10031.D
Calibration Date(s): 20-MAR-18 14:54 20-MAR-18 18:05

	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 7		Crv				Max	
	0.025000(	0.050000(	0.100000(	0.250000(	0.500000(	1.0000	2.0000		New	b	m1	%RSD	%RSD	
HMX	5320	5440	5140	5296	5378	5810	5351		AVG		5391	3.83807	20.00000	O
RDX	75.00000	225	466	1287	2694	5888	10895		LNR	0.00587	5552	0.99828	0.99000	O
1,3,5-trinitrobenzene	3240	3680	3770	3628	3744	4074	3686		AVG		3689	6.66990	20.00000	O
1,3-dinitrobenzene	6680	7280	7410	7508	7512	8198	7518		AVG		7444	5.99405	20.00000	O
TETRYL	2240	2660	2530	2424	2550	2797	2541		AVG		2535	6.90733	20.00000	O
nitrobenzene	6760	6820	6610	6736	6892	7418	6831		AVG		6867	3.77157	20.00000	O
2,4,6-trinitrotoluene	2600	2520	2510	2460	2478	2672	2445		AVG		2526	3.24744	20.00000	O
2-AM-DNT	5360	5700	5640	5720	5838	6280	5787		AVG		5761	4.78978	20.00000	O
4-AM-DNT	4200	4040	4240	4260	4366	4695	4318		AVG		4303	4.68155	20.00000	O
2,6-dinitrotoluene	101	175	345	733	1390	3147	5661		LNR	-0.01275	2869	0.99714	0.99000	O
2,4-dinitrotoluene	4280	4700	4560	4552	4620	5008	4610		AVG		4619	4.68458	20.00000	O
2-nitrotoluene	2520	2760	2900	2944	2952	3214	2937		AVG		2890	7.31192	20.00000	O
3-nitrotoluene	3360	3180	3390	3404	3136	3585	3225		AVG		3326	4.69272	20.00000	O
4-nitrotoluene	2280	1980	2350	2484	2298	2635	2370		AVG		2342	8.60342	20.00000	O
1,2-dinitrobenzene	4680	4500	4480	4532	4640	4978	4582		AVG		4627	3.69030	20.00000	

Legend: O = Kept Original Curve
Y = Failed Minimum RF
W = Failed %RSD Value

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029

http://katahdinlab.com
sales@katahdinlab.com

Data File: HLC10038.D
Report Date: 26-Mar-2018 14:36

Katahdin Analytical Services

RECOVERY REPORT

Client Name: Client SDG: SDGa00508
Sample Matrix: LIQUID Fraction: Explosives
Lab Smp Id: WG225143-8
Level: LOW Operator: AC
Data Type: LC DATA SampleType: LCS
SpikeList File: IND.spk Quant Type: ESTD
Sublist File: SW8330A.sub
Method File: \\target_server\gg\chem\hplc02.i\HPLCLC20.b\EXPB05A.m\EXPB05A.m
Misc Info: WG225143,WG225143,WG225143-5,SL2295-1

SPIKE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
1 HMX	5.00	5.25	104.96	80-120
4 RDX	5.00	5.14	102.73	80-120
5 1,3,5-trinitrobenz	5.00	5.21	104.21	80-120
6 1,3-dinitrobenzene	5.00	5.16	103.31	80-120
7 nitrobenzene	5.00	5.09	101.80	80-120
9 TETRYL	5.00	5.52	110.47	80-120
10 2,4,6-trinitrotolu	5.00	5.09	101.89	80-120
11 4-AM-DNT	5.00	5.41	108.21	80-120
12 2-AM-DNT	5.00	5.19	103.77	80-120
13 2,6-dinitrotoluene	5.00	4.91	98.26	80-120
14 2,4-dinitrotoluene	5.00	5.23	104.54	80-120
15 2-nitrotoluene	5.00	5.27	105.48	80-120
16 4-nitrotoluene	5.00	5.12	102.37	80-120
17 3-nitrotoluene	5.00	4.93	98.57	80-120
51 3,5-Dinitroaniline	5.00	4.94	98.91	80-120

SURROGATE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
$ 2 1,2-dinitrobenzene	10.0	0.000	*	83-119

Data File: HLC10038.D
Report Date: 26-Mar-2018 14:36

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HPLCLC20.b\HLC10038.D
Lab Smp Id: WG225143-8
Inj Date : 20-MAR-2018 18:37
Operator : AC Inst ID: hplc02.i
Smp Info : WG225143-8,SL2295
Misc Info : WG225143,WG225143,WG225143-5,SL2295-1
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLC20.b\EXPB05A.m\EXPB05A.m
Meth Date : 22-Mar-2018 05:09 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 15 QC Sample: LCS
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12

Concentration Formula: Amt * DF * 1000*(Vt/Vo) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00500	Final Volume (L)
Vo	0.50000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

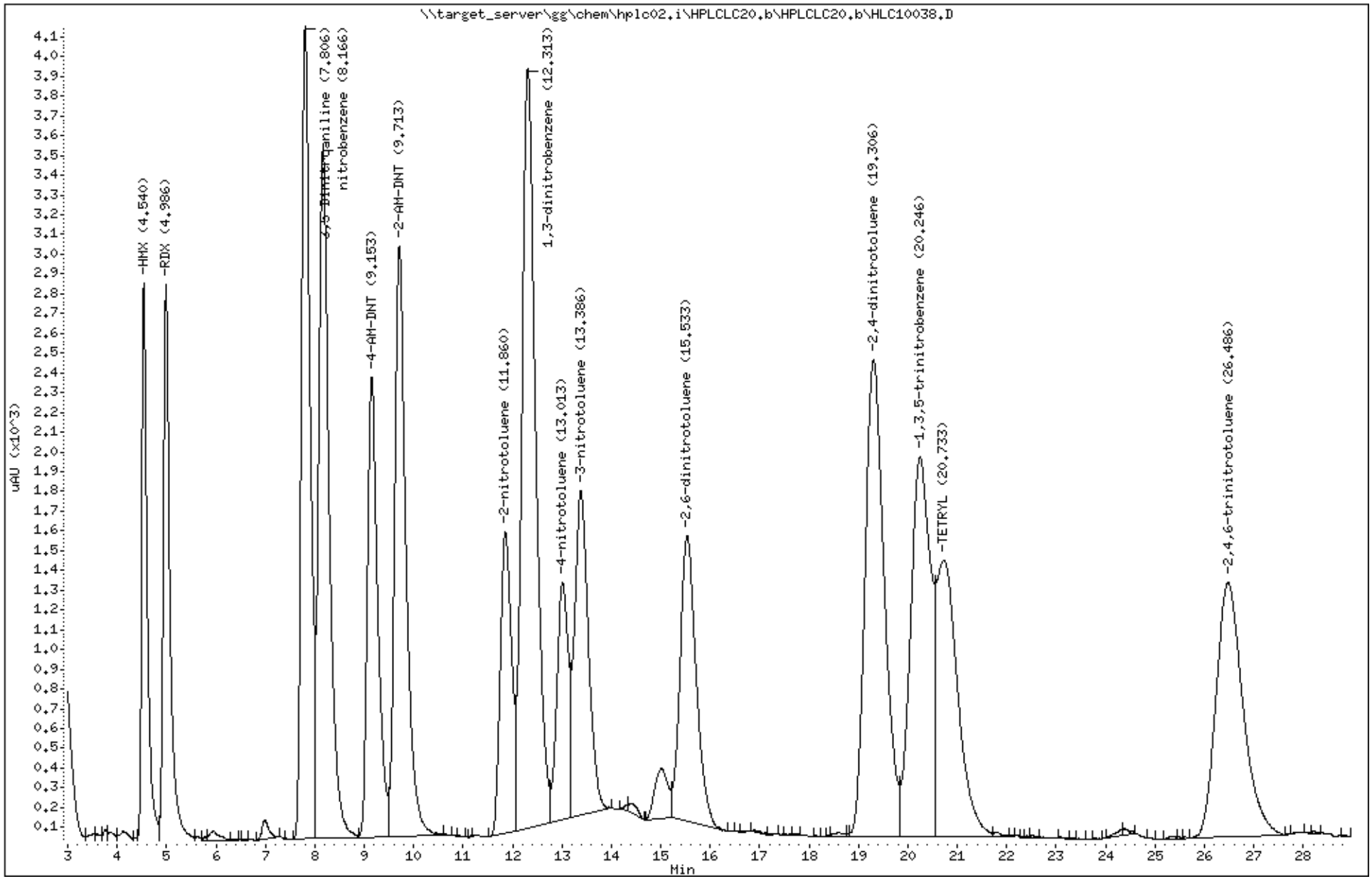
	Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/L)	REVIEW CODE
1	HMX	4.539	4.542	-0.003	2829	0.52480	5.25(M)	M5
4	RDX	4.986	4.989	-0.003	2819	0.51364	5.14(M)	
51	3,5-Dinitroaniline	7.806	7.809	-0.003	4113	0.49457	4.94	
7	nitrobenzene	8.166	8.175	-0.009	3495	0.50898	5.09	
11	4-AM-DNT	9.152	9.155	-0.003	2328	0.54105	5.41	
12	2-AM-DNT	9.712	9.715	-0.003	2989	0.51886	5.19	
15	2-nitrotoluene	11.859	11.862	-0.003	1524	0.52741	5.27	
6	1,3-dinitrobenzene	12.312	12.315	-0.003	3845	0.51654	5.16	
16	4-nitrotoluene	13.012	13.022	-0.010	1199	0.51186	5.12	
17	3-nitrotoluene	13.386	13.389	-0.003	1639	0.49284	4.93	
13	2,6-dinitrotoluene	15.532	15.542	-0.010	1446	0.49132	4.91	
14	2,4-dinitrotoluene	19.306	19.309	-0.003	2414	0.52268	5.23	
5	1,3,5-trinitrobenzene	20.246	20.222	0.024	1922	0.52103	5.21	
9	TETRYL	20.732	20.722	0.010	1400	0.55236	5.52	
10	2,4,6-trinitrotoluene	26.486	26.469	0.017	1287	0.50943	5.09	

AAB
2:37 pm, Mar 26, 2018

QC Flag Legend

M - Compound response manually integrated.

Data File: \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HPLCLC20.b\HLC10038.D
Date : 20-MAR-2018 18:37
Client ID:
Instrument: hplc02.i
Sample Info: WG225143-8,SL2295
Purge Volume: 0.5
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 2000208

Data File: HLC10031.D
Report Date: 26-Mar-2018 13:10

Katahdin Analytical Services

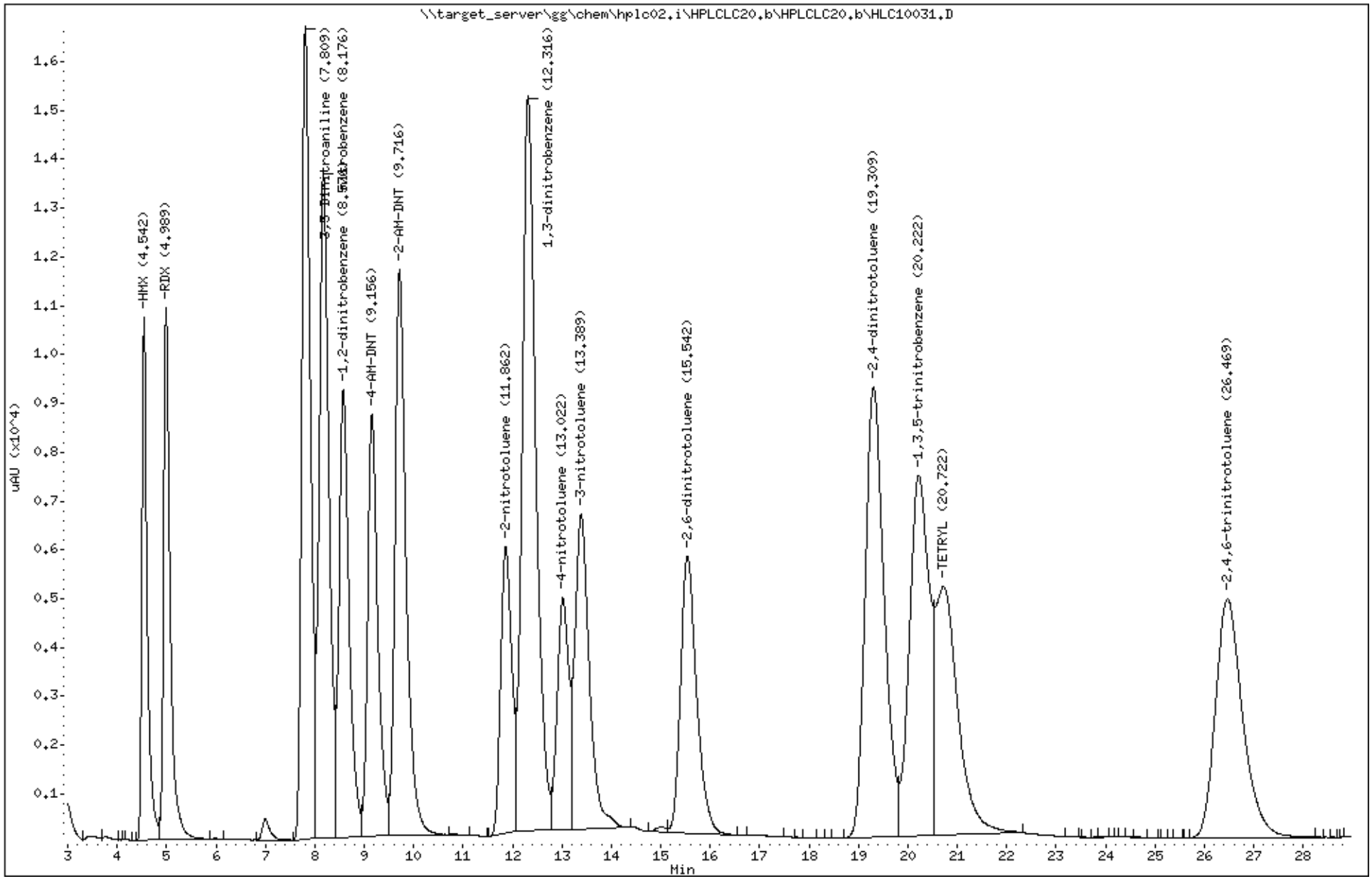
Data file : \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HPLCLC20.b\HLC10031.D
Lab Smp Id: WG225143-7
Inj Date : 20-MAR-2018 14:54
Operator : AC   Inst ID: hplc02.i
Smp Info : WG225143-7
Misc Info :
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCLC20.b\EXPB05A.m\EXPB05A.m
Meth Date : 22-Mar-2018 05:09 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 14:54   Cal File: HLC10031.D
Als bottle: 8   Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: T8-D4700

Concentration Formula: Amt * DF * 1000*(Vt/Vo) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00500	Final Volume (L)
Vo	0.50000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)	REVIEW CODE
1	HMX	4.542	4.542	0.000	10701	2.00000	2.00	
4	RDX	4.989	4.989	0.000	10895	2.00000	2.00	
51	3,5-Dinitroaniline	7.809	7.809	0.000	16640	2.00000	2.00	
7	nitrobenzene	8.175	8.175	0.000	13661	2.00000	2.00	
$ 2	1,2-dinitrobenzene	8.575	8.575	0.000	9164	2.00000	2.00	
11	4-AM-DNT	9.155	9.155	0.000	8636	2.00000	2.00	
12	2-AM-DNT	9.715	9.715	0.000	11574	2.00000	2.00	
15	2-nitrotoluene	11.862	11.862	0.000	5874	2.00000	2.00	
6	1,3-dinitrobenzene	12.315	12.315	0.000	15036	2.00000	2.00	
16	4-nitrotoluene	13.022	13.022	0.000	4740	2.00000	2.00	
17	3-nitrotoluene	13.389	13.389	0.000	6449	2.00000	2.00	
13	2,6-dinitrotoluene	15.542	15.542	0.000	5661	2.00000	2.00	
14	2,4-dinitrotoluene	19.309	19.309	0.000	9219	2.00000	2.00	
5	1,3,5-trinitrobenzene	20.222	20.222	0.000	7372	2.00000	2.00	
9	TETRYL	20.722	20.722	0.000	5082	2.00000	2.00	
10	2,4,6-trinitrotoluene	26.469	26.469	0.000	4889	2.00000	2.00	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HPLCLC20.b\HLC10031.D
Date : 20-MAR-2018 14:54
Client ID:
Instrument: hplc02.i
Sample Info: WG225143-7
Purge Volume: 0.5
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 2000210

Data File: HLC10032.D
Report Date: 26-Mar-2018 13:10

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HPLCLC20.b\HLC10032.D
Lab Smp Id: WG225143-6
Inj Date : 20-MAR-2018 15:26
Operator : AC   Inst ID: hplc02.i
Smp Info : WG225143-6
Misc Info :
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCLC20.b\EXPB05A.m\EXPB05A.m
Meth Date : 22-Mar-2018 05:09 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 15:26   Cal File: HLC10032.D
Als bottle: 9   Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: T8-D4700

Concentration Formula: Amt * DF * 1000*(Vt/Vo) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00500	Final Volume (L)
Vo	0.50000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

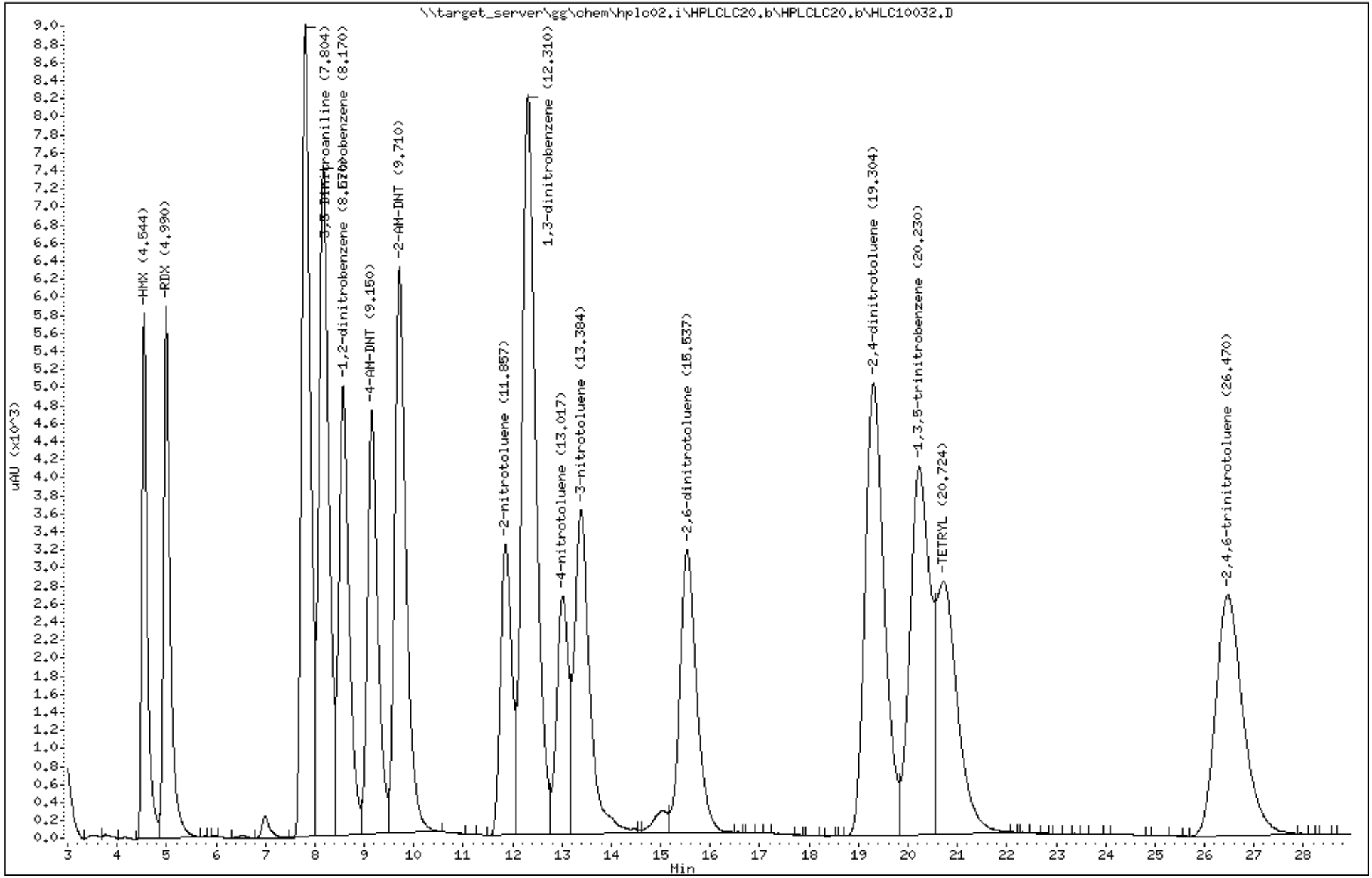
	Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)	REVIEW CODE
1	HMX	4.543	4.542	0.001	5810	1.00000	1.08(M)	M5
4	RDX	4.990	4.989	0.001	5888	1.00000	1.21(M)	
51	3,5-Dinitroaniline	7.803	7.809	-0.006	8996	1.00000	1.08	
7	nitrobenzene	8.170	8.175	-0.005	7418	1.00000	1.08	
$ 2	1,2-dinitrobenzene	8.570	8.575	-0.005	4978	1.00000	1.08	
11	4-AM-DNT	9.150	9.155	-0.005	4695	1.00000	1.09	
12	2-AM-DNT	9.710	9.715	-0.005	6280	1.00000	1.09	
15	2-nitrotoluene	11.857	11.862	-0.005	3214	1.00000	1.11	
6	1,3-dinitrobenzene	12.310	12.315	-0.005	8198	1.00000	1.11	
16	4-nitrotoluene	13.017	13.022	-0.005	2635	1.00000	1.19	
17	3-nitrotoluene	13.383	13.389	-0.006	3585	1.00000	1.13	
13	2,6-dinitrotoluene	15.537	15.542	-0.005	3147	1.00000	1.06	
14	2,4-dinitrotoluene	19.303	19.309	-0.006	5008	1.00000	1.09	
5	1,3,5-trinitrobenzene	20.230	20.222	0.008	4074	1.00000	1.35	
9	TETRYL	20.723	20.722	0.001	2797	1.00000	1.42	
10	2,4,6-trinitrotoluene	26.470	26.469	0.001	2672	1.00000	1.17	

2:43 pm, Mar 26, 2018

QC Flag Legend

M - Compound response manually integrated.

Data File: \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HPLCLC20.b\HLC10032.D
Date : 20-MAR-2018 15:26
Client ID:
Instrument: hplc02.i
Sample Info: WG225143-6
Purge Volume: 0.5
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 2000212

Data File: HLC10033.D
Report Date: 26-Mar-2018 13:10

Katahdin Analytical Services

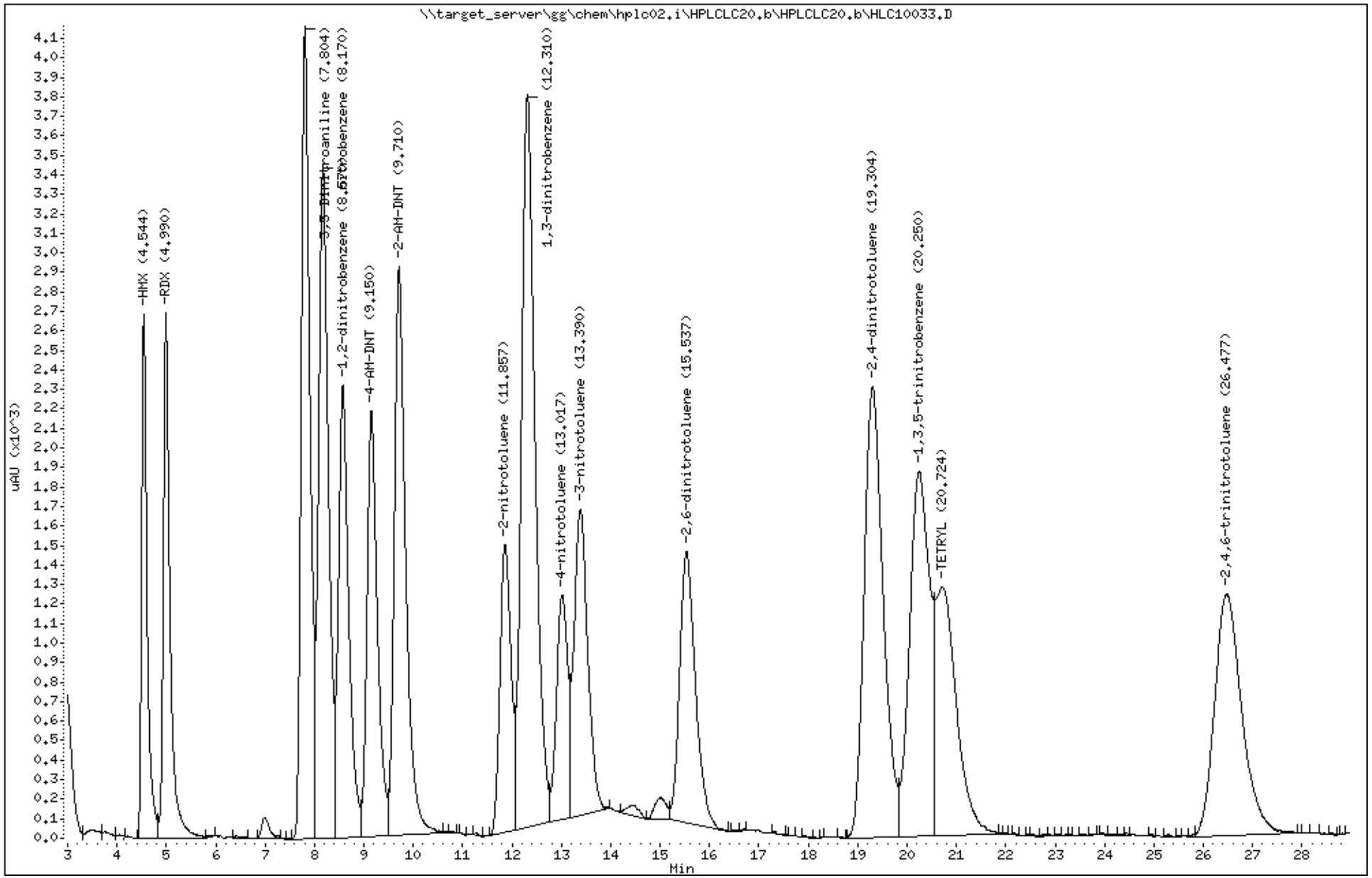
Data file : \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HPLCLC20.b\HLC10033.D
Lab Smp Id: WG225143-5
Inj Date : 20-MAR-2018 15:58
Operator : AC   Inst ID: hplc02.i
Smp Info : WG225143-5
Misc Info :
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCLC20.b\EXPB05A.m\EXPB05A.m
Meth Date : 22-Mar-2018 05:09 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 15:58   Cal File: HLC10033.D
Als bottle: 10   Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: T8-D4700

Concentration Formula: Amt * DF * 1000*(Vt/Vo) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00500	Final Volume (L)
Vo	0.50000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)	REVIEW CODE
1	HMX	4.543	4.542	0.001	2689	0.50000	0.478	
4	RDX	4.990	4.989	0.001	2694	0.50000	0.477	
51	3,5-Dinitroaniline	7.803	7.809	-0.006	4166	0.50000	0.487	
7	nitrobenzene	8.170	8.175	-0.005	3446	0.50000	0.489	
$ 2	1,2-dinitrobenzene	8.570	8.575	-0.005	2320	0.50000	0.490	
11	4-AM-DNT	9.150	9.155	-0.005	2183	0.50000	0.489	
12	2-AM-DNT	9.710	9.715	-0.005	2919	0.50000	0.489	
15	2-nitrotoluene	11.857	11.862	-0.005	1476	0.50000	0.486	
6	1,3-dinitrobenzene	12.310	12.315	-0.005	3756	0.50000	0.485	
16	4-nitrotoluene	13.017	13.022	-0.005	1149	0.50000	0.472	
17	3-nitrotoluene	13.390	13.389	0.001	1568	0.50000	0.473	
13	2,6-dinitrotoluene	15.537	15.542	-0.005	1390	0.50000	0.476	
14	2,4-dinitrotoluene	19.303	19.309	-0.006	2310	0.50000	0.487	
5	1,3,5-trinitrobenzene	20.250	20.222	0.028	1872	0.50000	0.488	
9	TETRYL	20.723	20.722	0.001	1275	0.50000	0.485	
10	2,4,6-trinitrotoluene	26.477	26.469	0.008	1239	0.50000	0.489	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HPLCLC20.b\HLC10033.D
Date : 20-MAR-2018 15:58
Client ID:
Instrument: hplc02.i
Sample Info: WG225143-5
Purge Volume: 0.5
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 2000214

Data File: HLC10034.D
Report Date: 26-Mar-2018 13:10

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HPLCLC20.b\HLC10034.D
Lab Smp Id: WG225143-4
Inj Date : 20-MAR-2018 16:30
Operator : AC   Inst ID: hplc02.i
Smp Info : WG225143-4
Misc Info :
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCLC20.b\EXPB05A.m\EXPB05A.m
Meth Date : 22-Mar-2018 05:09 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 16:30   Cal File: HLC10034.D
Als bottle: 11   Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: T8-D4700

Concentration Formula: Amt * DF * 1000*(Vt/Vo) * CpndVariable

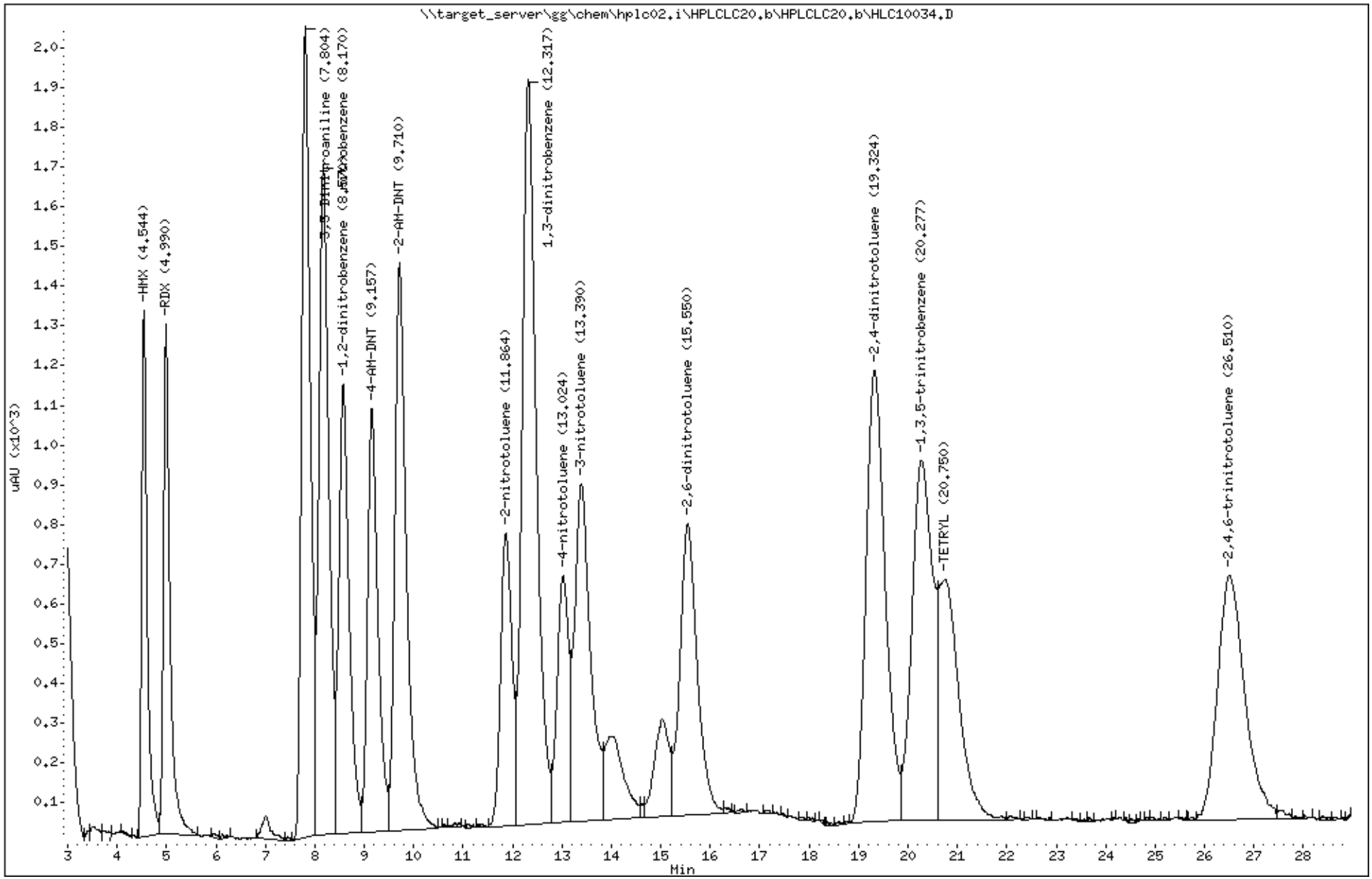
Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00500	Final Volume (L)
Vo	0.50000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)	REVIEW CODE
1	HMX	4.543	4.542	0.001	1324	0.25000	0.239(a)	
4	RDX	4.990	4.989	0.001	1287	0.25000	0.233(a)	
51	3,5-Dinitroaniline	7.803	7.809	-0.006	2044	0.25000	0.242(a)	
7	nitrobenzene	8.170	8.175	-0.005	1684	0.25000	0.242(a)	
$ 2	1,2-dinitrobenzene	8.570	8.575	-0.005	1133	0.25000	0.242(a)	
11	4-AM-DNT	9.157	9.155	0.002	1065	0.25000	0.242(a)	
12	2-AM-DNT	9.710	9.715	-0.005	1430	0.25000	0.242(a)	
15	2-nitrotoluene	11.863	11.862	0.001	736	0.25000	0.244(a)	
6	1,3-dinitrobenzene	12.317	12.315	0.002	1877	0.25000	0.244(a)	
16	4-nitrotoluene	13.023	13.022	0.001	621	0.25000	0.254	
17	3-nitrotoluene	13.390	13.389	0.001	851	0.25000	0.255	
13	2,6-dinitrotoluene	15.550	15.542	0.008	733	0.25000	0.251	
14	2,4-dinitrotoluene	19.323	19.309	0.014	1138	0.25000	0.242(a)	
5	1,3,5-trinitrobenzene	20.277	20.222	0.055	907	0.25000	0.240(a)	
9	TETRYL	20.750	20.722	0.028	606	0.25000	0.235(a)	
10	2,4,6-trinitrotoluene	26.510	26.469	0.041	615	0.25000	0.245(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).

Data File: \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HPLCLC20.b\HLC10034.D
Date : 20-MAR-2018 16:30
Client ID:
Instrument: hplc02.i
Sample Info: WG225143-4
Purge Volume: 0.5
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 2000216

Data File: HLC10035.D
Report Date: 26-Mar-2018 13:10

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HPLCLC20.b\HLC10035.D
Lab Smp Id: WG225143-3
Inj Date : 20-MAR-2018 17:01
Operator : AC   Inst ID: hplc02.i
Smp Info : WG225143-3
Misc Info :
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCLC20.b\EXPB05A.m\EXPB05A.m
Meth Date : 22-Mar-2018 05:09 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 17:01   Cal File: HLC10035.D
Als bottle: 12   Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: T8-D4700

Concentration Formula: Amt * DF * 1000*(Vt/Vo) * CpndVariable

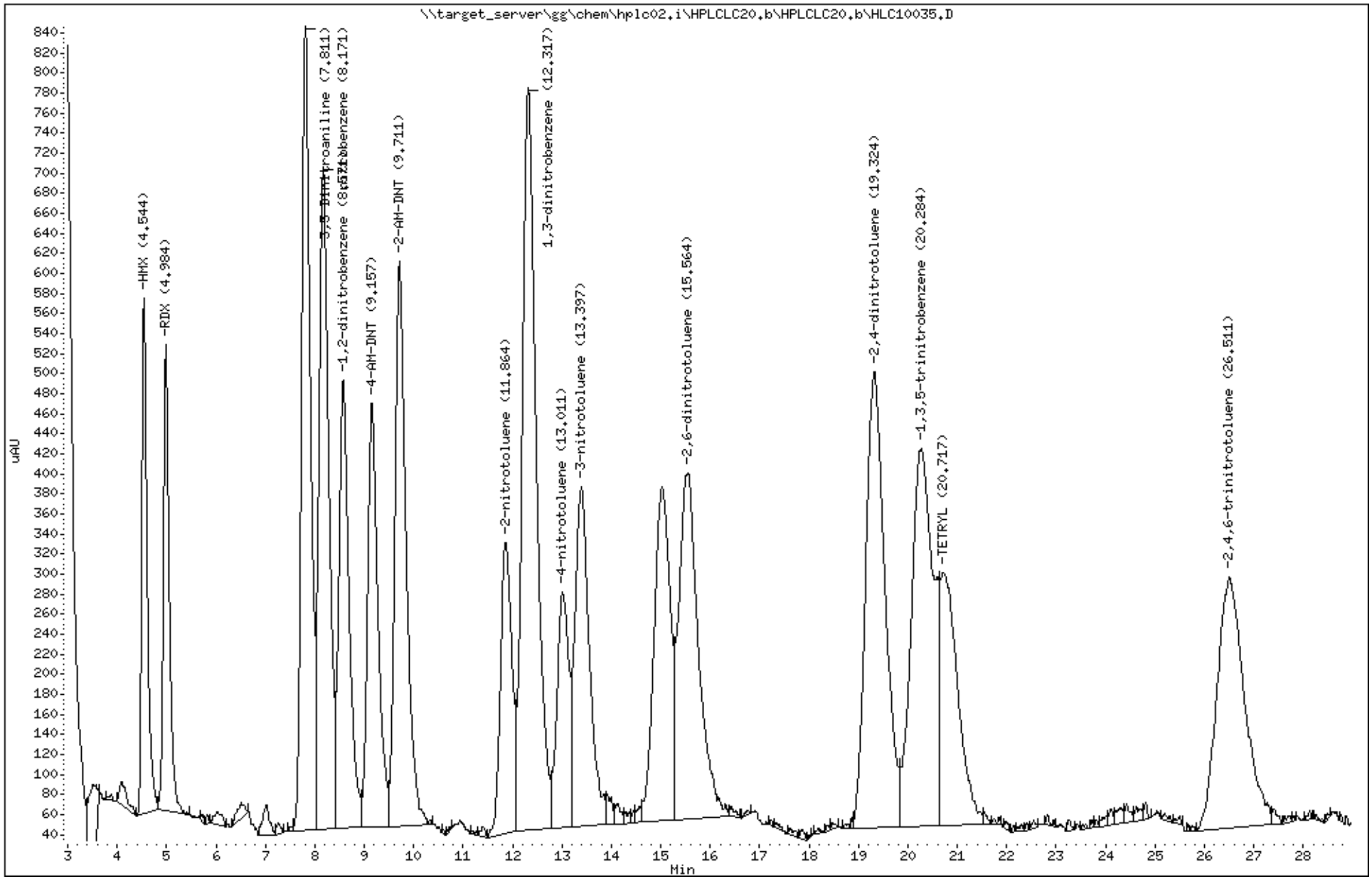
Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00500	Final Volume (L)
Vo	0.50000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)	REVIEW CODE
1	HMX	4.544	4.542	0.002	514	0.10000	0.0940(a)	
4	RDX	4.984	4.989	-0.005	466	0.10000	0.0870(a)	
51	3,5-Dinitroaniline	7.810	7.809	0.001	803	0.10000	0.0959(a)	
7	nitrobenzene	8.170	8.175	-0.005	661	0.10000	0.0958(a)	
$ 2	1,2-dinitrobenzene	8.570	8.575	-0.005	448	0.10000	0.0965(a)	
11	4-AM-DNT	9.157	9.155	0.002	424	0.10000	0.0969(a)	
12	2-AM-DNT	9.710	9.715	-0.005	564	0.10000	0.0964(a)	
15	2-nitrotoluene	11.864	11.862	0.002	290	0.10000	0.0970(a)	
6	1,3-dinitrobenzene	12.317	12.315	0.002	741	0.10000	0.0971(a)	
16	4-nitrotoluene	13.010	13.022	-0.012	235	0.10000	0.0968(a)	
17	3-nitrotoluene	13.397	13.389	0.008	339	0.10000	0.101(a)	
13	2,6-dinitrotoluene	15.564	15.542	0.022	345	0.10000	0.114(a)	
14	2,4-dinitrotoluene	19.324	19.309	0.015	456	0.10000	0.0976(a)	
5	1,3,5-trinitrobenzene	20.284	20.222	0.062	377	0.10000	0.0997(a)	
9	TETRYL	20.717	20.722	-0.005	253	0.10000	0.0985(a)	
10	2,4,6-trinitrotoluene	26.510	26.469	0.041	251	0.10000	0.0999(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).

Data File: \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HPLCLC20.b\HLC10035.D
Date : 20-MAR-2018 17:01
Client ID:
Instrument: hplc02.i
Sample Info: WG225143-3
Purge Volume: 0.5
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 2000218

Data File: HLC10036.D
Report Date: 26-Mar-2018 13:10

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HPLCLC20.b\HLC10036.D
Lab Smp Id: WG225143-2
Inj Date : 20-MAR-2018 17:33
Operator : AC   Inst ID: hplc02.i
Smp Info : WG225143-2
Misc Info :
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCLC20.b\EXPB05A.m\EXPB05A.m
Meth Date : 22-Mar-2018 05:09 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 17:33   Cal File: HLC10036.D
Als bottle: 13   Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: T8-D4700

Concentration Formula: Amt * DF * 1000*(Vt/Vo) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00500	Final Volume (L)
Vo	0.50000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

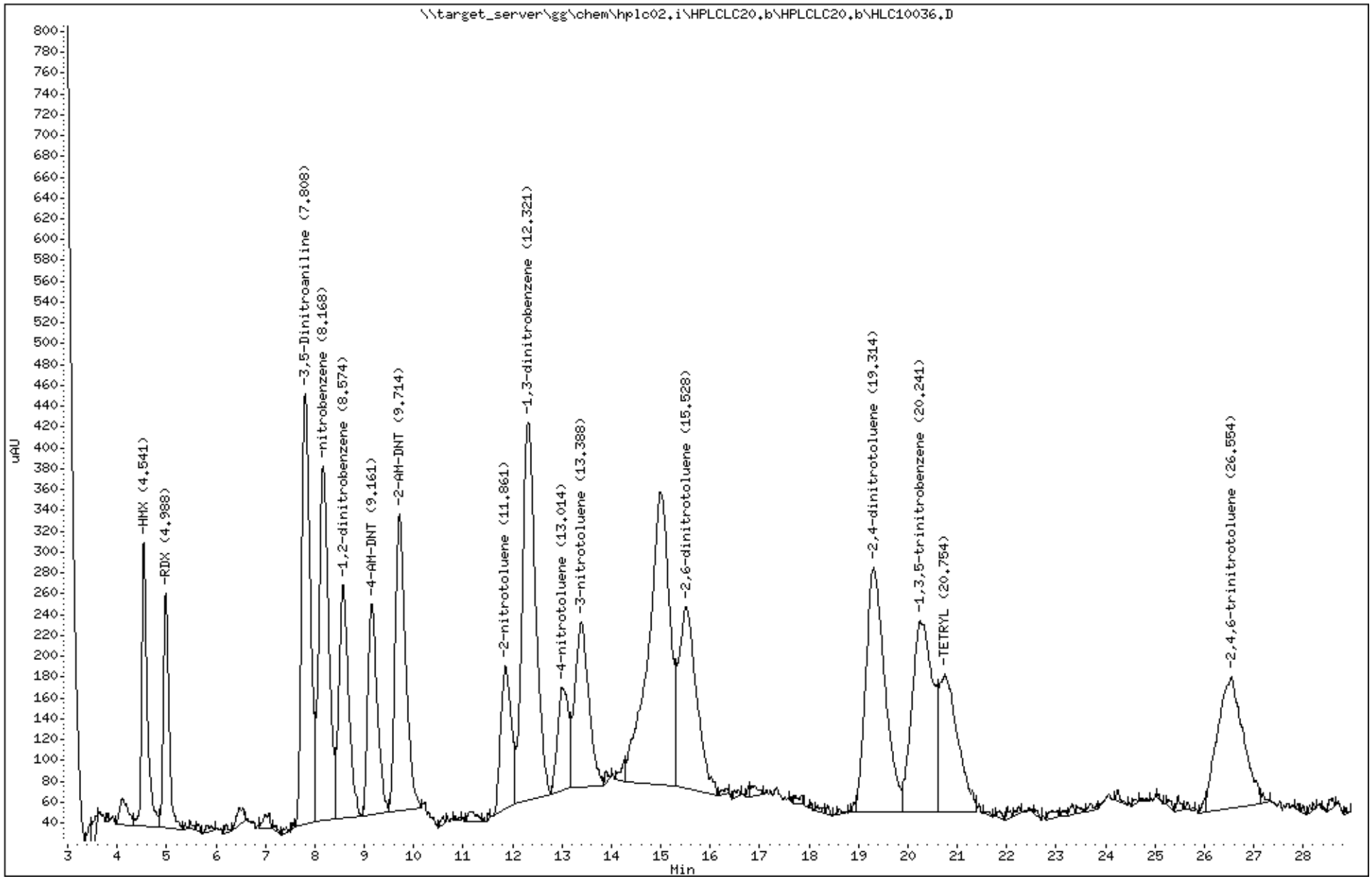
	Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)	REVIEW CODE
1	HMX	4.541	4.542	-0.001	272	0.05000	0.0504(a)	
4	RDX	4.987	4.989	-0.002	225	0.05000	0.0463(a)	
51	3,5-Dinitroaniline	7.807	7.809	-0.002	414	0.05000	0.0498(a)	
7	nitrobenzene	8.167	8.175	-0.008	341	0.05000	0.0497(a)	
$ 2	1,2-dinitrobenzene	8.574	8.575	-0.001	225	0.05000	0.0486(a)	
11	4-AM-DNT	9.161	9.155	0.006	202	0.05000	0.0469(a)	
12	2-AM-DNT	9.714	9.715	-0.001	285	0.05000	0.0495(a)	
15	2-nitrotoluene	11.861	11.862	-0.001	138	0.05000	0.0478(a)	
6	1,3-dinitrobenzene	12.321	12.315	0.006	364	0.05000	0.0492(a)	
16	4-nitrotoluene	13.014	13.022	-0.008	99	0.05000	0.0449(a)	
17	3-nitrotoluene	13.387	13.389	-0.002	159	0.05000	0.0502(a)	
13	2,6-dinitrotoluene	15.527	15.542	-0.015	175	0.05000	0.0588(a)	
14	2,4-dinitrotoluene	19.307	19.309	-0.002	235	0.05000	0.0508(aM)	M9
5	1,3,5-trinitrobenzene	20.241	20.222	0.019	184	0.05000	0.0548(aM)	M9
9	TETRYL	20.754	20.722	0.032	133	0.05000	0.0593(aM)	M9
10	2,4,6-trinitrotoluene	26.554	26.469	0.085	126	0.05000	0.0551(a)	

2:43 pm, Mar 26, 2018

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.

Data File: \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HPLCLC20.b\HLC10036.D
Date : 20-MAR-2018 17:33
Client ID:
Instrument: hplc02.i
Sample Info: WG225143-2
Purge Volume: 0.5
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 2000220

Data File: HLC10037.D
Report Date: 26-Mar-2018 13:11

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HPLCLC20.b\HLC10037.D
Lab Smp Id: WG225143-1
Inj Date : 20-MAR-2018 18:05
Operator : AC   Inst ID: hplc02.i
Smp Info : WG225143-1
Misc Info :
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCLC20.b\EXPB05A.m\EXPB05A.m
Meth Date : 22-Mar-2018 05:09 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05   Cal File: HLC10037.D
Als bottle: 14   Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: T8-D4700

Concentration Formula: Amt * DF * 1000*(Vt/Vo) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00500	Final Volume (L)
Vo	0.50000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

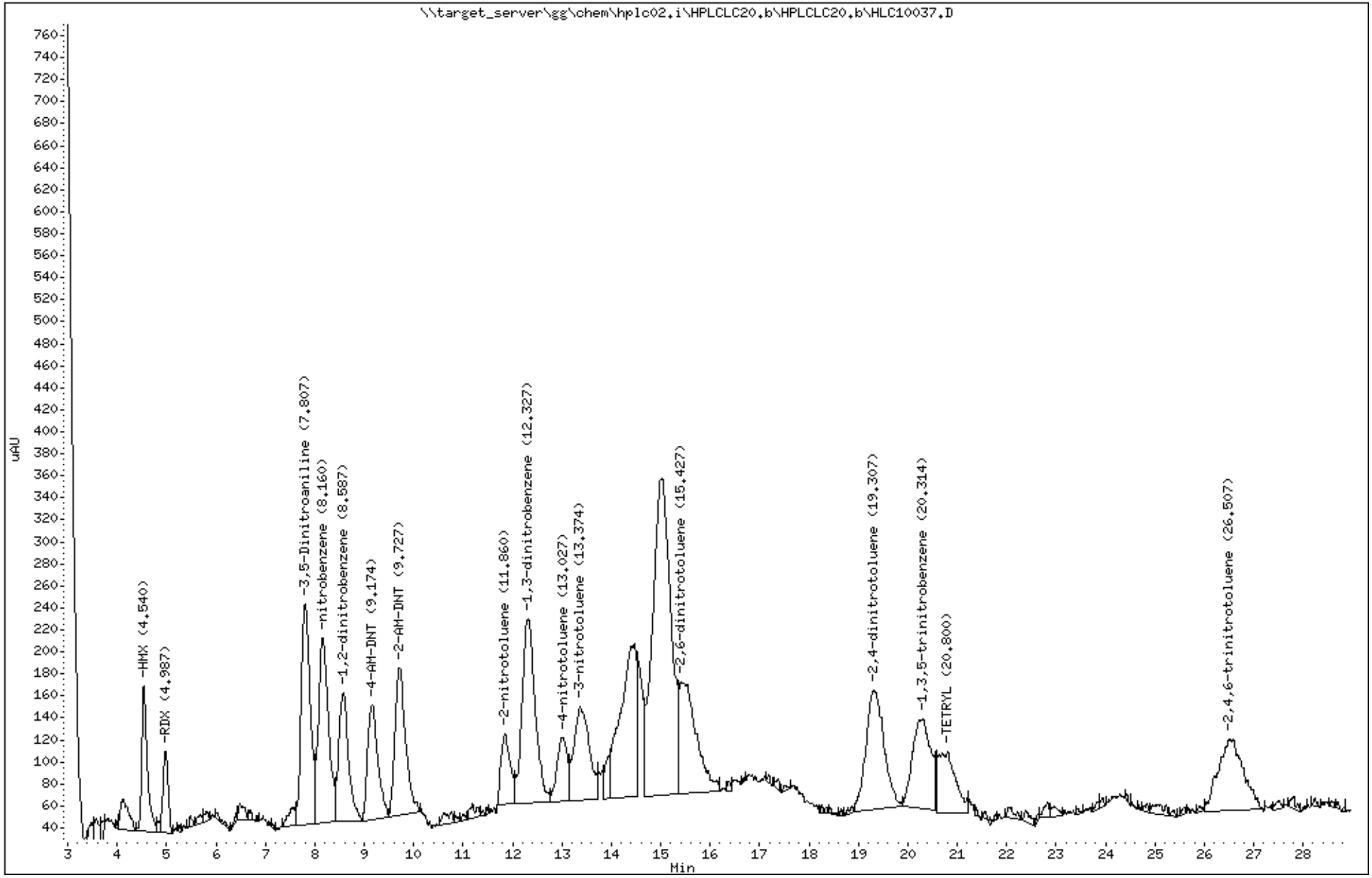
	Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)	REVIEW CODE
1	HMX	4.540	4.542	-0.002	133	0.02500	0.0247(a)	
4	RDX	4.987	4.989	-0.002	75	0.02500	0.0154(a)	
51	3,5-Dinitroaniline	7.807	7.809	-0.002	202	0.02500	0.0243(a)	
7	nitrobenzene	8.160	8.175	-0.015	169	0.02500	0.0246(a)	
$ 2	1,2-dinitrobenzene	8.587	8.575	0.012	117	0.02500	0.0253(a)	
11	4-AM-DNT	9.173	9.155	0.018	105	0.02500	0.0244(a)	
12	2-AM-DNT	9.727	9.715	0.012	134	0.02500	0.0233(a)	
15	2-nitrotoluene	11.847	11.862	-0.015	63	0.02500	0.0218(aM)	M9
6	1,3-dinitrobenzene	12.327	12.315	0.012	167	0.02500	0.0224(aM)	M9
16	4-nitrotoluene	12.993	13.022	-0.029	57	0.02500	0.0243(aM)	M9
17	3-nitrotoluene	13.373	13.389	-0.016	84	0.02500	0.0252(aM)	M9
13	2,6-dinitrotoluene	15.407	15.542	-0.135	101	0.02500	0.0312(aM)	M5
14	2,4-dinitrotoluene	19.307	19.309	-0.002	107	0.02500	0.0232(aM)	M9
5	1,3,5-trinitrobenzene	20.313	20.222	0.091	81	0.02500	0.0220(aM)	M9
9	TETRYL	20.800	20.722	0.078	56	0.02500	0.0221(aM)	M9
10	2,4,6-trinitrotoluene	26.507	26.469	0.038	65	0.02500	0.0257(aM)	M9

2:43 pm, Mar 26, 2018

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.

Data File: \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HPLCLC20.b\HLC10037.D
Date : 20-MAR-2018 18:05
Client ID:
Instrument: hplc02.i
Sample Info: WG225143-1
Purge Volume: 0.5
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 2000222

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition I
Lab ID : WG228756-2
Lab File ID : HLE10462.D
Initial Calibration Date(s): 03/20/18 14:54 03/20/18 18:05

SDG: SL4180
Analytical Date: 05/15/18 16:26
Instrument ID: HPLC02
Column ID: A

Compound	RRF/Amount	RF0.250	Min RRF	%D/ %Drift	Max %D/ %Drift	Curve Type
150 NITROGLYCERIN	5513	5258	0.010	-4.62883	20.00000	Averaged
155 PETN	2876	3031	0.010	5.39532	20.00000	Averaged

*** = Compound out of QC criteria**

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P.O. Box 540, Scarborough, ME 04070
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http://katahdinlab.com
sales@katahdinlab.com

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HLE10462.D
Report Date: 30-May-2018 10:58

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HLE10462.D
Lab Smp Id: WG228756-2
Inj Date : 15-MAY-2018 16:26
Operator : AAB   Inst ID: hplc02.i
Smp Info : WG228756-2,SL4180
Misc Info : WG228756,WG228334,WG225143-5,SL4180-29
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCLE15.b\EXPB05A.m
Meth Date : 21-May-2018 08:50 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05   Cal File: HLC10037.D
Als bottle: 81   Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: ngpetnedgn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*(Vt/Vo) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00500	Final Volume (L)
Vo	0.50000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

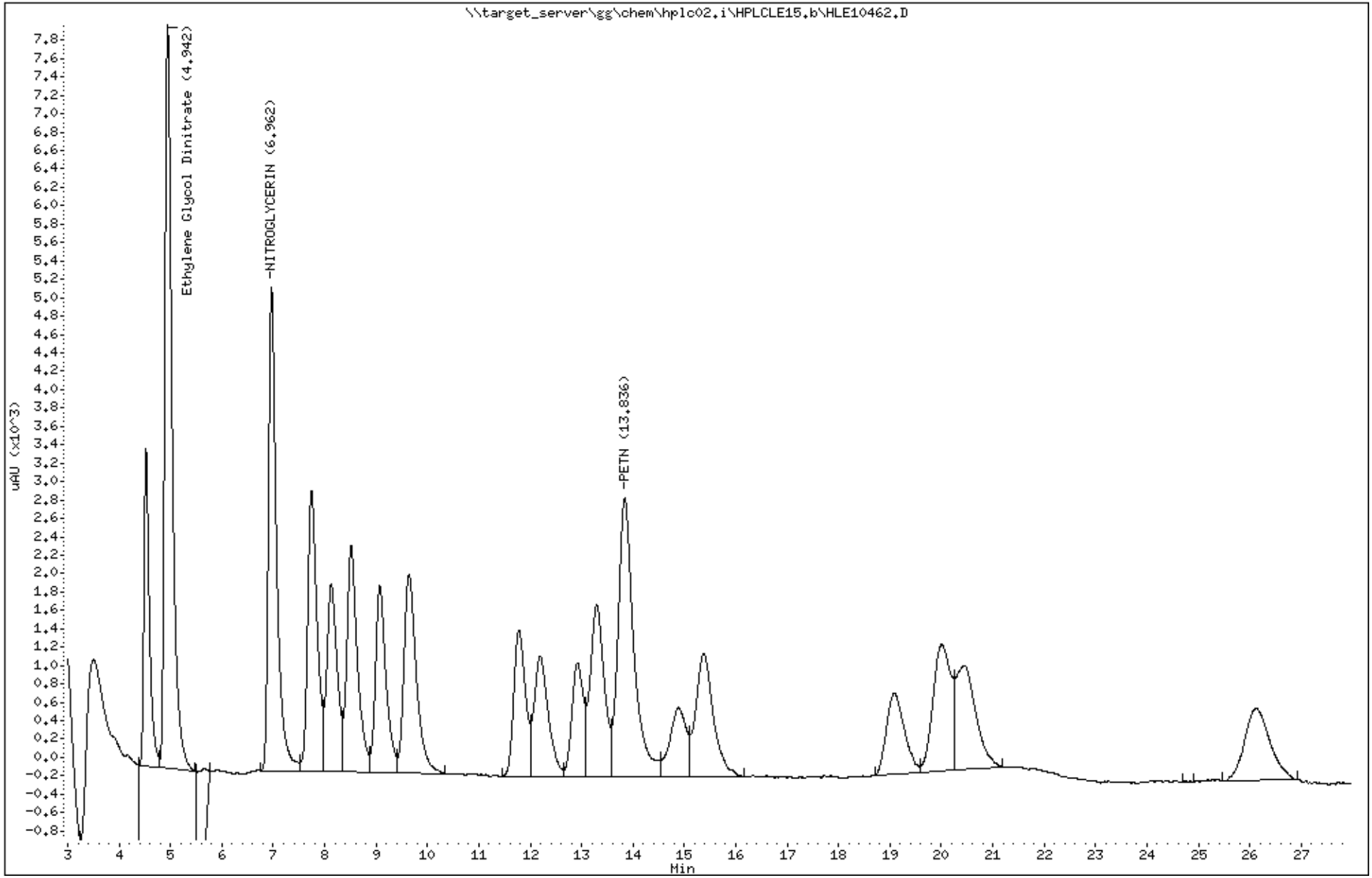
						AMOUNTS		
						CAL-AMT	ON-COL	
	Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/mL)	(ug/mL)	
8	NITROGLYCERIN	6.962	6.971	-0.009	5258	1.00000	0.954(a)	
18	PETN	13.835	13.865	-0.030	3031	1.00000	1.05(a)	
3	Ethylene Glycol Dinitrate	4.942	4.945	-0.003	8087	1.00000	0.968(aM)	M2

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.

AAB
12:57 pm, May 30, 2018

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HLE10462.D
Date : 15-MAY-2018 16:26
Client ID:
Instrument: hplc02.i
Sample Info: WG228756-2,SL4180
Purge Volume: 0.5
Operator: AAB
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 2000225

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition F
Lab ID : WG228756-3
Lab File ID : HLE10473.D
Initial Calibration Date(s): 03/20/18 14:54 03/20/18 18:05

SDG: SL4180
Analytical Date: 05/15/18 22:07
Instrument ID: HPLC02
Column ID: A

Compound	RRF/Amount	RF0.500	Min RRF	%D/ %Drift	Max %D/ %Drift	Curve Type
150 NITROGLYCERIN	5513	5307	0.010	-3.74912	20.00000	Averaged
155 PETN	2876	3122	0.010	8.54223	20.00000	Averaged

*** = Compound out of QC criteria**

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HLE10473.D
Report Date: 30-May-2018 10:58

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HLE10473.D
Lab Smp Id: WG228756-3
Inj Date : 15-MAY-2018 22:07
Operator : AAB   Inst ID: hplc02.i
Smp Info : WG228756-3,SL4180
Misc Info : WG228756,WG228334,WG225143-5,SL4180-29
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCLE15.b\EXPB05A.m
Meth Date : 21-May-2018 08:50 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05   Cal File: HLC10037.D
Als bottle: 92   Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*(Vt/Vo) * CpndVariable

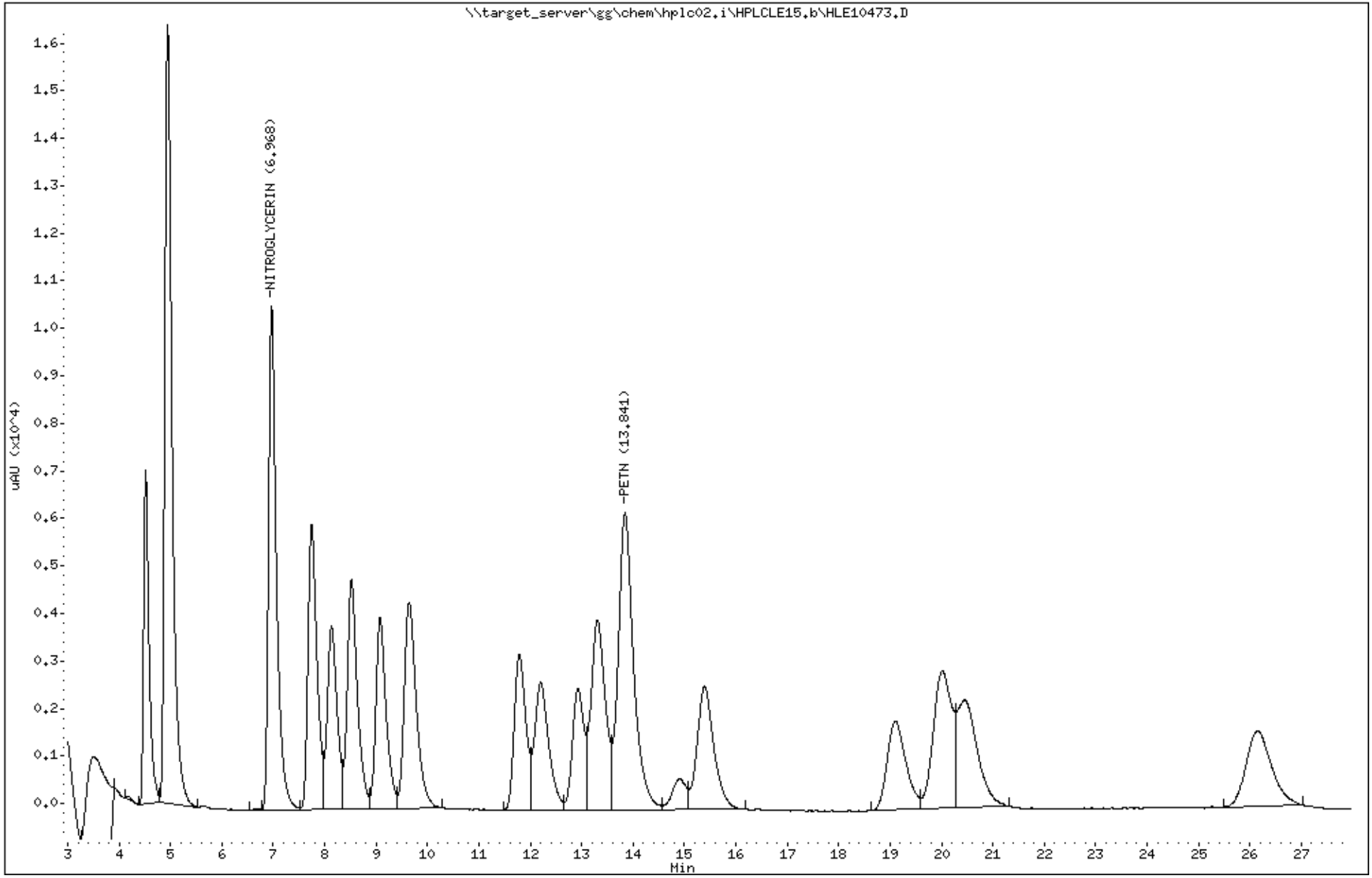
Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00500	Final Volume (L)
Vo	0.50000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

					AMOUNTS	
					CAL-AMT	ON-COL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/mL)	(ug/mL)
8 NITROGLYCERIN	6.968	6.971	-0.003	10613	1.00000	1.92(a)
18 PETN	13.841	13.865	-0.024	6243	1.00000	2.17(a)

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HLE10473.D
Date : 15-MAY-2018 22:07
Client ID:
Instrument: hplc02.i
Sample Info: WG228756-3,SL4180
Purge Volume: 0.5
Operator: AAB
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 2000228

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition I
Lab ID : WG228756-7
Lab File ID : HLE10515.D
Initial Calibration Date(s): 03/20/18 14:54 03/20/18 18:05

SDG: SL4180
Analytical Date: 05/16/18 21:15
Instrument ID: HPLC02
Column ID: A

	Compound	RRF/Amount	RF0.500	Min RRF	%D/ %Drift	Max %D/ %Drift	Curve Type
130	NITROGLYCERIN	5513	5319	0.010	-3.52239	20.00000	Averaged
140	PETN	2876	3031	0.010	5.37793	20.00000	Averaged

*** = Compound out of QC criteria**

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HLE10515.D
Report Date: 30-May-2018 11:17

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HLE10515.D
Lab Smp Id: WG228756-7
Inj Date : 16-MAY-2018 21:15
Operator : AAB   Inst ID: hplc02.i
Smp Info : WG228756-7,SL4180
Misc Info : WG228756,WG228439,WG225143-5,SL4180-1
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\EXPB05A.m
Meth Date : 22-May-2018 05:42 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05   Cal File: HLC10037.D
Als bottle: 34   Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: ngpetnedgn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01000	Weight of Sample (Kg)
M	0.00000	% Moisture
Cpnd Variable		Local Compound Variable

					AMOUNTS	
					CAL-AMT	ON-COL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/mL)	(ug/mL)
8 NITROGLYCERIN	6.964	6.968	-0.004	10638	1.00000	1.93(a)
18 PETN	13.844	13.868	-0.024	6061	1.00000	2.11(a)
3 Ethylene Glycol Dinitrate	4.938	4.942	-0.004	16213	1.00000	1.94(a)

QC Flag Legend

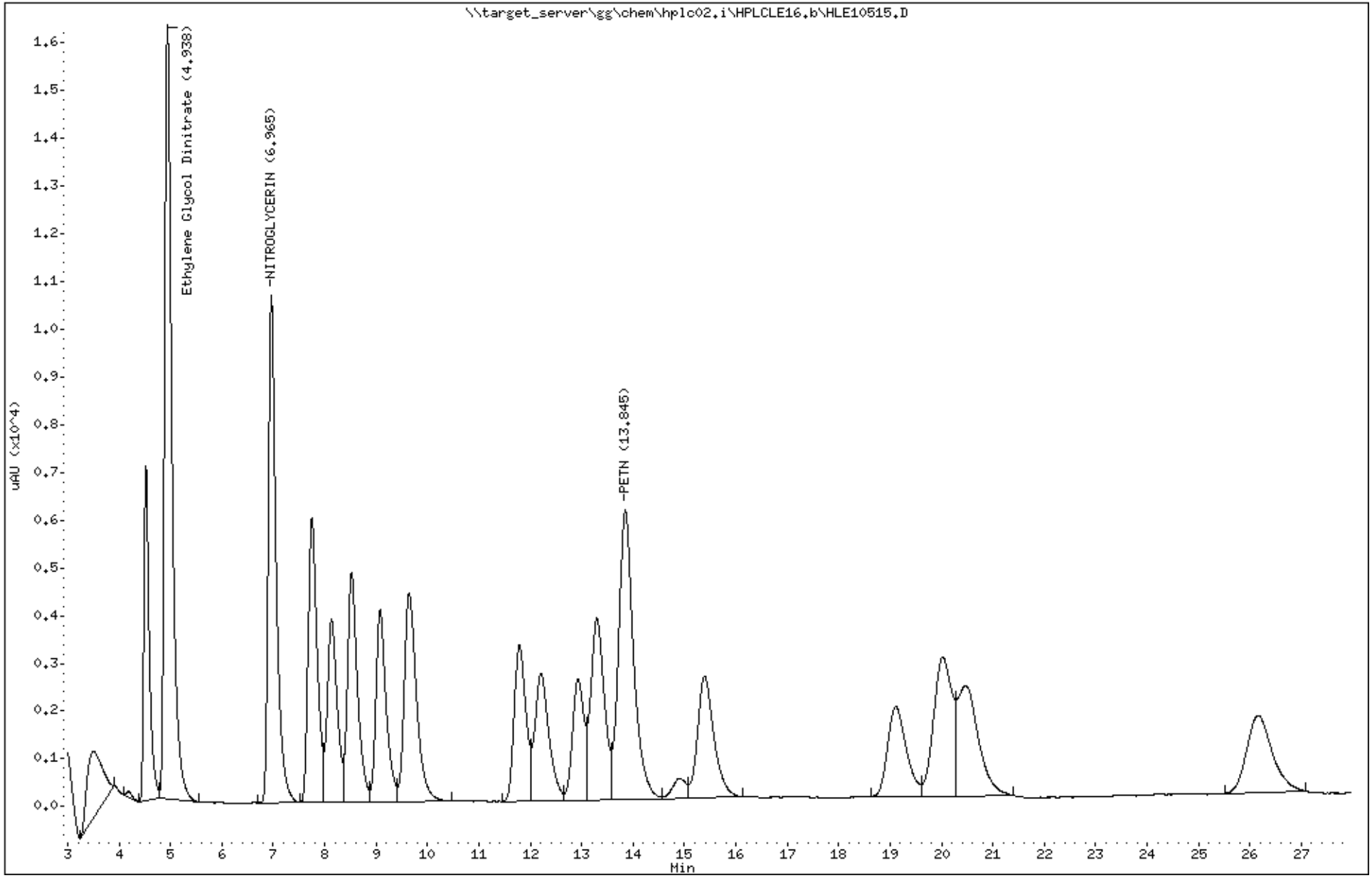
a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HLE10515.D
Date : 16-MAY-2018 21:15
Client ID:
Sample Info: WG228756-7,SL4180

Column phase: Acclaim Exp E1

Instrument: hplc02.i

Operator: AAB
Column diameter: 4.60



Katahdin Analytical Services 2000231

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition F
Lab ID : WG228756-8
Lab File ID : HLE10526.D
Initial Calibration Date(s): 03/20/18 14:54 03/20/18 18:05

SDG: SL4180
Analytical Date: 05/17/18 02:56
Instrument ID: HPLC02
Column ID: A

	Compound	$\overline{RRF}$/Amount	RF0.250	Min RRF	%D/ %Drift	Max %D/ %Drift	Curve Type
130	NITROGLYCERIN	5513	5237	0.010	-5.00973	20.00000	Averaged
140	PETN	2876	2980	0.010	3.62192	20.00000	Averaged

*** = Compound out of QC criteria**

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HLE10526.D
Report Date: 30-May-2018 11:17

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Data file : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HLE10526.D
Lab Smp Id: WG228756-8
Inj Date : 17-MAY-2018 02:56
Operator : AAB   Inst ID: hplc02.i
Smp Info : WG228756-8,SL4180
Misc Info : WG228756,WG228439,WG225143-5,SL4180-1
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\EXPB05A.m
Meth Date : 22-May-2018 05:42 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05   Cal File: HLC10037.D
Als bottle: 45   Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: ngpetnedgn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

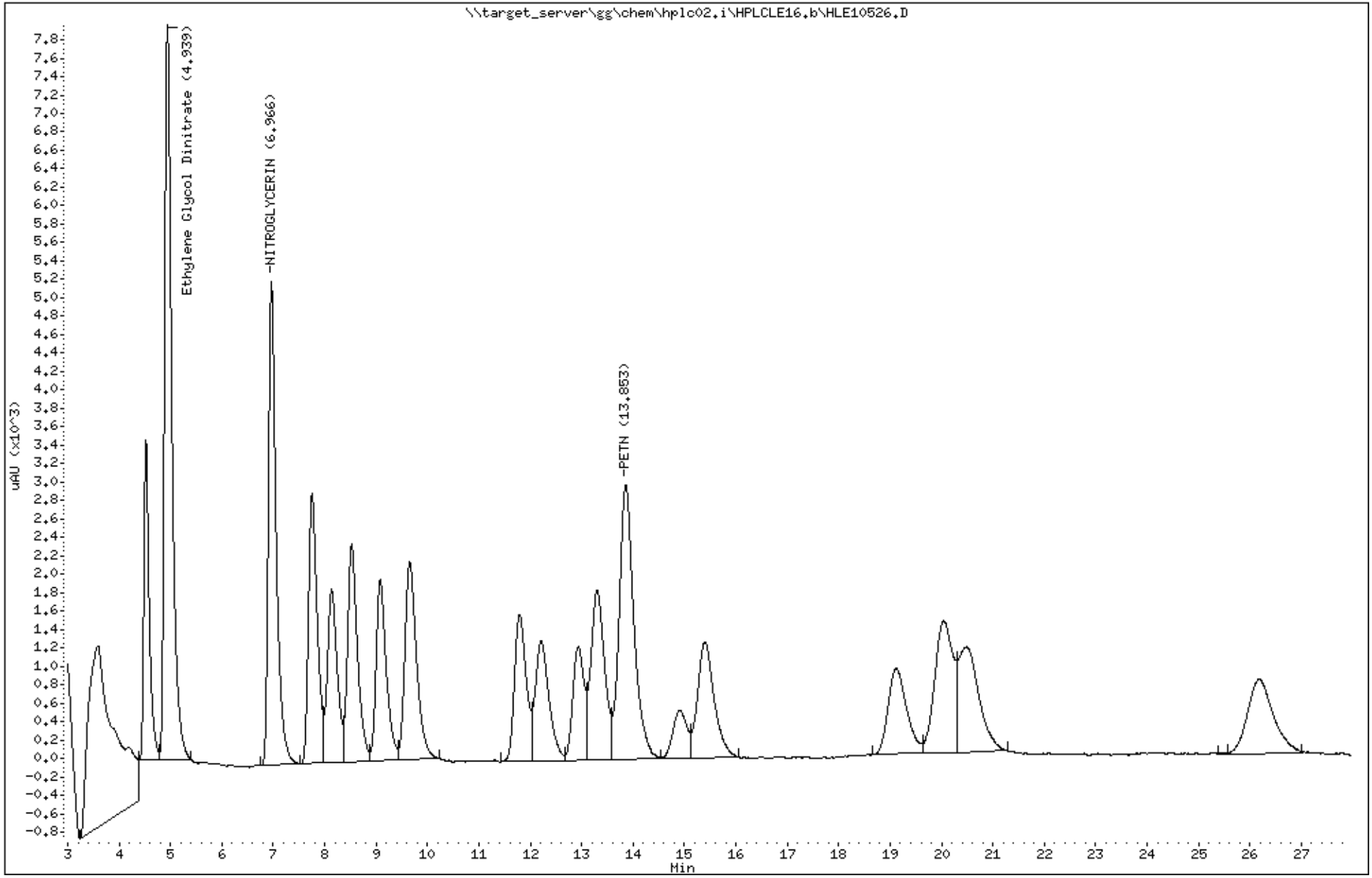
Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01000	Weight of Sample (Kg)
M	0.00000	% Moisture
Cpnd Variable		Local Compound Variable

					AMOUNTS		
					CAL-AMT	ON-COL	
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/mL)	(ug/mL)	
8 NITROGLYCERIN	6.965	6.968	-0.003	5237	1.00000	0.950(a)	
18 PETN	13.852	13.868	-0.016	2980	1.00000	1.04(a)	
3 Ethylene Glycol Dinitrate	4.939	4.942	-0.003	7973	1.00000	0.954(aM)	M2

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HLE10526.D
Date : 17-MAY-2018 02:56
Client ID:
Instrument: hplc02.i
Sample Info: WG228756-8,SL4180
Operator: AAB
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 2000234

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition F
Lab ID : WG228756-9
Lab File ID : HLE10537.D
Initial Calibration Date(s): 03/20/18 14:54 03/20/18 18:05

SDG: SL4180
Analytical Date: 05/17/18 08:37
Instrument ID: HPLC02
Column ID: A

Compound	RRF/Amount	RF0.500	Min RRF	%D/ %Drift	Max %D/ %Drift	Curve Type
130 NITROGLYCERIN	5513	5325	0.010	-3.41356	20.00000	Averaged
140 PETN	2876	3023	0.010	5.11714	20.00000	Averaged

*** = Compound out of QC criteria**

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HLE10537.D
Report Date: 30-May-2018 11:18

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Data file : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HLE10537.D
Lab Smp Id: WG228756-9
Inj Date : 17-MAY-2018 08:37
Operator : AAB   Inst ID: hplc02.i
Smp Info : WG228756-9,SL4180
Misc Info : WG228756,WG228439,WG225143-5,SL4180-1
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\EXPB05A.m
Meth Date : 22-May-2018 05:42 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05   Cal File: HLC10037.D
Als bottle: 56   Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01000	Weight of Sample (Kg)
M	0.00000	% Moisture
Cpnd Variable		Local Compound Variable

					AMOUNTS	
					CAL-AMT	ON-COL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/mL)	(ug/mL)
8 NITROGLYCERIN	6.973	6.968	0.005	10650	1.00000	1.93(a)
18 PETN	13.879	13.868	0.011	6046	1.00000	2.10(a)

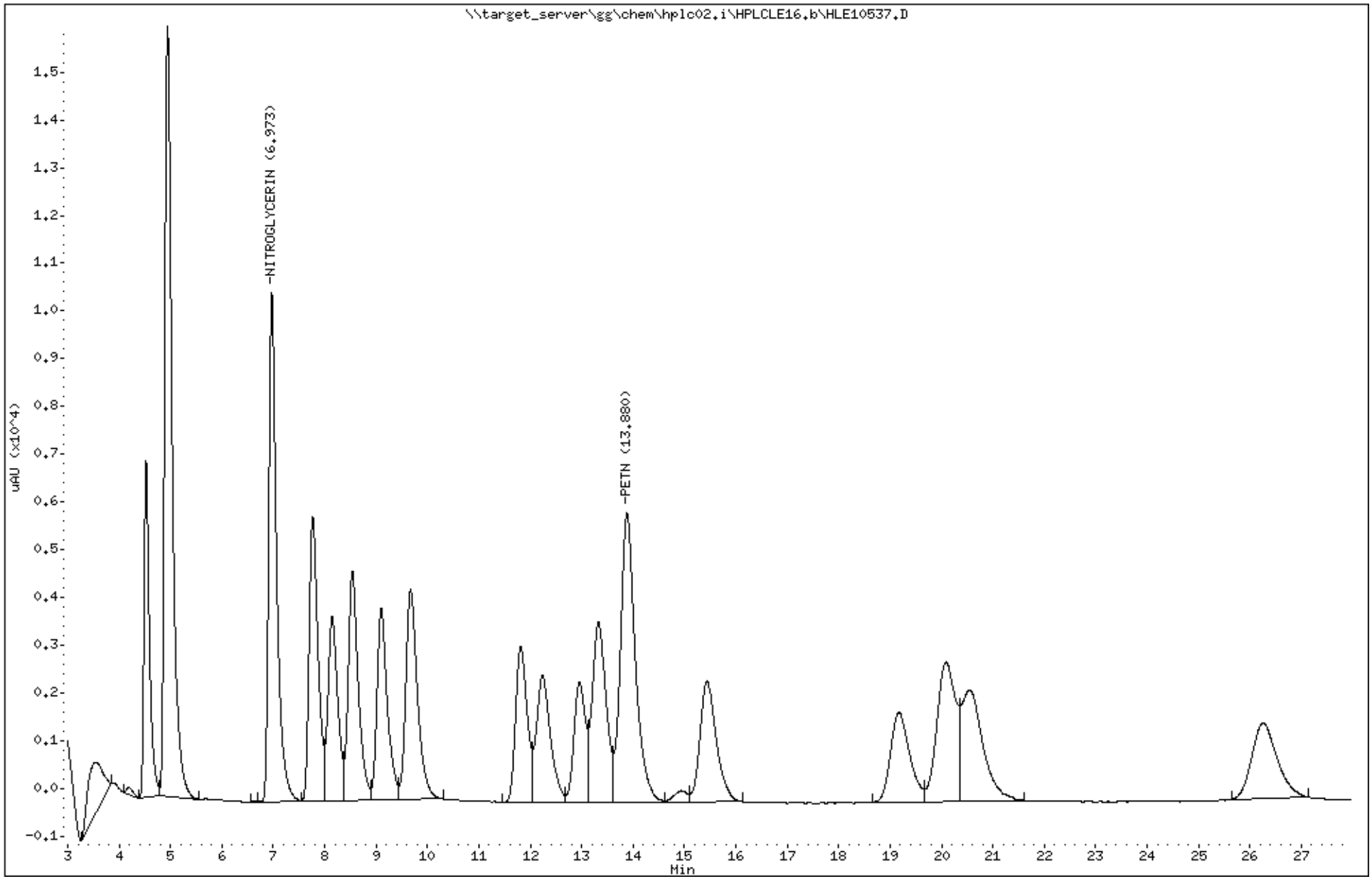
QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HLE10537.D
Date : 17-MAY-2018 08:37
Client ID:
Sample Info: WG228756-9,SL4180

Instrument: hplc02.i

Operator: AAB
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 2000237

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition F
Lab ID : WG228756-10
Lab File ID : HLE10548.D
Initial Calibration Date(s): 03/20/18 14:54 03/20/18 18:05

SDG: SL4180
Analytical Date: 05/17/18 14:18
Instrument ID: HPLC02
Column ID: A

Compound	RRF/Amount	RF0.250	Min RRF	%D/ %Drift	Max %D/ %Drift	Curve Type
130 NITROGLYCERIN	5513	5192	0.010	-5.82596	20.00000	Averaged
140 PETN	2876	3002	0.010	4.38692	20.00000	Averaged

*** = Compound out of QC criteria**

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HLE10548.D
Report Date: 30-May-2018 11:18

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Data file : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HLE10548.D
Lab Smp Id: WG228756-10
Inj Date : 17-MAY-2018 14:18
Operator : AAB   Inst ID: hplc02.i
Smp Info : WG228756-10,SL4180
Misc Info : WG228756,WG228439,WG225143-5,SL4180-1
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\EXPB05A.m
Meth Date : 22-May-2018 05:42 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05   Cal File: HLC10037.D
Als bottle: 67   Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01000	Weight of Sample (Kg)
M	0.00000	% Moisture
Cpnd Variable		Local Compound Variable

					AMOUNTS	
					CAL-AMT	ON-COL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/mL)	(ug/mL)
8 NITROGLYCERIN	6.975	6.968	0.007	5192	1.00000	0.942(a)
18 PETN	13.875	13.868	0.007	3002	1.00000	1.04(a)

QC Flag Legend

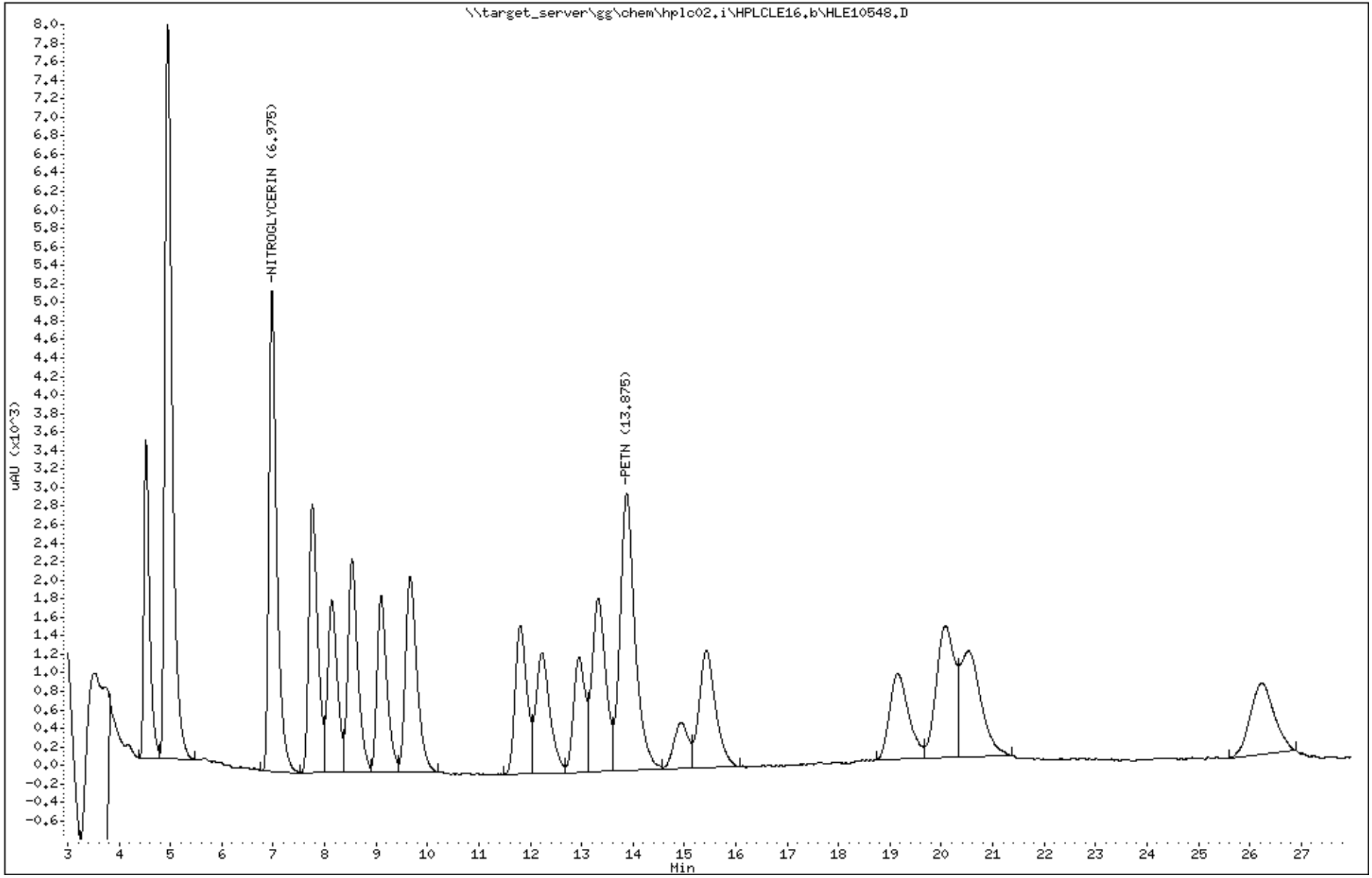
a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HLE10548.D
Date : 17-MAY-2018 14:18
Client ID:
Sample Info: WG228756-10,SL4180

Instrument: hplc02.i

Operator: AAB
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 2000240

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Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition F
Lab ID : WG228756-15
Lab File ID : HLE10639.D
Initial Calibration Date(s): 03/20/18 14:54 03/20/18 18:05

SDG: SL4180
Analytical Date: 05/22/18 15:47
Instrument ID: HPLC02
Column ID: A

Compound	$\overline{RRF}$/Amount	RF0.250	Min RRF	%D/ %Drift	Max %D/ %Drift	Curve Type
130 NITROGLYCERIN	5513	5211	0.010	-5.48133	20.00000	Averaged
140 PETN	2876	2970	0.010	3.27420	20.00000	Averaged

*** = Compound out of QC criteria**

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10639.D
Report Date: 30-May-2018 11:28

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10639.D
Lab Smp Id: WG228756-15
Inj Date : 22-MAY-2018 15:47
Operator : AC   Inst ID: hplc02.i
Smp Info : WG228756-15,SL4180
Misc Info : WG228756,WG228439,WG225143-5,SL4180-1
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\EXPB05A.m
Meth Date : 23-May-2018 13:50 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05   Cal File: HLC10037.D
Als bottle: 58   Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

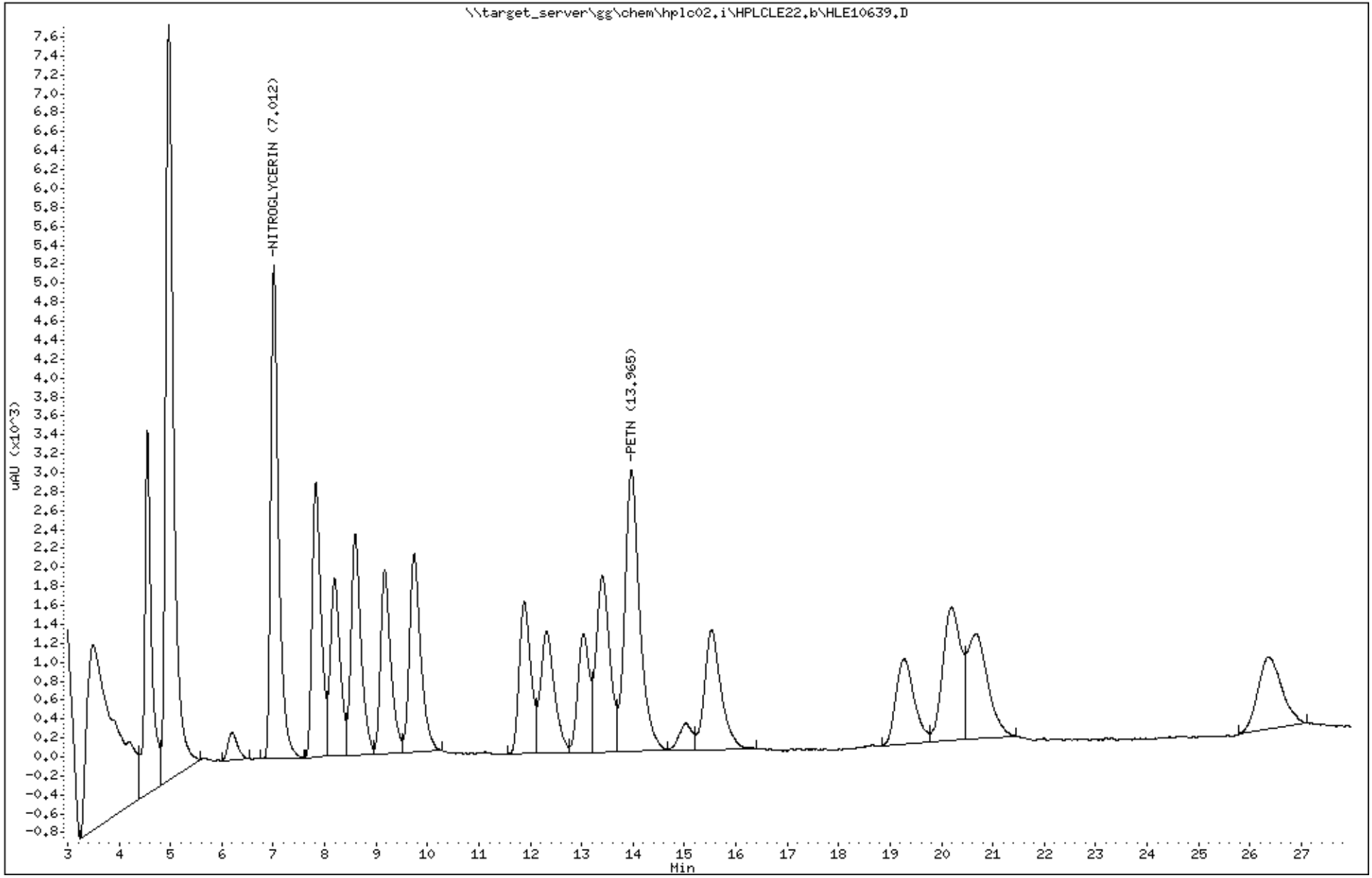
Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01000	Weight of Sample (Kg)
M	0.00000	% Moisture
Cpnd Variable		Local Compound Variable

					AMOUNTS	
					CAL-AMT	ON-COL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/mL)	(ug/mL)
8 NITROGLYCERIN	7.012	7.001	0.011	5211	1.00000	0.945(a)
18 PETN	13.965	13.954	0.011	2970	1.00000	1.03(a)

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10639.D
Date : 22-MAY-2018 15:47
Client ID:
Instrument: hplc02.i
Sample Info: WG228756-15,SL4180
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 2000243

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition F
Lab ID : WG228756-16
Lab File ID : HLE10650.D
Initial Calibration Date(s): 03/20/18 14:54 03/20/18 18:05

SDG: SL4180
Analytical Date: 05/22/18 21:28
Instrument ID: HPLC02
Column ID: A

Compound	RRF/Amount	RF0.500	Min RRF	%D/ %Drift	Max %D/ %Drift	Curve Type
130 NITROGLYCERIN	5513	5300	0.010	-3.86702	20.00000	Averaged
140 PETN	2876	3037	0.010	5.58657	20.00000	Averaged

*** = Compound out of QC criteria**

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10650.D
Report Date: 30-May-2018 11:28

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10650.D
Lab Smp Id: WG228756-16
Inj Date : 22-MAY-2018 21:28
Operator : AC   Inst ID: hplc02.i
Smp Info : WG228756-16,SL4180
Misc Info : WG228756,WG228437,WG225143-5,SL4180-21
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\EXPB05A.m
Meth Date : 23-May-2018 13:50 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05   Cal File: HLC10037.D
Als bottle: 69   Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01000	Weight of Sample (Kg)
M	0.00000	% Moisture
Cpnd Variable		Local Compound Variable

					AMOUNTS	
					CAL-AMT	ON-COL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/mL)	(ug/mL)
8 NITROGLYCERIN	6.996	7.001	-0.005	10600	1.00000	1.92(a)
18 PETN	13.916	13.954	-0.038	6073	1.00000	2.11(a)

QC Flag Legend

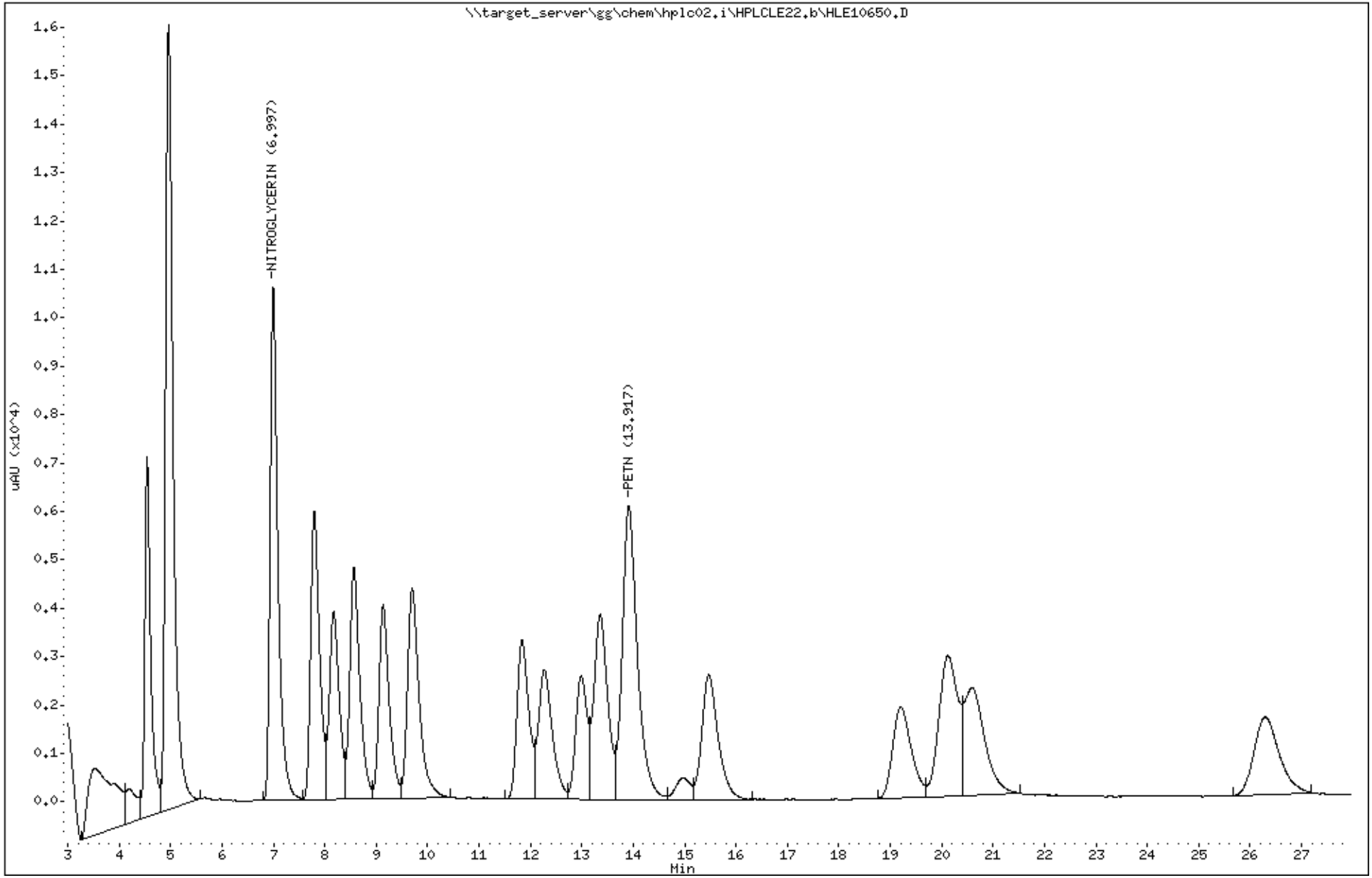
a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10650.D
Date : 22-MAY-2018 21:28
Client ID:
Sample Info: WG228756-16,SL4180

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 2000246

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition F
Lab ID : WG228756-17
Lab File ID : HLE10661.D
Initial Calibration Date(s): 03/20/18 14:54 03/20/18 18:05

SDG: SL4180
Analytical Date: 05/23/18 03:09
Instrument ID: HPLC02
Column ID: A

	Compound	RRF/Amount	RF0.250	Min RRF	%D/ %Drift	Max %D/ %Drift	Curve Type
130	NITROGLYCERIN	5513	5157	0.010	-6.46080	20.00000	Averaged
140	PETN	2876	2952	0.010	2.64830	20.00000	Averaged

*** = Compound out of QC criteria**

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10661.D
Report Date: 30-May-2018 11:28

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10661.D
Lab Smp Id: WG228756-17
Inj Date : 23-MAY-2018 03:09
Operator : AC   Inst ID: hplc02.i
Smp Info : WG228756-17,SL4180
Misc Info : WG228756,WG228437,WG225143-5,SL4180-21
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\EXPB05A.m
Meth Date : 23-May-2018 13:50 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05   Cal File: HLC10037.D
Als bottle: 80   Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01000	Weight of Sample (Kg)
M	0.00000	% Moisture
Cpnd Variable		Local Compound Variable

					AMOUNTS	
					CAL-AMT	ON-COL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/mL)	(ug/mL)
8 NITROGLYCERIN	7.014	7.001	0.013	5157	1.00000	0.935(a)
18 PETN	13.960	13.954	0.006	2952	1.00000	1.03(a)

QC Flag Legend

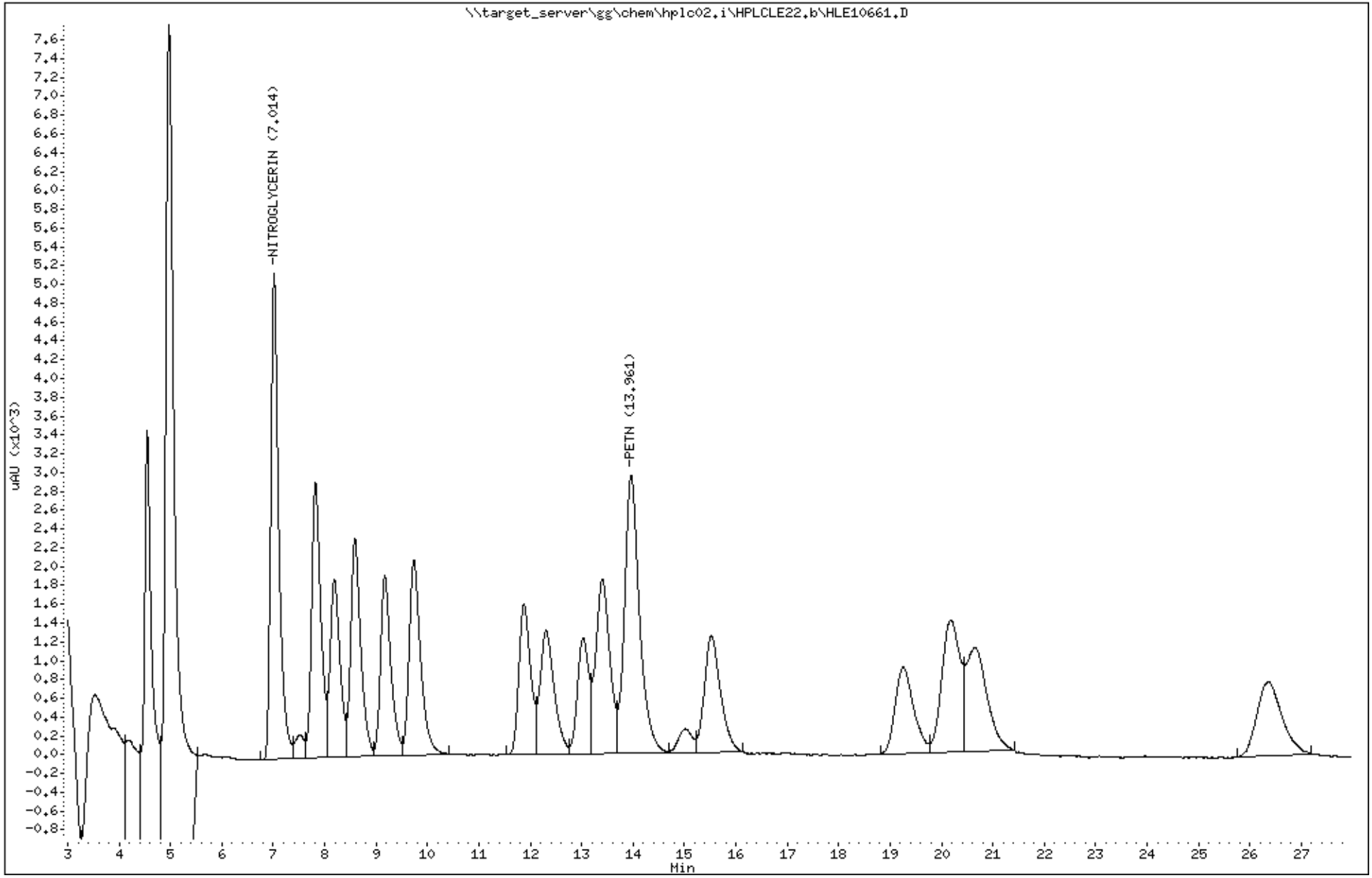
a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10661.D
Date : 23-MAY-2018 03:09
Client ID:
Sample Info: WG228756-17,SL4180

Column phase: Acclaim Exp E1

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60



Katahdin Analytical Services 2000249

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ANALYTICAL SERVICES

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition F
Lab ID : WG228942-6
Lab File ID : HLE10679.D
Initial Calibration Date(s): 03/20/18 14:54 03/20/18 18:05

SDG: SL4180
Analytical Date: 05/23/18 13:44
Instrument ID: HPLC02
Column ID: A

Compound	$\overline{\text{RRF}}$/Amount	RF0.250	Min RRF	%D/ %Drift	Max %D/ %Drift	Curve Type
130 NITROGLYCERIN	5513	5235	0.010	-5.04601	20.00000	Averaged
140 PETN	2876	3016	0.010	4.87373	20.00000	Averaged

*** = Compound out of QC criteria**

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10679.D
Report Date: 30-May-2018 11:34

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10679.D
Lab Smp Id: WG228942-6
Inj Date : 23-MAY-2018 13:44
Operator : AC   Inst ID: hplc02.i
Smp Info : WG228942-6,SL4180
Misc Info : WG228942,WG228857,WG225143-5,SL4180-4
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\EXPB05A.m
Meth Date : 25-May-2018 03:43 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05   Cal File: HLC10037.D
Als bottle: 98   Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: ngpetnedgn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01000	Weight of Sample (Kg)
M	0.00000	% Moisture
Cpnd Variable		Local Compound Variable

					AMOUNTS		
					CAL-AMT	ON-COL	
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/mL)	(ug/mL)	
8 NITROGLYCERIN	7.007	7.007	0.000	5235	1.00000	0.950(a)	
18 PETN	13.940	13.940	0.000	3016	1.00000	1.05(a)	
3 Ethylene Glycol Dinitrate	4.967	4.967	0.000	7849	1.00000	0.940(aM)	M2

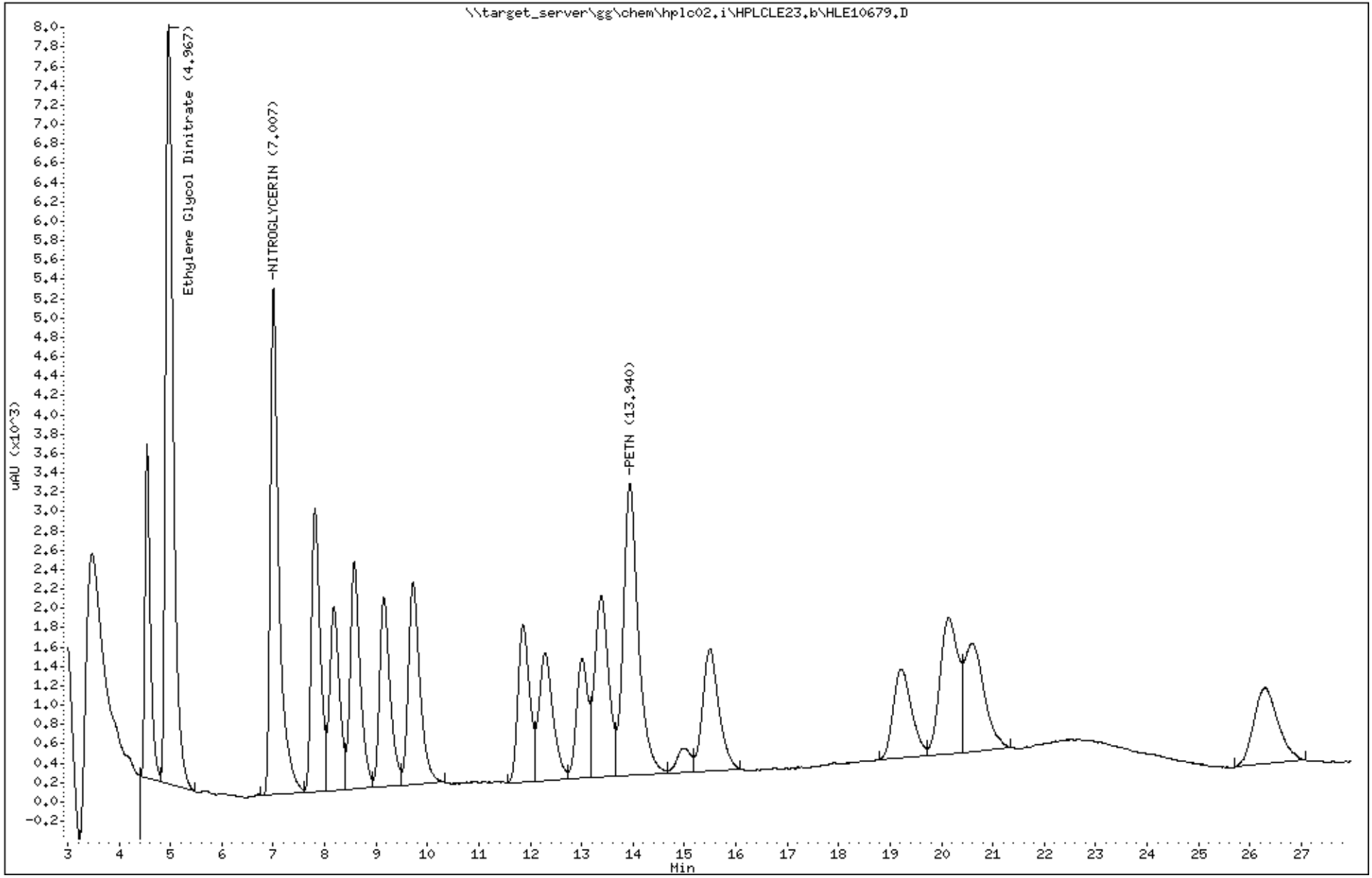
QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.

12:58 pm, May 30, 2018

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10679.D
Date : 23-MAY-2018 13:44
Client ID:
Sample Info: WG228942-6,SL4180
Column phase: Acclaim Exp E1

Instrument: hplc02.i
Operator: AC
Column diameter: 4.60



Katahdin Analytical Services 2000252

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition F
Lab ID : WG228942-7
Lab File ID : HLE10690.D
Initial Calibration Date(s): 03/20/18 14:54 03/20/18 18:05

SDG: SL4180
Analytical Date: 05/23/18 19:25
Instrument ID: HPLC02
Column ID: A

Compound	RRF/Amount	RF0.500	Min RRF	%D/ %Drift	Max %D/ %Drift	Curve Type
130 NITROGLYCERIN	5513	5315	0.010	-3.59495	20.00000	Averaged
140 PETN	2876	3069	0.010	6.69929	20.00000	Averaged

*** = Compound out of QC criteria**

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10690.D
Report Date: 30-May-2018 11:34

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10690.D
Lab Smp Id: WG228942-7
Inj Date : 23-MAY-2018 19:25
Operator : AC   Inst ID: hplc02.i
Smp Info : WG228942-7,SL4180
Misc Info : WG228942,WG228857,WG225143-5,SL4180-4
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\EXPB05A.m
Meth Date : 25-May-2018 03:43 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05   Cal File: HLC10037.D
Als bottle: 9   Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01000	Weight of Sample (Kg)
M	0.00000	% Moisture
Cpnd Variable		Local Compound Variable

					AMOUNTS	
					CAL-AMT	ON-COL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/mL)	(ug/mL)
8 NITROGLYCERIN	6.993	7.007	-0.014	10630	1.00000	1.93(a)
18 PETN	13.900	13.940	-0.040	6137	1.00000	2.13(a)

QC Flag Legend

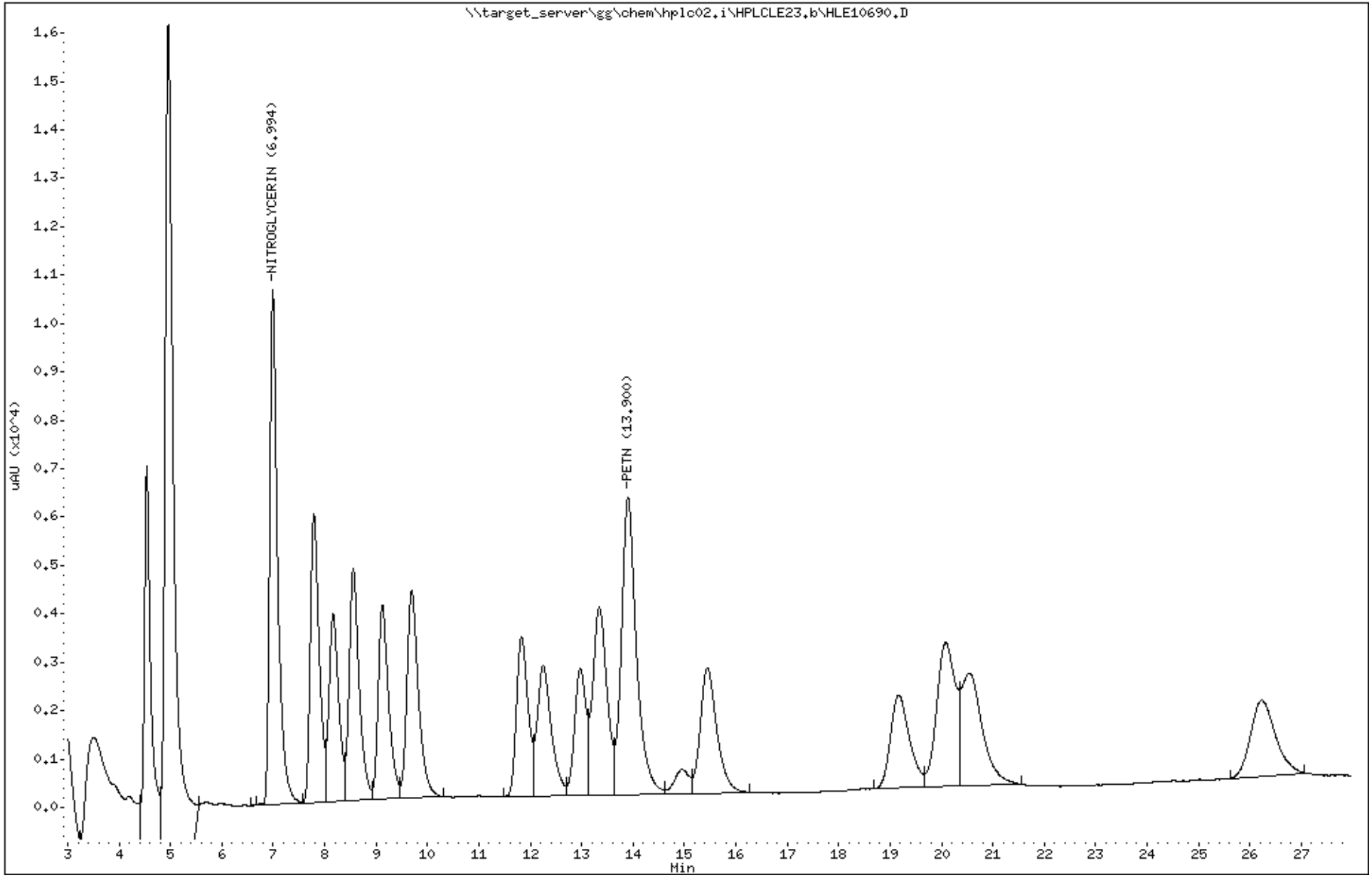
a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10690.D
Date : 23-MAY-2018 19:25
Client ID:
Sample Info: WG228942-7,SL4180

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 2000255

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ANALYTICAL SERVICES

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
SDG: SL4180
Lab ID : WG228756-2
Analytical Date: 05/15/18 16:26
Lab File ID : HLE10462.D
Instrument ID: HPLC02
Initial Calibration Date(s): 03/20/18 14:54 03/20/18 18:05
Column ID: B

	Compound	$\overline{RRF}$/Amount	RF0.250	CCAL RRF0.250	Min	%D/ %Drift	Max %D/ %Drift	Curve Type
1	HMX	5391	5224	5224	0.010	-3.09134	20.00000	Averaged
4	RDX	0.25000	0.24525	5316	0.010	-1.89834	20.00000	Linear
5	1,3,5-trinitrobenzene	3689	3760	3760	0.010	1.92859	20.00000	Averaged
6	1,3-dinitrobenzene	7444	7528	7528	0.010	1.13231	20.00000	Averaged
7	nitrobenzene	6867	6652	6652	0.010	-3.12588	20.00000	Averaged
9	TETRYL	2535	2872	2872	0.010	13.31304	20.00000	Averaged
10	2,4,6-trinitrotoluene	2526	2524	2524	0.010	-0.09330	20.00000	Averaged
11	4-AM-DNT	4303	4312	4312	0.010	0.21581	20.00000	Averaged
12	2-AM-DNT	5761	5728	5728	0.010	-0.56789	20.00000	Averaged
13	2,6-dinitrotoluene	0.25000	0.23859	2884	0.010	-4.56349	20.00000	Linear
14	2,4-dinitrotoluene	4619	4600	4600	0.010	-0.40056	20.00000	Averaged
15	2-nitrotoluene	2890	2904	2904	0.010	0.49933	20.00000	Averaged
16	4-nitrotoluene	2342	2396	2396	0.010	2.28700	20.00000	Averaged
17	3-nitrotoluene	3326	3284	3284	0.010	-1.25217	20.00000	Averaged
2	1,2-dinitrobenzene	4627	4780	4780	0.010	3.29711	20.00000	Averaged

*** = Compound out of QC criteria**

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Data File: HLE10462.D
Report Date: 30-May-2018 11:00

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HPLCLE15.b\HLE10462.D
Lab Smp Id: WG228756-2
Inj Date : 15-MAY-2018 16:26
Operator : AAB   Inst ID: hplc02.i
Smp Info : WG228756-2,SL4180
Misc Info : WG228756,WG228334,WG225143-5,SL4180-29
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCLE15.b\EXPB05A.m\EXPB05A.m
Meth Date : 21-May-2018 08:35 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05   Cal File: HLC10037.D
Als bottle: 81   Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*(Vt/Vo) * CpndVariable

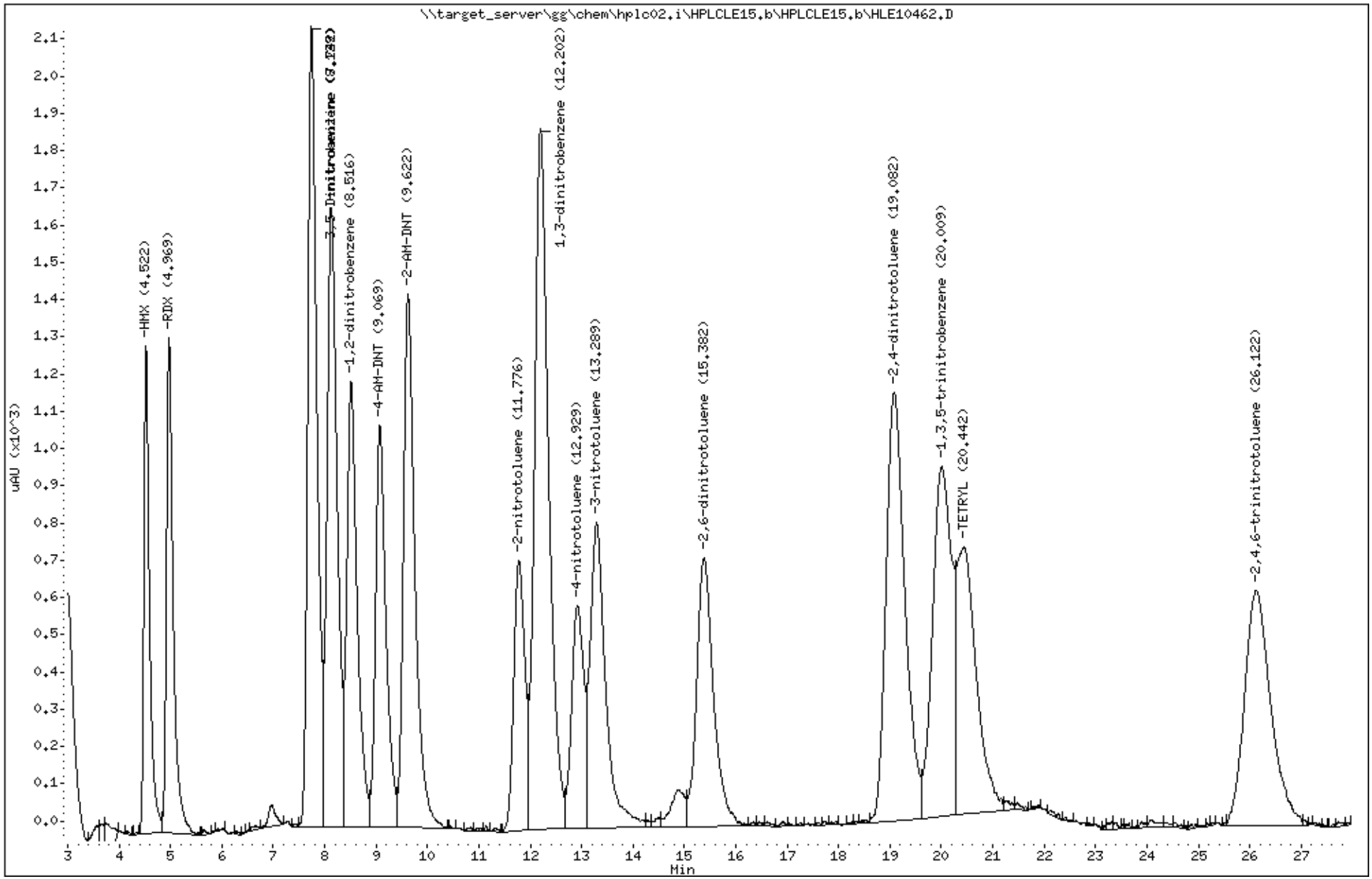
Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00500	Final Volume (L)
Vo	0.50000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

						AMOUNTS		
	Compounds	RT	EXP RT	DLT RT	RESPONSE	CAL-AMT (ug/mL)	ON-COL (ug/mL)	REVIEW CODE
	1 HMX	4.522	4.525	-0.003	1306	0.25000	0.242(a)	
	4 RDX	4.968	4.971	-0.003	1329	0.25000	0.245(a)	
	51 3,5-Dinitroaniline	7.742	7.758	-0.016	2149	0.25000	0.258	
	7 nitrobenzene	8.128	8.145	-0.017	1663	0.25000	0.242(a)	
$	2 1,2-dinitrobenzene	8.515	8.538	-0.023	1195	0.25000	0.258	
	11 4-AM-DNT	9.068	9.098	-0.030	1078	0.25000	0.250	
	12 2-AM-DNT	9.622	9.645	-0.023	1432	0.25000	0.248(a)	
	15 2-nitrotoluene	11.775	11.805	-0.030	726	0.25000	0.251	
	6 1,3-dinitrobenzene	12.202	12.238	-0.036	1882	0.25000	0.253	
	16 4-nitrotoluene	12.928	12.958	-0.030	599	0.25000	0.256	
	17 3-nitrotoluene	13.288	13.325	-0.037	821	0.25000	0.247(a)	
	13 2,6-dinitrotoluene	15.382	15.431	-0.049	721	0.25000	0.238(a)	
	14 2,4-dinitrotoluene	19.082	19.158	-0.076	1150	0.25000	0.249(a)	
	5 1,3,5-trinitrobenzene	20.008	20.071	-0.063	940	0.25000	0.255	
	9 TETRYL	20.442	20.518	-0.076	718	0.25000	0.283	
	10 2,4,6-trinitrotoluene	26.122	26.225	-0.103	631	0.25000	0.250	

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HPLCLE15.b\HLE10462.D
Date : 15-MAY-2018 16:26
Client ID:
Instrument: hplc02.i
Sample Info: WG228756-2,SL4180
Purge Volume: 0.5
Operator: AAB
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 2000258

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
SDG: SL4180
Lab ID : WG228756-3
Analytical Date: 05/15/18 22:07
Lab File ID : HLE10473.D
Instrument ID: HPLC02
Initial Calibration Date(s): 03/20/18 14:54 03/20/18 18:05
Column ID: B

	Compound	$\overline{RRF}$/Amount	RF0.500	CCAL RRF0.500	Min	%D/ %Drift	Max %D/ %Drift	Curve Type
1	HMX	5391	5318	5318	0.010	-1.34757	20.00000	Averaged
4	RDX	0.50000	0.49292	5408	0.010	-1.41570	20.00000	Linear
5	1,3,5-trinitrobenzene	3689	3878	3878	0.010	5.12741	20.00000	Averaged
6	1,3-dinitrobenzene	7444	7648	7648	0.010	2.74441	20.00000	Averaged
7	nitrobenzene	6867	6704	6704	0.010	-2.36859	20.00000	Averaged
9	TETRYL	2535	2828	2828	0.010	11.57705	20.00000	Averaged
10	2,4,6-trinitrotoluene	2526	2528	2528	0.010	0.06503	20.00000	Averaged
11	4-AM-DNT	4303	4350	4350	0.010	1.09897	20.00000	Averaged
12	2-AM-DNT	5761	5854	5854	0.010	1.61934	20.00000	Averaged
13	2,6-dinitrotoluene	0.50000	0.49411	2908	0.010	-1.17780	20.00000	Linear
14	2,4-dinitrotoluene	4619	4744	4744	0.010	2.71733	20.00000	Averaged
15	2-nitrotoluene	2890	2964	2964	0.010	2.57577	20.00000	Averaged
16	4-nitrotoluene	2342	2428	2428	0.010	3.65311	20.00000	Averaged
17	3-nitrotoluene	3326	3328	3328	0.010	0.07088	20.00000	Averaged
2	1,2-dinitrobenzene	4627	4816	4816	0.010	4.07508	20.00000	Averaged

*** = Compound out of QC criteria**

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Data File: HLE10473.D
Report Date: 30-May-2018 11:00

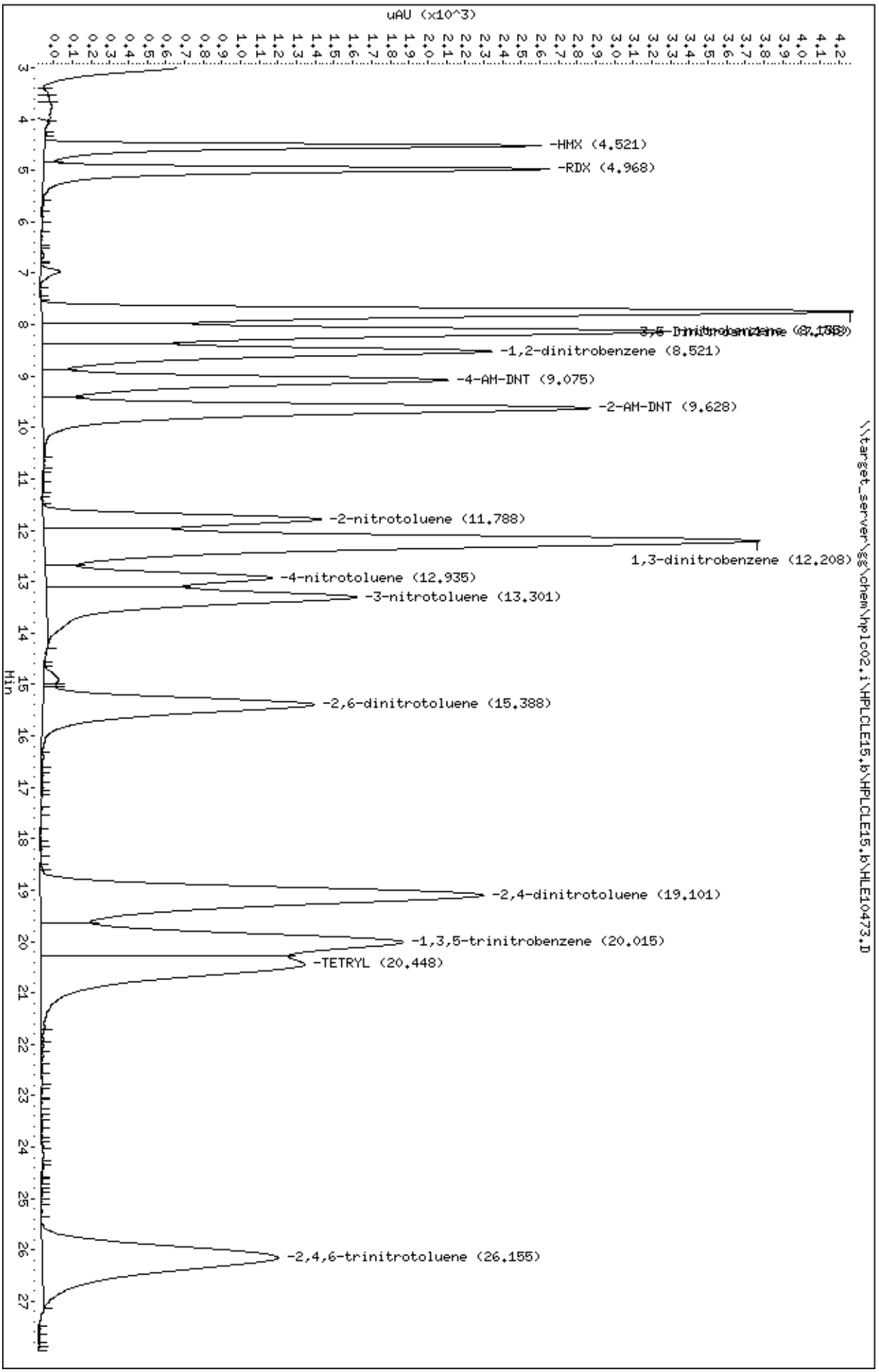
Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HPLCLE15.b\HLE10473.D
Lab Smp Id: WG228756-3
Inj Date : 15-MAY-2018 22:07
Operator : AAB   Inst ID: hplc02.i
Smp Info : WG228756-3,SL4180
Misc Info : WG228756,WG228334,WG225143-5,SL4180-29
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCLE15.b\EXPB05A.m\EXPB05A.m
Meth Date : 21-May-2018 08:35 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05   Cal File: HLC10037.D
Als bottle: 92   Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*(Vt/Vo) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00500	Final Volume (L)
Vo	0.50000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)	REVIEW CODE
1	HMX	4.521	4.525	-0.004	2659	0.25000	0.493	
4	RDX	4.968	4.971	-0.003	2704	0.25000	0.493	
51	3,5-Dinitroaniline	7.748	7.758	-0.010	4342	0.25000	0.522	
7	nitrobenzene	8.134	8.145	-0.011	3352	0.25000	0.488	
$ 2	1,2-dinitrobenzene	8.521	8.538	-0.017	2408	0.25000	0.520	
11	4-AM-DNT	9.074	9.098	-0.024	2175	0.25000	0.505	
12	2-AM-DNT	9.628	9.645	-0.017	2927	0.25000	0.508	
15	2-nitrotoluene	11.788	11.805	-0.017	1482	0.25000	0.513	
6	1,3-dinitrobenzene	12.208	12.238	-0.030	3824	0.25000	0.514	
16	4-nitrotoluene	12.934	12.958	-0.024	1214	0.25000	0.518	
17	3-nitrotoluene	13.301	13.325	-0.024	1664	0.25000	0.500	
13	2,6-dinitrotoluene	15.388	15.431	-0.043	1454	0.25000	0.494	
14	2,4-dinitrotoluene	19.101	19.158	-0.057	2372	0.25000	0.514	
5	1,3,5-trinitrobenzene	20.014	20.071	-0.057	1939	0.25000	0.526	
9	TETRYL	20.448	20.518	-0.070	1414	0.25000	0.558	
10	2,4,6-trinitrotoluene	26.154	26.225	-0.071	1264	0.25000	0.500	


Data File: \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HPLCLE15.b\HLE10473.D
Date : 15-MAY-2018 22:07
Client ID:
Sample Info: WG228756-3,SL4180
Purge Volume: 0.5
Column phase: Acclaim Exp E1
Instrument: hplc02.i
Operator: AAB
Column diameter: 4.60
\\target_server\gg\chem\hplc02.i\HPLCLE15.b\HPLCLE15.b\HLE10473.D
uAU (x10^3)
Min
-HMX (4.521)
-RDX (4.968)
-1,2-dinitrobenzene (8.521)
-4-AM-DNT (9.075)
-2-AM-DNT (9.628)
-2-nitrotoluene (11.788)
1,3-dinitrobenzene (12.208)
-4-nitrotoluene (12.935)
-3-nitrotoluene (13.301)
-2,6-dinitrotoluene (15.388)
-2,4-dinitrotoluene (19.101)
-1,3,5-trinitrobenzene (20.015)
-TETRYL (20.448)
-2,4,6-trinitrotoluene (26.155)

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
SDG: SL4180
Lab ID : WG228756-7
Analytical Date: 05/16/18 21:15
Lab File ID : HLE10515.D
Instrument ID: HPLC02
Initial Calibration Date(s): 03/20/18 14:54 03/20/18 18:05
Column ID: B

	Compound	$\overline{RRF}$/Amount	RF0.500	CCAL RRF0.500	Min	%D/ %Drift	Max %D/ %Drift	Curve Type
1	HMX	5391	5334	5334	0.010	-1.05076	20.00000	Averaged
4	RDX	0.50000	0.49346	5414	0.010	-1.30763	20.00000	Linear
5	1,3,5-trinitrobenzene	3689	3902	3902	0.010	5.77802	20.00000	Averaged
6	1,3-dinitrobenzene	7444	7676	7676	0.010	3.12056	20.00000	Averaged
7	nitrobenzene	6867	6726	6726	0.010	-2.04820	20.00000	Averaged
9	TETRYL	2535	2874	2874	0.010	13.39195	20.00000	Averaged
10	2,4,6-trinitrotoluene	2526	2584	2584	0.010	2.28166	20.00000	Averaged
11	4-AM-DNT	4303	4350	4350	0.010	1.09897	20.00000	Averaged
12	2-AM-DNT	5761	5874	5874	0.010	1.96652	20.00000	Averaged
13	2,6-dinitrotoluene	0.50000	0.49690	2924	0.010	-0.62005	20.00000	Linear
14	2,4-dinitrotoluene	4619	4748	4748	0.010	2.80394	20.00000	Averaged
15	2-nitrotoluene	2890	2976	2976	0.010	2.99105	20.00000	Averaged
16	4-nitrotoluene	2342	2460	2460	0.010	5.01921	20.00000	Averaged
17	3-nitrotoluene	3326	3338	3338	0.010	0.37157	20.00000	Averaged
2	1,2-dinitrobenzene	4627	4818	4818	0.010	4.11830	20.00000	Averaged

*** = Compound out of QC criteria**

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Data File: HLE10515.D
Report Date: 30-May-2018 11:23

Katahdin Analytical Services

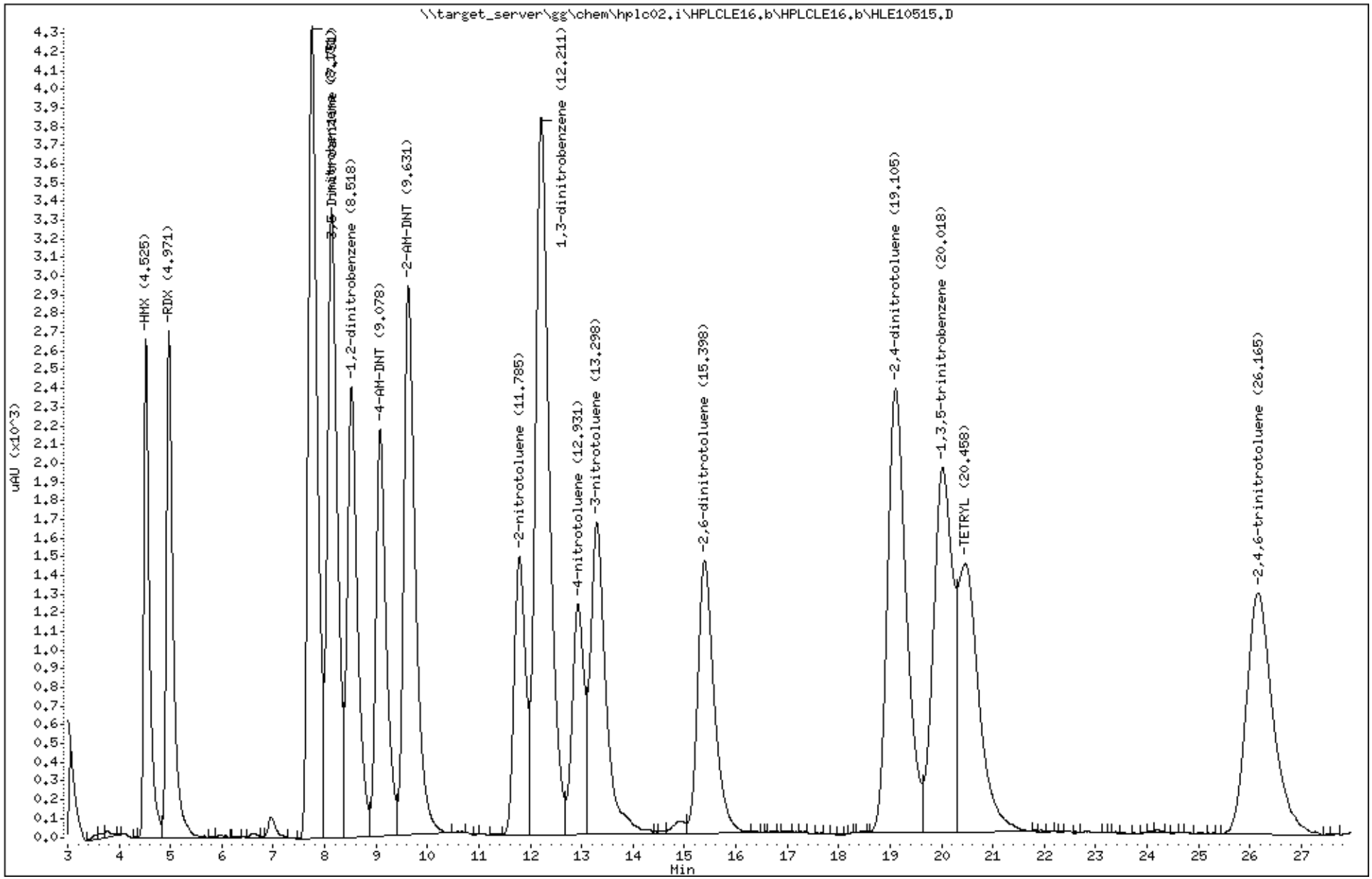
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HPLCLE16.b\HLE10515.D
Lab Smp Id: WG228756-7
Inj Date : 16-MAY-2018 21:15
Operator : AAB   Inst ID: hplc02.i
Smp Info : WG228756-7,SL4180
Misc Info : WG228756,WG228439,WG225143-5,SL4180-1
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\EXPB05A.m\EXPB05A.m
Meth Date : 22-May-2018 05:33 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05   Cal File: HLC10037.D
Als bottle: 34   Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01000	Weight of Sample (Kg)
M	0.00000	% Moisture
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)	REVIEW CODE
1	HMX	4.524	4.522	0.002	2667	0.25000	0.495	
4	RDX	4.971	4.975	-0.004	2707	0.25000	0.493	
51	3,5-Dinitroaniline	7.751	7.762	-0.011	4343	0.25000	0.522	
7	nitrobenzene	8.131	8.142	-0.011	3363	0.25000	0.490	
$ 2	1,2-dinitrobenzene	8.518	8.528	-0.010	2409	0.25000	0.520	
11	4-AM-DNT	9.078	9.095	-0.017	2175	0.25000	0.505	
12	2-AM-DNT	9.631	9.648	-0.017	2937	0.25000	0.510	
15	2-nitrotoluene	11.784	11.808	-0.024	1488	0.25000	0.515	
6	1,3-dinitrobenzene	12.211	12.235	-0.024	3838	0.25000	0.516	
16	4-nitrotoluene	12.931	12.955	-0.024	1230	0.25000	0.525	
17	3-nitrotoluene	13.298	13.322	-0.024	1669	0.25000	0.502	
13	2,6-dinitrotoluene	15.398	15.428	-0.030	1462	0.25000	0.497	
14	2,4-dinitrotoluene	19.104	19.162	-0.058	2374	0.25000	0.514	
5	1,3,5-trinitrobenzene	20.018	20.082	-0.064	1951	0.25000	0.529	
9	TETRYL	20.458	20.528	-0.070	1437	0.25000	0.567	
10	2,4,6-trinitrotoluene	26.164	26.228	-0.064	1292	0.25000	0.511	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HPLCLE16.b\HLE10515.D
Date : 16-MAY-2018 21:15
Client ID:
Instrument: hplc02.i
Sample Info: WG228756-7,SL4180
Operator: AAB
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 2000264

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
SDG: SL4180
Lab ID : WG228756-8
Analytical Date: 05/17/18 02:56
Lab File ID : HLE10526.D
Instrument ID: HPLC02
Initial Calibration Date(s): 03/20/18 14:54 03/20/18 18:05
Column ID: B

	Compound	$\overline{RRF}$/Amount	RF0.250	CCAL RRF0.250	Min	%D/ %Drift	Max %D/ %Drift	Curve Type
1	HMX	5391	5264	5264	0.010	-2.34931	20.00000	Averaged
4	RDX	0.25000	0.24327	5272	0.010	-2.69087	20.00000	Linear
5	1,3,5-trinitrobenzene	3689	3820	3820	0.010	3.55511	20.00000	Averaged
6	1,3-dinitrobenzene	7444	7532	7532	0.010	1.18604	20.00000	Averaged
7	nitrobenzene	6867	6596	6596	0.010	-3.94141	20.00000	Averaged
9	TETRYL	2535	2836	2836	0.010	11.89268	20.00000	Averaged
10	2,4,6-trinitrotoluene	2526	2516	2516	0.010	-0.40996	20.00000	Averaged
11	4-AM-DNT	4303	4308	4308	0.010	0.12285	20.00000	Averaged
12	2-AM-DNT	5761	5792	5792	0.010	0.54309	20.00000	Averaged
13	2,6-dinitrotoluene	0.25000	0.23720	2868	0.010	-5.12124	20.00000	Linear
14	2,4-dinitrotoluene	4619	4676	4676	0.010	1.24499	20.00000	Averaged
15	2-nitrotoluene	2890	2904	2904	0.010	0.49933	20.00000	Averaged
16	4-nitrotoluene	2342	2388	2388	0.010	1.94548	20.00000	Averaged
17	3-nitrotoluene	3326	3220	3220	0.010	-3.17661	20.00000	Averaged
2	1,2-dinitrobenzene	4627	4764	4764	0.010	2.95135	20.00000	Averaged

*** = Compound out of QC criteria**

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Data File: HLE10526.D
Report Date: 30-May-2018 11:23

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HPLCLE16.b\HLE10526.D
Lab Smp Id: WG228756-8
Inj Date : 17-MAY-2018 02:56
Operator : AAB Inst ID: hplc02.i
Smp Info : WG228756-8,SL4180
Misc Info : WG228756,WG228439,WG225143-5,SL4180-1
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\EXPB05A.m\EXPB05A.m
Meth Date : 22-May-2018 05:33 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 45 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01000	Weight of Sample (Kg)
M	0.00000	% Moisture
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	ON-COL (ug/mL)	REVIEW CODE
1	HMX	4.525	4.522	0.003	1316	0.25000	0.244(a)	
4	RDX	4.972	4.975	-0.003	1318	0.25000	0.243(a)	
51	3,5-Dinitroaniline	7.752	7.762	-0.010	2140	0.25000	0.257	
7	nitrobenzene	8.132	8.142	-0.010	1649	0.25000	0.240(a)	
$ 2	1,2-dinitrobenzene	8.525	8.528	-0.003	1191	0.25000	0.257	
11	4-AM-DNT	9.085	9.095	-0.010	1077	0.25000	0.250	
12	2-AM-DNT	9.632	9.648	-0.016	1448	0.25000	0.251	
15	2-nitrotoluene	11.785	11.808	-0.023	726	0.25000	0.251	
6	1,3-dinitrobenzene	12.219	12.235	-0.016	1883	0.25000	0.253	
16	4-nitrotoluene	12.939	12.955	-0.016	597	0.25000	0.255	
17	3-nitrotoluene	13.299	13.322	-0.023	805	0.25000	0.242(aM)	M3
13	2,6-dinitrotoluene	15.405	15.428	-0.023	717	0.25000	0.237(a)	
14	2,4-dinitrotoluene	19.119	19.162	-0.043	1169	0.25000	0.253	
5	1,3,5-trinitrobenzene	20.045	20.082	-0.037	955	0.25000	0.259	
9	TETRYL	20.485	20.528	-0.043	709	0.25000	0.280	
10	2,4,6-trinitrotoluene	26.179	26.228	-0.049	629	0.25000	0.249(a)	

AAB

12:58 pm, May 30, 2018

QC Flag Legend

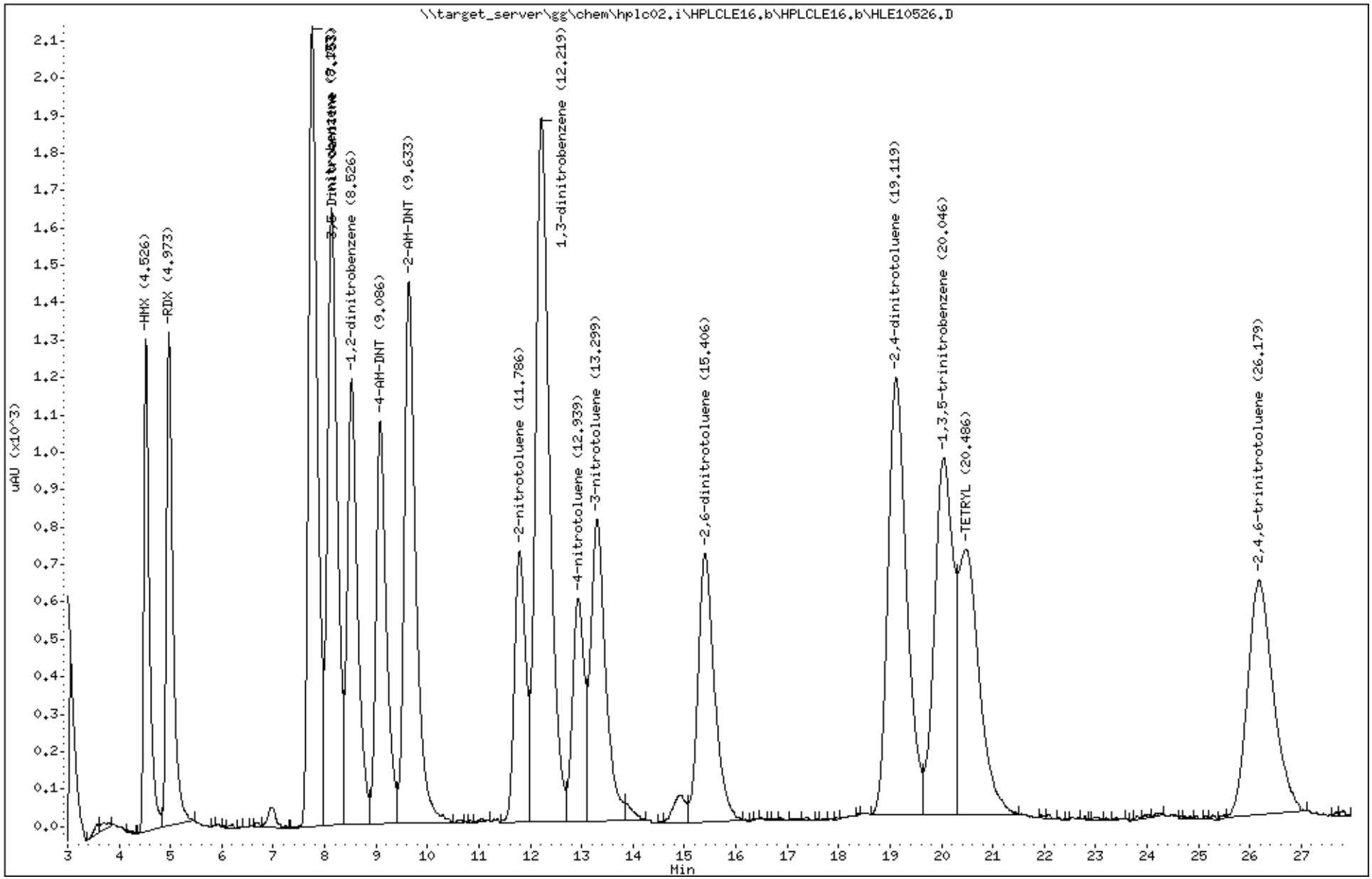
a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

Data File: HLE10526.D
Report Date: 30-May-2018 11:23

QC Flag Legend

M - Compound response manually integrated.

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HPLCLE16.b\HLE10526.D
Date : 17-MAY-2018 02:56
Client ID:
Instrument: hplc02.i
Sample Info: WG228756-8,SL4180
Operator: AAB
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 2000268

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
Lab ID : WG228756-9
Lab File ID : HLE10537.D
Initial Calibration Date(s): 03/20/18 14:54 03/20/18 18:05

SDG: SL4180
Analytical Date: 05/17/18 08:37
Instrument ID: HPLC02
Column ID: B

	Compound	$\overline{RRF}$/Amount	RF0.500	CCAL RRF0.500	Min	%D/ %Drift	Max %D/ %Drift	Curve Type
1	HMX	5391	5336	5336	0.010	-1.01366	20.00000	Averaged
4	RDX	0.50000	0.49148	5392	0.010	-1.70389	20.00000	Linear
5	1,3,5-trinitrobenzene	3689	3860	3860	0.010	4.63945	20.00000	Averaged
6	1,3-dinitrobenzene	7444	7642	7642	0.010	2.66380	20.00000	Averaged
7	nitrobenzene	6867	6696	6696	0.010	-2.48510	20.00000	Averaged
9	TETRYL	2535	2836	2836	0.010	11.89268	20.00000	Averaged
10	2,4,6-trinitrotoluene	2526	2534	2534	0.010	0.30252	20.00000	Averaged
11	4-AM-DNT	4303	4332	4332	0.010	0.68063	20.00000	Averaged
12	2-AM-DNT	5761	5844	5844	0.010	1.44575	20.00000	Averaged
13	2,6-dinitrotoluene	0.50000	0.49097	2890	0.010	-1.80527	20.00000	Linear
14	2,4-dinitrotoluene	4619	4726	4726	0.010	2.32760	20.00000	Averaged
15	2-nitrotoluene	2890	2966	2966	0.010	2.64498	20.00000	Averaged
16	4-nitrotoluene	2342	2424	2424	0.010	3.48234	20.00000	Averaged
17	3-nitrotoluene	3326	3294	3294	0.010	-0.95148	20.00000	Averaged
2	1,2-dinitrobenzene	4627	4782	4782	0.010	3.34033	20.00000	Averaged

*** = Compound out of QC criteria**

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Data File: HLE10537.D
Report Date: 30-May-2018 11:24

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HPLCLE16.b\HLE10537.D
Lab Smp Id: WG228756-9
Inj Date : 17-MAY-2018 08:37
Operator : AAB Inst ID: hplc02.i
Smp Info : WG228756-9,SL4180
Misc Info : WG228756,WG228439,WG225143-5,SL4180-1
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\EXPB05A.m\EXPB05A.m
Meth Date : 22-May-2018 05:33 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 56 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01000	Weight of Sample (Kg)
M	0.00000	% Moisture
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	ON-COL (ug/mL)	REVIEW CODE
1	HMX	4.526	4.522	0.004	2668	0.25000	0.495	
4	RDX	4.973	4.975	-0.002	2696	0.25000	0.491	
51	3,5-Dinitroaniline	7.766	7.762	0.004	4342	0.25000	0.522	
7	nitrobenzene	8.146	8.142	0.004	3348	0.25000	0.488	
$ 2	1,2-dinitrobenzene	8.539	8.528	0.011	2391	0.25000	0.517	
11	4-AM-DNT	9.099	9.095	0.004	2166	0.25000	0.503	
12	2-AM-DNT	9.653	9.648	0.005	2922	0.25000	0.507	
15	2-nitrotoluene	11.813	11.808	0.005	1483	0.25000	0.513	
6	1,3-dinitrobenzene	12.239	12.235	0.004	3821	0.25000	0.513	
16	4-nitrotoluene	12.959	12.955	0.004	1212	0.25000	0.517	
17	3-nitrotoluene	13.326	13.322	0.004	1647	0.25000	0.495(M)	M3
13	2,6-dinitrotoluene	15.439	15.428	0.011	1445	0.25000	0.491	
14	2,4-dinitrotoluene	19.166	19.162	0.004	2363	0.25000	0.512	
5	1,3,5-trinitrobenzene	20.086	20.082	0.004	1930	0.25000	0.523	
9	TETRYL	20.539	20.528	0.011	1418	0.25000	0.559	
10	2,4,6-trinitrotoluene	26.253	26.228	0.025	1267	0.25000	0.502	



12:58 pm, May 30, 2018

QC Flag Legend

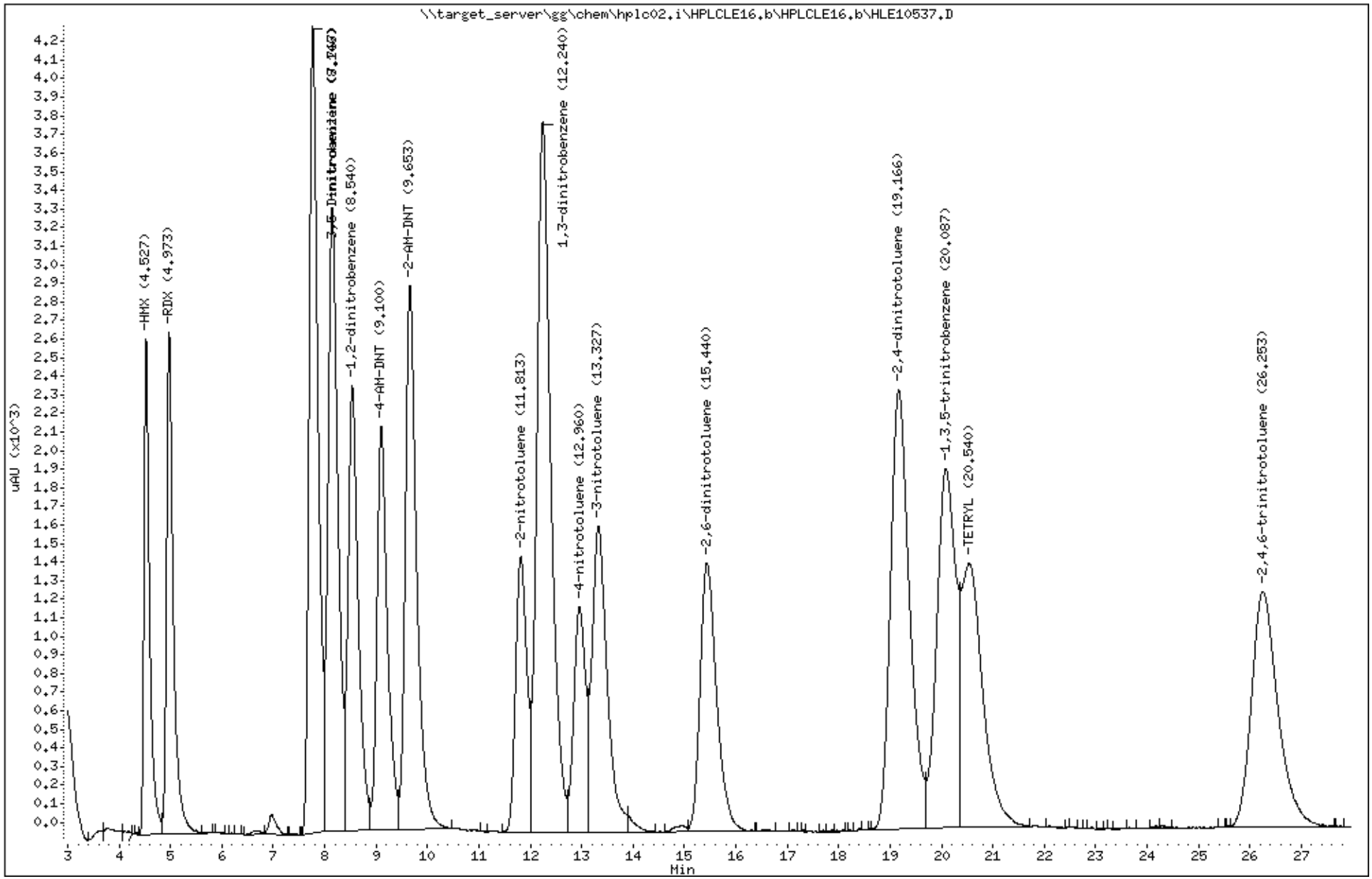
M - Compound response manually integrated.

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HPLCLE16.b\HLE10537.D
Date : 17-MAY-2018 08:37
Client ID:
Sample Info: WG228756-9,SL4180

Instrument: hplc02.i

Operator: AAB
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 2000271

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
SDG: SL4180
Lab ID : WG228756-10
Analytical Date: 05/17/18 14:18
Lab File ID : HLE10548.D
Instrument ID: HPLC02
Initial Calibration Date(s): 03/20/18 14:54 03/20/18 18:05
Column ID: B

	Compound	$\overline{RRF}$/Amount	RF0.250	CCAL RRF0.250	Min	%D/ %Drift	Max %D/ %Drift	Curve Type
1	HMX	5391	5212	5212	0.010	-3.31394	20.00000	Averaged
4	RDX	0.25000	0.24291	5264	0.010	-2.83497	20.00000	Linear
5	1,3,5-trinitrobenzene	3689	3808	3808	0.010	3.22980	20.00000	Averaged
6	1,3-dinitrobenzene	7444	7448	7448	0.010	0.05757	20.00000	Averaged
7	nitrobenzene	6867	6572	6572	0.010	-4.29093	20.00000	Averaged
9	TETRYL	2535	2844	2844	0.010	12.20832	20.00000	Averaged
10	2,4,6-trinitrotoluene	2526	2480	2480	0.010	-1.83494	20.00000	Averaged
11	4-AM-DNT	4303	4228	4228	0.010	-1.73645	20.00000	Averaged
12	2-AM-DNT	5761	5720	5720	0.010	-0.70676	20.00000	Averaged
13	2,6-dinitrotoluene	0.25000	0.23685	2864	0.010	-5.26068	20.00000	Linear
14	2,4-dinitrotoluene	4619	4668	4668	0.010	1.07178	20.00000	Averaged
15	2-nitrotoluene	2890	2900	2900	0.010	0.36090	20.00000	Averaged
16	4-nitrotoluene	2342	2268	2268	0.010	-3.17741	20.00000	Averaged
17	3-nitrotoluene	3326	3108	3108	0.010	-6.54438	20.00000	Averaged
2	1,2-dinitrobenzene	4627	4664	4664	0.010	0.79032	20.00000	Averaged

*** = Compound out of QC criteria**

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Data File: HLE10548.D
Report Date: 30-May-2018 11:24

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HPLCLE16.b\HLE10548.D
Lab Smp Id: WG228756-10
Inj Date : 17-MAY-2018 14:18
Operator : AAB   Inst ID: hplc02.i
Smp Info : WG228756-10,SL4180
Misc Info : WG228756,WG228439,WG225143-5,SL4180-1
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\EXPB05A.m\EXPB05A.m
Meth Date : 22-May-2018 05:33 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05   Cal File: HLC10037.D
Als bottle: 67   Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01000	Weight of Sample (Kg)
M	0.00000	% Moisture
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)	REVIEW CODE
1	HMX	4.528	4.522	0.006	1303	0.25000	0.242(a)	
4	RDX	4.975	4.975	0.000	1316	0.25000	0.243(a)	
51	3,5-Dinitroaniline	7.761	7.762	-0.001	2121	0.25000	0.255	
7	nitrobenzene	8.141	8.142	-0.001	1643	0.25000	0.239(a)	
$ 2	1,2-dinitrobenzene	8.535	8.528	0.007	1166	0.25000	0.252	
11	4-AM-DNT	9.095	9.095	0.000	1057	0.25000	0.246(a)	
12	2-AM-DNT	9.648	9.648	0.000	1430	0.25000	0.248(a)	
15	2-nitrotoluene	11.808	11.808	0.000	725	0.25000	0.251	
6	1,3-dinitrobenzene	12.228	12.235	-0.007	1862	0.25000	0.250	
16	4-nitrotoluene	12.948	12.955	-0.007	567	0.25000	0.242(a)	
17	3-nitrotoluene	13.321	13.322	-0.001	777	0.25000	0.234(a)	
13	2,6-dinitrotoluene	15.428	15.428	0.000	716	0.25000	0.237(a)	
14	2,4-dinitrotoluene	19.148	19.162	-0.014	1167	0.25000	0.253	
5	1,3,5-trinitrobenzene	20.075	20.082	-0.007	952	0.25000	0.258	
9	TETRYL	20.515	20.528	-0.013	711	0.25000	0.280	
10	2,4,6-trinitrotoluene	26.221	26.228	-0.007	620	0.25000	0.245(a)	

QC Flag Legend

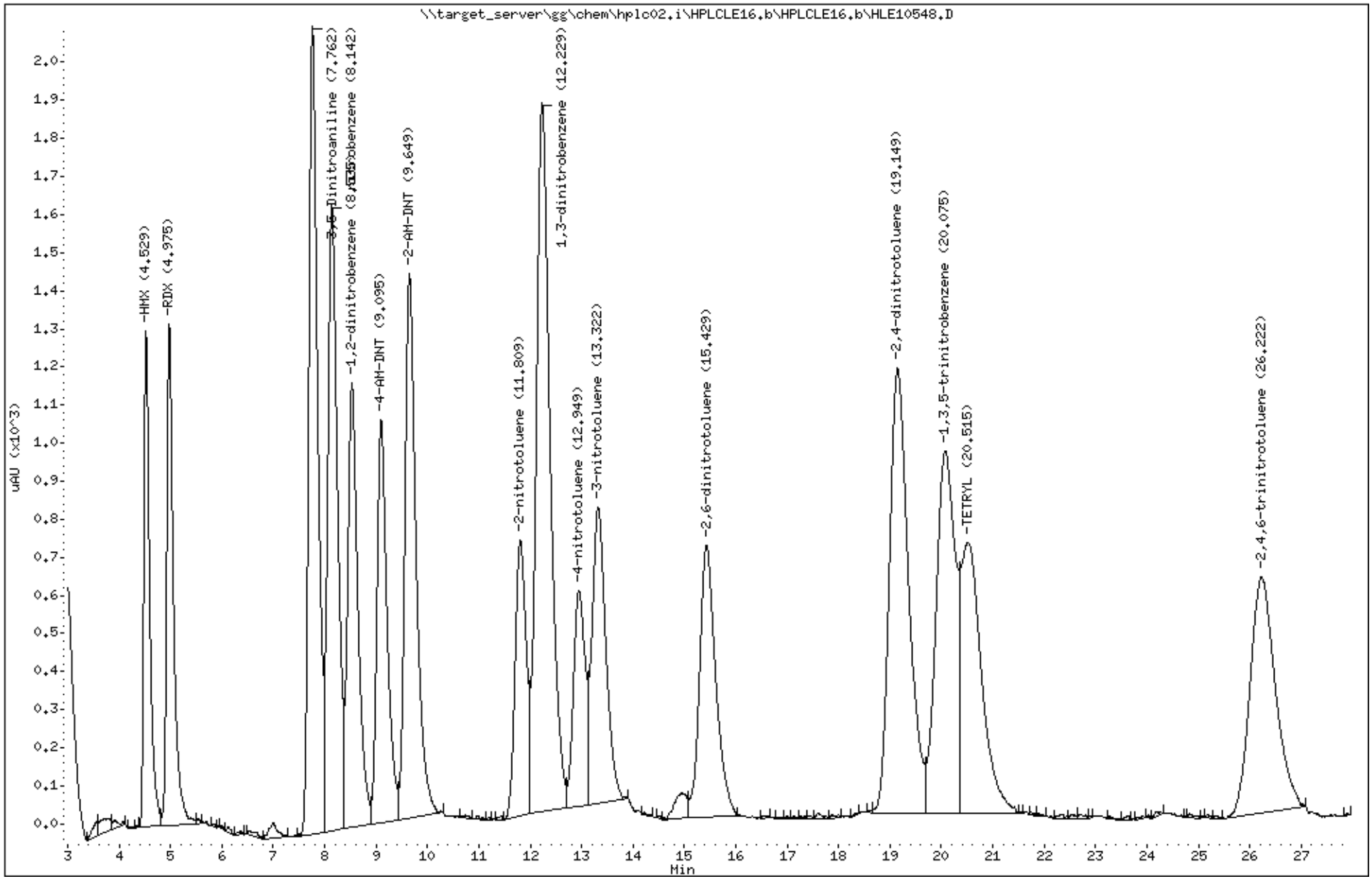
a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HPLCLE16.b\HLE10548.D
Date : 17-MAY-2018 14:18
Client ID:
Sample Info: WG228756-10,SL4180

Instrument: hplc02.i

Operator: AAB
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 2000274

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
SDG: SL4180
Lab ID : WG228756-15
Analytical Date: 05/22/18 15:47
Lab File ID : HLE10639.D
Instrument ID: HPLC02
Initial Calibration Date(s): 03/20/18 14:54 03/20/18 18:05
Column ID: B

	Compound	$\overline{RRF}$/Amount	RF0.250	CCAL RRF0.250	Min	%D/ %Drift	Max %D/ %Drift	Curve Type
1	HMX	5391	5208	5208	0.010	-3.38815	20.00000	Averaged
4	RDX	0.25000	0.23949	5188	0.010	-4.20390	20.00000	Linear
5	1,3,5-trinitrobenzene	3689	3836	3836	0.010	3.98885	20.00000	Averaged
6	1,3-dinitrobenzene	7444	7468	7468	0.010	0.32626	20.00000	Averaged
7	nitrobenzene	6867	6620	6620	0.010	-3.59190	20.00000	Averaged
9	TETRYL	2535	2812	2812	0.010	10.94578	20.00000	Averaged
10	2,4,6-trinitrotoluene	2526	2528	2528	0.010	0.06503	20.00000	Averaged
11	4-AM-DNT	4303	4268	4268	0.010	-0.80680	20.00000	Averaged
12	2-AM-DNT	5761	5728	5728	0.010	-0.56789	20.00000	Averaged
13	2,6-dinitrotoluene	0.25000	0.23580	2852	0.010	-5.67899	20.00000	Linear
14	2,4-dinitrotoluene	4619	4648	4648	0.010	0.63874	20.00000	Averaged
15	2-nitrotoluene	2890	2904	2904	0.010	0.49933	20.00000	Averaged
16	4-nitrotoluene	2342	2460	2460	0.010	5.01921	20.00000	Averaged
17	3-nitrotoluene	3326	3280	3280	0.010	-1.37245	20.00000	Averaged
2	1,2-dinitrobenzene	4627	4700	4700	0.010	1.56829	20.00000	Averaged

*** = Compound out of QC criteria**

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Data File: HLE10639.D
Report Date: 30-May-2018 11:31

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HPLCLE22.b\HLE10639.D
Lab Smp Id: WG228756-15
Inj Date : 22-MAY-2018 15:47
Operator : AC Inst ID: hplc02.i
Smp Info : WG228756-15,SL4180
Misc Info : WG228756,WG228439,WG225143-5,SL4180-1
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\EXPB05A.m\EXPB05A.m
Meth Date : 23-May-2018 13:40 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 58 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01000	Weight of Sample (Kg)
M	0.00000	% Moisture
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)	REVIEW CODE
1	HMX	4.552	4.547	0.005	1302	0.25000	0.242(a)	
4	RDX	4.998	4.994	0.004	1297	0.25000	0.239(a)	
51	3,5-Dinitroaniline	7.825	7.807	0.018	2108	0.25000	0.253	
7	nitrobenzene	8.192	8.181	0.011	1655	0.25000	0.241(a)	
$ 2	1,2-dinitrobenzene	8.592	8.581	0.011	1175	0.25000	0.254	
11	4-AM-DNT	9.172	9.154	0.018	1067	0.25000	0.248(a)	
12	2-AM-DNT	9.725	9.714	0.011	1432	0.25000	0.248(a)	
15	2-nitrotoluene	11.878	11.867	0.011	726	0.25000	0.251(M)	M8
6	1,3-dinitrobenzene	12.318	12.307	0.011	1867	0.25000	0.251(M)	M8
16	4-nitrotoluene	13.032	13.021	0.011	615	0.25000	0.262(M)	M8
17	3-nitrotoluene	13.405	13.394	0.011	820	0.25000	0.246(aM)	M8
13	2,6-dinitrotoluene	15.532	15.527	0.005	713	0.25000	0.236(a)	
14	2,4-dinitrotoluene	19.272	19.281	-0.009	1162	0.25000	0.252	
5	1,3,5-trinitrobenzene	20.198	20.207	-0.009	959	0.25000	0.260	
9	TETRYL	20.672	20.694	-0.022	703	0.25000	0.277	
10	2,4,6-trinitrotoluene	26.372	26.407	-0.035	632	0.25000	0.250	



12:58 pm, May 30, 2018

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

Data File: HLE10639.D
Report Date: 30-May-2018 11:31

QC Flag Legend

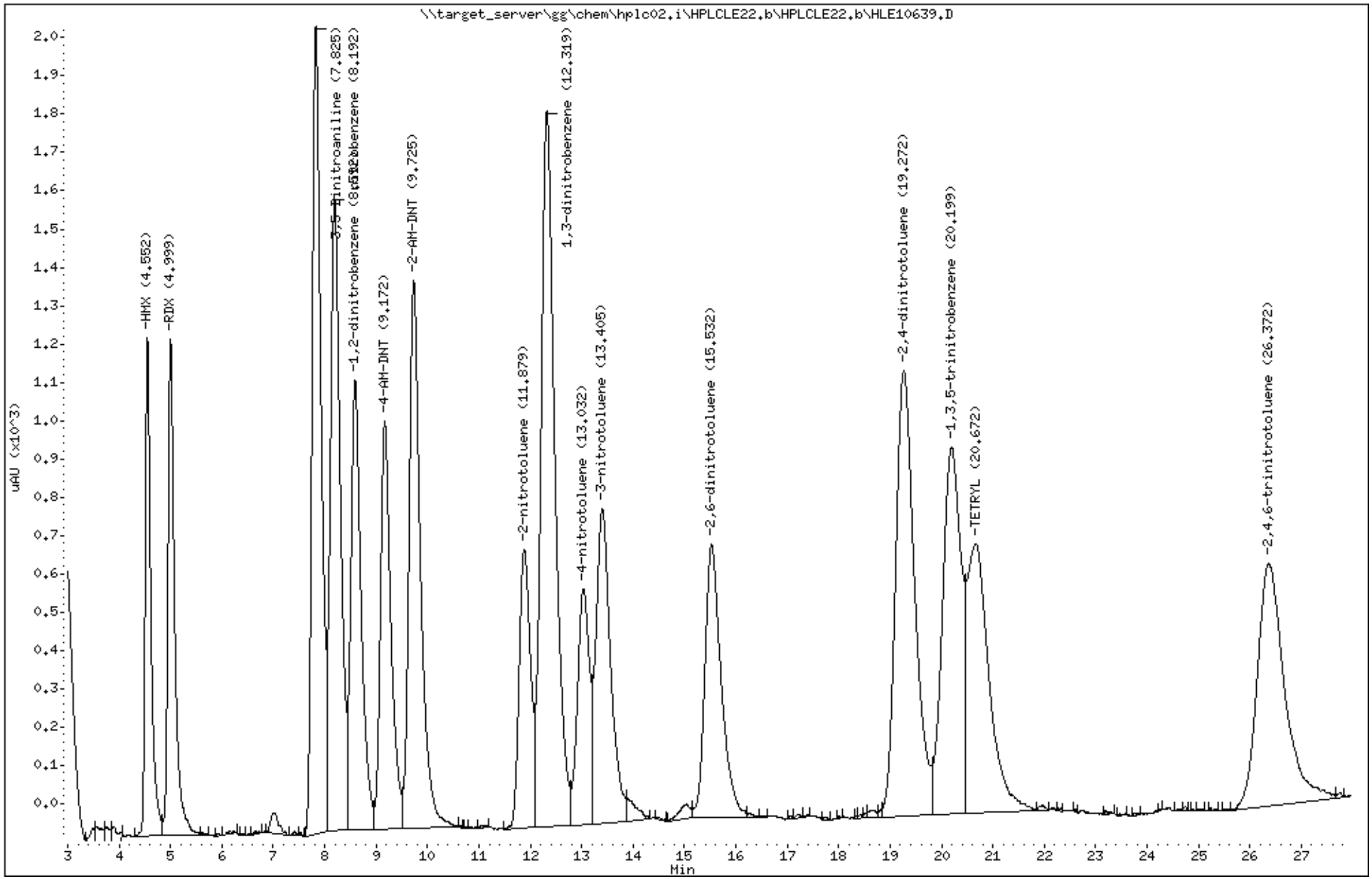
M - Compound response manually integrated.

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HPLCLE22.b\HLE10639.D
Date : 22-MAY-2018 15:47
Client ID:
Sample Info: WG228756-15,SL4180

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 2000278

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
Lab ID : WG228756-16
Lab File ID : HLE10650.D
Initial Calibration Date(s): 03/20/18 14:54 03/20/18 18:05

SDG: SL4180
Analytical Date: 05/22/18 21:28
Instrument ID: HPLC02
Column ID: B

	Compound	RRF/Amount	RF0.500	CCAL RRF0.500	Min	%D/ %Drift	Max %D/ %Drift	Curve Type
1	HMX	5391	5324	5324	0.010	-1.23627	20.00000	Averaged
4	RDX	0.50000	0.48752	5348	0.010	-2.49643	20.00000	Linear
5	1,3,5-trinitrobenzene	3689	3888	3888	0.010	5.39850	20.00000	Averaged
6	1,3-dinitrobenzene	7444	7684	7684	0.010	3.22804	20.00000	Averaged
7	nitrobenzene	6867	6786	6786	0.010	-1.17441	20.00000	Averaged
9	TETRYL	2535	2758	2758	0.010	8.81524	20.00000	Averaged
10	2,4,6-trinitrotoluene	2526	2568	2568	0.010	1.64834	20.00000	Averaged
11	4-AM-DNT	4303	4334	4334	0.010	0.72712	20.00000	Averaged
12	2-AM-DNT	5761	5842	5842	0.010	1.41104	20.00000	Averaged
13	2,6-dinitrotoluene	0.50000	0.49690	2924	0.010	-0.62005	20.00000	Linear
14	2,4-dinitrotoluene	4619	4768	4768	0.010	3.23698	20.00000	Averaged
15	2-nitrotoluene	2890	2990	2990	0.010	3.47555	20.00000	Averaged
16	4-nitrotoluene	2342	2462	2462	0.010	5.10459	20.00000	Averaged
17	3-nitrotoluene	3326	3326	3326	0.010	0.01074	20.00000	Averaged
2	1,2-dinitrobenzene	4627	4792	4792	0.010	3.55643	20.00000	Averaged

*** = Compound out of QC criteria**

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Data File: HLE10650.D
Report Date: 30-May-2018 11:31

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HPLCLE22.b\HLE10650.D
Lab Smp Id: WG228756-16
Inj Date : 22-MAY-2018 21:28
Operator : AC   Inst ID: hplc02.i
Smp Info : WG228756-16,SL4180
Misc Info : WG228756,WG228437,WG225143-5,SL4180-21
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\EXPB05A.m\EXPB05A.m
Meth Date : 23-May-2018 13:40 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05   Cal File: HLC10037.D
Als bottle: 69   Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01000	Weight of Sample (Kg)
M	0.00000	% Moisture
Cpnd Variable		Local Compound Variable

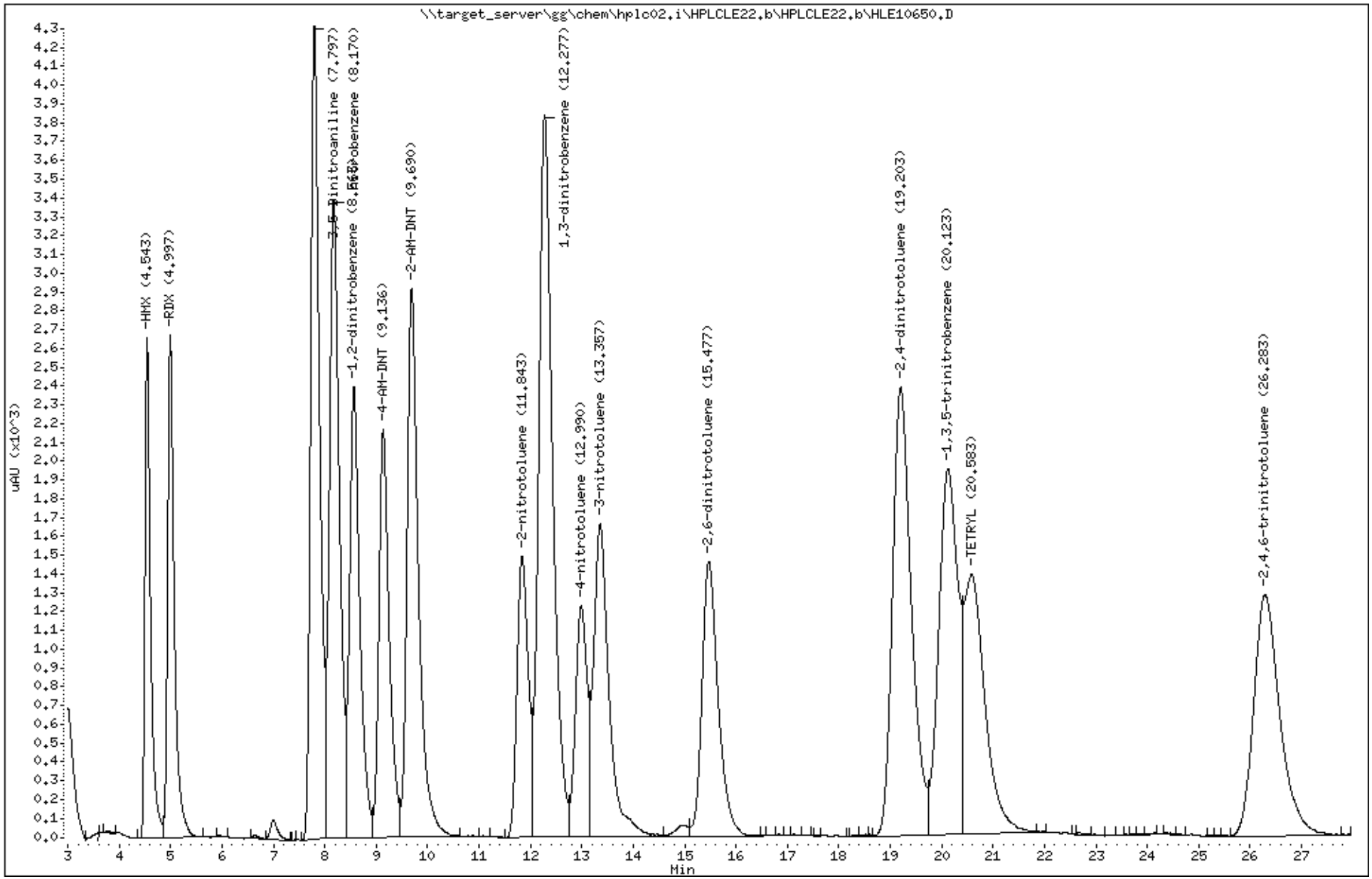
	Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)	REVIEW CODE
1	HMX	4.543	4.547	-0.004	2662	0.25000	0.494	
4	RDX	4.996	4.994	0.002	2674	0.25000	0.488	
51	3,5-Dinitroaniline	7.796	7.807	-0.011	4323	0.25000	0.520	
7	nitrobenzene	8.169	8.181	-0.012	3393	0.25000	0.494	
$ 2	1,2-dinitrobenzene	8.563	8.581	-0.018	2396	0.25000	0.518	
11	4-AM-DNT	9.136	9.154	-0.018	2167	0.25000	0.504	
12	2-AM-DNT	9.689	9.714	-0.025	2921	0.25000	0.507	
15	2-nitrotoluene	11.843	11.867	-0.024	1495	0.25000	0.517	
6	1,3-dinitrobenzene	12.276	12.307	-0.031	3842	0.25000	0.516	
16	4-nitrotoluene	12.989	13.021	-0.032	1231	0.25000	0.526	
17	3-nitrotoluene	13.356	13.394	-0.038	1663	0.25000	0.500	
13	2,6-dinitrotoluene	15.476	15.527	-0.051	1462	0.25000	0.497	
14	2,4-dinitrotoluene	19.203	19.281	-0.078	2384	0.25000	0.516	
5	1,3,5-trinitrobenzene	20.123	20.207	-0.084	1944	0.25000	0.527	
9	TETRYL	20.583	20.694	-0.111	1379	0.25000	0.544	
10	2,4,6-trinitrotoluene	26.283	26.407	-0.124	1284	0.25000	0.508	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HPLCLE22.b\HLE10650.D
Date : 22-MAY-2018 21:28
Client ID:
Sample Info: WG228756-16,SL4180

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 2000281

Katahdin
ANALYTICAL SERVICES

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
SDG: SL4180
Lab ID : WG228756-17
Analytical Date: 05/23/18 03:09
Lab File ID : HLE10661.D
Instrument ID: HPLC02
Initial Calibration Date(s): 03/20/18 14:54 03/20/18 18:05
Column ID: B

	Compound	$\overline{\text{RRF}}$/Amount	RF0.250	CCAL RRF0.250	Min	%D/ %Drift	Max %D/ %Drift	Curve Type
1	HMX	5391	5204	5204	0.010	-3.46235	20.00000	Averaged
4	RDX	0.25000	0.23913	5180	0.010	-4.34799	20.00000	Linear
5	1,3,5-trinitrobenzene	3689	3820	3820	0.010	3.55511	20.00000	Averaged
6	1,3-dinitrobenzene	7444	7492	7492	0.010	0.64868	20.00000	Averaged
7	nitrobenzene	6867	6700	6700	0.010	-2.42685	20.00000	Averaged
9	TETRYL	2535	2800	2800	0.010	10.47233	20.00000	Averaged
10	2,4,6-trinitrotoluene	2526	2524	2524	0.010	-0.09330	20.00000	Averaged
11	4-AM-DNT	4303	4212	4212	0.010	-2.10830	20.00000	Averaged
12	2-AM-DNT	5761	5684	5684	0.010	-1.33168	20.00000	Averaged
13	2,6-dinitrotoluene	0.25000	0.23406	2832	0.010	-6.37618	20.00000	Linear
14	2,4-dinitrotoluene	4619	4680	4680	0.010	1.33160	20.00000	Averaged
15	2-nitrotoluene	2890	2892	2892	0.010	0.08405	20.00000	Averaged
16	4-nitrotoluene	2342	2332	2332	0.010	-0.44520	20.00000	Averaged
17	3-nitrotoluene	3326	3184	3184	0.010	-4.25911	20.00000	Averaged
2	1,2-dinitrobenzene	4627	4700	4700	0.010	1.56829	20.00000	Averaged

*** = Compound out of QC criteria**

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Data File: HLE10661.D
Report Date: 30-May-2018 11:31

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HPLCLE22.b\HLE10661.D
Lab Smp Id: WG228756-17
Inj Date : 23-MAY-2018 03:09
Operator : AC Inst ID: hplc02.i
Smp Info : WG228756-17,SL4180
Misc Info : WG228756,WG228439,WG225143-5,SL4180-21
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\EXPB05A.m\EXPB05A.m
Meth Date : 23-May-2018 13:40 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 80 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01000	Weight of Sample (Kg)
M	0.00000	% Moisture
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)	REVIEW CODE
1	HMX	4.547	4.547	0.000	1301	0.25000	0.241(a)	
4	RDX	5.000	4.994	0.006	1295	0.25000	0.239(a)	
51	3,5-Dinitroaniline	7.820	7.807	0.013	2110	0.25000	0.254	
7	nitrobenzene	8.187	8.181	0.006	1675	0.25000	0.244(a)	
$ 2	1,2-dinitrobenzene	8.587	8.581	0.006	1175	0.25000	0.254	
11	4-AM-DNT	9.167	9.154	0.013	1053	0.25000	0.245(a)	
12	2-AM-DNT	9.727	9.714	0.013	1421	0.25000	0.247(a)	
15	2-nitrotoluene	11.874	11.867	0.007	723	0.25000	0.250	
6	1,3-dinitrobenzene	12.314	12.307	0.007	1873	0.25000	0.252	
16	4-nitrotoluene	13.027	13.021	0.006	583	0.25000	0.249(a)	
17	3-nitrotoluene	13.400	13.394	0.006	796	0.25000	0.239(a)	
13	2,6-dinitrotoluene	15.520	15.527	-0.007	708	0.25000	0.234(a)	
14	2,4-dinitrotoluene	19.260	19.281	-0.021	1170	0.25000	0.253	
5	1,3,5-trinitrobenzene	20.180	20.207	-0.027	955	0.25000	0.259	
9	TETRYL	20.647	20.694	-0.047	700	0.25000	0.276	
10	2,4,6-trinitrotoluene	26.360	26.407	-0.047	631	0.25000	0.250	

QC Flag Legend

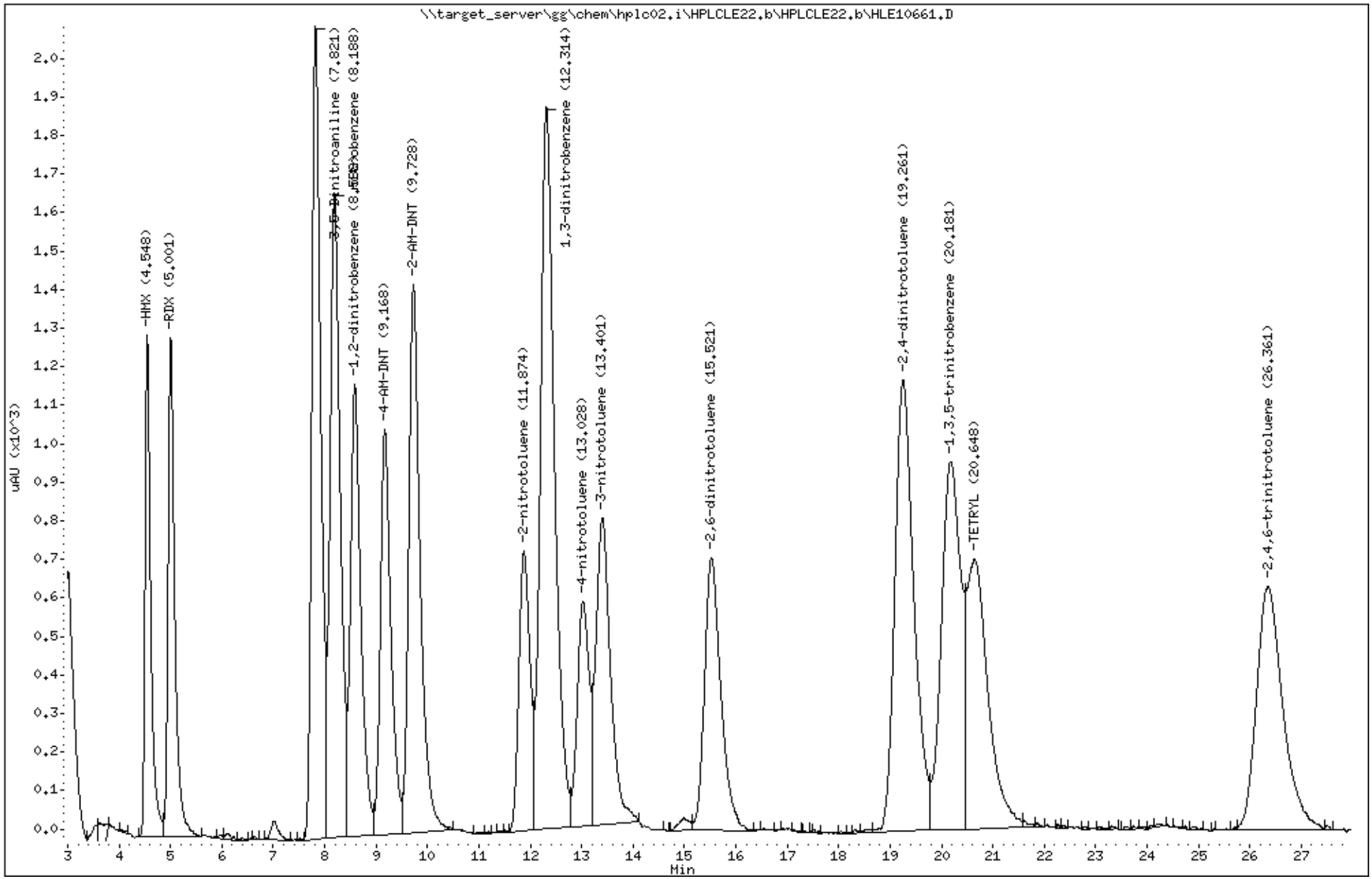
a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HPLCLE22.b\HLE10661.D
Date : 23-MAY-2018 03:09
Client ID:
Sample Info: WG228756-17,SL4180

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 2000284

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
SDG: SL4180
Lab ID : WG228942-6
Analytical Date: 05/23/18 13:44
Lab File ID : HLE10679.D
Instrument ID: HPLC02
Initial Calibration Date(s): 03/20/18 14:54 03/20/18 18:05
Column ID: B

	Compound	$\overline{RRF}$/Amount	RF0.250	CCAL RRF0.250	Min	%D/ %Drift	Max %D/ %Drift	Curve Type
1	HMX	5391	5268	5268	0.010	-2.27511	20.00000	Averaged
4	RDX	0.25000	0.24183	5240	0.010	-3.26726	20.00000	Linear
5	1,3,5-trinitrobenzene	3689	3872	3872	0.010	4.96476	20.00000	Averaged
6	1,3-dinitrobenzene	7444	7548	7548	0.010	1.40099	20.00000	Averaged
7	nitrobenzene	6867	6624	6624	0.010	-3.53365	20.00000	Averaged
9	TETRYL	2535	2872	2872	0.010	13.31304	20.00000	Averaged
10	2,4,6-trinitrotoluene	2526	2588	2588	0.010	2.43999	20.00000	Averaged
11	4-AM-DNT	4303	4240	4240	0.010	-1.45755	20.00000	Averaged
12	2-AM-DNT	5761	5716	5716	0.010	-0.77619	20.00000	Averaged
13	2,6-dinitrotoluene	0.25000	0.23789	2876	0.010	-4.84236	20.00000	Linear
14	2,4-dinitrotoluene	4619	4728	4728	0.010	2.37090	20.00000	Averaged
15	2-nitrotoluene	2890	2944	2944	0.010	1.88362	20.00000	Averaged
16	4-nitrotoluene	2342	2392	2392	0.010	2.11624	20.00000	Averaged
17	3-nitrotoluene	3326	3260	3260	0.010	-1.97384	20.00000	Averaged
2	1,2-dinitrobenzene	4627	4712	4712	0.010	1.82761	20.00000	Averaged

*** = Compound out of QC criteria**

Data File: HLE10679.D
Report Date: 30-May-2018 11:37

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HPLCLE23.b\HLE10679.D
Lab Smp Id: WG228942-6
Inj Date : 23-MAY-2018 13:44
Operator : AC   Inst ID: hplc02.i
Smp Info : WG228942-6,SL4180
Misc Info : WG228942,WG228857,WG225143-5,SL4180-4
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\EXPB05A.m\EXPB05A.m
Meth Date : 25-May-2018 03:41 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05   Cal File: HLC10037.D
Als bottle: 98   Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01000	Weight of Sample (Kg)
M	0.00000	% Moisture
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)	REVIEW CODE
1	HMX	4.547	4.547	0.000	1317	0.25000	0.244(a)	
4	RDX	5.000	5.000	0.000	1310	0.25000	0.242(a)	
51	3,5-Dinitroaniline	7.807	7.807	0.000	2135	0.25000	0.257	
7	nitrobenzene	8.180	8.180	0.000	1656	0.25000	0.241(a)	
$ 2	1,2-dinitrobenzene	8.573	8.573	0.000	1178	0.25000	0.254	
11	4-AM-DNT	9.153	9.153	0.000	1060	0.25000	0.246(a)	
12	2-AM-DNT	9.707	9.707	0.000	1429	0.25000	0.248(a)	
15	2-nitrotoluene	11.860	11.860	0.000	736	0.25000	0.255	
6	1,3-dinitrobenzene	12.293	12.293	0.000	1887	0.25000	0.254	
16	4-nitrotoluene	13.007	13.007	0.000	598	0.25000	0.255	
17	3-nitrotoluene	13.380	13.380	0.000	815	0.25000	0.245(a)	
13	2,6-dinitrotoluene	15.493	15.493	0.000	719	0.25000	0.238(a)	
14	2,4-dinitrotoluene	19.213	19.213	0.000	1182	0.25000	0.256	
5	1,3,5-trinitrobenzene	20.140	20.140	0.000	968	0.25000	0.262	
9	TETRYL	20.593	20.593	0.000	718	0.25000	0.283	
10	2,4,6-trinitrotoluene	26.293	26.293	0.000	647	0.25000	0.256	

QC Flag Legend

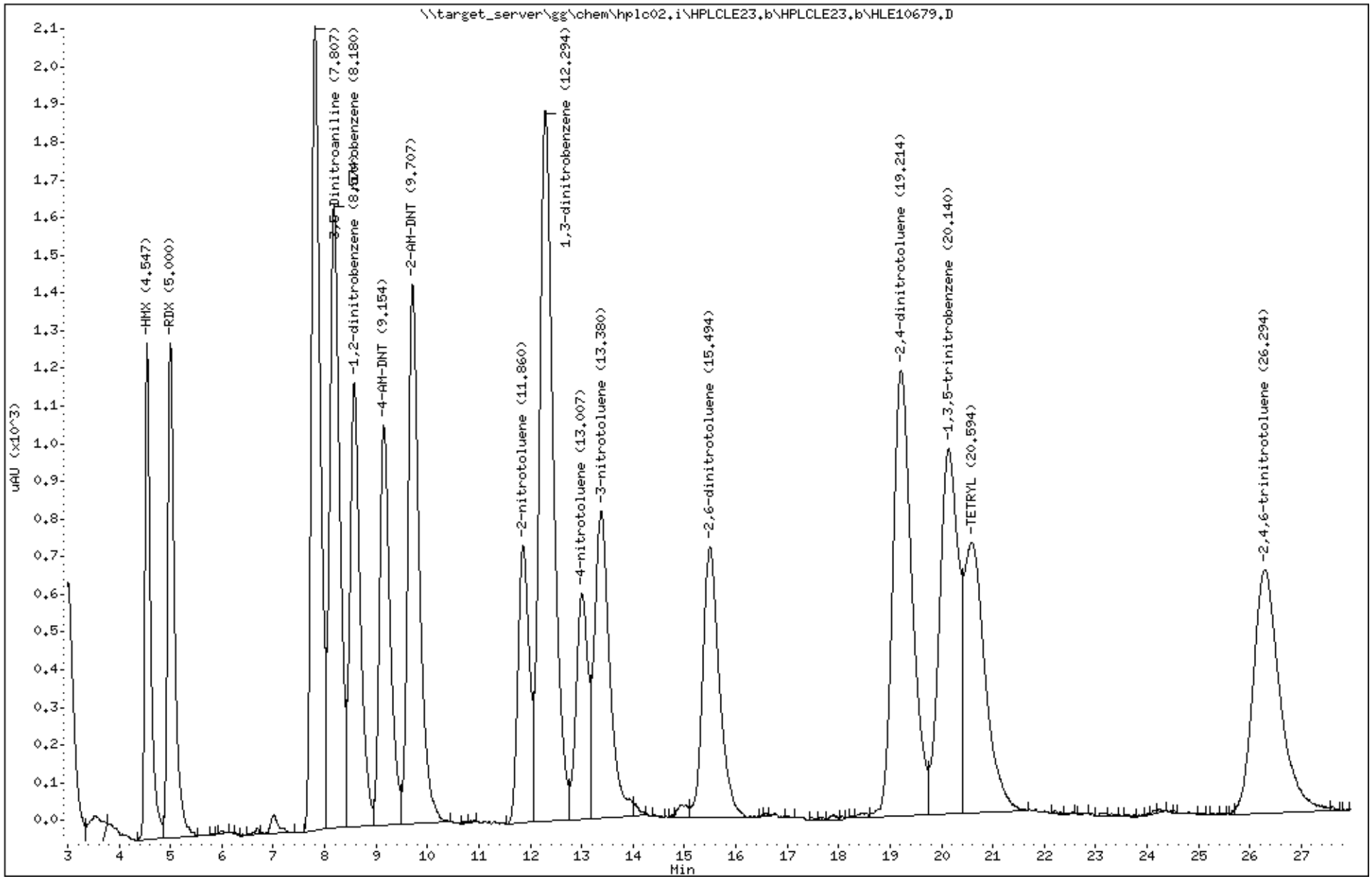
a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HPLCLE23.b\HLE10679.D
Date : 23-MAY-2018 13:44
Client ID:
Sample Info: WG228942-6,SL4180

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 2000287

Katahdin
ANALYTICAL SERVICES

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
SDG: SL4180
Lab ID : WG228942-7
Analytical Date: 05/23/18 19:25
Lab File ID : HLE10690.D
Instrument ID: HPLC02
Initial Calibration Date(s): 03/20/18 14:54 03/20/18 18:05
Column ID: B

	Compound	$\overline{\text{RRF}}$/Amount	RF0.500	CCAL RRF0.500	Min	%D/ %Drift	Max %D/ %Drift	Curve Type
1	HMX	5391	5286	5286	0.010	-1.94119	20.00000	Averaged
4	RDX	0.50000	0.48716	5344	0.010	-2.56848	20.00000	Linear
5	1,3,5-trinitrobenzene	3689	3896	3896	0.010	5.61537	20.00000	Averaged
6	1,3-dinitrobenzene	7444	7686	7686	0.010	3.25490	20.00000	Averaged
7	nitrobenzene	6867	6744	6744	0.010	-1.78607	20.00000	Averaged
9	TETRYL	2535	2828	2828	0.010	11.57705	20.00000	Averaged
10	2,4,6-trinitrotoluene	2526	2556	2556	0.010	1.17334	20.00000	Averaged
11	4-AM-DNT	4303	4362	4362	0.010	1.37787	20.00000	Averaged
12	2-AM-DNT	5761	5856	5856	0.010	1.65406	20.00000	Averaged
13	2,6-dinitrotoluene	0.50000	0.49655	2922	0.010	-0.68977	20.00000	Linear
14	2,4-dinitrotoluene	4619	4778	4778	0.010	3.45350	20.00000	Averaged
15	2-nitrotoluene	2890	2986	2986	0.010	3.33712	20.00000	Averaged
16	4-nitrotoluene	2342	2476	2476	0.010	5.70226	20.00000	Averaged
17	3-nitrotoluene	3326	3330	3330	0.010	0.13102	20.00000	Averaged
2	1,2-dinitrobenzene	4627	4804	4804	0.010	3.81576	20.00000	Averaged

*** = Compound out of QC criteria**

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Data File: HLE10690.D
Report Date: 30-May-2018 11:37

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HPLCLE23.b\HLE10690.D
Lab Smp Id: WG228942-7
Inj Date : 23-MAY-2018 19:25
Operator : AC Inst ID: hplc02.i
Smp Info : WG228942-7,SL4180
Misc Info : WG228942,WG228857,WG225143-5,SL4180-4
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\EXPB05A.m\EXPB05A.m
Meth Date : 25-May-2018 03:41 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 9 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01000	Weight of Sample (Kg)
M	0.00000	% Moisture
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	ON-COL (ug/mL)	REVIEW CODE
1	HMX	4.540	4.547	-0.007	2643	0.25000	0.490(M)	M2
4	RDX	4.993	5.000	-0.007	2672	0.25000	0.487(M)	M2
51	3,5-Dinitroaniline	7.786	7.807	-0.021	4340	0.25000	0.522	
7	nitrobenzene	8.166	8.180	-0.014	3372	0.25000	0.491	
$ 2	1,2-dinitrobenzene	8.553	8.573	-0.020	2402	0.25000	0.519	
11	4-AM-DNT	9.126	9.153	-0.027	2181	0.25000	0.507	
12	2-AM-DNT	9.680	9.707	-0.027	2928	0.25000	0.508	
15	2-nitrotoluene	11.826	11.860	-0.034	1493	0.25000	0.517	
6	1,3-dinitrobenzene	12.253	12.293	-0.040	3843	0.25000	0.516	
16	4-nitrotoluene	12.973	13.007	-0.034	1238	0.25000	0.528	
17	3-nitrotoluene	13.340	13.380	-0.040	1665	0.25000	0.501(M)	M3
13	2,6-dinitrotoluene	15.446	15.493	-0.047	1461	0.25000	0.496	
14	2,4-dinitrotoluene	19.166	19.213	-0.047	2389	0.25000	0.517	
5	1,3,5-trinitrobenzene	20.080	20.140	-0.060	1948	0.25000	0.528	
9	TETRYL	20.533	20.593	-0.060	1414	0.25000	0.558	
10	2,4,6-trinitrotoluene	26.233	26.293	-0.060	1278	0.25000	0.506	



12:58 pm, May 30, 2018

QC Flag Legend

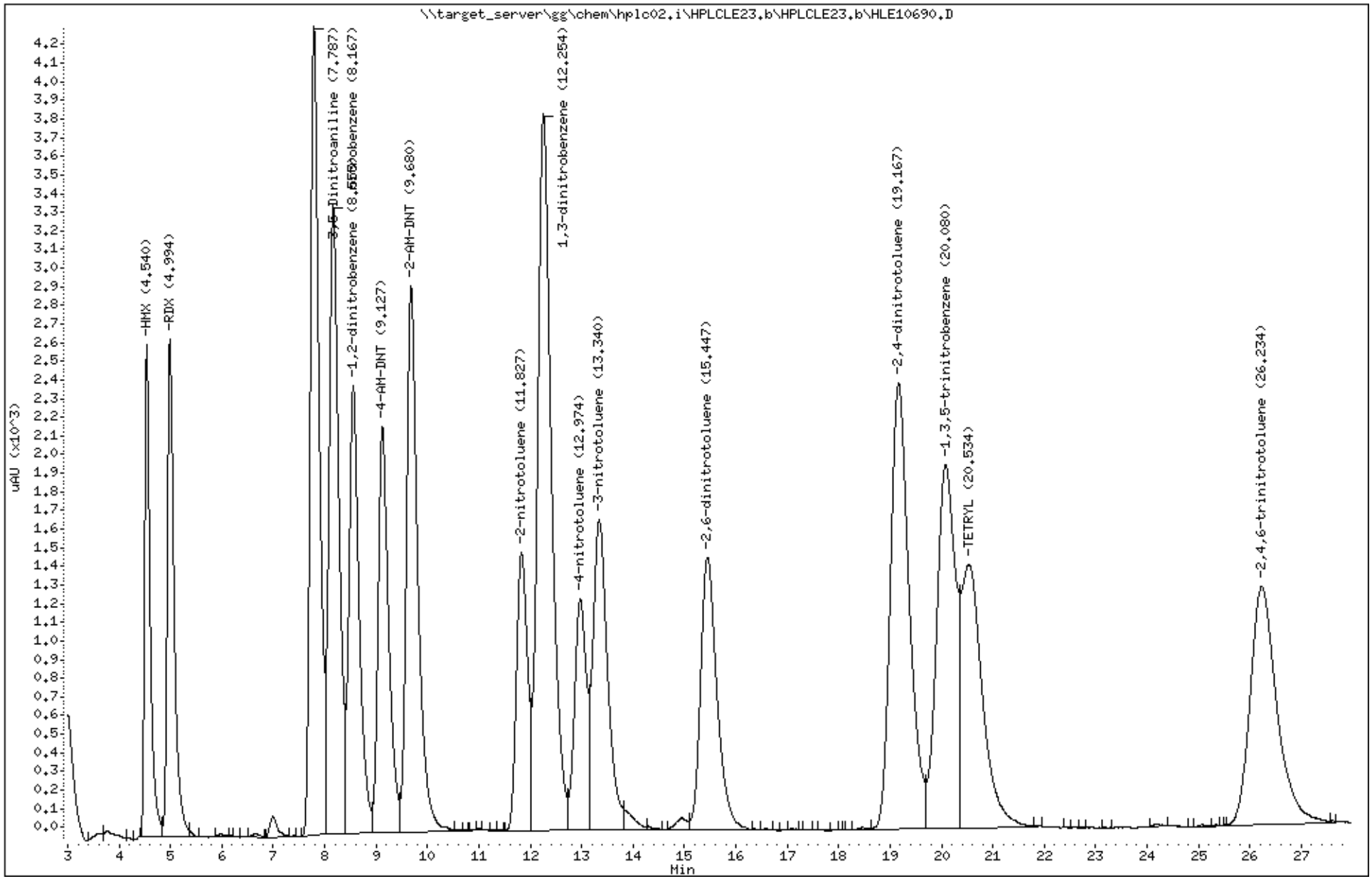
M - Compound response manually integrated.

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HPLCLE23.b\HLE10690.D
Date : 23-MAY-2018 19:25
Client ID:
Sample Info: WG228942-7,SL4180

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 2000290

Katahdin
ANALYTICAL SERVICES

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
SDG: SL4180
Lab ID : WG228756-12
Analytical Date: 05/26/18 01:55
Lab File ID : HLE10784.D
Instrument ID: HPLC02
Initial Calibration Date(s): 08/01/17 09:37 08/01/17 14:33
Column ID: B

	Compound	$\overline{RRF}$/Amount	RF0.250	CCAL RRF0.250	Min	%D/ %Drift	Max %D/ %Drift	Curve Type
1	HMX	0.25000	0.23501	4016	0.010	-5.99778	20.00000	Linear
4	RDX	0.25000	0.24019	3876	0.010	-3.92558	20.00000	Linear
5	1,3,5-trinitrobenzene	0.25000	0.23838	9920	0.010	-4.64708	20.00000	Linear
6	1,3-dinitrobenzene	0.25000	0.23756	11108	0.010	-4.97421	20.00000	Linear
7	nitrobenzene	0.25000	0.23974	6428	0.010	-4.10566	20.00000	Linear
9	TETRYL	0.25000	0.28556	5532	0.010	14.22510	20.00000	Linear
10	2,4,6-trinitrotoluene	0.25000	0.24987	6300	0.010	-0.05345	20.00000	Linear
11	4-AM-DNT	0.25000	0.26457	2632	0.010	5.82916	20.00000	Linear
12	2-AM-DNT	0.25000	0.23475	3068	0.010	-6.09822	20.00000	Linear
13	2,6-dinitrotoluene	0.25000	0.23135	3516	0.010	-7.45999	20.00000	Linear
14	2,4-dinitrotoluene	0.25000	0.23203	6520	0.010	-7.18986	20.00000	Linear
15	2-nitrotoluene	0.25000	0.23741	2540	0.010	-5.03722	20.00000	Linear
16	4-nitrotoluene	0.25000	0.25719	2172	0.010	2.87782	20.00000	Linear
17	3-nitrotoluene	0.25000	0.25175	2688	0.010	0.69859	20.00000	Linear
2	1,2-dinitrobenzene	0.25000	0.23759	5072	0.010	-4.96262	20.00000	Linear

*** = Compound out of QC criteria**

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Data File: HLE10784.D
Report Date: 30-May-2018 11:41

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE25.b\HPLCLE25.b\HLE10784.D
Lab Smp Id: WG228756-12
Inj Date : 26-MAY-2018 01:55
Operator : AC Inst ID: hplc02.i
Smp Info : WG228756-12,SL4180
Misc Info : WG228756,WG228439,WG210620-13,SL4180-1
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE25.b\E2016A.m\E2016A.m
Meth Date : 29-May-2018 16:32 abullentin Quant Type: ESTD
Cal Date : 01-AUG-2017 14:33 Cal File: HKH10014.D
Als bottle: 3 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01000	Weight of Sample (Kg)
M	0.00000	% Moisture
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)	REVIEW CODE
1	HMX	6.576	6.588	-0.012	1004	0.25000	0.235(a)	
4	RDX	10.496	10.528	-0.032	969	0.25000	0.240(a)	
5	1,3,5-trinitrobenzene	11.229	11.255	-0.026	2480	0.25000	0.238(a)	
$ 2	1,2-dinitrobenzene	13.183	13.228	-0.045	1268	0.25000	0.238	
6	1,3-dinitrobenzene	14.043	14.075	-0.032	2777	0.25000	0.238(a)	
7	nitrobenzene	15.096	15.128	-0.032	1607	0.25000	0.240(a)	
10	2,4,6-trinitrotoluene	18.623	18.675	-0.052	1575	0.25000	0.250(M)	M3
9	TETRYL	18.803	18.848	-0.045	1383	0.25000	0.286(M)	M6
13	2,6-dinitrotoluene	21.976	22.048	-0.072	879	0.25000	0.231(aM)	M8
14	2,4-dinitrotoluene	22.943	23.015	-0.072	1630	0.25000	0.232(aM)	M8
15	2-nitrotoluene	25.083	25.168	-0.085	635	0.25000	0.237(aM)	M8
52	3,5-dinitroaniline	26.216	26.321	-0.105	1185	0.25000	0.267(M)	M8
16	4-nitrotoluene	27.303	27.388	-0.085	543	0.25000	0.257(M)	M8
17	3-nitrotoluene	29.349	29.421	-0.072	672	0.25000	0.252(M)	M8
11	4-AM-DNT	29.696	29.875	-0.179	658	0.25000	0.264(M)	M8
12	2-AM-DNT	31.523	31.661	-0.138	767	0.25000	0.235(a)	

12:58 pm, May 30, 2018

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

Data File: HLE10784.D
Report Date: 30-May-2018 11:41

QC Flag Legend

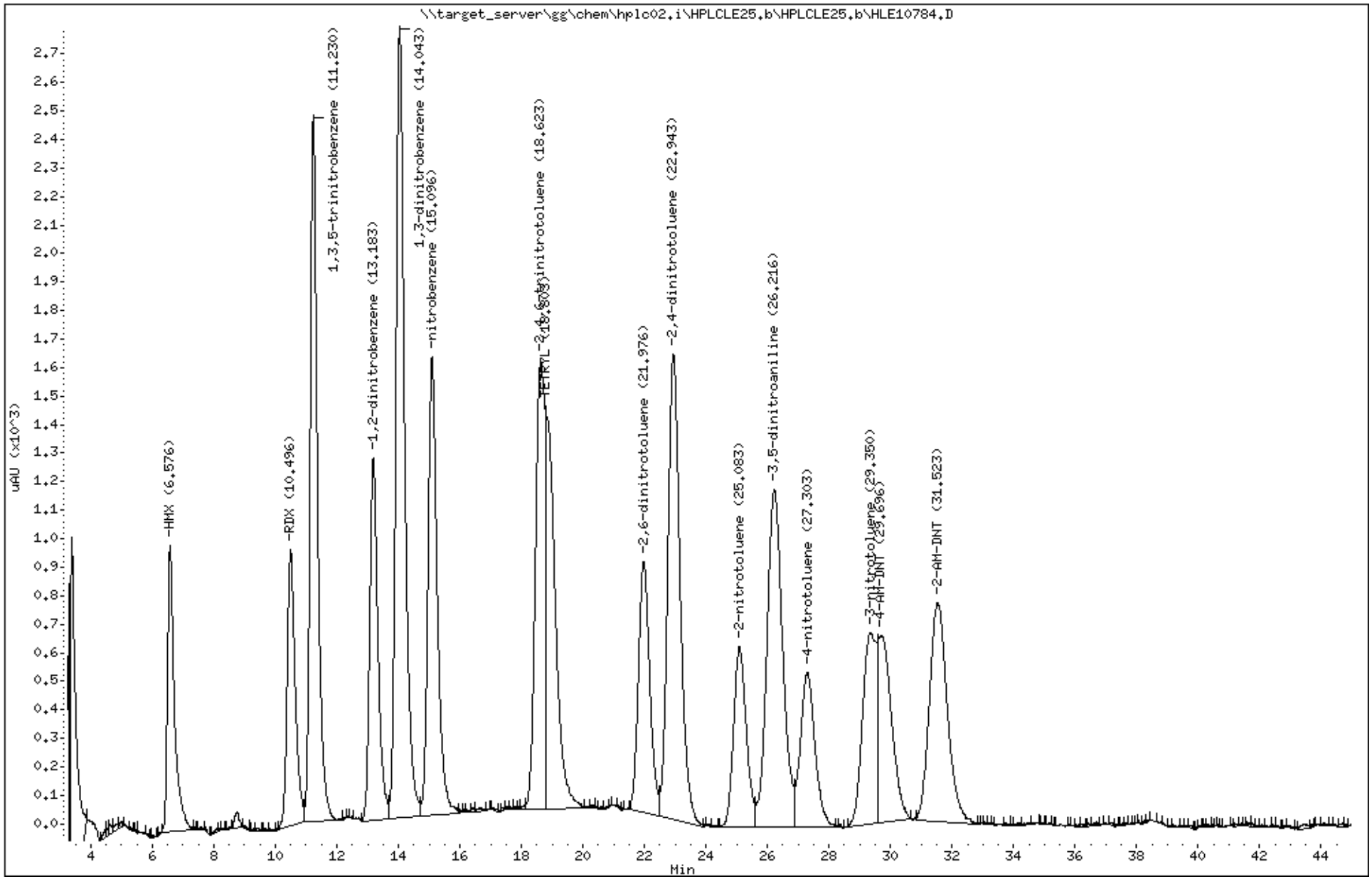
M - Compound response manually integrated.

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE25.b\HPLCLE25.b\HLE10784.D
Date : 26-MAY-2018 01:55
Client ID:
Sample Info: WG228756-12,SL4180

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60

Column phase: Acclaim Exp E2



Katahdin Analytical Services 2000294

Katahdin
ANALYTICAL SERVICES

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
SDG: SL4180
Lab ID : WG228756-13
Analytical Date: 05/26/18 10:56
Lab File ID : HLE10795.D
Instrument ID: HPLC02
Initial Calibration Date(s): 08/01/17 09:37 08/01/17 14:33
Column ID: B

	Compound	$\overline{RRF}$/Amount	RF0.500	CCAL RRF0.500	Min	%D/ %Drift	Max %D/ %Drift	Curve Type
1	HMX	0.50000	0.48312	4092	0.010	-3.37514	20.00000	Linear
4	RDX	0.50000	0.48485	3930	0.010	-3.02955	20.00000	Linear
5	1,3,5-trinitrobenzene	0.50000	0.48076	9988	0.010	-3.84898	20.00000	Linear
6	1,3-dinitrobenzene	0.50000	0.48413	11276	0.010	-3.17418	20.00000	Linear
7	nitrobenzene	0.50000	0.48826	6524	0.010	-2.34802	20.00000	Linear
9	TETRYL	0.50000	0.55449	5264	0.010	10.89866	20.00000	Linear
10	2,4,6-trinitrotoluene	0.50000	0.49967	6228	0.010	-0.06515	20.00000	Linear
11	4-AM-DNT	0.50000	0.55995	2706	0.010	11.99094	20.00000	Linear
12	2-AM-DNT	0.50000	0.49114	3152	0.010	-1.77200	20.00000	Linear
13	2,6-dinitrotoluene	0.50000	0.48442	3656	0.010	-3.11504	20.00000	Linear
14	2,4-dinitrotoluene	0.50000	0.48695	6778	0.010	-2.61049	20.00000	Linear
15	2-nitrotoluene	0.50000	0.48720	2584	0.010	-2.55937	20.00000	Linear
16	4-nitrotoluene	0.50000	0.50482	2050	0.010	0.96341	20.00000	Linear
17	3-nitrotoluene	0.50000	0.52971	2768	0.010	5.94284	20.00000	Linear
2	1,2-dinitrobenzene	0.50000	0.47916	5090	0.010	-4.16862	20.00000	Linear

*** = Compound out of QC criteria**

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Data File: HLE10795.D
Report Date: 30-May-2018 11:41

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE25.b\HPLCLE25.b\HLE10795.D
Lab Smp Id: WG228756-13
Inj Date : 26-MAY-2018 10:56
Operator : AC   Inst ID: hplc02.i
Smp Info : WG228756-13,SL4180
Misc Info : WG228756,WG228439,WG210620-13,SL4180-1
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCLE25.b\E2016A.m\E2016A.m
Meth Date : 29-May-2018 16:32 abullentin Quant Type: ESTD
Cal Date : 01-AUG-2017 14:33   Cal File: HKH10014.D
Als bottle: 14   Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01000	Weight of Sample (Kg)
M	0.00000	% Moisture
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	ON-COL (ug/mL)	REVIEW CODE
1	HMX	6.584	6.588	-0.004	2046	0.25000	0.483	
4	RDX	10.504	10.528	-0.024	1965	0.25000	0.485	
5	1,3,5-trinitrobenzene	11.238	11.255	-0.017	4994	0.25000	0.481	
$ 2	1,2-dinitrobenzene	13.191	13.228	-0.037	2545	0.25000	0.479	
6	1,3-dinitrobenzene	14.051	14.075	-0.024	5638	0.25000	0.484	
7	nitrobenzene	15.098	15.128	-0.030	3262	0.25000	0.488	
10	2,4,6-trinitrotoluene	18.631	18.675	-0.044	3114	0.25000	0.500(M)	M3
9	TETRYL	18.811	18.848	-0.037	2632	0.25000	0.554(M)	M6
13	2,6-dinitrotoluene	21.991	22.048	-0.057	1828	0.25000	0.484	
14	2,4-dinitrotoluene	22.951	23.015	-0.064	3389	0.25000	0.487	
15	2-nitrotoluene	25.098	25.168	-0.070	1292	0.25000	0.487	
52	3,5-dinitroaniline	26.231	26.321	-0.090	2404	0.25000	0.550	
16	4-nitrotoluene	27.318	27.388	-0.070	1025	0.25000	0.505	
17	3-nitrotoluene	29.378	29.421	-0.043	1384	0.25000	0.530	
11	4-AM-DNT	29.718	29.875	-0.157	1353	0.25000	0.560	
12	2-AM-DNT	31.558	31.661	-0.103	1576	0.25000	0.491	



12:58 pm, May 30, 2018

QC Flag Legend

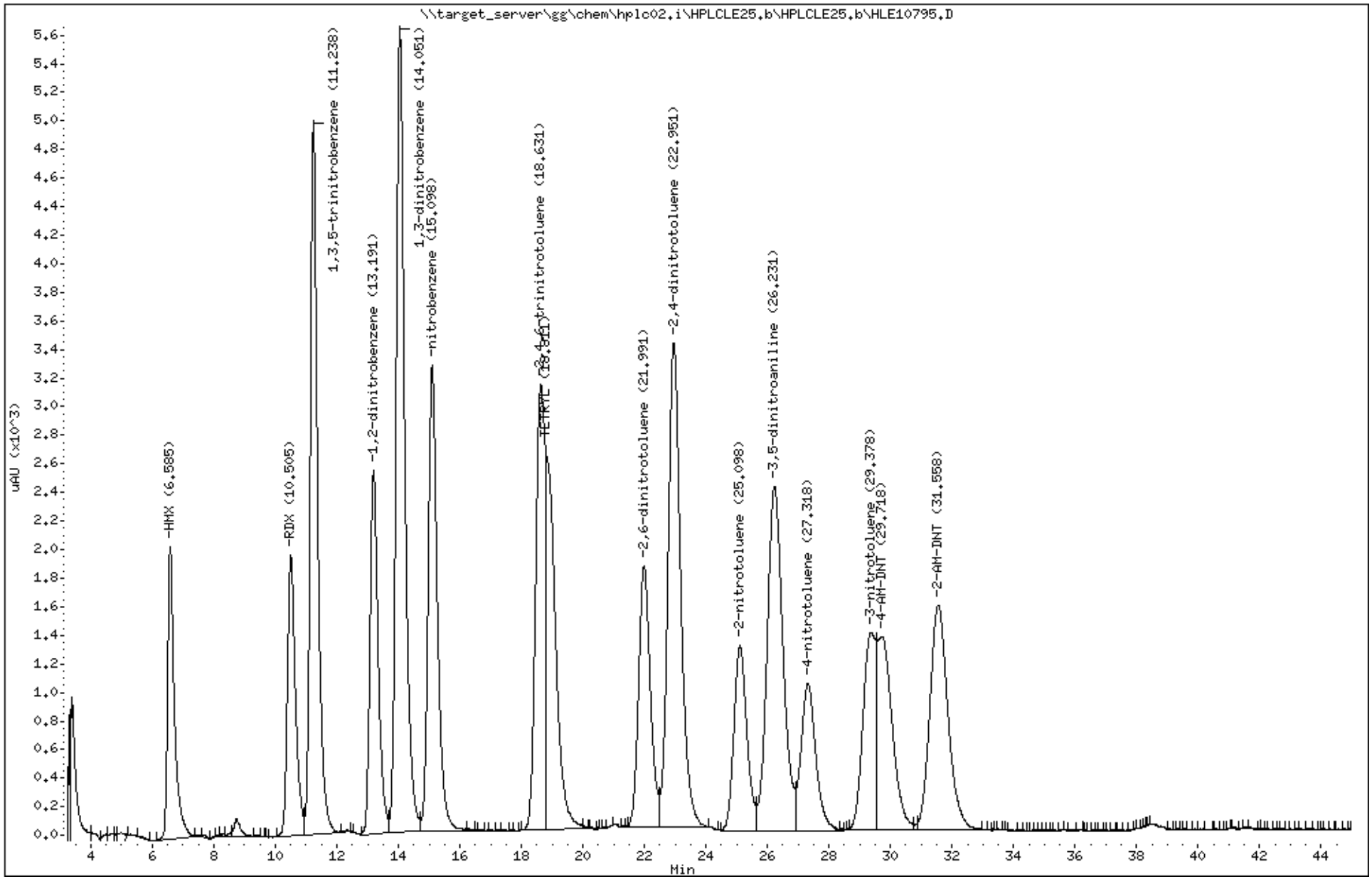
M - Compound response manually integrated.

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE25.b\HPLCLE25.b\HLE10795.D
Date : 26-MAY-2018 10:56
Client ID:
Sample Info: WG228756-13,SL4180

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60

Column phase: Acclaim Exp E2



Katahdin Analytical Services 2000297

Katahdin
ANALYTICAL SERVICES

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
SDG: SL4180
Lab ID : WG228756-14
Analytical Date: 05/26/18 19:57
Lab File ID : HLE10806.D
Instrument ID: HPLC02
Initial Calibration Date(s): 08/01/17 09:37 08/01/17 14:33
Column ID: B

	Compound	$\overline{RRF}$/Amount	RF0.250	CCAL RRF0.250	Min	%D/ %Drift	Max %D/ %Drift	Curve Type
1	HMX	0.25000	0.24167	4128	0.010	-3.33086	20.00000	Linear
4	RDX	0.25000	0.24338	3928	0.010	-2.64820	20.00000	Linear
5	1,3,5-trinitrobenzene	0.25000	0.24484	10188	0.010	-2.06331	20.00000	Linear
6	1,3-dinitrobenzene	0.25000	0.24024	11232	0.010	-3.90556	20.00000	Linear
7	nitrobenzene	0.25000	0.24214	6492	0.010	-3.14460	20.00000	Linear
9	TETRYL	0.25000	0.28879	5592	0.010	15.51700	20.00000	Linear
10	2,4,6-trinitrotoluene	0.25000	0.25198	6352	0.010	0.79061	20.00000	Linear
11	4-AM-DNT	0.25000	0.27392	2720	0.010	9.56925	20.00000	Linear
12	2-AM-DNT	0.25000	0.23697	3096	0.010	-5.21086	20.00000	Linear
13	2,6-dinitrotoluene	0.25000	0.24122	3664	0.010	-3.51320	20.00000	Linear
14	2,4-dinitrotoluene	0.25000	0.24116	6772	0.010	-3.53776	20.00000	Linear
15	2-nitrotoluene	0.25000	0.23969	2564	0.010	-4.12473	20.00000	Linear
16	4-nitrotoluene	0.25000	0.23819	2024	0.010	-4.72552	20.00000	Linear
17	3-nitrotoluene	0.25000	0.25799	2752	0.010	3.19718	20.00000	Linear
2	1,2-dinitrobenzene	0.25000	0.24081	5140	0.010	-3.67630	20.00000	Linear

*** = Compound out of QC criteria**

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Data File: HLE10806.D
Report Date: 30-May-2018 11:41

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE25.b\HPLCLE25.b\HLE10806.D
Lab Smp Id: WG228756-14
Inj Date : 26-MAY-2018 19:57
Operator : AC   Inst ID: hplc02.i
Smp Info : WG228756-14,SL4180
Misc Info : WG228756,WG228437,WG210620-13,SL4180-21
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCLE25.b\E2016A.m\E2016A.m
Meth Date : 29-May-2018 16:32 abullentin Quant Type: ESTD
Cal Date : 01-AUG-2017 14:33   Cal File: HKH10014.D
Als bottle: 25   Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01000	Weight of Sample (Kg)
M	0.00000	% Moisture
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)	REVIEW CODE
1	HMX	6.578	6.588	-0.010	1032	0.25000	0.242(a)	
4	RDX	10.498	10.528	-0.030	982	0.25000	0.243(a)	
5	1,3,5-trinitrobenzene	11.238	11.255	-0.017	2547	0.25000	0.245(a)	
$ 2	1,2-dinitrobenzene	13.192	13.228	-0.036	1285	0.25000	0.241	
6	1,3-dinitrobenzene	14.045	14.075	-0.030	2808	0.25000	0.240(a)	
7	nitrobenzene	15.098	15.128	-0.030	1623	0.25000	0.242(a)	
10	2,4,6-trinitrotoluene	18.632	18.675	-0.043	1588	0.25000	0.252(M)	M3
9	TETRYL	18.792	18.848	-0.056	1398	0.25000	0.289(M)	M6
13	2,6-dinitrotoluene	21.978	22.048	-0.070	916	0.25000	0.241(a)	
14	2,4-dinitrotoluene	22.945	23.015	-0.070	1693	0.25000	0.241(a)	
15	2-nitrotoluene	25.105	25.168	-0.063	641	0.25000	0.240(a)	
52	3,5-dinitroaniline	26.205	26.321	-0.116	1200	0.25000	0.271	
16	4-nitrotoluene	27.312	27.388	-0.076	506	0.25000	0.238(a)	
17	3-nitrotoluene	29.365	29.421	-0.056	688	0.25000	0.258(M)	M8
11	4-AM-DNT	29.698	29.875	-0.177	680	0.25000	0.274(M)	M8
12	2-AM-DNT	31.538	31.661	-0.123	774	0.25000	0.237(a)	

12:59 pm, May 30, 2018

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).

Data File: HLE10806.D
Report Date: 30-May-2018 11:41

QC Flag Legend

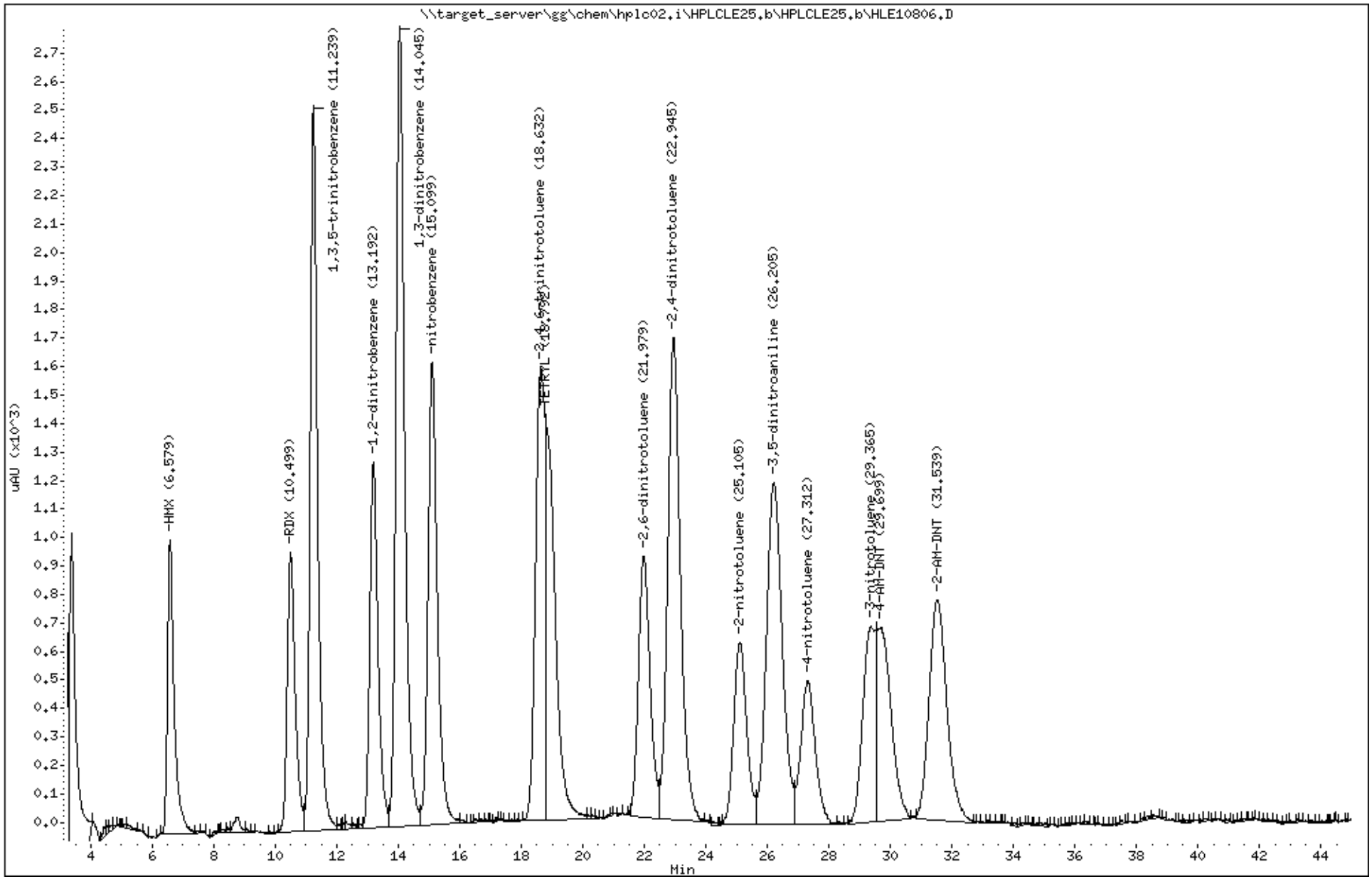
M - Compound response manually integrated.

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE25.b\HPLCLE25.b\HLE10806.D
Date : 26-MAY-2018 19:57
Client ID:
Sample Info: WG228756-14,SL4180

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60

Column phase: Acclaim Exp E2



Katahdin Analytical Services 2000301

Raw QC Data Section

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client:
Lab ID: WG228334-1
Client ID: Method Blank Sample
Project:
SDG: SL4180
Lab File ID: HLE10467.D

Sample Date:
Received Date:
Extract Date: 15-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330
Lab Prep Batch: WG228334

Analysis Date: 15-MAY-18
Analyst: AAB
Analysis Method: SW846 8330B
Matrix: AQ
% Solids: NA
Report Date: 30-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	0.12	ug/L	1	.25	0.25	0.043	0.12
RDX	U	0.12	ug/L	1	.25	0.25	0.046	0.12
1,3,5-Trinitrobenzene	U	0.12	ug/L	1	.25	0.25	0.040	0.12
1,3-Dinitrobenzene	U	0.12	ug/L	1	.25	0.25	0.045	0.12
Tetryl	U	0.12	ug/L	1	.25	0.25	0.060	0.12
Nitrobenzene	U	0.12	ug/L	1	.25	0.25	0.071	0.12
2,4,6-Trinitrotoluene	U	0.12	ug/L	1	.25	0.25	0.064	0.12
4-Am-DNT	U	0.12	ug/L	1	.25	0.25	0.053	0.12
2-Am-DNT	U	0.12	ug/L	1	.25	0.25	0.038	0.12
2,6-Dinitrotoluene	U	0.12	ug/L	1	.25	0.25	0.056	0.12
2,4-Dinitrotoluene	U	0.12	ug/L	1	.25	0.25	0.052	0.12
2-Nitrotoluene	U	0.12	ug/L	1	.25	0.25	0.071	0.12
4-Nitrotoluene	U	0.12	ug/L	1	.25	0.25	0.060	0.12
3-Nitrotoluene	U	0.12	ug/L	1	.25	0.25	0.063	0.12
Nitroglycerin	U	2.0	ug/L	1	4	4.0	0.67	2.0
PETN	U	2.0	ug/L	1	4	4.0	0.58	2.0
1,2-Dinitrobenzene		90.2	%					

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HLE10467.D
Report Date: 30-May-2018 12:13

Katahdin Analytical Services

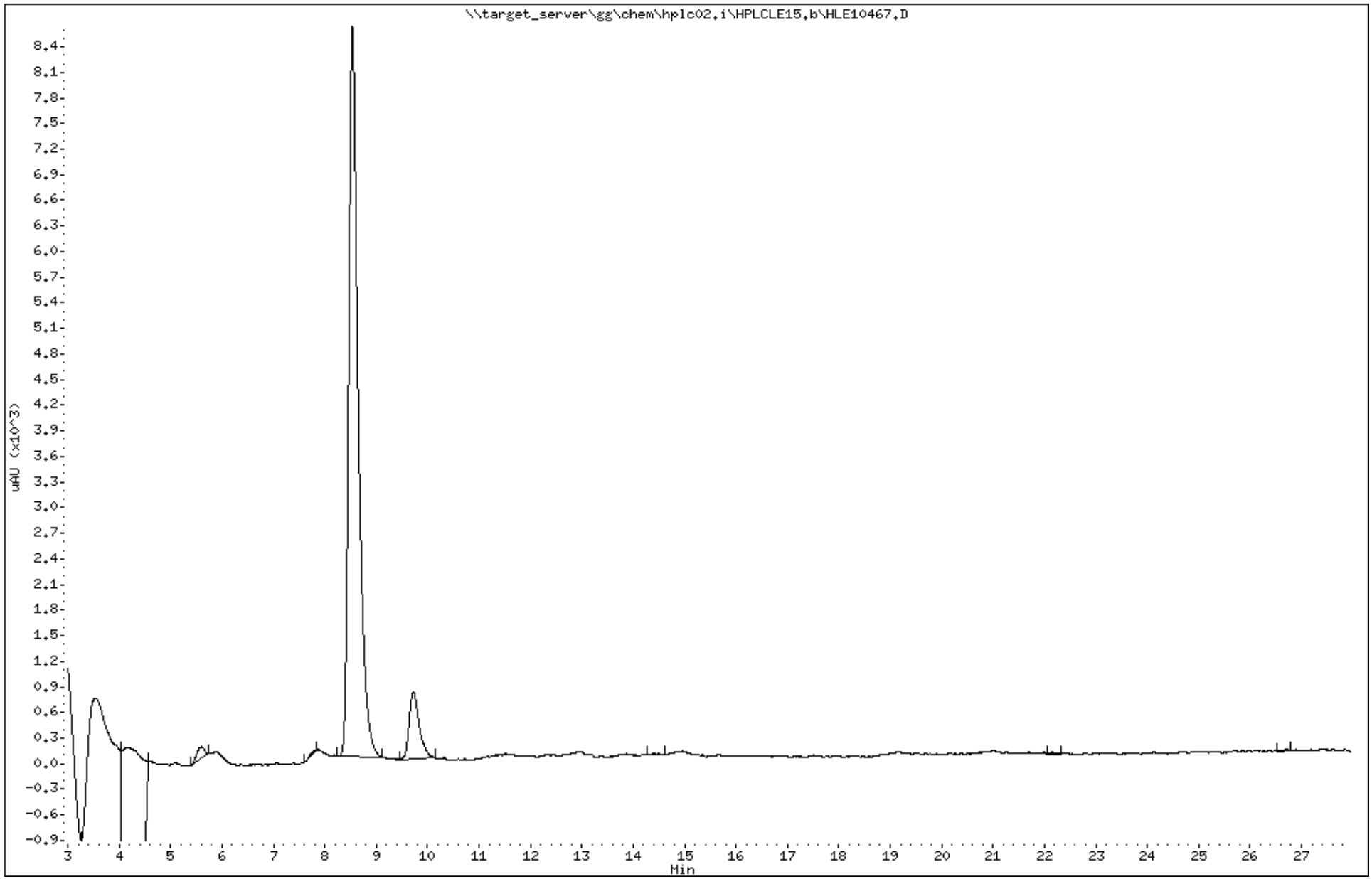
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HLE10467.D
Lab Smp Id: WG228334-1 Client Smp ID: WG228334-Blank
Inj Date : 15-MAY-2018 19:01
Operator : AAB Inst ID: hplc02.i
Smp Info : WG228334-1,SL4180
Misc Info : WG228756,WG228334,WG225143-5,SL4180-29
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE15.b\EXPB05A.m
Meth Date : 21-May-2018 08:50 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 86 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*(Vt/Vo) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00500	Final Volume (L)
Vo	0.50000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/L)

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HLE10467.D
Date : 15-MAY-2018 19:01
Client ID: WG228334-Blank
Instrument: hplc02.i
Sample Info: WG228334-1,SL4180
Purge Volume: 0.5
Operator: AAB
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 2000305

Data File: HLE10467.D
Report Date: 30-May-2018 12:13

Katahdin Analytical Services

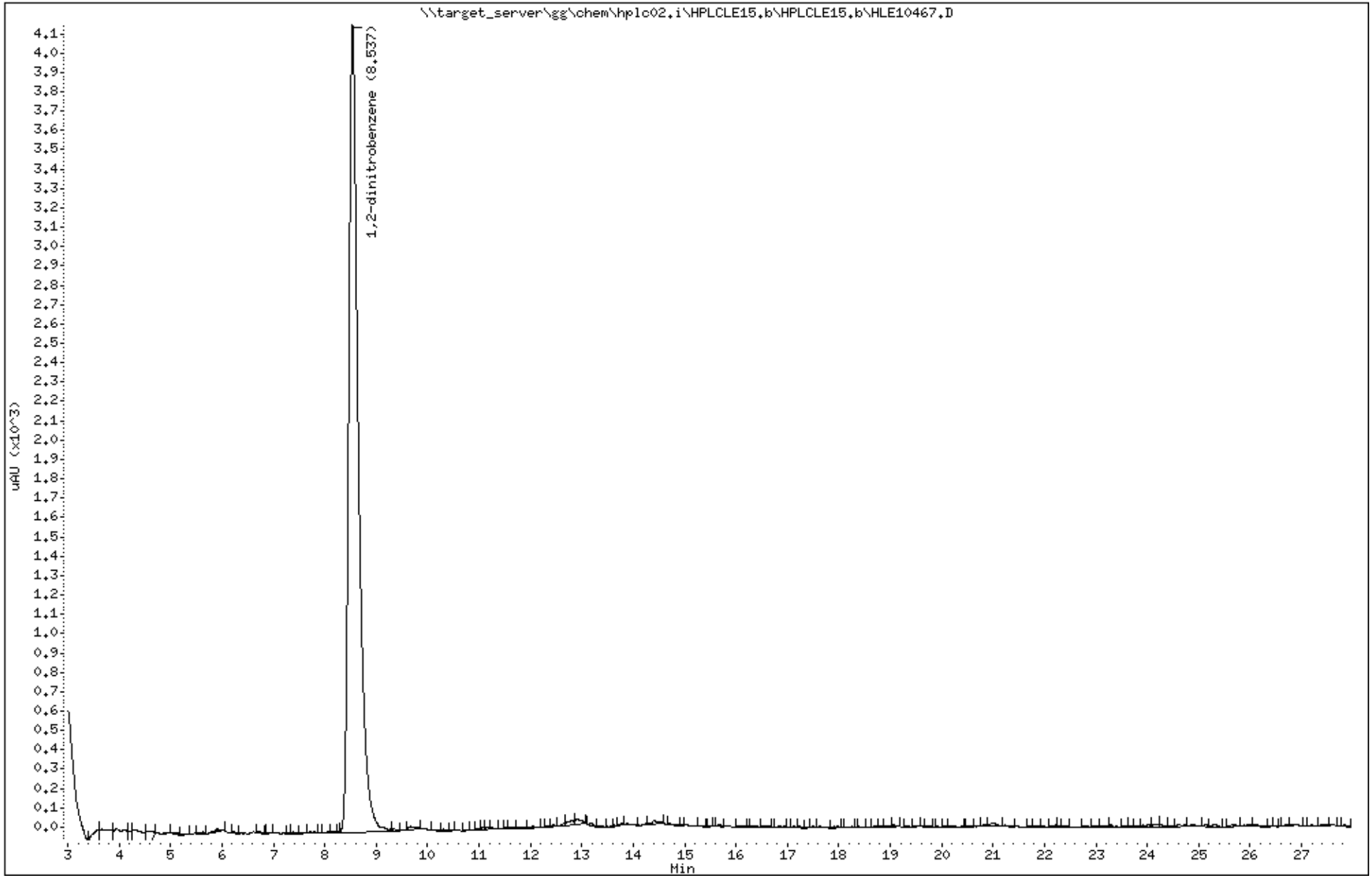
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HPLCLE15.b\HLE10467.D
Lab Smp Id: WG228334-1 Client Smp ID: WG228334-Blank
Inj Date : 15-MAY-2018 19:01
Operator : AAB Inst ID: hplc02.i
Smp Info : WG228334-1,SL4180
Misc Info : WG228756,WG228334,WG225143-5,SL4180-29
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE15.b\EXPB05A.m\EXPB05A.m
Meth Date : 21-May-2018 08:35 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 86 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*(Vt/Vo) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00500	Final Volume (L)
Vo	0.50000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

					CONCENTRATIONS		
					ON-COLUMN	FINAL	
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/mL)	(ug/L)	REVIEW CODE
$ 2 1,2-dinitrobenzene	8.536	8.538	-0.002	4173	0.90180	9.02	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HPLCLE15.b\HLE10467.D
Date : 15-MAY-2018 19:01
Client ID: WG228334-Blank
Instrument: hplc02.i
Sample Info: WG228334-1,SL4180
Purge Volume: 0.5
Operator: AAB
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 2000307

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client:
Lab ID: WG228437-1
Client ID: Method Blank Sample
Project:
SDG: SL4180
Lab File ID: HLE10518.D

Sample Date:
Received Date:
Extract Date: 15-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228437

Analysis Date: 16-MAY-18
Analyst: AAB
Analysis Method: SW846 8330B
Matrix: SL
% Solids: NA
Report Date: 30-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	50	ug/Kgdrywt	1	100	100	8.6	50.
RDX	U	50	ug/Kgdrywt	1	100	100	6.8	50.
1,3,5-Trinitrobenzene	U	50	ug/Kgdrywt	1	100	100	6.7	50.
1,3-Dinitrobenzene	U	50	ug/Kgdrywt	1	100	100	6.2	50.
Tetryl	U	50	ug/Kgdrywt	1	100	100	5.4	50.
Nitrobenzene	U	50	ug/Kgdrywt	1	100	100	22.	50.
2,4,6-Trinitrotoluene	U	50	ug/Kgdrywt	1	100	100	6.7	50.
2-Am-DNT	U	50	ug/Kgdrywt	1	100	100	21.	50.
4-Am-DNT	U	50	ug/Kgdrywt	1	100	100	17.	50.
2,6-Dinitrotoluene	U	50	ug/Kgdrywt	1	100	100	27.	50.
2,4-Dinitrotoluene	U	50	ug/Kgdrywt	1	100	100	15.	50.
2-Nitrotoluene	U	50	ug/Kgdrywt	1	100	100	12.	50.
3-Nitrotoluene	U	50	ug/Kgdrywt	1	100	100	7.9	50.
4-Nitrotoluene	U	50	ug/Kgdrywt	1	100	100	27.	50.
Nitroglycerin	U	400	ug/Kgdrywt	1	800	800	120	400
PETN	U	400	ug/Kgdrywt	1	800	800	110	400
1,2-Dinitrobenzene		94.0	%					

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HLE10518.D
Report Date: 30-May-2018 11:17

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HLE10518.D
Lab Smp Id: WG228437-1 Client Smp ID: WG228437-Blank
Inj Date : 16-MAY-2018 22:48
Operator : AAB Inst ID: hplc02.i
Smp Info : WG228437-1,SL4180
Misc Info : WG228756,WG228437,WG225143-5,SL4180-21
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\EXPB05A.m
Meth Date : 22-May-2018 05:42 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 37 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01000	Weight of Sample (Kg)
M	0.00000	% Moisture
Cpnd Variable		Local Compound Variable

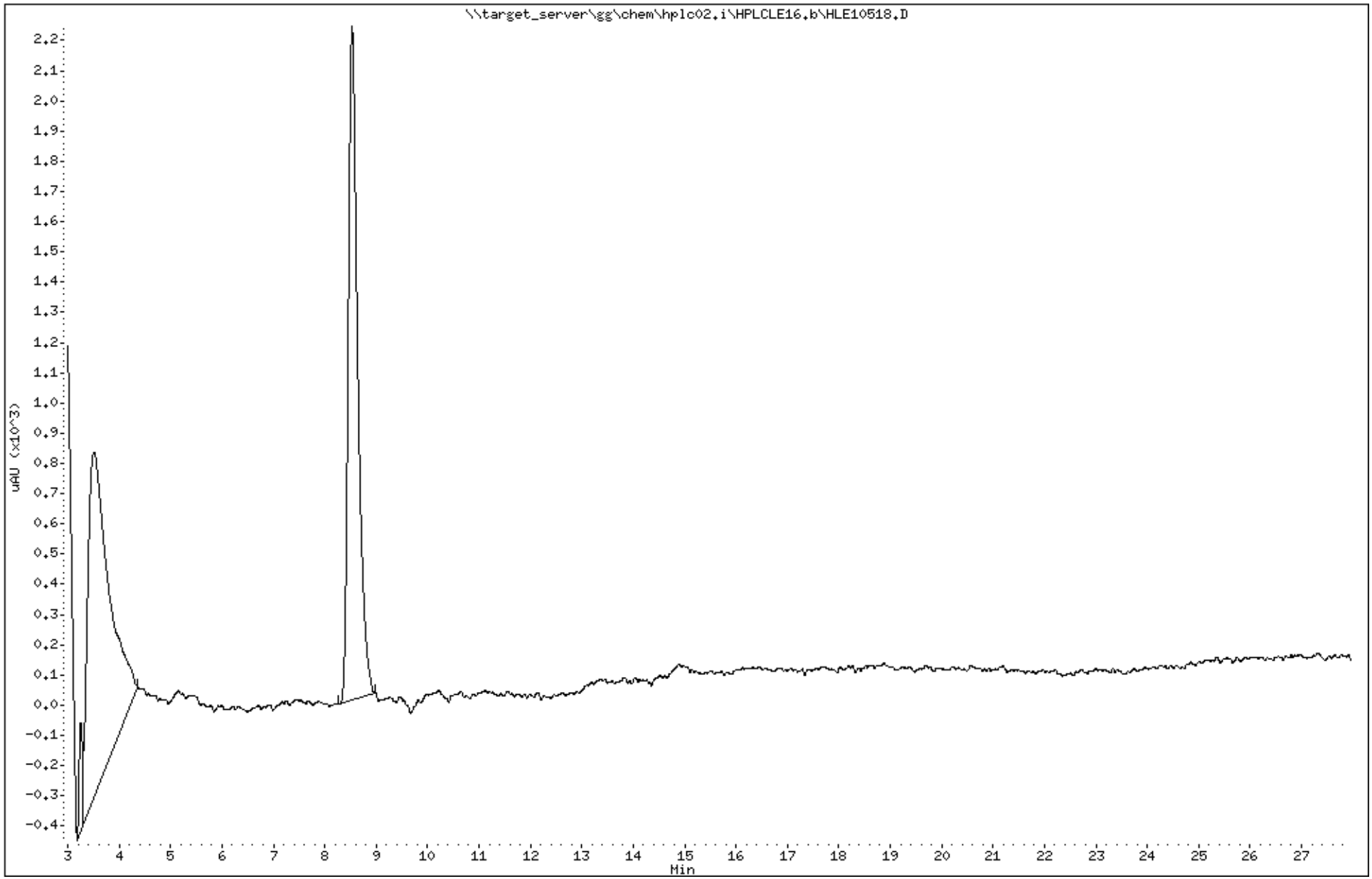
Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HLE10518.D
Date : 16-MAY-2018 22:48
Client ID: WG228437-Blank
Sample Info: WG228437-1,SL4180

Instrument: hplc02.i

Operator: AAB
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 2000310

Data File: HLE10518.D
Report Date: 30-May-2018 11:23

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HPLCLE16.b\HLE10518.D
Lab Smp Id: WG228437-1 Client Smp ID: WG228437-Blank
Inj Date : 16-MAY-2018 22:48
Operator : AAB Inst ID: hplc02.i
Smp Info : WG228437-1,SL4180
Misc Info : WG228756,WG228437,WG225143-5,SL4180-21
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\EXPB05A.m\EXPB05A.m
Meth Date : 22-May-2018 05:33 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 37 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01000	Weight of Sample (Kg)
M	0.00000	% Moisture
Cpnd Variable		Local Compound Variable

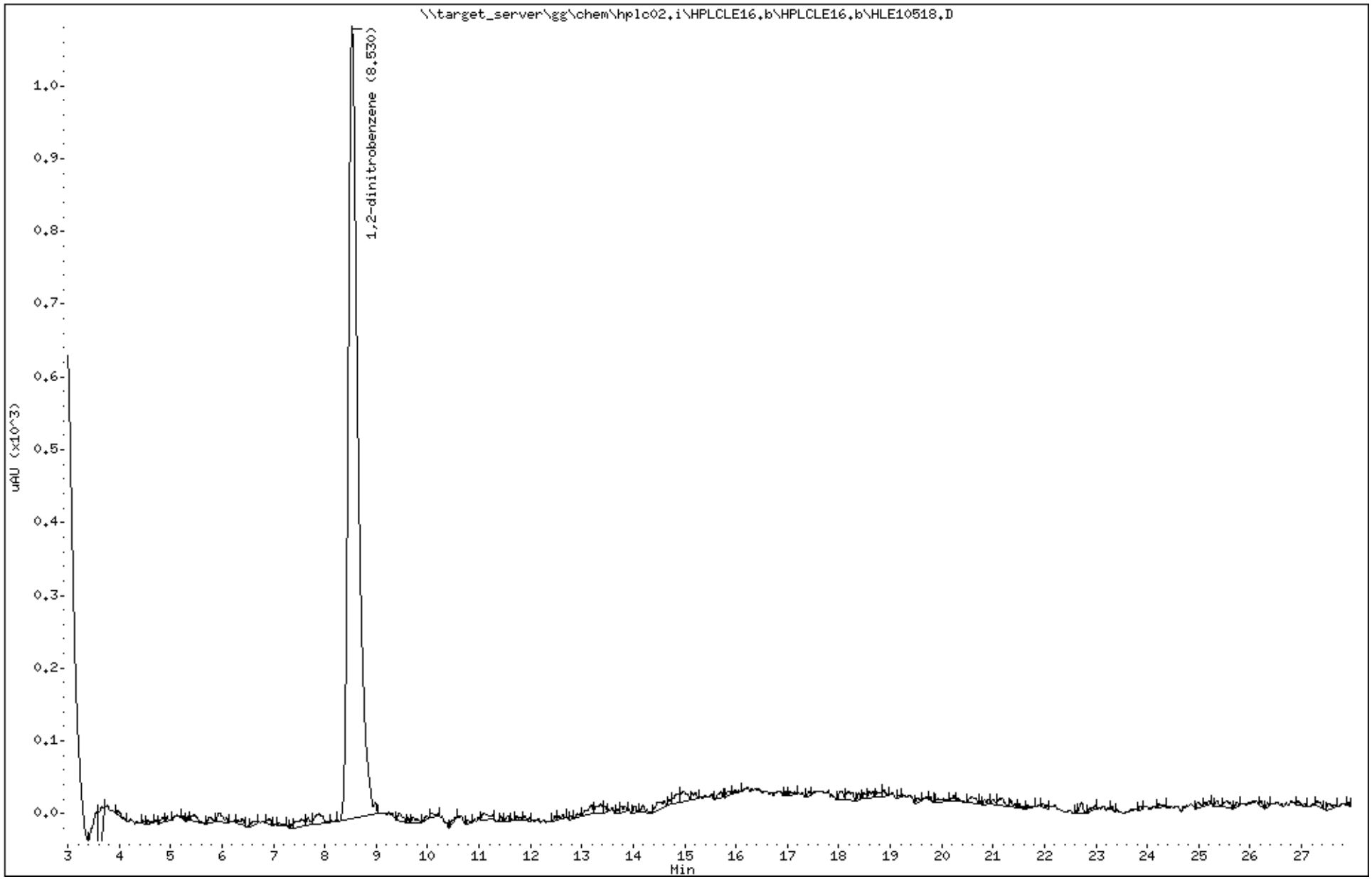
						CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	
Compounds	RT	EXP RT	DLT RT	RESPONSE				REVIEW CODE
$ 2 1,2-dinitrobenzene	8.530	8.528	0.002	1088		0.23512	470	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HPLCLE16.b\HLE10518.D
Date : 16-MAY-2018 22:48
Client ID: WG228437-Blank
Sample Info: WG228437-1,SL4180

Instrument: hplc02.i

Operator: AAB
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 2000312

Data File: HLE10802.D
Report Date: 30-May-2018 11:41

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE25.b\HPLCLE25.b\HLE10802.D
Lab Smp Id: WG228437-1C Client Smp ID: WG228437-Blank
Inj Date : 26-MAY-2018 16:40
Operator : AC Inst ID: hplc02.i
Smp Info : WG228437-1C,SL4180
Misc Info : WG228756,WG228437,WG210620-13,SL4180-21
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE25.b\E2016A.m\E2016A.m
Meth Date : 29-May-2018 16:32 abullentin Quant Type: ESTD
Cal Date : 01-AUG-2017 14:33 Cal File: HKH10014.D
Als bottle: 21 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01000	Weight of Sample (Kg)
M	0.00000	% Moisture
Cpnd Variable		Local Compound Variable

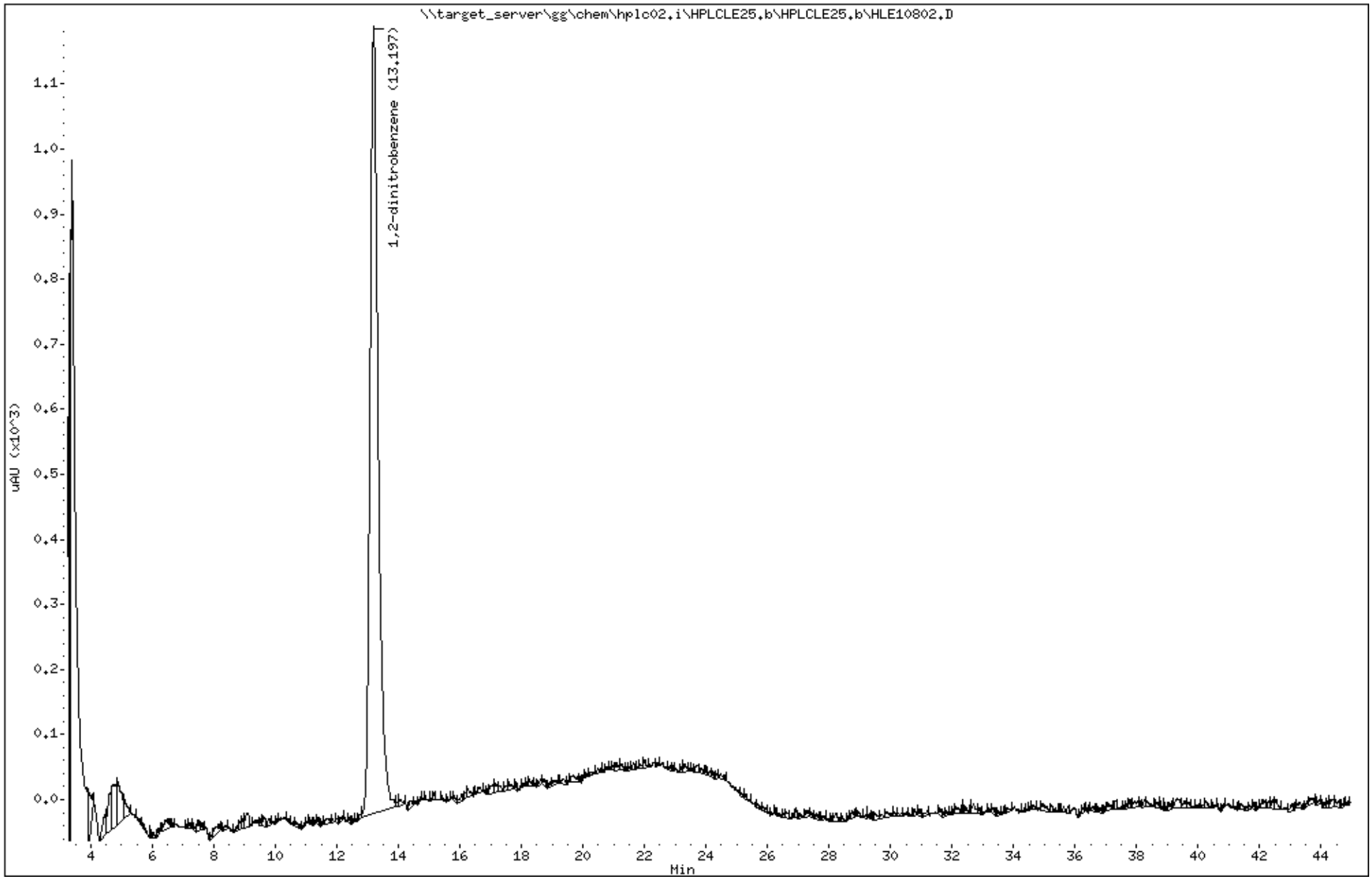
						CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	
Compounds	RT	EXP RT	DLT RT	RESPONSE				REVIEW CODE
$ 2 1,2-dinitrobenzene	13.197	13.228	-0.031	1210		0.22662	453	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE25.b\HPLCLE25.b\HLE10802.D
Date : 26-MAY-2018 16:40
Client ID: WG228437-Blank
Sample Info: WG228437-1C,SL4180

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60

Column phase: Acclaim Exp E2



Katahdin Analytical Services 2000314

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client:
Lab ID: WG228439-1
Client ID: Method Blank Sample
Project:
SDG: SL4180
Lab File ID: HLE10525.D

Sample Date:
Received Date:
Extract Date: 15-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228439

Analysis Date: 17-MAY-18
Analyst: AAB
Analysis Method: SW846 8330B
Matrix: SL
% Solids: NA
Report Date: 30-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	50	ug/Kgdrywt	1	100	100	8.6	50.
RDX	U	50	ug/Kgdrywt	1	100	100	6.8	50.
1,3,5-Trinitrobenzene	U	50	ug/Kgdrywt	1	100	100	6.7	50.
1,3-Dinitrobenzene	U	50	ug/Kgdrywt	1	100	100	6.2	50.
Tetryl	U	50	ug/Kgdrywt	1	100	100	5.4	50.
Nitrobenzene	U	50	ug/Kgdrywt	1	100	100	22.	50.
2,4,6-Trinitrotoluene	U	50	ug/Kgdrywt	1	100	100	6.7	50.
2-Am-DNT	U	50	ug/Kgdrywt	1	100	100	21.	50.
4-Am-DNT	U	50	ug/Kgdrywt	1	100	100	17.	50.
2,6-Dinitrotoluene	U	50	ug/Kgdrywt	1	100	100	27.	50.
2,4-Dinitrotoluene	U	50	ug/Kgdrywt	1	100	100	15.	50.
2-Nitrotoluene	U	50	ug/Kgdrywt	1	100	100	12.	50.
3-Nitrotoluene	U	50	ug/Kgdrywt	1	100	100	7.9	50.
4-Nitrotoluene	U	50	ug/Kgdrywt	1	100	100	27.	50.
Nitroglycerin	U	400	ug/Kgdrywt	1	800	800	120	400
PETN	U	400	ug/Kgdrywt	1	800	800	110	400
1,2-Dinitrobenzene		94.8	%					

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HLE10525.D
Report Date: 30-May-2018 11:17

Katahdin Analytical Services

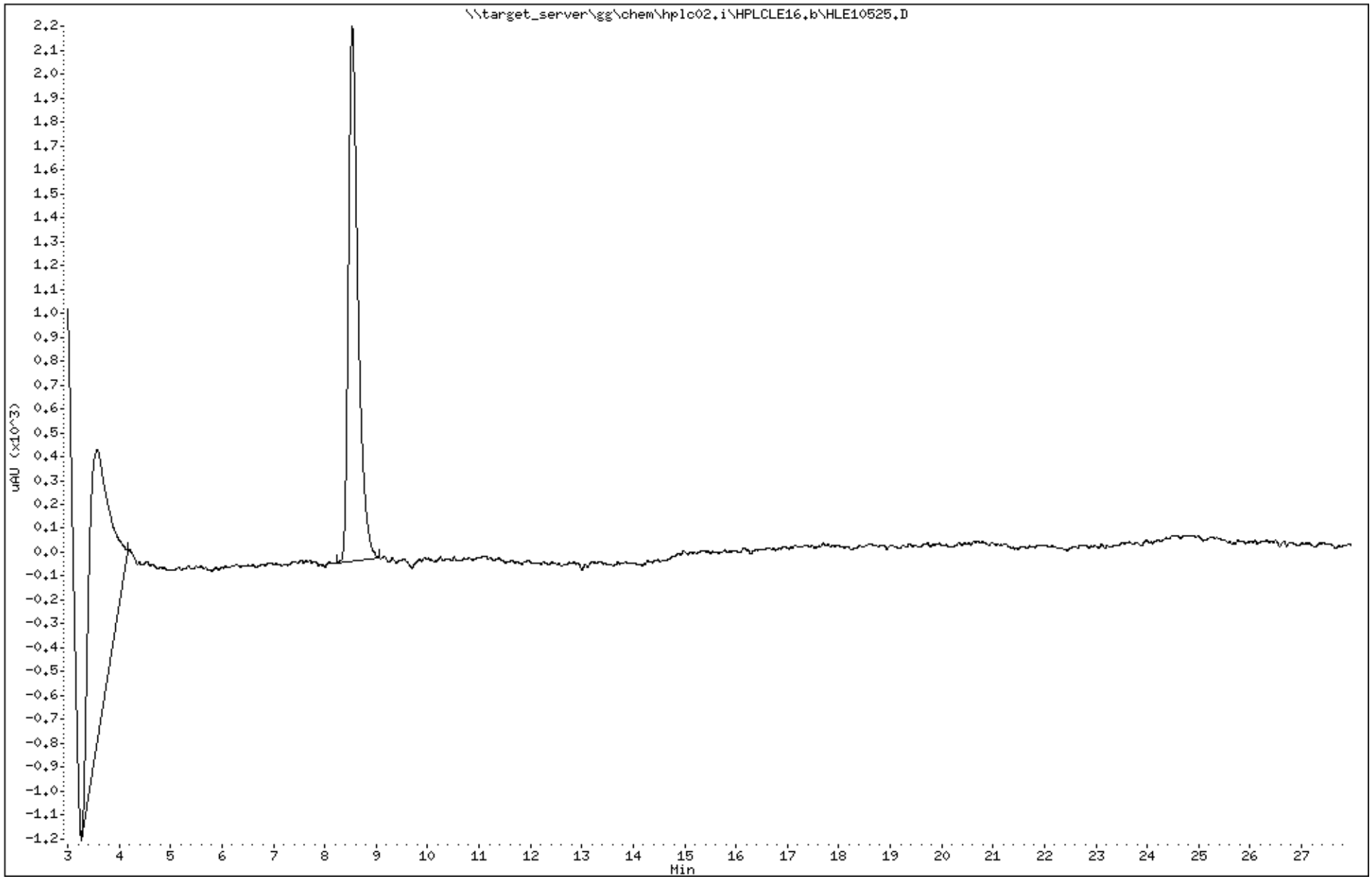
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HLE10525.D
Lab Smp Id: WG228439-1 Client Smp ID: WG228439-Blank
Inj Date : 17-MAY-2018 02:25
Operator : AAB Inst ID: hplc02.i
Smp Info : WG228439-1,SL4180
Misc Info : WG228756,WG228439,WG225143-5,SL4180-1
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\EXPB05A.m
Meth Date : 22-May-2018 05:42 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 44 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01000	Weight of Sample (Kg)
M	0.00000	% Moisture
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HLE10525.D
Date : 17-MAY-2018 02:25
Client ID: WG228439-Blank
Instrument: hplc02.i
Sample Info: WG228439-1,SL4180
Operator: AAB
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 2000317

Data File: HLE10525.D
Report Date: 30-May-2018 11:23

Katahdin Analytical Services

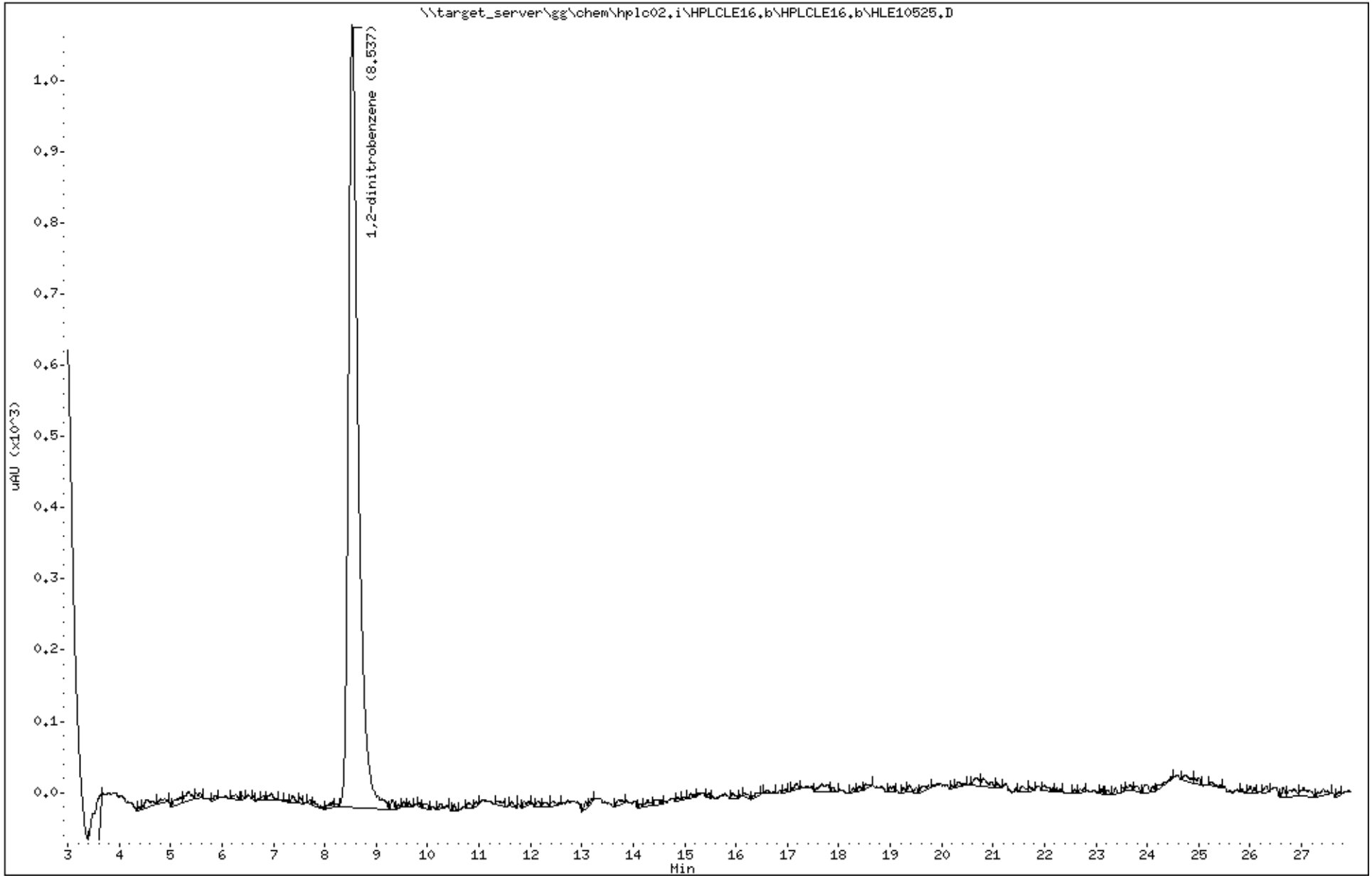
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HPLCLE16.b\HLE10525.D
Lab Smp Id: WG228439-1 Client Smp ID: WG228439-Blank
Inj Date : 17-MAY-2018 02:25
Operator : AAB Inst ID: hplc02.i
Smp Info : WG228439-1,SL4180
Misc Info : WG228756,WG228439,WG225143-5,SL4180-1
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\EXPB05A.m\EXPB05A.m
Meth Date : 22-May-2018 05:33 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 44 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01000	Weight of Sample (Kg)
M	0.00000	% Moisture
Cpnd Variable		Local Compound Variable

						CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	
Compounds	RT	EXP RT	DLT RT	RESPONSE				REVIEW CODE
$ 2 1,2-dinitrobenzene	8.536	8.528	0.008	1098		0.23728	474	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HPLCLE16.b\HLE10525.D
Date : 17-MAY-2018 02:25
Client ID: WG228439-Blank
Instrument: hplc02.i
Sample Info: WG228439-1,SL4180
Operator: AAB
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 2000319

Data File: HLE10791.D
Report Date: 30-May-2018 11:41

Katahdin Analytical Services

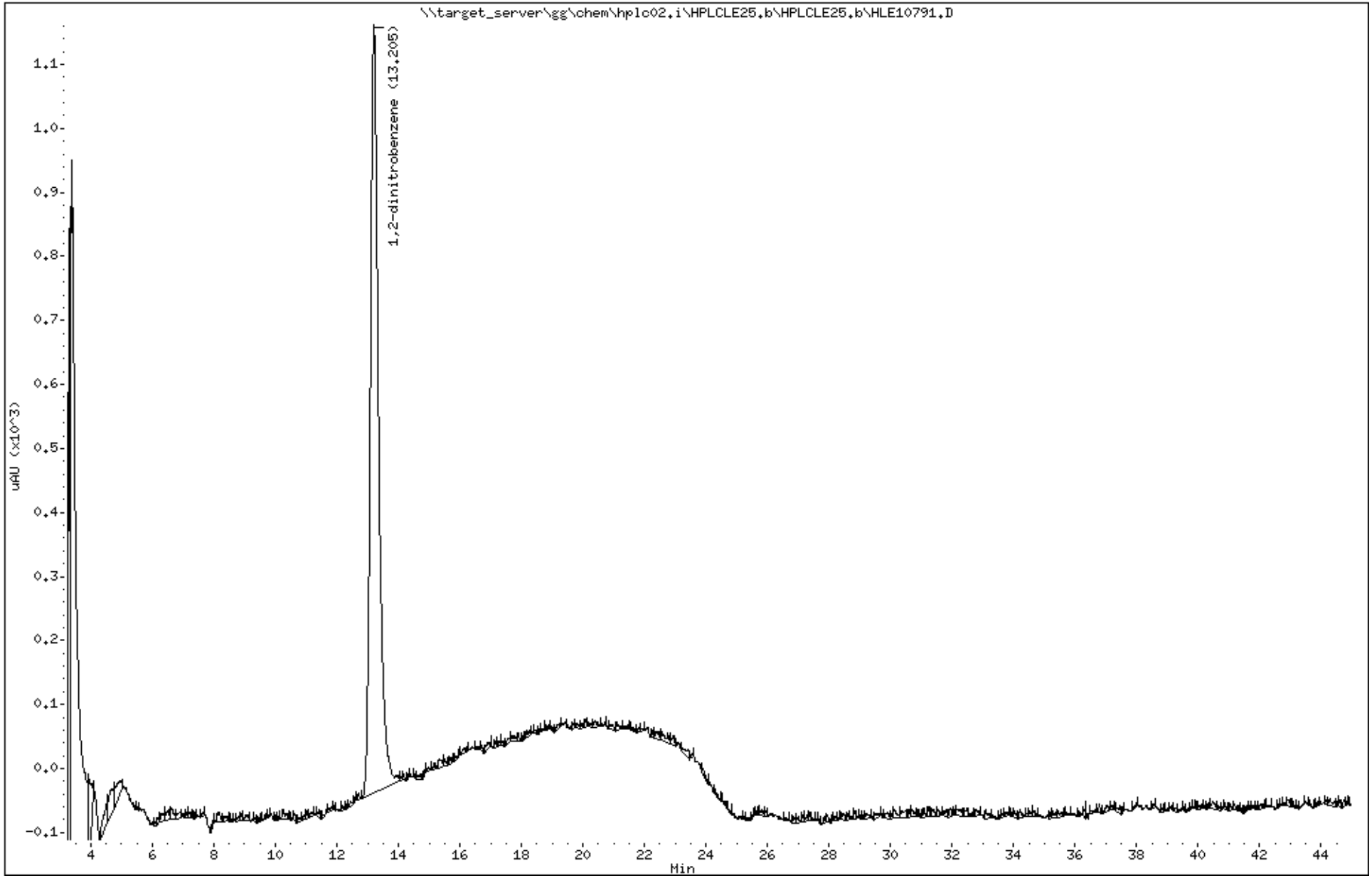
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE25.b\HPLCLE25.b\HLE10791.D
Lab Smp Id: WG228439-1C Client Smp ID: WG228439-Blank
Inj Date : 26-MAY-2018 07:39
Operator : AC Inst ID: hplc02.i
Smp Info : WG228439-1C,SL4180
Misc Info : WG228756,WG228439,WG210620-13,SL4180-1
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE25.b\E2016A.m\E2016A.m
Meth Date : 29-May-2018 16:32 abullentin Quant Type: ESTD
Cal Date : 01-AUG-2017 14:33 Cal File: HKH10014.D
Als bottle: 10 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01000	Weight of Sample (Kg)
M	0.00000	% Moisture
Cpnd Variable		Local Compound Variable

						CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	
Compounds	RT	EXP RT	DLT RT	RESPONSE				REVIEW CODE
$ 2 1,2-dinitrobenzene	13.204	13.228	-0.024	1199		0.22454	449	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE25.b\HPLCLE25.b\HLE10791.D
Date : 26-MAY-2018 07:39
Client ID: WG228439-Blank
Instrument: hplc02.i
Sample Info: WG228439-1C,SL4180
Operator: AC
Column phase: Acclaim Exp E2
Column diameter: 4.60



Katahdin Analytical Services 2000321

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client:
Lab ID: WG228857-1
Client ID: Method Blank Sample
Project:
SDG: SL4180
Lab File ID: HLE10686.D

Sample Date:
Received Date:
Extract Date: 22-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228857

Analysis Date: 23-MAY-18
Analyst: AC
Analysis Method: SW846 8330B
Matrix: SL
% Solids: NA
Report Date: 30-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	50	ug/Kgdrywt	1	100	100	8.6	50.
RDX	U	50	ug/Kgdrywt	1	100	100	6.8	50.
1,3,5-Trinitrobenzene	U	50	ug/Kgdrywt	1	100	100	6.7	50.
1,3-Dinitrobenzene	U	50	ug/Kgdrywt	1	100	100	6.2	50.
Tetryl	U	50	ug/Kgdrywt	1	100	100	5.4	50.
Nitrobenzene	U	50	ug/Kgdrywt	1	100	100	22.	50.
2,4,6-Trinitrotoluene	U	50	ug/Kgdrywt	1	100	100	6.7	50.
2-Am-DNT	U	50	ug/Kgdrywt	1	100	100	21.	50.
4-Am-DNT	U	50	ug/Kgdrywt	1	100	100	17.	50.
2,6-Dinitrotoluene	U	50	ug/Kgdrywt	1	100	100	27.	50.
2,4-Dinitrotoluene	U	50	ug/Kgdrywt	1	100	100	15.	50.
2-Nitrotoluene	U	50	ug/Kgdrywt	1	100	100	12.	50.
3-Nitrotoluene	U	50	ug/Kgdrywt	1	100	100	7.9	50.
4-Nitrotoluene	U	50	ug/Kgdrywt	1	100	100	27.	50.
Nitroglycerin	U	400	ug/Kgdrywt	1	800	800	120	400
PETN	U	400	ug/Kgdrywt	1	800	800	110	400
1,2-Dinitrobenzene		96.6	%					

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10686.D
Report Date: 30-May-2018 11:34

Katahdin Analytical Services

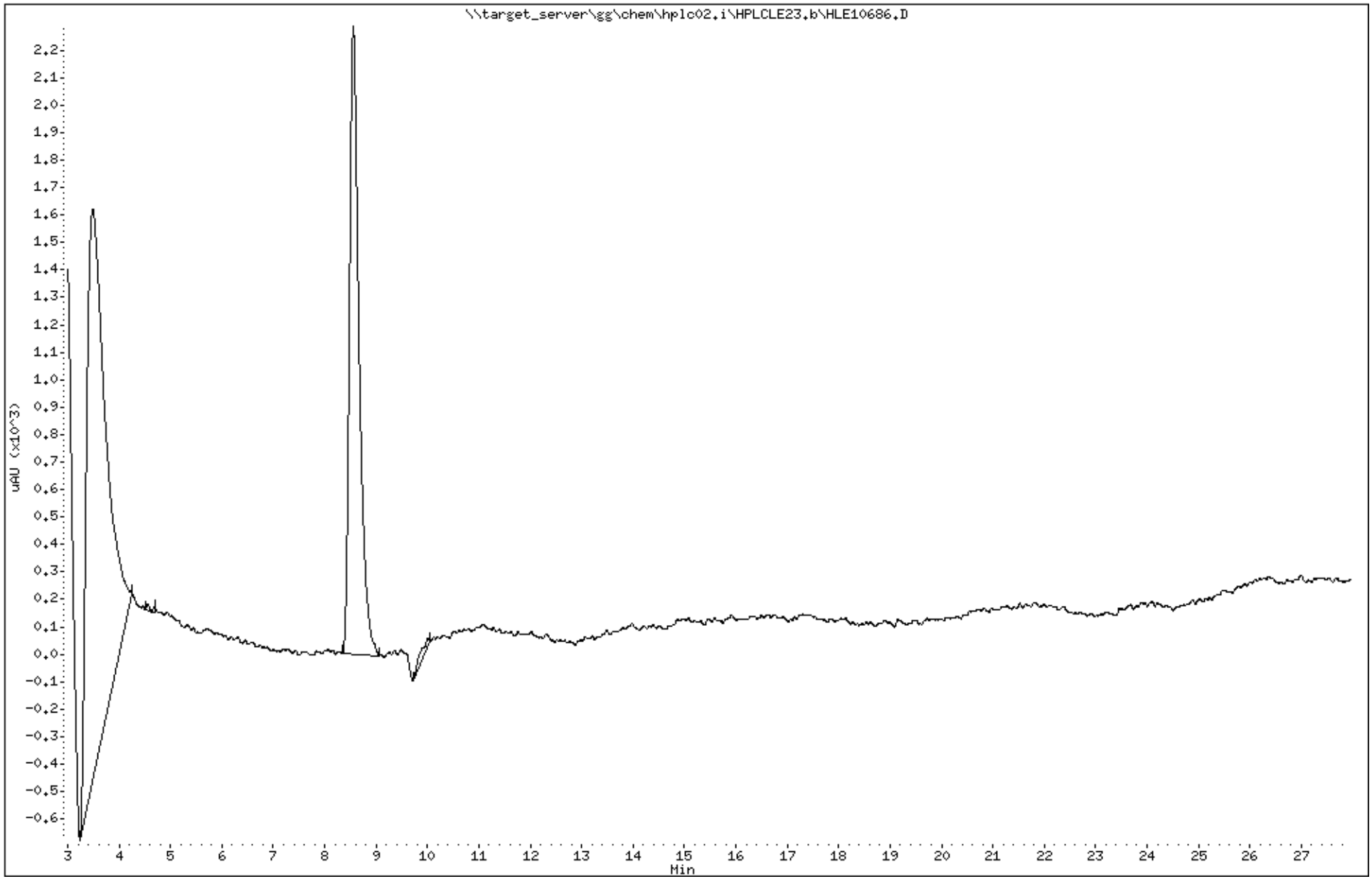
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10686.D
Lab Smp Id: WG228857-1 Client Smp ID: WG228857-Blank
Inj Date : 23-MAY-2018 17:21
Operator : AC Inst ID: hplc02.i
Smp Info : WG228857-1,SL4180
Misc Info : WG228942,WG228857,WG225143-5,SL4180-4
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\EXPB05A.m
Meth Date : 25-May-2018 03:43 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 5 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01000	Weight of Sample (Kg)
M	0.00000	% Moisture
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10686.D
Date : 23-MAY-2018 17:21
Client ID: WG228857-Blank
Instrument: hplc02.i
Sample Info: WG228857-1,SL4180
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 2000324

Data File: HLE10686.D
Report Date: 30-May-2018 11:37

Katahdin Analytical Services

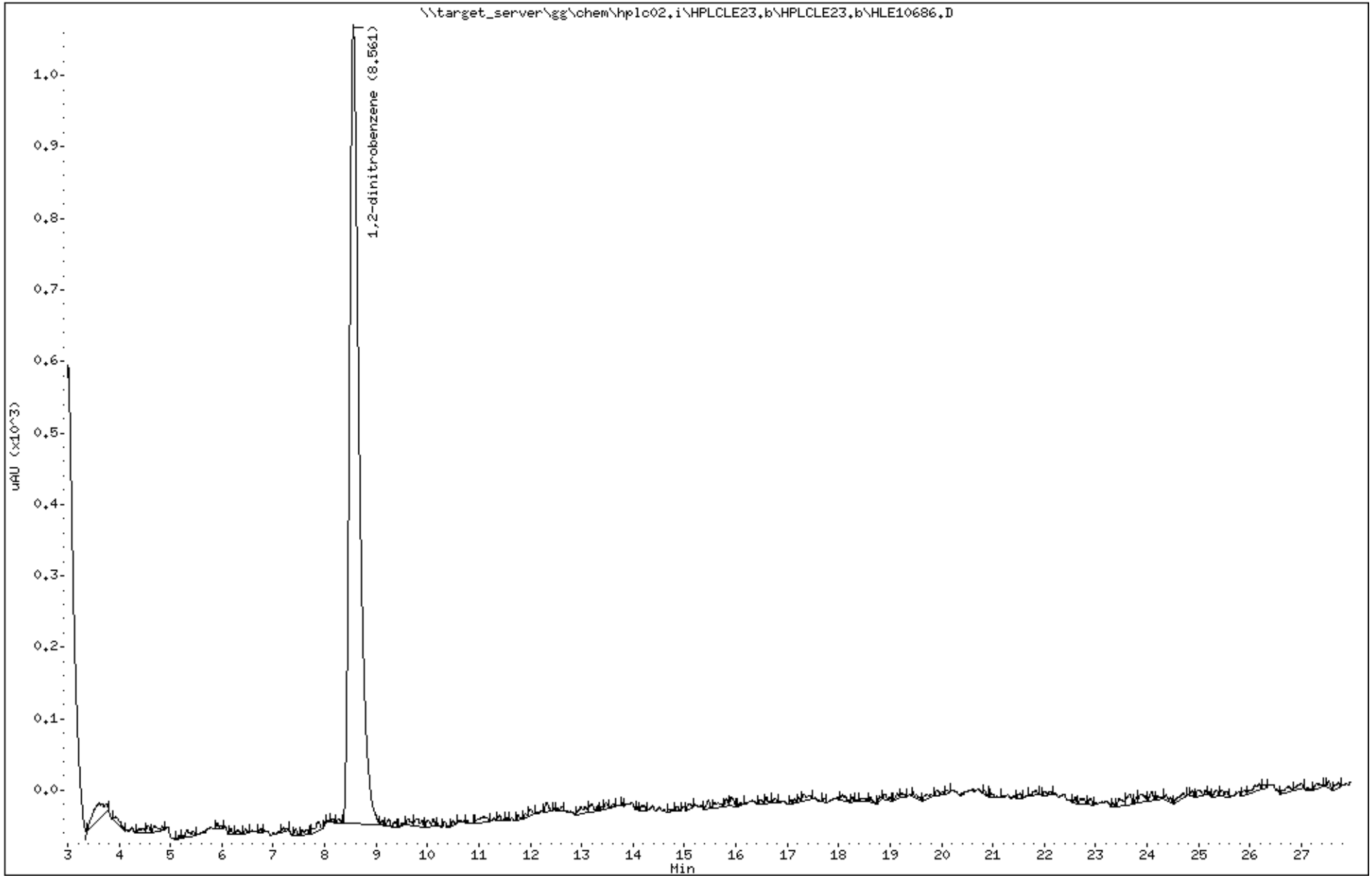
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HPLCLE23.b\HLE10686.D
Lab Smp Id: WG228857-1 Client Smp ID: WG228857-Blank
Inj Date : 23-MAY-2018 17:21
Operator : AC Inst ID: hplc02.i
Smp Info : WG228857-1,SL4180
Misc Info : WG228942,WG228857,WG225143-5,SL4180-4
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\EXPB05A.m\EXPB05A.m
Meth Date : 25-May-2018 03:41 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 5 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01000	Weight of Sample (Kg)
M	0.00000	% Moisture
Cpnd Variable		Local Compound Variable

						CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	
Compounds	RT	EXP RT	DLT RT	RESPONSE				REVIEW CODE
$ 2 1,2-dinitrobenzene	8.561	8.573	-0.012	1118		0.24160	483	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HPLCLE23.b\HLE10686.D
Date : 23-MAY-2018 17:21
Client ID: WG228857-Blank
Instrument: hplc02.i
Sample Info: WG228857-1,SL4180
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 2000326

Katahdin
ANALYTICAL SERVICES

LCS Recovery Report

Client:
Lab ID: WG228334-2
Client ID: LCS
Project:
SDG: SL4180
LCS File ID: HLE10468.D

Sample Date:
Received Date:
Extract Date: 15-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330
Lab Prep Batch: WG228334

Analysis Date: 15-MAY-18
Analyst: AAB
Analysis Method: SW846 8330B
Matrix: AQ
% Solids: NA
Report Date: 30-MAY-18

Compound	Recovery (%)	Conc Added	Conc Recovered	Conc Units	Limits
HMX	99.6	5.00	4.98	ug/L	65-135
RDX	101.	5.00	5.06	ug/L	68-130
1,3,5-Trinitrobenzene	104.	5.00	5.20	ug/L	73-125
1,3-Dinitrobenzene	103.	5.00	5.16	ug/L	78-120
Tetryl	121.	5.00	6.04	ug/L	64-128
Nitrobenzene	96.0	5.00	4.80	ug/L	65-134
2,4,6-Trinitrotoluene	105.	5.00	5.26	ug/L	71-123
4-Am-DNT	108.	5.00	5.40	ug/L	76-125
2-Am-DNT	104.	5.00	5.19	ug/L	79-120
2,6-Dinitrotoluene	99.6	5.00	4.98	ug/L	77-127
2,4-Dinitrotoluene	104.	5.00	5.22	ug/L	78-120
2-Nitrotoluene	98.8	5.00	4.94	ug/L	70-127
4-Nitrotoluene	102.	5.00	5.09	ug/L	71-127
3-Nitrotoluene	95.4	5.00	4.77	ug/L	73-125
Nitroglycerin	98.5	20.0	19.7	ug/L	74-127
PETN	102.	20.0	20.3	ug/L	73-127
1,2-Dinitrobenzene	92.4				83-120

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HLE10468.D
Report Date: 30-May-2018 12:13

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HLE10468.D
Lab Smp Id: WG228334-2 Client Smp ID: WG228334-LCS
Inj Date : 15-MAY-2018 19:32
Operator : AAB Inst ID: hplc02.i
Smp Info : WG228334-2,SL4180
Misc Info : WG228756,WG228334,WG225143-5,SL4180-29
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE15.b\EXPB05A.m
Meth Date : 21-May-2018 08:50 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 87 QC Sample: LCS
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*(Vt/Vo) * CpndVariable

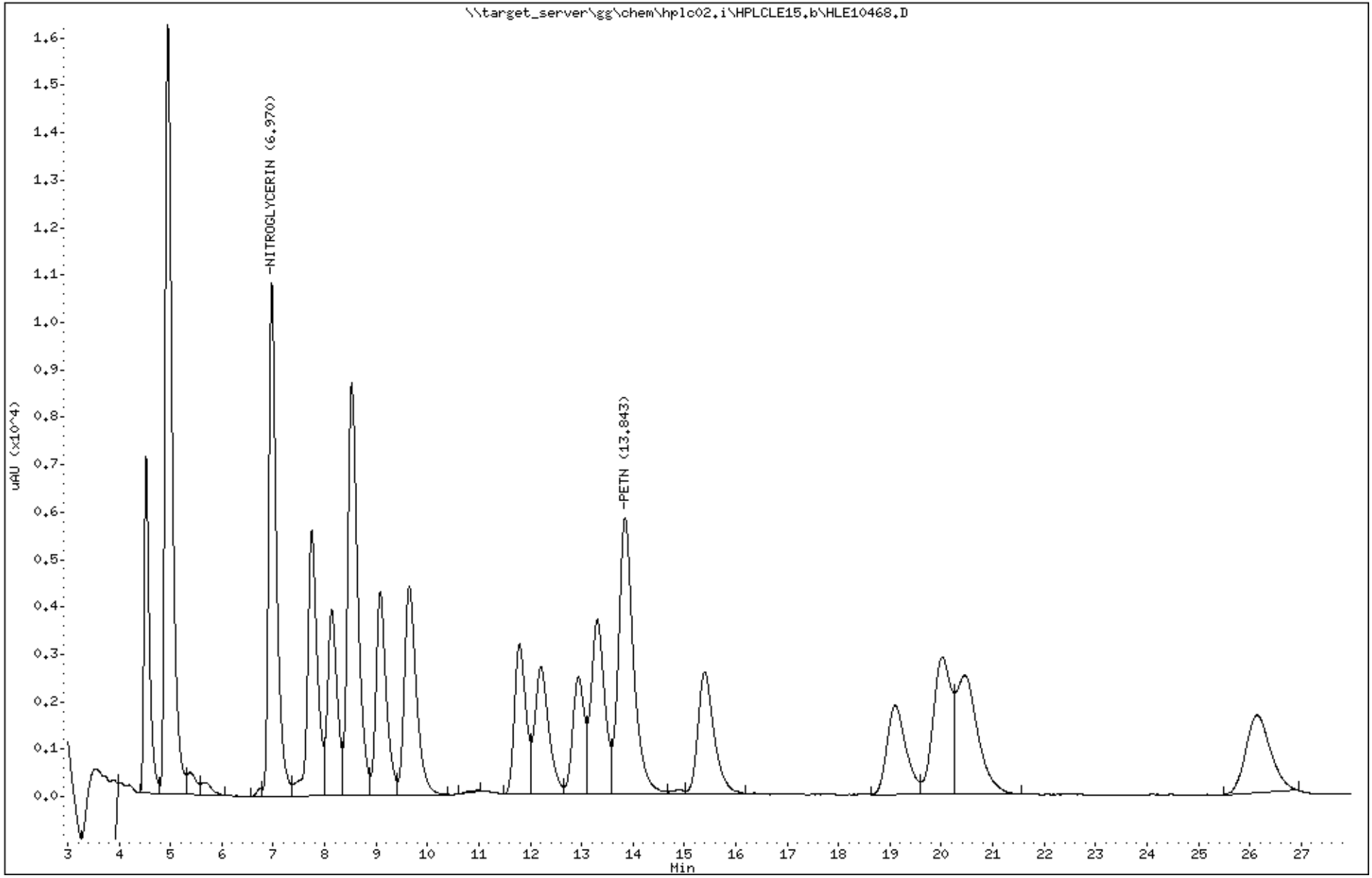
Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00500	Final Volume (L)
Vo	0.50000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/L)
8 NITROGLYCERIN	6.969	6.971	-0.002	10840	1.96619	19.7
18 PETN	13.842	13.865	-0.023	5828	2.02654	20.3(R)

QC Flag Legend

R - Spike/Surrogate failed recovery limits.

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HLE10468.D
Date : 15-MAY-2018 19:32
Client ID: WG228334-LCS
Instrument: hplc02.i
Sample Info: WG228334-2,SL4180
Purge Volume: 0.5
Operator: AAB
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 2000329

Data File: HLE10468.D
Report Date: 30-May-2018 12:13

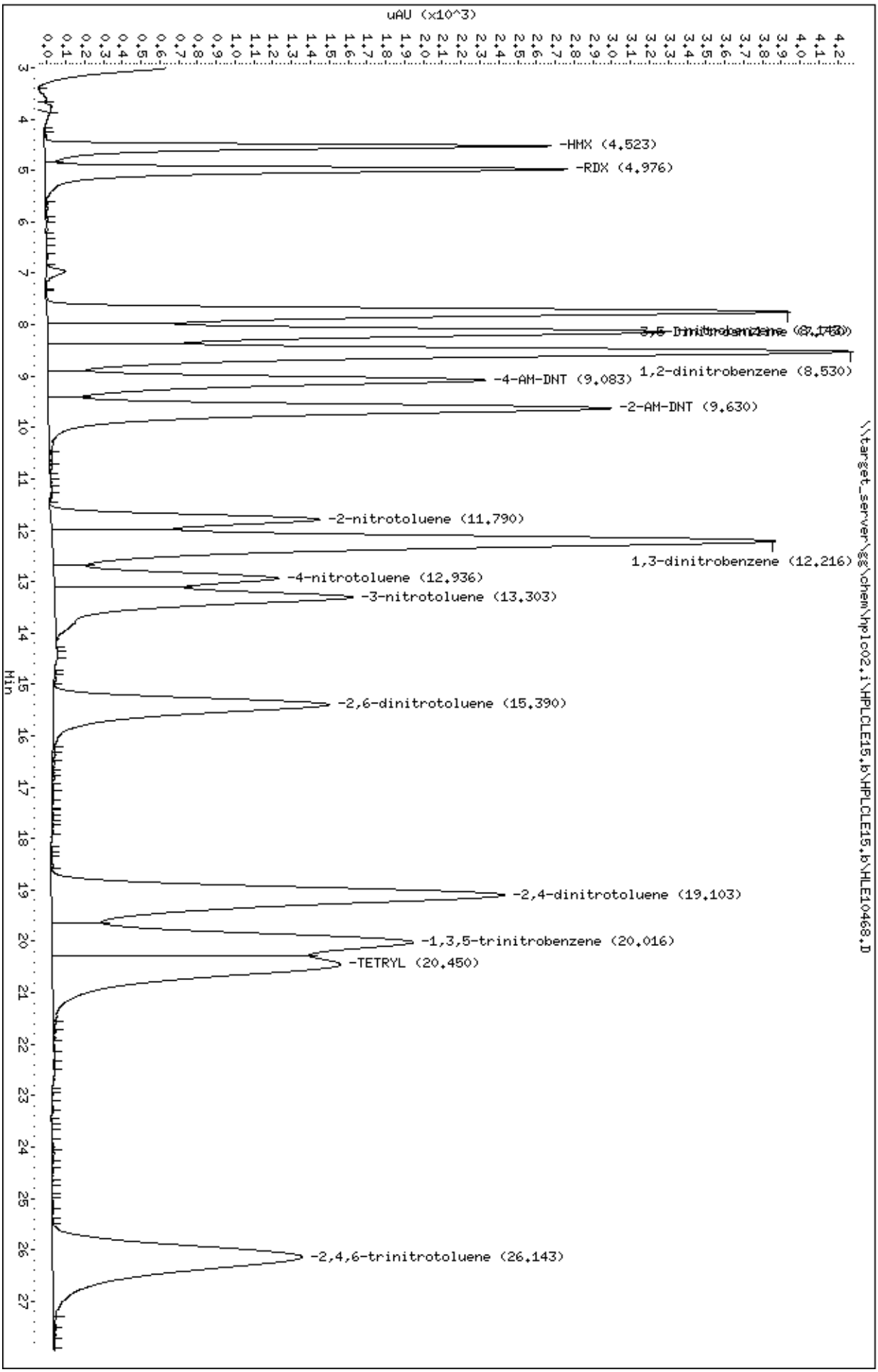
Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HPLCLE15.b\HLE10468.D
Lab Smp Id: WG228334-2 Client Smp ID: WG228334-LCS
Inj Date : 15-MAY-2018 19:32
Operator : AAB Inst ID: hplc02.i
Smp Info : WG228334-2,SL4180
Misc Info : WG228756,WG228334,WG225143-5,SL4180-29
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE15.b\EXPB05A.m\EXPB05A.m
Meth Date : 21-May-2018 08:35 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 87 QC Sample: LCS
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*(Vt/Vo) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00500	Final Volume (L)
Vo	0.50000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/L)	REVIEW CODE
1	HMX	4.522	4.525	-0.003	2687	0.49846	4.98	
4	RDX	4.976	4.971	0.005	2775	0.50571	5.06	
51	3,5-Dinitroaniline	7.749	7.758	-0.009	3945	0.47437	4.74	
7	nitrobenzene	8.142	8.145	-0.003	3296	0.48000	4.80	
$ 2	1,2-dinitrobenzene	8.529	8.538	-0.009	4277	0.92427	9.24	
11	4-AM-DNT	9.082	9.098	-0.016	2325	0.54036	5.40	
12	2-AM-DNT	9.629	9.645	-0.016	2989	0.51886	5.19	
15	2-nitrotoluene	11.789	11.805	-0.016	1428	0.49419	4.94	
6	1,3-dinitrobenzene	12.216	12.238	-0.022	3839	0.51574	5.16	
16	4-nitrotoluene	12.936	12.958	-0.022	1193	0.50930	5.09	
17	3-nitrotoluene	13.302	13.325	-0.023	1587	0.47720	4.77	
13	2,6-dinitrotoluene	15.389	15.431	-0.042	1464	0.49760	4.98	
14	2,4-dinitrotoluene	19.102	19.158	-0.056	2409	0.52160	5.22	
5	1,3,5-trinitrobenzene	20.016	20.071	-0.055	1920	0.52049	5.20	
9	TETRYL	20.449	20.518	-0.069	1532	0.60444	6.04	
10	2,4,6-trinitrotoluene	26.142	26.225	-0.083	1328	0.52566	5.26	


Data File: \\target_server\gg\chem\hplc02.i\HPLCLE15.b\HLE10468.D
Date : 15-MAY-2018 19:32
Client ID: WG228334-LCS
Sample Info: WG228334-2,SL4180
Purge Volume: 0.5
Column phase: Acclaim Exp E1
Instrument: hplc02.i
Operator: AAB
Column diameter: 4.60
\\target_server\gg\chem\hplc02.i\HPLCLE15.b\HPLCLE15.b\HLE10468.D
uAU (x10^3)
Min
-HMX (4.523)
-RDX (4.976)
3,5-Dinitroaniline (7.743)
1,2-dinitrobenzene (8.530)
-4-AM-DNT (9.083)
-2-AM-DNT (9.630)
-2-nitrotoluene (11.790)
1,3-dinitrobenzene (12.216)
-4-nitrotoluene (12.936)
-3-nitrotoluene (13.303)
-2,6-dinitrotoluene (15.390)
-2,4-dinitrotoluene (19.103)
-1,3,5-trinitrobenzene (20.016)
-TETRYL (20.450)
-2,4,6-trinitrotoluene (26.143)

Katahdin
ANALYTICAL SERVICES

LCS Recovery Report

Client:
Lab ID: WG228437-2
Client ID: LCS
Project:
SDG: SL4180
LCS File ID: HLE10519.D

Sample Date:
Received Date:
Extract Date: 15-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228437

Analysis Date: 16-MAY-18
Analyst: AAB
Analysis Method: SW846 8330B
Matrix: SL
% Solids: NA
Report Date: 30-MAY-18

Compound	Recovery (%)	Conc Added	Conc Recovered	Conc Units	Limits
HMX	106.	1000	1060	ug/Kgdrywt	74-125
RDX	104.	1000	1040	ug/Kgdrywt	67-129
1,3,5-Trinitrobenzene	109.	1000	1090	ug/Kgdrywt	80-125
1,3-Dinitrobenzene	109.	1000	1090	ug/Kgdrywt	73-125
Tetryl	122.	1000	1220	ug/Kgdrywt	68-135
Nitrobenzene	104.	1000	1040	ug/Kgdrywt	67-129
2,4,6-Trinitrotoluene	110.	1000	1100	ug/Kgdrywt	71-125
2-Am-DNT	109.	1000	1090	ug/Kgdrywt	71-125
4-Am-DNT	114.	1000	1140	ug/Kgdrywt	64-127
2,6-Dinitrotoluene	106.	1000	1060	ug/Kgdrywt	79-125
2,4-Dinitrotoluene	110.	1000	1100	ug/Kgdrywt	75-125
2-Nitrotoluene	110.	1000	1100	ug/Kgdrywt	70-125
3-Nitrotoluene	107.	1000	1070	ug/Kgdrywt	67-129
4-Nitrotoluene	110.	1000	1100	ug/Kgdrywt	71-125
Nitroglycerin	91.4	1000	914.	ug/Kgdrywt	73-125
PETN	104.	1000	1040	ug/Kgdrywt	72-128
1,2-Dinitrobenzene	104.				78-125

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HLE10519.D
Report Date: 30-May-2018 11:17

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HLE10519.D
Lab Smp Id: WG228437-2 Client Smp ID: WG228437-LCS
Inj Date : 16-MAY-2018 23:19
Operator : AAB Inst ID: hplc02.i
Smp Info : WG228437-2,SL4180
Misc Info : WG228756,WG228437,WG225143-5,SL4180-21
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\EXPB05A.m
Meth Date : 22-May-2018 05:42 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 38 QC Sample: LCS
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01000	Weight of Sample (Kg)
M	0.00000	% Moisture
Cpnd Variable		Local Compound Variable

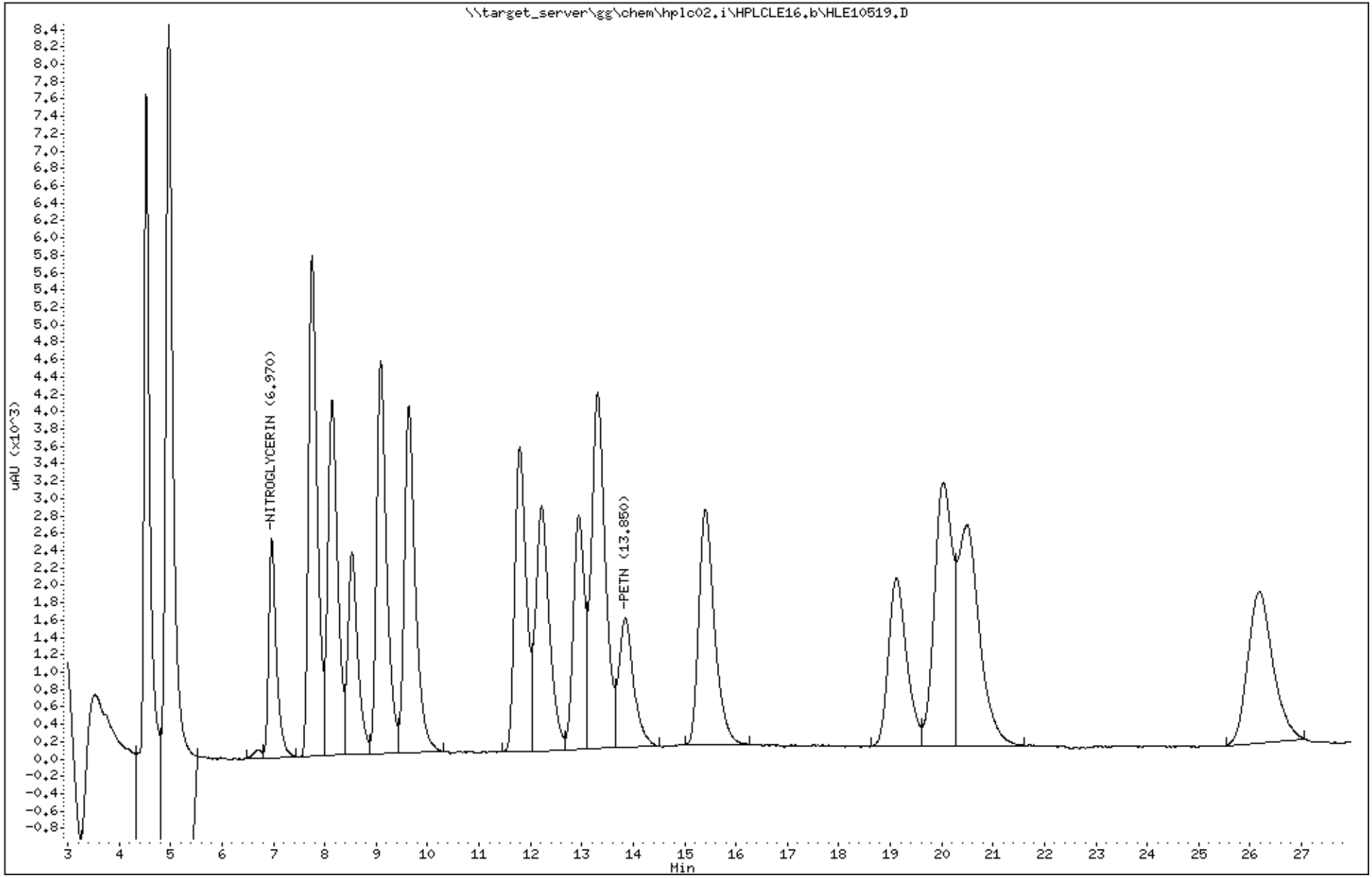
					CONCENTRATIONS	
					ON-COLUMN	FINAL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/mL)	(ug/Kgdrywt)
8 NITROGLYCERIN	6.969	6.968	0.001	2519	0.45690	914
18 PETN	13.849	13.868	-0.019	1490	0.51811	1040

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HLE10519.D
Date : 16-MAY-2018 23:19
Client ID: WG228437-LCS
Sample Info: WG228437-2,SL4180

Instrument: hplc02.i

Operator: AAB
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 2000334

Data File: HLE10519.D
Report Date: 30-May-2018 11:23

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HPLCLE16.b\HLE10519.D
Lab Smp Id: WG228437-2 Client Smp ID: WG228437-LCS
Inj Date : 16-MAY-2018 23:19
Operator : AAB Inst ID: hplc02.i
Smp Info : WG228437-2,SL4180
Misc Info : WG228756,WG228437,WG225143-5,SL4180-21
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\EXPB05A.m\EXPB05A.m
Meth Date : 22-May-2018 05:33 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 38 QC Sample: LCS
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01000	Weight of Sample (Kg)
M	0.00000	% Moisture
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	REVIEW CODE
1	HMX	4.522	4.522	0.000	2862	0.53092	1060(M)	M2
4	RDX	4.976	4.975	0.001	2866	0.52210	1040(M)	M2
51	3,5-Dinitroaniline	7.756	7.762	-0.006	4194	0.50431	1010	
7	nitrobenzene	8.142	8.142	0.000	3585	0.52209	1040	
$ 2	1,2-dinitrobenzene	8.522	8.528	-0.006	1201	0.25954	519	
11	4-AM-DNT	9.089	9.095	-0.006	2457	0.57103	1140	
12	2-AM-DNT	9.636	9.648	-0.012	3149	0.54663	1090	
15	2-nitrotoluene	11.796	11.808	-0.012	1592	0.55095	1100	
6	1,3-dinitrobenzene	12.222	12.235	-0.013	4046	0.54355	1090	
16	4-nitrotoluene	12.936	12.955	-0.019	1295	0.55285	1100	
17	3-nitrotoluene	13.309	13.322	-0.013	1779	0.53493	1070	
13	2,6-dinitrotoluene	15.409	15.428	-0.019	1553	0.52862	1060	
14	2,4-dinitrotoluene	19.122	19.162	-0.040	2540	0.54996	1100	
5	1,3,5-trinitrobenzene	20.036	20.082	-0.046	2007	0.54407	1090	
9	TETRYL	20.489	20.528	-0.039	1548	0.61075	1220	
10	2,4,6-trinitrotoluene	26.176	26.228	-0.052	1393	0.55139	1100	

AAB
12:54 pm, May 30, 2018

QC Flag Legend

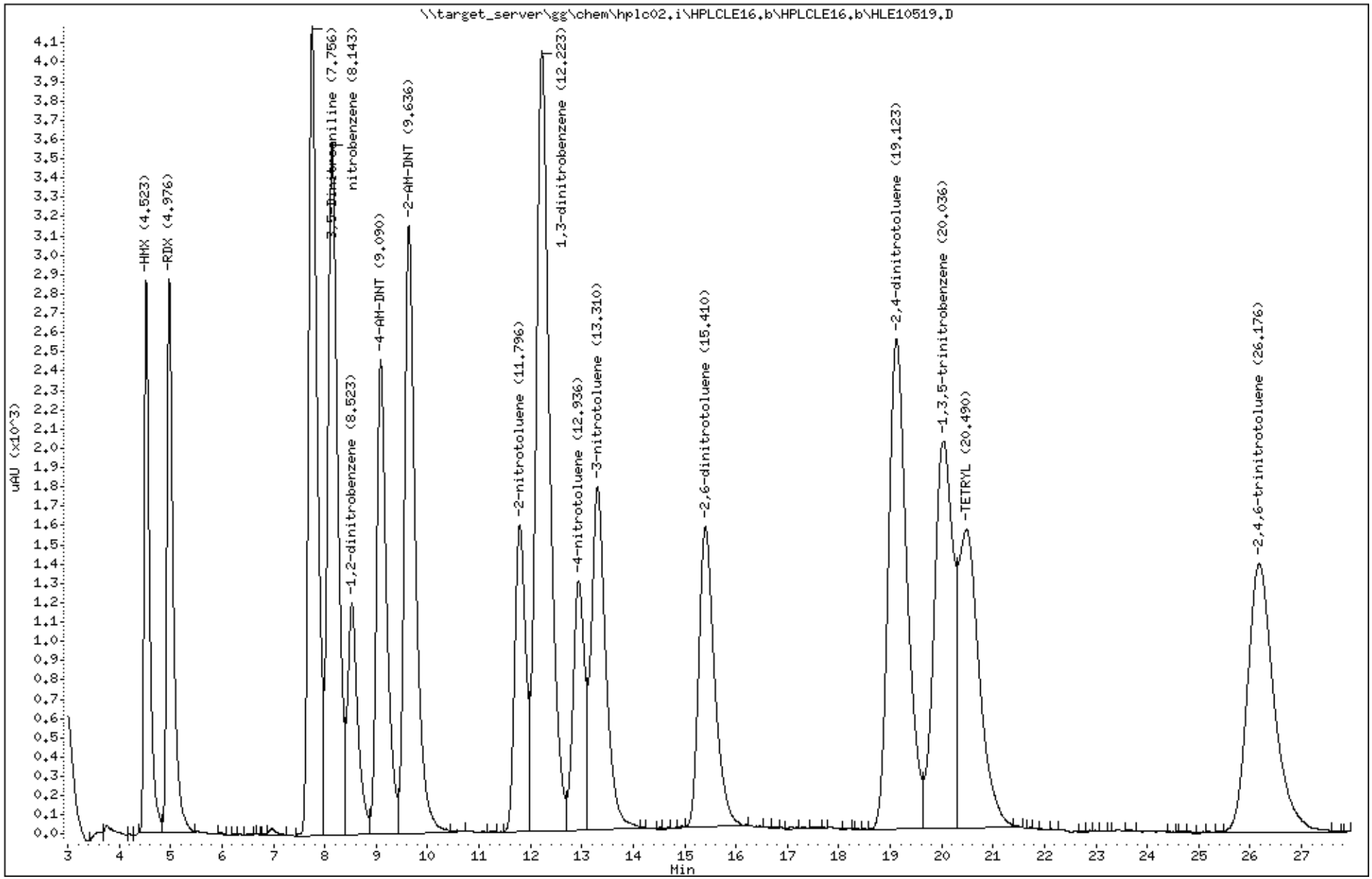
M - Compound response manually integrated.

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HPLCLE16.b\HLE10519.D
Date : 16-MAY-2018 23:19
Client ID: WG228437-LCS
Sample Info: WG228437-2,SL4180

Instrument: hplc02.i

Operator: AAB
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 2000336

Katahdin
ANALYTICAL SERVICES

LCS Recovery Report

Client:
Lab ID: WG228439-2
Client ID: LCS
Project:
SDG: SL4180
LCS File ID: HLE10527.D

Sample Date:
Received Date:
Extract Date: 15-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228439

Analysis Date: 17-MAY-18
Analyst: AAB
Analysis Method: SW846 8330B
Matrix: SL
% Solids: NA
Report Date: 30-MAY-18

Compound	Recovery (%)	Conc Added	Conc Recovered	Conc Units	Limits
HMX	109.	1000	1090	ug/Kgdrywt	74-125
RDX	106.	1000	1060	ug/Kgdrywt	67-129
1,3,5-Trinitrobenzene	113.	1000	1130	ug/Kgdrywt	80-125
1,3-Dinitrobenzene	111.	1000	1110	ug/Kgdrywt	73-125
Tetryl	119.	1000	1190	ug/Kgdrywt	68-135
Nitrobenzene	106.	1000	1060	ug/Kgdrywt	67-129
2,4,6-Trinitrotoluene	112.	1000	1120	ug/Kgdrywt	71-125
2-Am-DNT	112.	1000	1120	ug/Kgdrywt	71-125
4-Am-DNT	117.	1000	1170	ug/Kgdrywt	64-127
2,6-Dinitrotoluene	109.	1000	1090	ug/Kgdrywt	79-125
2,4-Dinitrotoluene	114.	1000	1140	ug/Kgdrywt	75-125
2-Nitrotoluene	112.	1000	1120	ug/Kgdrywt	70-125
3-Nitrotoluene	109.	1000	1090	ug/Kgdrywt	67-129
4-Nitrotoluene	112.	1000	1120	ug/Kgdrywt	71-125
Nitroglycerin	90.6	1000	906.	ug/Kgdrywt	73-125
PETN	99.6	1000	996.	ug/Kgdrywt	72-128
1,2-Dinitrobenzene	105.				78-125

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HLE10527.D
Report Date: 30-May-2018 11:17

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HLE10527.D
Lab Smp Id: WG228439-2 Client Smp ID: WG228439-LCS
Inj Date : 17-MAY-2018 03:27
Operator : AAB Inst ID: hplc02.i
Smp Info : WG228439-2,SL4180
Misc Info : WG228756,WG228439,WG225143-5,SL4180-1
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\EXPB05A.m
Meth Date : 22-May-2018 05:42 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 46 QC Sample: LCS
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01000	Weight of Sample (Kg)
M	0.00000	% Moisture
Cpnd Variable		Local Compound Variable

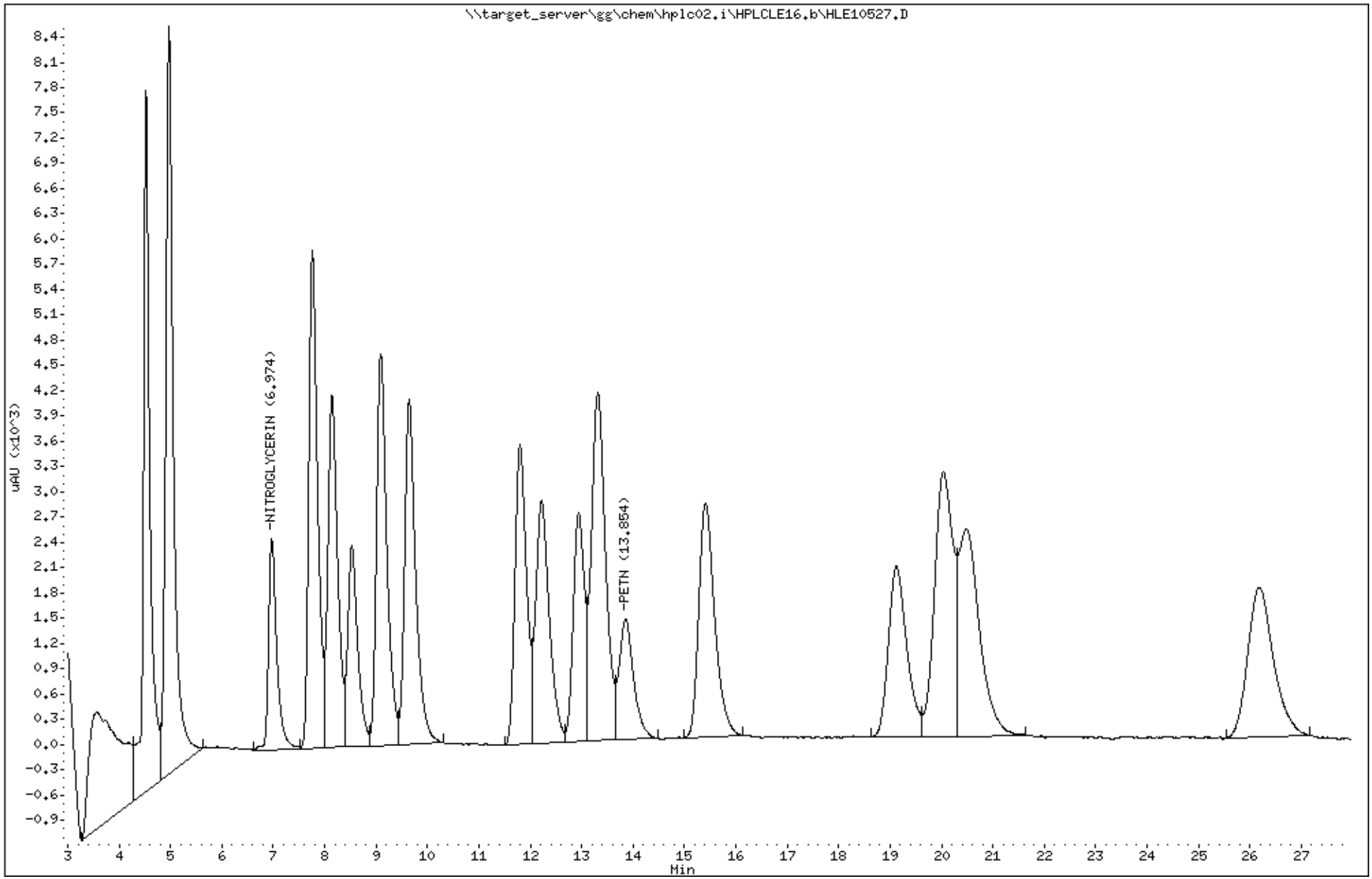
					CONCENTRATIONS	
					ON-COLUMN	FINAL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/mL)	(ug/Kgdrywt)
8 NITROGLYCERIN	6.974	6.968	0.006	2498	0.45309	906
18 PETN	13.854	13.868	-0.014	1433	0.49829	996

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HLE10527.D
Date : 17-MAY-2018 03:27
Client ID: WG228439-LCS
Sample Info: WG228439-2,SL4180

Instrument: hplc02.i

Operator: AAB
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 2000339

Data File: HLE10527.D
Report Date: 30-May-2018 11:23

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HPLCLE16.b\HLE10527.D
Lab Smp Id: WG228439-2 Client Smp ID: WG228439-LCS
Inj Date : 17-MAY-2018 03:27
Operator : AAB Inst ID: hplc02.i
Smp Info : WG228439-2,SL4180
Misc Info : WG228756,WG228439,WG225143-5,SL4180-1
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\EXPB05A.m\EXPB05A.m
Meth Date : 22-May-2018 05:33 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 46 QC Sample: LCS
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01000	Weight of Sample (Kg)
M	0.00000	% Moisture
Cpnd Variable		Local Compound Variable

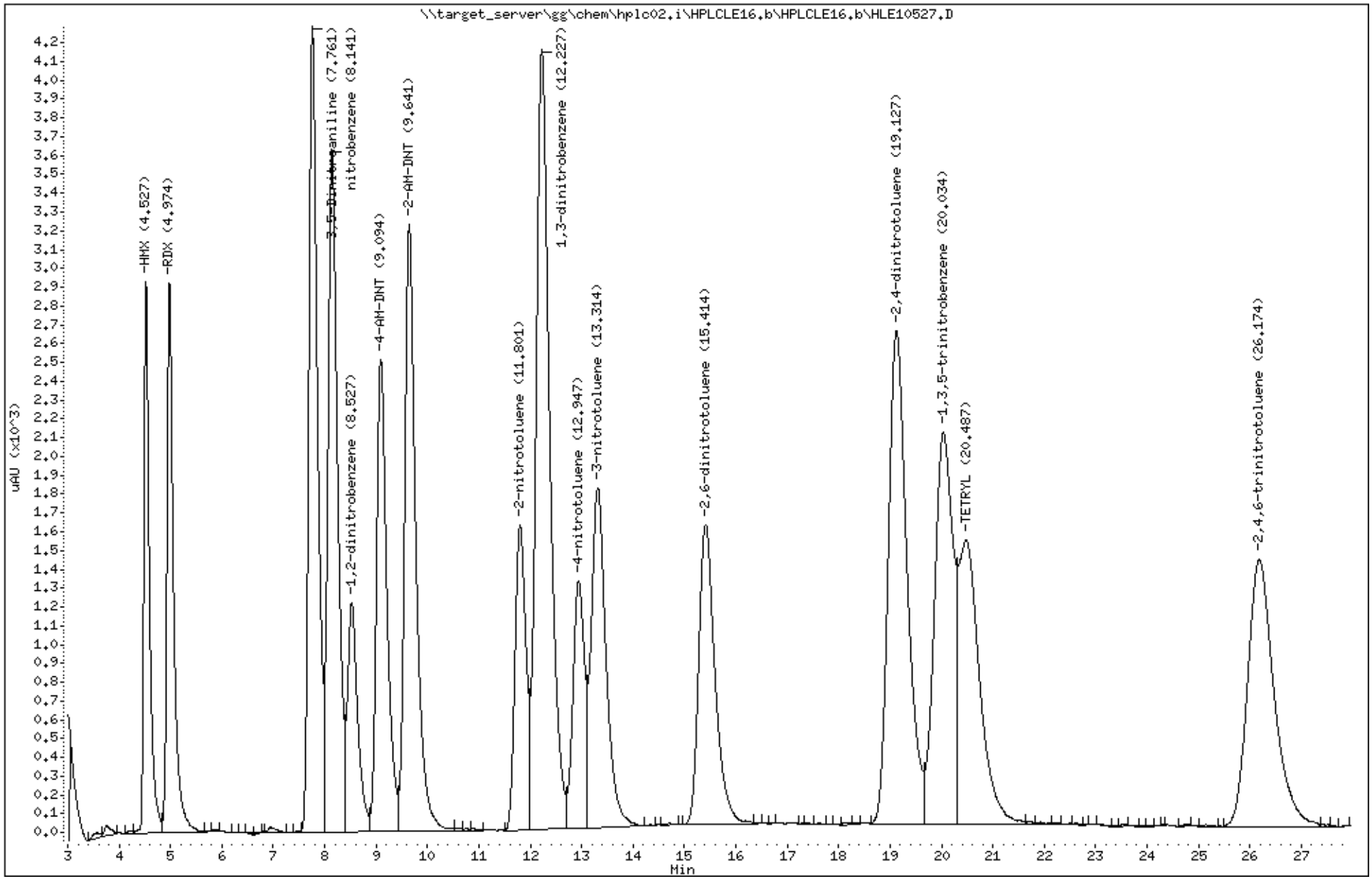
	Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	REVIEW CODE
1	HMX	4.527	4.522	0.005	2936	0.54465	1090	
4	RDX	4.974	4.975	-0.001	2921	0.53201	1060	
51	3,5-Dinitroaniline	7.760	7.762	-0.002	4285	0.51525	1030	
7	nitrobenzene	8.140	8.142	-0.002	3627	0.52821	1060	
$ 2	1,2-dinitrobenzene	8.527	8.528	-0.001	1220	0.26365	527	
11	4-AM-DNT	9.094	9.095	-0.001	2512	0.58382	1170	
12	2-AM-DNT	9.640	9.648	-0.008	3230	0.56069	1120	
15	2-nitrotoluene	11.800	11.808	-0.008	1622	0.56133	1120	
6	1,3-dinitrobenzene	12.227	12.235	-0.008	4149	0.55738	1110	
16	4-nitrotoluene	12.947	12.955	-0.008	1313	0.56053	1120	
17	3-nitrotoluene	13.314	13.322	-0.008	1808	0.54365	1090	
13	2,6-dinitrotoluene	15.414	15.428	-0.014	1596	0.54361	1090	
14	2,4-dinitrotoluene	19.127	19.162	-0.035	2625	0.56837	1140	
5	1,3,5-trinitrobenzene	20.034	20.082	-0.048	2089	0.56630	1130	
9	TETRYL	20.487	20.528	-0.041	1514	0.59734	1190	
10	2,4,6-trinitrotoluene	26.174	26.228	-0.054	1421	0.56247	1120	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HPLCLE16.b\HLE10527.D
Date : 17-MAY-2018 03:27
Client ID: WG228439-LCS
Sample Info: WG228439-2,SL4180

Instrument: hplc02.i

Operator: AAB
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 2000341

Katahdin
ANALYTICAL SERVICES

LCS Recovery Report

Client:
Lab ID: WG228857-2
Client ID: LCS
Project:
SDG: SL4180
LCS File ID: HLE10687.D

Sample Date:
Received Date:
Extract Date: 22-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228857

Analysis Date: 23-MAY-18
Analyst: AC
Analysis Method: SW846 8330B
Matrix: SL
% Solids: NA
Report Date: 30-MAY-18

Compound	Recovery (%)	Conc Added	Conc Recovered	Conc Units	Limits
HMX	103.	1000	1030	ug/Kgdrywt	74-125
RDX	102.	1000	1020	ug/Kgdrywt	67-129
1,3,5-Trinitrobenzene	106.	1000	1060	ug/Kgdrywt	80-125
1,3-Dinitrobenzene	106.	1000	1060	ug/Kgdrywt	73-125
Tetryl	122.	1000	1220	ug/Kgdrywt	68-135
Nitrobenzene	104.	1000	1040	ug/Kgdrywt	67-129
2,4,6-Trinitrotoluene	108.	1000	1080	ug/Kgdrywt	71-125
2-Am-DNT	107.	1000	1070	ug/Kgdrywt	71-125
4-Am-DNT	111.	1000	1110	ug/Kgdrywt	64-127
2,6-Dinitrotoluene	104.	1000	1040	ug/Kgdrywt	79-125
2,4-Dinitrotoluene	108.	1000	1080	ug/Kgdrywt	75-125
2-Nitrotoluene	110.	1000	1100	ug/Kgdrywt	70-125
3-Nitrotoluene	107.	1000	1070	ug/Kgdrywt	67-129
4-Nitrotoluene	110.	1000	1100	ug/Kgdrywt	71-125
Nitroglycerin	84.7	1000	847.	ug/Kgdrywt	73-125
PETN	96.3	1000	963.	ug/Kgdrywt	72-128
1,2-Dinitrobenzene	97.8				78-125

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10687.D
Report Date: 30-May-2018 11:34

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Data file : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10687.D
Lab Smp Id: WG228857-2 Client Smp ID: WG228857-LCS
Inj Date : 23-MAY-2018 17:52
Operator : AC Inst ID: hplc02.i
Smp Info : WG228857-2,SL4180
Misc Info : WG228942,WG228857,WG225143-5,SL4180-4
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\EXPB05A.m
Meth Date : 25-May-2018 03:43 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 6 QC Sample: LCS
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01000	Weight of Sample (Kg)
M	0.00000	% Moisture
Cpnd Variable		Local Compound Variable

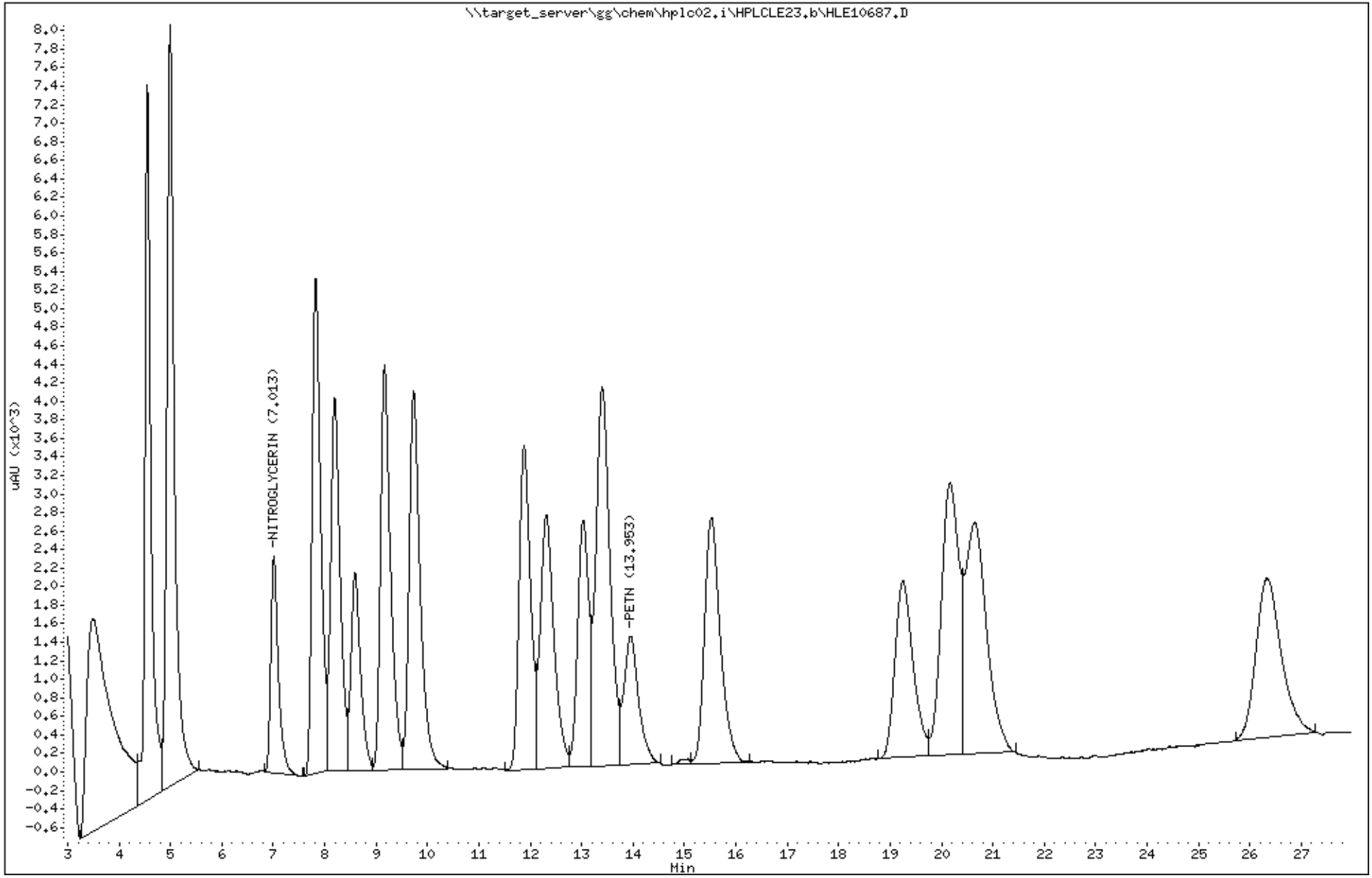
					CONCENTRATIONS	
					ON-COLUMN	FINAL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/mL)	(ug/Kgdrywt)
8 NITROGLYCERIN	7.013	7.007	0.006	2334	0.42335	847
18 PETN	13.953	13.940	0.013	1385	0.48160	963

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10687.D
Date : 23-MAY-2018 17:52
Client ID: WG228857-LCS
Sample Info: WG228857-2,SL4180

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 2000344

Data File: HLE10687.D
Report Date: 30-May-2018 11:37

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HPLCLE23.b\HLE10687.D
Lab Smp Id: WG228857-2 Client Smp ID: WG228857-LCS
Inj Date : 23-MAY-2018 17:52
Operator : AC Inst ID: hplc02.i
Smp Info : WG228857-2,SL4180
Misc Info : WG228942,WG228857,WG225143-5,SL4180-4
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\EXPB05A.m\EXPB05A.m
Meth Date : 25-May-2018 03:41 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 6 QC Sample: LCS
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01000	Weight of Sample (Kg)
M	0.00000	% Moisture
Cpnd Variable		Local Compound Variable

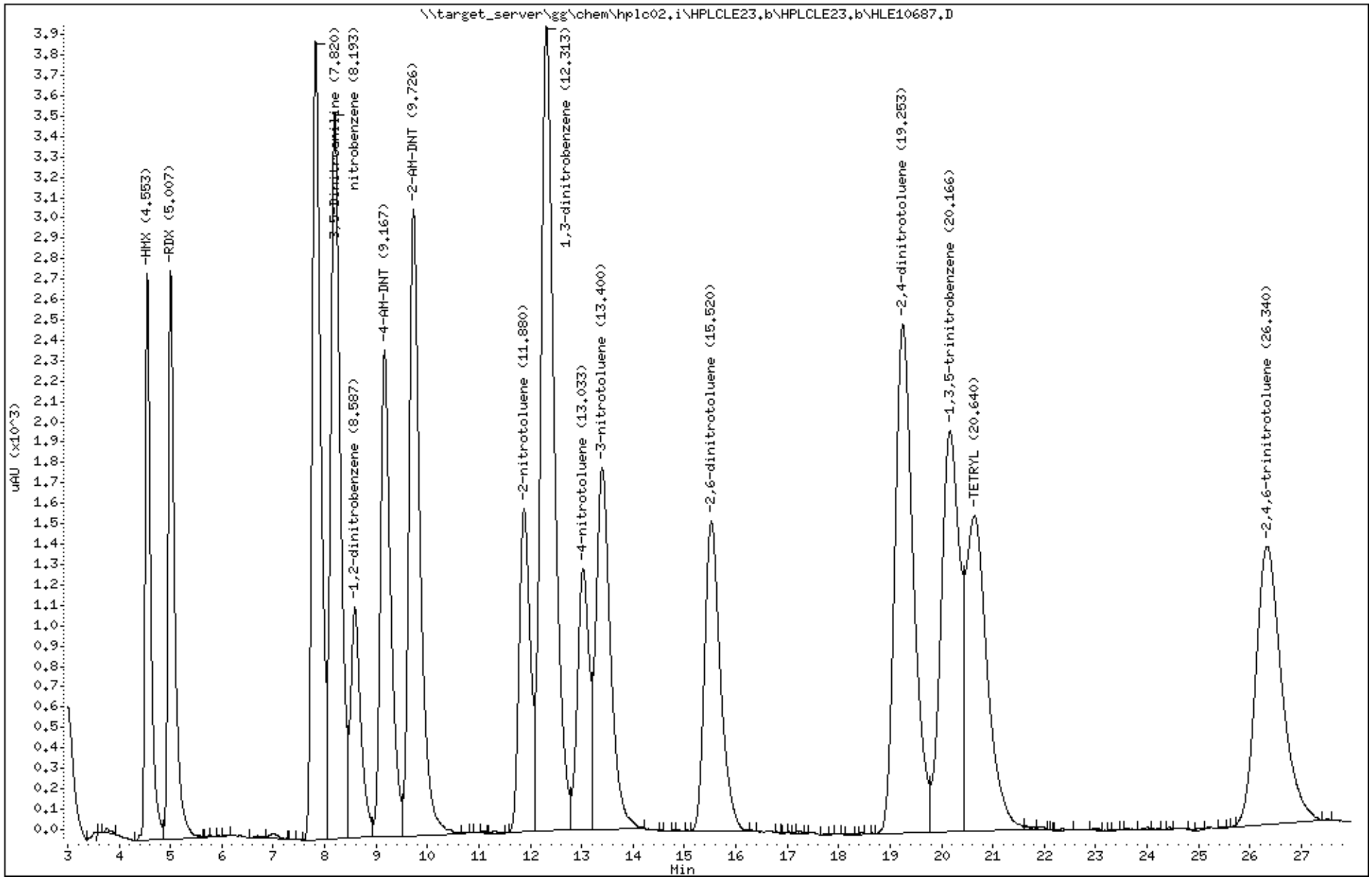
	Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	REVIEW CODE
1	HMX	4.553	4.547	0.006	2776	0.51497	1030	
4	RDX	5.006	5.000	0.006	2788	0.50805	1020	
51	3,5-Dinitroaniline	7.819	7.807	0.012	3916	0.47088	942	
7	nitrobenzene	8.193	8.180	0.013	3567	0.51947	1040	
$ 2	1,2-dinitrobenzene	8.586	8.573	0.013	1131	0.24441	489	
11	4-AM-DNT	9.166	9.153	0.013	2390	0.55546	1110	
12	2-AM-DNT	9.726	9.707	0.019	3075	0.53379	1070	
15	2-nitrotoluene	11.879	11.860	0.019	1586	0.54887	1100	
6	1,3-dinitrobenzene	12.313	12.293	0.020	3948	0.53038	1060	
16	4-nitrotoluene	13.033	13.007	0.026	1283	0.54772	1100	
17	3-nitrotoluene	13.399	13.380	0.019	1775	0.53373	1070	
13	2,6-dinitrotoluene	15.519	15.493	0.026	1522	0.51782	1040	
14	2,4-dinitrotoluene	19.253	19.213	0.040	2493	0.53979	1080	
5	1,3,5-trinitrobenzene	20.166	20.140	0.026	1963	0.53214	1060	
9	TETRYL	20.639	20.593	0.046	1545	0.60957	1220	
10	2,4,6-trinitrotoluene	26.339	26.293	0.046	1365	0.54030	1080	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HPLCLE23.b\HLE10687.D
Date : 23-MAY-2018 17:52
Client ID: WG228857-LCS
Sample Info: WG228857-2,SL4180

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 2000346

Katahdin
ANALYTICAL SERVICES

MS/MSD Recovery Report

MS ID: WG228439-3
MSD ID: WG228439-4
Sample ID: SL4180-8
Client ID: CHAAP-21B-DS-SS07
Project:
SDG: SL4180
MS File ID: HLE10528.D

Received Date:
Extract Date: 15-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228439
Report Date: 30-MAY-18
MSD File ID: HLE10529.D

Analysis Date: 17-MAY-18
Analyst: AAB
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 81.

Compound	MS Spike	MSD Spike	Conc Units	Samp Conc	MS Conc	MSD Conc	MS Rec (%)	MSD Rec (%)	RPD (%)	RPD Limit	Limits
HMX	1040	1200	ug/Kgdrywt	U55	1100	1300	102.	106.	18	20	74-125
RDX	1040	1200	ug/Kgdrywt	U55	980	1200	94.5	97.8	18	20	67-129
1,3,5-Trinitrobenzene	1040	1200	ug/Kgdrywt	U55	1100	1300	104.	108.	18	20	80-125
1,3-Dinitrobenzene	1040	1200	ug/Kgdrywt	U55	1100	1300	106.	110.	18	20	73-125
Tetryl	1040	1200	ug/Kgdrywt	U55	1000	1100	97.5	94.4	11	20	68-135
Nitrobenzene	1040	1200	ug/Kgdrywt	U55	1000	1300	101.	105.	18	20	67-129
2,4,6-Trinitrotoluene	1040	1200	ug/Kgdrywt	U55	1100	1300	104.	109.	19	20	71-125
2-Am-DNT	1040	1200	ug/Kgdrywt	U55	1100	1300	106.	110.	18	20	71-125
4-Am-DNT	1040	1200	ug/Kgdrywt	U55	1200	1400	111.	115.	18	20	64-127
2,6-Dinitrotoluene	1040	1200	ug/Kgdrywt	U55	1100	1300	103.	107.	18	20	79-125
2,4-Dinitrotoluene	1040	1200	ug/Kgdrywt	U55	1100	1300	106.	111.	19	20	75-125
2-Nitrotoluene	1040	1200	ug/Kgdrywt	U55	1100	1300	106.	112.	20	20	70-125
3-Nitrotoluene	1040	1200	ug/Kgdrywt	U55	1100	1300	102.	108.	20	20	67-129
4-Nitrotoluene	1040	1200	ug/Kgdrywt	U55	1100	1300	106.	111.	19	20	71-125
Nitroglycerin	1040	1200	ug/Kgdrywt	U440	880	1100	84.9	89.4	20	20	73-125
PETN	1040	1200	ug/Kgdrywt	U440	1000	1200	100.	104.	18	20	72-128
1,2-Dinitrobenzene							99.6	104.			78-125

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HLE10528.D
Report Date: 30-May-2018 11:17

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HLE10528.D
Lab Smp Id: WG228439-3 Client Smp ID: CHAAP-21B-DS-SS07MS
Inj Date : 17-MAY-2018 03:58
Operator : AAB Inst ID: hplc02.i
Smp Info : WG228439-3,SL4180
Misc Info : WG228756,WG228439,WG225143-5,SL4180-8
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\EXPB05A.m
Meth Date : 22-May-2018 05:42 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 47 QC Sample: MS
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01190	Weight of Sample (Kg)
M	18.848	% Moisture
Cpnd Variable		Local Compound Variable

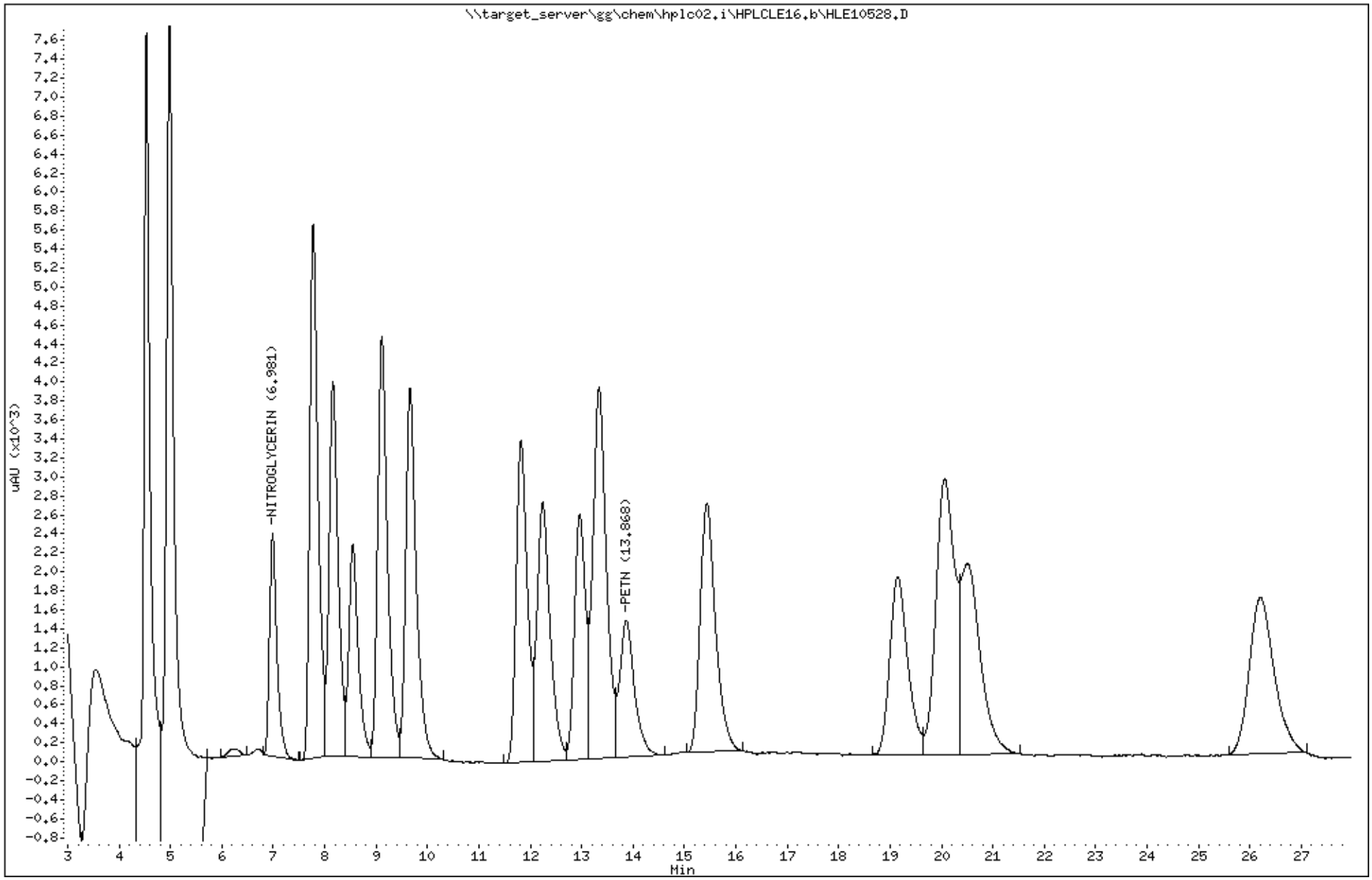
					CONCENTRATIONS	
					ON-COLUMN	FINAL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/mL)	(ug/Kgdrywt)
8 NITROGLYCERIN	6.980	6.968	0.012	2341	0.42462	879
18 PETN	13.867	13.868	-0.001	1443	0.50177	1040

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HLE10528.D
Date : 17-MAY-2018 03:58
Client ID: CHAAP-21B-DS-SS07MS
Sample Info: WG228439-3,SL4180

Instrument: hplc02.i

Operator: AAB
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 2000349

Data File: HLE10528.D
Report Date: 30-May-2018 11:23

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HPLCLE16.b\HLE10528.D
Lab Smp Id: WG228439-3 Client Smp ID: CHAAP-21B-DS-SS07MS
Inj Date : 17-MAY-2018 03:58
Operator : AAB Inst ID: hplc02.i
Smp Info : WG228439-3,SL4180
Misc Info : WG228756,WG228439,WG225143-5,SL4180-8
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\EXPB05A.m\EXPB05A.m
Meth Date : 22-May-2018 05:33 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 47 QC Sample: MS
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01190	Weight of Sample (Kg)
M	18.848	% Moisture
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	REVIEW CODE
1	HMX	4.534	4.522	0.012	2770	0.51385	1060(M)	M2
4	RDX	4.987	4.975	0.012	2591	0.47257	979(M)	M2
51	3,5-Dinitroaniline	7.774	7.762	0.012	4101	0.49313	1020	
7	nitrobenzene	8.160	8.142	0.018	3469	0.50520	1050	
$ 2	1,2-dinitrobenzene	8.547	8.528	0.019	1153	0.24917	516	
11	4-AM-DNT	9.107	9.095	0.012	2389	0.55523	1150	
12	2-AM-DNT	9.660	9.648	0.012	3056	0.53049	1100	
15	2-nitrotoluene	11.814	11.808	0.006	1540	0.53295	1100	
6	1,3-dinitrobenzene	12.247	12.235	0.012	3948	0.53038	1100	
16	4-nitrotoluene	12.967	12.955	0.012	1245	0.53150	1100	
17	3-nitrotoluene	13.334	13.322	0.012	1704	0.51238	1060	
13	2,6-dinitrotoluene	15.434	15.428	0.006	1515	0.51538	1070	
14	2,4-dinitrotoluene	19.154	19.162	-0.008	2458	0.53221	1100	
5	1,3,5-trinitrobenzene	20.060	20.082	-0.022	1928	0.52266	1080	
9	TETRYL	20.500	20.528	-0.028	1238	0.48845	1010	
10	2,4,6-trinitrotoluene	26.214	26.228	-0.014	1316	0.52091	1080	



12:54 pm, May 30, 2018

QC Flag Legend

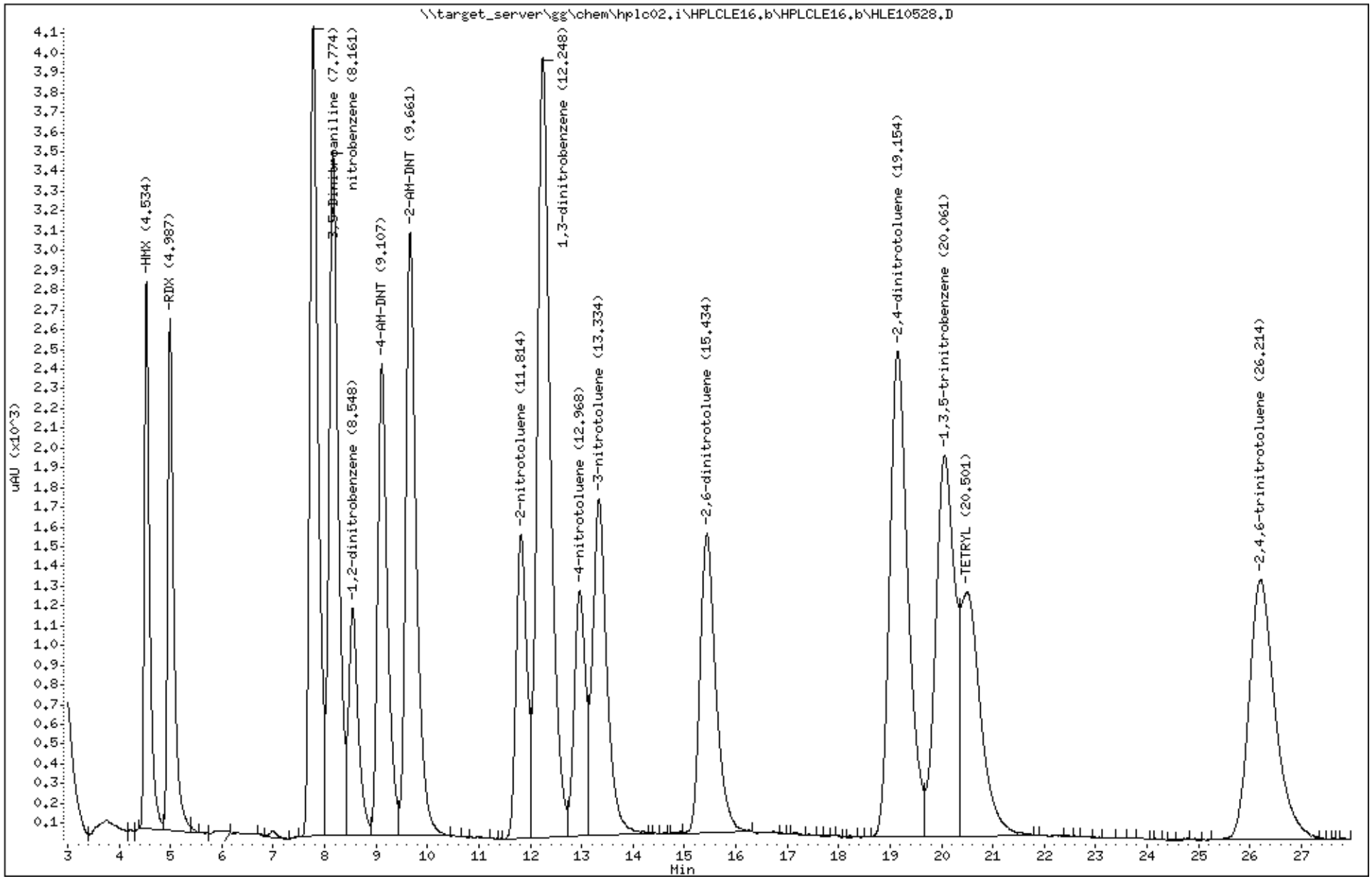
M - Compound response manually integrated.

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HPLCLE16.b\HLE10528.D
Date : 17-MAY-2018 03:58
Client ID: CHAAP-21B-DS-SS07MS
Sample Info: WG228439-3,SL4180

Instrument: hplc02.i

Operator: AAB
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 2000351

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HLE10529.D
Report Date: 30-May-2018 11:17

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HLE10529.D
Lab Smp Id: WG228439-4 Client Smp ID: CHAAP-21B-DS-SS07MS
Inj Date : 17-MAY-2018 04:29
Operator : AAB Inst ID: hplc02.i
Smp Info : WG228439-4,SL4180
Misc Info : WG228756,WG228439,WG225143-5,SL4180-8
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\EXPB05A.m
Meth Date : 22-May-2018 05:42 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 48 QC Sample: MSD
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01030	Weight of Sample (Kg)
M	18.848	% Moisture
Cpnd Variable		Local Compound Variable

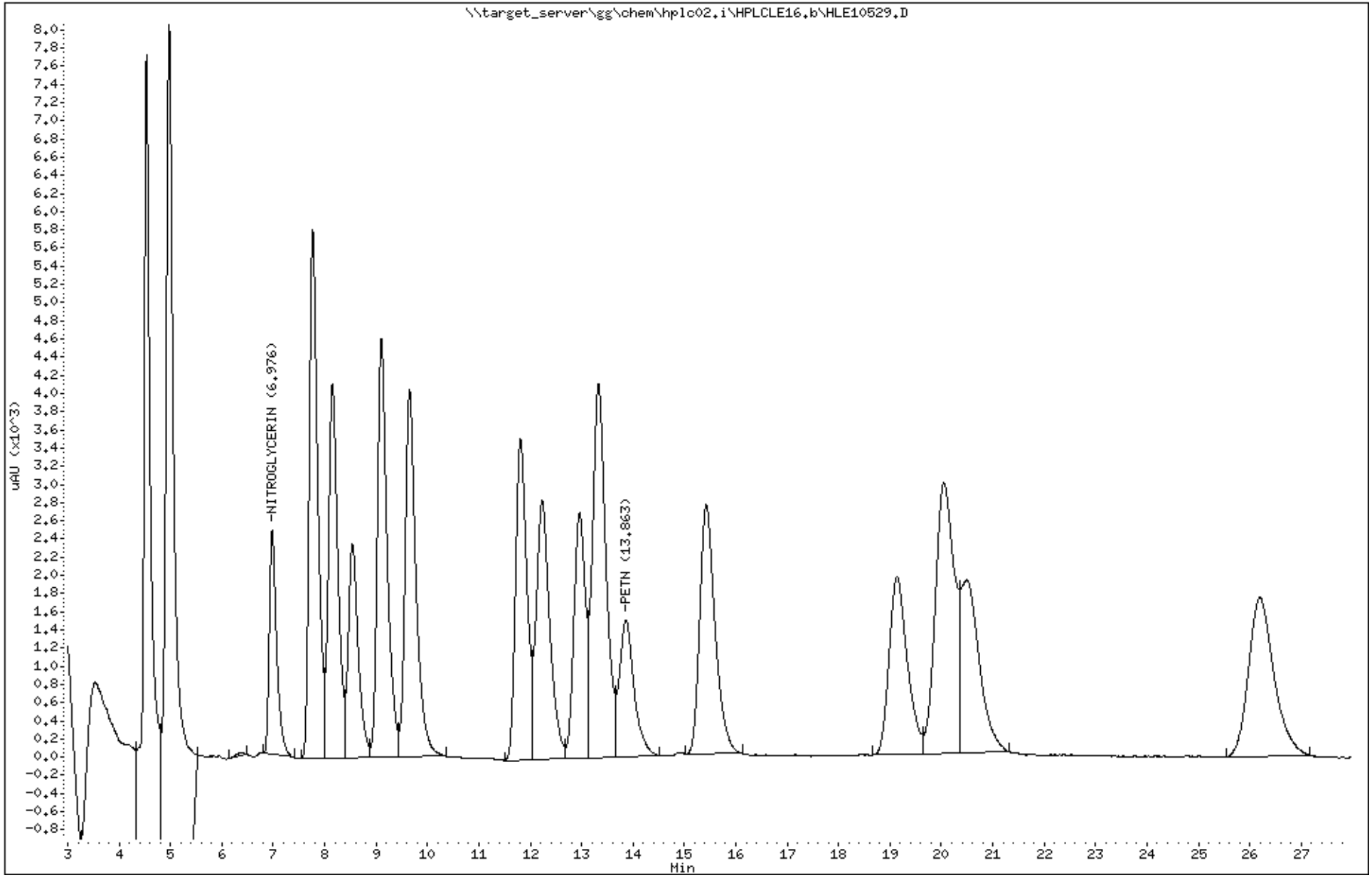
					CONCENTRATIONS	
					ON-COLUMN	FINAL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/mL)	(ug/Kgdrywt)
8 NITROGLYCERIN	6.976	6.968	0.008	2469	0.44783	1070
18 PETN	13.862	13.868	-0.006	1502	0.52228	1250

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HLE10529.D
Date : 17-MAY-2018 04:29
Client ID: CHAAP-21B-DS-SS07MS
Sample Info: WG228439-4,SL4180

Instrument: hplc02.i

Operator: AAB
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 2000353

Data File: HLE10529.D
Report Date: 30-May-2018 11:23

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HPLCLE16.b\HLE10529.D
Lab Smp Id: WG228439-4 Client Smp ID: CHAAP-21B-DS-SS07MS
Inj Date : 17-MAY-2018 04:29
Operator : AAB Inst ID: hplc02.i
Smp Info : WG228439-4,SL4180
Misc Info : WG228756,WG228439,WG225143-5,SL4180-8
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\EXPB05A.m\EXPB05A.m
Meth Date : 22-May-2018 05:33 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 48 QC Sample: MSD
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01030	Weight of Sample (Kg)
M	18.848	% Moisture
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	REVIEW CODE
1	HMX	4.529	4.522	0.007	2859	0.53036	1270(M)	M2
4	RDX	4.982	4.975	0.007	2684	0.48932	1170(M)	M2
51	3,5-Dinitroaniline	7.769	7.762	0.007	4227	0.50828	1220	
7	nitrobenzene	8.156	8.142	0.014	3603	0.52471	1260	
$ 2	1,2-dinitrobenzene	8.536	8.528	0.008	1206	0.26062	624	
11	4-AM-DNT	9.102	9.095	0.007	2485	0.57754	1380	
12	2-AM-DNT	9.649	9.648	0.001	3170	0.55028	1320	
15	2-nitrotoluene	11.809	11.808	0.001	1613	0.55821	1340	
6	1,3-dinitrobenzene	12.236	12.235	0.001	4098	0.55053	1320	
16	4-nitrotoluene	12.956	12.955	0.001	1304	0.55669	1330	
17	3-nitrotoluene	13.322	13.322	0.000	1788	0.53764	1290	
13	2,6-dinitrotoluene	15.422	15.428	-0.006	1578	0.53734	1280	
14	2,4-dinitrotoluene	19.142	19.162	-0.020	2573	0.55711	1330	
5	1,3,5-trinitrobenzene	20.049	20.082	-0.033	1991	0.53973	1290	
9	TETRYL	20.482	20.528	-0.046	1195	0.47148	1130	
10	2,4,6-trinitrotoluene	26.202	26.228	-0.026	1381	0.54664	1310	

AAB
12:54 pm, May 30, 2018

QC Flag Legend

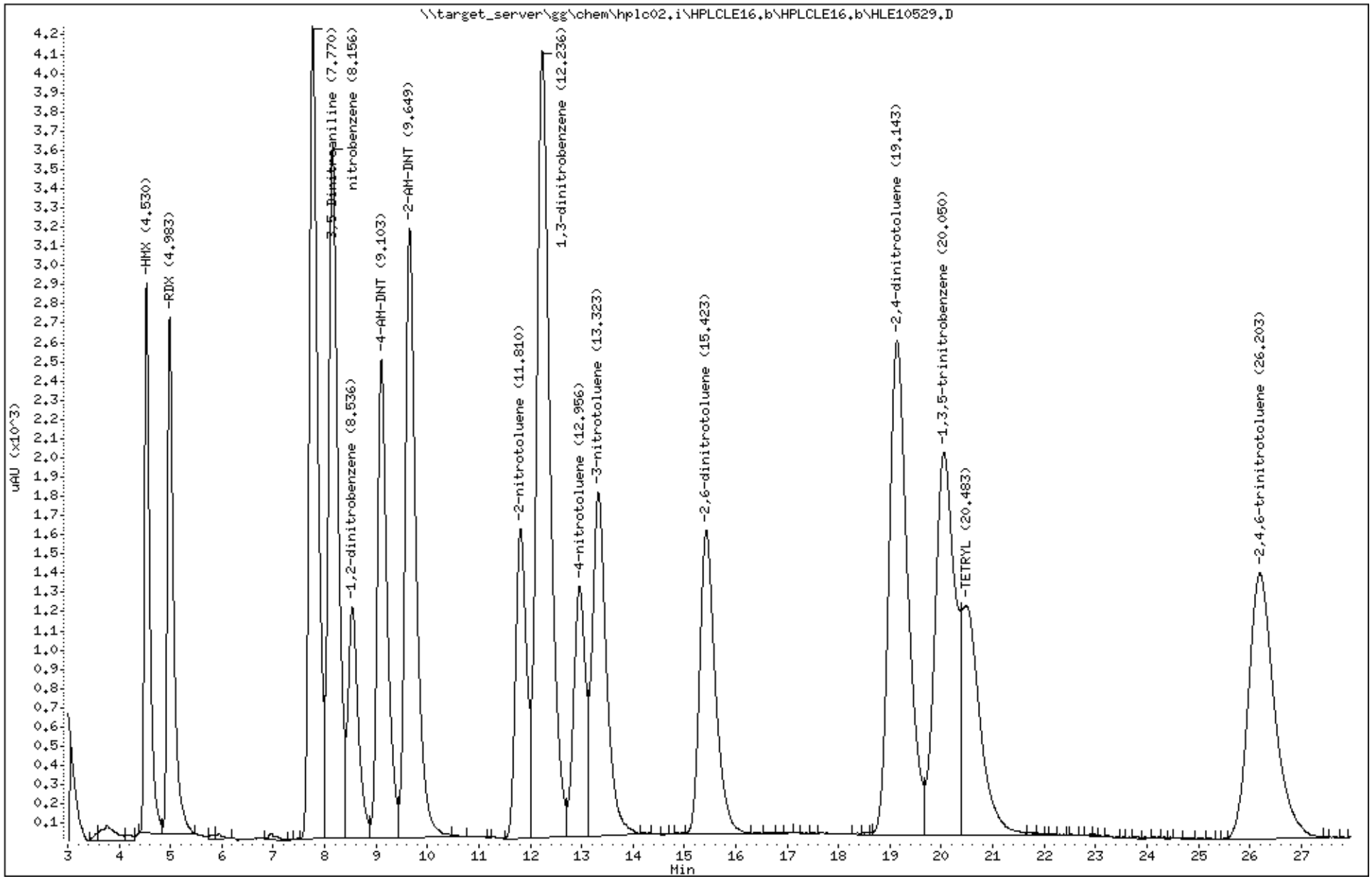
M - Compound response manually integrated.

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HPLCLE16.b\HLE10529.D
Date : 17-MAY-2018 04:29
Client ID: CHAAP-21B-DS-SS07MS
Sample Info: WG228439-4,SL4180

Instrument: hplc02.i

Operator: AAB
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 2000355

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ANALYTICAL SERVICES

MS/MSD Recovery Report

MS ID: WG228439-5
MSD ID: WG228439-6
Sample ID: SL4180-18
Client ID: CHAAP-21B-DS-SB11-5
Project:
SDG: SL4180
MS File ID: HLE10530.D

Received Date:
Extract Date: 15-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228439
Report Date: 30-MAY-18
MSD File ID: HLE10531.D

Analysis Date: 17-MAY-18
Analyst: AAB
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 80.

Compound	MS Spike	MSD Spike	Conc Units	Samp Conc	MS Conc	MSD Conc	MS Rec (%)	MSD Rec (%)	RPD (%)	RPD Limit	Limits
HMX	1060	1220	ug/Kgdrywt	U53	1100	1300	106.	103.	12	20	74-125
RDX	1060	1220	ug/Kgdrywt	U53	1000	1200	98.4	96.5	13	20	67-129
1,3,5-Trinitrobenzene	1060	1220	ug/Kgdrywt	U53	1200	1300	109.	106.	12	20	80-125
1,3-Dinitrobenzene	1060	1220	ug/Kgdrywt	U53	1200	1300	111.	107.	11	20	73-125
Tetryl	1060	1220	ug/Kgdrywt	U53	1100	1400	104.	113.	22*	20	68-135
Nitrobenzene	1060	1220	ug/Kgdrywt	U53	1100	1300	106.	103.	12	20	67-129
2,4,6-Trinitrotoluene	1060	1220	ug/Kgdrywt	U53	1200	1300	112.	106.	9	20	71-125
2-Am-DNT	1060	1220	ug/Kgdrywt	U53	1200	1300	110.	107.	12	20	71-125
4-Am-DNT	1060	1220	ug/Kgdrywt	U53	1200	1400	115.	113.	12	20	64-127
2,6-Dinitrotoluene	1060	1220	ug/Kgdrywt	U53	1100	1300	108.	104.	11	20	79-125
2,4-Dinitrotoluene	1060	1220	ug/Kgdrywt	U53	1200	1300	112.	108.	11	20	75-125
2-Nitrotoluene	1060	1220	ug/Kgdrywt	U53	1200	1300	112.	108.	10	20	70-125
3-Nitrotoluene	1060	1220	ug/Kgdrywt	U53	1100	1300	108.	103.	10	20	67-129
4-Nitrotoluene	1060	1220	ug/Kgdrywt	U53	1200	1300	112.	106.	10	20	71-125
Nitroglycerin	1060	1220	ug/Kgdrywt	U420	980	1100	92.4	87.5	9	20	73-125
PETN	1060	1220	ug/Kgdrywt	U420	1100	1200	108.	100.	8	20	72-128
1,2-Dinitrobenzene							104.	100.			78-125

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HLE10530.D
Report Date: 30-May-2018 11:17

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Data file : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HLE10530.D
Lab Smp Id: WG228439-5 Client Smp ID: CHAAP-21B-DS-SB11-5
Inj Date : 17-MAY-2018 05:00
Operator : AAB Inst ID: hplc02.i
Smp Info : WG228439-5,SL4180
Misc Info : WG228756,WG228439,WG225143-5,SL4180-18
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\EXPB05A.m
Meth Date : 22-May-2018 05:42 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 49 QC Sample: MS
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01180	Weight of Sample (Kg)
M	19.820	% Moisture
Cpnd Variable		Local Compound Variable

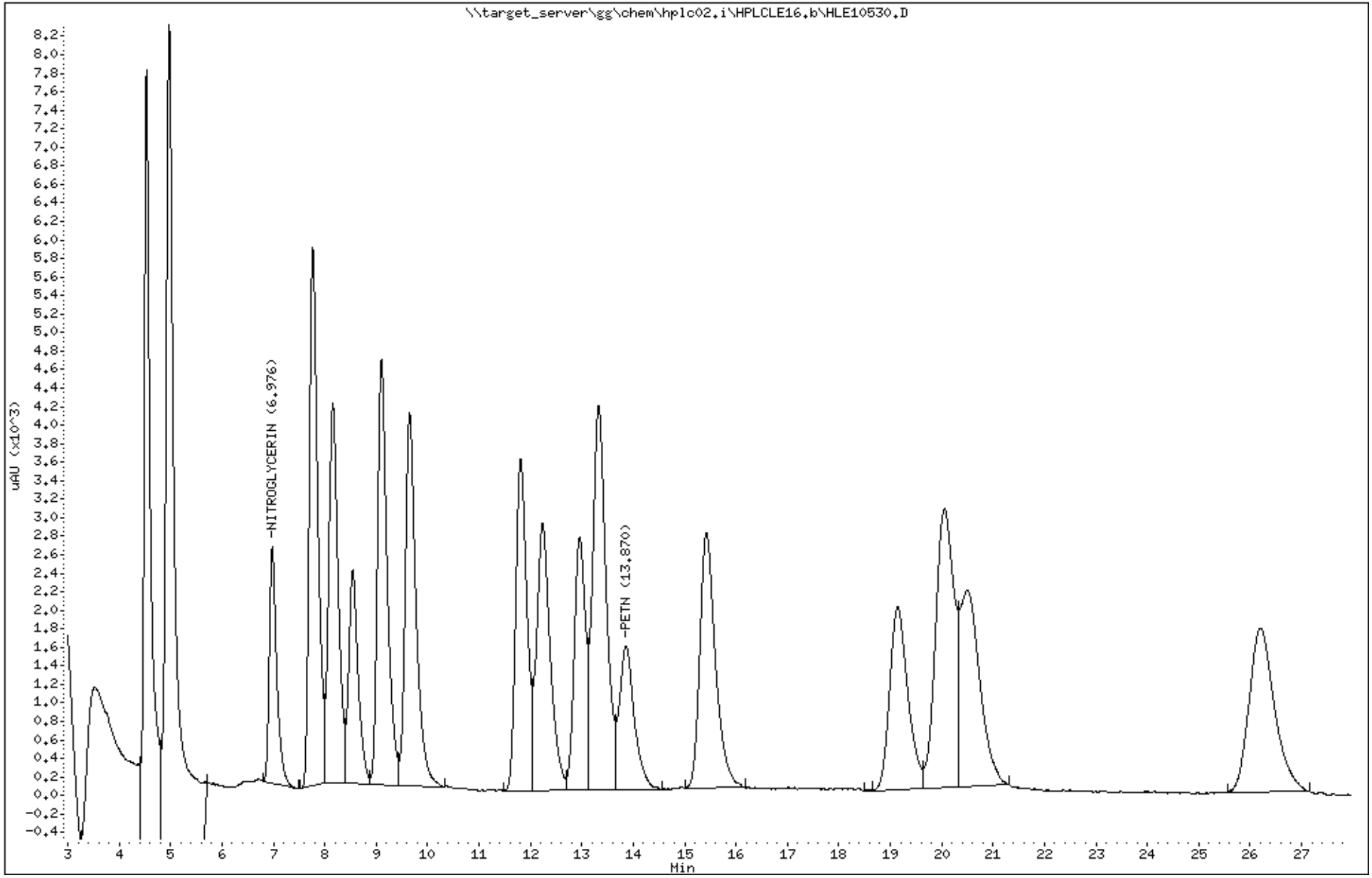
					CONCENTRATIONS	
					ON-COLUMN	FINAL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/mL)	(ug/Kgdrywt)
8 NITROGLYCERIN	6.976	6.968	0.008	2549	0.46235	977
18 PETN	13.869	13.868	0.001	1556	0.54106	1140

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HLE10530.D
Date : 17-MAY-2018 05:00
Client ID: CHAAP-21B-DS-SB11-5
Sample Info: WG228439-5,SL4180

Instrument: hplc02.i

Operator: AAB
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 2000358

Data File: HLE10530.D
Report Date: 30-May-2018 11:23

Katahdin Analytical Services

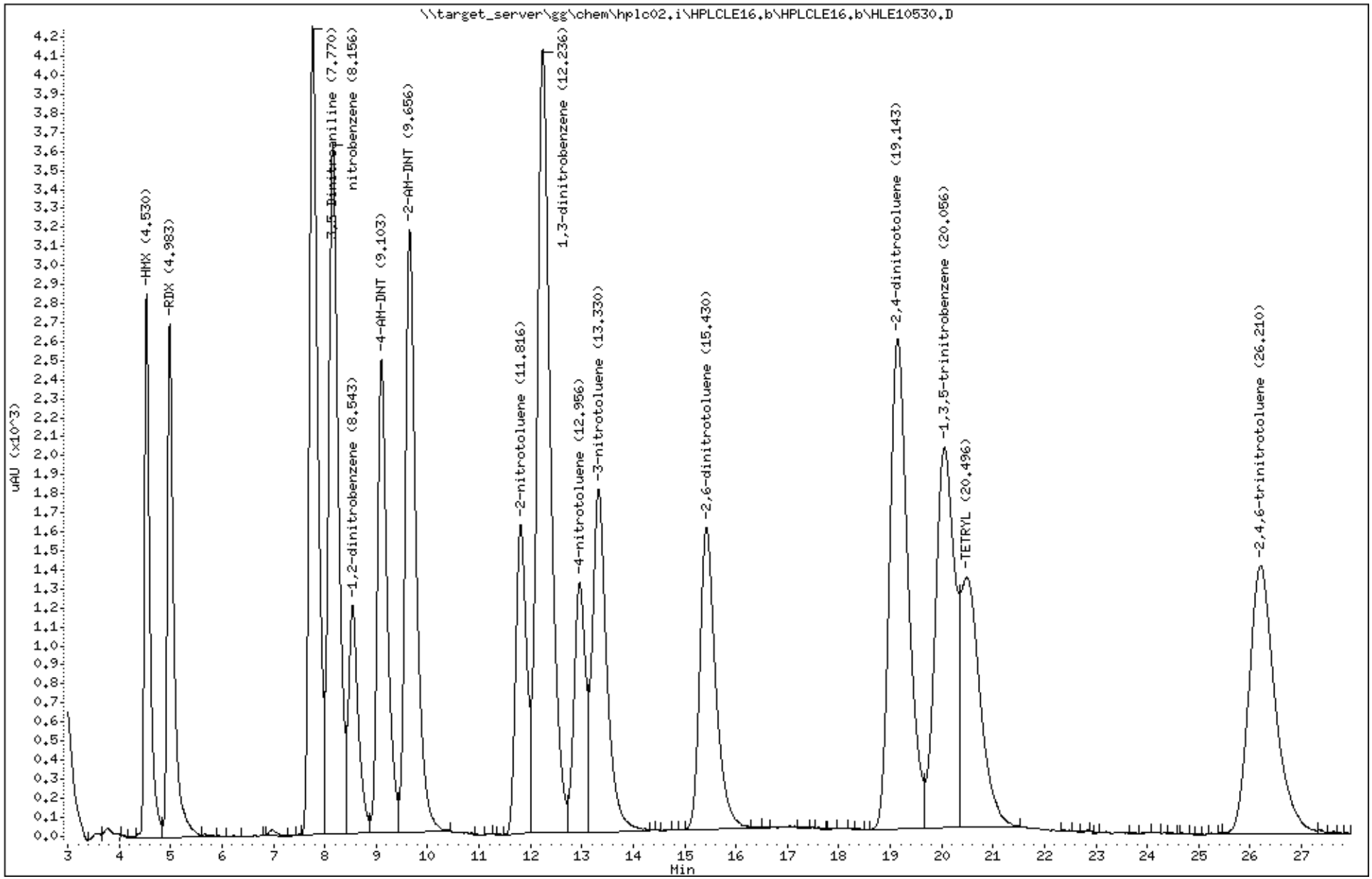
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HPLCLE16.b\HLE10530.D
Lab Smp Id: WG228439-5 Client Smp ID: CHAAP-21B-DS-SB11-5
Inj Date : 17-MAY-2018 05:00
Operator : AAB Inst ID: hplc02.i
Smp Info : WG228439-5,SL4180
Misc Info : WG228756,WG228439,WG225143-5,SL4180-18
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\EXPB05A.m\EXPB05A.m
Meth Date : 22-May-2018 05:33 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 49 QC Sample: MS
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01180	Weight of Sample (Kg)
M	19.820	% Moisture
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	REVIEW CODE
1	HMX	4.529	4.522	0.007	2859	0.53036	1120	
4	RDX	4.982	4.975	0.007	2698	0.49184	1040	
51	3,5-Dinitroaniline	7.769	7.762	0.007	4251	0.51117	1080	
7	nitrobenzene	8.156	8.142	0.014	3638	0.52981	1120	
$ 2	1,2-dinitrobenzene	8.542	8.528	0.014	1198	0.25889	547	
11	4-AM-DNT	9.102	9.095	0.007	2489	0.57847	1220	
12	2-AM-DNT	9.656	9.648	0.008	3165	0.54941	1160	
15	2-nitrotoluene	11.816	11.808	0.008	1623	0.56167	1190	
6	1,3-dinitrobenzene	12.236	12.235	0.001	4118	0.55322	1170	
16	4-nitrotoluene	12.956	12.955	0.001	1311	0.55968	1180	
17	3-nitrotoluene	13.329	13.322	0.007	1802	0.54185	1140	
13	2,6-dinitrotoluene	15.429	15.428	0.001	1590	0.54152	1140	
14	2,4-dinitrotoluene	19.142	19.162	-0.020	2576	0.55776	1180	
5	1,3,5-trinitrobenzene	20.056	20.082	-0.026	2000	0.54217	1150	
9	TETRYL	20.496	20.528	-0.032	1313	0.51804	1100	
10	2,4,6-trinitrotoluene	26.209	26.228	-0.019	1410	0.55812	1180	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HPLCLE16.b\HLE10530.D
Date : 17-MAY-2018 05:00
Client ID: CHAAP-21B-DS-SB11-5
Instrument: hplc02.i
Sample Info: WG228439-5,SL4180
Operator: AAB
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 2000360

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HLE10531.D
Report Date: 30-May-2018 11:17

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HLE10531.D
Lab Smp Id: WG228439-6 Client Smp ID: CHAAP-21B-DS-SB11-5
Inj Date : 17-MAY-2018 05:31
Operator : AAB Inst ID: hplc02.i
Smp Info : WG228439-6,SL4180
Misc Info : WG228756,WG228439,WG225143-5,SL4180-18
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\EXPB05A.m
Meth Date : 22-May-2018 05:42 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 50 QC Sample: MSD
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01020	Weight of Sample (Kg)
M	19.820	% Moisture
Cpnd Variable		Local Compound Variable

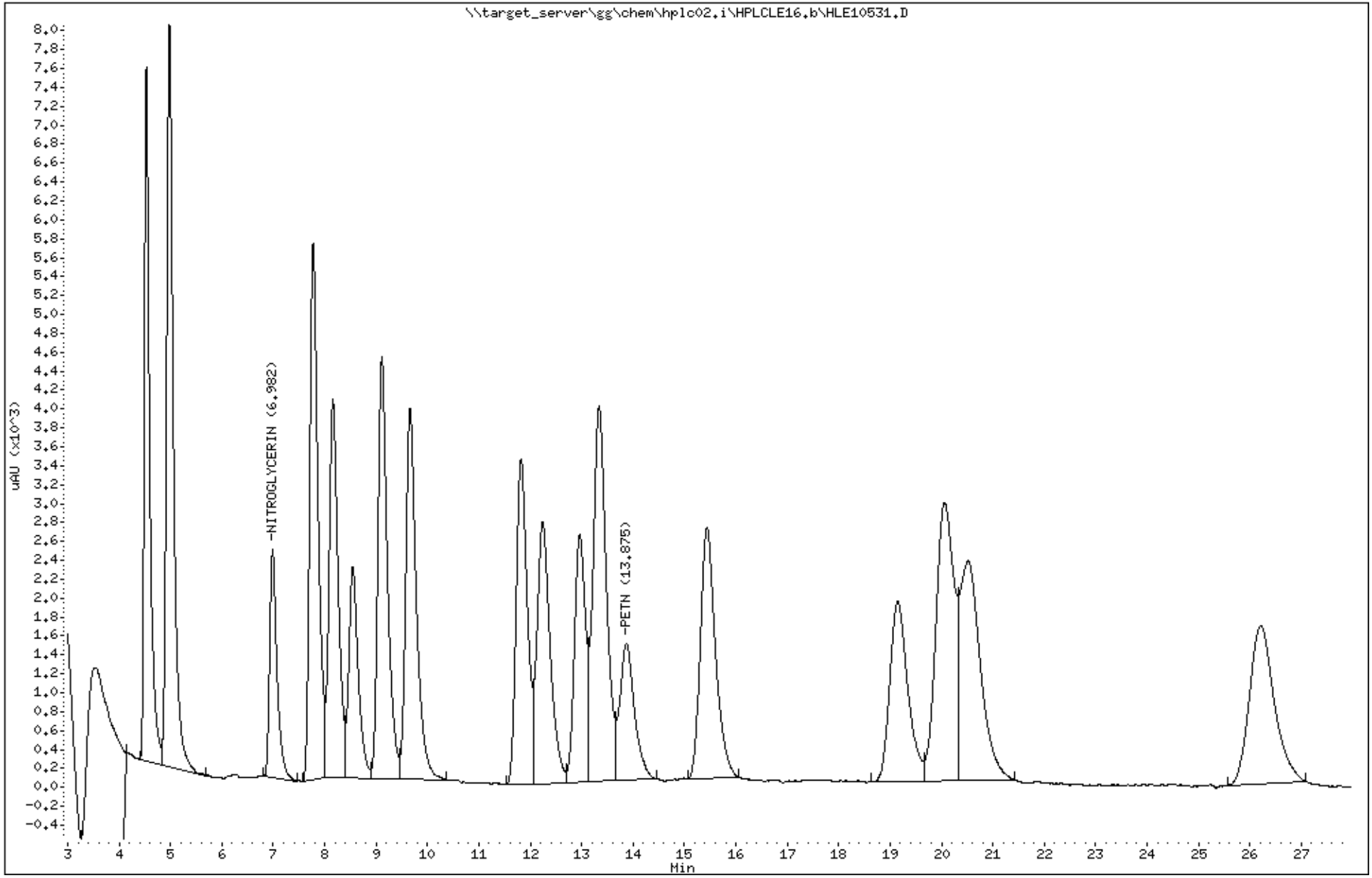
					CONCENTRATIONS	
					ON-COLUMN	FINAL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/mL)	(ug/Kgdrywt)
8 NITROGLYCERIN	6.981	6.968	0.013	2411	0.43731	1070
18 PETN	13.874	13.868	0.006	1444	0.50211	1230

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HLE10531.D
Date : 17-MAY-2018 05:31
Client ID: CHAAP-21B-DS-SB11-5
Sample Info: WG228439-6,SL4180

Instrument: hplc02.i

Operator: AAB
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 2000362

Data File: HLE10531.D
Report Date: 30-May-2018 11:23

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HPLCLE16.b\HLE10531.D
Lab Smp Id: WG228439-6 Client Smp ID: CHAAP-21B-DS-SB11-5
Inj Date : 17-MAY-2018 05:31
Operator : AAB Inst ID: hplc02.i
Smp Info : WG228439-6,SL4180
Misc Info : WG228756,WG228439,WG225143-5,SL4180-18
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE16.b\EXPB05A.m\EXPB05A.m
Meth Date : 22-May-2018 05:33 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 50 QC Sample: MSD
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01020	Weight of Sample (Kg)
M	19.820	% Moisture
Cpnd Variable		Local Compound Variable

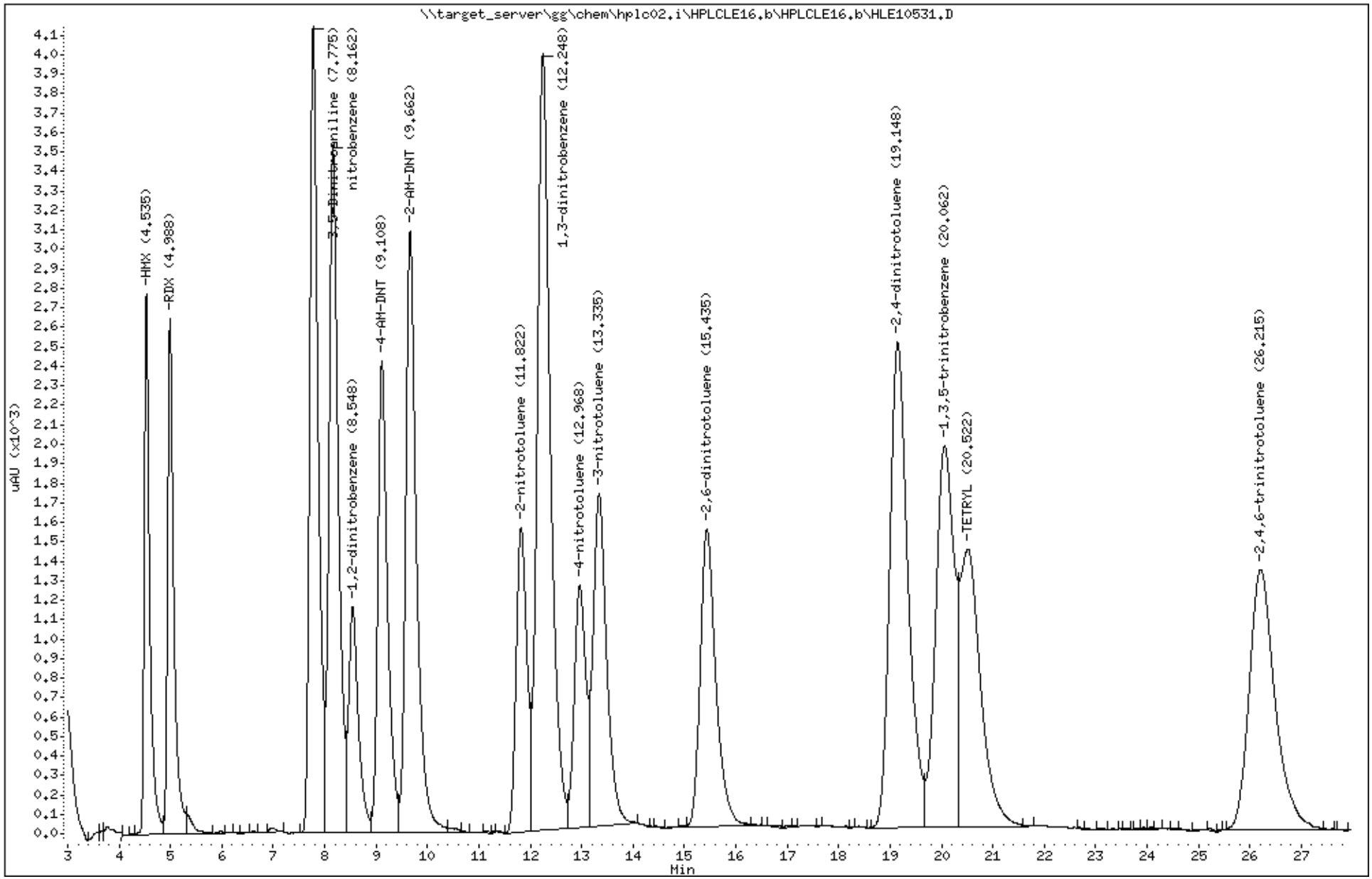
	Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	REVIEW CODE
1	HMX	4.534	4.522	0.012	2771	0.51404	1260	
4	RDX	4.988	4.975	0.013	2646	0.48247	1180(M)	M3
51	3,5-Dinitroaniline	7.774	7.762	0.012	4141	0.49794	1220	
7	nitrobenzene	8.161	8.142	0.019	3529	0.51393	1260	
$ 2	1,2-dinitrobenzene	8.548	8.528	0.020	1161	0.25090	614	
11	4-AM-DNT	9.108	9.095	0.013	2424	0.56337	1380	
12	2-AM-DNT	9.661	9.648	0.013	3090	0.53639	1310	
15	2-nitrotoluene	11.821	11.808	0.013	1566	0.54195	1320	
6	1,3-dinitrobenzene	12.248	12.235	0.013	3989	0.53589	1310	
16	4-nitrotoluene	12.968	12.955	0.013	1246	0.53193	1300	
17	3-nitrotoluene	13.334	13.322	0.012	1707	0.51328	1260	
13	2,6-dinitrotoluene	15.434	15.428	0.006	1527	0.51956	1270	
14	2,4-dinitrotoluene	19.148	19.162	-0.014	2493	0.53979	1320	
5	1,3,5-trinitrobenzene	20.061	20.082	-0.021	1958	0.53079	1300	
9	TETRYL	20.521	20.528	-0.007	1426	0.56262	1380	
10	2,4,6-trinitrotoluene	26.214	26.228	-0.014	1337	0.52922	1290	

12:54 pm, May 30, 2018

QC Flag Legend

M - Compound response manually integrated.

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE16.b\HPLCLE16.b\HLE10531.D
Date : 17-MAY-2018 05:31
Client ID: CHAAP-21B-DS-SB11-5
Instrument: hplc02.i
Sample Info: WG228439-6,SL4180
Operator: AAB
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 2000364

Logbooks and Supporting Documents

KATAHDIN ANALYTICAL SERVICES
ORGANIC EXTRACTIONS LOGBOOK - AQUEOUS EXPLOSIVES
METHOD: SW846 8330 B Mod.

Surrogate Lot # P9105
Spike Lot # P9106
Acetonitrile (ACN) Lot # DG6095
Cartridge Lot # 1102341

Vial Lot # 00254511

Other Lot # NG : STK 5436
Other Lot # PETN: J 5438
EDGN: J 5477
Extraction Start Time: 10:20
Extraction Finish Time: 14:40

Extract Date	Extract Time	Analyst	Sample ID	Bottle ID.	Initial Vol. (600 mL)	Surr.: Add 500 uL of 10 ug/mL Add to all samples	SPIKE: Add 25 uL of 100 ug/mL to MS/D & LCS/D	Elute 10 mL ACN (at gravity flow rate) thru cartridge and discard	Elute 30 mL water thru cartridge and discard	Elute sample through cartridge and discard	Elute 5 mL ACN through cartridge and collect	Add 10 mL water to ACN extract	Store sample in labeled vial	Exp240 Tray Location	Comments
5/15/18	10:20	JMJ	WG228334-1	2	✓	✓	NR	✓	✓	✓	✓	✓	✓	25	R
J	J	J	J -2	2	J	J	✓	J	J	J	J	J	J	6	

QAEX339

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HP-001 - Revision 1 - 02/11/2010

Extract Date	Extract Time	Analyst	Sample ID	Bottle ID.	Initial Vol. (600 mL)	Surr.: Add 500 uL of 10 ug/mL Add to all samples	SPIKE: Add 25 uL of 100 ug/mL to MS/D & LCS/D	Elute 10 mL ACN (at gravity flow rate) thru cartridge and discard	Elute 30 mL water thru cartridge and discard	Elute sample through cartridge and discard	Elute 5 mL ACN through cartridge and collect	Add 10 mL water to ACN extract	Store sample in labeled amber vial	Tray Location	Comments
5/15/18	10:20	JMS	SL40189-1	B	✓	✓	NR	✓	✓	✓	✓	✓	✓	67	
			-2											8	
			-3											9	
			-4											10	
			-5											11	
			-6											12	
			-7											F1	
	12:40		-8											2	
			-9											3	
			-10											4	
			-11											5	
			-12											6	
			SL3952-23	G										7	EOH 2 DAYS
			SL4180-29	H										8	

QAEX339

0000079

HP-001 - Revision 1 - 02/11/2010

Katahdin Analytical Services
Organic Extractions Log – Explosives (Soils)

Method SW846 8330B

Surrogate ID: P9105	Acetonitrile (ACN) Lot # DQ695	Filter Lot No: TG40717M425
Spike ID (15): P9095, P9106		Vial Lot No: 00254511
Spike ID (NG): STK 5436		Syringe Lot No: 727887
Spike ID (PETN): 5438	Extraction Start Time: 16:00 5/15	Balance SN: Mettler P0400
Spike ID (EGDN): 5477	Extraction End Time: 10:00 5/16	No. 30 Sieve S/N

Date Extracted	Analyst	Sample Id.	Initial Amount (g)	Surrogate Volume (ml)	Spike Volume (ml)	Final Volume (mL)	Filter 5 ml of Extract	Add 10 ml of Water to ACN Extract	Exp 241 Tray Location	Comments
5/15/18	JMS	WG228437-1	9.99	0.5mL	NR	20mL	✓	✓	C11	R473852
		-2	10.01		100uL				12	10uL PtNG+E
		-3	10.03		NR				D1	GLCS
		-4	11.19		100uL				2	MS SL3951-3 10uL PtNG+E
		-5	10.11						3	MSD

EX-022 – Revision 2 – 03/21/2018

[redacted] OA[redacted]349 [redacted] 00[redacted]



Date Extracted	Analyst	Sample Id.	Initial Amount (g)	Surrogate Volume (ml)	Spike Volume (ml)	Final Volume (mL)	Filter 5 ml of Extract	Add 10 ml of Water to ACN Extract	Exp 241 Tray Location	Comments
5-15-18	JMS	SL4180-21 E	11.42	0.5mL	NR	20mL	✓	✓	D4	
		-22	10.17						5	
		-23	11.34						6	
		-24	10.13						7	
		-25	10.78						8	
		-26	11.70						9	
		-27	10.46						10	
		SL3951-3	10.28						11	MSD Re
		-4	10.07						12	

EX-022 – Revision 2 – 03/21/2018

Katahdin Analytical Services
Organic Extractions Log – Explosives (Soils)

Method SW846 8330B

Surrogate ID: P9105	Acetonitrile (ACN) Lot # P9695	Filter Lot No: 704071714425
Spike ID (15): P9095		Vial Lot No: 002545111
Spike ID (NG): STK 5436		Syringe Lot No: 727588
Spike ID (PETN): 5438	Extraction Start Time: 16:00 5/15	Balance SN: Mettler PG400
Spike ID (EGDN): 5477	Extraction End Time: 10:08 5/16	No. 30 Sieve S/N

Date Extracted	Analyst	Sample Id.	Initial Amount (g)	Surrogate Volume (ml)	Spike Volume (ml)	Final Volume (mL)	Filter 5 ml of Extract	Add 10 ml of Water to ACN Extract	Exp 241 Tray Location	R473861 Comments
5/15/18	JMS	W622834 SL4180-1	9.99	0.5mL	NR	20mL	✓	✓	A9	~~R473805 R473861~~
		-2	9.97		100µL				10	10µL P+NG+E
		-3	11.91						11	MS SL4180-8EN
		-4	10.33						12	MSD
		-5	11.81						B1	MS SL4180-8EN
		-6	10.23						2	MSD

EX-022 – Revision 2 – 03/21/2018

OAEX349

Date Extracted	Analyst	Sample Id.	Initial Amount (g)	Surrogate Volume (ml)	Spike Volume (ml)	Final Volume (mL)	Filter 5 ml of Extract	Add 10 ml of Water to ACN Extract	Exp 241 Tray Location	Comments
5/15/18	JMS	SL4180-1 E	10.48	0.5mL	NR	20mL	✓	✓	B3	
		-2	10.26						4	
		-3	10.51						5	
		-4	10.32						6	
		-5	11.11						7	
		-6	13.30						8	
		-7 ✓	12.38						9	
		-8 N	11.19						10	MS/D
		-9 E	11.39						11	
		-10	10.42						12	
		-11	12.03						C1	
		-12	10.51						2	
		-13	11.02						3	
		-14	10.39						4	
		-15	10.96						5	
		-16	10.67						6	
		-17	11.94						7	
		-18N	11.82						8	MS/D
		-19	12.02						9	
		-20	11.18	✓					10	

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OAEX349

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Katahdin Analytical Services 2000368

Katahdin Analytical Services
Organic Extractions Log – Explosives (Soils)

Method SW846 8330B

Surrogate ID: P9105	Acetonitrile (ACN) Lot # DQ695	Filter Lot No: J040717 1425
Spike ID (15): P9106		Vial Lot No: 00255593
Spike ID (NG): 5976 5436		Syringe Lot No: 114803
Spike ID (PETN): ↓ 5439	Extraction Start Time: 14:15 5/22	Balance SN: Mettler PM400
Spike ID (EGDN): ↓ 5477	Extraction End Time: 845 5/23	No. 30 Sieve S/N —

Date Extracted	Analyst	Sample Id.	Initial Amount (g)	Surrogate Volume (ml)	Spike Volume (ml)	Final Volume (mL)	Filter 5 ml of Extract	Add 10 ml of Water to ACN Extract	EXP242 Tray Location	Comments
5/22/18	JMS	[illegible]-1	10.04	0.5mL	NA	20mL	✓	✓	02	R474897
↓	↓	↓ -2	10.04	↓	100µL	↓	↓	↓	↓3	10µL PANG+E

EX-022 – Revision 2 – 03/21/2018

Date Extracted	Analyst	Sample Id.	Initial Amount (g)	Surrogate Volume (ml)	Spike Volume (ml)	Final Volume (mL)	Filter 5 ml of Extract	Add 10 ml of Water to ACN Extract	EXP 242 Tray Location	Comments
5/22/18	JMS	SL4180-4E	10.41	0.5mL	NA	20mL	✓	✓	04	RE
		SL4233-45E	10.98						5	
		-46E	10.46						6	
		-47E	10.88						7	
		-48E	10.31						8	
		-49E	11.02						9	
		-50E	11.63						10	
		-51E	10.52						11	
		-52E	10.57	↓					12	
		-53E	13.52						E1	
		SL4236-1A	10.08						2	
		-2A	11.28						3	
		-3A	11.50						4	
		-4A	11.88						5	
		-5A	10.82						6	
		-6A	10.14						7	
		SL4290-1E	10.63						8	
		-2E	10.00						9	
		-3E	10.43						10	
		-4E	10.81						11	

EX-022 – Revision 2 – 03/21/2018

Katahdin Analytical Services

HPLC Runlog
Instrument: HPLC02

Method (circle): 8330B MOD. 8330B

Column: PHENOMENEX	Injection Volume: 100 µL	Standard	Standard ID
Flow Rate: 1.0 mL/MIN	Methanol lot #: DQ788	C5	P8846
Detector Wavelengths: 210 nm/254 nm		C4	P8847

Date	Init.	Result File	Sample ID	Y/N	Analytical Workgroup	Method	Comments
073117	AAB	HKG10216	IND -8	Y	WG201620 10 AAB 080217	EXPB03A	
080117	AAB	HKH10001	C5 -17	Y		EXPB03A	
		002	WG210205-1	Y			
		003	-2				
		004	SK6535-1				
		005	-2				
		006	C4 -18	Y			
CHANGE TO ACCLAIM E2 COLUMN							
080117	AAB	HKG10007	PRIME	N	WG201620 10 AAB 080217	E2016A	
		008	C7 -15	Y			P8844
		009	C6 -14				C7 150→300
		010	C5 -13				
		011	C4 -12				
		012	C3 -11				C5 60→300
		013	C2 -10				C4 60→300
		014	C1 -9				C4 30→300
		015	IND	N			P8845
		016	IND -16	Y			TET 4AM 3NT ↑
		017	WG210205-1C	Y			
		018	SK6535-1C				
		019	-2C				
		020	C5	N			WRONG VIAL
080217		021	C5 -19	Y			
CHANGE TO PHENOMENEX COLUMN							
080317	AAB	HKH10022	C5	Y	WG210944-1	EXPB03A	
		023	WG210421-1	Y	WG210944		
		024	-2				
		025	-3				

Reviewed by/Date:

HP-003 - Revision 2 - 09/01/2016

QAGC344

0000068

Katahdin Analytical Services

HPLC Runlog
Instrument: HPLC02

Method (circle): 8330B MOD. / 8330B

Column: PHENOMENEX	Injection Volume: 100uL	Standard	Standard ID
Flow Rate: 1.0 mL/MIN	Methanol lot #: DS202	C5	P9009
Detector Wavelengths: 210nm / 254 nm		C4	P9010

Date	Init.	Result File	Sample ID	Y/N	Analyical Workgroup	Method	Comments
031618	AC	HLC10023	COMBO	N		CANNAB1	CANN TESTING
CHANGE TO PHENOMENEX COLUMN							
032018	AC	HLC10024	C5	Y		EXPBOOLA	
		025	WG225027-1	N			
		026	-2				
		027	-5				
		028	-3				
		029	-4				
		030	IND	N	WG225143	EXPBOOSA	
		031	C7 -7	Y			P9008
		032	C6 -6				↓ 150→300
		033	C5 -5				P9009
		034	C4 -4				P9010
		035	C3 -3				P9009 100→500
		036	C2 -2				↓ 50→500
		037	C1 -1				P9010 50→500
		038	IND -8				P9071
		039	WG225027-1	Y			
		040	-2				
		041	-5				
		042	-3				
		043	-4				SS DOUBLE SPIKE
		044	WG225094-1	Y			
		045	-2				
		046	SL2079-14	Y			8,4
		047	SL2135-20	Y			
		048	SL2295-1	Y			PETN SS ROUNDS IN
032118		049	C5 -9	Y			

Reviewed by/Date:

HP-003 - Revision 2 - 09/01/2016

Katahdin Analytical Services

HPLC Runlog
Instrument: HPLC02

Method (circle): (8330B MOD.) (8330B)

Column: ACCLAIM 8E	Injection Volume: 150 µL	Standard	Standard ID
Flow Rate: 1.0mL/MIN	Methanol lot #: DS 243	C5	P9101
Detector Wavelengths: 210nm / 254nm		C4	P9102

Date	Init.	Result File	Sample ID	Y/N	Analyical Workgroup	Method	Comments
051418	AC	1TLE10438	WL227670-1C	Y	WL227584	EE016A	
		439	SL3804-1C	Y			H R TNT 4AM 2AM
		440	-4C				NONE
		441	C4 -38 -19	Y	WL227584 WL227995		
		442	WL227692-1C	Y	WL227584		
		443	SL3708-5C	Y			H
		444	-7C				H R
		445	-11C				NONE
		446	-13C				H R
051518		447	-19C				H
		448	-20C				H R
		449	-21C				NONE
		450	C5 -39	Y			
051518	CHANGE TO PHENOMENEX COLUMN						
051518	AC	1LE10451	C5 -1	Y	WL228756	EX8305A	WL227995-2C
		452	WL228343-4	Y			ECDN ↑ WL228102-3
		453	-5				↓ WL228102-4
		454	WL228250-1	Y			
		455	-2DL	Y N	MB 052118		~~PENT~~ ↑ MB 052118
		456	-3DL	Y			100→200 4X HNT↑
		457	-4DL	↓			100→200 4X
		458	SL4032-1	Y			
		459	-2				
		460	-3				H HNT
		461	-4				2AM
		462	C4 -2	Y			WL227995-2T
		463	SL4032-5	Y			DNA 2AM 2NT
		464	-6				2AM

Reviewed by/Date: _____

Katahdin Analytical Services

HPLC Runlog
Instrument: HPLC02

Method (circle): (8330B MOD.) (8330B)

Column: PHENOMENEX	Injection Volume: 100 µL	Standard	Standard ID
Flow Rate: 1.0 mL / min	Methanol lot #: DS 243	CS	P9101
Detector Wavelengths: 210nm / 254 nm		CL	P9102

Date	Init.	Result File	Sample ID	Y/N	Analyical Workgroup	Method	Comments
051518	AC	HLE10465	SL4032-7	Y	WG228756	EXPBOST	H 4NT
		466	↓ -8	↓			
		467	WG228836-1	Y			
		468	↓ -2	↓			
		469	SL3952-23 MS 052218	Y			
		470	SL4180-29	Y			
		471	SL4089-1	Y			2AM 3NT SS↓ RE
		472	↓ -2	Y			DNA NB 3NT
		473	CS -3	Y			
		474	SL4089-3	Y			
		475	-4				2AM
		476	-5				H DNA 2AM 3NT
051618		477	-6				2AM
		478	-7				2AM
		479	-8				
		480	-9				H NB
		481	-10				
		482	-11				3NT
		483	-12				3NT
		484	CL -4	Y			
		485	WG228106-1	Y			
		486	-2				
		487	-3				DOUBLE SS
		488	-4				
		489	SL3995-1	Y			
		490	-2				
		491	-3				
		492	-4				

Reviewed by/Date: _____

Katahdin Analytical Services

HPLC Runlog
Instrument: HPLC02

Method (circle): (8330B MOD.) (8330B)

Column: PHENOMENEX	Injection Volume: 100µL	Standard	Standard ID
Flow Rate: 1.0mL/min	Methanol lot #: DS 2413	C5	P9101
Detector Wavelengths: 210nm / 254 nm		C4	P9102

Date	Init.	Result File	Sample ID	Y/N	Analyical Workgroup	Method	Comments
AMB 051718 051618	AC ~~AMB~~	HLE10493	SL3995-5	Y	WG228762	EXP805A	
		494	-6				
		495	C5 -5	Y			
		496	SL3995-7	Y			
		497	-8				
		498	-9				
		499	-10				
		500	-11				
		501	-12				
		502	-13				
		503	-14				
051618	AC	HLE10504	C4 -6	Y		EXP805A	
		505	WG228~~427~~437-1 AMB 052118	Y			
		506	-2				
		507	-3				
		508	-4				
		509	SL4141-1	Y			NB
		510	-2	Y			NB SS & RE
		511	-3	Y			
		512	-4				NB 3NT
		513	-5				NB 3NT
		514	-6				
		515	C5 -7	Y			
		516	SL4141-7	Y			
		517	-8				H
		518	WG228437-1	Y			
		519	-2				
		520	-3	N			NOT NEEDED

Reviewed by/Date: _____

Katahdin Analytical Services

HPLC Runlog
Instrument: HPLC02

Method (circle): (8330B MOD.) (8330B)

Column: PHENOMENEX	Injection Volume: 100 µL	Standard	Standard ID
Flow Rate: 1.0 mL/min	Methanol lot #: DS 2d3	C5	P9101
Detector Wavelengths: 210 nm / 254 nm		C4	P9102

Date	Init.	Result File	Sample ID	Y/N	Analyical Workgroup	Method	Comments
051718	AC	HLC10521	WG228437-4	N	WG228756	EXP805A	NOT NEEDED
		522	↓ -5	↓			
		523	SL3951-1RE	N			
		524	↓ -2RE	↓			
		525	WG228439-1 ~~WG227439-1~~	Y			
		526	C4 -8	Y			
		527	WG228439-2	Y			
		528	-3				
		529	-4				
		530	-5				
		531	↓ -6	↓			
		532	SL4180-1	Y			
		533	-2				
		534	-3				
		535	-4	N			SS ↓
		536	↓ -5	Y			H
		537	C5 -9	Y			
		538	SL4180-6	Y			4Am
		539	-7				H
		540	-8				
		541	-9				
		542	-10				
		543	-11				
		544	-12				
		545	-13				
		546	-14				
		547	↓ -15	↓			
		548	C4 -10	Y			

Reviewed by/Date: _____

Katahdin Analytical Services

HPLC Runlog
Instrument: HPLC02

Method (circle): 8330B MOD. 8330B

Column: PHENOMENEX	Injection Volume: 100mL	Standard	Standard ID
Flow Rate: 1.0 mL/MIN	Methanol lot #: DS243	CS	P9101
Detector Wavelengths: 210nm/254nm		CA	P9102

Date	Init.	Result File	Sample ID	Y/N	Analyical Workgroup	Method	Comments
052218	AC	HLE10627	CS -1	Y	WG228942	EXPB05A	
		628	WG228769-1	Y			
		629	-2				
		630	-3				4NT↑
		631	-4				4NT↑
		632	SL4089-1RE	Y			SS↓ MATRIX ↑OH
		633	SL4141-2RE	Y			MB ↑OH
		634	SL4233-5A	Y			MB, 2AM 3NT
		635	SL4290-1A	Y			MB 2AM
		636	SL4349-1	Y			M R DNA 4AM 2AM 4NT 2,4 1,3,5 TNT
		637	-2				H R DNA 4AM 2AM 2,6 1,3,5 TNT
		638	-5				4NT
		639	CA -1,5 -2	Y			WG228756
		640	SL4180-16	Y			WG228756
		641	-17				
		642	-18				
		643	-19				
		644	-20				
		645	-21				11
		646	-22				
		647	-23				
		648	-24				
		649	-25				
		650	CS -16 -3	Y			WG228756
		651	SL4180-26	Y			
		652	-27				
		653	SL228770-1	Y			
		654	-2				

Reviewed by/Date: _____

Katahdin Analytical Services

HPLC Runlog
Instrument: HPLC02

Method (circle): (8330B MOD.) (8330B)

Column: PHENOMENEX	Injection Volume: 100uL	Standard	Standard ID
Flow Rate: 1.0 mL/MIN	Methanol lot #: DS243	C5	P9101
Detector Wavelengths: 210nm / 254nm		C4	P9102

Date	Init.	Result File	Sample ID	Y/N	Analyical Workgroup	Method	Comments
052318	AC	17LE10655	WL228770-3	Y	WL228942	EXP8052A	
		656	-4				
		657	SL4233-2	Y			4
		658	-3				
		659	-4				
		660	-5				
		661	C4 -17 -4	Y			WL228756
		662	SL4233-6	Y			
		663	-7				
		664	-8				
		665	-9				
		666	-10				
		667	-11				
		668	-12				
		669	-13				
		670	-14				MG
		671	-15				
		672	C5 -5	Y			
		673	SL4233-17	Y			
		674	-19				
		675	-21				
		676	-22				
		677	-23				4AM
		678	-24				2,4
052318	AC	17LE10679	C4 -6	Y	WL228942	EXP8052A	
		680	WL228856-1	Y			
		681	-2				
		682	-3				

Reviewed by/Date: _____

Katahdin Analytical Services

HPLC Runlog
Instrument: HPLC02

Method (circle): (8330B MOD) (8330B)

Column: PHENOMENEX	Injection Volume: 100 mL	Standard	Standard ID
Flow Rate: 1.0 mL / MIN	Methanol lot #: DS 243	C5	P9101
Detector Wavelengths: 210 nm / 254 nm		C4	P9102

Date	Init.	Result File	Sample ID	Y/N	Analyical Workgroup	Method	Comments
052318	AC	HLE10683	WG228856-4	Y	WG228942	EXPB05A	
		684	-5				
		685	-6				
		686	WG228857-1	Y			
		687	-2				
		688	SL4180-4RE	Y			
		689	SL4233-25	Y			
		690	C5 -7	Y			
		691	SL4233-26	Y			
		692	-27				
		693	-28				
		694	-29				
		695	-30				
		696	-31				
		697	-32				H R
		698	-33				H R
052418		699	-34				R
		700	-35				H
		701	C4 -8	Y			
		702	SL4233-36	Y			H R
		703	-37				R
		704	-38				H R
		705	-39				H R
		706	-40				RR 1:2 H R
		707	-41				R
		708	-42				
		709	-43				
		710	-44				

Reviewed by/Date: _____

Katahdin Analytical Services

HPLC Runlog
Instrument: HPLC02

Method (circle): (8330B MOD) (8330B)

Column: PHENOMENEX	Injection Volume: 100µL	Standard	Standard ID
Flow Rate: 1.0mL/MIN	Methanol lot #: DT507	C5	P9101
Detector Wavelengths: 210nm / 254nm		C4	P9102

Date	Init.	Result File	Sample ID	Y/N	Analyical Workgroup	Method	Comments
052518	AC	HLE10767	SL4292-3	Y	WG228542	EXPB05A	
		768	-4				
		769	-5				
		770	-6				
		771	SL4233-5Z				
		772	C5 -15	Y			
CHANGE TO ACCLAIM EZ COLUMN							
052518	AC	HLE10773	C5 -11	Y	WG228756	EZ016A	
		774	WG228~~450~~250-1C AAB 052518	Y	WG228756		
		775	SL4032-3C	Y			NONE
		776	-4C				NONE
		777	-5C				NONE
		778	-6C				NONE
		779	-7C				NONE
		780	WG228834-1C	Y	WG228756		
		781	SL4089-1C	Y			NONE
052618		782	-2C				NONE
		783	-4C				NONE
		784	C4 -12	Y	WG228756		
		785	SL4089-5C	Y	WG228756		NONE
		786	-6C				NONE
		787	-7C				NONE
		788	-9C				NONE
		789	-11C				NONE
		790	-12C				NONE
		791	WG228439-1C	Y	WG228756		
		792	SL4180-5C	Y			4
		793	-6C				NONE

Reviewed by/Date: _____

Katahdin Analytical Services

HPLC Runlog
Instrument: HPLC02

Method (circle): (8330B MOD.) (8330B)

Column: ACCLAIM EZ	Injection Volume: 150uL	Standard	Standard ID
Flow Rate: 1.0mL/MIN	Methanol lot #: DT 507	cs	P9101
Detector Wavelengths: 210 nm / 254 nm		ccl	P9102

Date	Init.	Result File	Sample ID	Y/N	Analyical Workgroup	Method	Comments
052618	AC	HLE10794	SL4180-7C	Y	WG228756	E2016A	NONE
		795	CS -13 -16	Y	WG228752 WG228942		WG229070-4
		796	WG228442-1C	Y	WG228756		
		797	SL4141-1C	Y			NONE
		798	-2C				NONE
		799	-4C				NONE
		800	-5C				NONE
		801	-8C				NONE
		802	WG228437-1C	Y	WG228756		
		803	SL4180-21C	Y			H
		804	WG229013-1C	Y	WG229070 ~~WG228942~~ *		*AAS 052918
		805	SL4569-5C	Y			R 1,3,5 TNT DNA HMX 2AM
		806	ccl -14 -17	Y	WG228756 WG228942		WG229070-5
		807	WG228770-1C	Y	WG228942		
		808	SL4233-2C	Y			H
		809	-14C				NG
		810	-23C				NONE
052718		811	-24C				NONE
		812	WG228856-1C	Y			
		813	SL4233-32C	Y			H R
		814	-33C				H R
		815	-34C				R
		816	-35C				NONE
		817	CS -18	Y	WG228942		
		818	SL4233-36C	Y	WG228942		H R
		819	-37C				R
		820	-38C				H R
		821	-39C				H R

Reviewed by/Date: _____

METALS DATA

Sample Data Section

METALS SAMPLE FLAGGING

FLAG	SPECIFIED MEANING
E	The reported value is estimated because of the presence of interference (as indicated by serial dilution).
N	The pre-digestion spiked sample recovery is not within control limits.
*	The duplicate sample analysis relative percent difference (RPD) is not within control limits.
B	Indicates the analyte was detected in the laboratory method blank analyzed concurrently with the sample.
A	The post-digestion spiked sample recovery is not within control limits.
•	Analytical run QC sample (e.g. ICV, CCV, ICB, CCB, ICSA, ICSAB) not within control limits.
U	The analyte was not detected above the specified level. This level may be the Practical Quantitation Level (PQL) (also called Limit of Quantitation (LOQ)), the Limit of Detection (LOD) or Method Detection Limit (MDL) as required by the client. Note: All results reported as "U" MDL have a 50% rate for false negatives compared to those results reported as "U" PQL, "U" LOQ or "U" LOD, where the rate of false negatives is <1%.
J	Estimated value. The analyte was detected in the sample at a concentration less than the laboratory Practical Quantitation Level (PQL) (also called Limit of Quantitation (LOQ)), but above the Method Detection Limit (MDL).
Q	One or more quality control criteria failed (e.g., LCS recovery, surrogate spike recovery or CCV).

COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Lab Name: Katahdin Analytical Services

SDG Name: SL4180 **SOW No.** SW846

Client Field ID	Lab Sample ID
CHAAP-21B-DS-SB02-10	SL4180-004
CHAAP-21B-DS-SB02-5	SL4180-003
CHAAP-21B-DS-SB03-10	SL4180-027
CHAAP-21B-DS-SB03-5	SL4180-026
CHAAP-21B-DS-SB04-10	SL4180-023
CHAAP-21B-DS-SB04-5	SL4180-022
CHAAP-21B-DS-SB06-10	SL4180-007
CHAAP-21B-DS-SB06-5	SL4180-006
CHAAP-21B-DS-SB07-10	SL4180-011
CHAAP-21B-DS-SB07-5	SL4180-009
CHAAP-21B-DS-SB08-5	SL4180-013
CHAAP-21B-DS-SB09-5	SL4180-015
CHAAP-21B-DS-SB10-5	SL4180-020
CHAAP-21B-DS-SB107-5	SL4180-010
CHAAP-21B-DS-SB11-5	SL4180-018
CHAAP-21B-DS-SB11-5	SL4180-018P
CHAAP-21B-DS-SB11-5	SL4180-018S
CHAAP-21B-DS-SS02	SL4180-001
CHAAP-21B-DS-SS03	SL4180-024
CHAAP-21B-DS-SS04	SL4180-021
CHAAP-21B-DS-SS06	SL4180-005
CHAAP-21B-DS-SS07	SL4180-008
CHAAP-21B-DS-SS07	SL4180-008P
CHAAP-21B-DS-SS07	SL4180-008S

Were ICP interelement corrections applied ?	Yes
Were ICP background corrections applied ?	Yes
If yes - were raw data generated before application of background corrections ?	No

Comments:

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the case narrative. Release of the data contained in this hardcopy data package and in the computer-readable data submitted has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: _____ Name: Madison Dinsmore

Date: 5/23/18 Title: Analyst

COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Lab Name: Katahdin Analytical Services

SDG Name: SL4180 **SOW No.** SW846

Client Field ID	Lab Sample ID
CHAAP-21B-DS-SS08	SL4180-012
CHAAP-21B-DS-SS09	SL4180-014
CHAAP-21B-DS-SS10	SL4180-019
CHAAP-21B-DS-SS102	SL4180-002
CHAAP-21B-DS-SS103	SL4180-025
CHAAP-21B-DS-SS11	SL4180-016
CHAAP-21B-DS-SS111	SL4180-017
CHAAP-EB-051418	SL4180-029

Were ICP interelement corrections applied ?	Yes
Were ICP background corrections applied ?	Yes
If yes - were raw data generated before application of background corrections ?	No

Comments:

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the case narrative. Release of the data contained in this hardcopy data package and in the computer-readable data submitted has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: _____ Name: Madison Dinsmore

Date: 5/23/18 Title: Analyst

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** CHAAP-21B-DS-SS02

Matrix: SOIL **SDG Name:** SL4180

Percent Solids: 85.0 **Lab Sample ID:** SL4180-001

Concentration Units : mg/Kg drywt

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED LOQ	ADJUSTED MDL	ADJUSTED LOD
7429-90-5	ALUMINUM, TOTAL	12700			MS	5	6.8	0.34	2.7
7440-36-0	ANTIMONY, TOTAL	0.13			MS	5	0.068	0.014	0.034
7440-38-2	ARSENIC, TOTAL	2.77			MS	5	0.34	0.10	0.27
7440-39-3	BARIUM, TOTAL	144			MS	5	0.14	0.025	0.068
7440-41-7	BERYLLIUM, TOTAL	0.642			MS	5	0.068	0.0027	0.014
7440-43-9	CADMIUM, TOTAL	0.176			MS	5	0.068	0.0051	0.014
7440-70-2	CALCIUM, TOTAL	2140			MS	5	6.8	2.6	5.4
7440-47-3	CHROMIUM, TOTAL	12.8			MS	5	0.34	0.033	0.27
7440-48-4	COBALT, TOTAL	5.56			MS	5	0.068	0.0037	0.020
7440-50-8	COPPER, TOTAL	9.74		B	MS	5	0.20	0.047	0.14
7439-89-6	IRON, TOTAL	10400			MS	5	6.8	1.6	4.0
7439-92-1	LEAD, TOTAL	19.0			MS	5	0.068	0.0047	0.034
7439-95-4	MAGNESIUM, TOTAL	2980			MS	5	6.8	0.91	5.4
7439-96-5	MANGANESE, TOTAL	292			MS	5	0.14	0.028	0.068
7439-97-6	MERCURY, TOTAL	0.018	J		CV	1	0.030	0.0046	0.015
7440-02-0	NICKEL, TOTAL	9.10			MS	5	0.14	0.018	0.081
7440-09-7	POTASSIUM, TOTAL	4340			MS	5	68	3.1	27
7782-49-2	SELENIUM, TOTAL	0.568			MS	5	0.34	0.026	0.20
7440-22-4	SILVER, TOTAL	0.0714			MS	5	0.068	0.0044	0.027
7440-23-5	SODIUM, TOTAL	186			MS	5	68	1.7	27
7440-28-0	THALLIUM, TOTAL	0.240			MS	5	0.068	0.0064	0.027
7440-62-2	VANADIUM, TOTAL	23.7			MS	5	0.34	0.074	0.27
7440-66-6	ZINC, TOTAL	38.6			MS	5	0.68	0.088	0.54

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** CHAAP-21B-DS-SS102

Matrix: SOIL **SDG Name:** SL4180

Percent Solids: 83.1 **Lab Sample ID:** SL4180-002

Concentration Units : mg/Kg drywt

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED LOQ	ADJUSTED MDL	ADJUSTED LOD
7429-90-5	ALUMINUM, TOTAL	12700			MS	5	8.4	0.42	3.3
7440-36-0	ANTIMONY, TOTAL	0.12			MS	5	0.084	0.017	0.042
7440-38-2	ARSENIC, TOTAL	2.86			MS	5	0.42	0.13	0.33
7440-39-3	BARIUM, TOTAL	145			MS	5	0.17	0.030	0.084
7440-41-7	BERYLLIUM, TOTAL	0.626			MS	5	0.084	0.0034	0.017
7440-43-9	CADMIUM, TOTAL	0.150			MS	5	0.084	0.0063	0.017
7440-70-2	CALCIUM, TOTAL	2170			MS	5	8.4	3.2	6.7
7440-47-3	CHROMIUM, TOTAL	13.1			MS	5	0.42	0.041	0.33
7440-48-4	COBALT, TOTAL	6.04			MS	5	0.084	0.0046	0.025
7440-50-8	COPPER, TOTAL	9.81		B	MS	5	0.25	0.058	0.17
7439-89-6	IRON, TOTAL	10800			MS	5	8.4	2.0	5.0
7439-92-1	LEAD, TOTAL	19.1			MS	5	0.084	0.0058	0.042
7439-95-4	MAGNESIUM, TOTAL	3080			MS	5	8.4	1.1	6.7
7439-96-5	MANGANESE, TOTAL	307			MS	5	0.17	0.035	0.084
7439-97-6	MERCURY, TOTAL	0.019	J		CV	1	0.034	0.0053	0.018
7440-02-0	NICKEL, TOTAL	9.44			MS	5	0.17	0.022	0.10
7440-09-7	POTASSIUM, TOTAL	4400			MS	5	84	3.8	33
7782-49-2	SELENIUM, TOTAL	0.577			MS	5	0.42	0.033	0.25
7440-22-4	SILVER, TOTAL	0.0742	J		MS	5	0.084	0.0054	0.033
7440-23-5	SODIUM, TOTAL	196			MS	5	84	2.1	33
7440-28-0	THALLIUM, TOTAL	0.243			MS	5	0.084	0.0079	0.033
7440-62-2	VANADIUM, TOTAL	24.2			MS	5	0.42	0.092	0.33
7440-66-6	ZINC, TOTAL	39.4			MS	5	0.84	0.11	0.67

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** CHAAP-21B-DS-SB02-5

Matrix: SOIL **SDG Name:** SL4180

Percent Solids: 81.6 **Lab Sample ID:** SL4180-003

Concentration Units : mg/Kg drywt

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED LOQ	MDL	LOD
7429-90-5	ALUMINUM, TOTAL	18200			MS	5	6.5	0.32	2.6
7440-36-0	ANTIMONY, TOTAL	0.219			MS	5	0.065	0.013	0.032
7440-38-2	ARSENIC, TOTAL	7.81			MS	5	0.32	0.097	0.26
7440-39-3	BARIUM, TOTAL	208			MS	5	0.13	0.024	0.065
7440-41-7	BERYLLIUM, TOTAL	0.856			MS	5	0.065	0.0026	0.013
7440-43-9	CADMIUM, TOTAL	0.023	J		MS	5	0.065	0.0049	0.013
7440-70-2	CALCIUM, TOTAL	31300			MS	5	6.5	2.5	5.2
7440-47-3	CHROMIUM, TOTAL	17.6			MS	5	0.32	0.032	0.26
7440-48-4	COBALT, TOTAL	8.33			MS	5	0.065	0.0036	0.019
7440-50-8	COPPER, TOTAL	12.6		B	MS	5	0.19	0.045	0.13
7439-89-6	IRON, TOTAL	17000			MS	5	6.5	1.6	3.9
7439-92-1	LEAD, TOTAL	12.8			MS	5	0.065	0.0045	0.032
7439-95-4	MAGNESIUM, TOTAL	8100			MS	5	6.5	0.88	5.2
7439-96-5	MANGANESE, TOTAL	317			MS	5	0.13	0.027	0.065
7439-97-6	MERCURY, TOTAL	0.024	J		CV	1	0.034	0.0053	0.017
7440-02-0	NICKEL, TOTAL	15.7			MS	5	0.13	0.017	0.078
7440-09-7	POTASSIUM, TOTAL	4460			MS	5	65	3.0	26
7782-49-2	SELENIUM, TOTAL	0.400			MS	5	0.32	0.025	0.19
7440-22-4	SILVER, TOTAL	0.0852			MS	5	0.065	0.0042	0.026
7440-23-5	SODIUM, TOTAL	2050			MS	5	65	1.7	26
7440-28-0	THALLIUM, TOTAL	0.293			MS	5	0.065	0.0062	0.026
7440-62-2	VANADIUM, TOTAL	38.8			MS	5	0.32	0.071	0.26
7440-66-6	ZINC, TOTAL	47.0			MS	5	0.65	0.084	0.52

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** CHAAP-21B-DS-SB02-10

Matrix: SOIL **SDG Name:** SL4180

Percent Solids: 76.8 **Lab Sample ID:** SL4180-004

Concentration Units : mg/Kg drywt

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED LOQ	MDL	LOD
7429-90-5	ALUMINUM, TOTAL	21900			MS	5	9.4	0.47	3.7
7440-36-0	ANTIMONY, TOTAL	0.18			MS	5	0.094	0.019	0.047
7440-38-2	ARSENIC, TOTAL	4.02			MS	5	0.47	0.14	0.37
7440-39-3	BARIUM, TOTAL	301			MS	5	0.19	0.034	0.094
7440-41-7	BERYLLIUM, TOTAL	0.999			MS	5	0.094	0.0038	0.019
7440-43-9	CADMIUM, TOTAL	0.166			MS	5	0.094	0.0070	0.019
7440-70-2	CALCIUM, TOTAL	16400			MS	5	9.4	3.6	7.5
7440-47-3	CHROMIUM, TOTAL	21.7			MS	5	0.47	0.046	0.37
7440-48-4	COBALT, TOTAL	7.92			MS	5	0.094	0.0051	0.028
7440-50-8	COPPER, TOTAL	16.5		B	MS	5	0.28	0.066	0.19
7439-89-6	IRON, TOTAL	19800			MS	5	9.4	2.2	5.6
7439-92-1	LEAD, TOTAL	15.3			MS	5	0.094	0.0066	0.047
7439-95-4	MAGNESIUM, TOTAL	8560			MS	5	9.4	1.3	7.5
7439-96-5	MANGANESE, TOTAL	446			MS	5	0.19	0.039	0.094
7439-97-6	MERCURY, TOTAL	0.019	J		CV	1	0.043	0.0066	0.022
7440-02-0	NICKEL, TOTAL	20.2			MS	5	0.19	0.025	0.11
7440-09-7	POTASSIUM, TOTAL	4320			MS	5	94	4.3	37
7782-49-2	SELENIUM, TOTAL	0.34	J		MS	5	0.47	0.037	0.28
7440-22-4	SILVER, TOTAL	0.0897	J		MS	5	0.094	0.0061	0.037
7440-23-5	SODIUM, TOTAL	711			MS	5	94	2.4	37
7440-28-0	THALLIUM, TOTAL	0.360			MS	5	0.094	0.0089	0.037
7440-62-2	VANADIUM, TOTAL	43.2			MS	5	0.47	0.10	0.37
7440-66-6	ZINC, TOTAL	62.2			MS	5	0.94	0.12	0.75

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** CHAAP-21B-DS-SS06

Matrix: SOIL **SDG Name:** SL4180

Percent Solids: 83.1 **Lab Sample ID:** SL4180-005

Concentration Units : mg/Kg drywt

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED LOQ	ADJUSTED MDL	ADJUSTED LOD
7429-90-5	ALUMINUM, TOTAL	14200			MS	5	6.3	0.31	2.5
7440-36-0	ANTIMONY, TOTAL	0.161			MS	5	0.063	0.013	0.031
7440-38-2	ARSENIC, TOTAL	3.39			MS	5	0.31	0.094	0.25
7440-39-3	BARIUM, TOTAL	167			MS	5	0.12	0.023	0.063
7440-41-7	BERYLLIUM, TOTAL	0.686			MS	5	0.063	0.0025	0.012
7440-43-9	CADMIUM, TOTAL	0.155			MS	5	0.063	0.0047	0.012
7440-70-2	CALCIUM, TOTAL	3860			MS	5	6.3	2.4	5.0
7440-47-3	CHROMIUM, TOTAL	13.8			MS	5	0.31	0.031	0.25
7440-48-4	COBALT, TOTAL	5.82			MS	5	0.063	0.0034	0.019
7440-50-8	COPPER, TOTAL	9.96		B	MS	5	0.19	0.044	0.12
7439-89-6	IRON, TOTAL	11700			MS	5	6.3	1.5	3.8
7439-92-1	LEAD, TOTAL	20.6			MS	5	0.063	0.0044	0.031
7439-95-4	MAGNESIUM, TOTAL	3220			MS	5	6.3	0.85	5.0
7439-96-5	MANGANESE, TOTAL	336			MS	5	0.12	0.026	0.063
7439-97-6	MERCURY, TOTAL	0.016	J		CV	1	0.033	0.0051	0.017
7440-02-0	NICKEL, TOTAL	10.2			MS	5	0.12	0.017	0.075
7440-09-7	POTASSIUM, TOTAL	3560			MS	5	63	2.9	25
7782-49-2	SELENIUM, TOTAL	0.520			MS	5	0.31	0.024	0.19
7440-22-4	SILVER, TOTAL	0.0664			MS	5	0.063	0.0041	0.025
7440-23-5	SODIUM, TOTAL	167			MS	5	63	1.6	25
7440-28-0	THALLIUM, TOTAL	0.254			MS	5	0.063	0.0060	0.025
7440-62-2	VANADIUM, TOTAL	27.8			MS	5	0.31	0.069	0.25
7440-66-6	ZINC, TOTAL	38.8			MS	5	0.63	0.081	0.50

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** CHAAP-21B-DS-SB06-5

Matrix: SOIL **SDG Name:** SL4180

Percent Solids: 76.0 **Lab Sample ID:** SL4180-006

Concentration Units : mg/Kg drywt

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED LOQ	ADJUSTED MDL	ADJUSTED LOD
7429-90-5	ALUMINUM, TOTAL	29500			MS	5	11	0.55	4.4
7440-36-0	ANTIMONY, TOTAL	0.241			MS	5	0.11	0.022	0.055
7440-38-2	ARSENIC, TOTAL	6.87			MS	5	0.55	0.17	0.44
7440-39-3	BARIUM, TOTAL	357			MS	5	0.22	0.040	0.11
7440-41-7	BERYLLIUM, TOTAL	1.39			MS	5	0.11	0.0045	0.022
7440-43-9	CADMIUM, TOTAL	0.136			MS	5	0.11	0.0083	0.022
7440-70-2	CALCIUM, TOTAL	23800			MS	5	11	4.2	8.8
7440-47-3	CHROMIUM, TOTAL	29.1			MS	5	0.55	0.054	0.44
7440-48-4	COBALT, TOTAL	12.4			MS	5	0.11	0.0061	0.033
7440-50-8	COPPER, TOTAL	21.5		B	MS	5	0.33	0.077	0.22
7439-89-6	IRON, TOTAL	27400			MS	5	11	2.7	6.6
7439-92-1	LEAD, TOTAL	19.2			MS	5	0.11	0.0077	0.055
7439-95-4	MAGNESIUM, TOTAL	10400			MS	5	11	1.5	8.8
7439-96-5	MANGANESE, TOTAL	580			MS	5	0.22	0.046	0.11
7439-97-6	MERCURY, TOTAL	0.019	J		CV	1	0.031	0.0048	0.016
7440-02-0	NICKEL, TOTAL	26.0			MS	5	0.22	0.029	0.13
7440-09-7	POTASSIUM, TOTAL	5940			MS	5	110	5.0	44
7782-49-2	SELENIUM, TOTAL	0.600			MS	5	0.55	0.043	0.33
7440-22-4	SILVER, TOTAL	0.134			MS	5	0.11	0.0072	0.044
7440-23-5	SODIUM, TOTAL	1110			MS	5	110	2.8	44
7440-28-0	THALLIUM, TOTAL	0.486			MS	5	0.11	0.010	0.044
7440-62-2	VANADIUM, TOTAL	60.0			MS	5	0.55	0.12	0.44
7440-66-6	ZINC, TOTAL	87.8			MS	5	1.1	0.14	0.88

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** CHAAP-21B-DS-SB06-10

Matrix: SOIL **SDG Name:** SL4180

Percent Solids: 79.9 **Lab Sample ID:** SL4180-007

Concentration Units : mg/Kg drywt

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED LOQ	ADJUSTED MDL	ADJUSTED LOD
7429-90-5	ALUMINUM, TOTAL	20300			MS	5	9.8	0.49	3.9
7440-36-0	ANTIMONY, TOTAL	0.201			MS	5	0.098	0.020	0.049
7440-38-2	ARSENIC, TOTAL	4.08			MS	5	0.49	0.15	0.39
7440-39-3	BARIUM, TOTAL	199			MS	5	0.20	0.036	0.098
7440-41-7	BERYLLIUM, TOTAL	0.926			MS	5	0.098	0.0040	0.020
7440-43-9	CADMIUM, TOTAL	0.125			MS	5	0.098	0.0074	0.020
7440-70-2	CALCIUM, TOTAL	37300			MS	5	9.8	3.7	7.9
7440-47-3	CHROMIUM, TOTAL	20.1			MS	5	0.49	0.048	0.39
7440-48-4	COBALT, TOTAL	6.39			MS	5	0.098	0.0054	0.030
7440-50-8	COPPER, TOTAL	15.8		B	MS	5	0.30	0.069	0.20
7439-89-6	IRON, TOTAL	17200			MS	5	9.8	2.4	5.9
7439-92-1	LEAD, TOTAL	10.6			MS	5	0.098	0.0069	0.049
7439-95-4	MAGNESIUM, TOTAL	7780			MS	5	9.8	1.3	7.9
7439-96-5	MANGANESE, TOTAL	514			MS	5	0.20	0.041	0.098
7439-97-6	MERCURY, TOTAL	0.022	J		CV	1	0.037	0.0058	0.019
7440-02-0	NICKEL, TOTAL	22.1			MS	5	0.20	0.026	0.12
7440-09-7	POTASSIUM, TOTAL	4150			MS	5	98	4.5	39
7782-49-2	SELENIUM, TOTAL	0.522			MS	5	0.49	0.038	0.30
7440-22-4	SILVER, TOTAL	0.0921	J		MS	5	0.098	0.0064	0.039
7440-23-5	SODIUM, TOTAL	1870			MS	5	98	2.5	39
7440-28-0	THALLIUM, TOTAL	0.338			MS	5	0.098	0.0094	0.039
7440-62-2	VANADIUM, TOTAL	42.0			MS	5	0.49	0.11	0.39
7440-66-6	ZINC, TOTAL	49.0			MS	5	0.98	0.13	0.79

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** CHAAP-21B-DS-SS07

Matrix: SOIL **SDG Name:** SL4180

Percent Solids: 81.2 **Lab Sample ID:** SL4180-008

Concentration Units : mg/Kg drywt

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED LOQ	MDL	LOD
7429-90-5	ALUMINUM, TOTAL	25100		NA	MS	5	11	0.56	4.5
7440-36-0	ANTIMONY, TOTAL	0.20		N	MS	5	0.11	0.022	0.056
7440-38-2	ARSENIC, TOTAL	5.03			MS	5	0.56	0.17	0.45
7440-39-3	BARIUM, TOTAL	190		NA	MS	5	0.22	0.041	0.11
7440-41-7	BERYLLIUM, TOTAL	1.08			MS	5	0.11	0.0045	0.022
7440-43-9	CADMIUM, TOTAL	0.020	J		MS	5	0.11	0.0084	0.022
7440-70-2	CALCIUM, TOTAL	4100		NA	MS	5	11	4.3	9.0
7440-47-3	CHROMIUM, TOTAL	21.2			MS	5	0.56	0.055	0.45
7440-48-4	COBALT, TOTAL	8.16			MS	5	0.11	0.0062	0.034
7440-50-8	COPPER, TOTAL	15.5		B	MS	5	0.34	0.078	0.22
7439-89-6	IRON, TOTAL	18600		NA	MS	5	11	2.7	6.7
7439-92-1	LEAD, TOTAL	14.9		A	MS	5	0.11	0.0078	0.056
7439-95-4	MAGNESIUM, TOTAL	6090		NEA	MS	5	11	1.5	9.0
7439-96-5	MANGANESE, TOTAL	276		NA	MS	5	0.22	0.047	0.11
7439-97-6	MERCURY, TOTAL	0.012	J		CV	1	0.033	0.0052	0.017
7440-02-0	NICKEL, TOTAL	16.6			MS	5	0.22	0.030	0.13
7440-09-7	POTASSIUM, TOTAL	4960		N	MS	5	110	5.1	45
7782-49-2	SELENIUM, TOTAL	0.466	J		MS	5	0.56	0.044	0.34
7440-22-4	SILVER, TOTAL	0.0764	J		MS	5	0.11	0.0073	0.045
7440-23-5	SODIUM, TOTAL	181			MS	5	110	2.9	45
7440-28-0	THALLIUM, TOTAL	0.374			MS	5	0.11	0.011	0.045
7440-62-2	VANADIUM, TOTAL	36.8			MS	5	0.56	0.12	0.45
7440-66-6	ZINC, TOTAL	55.5			MS	5	1.1	0.15	0.90

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** CHAAP-21B-DS-SB07-5

Matrix: SOIL **SDG Name:** SL4180

Percent Solids: 81.2 **Lab Sample ID:** SL4180-009

Concentration Units : mg/Kg drywt

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED LOQ	MDL	LOD
7429-90-5	ALUMINUM, TOTAL	21000			MS	5	11	0.54	4.3
7440-36-0	ANTIMONY, TOTAL	0.256			MS	5	0.11	0.022	0.054
7440-38-2	ARSENIC, TOTAL	7.92			MS	5	0.54	0.16	0.43
7440-39-3	BARIUM, TOTAL	399			MS	5	0.22	0.039	0.11
7440-41-7	BERYLLIUM, TOTAL	0.945			MS	5	0.11	0.0044	0.022
7440-43-9	CADMIUM, TOTAL	0.047	J		MS	5	0.11	0.0081	0.022
7440-70-2	CALCIUM, TOTAL	28900			MS	5	11	4.1	8.6
7440-47-3	CHROMIUM, TOTAL	20.0			MS	5	0.54	0.053	0.43
7440-48-4	COBALT, TOTAL	8.20			MS	5	0.11	0.0059	0.032
7440-50-8	COPPER, TOTAL	15.6		B	MS	5	0.32	0.076	0.22
7439-89-6	IRON, TOTAL	18600			MS	5	11	2.6	6.5
7439-92-1	LEAD, TOTAL	12.9			MS	5	0.11	0.0076	0.054
7439-95-4	MAGNESIUM, TOTAL	7940			MS	5	11	1.5	8.6
7439-96-5	MANGANESE, TOTAL	713			MS	5	0.22	0.045	0.11
7439-97-6	MERCURY, TOTAL	0.019	J		CV	1	0.028	0.0044	0.014
7440-02-0	NICKEL, TOTAL	18.5			MS	5	0.22	0.029	0.13
7440-09-7	POTASSIUM, TOTAL	4170			MS	5	110	4.9	43
7782-49-2	SELENIUM, TOTAL	0.500	J		MS	5	0.54	0.042	0.32
7440-22-4	SILVER, TOTAL	0.0963	J		MS	5	0.11	0.0070	0.043
7440-23-5	SODIUM, TOTAL	1200			MS	5	110	2.8	43
7440-28-0	THALLIUM, TOTAL	0.354			MS	5	0.11	0.010	0.043
7440-62-2	VANADIUM, TOTAL	47.6			MS	5	0.54	0.12	0.43
7440-66-6	ZINC, TOTAL	49.1			MS	5	1.1	0.14	0.86

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** CHAAP-21B-DS-SB107-5

Matrix: SOIL **SDG Name:** SL4180

Percent Solids: 80.8 **Lab Sample ID:** SL4180-010

Concentration Units : mg/Kg drywt

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED LOQ	ADJUSTED MDL	ADJUSTED LOD
7429-90-5	ALUMINUM, TOTAL	18000			MS	5	7.9	0.39	3.2
7440-36-0	ANTIMONY, TOTAL	0.200			MS	5	0.079	0.016	0.039
7440-38-2	ARSENIC, TOTAL	4.25			MS	5	0.39	0.12	0.32
7440-39-3	BARIUM, TOTAL	293			MS	5	0.16	0.029	0.079
7440-41-7	BERYLLIUM, TOTAL	0.834			MS	5	0.079	0.0032	0.016
7440-43-9	CADMIUM, TOTAL	0.0604	J		MS	5	0.079	0.0059	0.016
7440-70-2	CALCIUM, TOTAL	33400			MS	5	7.9	3.0	6.3
7440-47-3	CHROMIUM, TOTAL	17.7			MS	5	0.39	0.039	0.32
7440-48-4	COBALT, TOTAL	8.08			MS	5	0.079	0.0043	0.024
7440-50-8	COPPER, TOTAL	13.2		B	MS	5	0.24	0.055	0.16
7439-89-6	IRON, TOTAL	16500			MS	5	7.9	1.9	4.7
7439-92-1	LEAD, TOTAL	12.9			MS	5	0.079	0.0055	0.039
7439-95-4	MAGNESIUM, TOTAL	7710			MS	5	7.9	1.1	6.3
7439-96-5	MANGANESE, TOTAL	543			MS	5	0.16	0.033	0.079
7439-97-6	MERCURY, TOTAL	0.00019	J		CV	1	0.00031	0.000049	0.00016
7440-02-0	NICKEL, TOTAL	17.3			MS	5	0.16	0.021	0.094
7440-09-7	POTASSIUM, TOTAL	3720			MS	5	79	3.6	32
7782-49-2	SELENIUM, TOTAL	0.374	J		MS	5	0.39	0.031	0.24
7440-22-4	SILVER, TOTAL	0.0817			MS	5	0.079	0.0051	0.032
7440-23-5	SODIUM, TOTAL	1280			MS	5	79	2.0	32
7440-28-0	THALLIUM, TOTAL	0.314			MS	5	0.079	0.0075	0.032
7440-62-2	VANADIUM, TOTAL	36.3			MS	5	0.39	0.087	0.32
7440-66-6	ZINC, TOTAL	46.4			MS	5	0.79	0.10	0.63

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** CHAAP-21B-DS-SB07-10

Matrix: SOIL **SDG Name:** SL4180

Percent Solids: 76.6 **Lab Sample ID:** SL4180-011

Concentration Units : mg/Kg drywt

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED LOQ	MDL	LOD
7429-90-5	ALUMINUM, TOTAL	20100			MS	5	8.7	0.44	3.5
7440-36-0	ANTIMONY, TOTAL	0.206			MS	5	0.087	0.017	0.044
7440-38-2	ARSENIC, TOTAL	6.25			MS	5	0.44	0.13	0.35
7440-39-3	BARIUM, TOTAL	219			MS	5	0.17	0.032	0.087
7440-41-7	BERYLLIUM, TOTAL	0.922			MS	5	0.087	0.0035	0.017
7440-43-9	CADMIUM, TOTAL	0.052	J		MS	5	0.087	0.0065	0.017
7440-70-2	CALCIUM, TOTAL	11600			MS	5	8.7	3.3	7.0
7440-47-3	CHROMIUM, TOTAL	20.6			MS	5	0.44	0.043	0.35
7440-48-4	COBALT, TOTAL	6.74			MS	5	0.087	0.0048	0.026
7440-50-8	COPPER, TOTAL	15.9		B	MS	5	0.26	0.061	0.17
7439-89-6	IRON, TOTAL	19000			MS	5	8.7	2.1	5.2
7439-92-1	LEAD, TOTAL	13.7			MS	5	0.087	0.0061	0.044
7439-95-4	MAGNESIUM, TOTAL	7530			MS	5	8.7	1.2	7.0
7439-96-5	MANGANESE, TOTAL	294			MS	5	0.17	0.037	0.087
7439-97-6	MERCURY, TOTAL	0.032			CV	1	0.029	0.0045	0.015
7440-02-0	NICKEL, TOTAL	16.7			MS	5	0.17	0.023	0.10
7440-09-7	POTASSIUM, TOTAL	3830			MS	5	87	4.0	35
7782-49-2	SELENIUM, TOTAL	0.442			MS	5	0.44	0.034	0.26
7440-22-4	SILVER, TOTAL	0.0958			MS	5	0.087	0.0057	0.035
7440-23-5	SODIUM, TOTAL	1020			MS	5	87	2.2	35
7440-28-0	THALLIUM, TOTAL	0.332			MS	5	0.087	0.0083	0.035
7440-62-2	VANADIUM, TOTAL	44.3			MS	5	0.44	0.096	0.35
7440-66-6	ZINC, TOTAL	56.7			MS	5	0.87	0.11	0.70

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** CHAAP-21B-DS-SS08

Matrix: SOIL **SDG Name:** SL4180

Percent Solids: 87.1 **Lab Sample ID:** SL4180-012

Concentration Units : mg/Kg drywt

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED LOQ	ADJUSTED MDL	ADJUSTED LOD
7429-90-5	ALUMINUM, TOTAL	12500			MS	5	9.0	0.45	3.6
7440-36-0	ANTIMONY, TOTAL	0.13			MS	5	0.090	0.018	0.045
7440-38-2	ARSENIC, TOTAL	2.92			MS	5	0.45	0.14	0.36
7440-39-3	BARIUM, TOTAL	137			MS	5	0.18	0.033	0.090
7440-41-7	BERYLLIUM, TOTAL	0.618			MS	5	0.090	0.0037	0.018
7440-43-9	CADMIUM, TOTAL	0.119			MS	5	0.090	0.0068	0.018
7440-70-2	CALCIUM, TOTAL	2360			MS	5	9.0	3.4	7.2
7440-47-3	CHROMIUM, TOTAL	13.3			MS	5	0.45	0.044	0.36
7440-48-4	COBALT, TOTAL	6.32			MS	5	0.090	0.0050	0.027
7440-50-8	COPPER, TOTAL	8.90		B	MS	5	0.27	0.063	0.18
7439-89-6	IRON, TOTAL	10600			MS	5	9.0	2.2	5.4
7439-92-1	LEAD, TOTAL	38.1			MS	5	0.090	0.0063	0.045
7439-95-4	MAGNESIUM, TOTAL	3010			MS	5	9.0	1.2	7.2
7439-96-5	MANGANESE, TOTAL	312			MS	5	0.18	0.038	0.090
7439-97-6	MERCURY, TOTAL	0.015	J		CV	1	0.037	0.0057	0.019
7440-02-0	NICKEL, TOTAL	9.42			MS	5	0.18	0.024	0.11
7440-09-7	POTASSIUM, TOTAL	3880			MS	5	90	4.1	36
7782-49-2	SELENIUM, TOTAL	0.626			MS	5	0.45	0.035	0.27
7440-22-4	SILVER, TOTAL	0.0635	J		MS	5	0.090	0.0059	0.036
7440-23-5	SODIUM, TOTAL	190			MS	5	90	2.3	36
7440-28-0	THALLIUM, TOTAL	0.234			MS	5	0.090	0.0086	0.036
7440-62-2	VANADIUM, TOTAL	25.5			MS	5	0.45	0.099	0.36
7440-66-6	ZINC, TOTAL	36.3			MS	5	0.90	0.12	0.72

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** CHAAP-21B-DS-SB08-5

Matrix: SOIL **SDG Name:** SL4180

Percent Solids: 80.4 **Lab Sample ID:** SL4180-013

Concentration Units : mg/Kg drywt

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED LOQ	ADJUSTED MDL	ADJUSTED LOD
7429-90-5	ALUMINUM, TOTAL	19700			MS	5	10	0.51	4.0
7440-36-0	ANTIMONY, TOTAL	0.237			MS	5	0.10	0.020	0.050
7440-38-2	ARSENIC, TOTAL	6.34			MS	5	0.50	0.15	0.40
7440-39-3	BARIUM, TOTAL	263			MS	5	0.20	0.037	0.10
7440-41-7	BERYLLIUM, TOTAL	0.878			MS	5	0.10	0.0041	0.020
7440-43-9	CADMIUM, TOTAL	0.072	J		MS	5	0.10	0.0076	0.020
7440-70-2	CALCIUM, TOTAL	39700			MS	5	10	3.8	8.1
7440-47-3	CHROMIUM, TOTAL	19.2			MS	5	0.50	0.050	0.40
7440-48-4	COBALT, TOTAL	8.67			MS	5	0.10	0.0056	0.030
7440-50-8	COPPER, TOTAL	12.6		B	MS	5	0.30	0.071	0.20
7439-89-6	IRON, TOTAL	17400			MS	5	10	2.4	6.1
7439-92-1	LEAD, TOTAL	12.5			MS	5	0.10	0.0071	0.050
7439-95-4	MAGNESIUM, TOTAL	8160			MS	5	10	1.4	8.1
7439-96-5	MANGANESE, TOTAL	454			MS	5	0.20	0.042	0.10
7439-97-6	MERCURY, TOTAL	0.016	J		CV	1	0.038	0.0058	0.019
7440-02-0	NICKEL, TOTAL	19.0			MS	5	0.20	0.027	0.12
7440-09-7	POTASSIUM, TOTAL	5200			MS	5	100	4.6	40
7782-49-2	SELENIUM, TOTAL	0.450	J		MS	5	0.50	0.039	0.30
7440-22-4	SILVER, TOTAL	0.0840	J		MS	5	0.10	0.0066	0.040
7440-23-5	SODIUM, TOTAL	1670			MS	5	100	2.6	40
7440-28-0	THALLIUM, TOTAL	0.333			MS	5	0.10	0.0096	0.040
7440-62-2	VANADIUM, TOTAL	43.6			MS	5	0.50	0.11	0.40
7440-66-6	ZINC, TOTAL	46.4			MS	5	1.0	0.13	0.81

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** CHAAP-21B-DS-SS09

Matrix: SOIL **SDG Name:** SL4180

Percent Solids: 82.9 **Lab Sample ID:** SL4180-014

Concentration Units : mg/Kg drywt

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED LOQ	ADJUSTED MDL	ADJUSTED LOD
7429-90-5	ALUMINUM, TOTAL	17600			MS	5	11	0.54	4.3
7440-36-0	ANTIMONY, TOTAL	0.18			MS	5	0.11	0.022	0.054
7440-38-2	ARSENIC, TOTAL	3.21			MS	5	0.54	0.16	0.43
7440-39-3	BARIUM, TOTAL	204			MS	5	0.22	0.040	0.11
7440-41-7	BERYLLIUM, TOTAL	0.784			MS	5	0.11	0.0044	0.022
7440-43-9	CADMIUM, TOTAL	0.0826	J		MS	5	0.11	0.0082	0.022
7440-70-2	CALCIUM, TOTAL	2100			MS	5	11	4.1	8.7
7440-47-3	CHROMIUM, TOTAL	16.9			MS	5	0.54	0.053	0.43
7440-48-4	COBALT, TOTAL	6.47			MS	5	0.11	0.0060	0.033
7440-50-8	COPPER, TOTAL	11.2		B	MS	5	0.33	0.076	0.22
7439-89-6	IRON, TOTAL	13500			MS	5	11	2.6	6.5
7439-92-1	LEAD, TOTAL	15.9			MS	5	0.11	0.0076	0.054
7439-95-4	MAGNESIUM, TOTAL	4770			MS	5	11	1.5	8.7
7439-96-5	MANGANESE, TOTAL	252			MS	5	0.22	0.046	0.11
7439-97-6	MERCURY, TOTAL	0.024	J		CV	1	0.030	0.0046	0.015
7440-02-0	NICKEL, TOTAL	12.8			MS	5	0.22	0.029	0.13
7440-09-7	POTASSIUM, TOTAL	5610			MS	5	110	4.9	43
7782-49-2	SELENIUM, TOTAL	0.560			MS	5	0.54	0.042	0.33
7440-22-4	SILVER, TOTAL	0.066	J		MS	5	0.11	0.0071	0.043
7440-23-5	SODIUM, TOTAL	343			MS	5	110	2.8	43
7440-28-0	THALLIUM, TOTAL	0.264			MS	5	0.11	0.010	0.043
7440-62-2	VANADIUM, TOTAL	31.2			MS	5	0.54	0.12	0.43
7440-66-6	ZINC, TOTAL	45.4			MS	5	1.1	0.14	0.87

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** CHAAP-21B-DS-SB09-5

Matrix: SOIL **SDG Name:** SL4180

Percent Solids: 80.2 **Lab Sample ID:** SL4180-015

Concentration Units : mg/Kg drywt

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED LOQ	ADJUSTED MDL	ADJUSTED LOD
7429-90-5	ALUMINUM, TOTAL	20100			MS	5	6.4	0.32	2.6
7440-36-0	ANTIMONY, TOTAL	0.190			MS	5	0.064	0.013	0.032
7440-38-2	ARSENIC, TOTAL	5.02			MS	5	0.32	0.096	0.26
7440-39-3	BARIUM, TOTAL	185			MS	5	0.13	0.023	0.064
7440-41-7	BERYLLIUM, TOTAL	0.874			MS	5	0.064	0.0026	0.013
7440-43-9	CADMIUM, TOTAL	0.013	U		MS	5	0.064	0.0048	0.013
7440-70-2	CALCIUM, TOTAL	14300			MS	5	6.4	2.4	5.1
7440-47-3	CHROMIUM, TOTAL	20.6			MS	5	0.32	0.031	0.26
7440-48-4	COBALT, TOTAL	8.24			MS	5	0.064	0.0035	0.019
7440-50-8	COPPER, TOTAL	12.9		B	MS	5	0.19	0.045	0.13
7439-89-6	IRON, TOTAL	18100			MS	5	6.4	1.5	3.8
7439-92-1	LEAD, TOTAL	14.5			MS	5	0.064	0.0045	0.032
7439-95-4	MAGNESIUM, TOTAL	9110			MS	5	6.4	0.87	5.1
7439-96-5	MANGANESE, TOTAL	345			MS	5	0.13	0.027	0.064
7439-97-6	MERCURY, TOTAL	0.016	J		CV	1	0.039	0.0060	0.020
7440-02-0	NICKEL, TOTAL	17.4			MS	5	0.13	0.017	0.077
7440-09-7	POTASSIUM, TOTAL	4930			MS	5	64	2.9	26
7782-49-2	SELENIUM, TOTAL	0.442			MS	5	0.32	0.025	0.19
7440-22-4	SILVER, TOTAL	0.0763			MS	5	0.064	0.0042	0.026
7440-23-5	SODIUM, TOTAL	1970			MS	5	64	1.6	26
7440-28-0	THALLIUM, TOTAL	0.307			MS	5	0.064	0.0061	0.026
7440-62-2	VANADIUM, TOTAL	42.1			MS	5	0.32	0.071	0.26
7440-66-6	ZINC, TOTAL	46.2			MS	5	0.64	0.084	0.51

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** CHAAP-21B-DS-SS11

Matrix: SOIL **SDG Name:** SL4180

Percent Solids: 82.5 **Lab Sample ID:** SL4180-016

Concentration Units : mg/Kg drywt

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED LOQ	ADJUSTED MDL	ADJUSTED LOD
7429-90-5	ALUMINUM, TOTAL	21100			MS	5	7.7	0.38	3.1
7440-36-0	ANTIMONY, TOTAL	0.186			MS	5	0.077	0.015	0.038
7440-38-2	ARSENIC, TOTAL	4.59			MS	5	0.38	0.12	0.31
7440-39-3	BARIUM, TOTAL	188			MS	5	0.15	0.028	0.077
7440-41-7	BERYLLIUM, TOTAL	0.895			MS	5	0.077	0.0031	0.015
7440-43-9	CADMIUM, TOTAL	0.043	J		MS	5	0.077	0.0058	0.015
7440-70-2	CALCIUM, TOTAL	3090			MS	5	7.7	2.9	6.1
7440-47-3	CHROMIUM, TOTAL	19.0			MS	5	0.38	0.038	0.31
7440-48-4	COBALT, TOTAL	7.56			MS	5	0.077	0.0042	0.023
7440-50-8	COPPER, TOTAL	12.3		B	MS	5	0.23	0.054	0.15
7439-89-6	IRON, TOTAL	16300			MS	5	7.7	1.8	4.6
7439-92-1	LEAD, TOTAL	12.9			MS	5	0.077	0.0054	0.038
7439-95-4	MAGNESIUM, TOTAL	5600			MS	5	7.7	1.0	6.1
7439-96-5	MANGANESE, TOTAL	364			MS	5	0.15	0.032	0.077
7439-97-6	MERCURY, TOTAL	0.016	J		CV	1	0.030	0.0046	0.015
7440-02-0	NICKEL, TOTAL	14.8			MS	5	0.15	0.020	0.092
7440-09-7	POTASSIUM, TOTAL	5290			MS	5	77	3.5	31
7782-49-2	SELENIUM, TOTAL	0.587			MS	5	0.38	0.030	0.23
7440-22-4	SILVER, TOTAL	0.0850			MS	5	0.077	0.0050	0.031
7440-23-5	SODIUM, TOTAL	163			MS	5	77	2.0	31
7440-28-0	THALLIUM, TOTAL	0.312			MS	5	0.077	0.0073	0.031
7440-62-2	VANADIUM, TOTAL	37.0			MS	5	0.38	0.084	0.31
7440-66-6	ZINC, TOTAL	49.3			MS	5	0.77	0.100	0.61

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** CHAAP-21B-DS-SS111

Matrix: SOIL **SDG Name:** SL4180

Percent Solids: 80.4 **Lab Sample ID:** SL4180-017

Concentration Units : mg/Kg drywt

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED LOQ	ADJUSTED MDL	ADJUSTED LOD
7429-90-5	ALUMINUM, TOTAL	23300			MS	5	9.9	0.49	3.9
7440-36-0	ANTIMONY, TOTAL	0.233			MS	5	0.099	0.020	0.049
7440-38-2	ARSENIC, TOTAL	5.52			MS	5	0.49	0.15	0.39
7440-39-3	BARIUM, TOTAL	226			MS	5	0.20	0.036	0.099
7440-41-7	BERYLLIUM, TOTAL	1.03			MS	5	0.099	0.0040	0.020
7440-43-9	CADMIUM, TOTAL	0.018	J		MS	5	0.099	0.0074	0.020
7440-70-2	CALCIUM, TOTAL	3420			MS	5	9.9	3.8	7.9
7440-47-3	CHROMIUM, TOTAL	20.4			MS	5	0.49	0.048	0.39
7440-48-4	COBALT, TOTAL	8.51			MS	5	0.099	0.0054	0.030
7440-50-8	COPPER, TOTAL	13.9		B	MS	5	0.30	0.069	0.20
7439-89-6	IRON, TOTAL	17600			MS	5	9.9	2.4	5.9
7439-92-1	LEAD, TOTAL	14.2			MS	5	0.099	0.0069	0.049
7439-95-4	MAGNESIUM, TOTAL	7290			MS	5	9.9	1.3	7.9
7439-96-5	MANGANESE, TOTAL	346			MS	5	0.20	0.041	0.099
7439-97-6	MERCURY, TOTAL	0.019	J		CV	1	0.030	0.0046	0.015
7440-02-0	NICKEL, TOTAL	17.2			MS	5	0.20	0.026	0.12
7440-09-7	POTASSIUM, TOTAL	5950			MS	5	99	4.5	39
7782-49-2	SELENIUM, TOTAL	0.620			MS	5	0.49	0.038	0.30
7440-22-4	SILVER, TOTAL	0.0902	J		MS	5	0.099	0.0064	0.039
7440-23-5	SODIUM, TOTAL	182			MS	5	99	2.5	39
7440-28-0	THALLIUM, TOTAL	0.352			MS	5	0.099	0.0094	0.039
7440-62-2	VANADIUM, TOTAL	41.2			MS	5	0.49	0.11	0.39
7440-66-6	ZINC, TOTAL	53.1			MS	5	0.99	0.13	0.79

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** CHAAP-21B-DS-SB11-5

Matrix: SOIL **SDG Name:** SL4180

Percent Solids: 80.2 **Lab Sample ID:** SL4180-018

Concentration Units : mg/Kg drywt

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED LOQ	ADJUSTED MDL	ADJUSTED LOD
7429-90-5	ALUMINUM, TOTAL	19100		NA	MS	5	10	0.52	4.1
7440-36-0	ANTIMONY, TOTAL	0.244		N	MS	5	0.10	0.021	0.052
7440-38-2	ARSENIC, TOTAL	4.22			MS	5	0.52	0.15	0.41
7440-39-3	BARIUM, TOTAL	308		NA	MS	5	0.21	0.038	0.10
7440-41-7	BERYLLIUM, TOTAL	0.840			MS	5	0.10	0.0042	0.021
7440-43-9	CADMIUM, TOTAL	0.014	J		MS	5	0.10	0.0077	0.021
7440-70-2	CALCIUM, TOTAL	47300		NA	MS	5	10	3.9	8.2
7440-47-3	CHROMIUM, TOTAL	18.2			MS	5	0.52	0.051	0.41
7440-48-4	COBALT, TOTAL	7.40			MS	5	0.10	0.0057	0.031
7440-50-8	COPPER, TOTAL	12.3			MS	5	0.31	0.072	0.21
7439-89-6	IRON, TOTAL	16200		NEA	MS	5	10	2.5	6.2
7439-92-1	LEAD, TOTAL	10.3		A	MS	5	0.10	0.0072	0.052
7439-95-4	MAGNESIUM, TOTAL	9230		NEA	MS	5	10	1.4	8.2
7439-96-5	MANGANESE, TOTAL	280		NEA	MS	5	0.21	0.043	0.10
7439-97-6	MERCURY, TOTAL	0.024	J		CV	1	0.029	0.0045	0.015
7440-02-0	NICKEL, TOTAL	16.0		E	MS	5	0.21	0.027	0.12
7440-09-7	POTASSIUM, TOTAL	5080		N	MS	5	100	4.7	41
7782-49-2	SELENIUM, TOTAL	0.40	J		MS	5	0.52	0.040	0.31
7440-22-4	SILVER, TOTAL	0.0866	J		MS	5	0.10	0.0067	0.041
7440-23-5	SODIUM, TOTAL	1620			MS	5	100	2.6	41
7440-28-0	THALLIUM, TOTAL	0.304			MS	5	0.10	0.0098	0.041
7440-62-2	VANADIUM, TOTAL	38.8			MS	5	0.52	0.11	0.41
7440-66-6	ZINC, TOTAL	46.2		E	MS	5	1.0	0.13	0.82

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** CHAAP-21B-DS-SS10

Matrix: SOIL **SDG Name:** SL4180

Percent Solids: 69.5 **Lab Sample ID:** SL4180-019

Concentration Units : mg/Kg drywt

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED LOQ	ADJUSTED MDL	ADJUSTED LOD
7429-90-5	ALUMINUM, TOTAL	27600			MS	5	12	0.62	5.0
7440-36-0	ANTIMONY, TOTAL	0.295			MS	5	0.12	0.025	0.062
7440-38-2	ARSENIC, TOTAL	4.82			MS	5	0.62	0.19	0.50
7440-39-3	BARIUM, TOTAL	345			MS	5	0.25	0.045	0.12
7440-41-7	BERYLLIUM, TOTAL	1.19			MS	5	0.12	0.0050	0.025
7440-43-9	CADMIUM, TOTAL	0.131			MS	5	0.12	0.0093	0.025
7440-70-2	CALCIUM, TOTAL	3350			MS	5	12	4.7	9.9
7440-47-3	CHROMIUM, TOTAL	22.2			MS	5	0.62	0.061	0.50
7440-48-4	COBALT, TOTAL	8.27			MS	5	0.12	0.0068	0.037
7440-50-8	COPPER, TOTAL	14.2			MS	5	0.37	0.087	0.25
7439-89-6	IRON, TOTAL	21400			MS	5	12	3.0	7.4
7439-92-1	LEAD, TOTAL	15.7			MS	5	0.12	0.0087	0.062
7439-95-4	MAGNESIUM, TOTAL	6610			MS	5	12	1.7	9.9
7439-96-5	MANGANESE, TOTAL	326			MS	5	0.25	0.052	0.12
7439-97-6	MERCURY, TOTAL	0.024	J		CV	1	0.032	0.0050	0.016
7440-02-0	NICKEL, TOTAL	20.7			MS	5	0.25	0.033	0.15
7440-09-7	POTASSIUM, TOTAL	8000			MS	5	120	5.6	50
7782-49-2	SELENIUM, TOTAL	0.555	J		MS	5	0.62	0.048	0.37
7440-22-4	SILVER, TOTAL	0.100	J		MS	5	0.12	0.0081	0.050
7440-23-5	SODIUM, TOTAL	176			MS	5	120	3.2	50
7440-28-0	THALLIUM, TOTAL	0.363			MS	5	0.12	0.012	0.050
7440-62-2	VANADIUM, TOTAL	43.1			MS	5	0.62	0.14	0.50
7440-66-6	ZINC, TOTAL	65.6			MS	5	1.2	0.16	0.99

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** CHAAP-21B-DS-SB10-5

Matrix: SOIL **SDG Name:** SL4180

Percent Solids: 81.6 **Lab Sample ID:** SL4180-020

Concentration Units : mg/Kg drywt

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED LOQ	ADJUSTED MDL	ADJUSTED LOD
7429-90-5	ALUMINUM, TOTAL	18700			MS	5	12	0.60	4.8
7440-36-0	ANTIMONY, TOTAL	0.21			MS	5	0.12	0.024	0.060
7440-38-2	ARSENIC, TOTAL	4.45			MS	5	0.60	0.18	0.48
7440-39-3	BARIUM, TOTAL	527			MS	5	0.24	0.043	0.12
7440-41-7	BERYLLIUM, TOTAL	0.875			MS	5	0.12	0.0048	0.024
7440-43-9	CADMIUM, TOTAL	0.024	U		MS	5	0.12	0.0089	0.024
7440-70-2	CALCIUM, TOTAL	36900			MS	5	12	4.5	9.5
7440-47-3	CHROMIUM, TOTAL	19.1			MS	5	0.60	0.058	0.48
7440-48-4	COBALT, TOTAL	6.44			MS	5	0.12	0.0065	0.036
7440-50-8	COPPER, TOTAL	13.4			MS	5	0.36	0.083	0.24
7439-89-6	IRON, TOTAL	15700			MS	5	12	2.9	7.1
7439-92-1	LEAD, TOTAL	10.8			MS	5	0.12	0.0083	0.060
7439-95-4	MAGNESIUM, TOTAL	9980			MS	5	12	1.6	9.5
7439-96-5	MANGANESE, TOTAL	237			MS	5	0.24	0.050	0.12
7439-97-6	MERCURY, TOTAL	0.019	J		CV	1	0.032	0.0049	0.016
7440-02-0	NICKEL, TOTAL	15.4			MS	5	0.24	0.032	0.14
7440-09-7	POTASSIUM, TOTAL	5630			MS	5	120	5.4	48
7782-49-2	SELENIUM, TOTAL	0.504	J		MS	5	0.60	0.046	0.36
7440-22-4	SILVER, TOTAL	0.107	J		MS	5	0.12	0.0077	0.048
7440-23-5	SODIUM, TOTAL	530			MS	5	120	3.0	48
7440-28-0	THALLIUM, TOTAL	0.324			MS	5	0.12	0.011	0.048
7440-62-2	VANADIUM, TOTAL	35.7			MS	5	0.60	0.13	0.48
7440-66-6	ZINC, TOTAL	54.2			MS	5	1.2	0.15	0.95

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** CHAAP-21B-DS-SS04

Matrix: SOIL **SDG Name:** SL4180

Percent Solids: 73.6 **Lab Sample ID:** SL4180-021

Concentration Units : mg/Kg drywt

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED LOQ	ADJUSTED MDL	ADJUSTED LOD
7429-90-5	ALUMINUM, TOTAL	25800			MS	5	11	0.53	4.2
7440-36-0	ANTIMONY, TOTAL	0.265			MS	5	0.11	0.021	0.053
7440-38-2	ARSENIC, TOTAL	6.19			MS	5	0.53	0.16	0.42
7440-39-3	BARIUM, TOTAL	225			MS	5	0.21	0.039	0.11
7440-41-7	BERYLLIUM, TOTAL	1.26			MS	5	0.11	0.0043	0.021
7440-43-9	CADMIUM, TOTAL	0.029	J		MS	5	0.11	0.0080	0.021
7440-70-2	CALCIUM, TOTAL	3890			MS	5	11	4.0	8.5
7440-47-3	CHROMIUM, TOTAL	20.8			MS	5	0.53	0.052	0.42
7440-48-4	COBALT, TOTAL	8.76			MS	5	0.11	0.0058	0.032
7440-50-8	COPPER, TOTAL	15.8			MS	5	0.32	0.074	0.21
7439-89-6	IRON, TOTAL	20200			MS	5	11	2.5	6.4
7439-92-1	LEAD, TOTAL	15.7			MS	5	0.11	0.0074	0.053
7439-95-4	MAGNESIUM, TOTAL	9410			MS	5	11	1.4	8.5
7439-96-5	MANGANESE, TOTAL	205			MS	5	0.21	0.045	0.11
7439-97-6	MERCURY, TOTAL	0.022	J		CV	1	0.038	0.0059	0.019
7440-02-0	NICKEL, TOTAL	23.5			MS	5	0.21	0.028	0.13
7440-09-7	POTASSIUM, TOTAL	7880			MS	5	110	4.8	42
7782-49-2	SELENIUM, TOTAL	0.451	J		MS	5	0.53	0.041	0.32
7440-22-4	SILVER, TOTAL	0.0955	J		MS	5	0.11	0.0069	0.042
7440-23-5	SODIUM, TOTAL	275			MS	5	110	2.7	42
7440-28-0	THALLIUM, TOTAL	0.373			MS	5	0.11	0.010	0.042
7440-62-2	VANADIUM, TOTAL	36.3			MS	5	0.53	0.12	0.42
7440-66-6	ZINC, TOTAL	61.0			MS	5	1.1	0.14	0.85

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** CHAAP-21B-DS-SB04-5

Matrix: SOIL **SDG Name:** SL4180

Percent Solids: 73.6 **Lab Sample ID:** SL4180-022

Concentration Units : mg/Kg drywt

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED LOQ	ADJUSTED MDL	ADJUSTED LOD
7429-90-5	ALUMINUM, TOTAL	24700			MS	5	13	0.67	5.3
7440-36-0	ANTIMONY, TOTAL	0.19			MS	5	0.13	0.027	0.067
7440-38-2	ARSENIC, TOTAL	2.36			MS	5	0.67	0.20	0.53
7440-39-3	BARIUM, TOTAL	296			MS	5	0.27	0.049	0.13
7440-41-7	BERYLLIUM, TOTAL	1.11			MS	5	0.13	0.0054	0.027
7440-43-9	CADMIUM, TOTAL	0.265			MS	5	0.13	0.0100	0.027
7440-70-2	CALCIUM, TOTAL	25400			MS	5	13	5.1	11
7440-47-3	CHROMIUM, TOTAL	24.7			MS	5	0.67	0.065	0.53
7440-48-4	COBALT, TOTAL	10.4			MS	5	0.13	0.0073	0.040
7440-50-8	COPPER, TOTAL	17.9			MS	5	0.40	0.093	0.27
7439-89-6	IRON, TOTAL	21800			MS	5	13	3.2	8.0
7439-92-1	LEAD, TOTAL	16.5			MS	5	0.13	0.0093	0.067
7439-95-4	MAGNESIUM, TOTAL	10200			MS	5	13	1.8	11
7439-96-5	MANGANESE, TOTAL	803			MS	5	0.27	0.056	0.13
7439-97-6	MERCURY, TOTAL	0.018	J		CV	1	0.031	0.0048	0.016
7440-02-0	NICKEL, TOTAL	27.1			MS	5	0.27	0.035	0.16
7440-09-7	POTASSIUM, TOTAL	5170			MS	5	130	6.1	53
7782-49-2	SELENIUM, TOTAL	0.38	J		MS	5	0.67	0.052	0.40
7440-22-4	SILVER, TOTAL	0.087	J		MS	5	0.13	0.0087	0.053
7440-23-5	SODIUM, TOTAL	1410			MS	5	130	3.4	53
7440-28-0	THALLIUM, TOTAL	0.492			MS	5	0.13	0.013	0.053
7440-62-2	VANADIUM, TOTAL	45.0			MS	5	0.67	0.15	0.53
7440-66-6	ZINC, TOTAL	71.1			MS	5	1.3	0.17	1.1

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** CHAAP-21B-DS-SB04-10

Matrix: SOIL **SDG Name:** SL4180

Percent Solids: 77.8 **Lab Sample ID:** SL4180-023

Concentration Units : mg/Kg drywt

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED LOQ	MDL	LOD
7429-90-5	ALUMINUM, TOTAL	20200			MS	5	9.7	0.49	3.9
7440-36-0	ANTIMONY, TOTAL	0.18			MS	5	0.097	0.019	0.049
7440-38-2	ARSENIC, TOTAL	3.24			MS	5	0.49	0.15	0.39
7440-39-3	BARIUM, TOTAL	327			MS	5	0.19	0.036	0.097
7440-41-7	BERYLLIUM, TOTAL	0.906			MS	5	0.097	0.0039	0.019
7440-43-9	CADMIUM, TOTAL	0.153			MS	5	0.097	0.0073	0.019
7440-70-2	CALCIUM, TOTAL	15600			MS	5	9.7	3.7	7.8
7440-47-3	CHROMIUM, TOTAL	20.8			MS	5	0.49	0.048	0.39
7440-48-4	COBALT, TOTAL	18.8			MS	5	0.097	0.0054	0.029
7440-50-8	COPPER, TOTAL	15.1			MS	5	0.29	0.068	0.19
7439-89-6	IRON, TOTAL	18500			MS	5	9.7	2.3	5.8
7439-92-1	LEAD, TOTAL	15.2			MS	5	0.097	0.0068	0.049
7439-95-4	MAGNESIUM, TOTAL	9420			MS	5	9.7	1.3	7.8
7439-96-5	MANGANESE, TOTAL	728			MS	5	0.19	0.041	0.097
7439-97-6	MERCURY, TOTAL	0.017	J		CV	1	0.032	0.0050	0.016
7440-02-0	NICKEL, TOTAL	24.3			MS	5	0.19	0.026	0.12
7440-09-7	POTASSIUM, TOTAL	4990			MS	5	97	4.4	39
7782-49-2	SELENIUM, TOTAL	0.390	J		MS	5	0.49	0.038	0.29
7440-22-4	SILVER, TOTAL	0.0818	J		MS	5	0.097	0.0063	0.039
7440-23-5	SODIUM, TOTAL	1870			MS	5	97	2.5	39
7440-28-0	THALLIUM, TOTAL	0.360			MS	5	0.097	0.0093	0.039
7440-62-2	VANADIUM, TOTAL	38.3			MS	5	0.49	0.11	0.39
7440-66-6	ZINC, TOTAL	60.0			MS	5	0.97	0.13	0.78

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** CHAAP-21B-DS-SS03

Matrix: SOIL **SDG Name:** SL4180

Percent Solids: 80.7 **Lab Sample ID:** SL4180-024

Concentration Units : mg/Kg drywt

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED LOQ	ADJUSTED MDL	ADJUSTED LOD
7429-90-5	ALUMINUM, TOTAL	22400			MS	5	8.0	0.40	3.2
7440-36-0	ANTIMONY, TOTAL	0.240			MS	5	0.080	0.016	0.040
7440-38-2	ARSENIC, TOTAL	4.78			MS	5	0.40	0.12	0.32
7440-39-3	BARIUM, TOTAL	232			MS	5	0.16	0.029	0.080
7440-41-7	BERYLLIUM, TOTAL	1.06			MS	5	0.080	0.0032	0.016
7440-43-9	CADMIUM, TOTAL	0.043	J		MS	5	0.080	0.0060	0.016
7440-70-2	CALCIUM, TOTAL	10900			MS	5	8.0	3.0	6.4
7440-47-3	CHROMIUM, TOTAL	19.2			MS	5	0.40	0.039	0.32
7440-48-4	COBALT, TOTAL	7.62			MS	5	0.080	0.0044	0.024
7440-50-8	COPPER, TOTAL	13.7			MS	5	0.24	0.056	0.16
7439-89-6	IRON, TOTAL	17000			MS	5	8.0	1.9	4.8
7439-92-1	LEAD, TOTAL	17.4			MS	5	0.080	0.0056	0.040
7439-95-4	MAGNESIUM, TOTAL	8220			MS	5	8.0	1.1	6.4
7439-96-5	MANGANESE, TOTAL	260			MS	5	0.16	0.034	0.080
7439-97-6	MERCURY, TOTAL	0.022	J		CV	1	0.030	0.0047	0.015
7440-02-0	NICKEL, TOTAL	17.3			MS	5	0.16	0.021	0.096
7440-09-7	POTASSIUM, TOTAL	6480			MS	5	80	3.6	32
7782-49-2	SELENIUM, TOTAL	0.445			MS	5	0.40	0.031	0.24
7440-22-4	SILVER, TOTAL	0.0876			MS	5	0.080	0.0052	0.032
7440-23-5	SODIUM, TOTAL	268			MS	5	80	2.0	32
7440-28-0	THALLIUM, TOTAL	0.339			MS	5	0.080	0.0076	0.032
7440-62-2	VANADIUM, TOTAL	40.6			MS	5	0.40	0.088	0.32
7440-66-6	ZINC, TOTAL	53.1			MS	5	0.80	0.10	0.64

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** CHAAP-21B-DS-SS103

Matrix: SOIL **SDG Name:** SL4180

Percent Solids: 81.5 **Lab Sample ID:** SL4180-025

Concentration Units : mg/Kg drywt

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED LOQ	ADJUSTED MDL	ADJUSTED LOD
7429-90-5	ALUMINUM, TOTAL	21700			MS	5	8.3	0.41	3.3
7440-36-0	ANTIMONY, TOTAL	0.260			MS	5	0.083	0.017	0.041
7440-38-2	ARSENIC, TOTAL	4.61			MS	5	0.41	0.12	0.33
7440-39-3	BARIUM, TOTAL	329			MS	5	0.16	0.030	0.083
7440-41-7	BERYLLIUM, TOTAL	1.10			MS	5	0.083	0.0034	0.016
7440-43-9	CADMIUM, TOTAL	0.030	J		MS	5	0.083	0.0062	0.016
7440-70-2	CALCIUM, TOTAL	3930			MS	5	8.3	3.2	6.6
7440-47-3	CHROMIUM, TOTAL	18.5			MS	5	0.41	0.041	0.33
7440-48-4	COBALT, TOTAL	7.62			MS	5	0.083	0.0046	0.025
7440-50-8	COPPER, TOTAL	14.1			MS	5	0.25	0.058	0.16
7439-89-6	IRON, TOTAL	17000			MS	5	8.3	2.0	5.0
7439-92-1	LEAD, TOTAL	17.0			MS	5	0.083	0.0058	0.041
7439-95-4	MAGNESIUM, TOTAL	8600			MS	5	8.3	1.1	6.6
7439-96-5	MANGANESE, TOTAL	260			MS	5	0.16	0.035	0.083
7439-97-6	MERCURY, TOTAL	0.014	J		CV	1	0.039	0.0060	0.020
7440-02-0	NICKEL, TOTAL	18.2			MS	5	0.16	0.022	0.10
7440-09-7	POTASSIUM, TOTAL	6300			MS	5	83	3.8	33
7782-49-2	SELENIUM, TOTAL	0.389	J		MS	5	0.41	0.032	0.25
7440-22-4	SILVER, TOTAL	0.0942			MS	5	0.083	0.0054	0.033
7440-23-5	SODIUM, TOTAL	266			MS	5	83	2.1	33
7440-28-0	THALLIUM, TOTAL	0.358			MS	5	0.083	0.0079	0.033
7440-62-2	VANADIUM, TOTAL	37.0			MS	5	0.41	0.091	0.33
7440-66-6	ZINC, TOTAL	53.0			MS	5	0.83	0.11	0.66

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** CHAAP-21B-DS-SB03-5

Matrix: SOIL **SDG Name:** SL4180

Percent Solids: 77.9 **Lab Sample ID:** SL4180-026

Concentration Units : mg/Kg drywt

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED LOQ	ADJUSTED MDL	ADJUSTED LOD
7429-90-5	ALUMINUM, TOTAL	18000			MS	5	10	0.51	4.1
7440-36-0	ANTIMONY, TOTAL	0.242			MS	5	0.10	0.020	0.051
7440-38-2	ARSENIC, TOTAL	5.19			MS	5	0.51	0.15	0.41
7440-39-3	BARIUM, TOTAL	281			MS	5	0.20	0.037	0.10
7440-41-7	BERYLLIUM, TOTAL	0.861			MS	5	0.10	0.0041	0.020
7440-43-9	CADMIUM, TOTAL	0.186			MS	5	0.10	0.0076	0.020
7440-70-2	CALCIUM, TOTAL	21000			MS	5	10	3.9	8.1
7440-47-3	CHROMIUM, TOTAL	22.3			MS	5	0.51	0.050	0.41
7440-48-4	COBALT, TOTAL	9.05			MS	5	0.10	0.0056	0.030
7440-50-8	COPPER, TOTAL	20.8			MS	5	0.30	0.071	0.20
7439-89-6	IRON, TOTAL	22100			MS	5	10	2.4	6.1
7439-92-1	LEAD, TOTAL	12.4			MS	5	0.10	0.0071	0.051
7439-95-4	MAGNESIUM, TOTAL	8740			MS	5	10	1.4	8.1
7439-96-5	MANGANESE, TOTAL	466			MS	5	0.20	0.043	0.10
7439-97-6	MERCURY, TOTAL	0.023	J		CV	1	0.031	0.0048	0.016
7440-02-0	NICKEL, TOTAL	19.7			MS	5	0.20	0.027	0.12
7440-09-7	POTASSIUM, TOTAL	3920			MS	5	100	4.6	41
7782-49-2	SELENIUM, TOTAL	0.439	J		MS	5	0.51	0.040	0.30
7440-22-4	SILVER, TOTAL	0.0774	J		MS	5	0.10	0.0066	0.041
7440-23-5	SODIUM, TOTAL	1050			MS	5	100	2.6	41
7440-28-0	THALLIUM, TOTAL	0.305			MS	5	0.10	0.0097	0.041
7440-62-2	VANADIUM, TOTAL	41.5			MS	5	0.51	0.11	0.41
7440-66-6	ZINC, TOTAL	55.0			MS	5	1.0	0.13	0.81

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** CHAAP-21B-DS-SB03-10

Matrix: SOIL **SDG Name:** SL4180

Percent Solids: 72.9 **Lab Sample ID:** SL4180-027

Concentration Units : mg/Kg drywt

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED LOQ	ADJUSTED MDL	ADJUSTED LOD
7429-90-5	ALUMINUM, TOTAL	21700			MS	5	10	0.51	4.1
7440-36-0	ANTIMONY, TOTAL	0.17			MS	5	0.10	0.020	0.051
7440-38-2	ARSENIC, TOTAL	5.12			MS	5	0.51	0.15	0.41
7440-39-3	BARIUM, TOTAL	274			MS	5	0.20	0.037	0.10
7440-41-7	BERYLLIUM, TOTAL	1.01			MS	5	0.10	0.0041	0.020
7440-43-9	CADMIUM, TOTAL	0.147			MS	5	0.10	0.0076	0.020
7440-70-2	CALCIUM, TOTAL	14500			MS	5	10	3.9	8.1
7440-47-3	CHROMIUM, TOTAL	23.0			MS	5	0.51	0.050	0.41
7440-48-4	COBALT, TOTAL	11.1			MS	5	0.10	0.0056	0.030
7440-50-8	COPPER, TOTAL	15.9			MS	5	0.30	0.071	0.20
7439-89-6	IRON, TOTAL	21100			MS	5	10	2.4	6.1
7439-92-1	LEAD, TOTAL	11.6			MS	5	0.10	0.0071	0.051
7439-95-4	MAGNESIUM, TOTAL	9490			MS	5	10	1.4	8.1
7439-96-5	MANGANESE, TOTAL	335			MS	5	0.20	0.043	0.10
7439-97-6	MERCURY, TOTAL	0.019	J		CV	1	0.034	0.0053	0.017
7440-02-0	NICKEL, TOTAL	20.5			MS	5	0.20	0.027	0.12
7440-09-7	POTASSIUM, TOTAL	4420			MS	5	100	4.6	41
7782-49-2	SELENIUM, TOTAL	0.416	J		MS	5	0.51	0.040	0.30
7440-22-4	SILVER, TOTAL	0.0897	J		MS	5	0.10	0.0066	0.041
7440-23-5	SODIUM, TOTAL	773			MS	5	100	2.6	41
7440-28-0	THALLIUM, TOTAL	0.345			MS	5	0.10	0.0097	0.041
7440-62-2	VANADIUM, TOTAL	44.8			MS	5	0.51	0.11	0.41
7440-66-6	ZINC, TOTAL	66.4			MS	5	1.0	0.13	0.81

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** CHAAP-EB-051418

Matrix: WATER **SDG Name:** SL4180

Percent Solids: 0.00 **Lab Sample ID:** SL4180-029

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED LOQ	ADJUSTED MDL	ADJUSTED LOD
7429-90-5	ALUMINUM, TOTAL	18	J		MS	5	100	4.4	40
7440-36-0	ANTIMONY, TOTAL	0.45	J		MS	5	1.0	0.055	0.50
7440-38-2	ARSENIC, TOTAL	4.0	U		MS	5	5.0	2.3	4.0
7440-39-3	BARIUM, TOTAL	1.0	U		MS	5	2.0	0.27	1.0
7440-41-7	BERYLLIUM, TOTAL	0.20	U		MS	5	1.0	0.034	0.20
7440-43-9	CADMIUM, TOTAL	0.20	U		MS	5	1.0	0.029	0.20
7440-70-2	CALCIUM, TOTAL	52	J		MS	5	100	21	80
7440-47-3	CHROMIUM, TOTAL	0.95	J		MS	5	5.0	0.22	4.0
7440-48-4	COBALT, TOTAL	0.30	U		MS	5	1.0	0.060	0.30
7440-50-8	COPPER, TOTAL	0.89	J		MS	5	3.0	0.19	2.0
7439-89-6	IRON, TOTAL	48	J		MS	5	100	13	60
7439-92-1	LEAD, TOTAL	0.20	J		MS	5	1.0	0.075	0.50
7439-95-4	MAGNESIUM, TOTAL	15	J		MS	5	100	8.0	80
7439-96-5	MANGANESE, TOTAL	0.50	J		MS	5	2.0	0.35	1.0
7439-97-6	MERCURY, TOTAL	0.10	U		CV	1	0.20	0.013	0.10
7440-02-0	NICKEL, TOTAL	0.34	J		MS	5	2.0	0.15	1.2
7440-09-7	POTASSIUM, TOTAL	45	J		MS	5	1000	31	400
7782-49-2	SELENIUM, TOTAL	0.34	J		MS	5	5.0	0.19	3.0
7440-22-4	SILVER, TOTAL	0.40	U		MS	5	1.0	0.050	0.40
7440-23-5	SODIUM, TOTAL	38	J		MS	5	1000	19	400
7440-28-0	THALLIUM, TOTAL	0.40	U		MS	5	1.0	0.060	0.40
7440-62-2	VANADIUM, TOTAL	4.0	U		MS	5	5.0	0.50	4.0
7440-66-6	ZINC, TOTAL	8.0	U		MS	5	10	3.9	8.0

Comments:

QC Summary Section

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Concentration Units: ug/L

SAMPLE: ICV

File: HLE17A May 17, 2018 12:47

Analyte	True	Found	%R (1)
MERCURY	6.0	6.59	109.8

SAMPLE: CCV

File: HLE17A May 17, 2018 12:54

Analyte	True	Found	%R (1)
MERCURY	5.0	5.04	100.8

(1) Control Limits: Mercury 80-120; Other Metals 90-110

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Concentration Units: ug/L

SAMPLE: CCV

File: HLE17A May 17, 2018 13:17

Analyte	True	Found	%R (1)
MERCURY	5.0	5.05	101.0

SAMPLE: CCV

File: HLE17A May 17, 2018 13:43

Analyte	True	Found	%R (1)
MERCURY	5.0	5.16	103.2

(1) Control Limits: Mercury 80-120; Other Metals 90-110

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Concentration Units: ug/L

SAMPLE: ICV

File: HLE21A May 21, 2018 11:30

Analyte	True	Found	%R (1)
MERCURY	6.0	6.42	107.0

SAMPLE: CCV

File: HLE21A May 21, 2018 11:36

Analyte	True	Found	%R (1)
MERCURY	5.0	5.09	101.8

(1) Control Limits: Mercury 80-120; Other Metals 90-110

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Concentration Units: ug/L

SAMPLE: CCV

File: HLE21A May 21, 2018 12:00

Analyte	True	Found	%R (1)
MERCURY	5.0	5.12	102.4

SAMPLE: CCV

File: HLE21A May 21, 2018 12:25

Analyte	True	Found	%R (1)
MERCURY	5.0	5.03	100.6

(1) Control Limits: Mercury 80-120; Other Metals 90-110

FORM II (Part 1) - IN

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Concentration Units: ug/L

SAMPLE: CCV

File: HLE21A May 21, 2018 12:51

Analyte	True	Found	%R (1)
MERCURY	5.0	4.59	91.8

SAMPLE: CCV

File: HLE21A May 21, 2018 13:17

Analyte	True	Found	%R (1)
MERCURY	5.0	4.48	89.6

(1) Control Limits: Mercury 80-120; Other Metals 90-110

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Concentration Units: ug/L

SAMPLE: CCV

File: HLE21A May 21, 2018 13:45

Analyte	True	Found	%R (1)
MERCURY	5.0	4.50	90.0

SAMPLE: CCV

File: HLE21A May 21, 2018 14:11

Analyte	True	Found	%R (1)
MERCURY	5.0	4.50	90.0

(1) Control Limits: Mercury 80-120; Other Metals 90-110

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Concentration Units: ug/L

SAMPLE: CCV

File: HLE21A May 21, 2018 14:39

Analyte	True	Found	%R (1)
MERCURY	5.0	5.01	100.2

SAMPLE: CCV

File: HLE21A May 21, 2018 15:05

Analyte	True	Found	%R (1)
MERCURY	5.0	4.84	96.8

(1) Control Limits: Mercury 80-120; Other Metals 90-110

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Concentration Units: ug/L

SAMPLE: CCV

File: HLE21A May 21, 2018 15:16

Analyte	True	Found	%R (1)
MERCURY	5.0	4.71	94.2

(1) Control Limits: Mercury 80-120; Other Metals 90-110

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Concentration Units: ug/L

SAMPLE: ICV

File: JLE21C May 21, 2018 18:41

Analyte	True	Found	%R (1)
ALUMINUM	400.0	391.90	98.0
ANTIMONY	20.0	19.69	98.5
ARSENIC	20.0	19.57	97.9
BARIUM	20.0	19.33	96.6
BERYLLIUM	20.0	19.86	99.3
CADMIUM	20.0	20.18	100.9
CALCIUM	4000.0	4049.00	101.2
CHROMIUM	20.0	19.28	96.4
COBALT	20.0	19.75	98.8
IRON	4000.0	3974.00	99.4
LEAD	20.0	19.60	98.0
MAGNESIUM	4000.0	3971.00	99.3
MANGANESE	20.0	19.39	97.0
MOLYBDENUM	40.0	38.50	96.3
NICKEL	20.0	20.22	101.1
POTASSIUM	4000.0	3960.00	99.0
SILVER	20.0	20.19	101.0
SODIUM	4000.0	3949.00	98.7
THALLIUM	20.0	20.16	100.8
VANADIUM	20.0	19.25	96.3
ZINC	20.0	20.04	100.2

SAMPLE: CCV

File: JLE21C May 21, 2018 19:27

Analyte	True	Found	%R (1)
ALUMINUM	500.0	488.40	97.7
ANTIMONY	25.0	25.14	100.6
ARSENIC	25.0	24.81	99.2
BARIUM	25.0	24.98	99.9
BERYLLIUM	25.0	25.58	102.3
CADMIUM	25.0	25.63	102.5
CALCIUM	5000.0	5073.00	101.5
CHROMIUM	25.0	24.38	97.5
COBALT	25.0	25.02	100.1
IRON	5000.0	4926.00	98.5
LEAD	25.0	24.87	99.5
MAGNESIUM	5000.0	4955.00	99.1
MANGANESE	25.0	24.58	98.3
MOLYBDENUM	25.0	25.09	100.4
NICKEL	25.0	25.38	101.5
POTASSIUM	5000.0	4868.00	97.4
SILVER	25.0	25.91	103.6
SODIUM	5000.0	4836.00	96.7
THALLIUM	25.0	25.00	100.0
VANADIUM	25.0	24.44	97.8
ZINC	25.0	25.29	101.2

(1) Control Limits: Mercury 80-120; Other Metals 90-110

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Concentration Units: ug/L

SAMPLE: CCV

File: JLE21C May 21, 2018 20:17

Analyte	True	Found	%R (1)
ALUMINUM	500.0	490.70	98.1
ANTIMONY	25.0	24.67	98.7
ARSENIC	25.0	24.72	98.9
BARIUM	25.0	24.76	99.0
BERYLLIUM	25.0	25.39	101.6
CADMIUM	25.0	26.46	105.8
CALCIUM	5000.0	5054.00	101.1
CHROMIUM	25.0	24.22	96.9
COBALT	25.0	24.79	99.2
IRON	5000.0	4889.00	97.8
LEAD	25.0	24.92	99.7
MAGNESIUM	5000.0	4915.00	98.3
MANGANESE	25.0	24.36	97.4
MOLYBDENUM	25.0	25.51	102.0
NICKEL	25.0	25.51	102.0
POTASSIUM	5000.0	5009.00	100.2
SILVER	25.0	26.40	105.6
SODIUM	5000.0	4868.00	97.4
THALLIUM	25.0	24.88	99.5
VANADIUM	25.0	23.85	95.4
ZINC	25.0	25.35	101.4

SAMPLE: CCV

File: JLE21C May 21, 2018 21:07

Analyte	True	Found	%R (1)
ALUMINUM	500.0	499.70	99.9
ANTIMONY	25.0	25.54	102.2
ARSENIC	25.0	25.31	101.2
BARIUM	25.0	25.05	100.2
BERYLLIUM	25.0	25.12	100.5
CADMIUM	25.0	25.47	101.9
CALCIUM	5000.0	5135.00	102.7
CHROMIUM	25.0	25.17	100.7
COBALT	25.0	25.31	101.2
IRON	5000.0	5062.00	101.2
LEAD	25.0	25.14	100.6
MAGNESIUM	5000.0	5025.00	100.5
MANGANESE	25.0	25.34	101.4
MOLYBDENUM	25.0	24.85	99.4
NICKEL	25.0	25.69	102.8
POTASSIUM	5000.0	4936.00	98.7
SILVER	25.0	25.50	102.0
SODIUM	5000.0	4980.00	99.6
THALLIUM	25.0	25.27	101.1
VANADIUM	25.0	25.13	100.5
ZINC	25.0	25.52	102.1

(1) Control Limits: Mercury 80-120; Other Metals 90-110

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Concentration Units: ug/L

SAMPLE: CCV

File: JLE21C May 21, 2018 21:58

Analyte	True	Found	%R (1)
ALUMINUM	500.0	498.30	99.7
ANTIMONY	25.0	25.61	102.4
ARSENIC	25.0	24.99	100.0
BARIUM	25.0	25.41	101.6
BERYLLIUM	25.0	25.20	100.8
CADMIUM	25.0	24.60	98.4
CALCIUM	5000.0	5087.00	101.7
CHROMIUM	25.0	25.31	101.2
COBALT	25.0	25.30	101.2
IRON	5000.0	5050.00	101.0
LEAD	25.0	24.81	99.2
MAGNESIUM	5000.0	5064.00	101.3
MANGANESE	25.0	25.40	101.6
MOLYBDENUM	25.0	24.28	97.1
NICKEL	25.0	25.51	102.0
POTASSIUM	5000.0	4979.00	99.6
SILVER	25.0	24.82	99.3
SODIUM	5000.0	5059.00	101.2
THALLIUM	25.0	24.73	98.9
VANADIUM	25.0	25.00	100.0
ZINC	25.0	25.07	100.3

SAMPLE: CCV

File: JLE21C May 21, 2018 22:49

Analyte	True	Found	%R (1)
ALUMINUM	500.0	509.50	101.9
ANTIMONY	25.0	25.53	102.1
ARSENIC	25.0	25.51	102.0
BARIUM	25.0	25.36	101.4
BERYLLIUM	25.0	25.25	101.0
CADMIUM	25.0	24.60	98.4
CALCIUM	5000.0	5152.00	103.0
CHROMIUM	25.0	25.55	102.2
COBALT	25.0	25.60	102.4
IRON	5000.0	5092.00	101.8
LEAD	25.0	24.95	99.8
MAGNESIUM	5000.0	5148.00	103.0
MANGANESE	25.0	25.73	102.9
MOLYBDENUM	25.0	24.47	97.9
NICKEL	25.0	26.04	104.2
POTASSIUM	5000.0	4929.00	98.6
SILVER	25.0	24.83	99.3
SODIUM	5000.0	5011.00	100.2
THALLIUM	25.0	25.14	100.6
VANADIUM	25.0	25.46	101.8
ZINC	25.0	25.28	101.1

(1) Control Limits: Mercury 80-120; Other Metals 90-110

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Concentration Units: ug/L

SAMPLE: CCV

File: JLE21C May 21, 2018 23:41

Analyte	True	Found	%R (1)
ALUMINUM	500.0	512.70	102.5
ANTIMONY	25.0	26.14	104.6
ARSENIC	25.0	25.37	101.5
BARIUM	25.0	26.01	104.0
BERYLLIUM	25.0	24.65	98.6
CADMIUM	25.0	23.91	95.6
CALCIUM	5000.0	5128.00	102.6
CHROMIUM	25.0	26.08	104.3
COBALT	25.0	25.89	103.6
IRON	5000.0	5176.00	103.5
LEAD	25.0	25.01	100.0
MAGNESIUM	5000.0	5037.00	100.7
MANGANESE	25.0	26.20	104.8
MOLYBDENUM	25.0	24.08	96.3
NICKEL	25.0	26.17	104.7
POTASSIUM	5000.0	4931.00	98.6
SILVER	25.0	24.32	97.3
SODIUM	5000.0	5010.00	100.2
THALLIUM	25.0	24.92	99.7
VANADIUM	25.0	26.13	104.5
ZINC	25.0	26.17	104.7

SAMPLE: CCV

File: JLE21C May 22, 2018 0:33

Analyte	True	Found	%R (1)
ALUMINUM	500.0	509.30	101.9
ANTIMONY	25.0	26.17	104.7
ARSENIC	25.0	25.27	101.1
BARIUM	25.0	26.06	104.2
BERYLLIUM	25.0	23.66	94.6
CADMIUM	25.0	23.13	92.5
CALCIUM	5000.0	5065.00	101.3
CHROMIUM	25.0	26.35	105.4
COBALT	25.0	26.07	104.3
IRON	5000.0	5192.00	103.8
LEAD	25.0	24.80	99.2
MAGNESIUM	5000.0	5085.00	101.7
MANGANESE	25.0	26.14	104.6
MOLYBDENUM	25.0	23.57	94.3
NICKEL	25.0	26.19	104.8
POTASSIUM	5000.0	4884.00	97.7
SILVER	25.0	23.42	93.7
SODIUM	5000.0	5061.00	101.2
THALLIUM	25.0	24.91	99.6
VANADIUM	25.0	26.25	105.0
ZINC	25.0	25.84	103.4

(1) Control Limits: Mercury 80-120; Other Metals 90-110

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Concentration Units: ug/L

SAMPLE: CCV

File: JLE21C May 22, 2018 1:25

Analyte	True	Found	%R (1)
ALUMINUM	500.0	507.50	101.5
ANTIMONY	25.0	26.34	105.4
ARSENIC	25.0	25.43	101.7
BARIUM	25.0	25.97	103.9
BERYLLIUM	25.0	23.85	95.4
CADMIUM	25.0	22.86	91.4
CALCIUM	5000.0	5129.00	102.6
CHROMIUM	25.0	26.94	107.8
COBALT	25.0	26.34	105.4
IRON	5000.0	5344.00	106.9
LEAD	25.0	24.82	99.3
MAGNESIUM	5000.0	5146.00	102.9
MANGANESE	25.0	26.59	106.4
MOLYBDENUM	25.0	23.43	93.7
NICKEL	25.0	26.53	106.1
POTASSIUM	5000.0	4932.00	98.6
SILVER	25.0	23.40	93.6
SODIUM	5000.0	5143.00	102.9
THALLIUM	25.0	25.02	100.1
VANADIUM	25.0	26.42	105.7
ZINC	25.0	26.32	105.3

SAMPLE: CCV

File: JLE21C May 22, 2018 2:17

Analyte	True	Found	%R (1)
ALUMINUM	500.0	528.10	105.6
ANTIMONY	25.0	27.04	108.2
ARSENIC	25.0	26.01	104.0
BARIUM	25.0	26.50	106.0
BERYLLIUM	25.0	24.11	96.4
CADMIUM	25.0	23.61	94.4
CALCIUM	5000.0	5273.00	105.5
CHROMIUM	25.0	26.96	107.8
COBALT	25.0	26.69	106.8
IRON	5000.0	5380.00	107.6
LEAD	25.0	25.33	101.3
MAGNESIUM	5000.0	5350.00	107.0
MANGANESE	25.0	26.91	107.6
MOLYBDENUM	25.0	24.12	96.5
NICKEL	25.0	27.04	108.2
POTASSIUM	5000.0	5000.00	100.0
SILVER	25.0	24.03	96.1
SODIUM	5000.0	5233.00	104.7
THALLIUM	25.0	25.22	100.9
VANADIUM	25.0	27.03	108.1
ZINC	25.0	26.61	106.4

(1) Control Limits: Mercury 80-120; Other Metals 90-110

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Concentration Units: ug/L

SAMPLE: CCV

File: JLE21C May 22, 2018 3:09

Analyte	True	Found	%R (1)
ALUMINUM	500.0	469.80	94.0
ANTIMONY	25.0	23.33	93.3
ARSENIC	25.0	24.32	97.3
BARIUM	25.0	23.50	94.0
BERYLLIUM	25.0	24.51	98.0
CADMIUM	25.0	29.36	117.4•
CALCIUM	5000.0	5073.00	101.5
CHROMIUM	25.0	23.63	94.5
COBALT	25.0	24.98	99.9
IRON	5000.0	4975.00	99.5
LEAD	25.0	25.15	100.6
MAGNESIUM	5000.0	4643.00	92.9
MANGANESE	25.0	24.79	99.2
MOLYBDENUM	25.0	28.73	114.9•
NICKEL	25.0	25.43	101.7
POTASSIUM	5000.0	4986.00	99.7
SILVER	25.0	29.79	119.2•
SODIUM	5000.0	4583.00	91.7
THALLIUM	25.0	24.85	99.4
VANADIUM	25.0	23.45	93.8
ZINC	25.0	26.29	105.2

(1) Control Limits: Mercury 80-120; Other Metals 90-110

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Concentration Units: ug/L

SAMPLE: ICV

File: JLE22A May 22, 2018 14:43

Analyte	True	Found	%R (1)
ALUMINUM	400.0	407.00	101.8
ARSENIC	20.0	19.46	97.3
BERYLLIUM	20.0	19.27	96.4
CADMIUM	20.0	19.67	98.4
CALCIUM	4000.0	3991.00	99.8
CHROMIUM	20.0	19.09	95.5
COBALT	20.0	19.83	99.1
COPPER	20.0	19.40	97.0
IRON	4000.0	3861.00	96.5
MAGNESIUM	4000.0	4026.00	100.6
MANGANESE	20.0	19.70	98.5
MOLYBDENUM	40.0	38.67	96.7
NICKEL	20.0	19.82	99.1
POTASSIUM	4000.0	3941.00	98.5
SELENIUM	20.0	19.79	98.9
SILVER	20.0	19.66	98.3
SODIUM	4000.0	3901.00	97.5
VANADIUM	20.0	19.35	96.8
ZINC	20.0	19.83	99.1

SAMPLE: CCV

File: JLE22A May 22, 2018 15:23

Analyte	True	Found	%R (1)
ALUMINUM	500.0	499.70	99.9
ARSENIC	25.0	24.73	98.9
BERYLLIUM	25.0	25.08	100.3
CADMIUM	25.0	24.64	98.6
CALCIUM	5000.0	4984.00	99.7
CHROMIUM	25.0	24.42	97.7
COBALT	25.0	24.78	99.1
COPPER	25.0	24.80	99.2
IRON	5000.0	4903.00	98.1
MAGNESIUM	5000.0	5075.00	101.5
MANGANESE	25.0	24.87	99.5
MOLYBDENUM	25.0	24.71	98.8
NICKEL	25.0	24.92	99.7
POTASSIUM	5000.0	4827.00	96.5
SELENIUM	25.0	25.03	100.1
SILVER	25.0	24.45	97.8
SODIUM	5000.0	4978.00	99.6
VANADIUM	25.0	24.79	99.2
ZINC	25.0	24.68	98.7

(1) Control Limits: Mercury 80-120; Other Metals 90-110

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Concentration Units: ug/L

SAMPLE: CCV

File: JLE22A May 22, 2018 16:08

Analyte	True	Found	%R (1)
ALUMINUM	500.0	510.60	102.1
ARSENIC	25.0	24.74	99.0
BERYLLIUM	25.0	25.29	101.2
CADMIUM	25.0	25.97	103.9
CALCIUM	5000.0	4998.00	100.0
CHROMIUM	25.0	24.44	97.8
COBALT	25.0	25.03	100.1
COPPER	25.0	24.83	99.3
IRON	5000.0	4906.00	98.1
MAGNESIUM	5000.0	5122.00	102.4
MANGANESE	25.0	24.93	99.7
MOLYBDENUM	25.0	25.50	102.0
NICKEL	25.0	25.26	101.0
POTASSIUM	5000.0	4920.00	98.4
SELENIUM	25.0	25.20	100.8
SILVER	25.0	25.51	102.0
SODIUM	5000.0	4955.00	99.1
VANADIUM	25.0	24.82	99.3
ZINC	25.0	25.41	101.6

SAMPLE: CCV

File: JLE22A May 22, 2018 16:55

Analyte	True	Found	%R (1)
ALUMINUM	500.0	510.00	102.0
ARSENIC	25.0	24.90	99.6
BERYLLIUM	25.0	24.73	98.9
CADMIUM	25.0	25.97	103.9
CALCIUM	5000.0	5016.00	100.3
CHROMIUM	25.0	24.60	98.4
COBALT	25.0	25.10	100.4
COPPER	25.0	24.79	99.2
IRON	5000.0	4932.00	98.6
MAGNESIUM	5000.0	5180.00	103.6
MANGANESE	25.0	24.99	100.0
MOLYBDENUM	25.0	25.04	100.2
NICKEL	25.0	25.36	101.4
POTASSIUM	5000.0	4980.00	99.6
SELENIUM	25.0	25.38	101.5
SILVER	25.0	25.44	101.8
SODIUM	5000.0	5142.00	102.8
VANADIUM	25.0	24.70	98.8
ZINC	25.0	25.38	101.5

(1) Control Limits: Mercury 80-120; Other Metals 90-110

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Concentration Units: ug/L

SAMPLE: CCV

File: JLE22A May 22, 2018 17:43

Analyte	True	Found	%R (1)
ALUMINUM	500.0	510.70	102.1
ARSENIC	25.0	24.92	99.7
BERYLLIUM	25.0	25.47	101.9
CADMIUM	25.0	25.68	102.7
CALCIUM	5000.0	5038.00	100.8
CHROMIUM	25.0	24.72	98.9
COBALT	25.0	25.35	101.4
COPPER	25.0	24.86	99.4
IRON	5000.0	4916.00	98.3
MAGNESIUM	5000.0	5182.00	103.6
MANGANESE	25.0	25.08	100.3
MOLYBDENUM	25.0	25.09	100.4
NICKEL	25.0	25.34	101.4
POTASSIUM	5000.0	4872.00	97.4
SELENIUM	25.0	25.24	101.0
SILVER	25.0	25.31	101.2
SODIUM	5000.0	5022.00	100.4
VANADIUM	25.0	24.93	99.7
ZINC	25.0	25.28	101.1

SAMPLE: CCV

File: JLE22A May 22, 2018 18:33

Analyte	True	Found	%R (1)
ALUMINUM	500.0	500.50	100.1
ARSENIC	25.0	25.12	100.5
BERYLLIUM	25.0	25.08	100.3
CADMIUM	25.0	24.10	96.4
CALCIUM	5000.0	4998.00	100.0
CHROMIUM	25.0	24.84	99.4
COBALT	25.0	25.13	100.5
COPPER	25.0	25.05	100.2
IRON	5000.0	5071.00	101.4
MAGNESIUM	5000.0	5074.00	101.5
MANGANESE	25.0	25.41	101.6
MOLYBDENUM	25.0	24.32	97.3
NICKEL	25.0	25.29	101.2
POTASSIUM	5000.0	4918.00	98.4
SELENIUM	25.0	25.48	101.9
SILVER	25.0	24.23	96.9
SODIUM	5000.0	4944.00	98.9
VANADIUM	25.0	25.54	102.2
ZINC	25.0	24.84	99.4

(1) Control Limits: Mercury 80-120; Other Metals 90-110

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Concentration Units: ug/L

SAMPLE: CCV

File: JLE22A May 22, 2018 19:24

Analyte	True	Found	%R (1)
ALUMINUM	500.0	493.60	98.7
ARSENIC	25.0	25.10	100.4
BERYLLIUM	25.0	24.49	98.0
CADMIUM	25.0	23.87	95.5
CALCIUM	5000.0	5027.00	100.5
CHROMIUM	25.0	24.99	100.0
COBALT	25.0	25.04	100.2
COPPER	25.0	25.19	100.8
IRON	5000.0	4954.00	99.1
MAGNESIUM	5000.0	5055.00	101.1
MANGANESE	25.0	25.47	101.9
MOLYBDENUM	25.0	24.13	96.5
NICKEL	25.0	25.20	100.8
POTASSIUM	5000.0	4954.00	99.1
SELENIUM	25.0	25.72	102.9
SILVER	25.0	23.69	94.8
SODIUM	5000.0	5097.00	101.9
VANADIUM	25.0	25.42	101.7
ZINC	25.0	25.04	100.2

SAMPLE: CCV

File: JLE22A May 22, 2018 20:15

Analyte	True	Found	%R (1)
ALUMINUM	500.0	508.70	101.7
ARSENIC	25.0	25.29	101.2
BERYLLIUM	25.0	24.04	96.2
CADMIUM	25.0	24.84	99.4
CALCIUM	5000.0	5028.00	100.6
CHROMIUM	25.0	25.20	100.8
COBALT	25.0	25.28	101.1
COPPER	25.0	25.10	100.4
IRON	5000.0	5037.00	100.7
MAGNESIUM	5000.0	5124.00	102.5
MANGANESE	25.0	25.50	102.0
MOLYBDENUM	25.0	24.65	98.6
NICKEL	25.0	25.51	102.0
POTASSIUM	5000.0	5037.00	100.7
SELENIUM	25.0	25.09	100.4
SILVER	25.0	24.77	99.1
SODIUM	5000.0	5070.00	101.4
VANADIUM	25.0	25.46	101.8
ZINC	25.0	25.18	100.7

(1) Control Limits: Mercury 80-120; Other Metals 90-110

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Concentration Units: ug/L

SAMPLE: CCV

File: JLE22A May 22, 2018 21:06

Analyte	True	Found	%R (1)
ALUMINUM	500.0	502.80	100.6
ARSENIC	25.0	25.31	101.2
BERYLLIUM	25.0	24.37	97.5
CADMIUM	25.0	23.60	94.4
CALCIUM	5000.0	5089.00	101.8
CHROMIUM	25.0	25.51	102.0
COBALT	25.0	25.33	101.3
COPPER	25.0	25.11	100.4
IRON	5000.0	5106.00	102.1
MAGNESIUM	5000.0	5128.00	102.6
MANGANESE	25.0	25.62	102.5
MOLYBDENUM	25.0	23.93	95.7
NICKEL	25.0	25.40	101.6
POTASSIUM	5000.0	4976.00	99.5
SELENIUM	25.0	25.14	100.6
SILVER	25.0	23.65	94.6
SODIUM	5000.0	5126.00	102.5
VANADIUM	25.0	25.81	103.2
ZINC	25.0	25.33	101.3

SAMPLE: CCV

File: JLE22A May 22, 2018 21:57

Analyte	True	Found	%R (1)
ALUMINUM	500.0	513.90	102.8
ARSENIC	25.0	25.38	101.5
BERYLLIUM	25.0	24.36	97.4
CADMIUM	25.0	23.93	95.7
CALCIUM	5000.0	5067.00	101.3
CHROMIUM	25.0	25.68	102.7
COBALT	25.0	25.60	102.4
COPPER	25.0	25.38	101.5
IRON	5000.0	5128.00	102.6
MAGNESIUM	5000.0	5283.00	105.7
MANGANESE	25.0	25.80	103.2
MOLYBDENUM	25.0	24.45	97.8
NICKEL	25.0	25.66	102.6
POTASSIUM	5000.0	4965.00	99.3
SELENIUM	25.0	25.25	101.0
SILVER	25.0	23.93	95.7
SODIUM	5000.0	5239.00	104.8
VANADIUM	25.0	26.16	104.6
ZINC	25.0	25.02	100.1

(1) Control Limits: Mercury 80-120; Other Metals 90-110

2C

PQL STANDARD FOR AA AND ICP

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Concentration Units: ug/L

SAMPLE: PQL

File: HLE17A May 17, 2018 12:51

Analyte	TRUE	FOUND	% R
MERCURY	0.2	0.22	110.0

2C

PQL STANDARD FOR AA AND ICP

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Concentration Units: ug/L

SAMPLE: PQL

File: HLE21A May 21, 2018 11:34

Analyte	TRUE	FOUND	% R
MERCURY	0.2	0.18	90.0

PQL STANDARD FOR AA AND ICP

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Concentration Units: ug/L

SAMPLE: PQL

File: JLE21C May 21, 2018 18:49

Analyte	TRUE	FOUND	% R
ALUMINUM	20.0	20.29	101.4
ANTIMONY	0.2	0.20	100.0
ARSENIC	1.0	0.89	89.0
BARIUM	0.4	0.41	102.5
BERYLLIUM	0.2	0.21	105.0
CADMIUM	0.2	0.22	110.0
CALCIUM	20.0	21.36	106.8
CHROMIUM	1.0	0.90	90.0
COBALT	0.2	0.21	105.0
IRON	20.0	19.82	99.1
LEAD	0.2	0.20	100.0
MAGNESIUM	20.0	20.11	100.6
MANGANESE	0.4	0.41	102.5
MOLYBDENUM	1.0	1.01	101.0
NICKEL	0.4	0.41	102.5
POTASSIUM	200.0	199.40	99.7
SILVER	0.2	0.21	105.0
SODIUM	200.0	204.90	102.5
THALLIUM	0.2	0.19	95.0
VANADIUM	1.0	0.98	98.0
ZINC	2.0	2.08	104.0

PQL STANDARD FOR AA AND ICP

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Concentration Units: ug/L

SAMPLE: PQL

File: JLE22A May 22, 2018 14:50

Analyte	TRUE	FOUND	% R
ALUMINUM	20.0	20.02	100.1
ARSENIC	1.0	0.93	93.0
BERYLLIUM	0.2	0.19	95.0
CADMIUM	0.2	0.21	105.0
CALCIUM	20.0	19.99	99.9
CHROMIUM	1.0	0.96	96.0
COBALT	0.2	0.21	105.0
COPPER	0.6	0.58	96.7
IRON	20.0	17.32	86.6
MAGNESIUM	20.0	19.91	99.6
MANGANESE	0.4	0.40	100.0
MOLYBDENUM	1.0	1.02	102.0
NICKEL	0.4	0.40	100.0
POTASSIUM	200.0	199.90	100.0
SELENIUM	1.0	0.97	97.0
SILVER	0.2	0.20	100.0
SODIUM	200.0	211.30	105.7
VANADIUM	1.0	1.04	104.0
ZINC	2.0	2.00	100.0

INITIAL AND CONTINUING CALIBRATION BLANKS

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Concentration Units: ug/L

SAMPLE: ICB

File: HLE17A May 17, 2018 12:49

Analyte	Result	C
MERCURY	0.025	U

SAMPLE: CCB

File: HLE17A May 17, 2018 12:56

Analyte	Result	C
MERCURY	0.025	U

SAMPLE: CCB

File: HLE17A May 17, 2018 13:19

Analyte	Result	C
MERCURY	-0.028	U

INITIAL AND CONTINUING CALIBRATION BLANKS

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Concentration Units: ug/L

SAMPLE: CCB

File: HLE17A May 17, 2018 13:46

Analyte	Result	C
MERCURY	0.025	U

3A

INITIAL AND CONTINUING CALIBRATION BLANKS

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Concentration Units: ug/L

SAMPLE: ICB

File: HLE21A May 21, 2018 11:32

Analyte	Result	C
MERCURY	-0.029	U

SAMPLE: CCB

File: HLE21A May 21, 2018 11:38

Analyte	Result	C
MERCURY	-0.033	U

SAMPLE: CCB

File: HLE21A May 21, 2018 12:02

Analyte	Result	C
MERCURY	-0.030	U

INITIAL AND CONTINUING CALIBRATION BLANKS

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Concentration Units: ug/L

SAMPLE: CCB
File: HLE21A May 21, 2018 12:27

Analyte	Result	C
MERCURY	0.025	U

SAMPLE: CCB
File: HLE21A May 21, 2018 12:53

Analyte	Result	C
MERCURY	-0.027	U

SAMPLE: CCB
File: HLE21A May 21, 2018 13:19

Analyte	Result	C
MERCURY	-0.028	U

3A

INITIAL AND CONTINUING CALIBRATION BLANKS

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Concentration Units: ug/L

SAMPLE: CCB

File: HLE21A May 21, 2018 13:47

Analyte	Result	C
MERCURY	-0.027	U

SAMPLE: CCB

File: HLE21A May 21, 2018 14:13

Analyte	Result	C
MERCURY	0.025	U

SAMPLE: CCB

File: HLE21A May 21, 2018 14:41

Analyte	Result	C
MERCURY	-0.033	U

3A

INITIAL AND CONTINUING CALIBRATION BLANKS

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Concentration Units: ug/L

SAMPLE: CCB

File: HLE21A May 21, 2018 15:07

Analyte	Result	C
MERCURY	-0.033	U

SAMPLE: CCB

File: HLE21A May 21, 2018 15:18

Analyte	Result	C
MERCURY	-0.028	U

INITIAL AND CONTINUING CALIBRATION BLANKS

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Concentration Units: ug/L

SAMPLE: ICB
File: JLE21C May 21, 2018 18:45

Analyte	Result	C
ALUMINUM	1.900	U
ANTIMONY	0.006	U
ARSENIC	0.180	U
BARIUM	0.075	U
BERYLLIUM	0.005	J
CADMIUM	0.007	U
CALCIUM	5.300	U
CHROMIUM	-0.098	U
COBALT	0.006	U
IRON	4.300	U
LEAD	0.010	U
MAGNESIUM	1.300	U
MANGANESE	0.021	U
MOLYBDENUM	0.037	J
NICKEL	0.018	U
POTASSIUM	7.900	U
SILVER	0.003	J
SODIUM	4.400	U
THALLIUM	0.008	U
VANADIUM	0.063	U
ZINC	0.270	U

SAMPLE: CCB
File: JLE21C May 21, 2018 19:31

Analyte	Result	C
ALUMINUM	1.900	U
ANTIMONY	0.021	J
ARSENIC	0.180	U
BARIUM	0.075	U
BERYLLIUM	0.004	U
CADMIUM	0.007	J
CALCIUM	5.300	U
CHROMIUM	-0.089	U
COBALT	0.006	U
IRON	4.300	U
LEAD	0.010	U
MAGNESIUM	1.331	J
MANGANESE	0.031	J
MOLYBDENUM	0.037	J
NICKEL	0.023	J
POTASSIUM	7.900	U
SILVER	0.003	U
SODIUM	4.400	U
THALLIUM	0.008	U
VANADIUM	0.063	U
ZINC	0.270	U

SAMPLE: CCB
File: JLE21C May 21, 2018 20:21

Analyte	Result	C
ALUMINUM	1.900	U
ANTIMONY	0.018	J
ARSENIC	0.180	U
BARIUM	0.075	U
BERYLLIUM	0.004	U
CADMIUM	0.007	U
CALCIUM	5.300	U
CHROMIUM	-0.081	U
COBALT	0.006	U
IRON	4.300	U
LEAD	0.010	U
MAGNESIUM	1.300	U
MANGANESE	0.021	U
MOLYBDENUM	0.034	U
NICKEL	0.019	J
POTASSIUM	7.900	U
SILVER	0.003	U
SODIUM	4.400	U
THALLIUM	0.008	U
VANADIUM	0.063	U
ZINC	0.270	U

INITIAL AND CONTINUING CALIBRATION BLANKS

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Concentration Units: ug/L

SAMPLE: CCB
File: JLE21C May 21, 2018 21:12

Analyte	Result	C
ALUMINUM	1.900	U
ANTIMONY	0.016	J
ARSENIC	0.180	U
BARIUM	0.075	U
BERYLLIUM	0.004	U
CADMIUM	0.007	U
CALCIUM	5.300	U
CHROMIUM	0.062	U
COBALT	0.007	J
IRON	4.347	J
LEAD	0.010	U
MAGNESIUM	1.300	U
MANGANESE	0.034	J
MOLYBDENUM	0.034	U
NICKEL	0.020	J
POTASSIUM	11.090	J
SILVER	0.003	U
SODIUM	4.400	U
THALLIUM	0.008	U
VANADIUM	0.063	U
ZINC	0.270	U

SAMPLE: CCB
File: JLE21C May 21, 2018 22:02

Analyte	Result	C
ALUMINUM	1.900	U
ANTIMONY	0.016	J
ARSENIC	0.180	U
BARIUM	0.075	U
BERYLLIUM	0.004	U
CADMIUM	0.007	U
CALCIUM	5.300	U
CHROMIUM	0.062	U
COBALT	0.006	U
IRON	7.181	J
LEAD	0.010	U
MAGNESIUM	1.300	U
MANGANESE	0.047	J
MOLYBDENUM	0.034	U
NICKEL	0.029	J
POTASSIUM	8.213	J
SILVER	0.003	U
SODIUM	4.400	U
THALLIUM	0.008	U
VANADIUM	0.063	U
ZINC	0.270	U

SAMPLE: CCB
File: JLE21C May 21, 2018 22:53

Analyte	Result	C
ALUMINUM	1.900	U
ANTIMONY	0.014	J
ARSENIC	0.180	U
BARIUM	0.075	U
BERYLLIUM	0.004	U
CADMIUM	0.007	U
CALCIUM	5.300	U
CHROMIUM	0.062	U
COBALT	0.006	U
IRON	6.206	J
LEAD	0.010	U
MAGNESIUM	1.300	U
MANGANESE	0.033	J
MOLYBDENUM	0.034	U
NICKEL	0.018	U
POTASSIUM	7.900	U
SILVER	0.003	U
SODIUM	4.400	U
THALLIUM	0.008	U
VANADIUM	-0.069	U
ZINC	0.270	U

INITIAL AND CONTINUING CALIBRATION BLANKS

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Concentration Units: ug/L

SAMPLE: CCB
File: JLE21C May 21, 2018 23:45

Analyte	Result	C
ALUMINUM	1.900	U
ANTIMONY	0.008	J
ARSENIC	0.180	U
BARIUM	0.075	U
BERYLLIUM	0.004	U
CADMIUM	0.007	U
CALCIUM	5.300	U
CHROMIUM	0.062	U
COBALT	0.006	U
IRON	8.957	J
LEAD	0.010	U
MAGNESIUM	1.300	U
MANGANESE	0.041	J
MOLYBDENUM	0.034	U
NICKEL	0.020	J
POTASSIUM	7.900	U
SILVER	0.003	U
SODIUM	4.400	U
THALLIUM	0.008	U
VANADIUM	0.063	U
ZINC	0.270	U

SAMPLE: CCB
File: JLE21C May 22, 2018 0:37

Analyte	Result	C
ALUMINUM	1.900	U
ANTIMONY	0.012	J
ARSENIC	0.180	U
BARIUM	0.075	U
BERYLLIUM	0.004	U
CADMIUM	0.007	U
CALCIUM	6.030	J
CHROMIUM	0.062	U
COBALT	0.006	U
IRON	11.010	J
LEAD	0.010	U
MAGNESIUM	1.300	U
MANGANESE	0.242	B
MOLYBDENUM	0.034	U
NICKEL	0.058	J
POTASSIUM	7.900	U
SILVER	0.003	U
SODIUM	4.400	U
THALLIUM	0.008	U
VANADIUM	0.063	U
ZINC	0.465	J

SAMPLE: CCB
File: JLE21C May 22, 2018 1:29

Analyte	Result	C
ALUMINUM	1.900	U
ANTIMONY	0.009	J
ARSENIC	0.180	U
BARIUM	0.075	U
BERYLLIUM	0.004	J
CADMIUM	0.009	J
CALCIUM	8.013	J
CHROMIUM	0.062	U
COBALT	0.007	J
IRON	12.440	B
LEAD	0.010	U
MAGNESIUM	1.300	U
MANGANESE	0.263	B
MOLYBDENUM	0.034	U
NICKEL	0.044	J
POTASSIUM	7.900	U
SILVER	0.004	J
SODIUM	4.400	U
THALLIUM	0.008	U
VANADIUM	0.063	U
ZINC	0.506	J

INITIAL AND CONTINUING CALIBRATION BLANKS

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Concentration Units: ug/L

SAMPLE: CCB

File: JLE21C May 22, 2018 2:21

Analyte	Result	C
ALUMINUM	1.900	U
ANTIMONY	0.014	J
ARSENIC	0.180	U
BARIUM	0.075	U
BERYLLIUM	0.005	J
CADMIUM	0.007	U
CALCIUM	9.474	J
CHROMIUM	0.062	U
COBALT	0.011	J
IRON	4.300	U
LEAD	0.010	J
MAGNESIUM	1.300	U
MANGANESE	0.282	B
MOLYBDENUM	0.034	U
NICKEL	0.056	J
POTASSIUM	12.750	J
SILVER	0.005	J
SODIUM	4.400	U
THALLIUM	0.008	U
VANADIUM	0.063	U
ZINC	0.533	J

SAMPLE: CCB

File: JLE21C May 22, 2018 3:13

Analyte	Result	C
ALUMINUM	1.900	U
ANTIMONY	0.014	J
ARSENIC	0.180	U
BARIUM	0.075	U
BERYLLIUM	0.004	U
CADMIUM	0.007	U
CALCIUM	9.723	J
CHROMIUM	-0.082	U
COBALT	0.020	J
IRON	5.897	J
LEAD	0.013	J
MAGNESIUM	1.300	U
MANGANESE	0.271	B
MOLYBDENUM	0.034	U
NICKEL	0.045	J
POTASSIUM	14.360	J
SILVER	0.004	J
SODIUM	4.400	U
THALLIUM	0.008	U
VANADIUM	0.063	U
ZINC	0.485	J

INITIAL AND CONTINUING CALIBRATION BLANKS

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Concentration Units: ug/L

SAMPLE: ICB
File: JLE22A May 22, 2018 14:47

Analyte	Result	C
ALUMINUM	1.900	U
ARSENIC	0.180	U
BERYLLIUM	0.004	U
CADMIUM	0.007	U
CALCIUM	5.300	U
CHROMIUM	0.062	U
COBALT	0.008	J
COPPER	0.030	U
IRON	4.300	U
MAGNESIUM	1.300	U
MANGANESE	0.021	U
MOLYBDENUM	0.056	J
NICKEL	0.018	U
POTASSIUM	7.900	U
SELENIUM	0.470	U
SILVER	0.004	J
SODIUM	4.400	U
VANADIUM	0.063	U
ZINC	0.270	U

SAMPLE: CCB
File: JLE22A May 22, 2018 15:27

Analyte	Result	C
ALUMINUM	1.900	U
ARSENIC	0.185	J
BERYLLIUM	0.004	J
CADMIUM	0.007	U
CALCIUM	5.300	U
CHROMIUM	0.062	U
COBALT	0.006	U
COPPER	0.093	J
IRON	-5.049	U
MAGNESIUM	1.300	U
MANGANESE	0.021	U
MOLYBDENUM	0.053	J
NICKEL	0.018	U
POTASSIUM	7.900	U
SELENIUM	0.470	U
SILVER	0.004	J
SODIUM	4.400	U
VANADIUM	0.063	U
ZINC	0.270	U

SAMPLE: CCB
File: JLE22A May 22, 2018 16:12

Analyte	Result	C
ALUMINUM	1.900	U
ARSENIC	0.180	U
BERYLLIUM	0.004	U
CADMIUM	0.007	U
CALCIUM	5.300	U
CHROMIUM	0.062	U
COBALT	0.006	U
COPPER	0.030	U
IRON	-7.580	U
MAGNESIUM	1.300	U
MANGANESE	0.021	U
MOLYBDENUM	0.034	U
NICKEL	0.018	U
POTASSIUM	8.984	J
SELENIUM	0.470	U
SILVER	0.003	U
SODIUM	4.400	U
VANADIUM	0.063	U
ZINC	0.270	U

INITIAL AND CONTINUING CALIBRATION BLANKS

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Concentration Units: ug/L

SAMPLE: CCB
File: JLE22A May 22, 2018 16:59

Analyte	Result	C
ALUMINUM	1.900	U
ARSENIC	0.180	U
BERYLLIUM	0.004	U
CADMIUM	-0.008	U
CALCIUM	5.300	U
CHROMIUM	0.062	U
COBALT	0.008	J
COPPER	0.030	U
IRON	-5.590	U
MAGNESIUM	1.300	U
MANGANESE	0.021	U
MOLYBDENUM	0.034	U
NICKEL	0.023	J
POTASSIUM	8.862	J
SELENIUM	0.470	U
SILVER	0.003	U
SODIUM	4.400	U
VANADIUM	0.063	U
ZINC	0.270	U

SAMPLE: CCB
File: JLE22A May 22, 2018 17:47

Analyte	Result	C
ALUMINUM	1.900	U
ARSENIC	0.180	U
BERYLLIUM	0.004	U
CADMIUM	-0.008	U
CALCIUM	5.300	U
CHROMIUM	0.062	U
COBALT	0.010	J
COPPER	-0.032	U
IRON	4.300	U
MAGNESIUM	1.300	U
MANGANESE	0.021	U
MOLYBDENUM	0.034	U
NICKEL	0.018	U
POTASSIUM	9.030	J
SELENIUM	0.470	U
SILVER	0.003	U
SODIUM	4.400	U
VANADIUM	0.084	J
ZINC	0.270	U

SAMPLE: CCB
File: JLE22A May 22, 2018 18:37

Analyte	Result	C
ALUMINUM	1.900	U
ARSENIC	0.180	U
BERYLLIUM	0.004	U
CADMIUM	-0.008	U
CALCIUM	5.300	U
CHROMIUM	0.062	U
COBALT	0.006	U
COPPER	0.030	U
IRON	4.300	U
MAGNESIUM	1.300	U
MANGANESE	0.021	U
MOLYBDENUM	0.034	U
NICKEL	0.018	U
POTASSIUM	7.900	U
SELENIUM	0.470	U
SILVER	0.003	U
SODIUM	4.400	U
VANADIUM	0.104	J
ZINC	0.270	U

INITIAL AND CONTINUING CALIBRATION BLANKS

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Concentration Units: ug/L

SAMPLE: CCB
File: JLE22A May 22, 2018 19:28

Analyte	Result	C
ALUMINUM	1.900	U
ARSENIC	0.180	U
BERYLLIUM	0.004	U
CADMIUM	0.007	U
CALCIUM	5.300	U
CHROMIUM	0.062	U
COBALT	0.011	J
COPPER	0.030	U
IRON	4.300	U
MAGNESIUM	1.300	U
MANGANESE	0.031	J
MOLYBDENUM	0.034	U
NICKEL	0.020	J
POTASSIUM	7.900	U
SELENIUM	0.470	U
SILVER	0.003	J
SODIUM	4.400	U
VANADIUM	0.063	U
ZINC	0.270	U

SAMPLE: CCB
File: JLE22A May 22, 2018 20:19

Analyte	Result	C
ALUMINUM	2.552	J
ARSENIC	0.180	U
BERYLLIUM	0.011	J
CADMIUM	0.007	U
CALCIUM	6.564	J
CHROMIUM	0.062	U
COBALT	0.007	J
COPPER	0.030	U
IRON	4.300	U
MAGNESIUM	2.156	J
MANGANESE	0.048	J
MOLYBDENUM	0.034	U
NICKEL	0.080	J
POTASSIUM	7.900	U
SELENIUM	0.470	U
SILVER	0.006	J
SODIUM	4.400	U
VANADIUM	0.063	U
ZINC	0.270	U

SAMPLE: CCB
File: JLE22A May 22, 2018 21:10

Analyte	Result	C
ALUMINUM	1.900	U
ARSENIC	0.182	J
BERYLLIUM	0.004	J
CADMIUM	0.007	U
CALCIUM	5.300	U
CHROMIUM	0.062	U
COBALT	0.006	U
COPPER	0.030	U
IRON	6.718	J
MAGNESIUM	1.300	U
MANGANESE	0.024	J
MOLYBDENUM	0.034	U
NICKEL	0.071	J
POTASSIUM	7.900	U
SELENIUM	0.470	U
SILVER	0.003	U
SODIUM	4.400	U
VANADIUM	0.066	J
ZINC	0.270	U

INITIAL AND CONTINUING CALIBRATION BLANKS

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Concentration Units: ug/L

SAMPLE: CCB

File: JLE22A May 22, 2018 22:01

Analyte	Result	C
ALUMINUM	1.900	U
ARSENIC	0.180	U
BERYLLIUM	0.005	J
CADMIUM	0.007	U
CALCIUM	5.300	U
CHROMIUM	0.062	U
COBALT	0.006	U
COPPER	0.049	J
IRON	4.888	J
MAGNESIUM	1.300	U
MANGANESE	0.021	U
MOLYBDENUM	0.034	U
NICKEL	0.072	J
POTASSIUM	7.900	U
SELENIUM	0.470	U
SILVER	0.003	J
SODIUM	4.400	U
VANADIUM	0.063	U
ZINC	0.270	U

3P

PREPARATION BLANKS

Lab Name: Katahdin Analytical Services **Sample ID:** PBSLE21HGS1

Matrix: SOIL **SDG Name:** SL4180

QC Batch ID: LE21HGS1

Concentration Units : mg/Kg drywt

Analyte	RESULT	C
MERCURY	0.017	U

3P

PREPARATION BLANKS

Lab Name: Katahdin Analytical Services **Sample ID:** PBSLE21HGS2

Matrix: SOIL **SDG Name:** SL4180

QC Batch ID: LE21HGS2

Concentration Units : mg/Kg drywt

Analyte	RESULT	C
MERCURY	0.017	U

PREPARATION BLANKS

Lab Name: Katahdin Analytical Services **Sample ID:** PBSLE21IMS1

Matrix: SOIL **SDG Name:** SL4180

QC Batch ID: LE21IMS1

Concentration Units : mg/Kg drywt

Analyte	RESULT	C
ALUMINUM	1.9	J
ANTIMONY	0.050	U
ARSENIC	0.40	U
BARIUM	0.047	J
BERYLLIUM	0.020	U
CADMIUM	0.020	U
CALCIUM	8.2	J
CHROMIUM	0.16	J
COBALT	0.030	U
COPPER	0.16	B
IRON	5.9	J
LEAD	0.050	U
MAGNESIUM	2.9	J
MANGANESE	0.060	J
NICKEL	0.043	J
POTASSIUM	6.3	J
SELENIUM	0.043	J
SILVER	0.040	U
SODIUM	4.1	J
THALLIUM	0.040	U
VANADIUM	0.40	U
ZINC	0.80	U

PREPARATION BLANKS

Lab Name: Katahdin Analytical Services **Sample ID:** PBSLE21IMS2

Matrix: SOIL **SDG Name:** SL4180

QC Batch ID: LE21IMS2

Concentration Units : mg/Kg drywt

Analyte	RESULT	C
ALUMINUM	1.1	J
ANTIMONY	0.050	U
ARSENIC	0.40	U
BARIUM	0.10	U
BERYLLIUM	0.020	U
CADMIUM	0.020	U
CALCIUM	7.3	J
CHROMIUM	0.18	J
COBALT	0.0077	J
COPPER	0.10	J
IRON	5.6	J
LEAD	0.050	U
MAGNESIUM	2.4	J
MANGANESE	0.058	J
NICKEL	0.034	J
POTASSIUM	4.8	J
SELENIUM	0.044	J
SILVER	0.040	U
SODIUM	2.7	J
THALLIUM	0.040	U
VANADIUM	0.12	J
ZINC	0.80	U

3P

PREPARATION BLANKS

Lab Name: Katahdin Analytical Services **Sample ID:** PBWLE17HGW2

Matrix: WATER **SDG Name:** SL4180

QC Batch ID: LE17HGW2

Concentration Units : ug/L

Analyte	RESULT	C
MERCURY	0.10	U

PREPARATION BLANKS

Lab Name: Katahdin Analytical Services **Sample ID:** PBWLE21IMW2

Matrix: WATER **SDG Name:** SL4180

QC Batch ID: LE21IMW2

Concentration Units : ug/L

Analyte	RESULT	C
ALUMINUM	9.0	J
ANTIMONY	0.42	J
ARSENIC	4.0	U
BARIUM	1.0	U
BERYLLIUM	0.20	U
CADMIUM	0.20	U
CALCIUM	80	U
CHROMIUM	0.80	J
COBALT	0.30	U
COPPER	0.80	J
IRON	27	J
LEAD	0.50	U
MAGNESIUM	13	J
MANGANESE	1.0	U
NICKEL	1.2	U
POTASSIUM	55	J
SELENIUM	0.82	J
SILVER	0.40	U
SODIUM	35	J
THALLIUM	0.40	U
VANADIUM	4.0	U
ZINC	8.0	U

ICP INTERFERENCE CHECK SAMPLE

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Concentration Units: ug/L

SAMPLE: ICSA

File: JLE21C May 21, 2018 18:58

Analyte	TRUE	FOUND	% R
ALUMINUM	100000.00	100500.00	100.5
ANTIMONY	0	0.20	
ARSENIC	0	0.34	
BARIUM	0	0.10	
BERYLLIUM	0	0.00	
CADMIUM	0	0.03	
CALCIUM	100000.00	103000.00	103.0
CHROMIUM	0	0.80	
COBALT	0	0.13	
IRON	100000.00	95700.00	95.7
LEAD	0	0.10	
MAGNESIUM	100000.00	100500.00	100.5
MANGANESE	0	0.37	
MOLYBDENUM	2000.00	2007.00	100.4
NICKEL	0	-0.11	
POTASSIUM	100000.00	103500.00	103.5
SILVER	0	0.02	
SODIUM	100000.00	101600.00	101.6
THALLIUM	0	0.00	
VANADIUM	0	0.12	
ZINC	0	2.59	

SAMPLE: ICSAB

File: JLE21C May 21, 2018 19:02

Analyte	TRUE	FOUND	% R
ALUMINUM	100000.00	102500.00	102.5
ANTIMONY	20.00	22.72	115.0
ARSENIC	20.00	22.70	115.0
BARIUM	21.00	22.59	109.5
BERYLLIUM	20.00	23.57	120.0
CADMIUM	20.00	21.39	105.0
CALCIUM	100000.00	105500.00	105.5
CHROMIUM	20.00	21.85	110.0
COBALT	20.00	21.33	105.0
IRON	100000.00	99630.00	99.6
LEAD	20.00	23.19	115.0
MAGNESIUM	100000.00	101500.00	101.5
MANGANESE	20.00	21.39	105.0
MOLYBDENUM	2000.00	2127.00	106.3
NICKEL	20.00	20.84	105.0
POTASSIUM	100000.00	106600.00	106.6
SILVER	20.00	20.93	105.0
SODIUM	100000.00	102600.00	102.6
THALLIUM	20.00	23.16	115.0
VANADIUM	20.00	21.86	110.0
ZINC	20.00	23.43	115.0

ICP INTERFERENCE CHECK SAMPLE

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Concentration Units: ug/L

SAMPLE: ICSA

File: JLE22A May 22, 2018 14:57

Analyte	TRUE	FOUND	% R
ALUMINUM	100000.00	104100.00	104.1
ARSENIC	0	0.22	
BERYLLIUM	0	0.01	
CADMIUM	0	0.04	
CALCIUM	100000.00	102300.00	102.3
CHROMIUM	0	0.78	
COBALT	0	0.11	
COPPER	0	1.16	
IRON	100000.00	98150.00	98.2
MAGNESIUM	100000.00	103000.00	103.0
MANGANESE	0	0.45	
MOLYBDENUM	2000.00	2100.00	105.0
NICKEL	0	-0.32	
POTASSIUM	100000.00	104300.00	104.3
SELENIUM	0	0.29	
SILVER	0	0.03	
SODIUM	100000.00	102900.00	102.9
VANADIUM	0	0.20	
ZINC	0	2.58	

SAMPLE: ICSAB

File: JLE22A May 22, 2018 15:01

Analyte	TRUE	FOUND	% R
ALUMINUM	100000.00	105100.00	105.1
ARSENIC	20.00	22.07	110.0
BERYLLIUM	20.00	22.91	115.0
CADMIUM	20.00	21.24	105.0
CALCIUM	100000.00	103300.00	103.3
CHROMIUM	20.00	21.62	110.0
COBALT	20.00	21.39	105.0
COPPER	20.00	21.48	105.0
IRON	100000.00	99430.00	99.4
MAGNESIUM	100000.00	104000.00	104.0
MANGANESE	20.00	21.69	110.0
MOLYBDENUM	2000.00	2152.00	107.6
NICKEL	20.00	20.61	105.0
POTASSIUM	100000.00	105000.00	105.0
SELENIUM	20.00	21.71	110.0
SILVER	20.00	20.47	100.0
SODIUM	100000.00	105000.00	105.0
VANADIUM	20.00	21.98	110.0
ZINC	20.00	22.44	110.0

5A

SPIKE SAMPLE RECOVERY

Lab Name: Katahdin Analytical Services **Client Field ID:** CHAAP-21B-DS-SS07S

Matrix: SOIL **SDG Name:** SL4180

Percent Solids: 81.2 **Lab Sample ID:** SL4180-008P

Concentration Units : mg/Kg drywt

Analyte	Spiked Sample Result	C	Sample Result	C	Spike Added	%R	Q	Control Limits (%R) Low	High	M
ALUMINUM, TOTAL	22900		25100		224.05	-980.5	N	78	124	MS
ANTIMONY, TOTAL	5.82		0.20		11.2	50.2	N	72	124	MS
ARSENIC, TOTAL	14.8		5.03		11.2	87.3		82	118	MS
BARIUM, TOTAL	353		190		224.05	72.9	N	86	116	MS
BERYLLIUM, TOTAL	6.38		1.08		5.6	94.7		80	120	MS
CADMIUM, TOTAL	26.0		0.020	J	28.01	92.6		84	116	MS
CALCIUM, TOTAL	4250		4100		280.06	55.2	N	86	118	MS
CHROMIUM, TOTAL	43.0		21.2		22.4	97.5		83	119	MS
COBALT, TOTAL	65.6		8.16		56.01	102.5		84	115	MS
COPPER, TOTAL	43.9		15.5		28.01	101.6		84	119	MS
IRON, TOTAL	17300		18600		112.02	-1128.7	N	81	124	MS
LEAD, TOTAL	24.6		14.9		11.2	86.8		84	118	MS
MAGNESIUM, TOTAL	6030		6090		560.12	-10.3	N	80	123	MS
MANGANESE, TOTAL	294		276		56.01	32.0	N	85	116	MS
MERCURY, TOTAL	0.197		0.012	J	0.16	115.8		80	124	CV
NICKEL, TOTAL	72.4		16.6		56.01	99.6		84	119	MS
POTASSIUM, TOTAL	5700		4960		1120.23	66.2	N	85	119	MS
SELENIUM, TOTAL	11.4		0.466	J	11.2	97.4		80	119	MS
SILVER, TOTAL	5.34		0.0764	J	5.6	93.9		83	118	MS
SODIUM, TOTAL	1060		181		840.17	105.0		79	125	MS
THALLIUM, TOTAL	12.2		0.374		11.2	105.8		83	118	MS
VANADIUM, TOTAL	88.8		36.8		56.01	92.9		82	116	MS
ZINC, TOTAL	108		55.5		56.01	94.1		82	119	MS

Comments:

5A

SPIKE SAMPLE RECOVERY

Lab Name: Katahdin Analytical Services **Client Field ID:** CHAAP-21B-DS-SS07S

Matrix: SOIL **SDG Name:** SL4180

Percent Solids: 81.2 **Lab Sample ID:** SL4180-008S

Concentration Units : mg/Kg drywt

Analyte	Spiked Sample Result	C	Sample Result	C	Spike Added	%R	Q	Control Limits (%R) Low	High	M
ALUMINUM, TOTAL	27000		25100		216.19	894.6	N	78	124	MS
ANTIMONY, TOTAL	5.94		0.20		10.81	53.1	N	72	124	MS
ARSENIC, TOTAL	16.2		5.03		10.81	103.6		82	118	MS
BARIUM, TOTAL	416		190		216.19	104.3		86	116	MS
BERYLLIUM, TOTAL	6.25		1.08		5.4	95.8		80	120	MS
CADMIUM, TOTAL	25.1		0.020	J	27.02	92.9		84	116	MS
CALCIUM, TOTAL	4730		4100		270.23	233.4	N	86	118	MS
CHROMIUM, TOTAL	43.7		21.2		21.62	104.1		83	119	MS
COBALT, TOTAL	63.5		8.16		54.05	102.4		84	115	MS
COPPER, TOTAL	42.2		15.5		27.02	98.7		84	119	MS
IRON, TOTAL	20100		18600		108.09	1372.6	N	81	124	MS
LEAD, TOTAL	25.9		14.9		10.81	101.6		84	118	MS
MAGNESIUM, TOTAL	7320		6090		540.46	227.2	N	80	123	MS
MANGANESE, TOTAL	306		276		54.05	55.9	N	85	116	MS
MERCURY, TOTAL	0.176		0.012	J	0.16	102.3		80	124	CV
NICKEL, TOTAL	72.6		16.6		54.05	103.6		84	119	MS
POTASSIUM, TOTAL	6140		4960		1080.93	109.1		85	119	MS
SELENIUM, TOTAL	10.9		0.466	J	10.81	96.3		80	119	MS
SILVER, TOTAL	5.13		0.0764	J	5.4	93.5		83	118	MS
SODIUM, TOTAL	1020		181		810.69	103.3		79	125	MS
THALLIUM, TOTAL	11.7		0.374		10.81	104.8		83	118	MS
VANADIUM, TOTAL	89.6		36.8		54.05	97.7		82	116	MS
ZINC, TOTAL	111		55.5		54.05	102.3		82	119	MS

Comments:

5A

SPIKE SAMPLE RECOVERY

Lab Name: Katahdin Analytical Services **Client Field ID:** CHAAP-21B-DS-SB11-5S

Matrix: SOIL **SDG Name:** SL4180

Percent Solids: 80.2 **Lab Sample ID:** SL4180-018P

Concentration Units : mg/Kg drywt

Analyte	Spiked Sample Result	C	Sample Result	C	Spike Added	%R	Q	Control Limits (%R) Low	High	M
ALUMINUM, TOTAL	18400		19100		206.15	-362.7	N	78	124	MS
ANTIMONY, TOTAL	3.78		0.244		10.31	34.3	N	72	124	MS
ARSENIC, TOTAL	13.6		4.22		10.31	90.5		82	118	MS
BARIUM, TOTAL	462		308		206.15	74.6	N	86	116	MS
BERYLLIUM, TOTAL	5.81		0.840		5.15	96.5		80	120	MS
CADMIUM, TOTAL	26.2		0.014	J	25.77	101.5		84	116	MS
CALCIUM, TOTAL	44300		47300		257.68	-1149.8	N	86	118	MS
CHROMIUM, TOTAL	37.6		18.2		20.61	94.4		83	119	MS
COBALT, TOTAL	60.1		7.40		51.54	102.2		84	115	MS
COPPER, TOTAL	36.2		12.3		25.77	92.8		84	119	MS
IRON, TOTAL	14600		16200		103.07	-1536.9	N	81	124	MS
LEAD, TOTAL	20.0		10.3		10.31	93.8		84	118	MS
MAGNESIUM, TOTAL	8740		9230		515.37	-94.9	N	80	123	MS
MANGANESE, TOTAL	308		280		51.54	53.4	N	85	116	MS
MERCURY, TOTAL	0.152		0.024	J	0.14	91.8		80	124	CV
NICKEL, TOTAL	65.2		16.0		51.54	95.4		84	119	MS
POTASSIUM, TOTAL	5590		5080		1030.74	49.1	N	85	119	MS
SELENIUM, TOTAL	10.4		0.40	J	10.31	97.4		80	119	MS
SILVER, TOTAL	5.26		0.0866	J	5.15	100.4		83	118	MS
SODIUM, TOTAL	2260		1620		773.05	83.0		79	125	MS
THALLIUM, TOTAL	10.9		0.304		10.31	103.1		83	118	MS
VANADIUM, TOTAL	89.5		38.8		51.54	98.3		82	116	MS
ZINC, TOTAL	93.8		46.2		51.54	92.4		82	119	MS

Comments:

5A

SPIKE SAMPLE RECOVERY

Lab Name: Katahdin Analytical Services **Client Field ID:** CHAAP-21B-DS-SB11-5S

Matrix: SOIL **SDG Name:** SL4180

Percent Solids: 80.2 **Lab Sample ID:** SL4180-018S

Concentration Units : mg/Kg drywt

Analyte	Spiked Sample Result	C	Sample Result	C	Spike Added	%R	Q	Control Limits (%R) Low	High	M
ALUMINUM, TOTAL	21300		19100		206.15	1064.8	N	78	124	MS
ANTIMONY, TOTAL	3.86		0.244		10.31	35.0	N	72	124	MS
ARSENIC, TOTAL	14.0		4.22		10.31	95.0		82	118	MS
BARIUM, TOTAL	509		308		206.15	97.6		86	116	MS
BERYLLIUM, TOTAL	5.65		0.840		5.15	93.5		80	120	MS
CADMIUM, TOTAL	25.5		0.014	J	25.77	98.9		84	116	MS
CALCIUM, TOTAL	49500		47300		257.68	864.2	N	86	118	MS
CHROMIUM, TOTAL	40.4		18.2		20.61	107.8		83	119	MS
COBALT, TOTAL	59.0		7.40		51.54	100.0		84	115	MS
COPPER, TOTAL	37.6		12.3		25.77	98.1		84	119	MS
IRON, TOTAL	17300		16200		103.07	1083.2	N	81	124	MS
LEAD, TOTAL	21.7		10.3		10.31	110.6		84	118	MS
MAGNESIUM, TOTAL	10300		9230		515.37	212.1	N	80	123	MS
MANGANESE, TOTAL	327		280		51.54	90.5		85	116	MS
MERCURY, TOTAL	0.151		0.024	J	0.15	84.9		80	124	CV
NICKEL, TOTAL	65.6		16.0		51.54	96.2		84	119	MS
POTASSIUM, TOTAL	6490		5080		1030.74	136.6	N	85	119	MS
SELENIUM, TOTAL	10.3		0.40	J	10.31	95.7		80	119	MS
SILVER, TOTAL	5.18		0.0866	J	5.15	99.0		83	118	MS
SODIUM, TOTAL	2560		1620		773.05	121.4		79	125	MS
THALLIUM, TOTAL	10.8		0.304		10.31	101.9		83	118	MS
VANADIUM, TOTAL	95.0		38.8		51.54	109.0		82	116	MS
ZINC, TOTAL	101		46.2		51.54	105.9		82	119	MS

Comments:

5B

POST DIGEST SPIKE SAMPLE RECOVERY

Lab Name: Katahdin Analytical Services **Client Field ID:** CHAAP-21B-DS-SS07S

Matrix: SOIL **SDG Name:** SL4180

Percent Solids: 81.2 **Lab Sample ID:** SL4180-008A

Concentration Units : ug/L

Analyte	Spiked Sample Result	C	Sample Result	C	Spike Added	%R	Q	Control Limits (%R) Low	High	M
ALUMINUM, TOTAL	43500		44800		200	-635.0	A	80	120	MS
ANTIMONY, TOTAL	2.51		0.36		2	107.4		80	120	MS
ARSENIC, TOTAL	19.4		8.99		10	104.5		80	120	MS
BARIUM, TOTAL	336		340		4	-87.5	A	80	120	MS
BERYLLIUM, TOTAL	3.87		1.92		2	97.3		80	120	MS
CADMIUM, TOTAL	1.91		0.036	J	2	93.9		80	120	MS
CALCIUM, TOTAL	7380		7320		200	28.0	A	80	120	MS
CHROMIUM, TOTAL	47.3		37.9		10	93.8		80	120	MS
COBALT, TOTAL	16.5		14.6		2	94.5		80	120	MS
COPPER, TOTAL	33.0		27.6		6	90.3		80	120	MS
IRON, TOTAL	33100		33300		200	-115.0	A	80	120	MS
LEAD, TOTAL	27.7		26.6		2	56.0	A	80	120	MS
MAGNESIUM, TOTAL	10700		10900		200	-110.0	A	80	120	MS
MANGANESE, TOTAL	490		493		4	-72.5	A	80	120	MS
MERCURY, TOTAL	0.972		0.070	J	1	90.2		80	120	CV
NICKEL, TOTAL	33.0		29.5		4	87.5		80	120	MS
POTASSIUM, TOTAL	10500		8860		2000	83.5		80	120	MS
SELENIUM, TOTAL	11.0		0.831	J	10	102.1		80	120	MS
SILVER, TOTAL	2.05		0.136	J	2	95.6		80	120	MS
SODIUM, TOTAL	2370		323		2000	102.6		80	120	MS
THALLIUM, TOTAL	2.76		0.668		2	104.6		80	120	MS
VANADIUM, TOTAL	76.5		65.7		10	107.6		80	120	MS
ZINC, TOTAL	116		99.1		20	85.0		80	120	MS

Comments:

5B

POST DIGEST SPIKE SAMPLE RECOVERY

Lab Name: Katahdin Analytical Services **Client Field ID:** CHAAP-21B-DS-SB11-5S

Matrix: SOIL **SDG Name:** SL4180

Percent Solids: 80.2 **Lab Sample ID:** SL4180-018A

Concentration Units : ug/L

Analyte	Spiked Sample Result	C	Sample Result	C	Spike Added	%R	Q	Control Limits (%R) Low	High	M
ALUMINUM, TOTAL	38000		37000		200	490.0	A	80	120	MS
ANTIMONY, TOTAL	2.54		0.473		2	103.4		80	120	MS
ARSENIC, TOTAL	19.1		8.18		10	109.2		80	120	MS
BARIUM, TOTAL	580		598		4	-440.0	A	80	120	MS
BERYLLIUM, TOTAL	3.58		1.63		2	97.3		80	120	MS
CADMIUM, TOTAL	2.10		0.028	J	2	103.6		80	120	MS
CALCIUM, TOTAL	92300		91800		200	260.0	A	80	120	MS
CHROMIUM, TOTAL	46.1		35.4		10	107.0		80	120	MS
COBALT, TOTAL	16.6		14.4		2	111.0		80	120	MS
COPPER, TOTAL	30.0		23.8		6	102.7		80	120	MS
IRON, TOTAL	32400		31400		200	485.0	A	80	120	MS
LEAD, TOTAL	21.4		19.9		2	73.5	A	80	120	MS
MAGNESIUM, TOTAL	18400		17900		200	225.0	A	80	120	MS
MANGANESE, TOTAL	557		544		4	335.0	A	80	120	MS
MERCURY, TOTAL	1.10		0.17	J	1	92.7		80	120	CV
NICKEL, TOTAL	35.6		31.1		4	112.5		80	120	MS
POTASSIUM, TOTAL	11900		9850		2000	102.0		80	120	MS
SELENIUM, TOTAL	10.9		0.77	J	10	101.7		80	120	MS
SILVER, TOTAL	2.21		0.168	J	2	102.2		80	120	MS
SODIUM, TOTAL	5240		3150		2000	104.3		80	120	MS
THALLIUM, TOTAL	2.74		0.589		2	107.6		80	120	MS
VANADIUM, TOTAL	86.8		75.2		10	116.2		80	120	MS
ZINC, TOTAL	111		89.6		20	108.0		80	120	MS

Comments:

5D

SPIKE DUPLICATES

Lab Name: Katahdin Analytical Services **Client Field ID:** CHAAP-21B-DS-SS07

Matrix: SOIL **SDG Name:** SL4180

Percent Solids: 81.2 **Lab Sample ID:** SL4180-008

Concentration Units : mg/Kg drywt

Analyte	Control Limits	Spike Result	C	Spike Dup. Result	C	RPD	Q	M
ALUMINUM, TOTAL		27000		22900		16.5		MS
ANTIMONY, TOTAL		5.94		5.82		2.1		MS
ARSENIC, TOTAL		16.2		14.8		9.1		MS
BARIUM, TOTAL		416		353		16.1		MS
BERYLLIUM, TOTAL		6.25		6.38		2.1		MS
CADMIUM, TOTAL		25.1		26.0		3.4		MS
CALCIUM, TOTAL		4730		4250		10.6		MS
CHROMIUM, TOTAL		43.7		43.0		1.5		MS
COBALT, TOTAL		63.5		65.6		3.2		MS
COPPER, TOTAL		42.2		43.9		4.1		MS
IRON, TOTAL		20100		17300		14.7		MS
LEAD, TOTAL		25.9		24.6		5.0		MS
MAGNESIUM, TOTAL		7320		6030		19.3		MS
MANGANESE, TOTAL		306		294		4.1		MS
MERCURY, TOTAL		0.176		0.197		11.6		CV
NICKEL, TOTAL		72.6		72.4		0.3		MS
POTASSIUM, TOTAL		6140		5700		7.4		MS
SELENIUM, TOTAL		10.9		11.4		4.5		MS
SILVER, TOTAL		5.13		5.34		4.0		MS
SODIUM, TOTAL		1020		1060		4.3		MS
THALLIUM, TOTAL		11.7		12.2		4.3		MS
VANADIUM, TOTAL		89.6		88.8		0.9		MS
ZINC, TOTAL		111		108		2.4		MS

Comments:

5D

SPIKE DUPLICATES

Lab Name: Katahdin Analytical Services **Client Field ID:** CHAAP-21B-DS-SB11-5

Matrix: SOIL **SDG Name:** SL4180

Percent Solids: 80.2 **Lab Sample ID:** SL4180-018

Concentration Units : mg/Kg drywt

Analyte	Control Limits	Spike Result	C	Spike Dup. Result	C	RPD	Q	M
ALUMINUM, TOTAL		21300		18400		14.8		MS
ANTIMONY, TOTAL		3.86		3.78		1.9		MS
ARSENIC, TOTAL		14.0		13.6		3.4		MS
BARIUM, TOTAL		509		462		9.8		MS
BERYLLIUM, TOTAL		5.65		5.81		2.7		MS
CADMIUM, TOTAL		25.5		26.2		2.5		MS
CALCIUM, TOTAL		49500		44300		11.1		MS
CHROMIUM, TOTAL		40.4		37.6		7.1		MS
COBALT, TOTAL		59.0		60.1		1.9		MS
COPPER, TOTAL		37.6		36.2		3.7		MS
IRON, TOTAL		17300		14600		16.9		MS
LEAD, TOTAL		21.7		20.0		8.3		MS
MAGNESIUM, TOTAL		10300		8740		16.6		MS
MANGANESE, TOTAL		327		308		6.0		MS
MERCURY, TOTAL		0.151		0.152		0.7		CV
NICKEL, TOTAL		65.6		65.2		0.6		MS
POTASSIUM, TOTAL		6490		5590		14.9		MS
SELENIUM, TOTAL		10.3		10.4		1.7		MS
SILVER, TOTAL		5.18		5.26		1.4		MS
SODIUM, TOTAL		2560		2260		12.3		MS
THALLIUM, TOTAL		10.8		10.9		1.1		MS
VANADIUM, TOTAL		95.0		89.5		6.0		MS
ZINC, TOTAL		101		93.8		7.2		MS

Comments:

LABORATORY CONTROL SAMPLES

Lab Name: Katahdin Analytical Services **Sample ID:** LCSOLE21HGS1

Matrix: SOIL **SDG Name:** SL4180

QC Batch ID: LE21HGS1

Concentration Units : mg/Kg drywt

Analyte	TRUE	FOUND	% R	LIMITS (%)	
MERCURY	0.833	0.870	104.8	80	124

LABORATORY CONTROL SAMPLES

Lab Name: Katahdin Analytical Services **Sample ID:** LCSOLE21HGS2

Matrix: SOIL **SDG Name:** SL4180

QC Batch ID: LE21HGS2

Concentration Units : mg/Kg drywt

Analyte	TRUE	FOUND	% R	LIMITS (%)	
MERCURY	0.833	0.769	92.8	80	124

LABORATORY CONTROL SAMPLES

Lab Name: Katahdin Analytical Services **Sample ID:** LCSOLE21IMS1

Matrix: SOIL **SDG Name:** SL4180

QC Batch ID: LE21IMS1

Concentration Units : mg/Kg drywt

Analyte	TRUE	FOUND	% R	LIMITS (%)	
ALUMINUM	200	214	106.8	78	124
ANTIMONY	10.0	10.2	101.5	72	124
ARSENIC	10.0	10.4	104.3	82	118
BARIUM	200	200	100.2	86	116
BERYLLIUM	5.00	5.02	100.4	80	120
CADMIUM	25.0	25.0	100.0	84	116
CALCIUM	250	262	104.6	86	118
CHROMIUM	20.0	20.5	102.3	83	119
COBALT	50.0	52.4	104.8	84	115
COPPER	25.0	25.0	99.9	84	119
IRON	100	106	106.3	81	124
LEAD	10.0	10.3	103.0	84	118
MAGNESIUM	500	550	109.9	80	123
MANGANESE	50.0	51.8	103.5	85	116
NICKEL	50.0	52.3	104.7	84	119
POTASSIUM	1000	1020	102.5	85	119
SELENIUM	10.0	10.2	101.8	80	119
SILVER	5.00	5.02	100.6	83	118
SODIUM	750	794	105.9	79	125
THALLIUM	10.0	10.3	102.9	83	118
VANADIUM	50.0	51.3	102.7	82	116
ZINC	50.0	50.5	101.0	82	119

LABORATORY CONTROL SAMPLES

Lab Name: Katahdin Analytical Services **Sample ID:** LCSOLE21IMS2

Matrix: SOIL **SDG Name:** SL4180

QC Batch ID: LE21IMS2

Concentration Units : mg/Kg drywt

Analyte	TRUE	FOUND	% R	LIMITS (%)	
ALUMINUM	200	225	112.5	78	124
ANTIMONY	10.0	10.9	109.3	72	124
ARSENIC	10.0	11.0	109.8	82	118
BARIUM	200	215	107.7	86	116
BERYLLIUM	5.00	4.80	96.0	80	120
CADMIUM	25.0	24.7	98.9	84	116
CALCIUM	250	277	110.8	86	118
CHROMIUM	20.0	22.2	110.8	83	119
COBALT	50.0	56.3	112.6	84	115
COPPER	25.0	27.3	109.3	84	119
IRON	100	109	109.2	81	124
LEAD	10.0	10.7	107.4	84	118
MAGNESIUM	500	586	117.3	80	123
MANGANESE	50.0	56.3	112.6	85	116
NICKEL	50.0	55.8	111.6	84	119
POTASSIUM	1000	1060	106.0	85	119
SELENIUM	10.0	10.9	109.1	80	119
SILVER	5.00	5.02	100.6	83	118
SODIUM	750	832	111.0	79	125
THALLIUM	10.0	10.7	107.0	83	118
VANADIUM	50.0	56.2	112.5	82	116
ZINC	50.0	52.6	105.3	82	119

LABORATORY CONTROL SAMPLES

Lab Name: Katahdin Analytical Services **Sample ID:** LCSWLE17HGW2

Matrix: WATER **SDG Name:** SL4180

QC Batch ID: LE17HGW2

Concentration Units : ug/L

Analyte	TRUE	FOUND	% R	LIMITS (%)	
MERCURY	5.00	5.04	100.8	82	119

LABORATORY CONTROL SAMPLES

Lab Name: Katahdin Analytical Services **Sample ID:** LCSWLE21IMW2

Matrix: WATER **SDG Name:** SL4180

QC Batch ID: LE21IMW2

Concentration Units : ug/L

Analyte	TRUE	FOUND	% R	LIMITS (%)	
ALUMINUM	2000	2150	107.6	84	117
ANTIMONY	100	104	104.3	85	117
ARSENIC	100	106	106.5	84	116
BARIUM	2000	2050	102.6	86	114
BERYLLIUM	50.0	50.2	100.5	83	121
CADMIUM	250	262	104.9	87	115
CALCIUM	2500	2650	106.0	87	118
CHROMIUM	200	204	102.0	85	116
COBALT	500	528	105.7	86	115
COPPER	250	258	103.3	85	118
IRON	1000	1070	106.8	87	118
LEAD	100	106	105.5	88	115
MAGNESIUM	5000	5580	111.7	83	118
MANGANESE	500	518	103.5	87	115
NICKEL	500	529	105.8	85	117
POTASSIUM	10000	10300	103.2	87	115
SELENIUM	100	106	105.9	80	120
SILVER	50.0	52.4	104.9	85	116
SODIUM	7500	7980	106.3	85	117
THALLIUM	100	106	105.6	82	116
VANADIUM	500	516	103.3	86	115
ZINC	500	509	101.8	83	119

ICP SERIAL DILUTION

Lab Name: Katahdin Analytical Services **Client Field ID:** CHAAP-21B-DS-SS07L

Matrix: SOIL **SDG Name:** SL4180

Lab Sample ID: SL4180-008L

Concentration Units: ug/L

Analyte	Sample Result	C	Dilution Result	C	% Difference	Q	M
ALUMINUM, TOTAL	44800		48000		7.1		MS
ANTIMONY, TOTAL	0.36		0.38	J	5.6		MS
ARSENIC, TOTAL	8.99		8.9		1.0		MS
BARIUM, TOTAL	340		350		2.9		MS
BERYLLIUM, TOTAL	1.92		1.99		3.6		MS
CADMIUM, TOTAL	0.036	J	0.082	J	127.8		MS
CALCIUM, TOTAL	7320		7740		5.7		MS
CHROMIUM, TOTAL	37.9		39.7		4.7		MS
COBALT, TOTAL	14.6		15.7		7.5		MS
COPPER, TOTAL	27.6		28.6		3.6		MS
IRON, TOTAL	33300		35700		7.2		MS
LEAD, TOTAL	26.6		26.8		0.8		MS
MAGNESIUM, TOTAL	10900		12000		10.1	E	MS
MANGANESE, TOTAL	493		537		8.9		MS
MERCURY, TOTAL	0.070	J	0.16	U	100.0		CV
NICKEL, TOTAL	29.5		31.4		6.4		MS
POTASSIUM, TOTAL	8860		9460		6.8		MS
SELENIUM, TOTAL	0.831	J	1.2	J	44.4		MS
SILVER, TOTAL	0.136	J	0.14	J	2.9		MS
SODIUM, TOTAL	323		355	J	9.9		MS
THALLIUM, TOTAL	0.668		0.61	J	8.7		MS
VANADIUM, TOTAL	65.7		67.2		2.3		MS
ZINC, TOTAL	99.1		105		6.0		MS

ICP SERIAL DILUTION

Lab Name: Katahdin Analytical Services **Client Field ID:** CHAAP-21B-DS-SB11-5L

Matrix: SOIL **SDG Name:** SL4180

Lab Sample ID: SL4180-018L

Concentration Units: ug/L

Analyte	Sample Result	C	Dilution Result	C	% Difference	Q	M
ALUMINUM, TOTAL	37000		40100		8.4		MS
ANTIMONY, TOTAL	0.473		0.49	J	3.6		MS
ARSENIC, TOTAL	8.18		9.2		12.5		MS
BARIUM, TOTAL	598		624		4.3		MS
BERYLLIUM, TOTAL	1.63		1.74		6.7		MS
CADMIUM, TOTAL	0.028	J	0.075	U	100.0		MS
CALCIUM, TOTAL	91800		99800		8.7		MS
CHROMIUM, TOTAL	35.4		37.6		6.2		MS
COBALT, TOTAL	14.4		15.5		7.6		MS
COPPER, TOTAL	23.8		25.9		8.8		MS
IRON, TOTAL	31400		35300		12.4	E	MS
LEAD, TOTAL	19.9		20.0		0.5		MS
MAGNESIUM, TOTAL	17900		19700		10.1	E	MS
MANGANESE, TOTAL	544		612		12.5	E	MS
MERCURY, TOTAL	0.17	J	0.16	U	100.0		CV
NICKEL, TOTAL	31.1		35.6		14.5	E	MS
POTASSIUM, TOTAL	9850		10600		7.6		MS
SELENIUM, TOTAL	0.77	J	1.2	J	55.8		MS
SILVER, TOTAL	0.168	J	0.16	J	4.8		MS
SODIUM, TOTAL	3150		3400		7.9		MS
THALLIUM, TOTAL	0.589		0.55	J	6.6		MS
VANADIUM, TOTAL	75.2		79.7		6.0		MS
ZINC, TOTAL	89.6		99.2		10.7	E	MS

INSTRUMENT DETECTION LIMITS

Lab Name: Katahdin Analytical Services **Instrument Code:** H

Instrument Name: CETAC M6100 **Date:** 4/6/2018

Concentration Units: ug/L

Analyte	PQL/LOQ	IDL	M
MERCURY	0.20	0.025	CV

INSTRUMENT DETECTION LIMITS

Lab Name: Katahdin Analytical Services **Instrument Code:** J

Instrument Name: AGILENT 7500 ICP-MS **Date:** 1/15/2018

Concentration Units: ug/L

Analyte	PQL/LOQ	IDL	M
ALUMINUM	20	1.9	MS
ANTIMONY	0.20	0.0056	MS
ARSENIC	1.0	0.18	MS
BARIUM	0.40	0.075	MS
BERYLLIUM	0.20	0.0037	MS
CADMIUM	0.20	0.0069	MS
CALCIUM	20	5.3	MS
CHROMIUM	1.0	0.062	MS
COBALT	0.20	0.0062	MS
COPPER	0.60	0.030	MS
IRON	20	4.3	MS
LEAD	0.20	0.010	MS
MAGNESIUM	20	1.3	MS
MANGANESE	0.40	0.021	MS
MOLYBDENUM	1.0	0.034	MS
NICKEL	0.40	0.018	MS
POTASSIUM	200	7.9	MS
SELENIUM	1.0	0.47	MS
SILVER	0.20	0.0030	MS
SODIUM	200	4.4	MS
THALLIUM	0.20	0.0084	MS
VANADIUM	1.0	0.063	MS
ZINC	2.0	0.27	MS

LIMITS of DETECTION

Lab Name: Katahdin Analytical Services **Instrument Code:** H

Instrument Name: CETAC M6100 **Date:** 1/7/2011

Analyte	LOD	Units	M	EPA Prep./Anal. Method
MERCURY	0.017	mg/Kg	CV	SW846 7471B / SW846 7471B

LIMITS of DETECTION

Lab Name: Katahdin Analytical Services **Instrument Code:** H

Instrument Name: CETAC M6100 **Date:** 2/9/2011

Analyte	LOD	Units	M	EPA Prep./Anal. Method
MERCURY	0.10	ug/L	CV	SW846 7470A / SW846 7470A

LIMITS of DETECTION

Lab Name: Katahdin Analytical Services **Instrument Code:** J

Instrument Name: AGILENT 7500 ICP-MS **Date:** 1/25/2011

Analyte	LOD	Units	M	EPA Prep./Anal. Method
ALUMINUM	8.0	ug/L	MS	SW846 3010A / SW846 6020A
ANTIMONY	0.10	ug/L	MS	SW846 3010A / SW846 6020A
ARSENIC	0.80	ug/L	MS	SW846 3010A / SW846 6020A
BARIUM	0.20	ug/L	MS	SW846 3010A / SW846 6020A
BERYLLIUM	0.040	ug/L	MS	SW846 3010A / SW846 6020A
CADMIUM	0.040	ug/L	MS	SW846 3010A / SW846 6020A
CALCIUM	16	ug/L	MS	SW846 3010A / SW846 6020A
CHROMIUM	0.80	ug/L	MS	SW846 3010A / SW846 6020A
COBALT	0.060	ug/L	MS	SW846 3010A / SW846 6020A
COPPER	0.40	ug/L	MS	SW846 3010A / SW846 6020A
IRON	12	ug/L	MS	SW846 3010A / SW846 6020A
LEAD	0.10	ug/L	MS	SW846 3010A / SW846 6020A
MAGNESIUM	16	ug/L	MS	SW846 3010A / SW846 6020A
MANGANESE	0.20	ug/L	MS	SW846 3010A / SW846 6020A
NICKEL	0.24	ug/L	MS	SW846 3010A / SW846 6020A
POTASSIUM	80	ug/L	MS	SW846 3010A / SW846 6020A
SELENIUM	0.60	ug/L	MS	SW846 3010A / SW846 6020A
SILVER	0.080	ug/L	MS	SW846 3010A / SW846 6020A
SODIUM	80	ug/L	MS	SW846 3010A / SW846 6020A
THALLIUM	0.080	ug/L	MS	SW846 3010A / SW846 6020A
VANADIUM	0.80	ug/L	MS	SW846 3010A / SW846 6020A
ZINC	1.6	ug/L	MS	SW846 3010A / SW846 6020A

LIMITS of DETECTION

Lab Name: Katahdin Analytical Services **Instrument Code:** J

Instrument Name: AGILENT 7500 ICP-MS **Date:** 1/26/2011

Analyte	LOD	Units	M	EPA Prep./Anal. Method
ALUMINUM	0.80	mg/kg	MS	SW846 3050B / SW846 6020A
ANTIMONY	0.010	mg/kg	MS	SW846 3050B / SW846 6020A
ARSENIC	0.080	mg/kg	MS	SW846 3050B / SW846 6020A
BARIUM	0.020	mg/kg	MS	SW846 3050B / SW846 6020A
BERYLLIUM	0.0040	mg/Kg	MS	SW846 3050B / SW846 6020A
CADMIUM	0.0040	mg/kg	MS	SW846 3050B / SW846 6020A
CALCIUM	1.6	mg/kg	MS	SW846 3050B / SW846 6020A
CHROMIUM	0.080	mg/kg	MS	SW846 3050B / SW846 6020A
COBALT	0.0060	mg/kg	MS	SW846 3050B / SW846 6020A
COPPER	0.040	mg/kg	MS	SW846 3050B / SW846 6020A
IRON	1.2	mg/kg	MS	SW846 3050B / SW846 6020A
LEAD	0.010	mg/Kg	MS	SW846 3050B / SW846 6020A
MAGNESIUM	1.6	mg/kg	MS	SW846 3050B / SW846 6020A
MANGANESE	0.020	mg/kg	MS	SW846 3050B / SW846 6020A
NICKEL	0.024	mg/kg	MS	SW846 3050B / SW846 6020A
POTASSIUM	8.0	mg/Kg	MS	SW846 3050B / SW846 6020A
SELENIUM	0.060	mg/kg	MS	SW846 3050B / SW846 6020A
SILVER	0.0080	mg/kg	MS	SW846 3050B / SW846 6020A
SODIUM	8.0	mg/kg	MS	SW846 3050B / SW846 6020A
THALLIUM	0.0080	mg/kg	MS	SW846 3050B / SW846 6020A
VANADIUM	0.080	mg/Kg	MS	SW846 3050B / SW846 6020A
ZINC	0.16	mg/kg	MS	SW846 3050B / SW846 6020A

METHOD DETECTION LIMITS

Lab Name: Katahdin Analytical Services **Instrument Code:** H

Instrument Name: CETAC M6100 **Date:** 1/7/2011

Analyte	MDL	Units	M	EPA Prep./Anal. Method
MERCURY	0.0052	mg/Kg	CV	SW846 7471B / SW846 7471B

METHOD DETECTION LIMITS

Lab Name: Katahdin Analytical Services **Instrument Code:** H

Instrument Name: CETAC M6100 **Date:** 2/9/2011

Analyte	MDL	Units	M	EPA Prep./Anal. Method
MERCURY	0.013	ug/L	CV	SW846 7470A / SW846 7470A

METHOD DETECTION LIMITS

Lab Name: Katahdin Analytical Services **Instrument Code:** J

Instrument Name: AGILENT 7500 ICP-MS **Date:** 1/25/2011

Analyte	MDL	Units	M	EPA Prep./Anal. Method
ALUMINUM	0.88	ug/L	MS	SW846 3010A / SW846 6020A
ANTIMONY	0.011	ug/L	MS	SW846 3010A / SW846 6020A
ARSENIC	0.45	ug/L	MS	SW846 3010A / SW846 6020A
BARIUM	0.054	ug/L	MS	SW846 3010A / SW846 6020A
BERYLLIUM	0.0067	ug/L	MS	SW846 3010A / SW846 6020A
CADMIUM	0.0059	ug/L	MS	SW846 3010A / SW846 6020A
CALCIUM	4.1	ug/L	MS	SW846 3010A / SW846 6020A
CHROMIUM	0.044	ug/L	MS	SW846 3010A / SW846 6020A
COBALT	0.012	ug/L	MS	SW846 3010A / SW846 6020A
COPPER	0.037	ug/L	MS	SW846 3010A / SW846 6020A
IRON	2.6	ug/L	MS	SW846 3010A / SW846 6020A
LEAD	0.015	ug/L	MS	SW846 3010A / SW846 6020A
MAGNESIUM	1.6	ug/L	MS	SW846 3010A / SW846 6020A
MANGANESE	0.070	ug/L	MS	SW846 3010A / SW846 6020A
NICKEL	0.030	ug/L	MS	SW846 3010A / SW846 6020A
POTASSIUM	6.1	ug/L	MS	SW846 3010A / SW846 6020A
SELENIUM	0.037	ug/L	MS	SW846 3010A / SW846 6020A
SILVER	0.010	ug/L	MS	SW846 3010A / SW846 6020A
SODIUM	3.7	ug/L	MS	SW846 3010A / SW846 6020A
THALLIUM	0.012	ug/L	MS	SW846 3010A / SW846 6020A
VANADIUM	0.10	ug/L	MS	SW846 3010A / SW846 6020A
ZINC	0.78	ug/L	MS	SW846 3010A / SW846 6020A

METHOD DETECTION LIMITS

Lab Name: Katahdin Analytical Services **Instrument Code:** J

Instrument Name: AGILENT 7500 ICP-MS **Date:** 1/26/2011

Analyte	MDL	Units	M	EPA Prep./Anal. Method
ALUMINUM	0.10	mg/kg	MS	SW846 3050B / SW846 6020A
ANTIMONY	0.0040	mg/kg	MS	SW846 3050B / SW846 6020A
ARSENIC	0.029	mg/kg	MS	SW846 3050B / SW846 6020A
BARIUM	0.0073	mg/kg	MS	SW846 3050B / SW846 6020A
BERYLLIUM	0.00081	mg/kg	MS	SW846 3050B / SW846 6020A
CADMIUM	0.0015	mg/kg	MS	SW846 3050B / SW846 6020A
CALCIUM	0.77	mg/kg	MS	SW846 3050B / SW846 6020A
CHROMIUM	0.0098	mg/kg	MS	SW846 3050B / SW846 6020A
COBALT	0.0011	mg/kg	MS	SW846 3050B / SW846 6020A
COPPER	0.014	mg/kg	MS	SW846 3050B / SW846 6020A
IRON	0.48	mg/kg	MS	SW846 3050B / SW846 6020A
LEAD	0.0014	mg/kg	MS	SW846 3050B / SW846 6020A
MAGNESIUM	0.27	mg/kg	MS	SW846 3050B / SW846 6020A
MANGANESE	0.0084	mg/kg	MS	SW846 3050B / SW846 6020A
NICKEL	0.0053	mg/kg	MS	SW846 3050B / SW846 6020A
POTASSIUM	0.91	mg/kg	MS	SW846 3050B / SW846 6020A
SELENIUM	0.0078	mg/kg	MS	SW846 3050B / SW846 6020A
SILVER	0.0013	mg/kg	MS	SW846 3050B / SW846 6020A
SODIUM	0.51	mg/kg	MS	SW846 3050B / SW846 6020A
THALLIUM	0.0019	mg/kg	MS	SW846 3050B / SW846 6020A
VANADIUM	0.022	mg/kg	MS	SW846 3050B / SW846 6020A
ZINC	0.026	mg/kg	MS	SW846 3050B / SW846 6020A

ICP LINEAR RANGES

Lab Name: Katahdin Analytical Services **Instrument Code:** J

Instrument Name: AGILENT 7500 ICP-MS **Date:** 1/31/2018

Concentration Units: ug/L

Analyte	Integration Time (sec)	Linear Range	M
ALUMINUM	0.01	200000	MS
ANTIMONY	0.10	1000	MS
ARSENIC	0.30	1000	MS
BARIUM	0.10	2000	MS
BERYLLIUM	0.30	100	MS
CADMIUM	0.10	1000	MS
CALCIUM	0.03	200000	MS
CHROMIUM	0.10	2000	MS
COBALT	0.10	1000	MS
COPPER	0.10	2000	MS
IRON	0.03	100000	MS
LEAD	0.10	2000	MS
MAGNESIUM	0.05	200000	MS
MANGANESE	0.10	2000	MS
MOLYBDENUM	0.10	1000	MS
NICKEL	0.10	1000	MS
POTASSIUM	0.01	200000	MS
SELENIUM	0.30	1000	MS
SILVER	0.10	100	MS
SODIUM	0.01	200000	MS
THALLIUM	0.10	1000	MS
VANADIUM	0.10	1000	MS
ZINC	0.10	2000	MS

PREPARATION LOG

Lab Name: Katahdin Analytical Services **QC Batch ID:** LE17HGW2

Matrix: WATER **SDG Name:** SL4180

Method: CV **Prep Date:** 05/17/2018

Client ID	Lab Sample ID	Initial (L)	Final (L)	Bottle ID
LCSWLE17HGW2	LCSWLE17HGW2	0.025	0.025	
PBWLE17HGW2	PBWLE17HGW2	0.025	0.025	
CHAAP-EB-051418	SL4180-029	0.025	0.025	D

PREPARATION LOG

Lab Name: Katahdin Analytical Services **QC Batch ID:** LE21HGS1

Matrix: SOIL **SDG Name:** SL4180

Method: CV **Prep Date:** 05/21/2018

Client ID	Lab Sample ID	Initial (g)	Final (L)	Bottle ID
LCSOLE21HGS1	LCSOLE21HGS1	0.6	0.1	
PBSLE21HGS1	PBSLE21HGS1	0.6	0.1	
CHAAP-21B-DS-SS02	SL4180-001	0.79	0.1	E
CHAAP-21B-DS-SS102	SL4180-002	0.7	0.1	E
CHAAP-21B-DS-SB02-5	SL4180-003	0.72	0.1	E
CHAAP-21B-DS-SB02-10	SL4180-004	0.61	0.1	E
CHAAP-21B-DS-SS06	SL4180-005	0.73	0.1	E
CHAAP-21B-DS-SB06-5	SL4180-006	0.85	0.1	E
CHAAP-21B-DS-SB06-10	SL4180-007	0.67	0.1	E
CHAAP-21B-DS-SS07	SL4180-008	0.74	0.1	O
CHAAP-21B-DS-SS07P	SL4180-008P	0.75	0.1	O
CHAAP-21B-DS-SS07S	SL4180-008S	0.76	0.1	O
CHAAP-21B-DS-SB07-5	SL4180-009	0.87	0.1	E
CHAAP-21B-DS-SB107-5	SL4180-010	79	0.1	E
CHAAP-21B-DS-SB07-10	SL4180-011	0.9	0.1	E
CHAAP-21B-DS-SS08	SL4180-012	0.62	0.1	E
CHAAP-21B-DS-SB08-5	SL4180-013	0.66	0.1	E
CHAAP-21B-DS-SS09	SL4180-014	0.81	0.1	E
CHAAP-21B-DS-SB09-5	SL4180-015	0.64	0.1	E
CHAAP-21B-DS-SS11	SL4180-016	0.81	0.1	E
CHAAP-21B-DS-SS111	SL4180-017	0.84	0.1	E
CHAAP-21B-DS-SS10	SL4180-019	0.89	0.1	E
CHAAP-21B-DS-SB10-5	SL4180-020	0.77	0.1	E
CHAAP-21B-DS-SS04	SL4180-021	0.72	0.1	E

PREPARATION LOG

Lab Name: Katahdin Analytical Services **QC Batch ID:** LE21HGS2

Matrix: SOIL **SDG Name:** SL4180

Method: CV **Prep Date:** 05/21/2018

Client ID	Lab Sample ID	Initial (g)	Final (L)	Bottle ID
LCSOLE21HGS2	LCSOLE21HGS2	0.6	0.1	
PBSLE21HGS2	PBSLE21HGS2	0.6	0.1	
CHAAP-21B-DS-SB11-5	SL4180-018	0.85	0.1	N
CHAAP-21B-DS-SB11-5P	SL4180-018P	0.87	0.1	N
CHAAP-21B-DS-SB11-5S	SL4180-018S	0.85	0.1	N
CHAAP-21B-DS-SB04-5	SL4180-022	0.87	0.1	E
CHAAP-21B-DS-SB04-10	SL4180-023	0.8	0.1	E
CHAAP-21B-DS-SS03	SL4180-024	0.82	0.1	E
CHAAP-21B-DS-SS103	SL4180-025	0.63	0.1	E
CHAAP-21B-DS-SB03-5	SL4180-026	0.83	0.1	E
CHAAP-21B-DS-SB03-10	SL4180-027	0.81	0.1	E

PREPARATION LOG

Lab Name: Katahdin Analytical Services **QC Batch ID:** LE21IMS1

Matrix: SOIL **SDG Name:** SL4180

Method: MS **Prep Date:** 05/21/2018

Client ID	Lab Sample ID	Initial (g)	Final (L)	Bottle ID
LCSOLE21IMS1	LCSOLE21IMS1	1	0.1	
PBSLE21IMS1	PBSLE21IMS1	1	0.1	
CHAAP-21B-DS-SS02	SL4180-001	1.74	0.1	E
CHAAP-21B-DS-SS102	SL4180-002	1.44	0.1	E
CHAAP-21B-DS-SB02-5	SL4180-003	1.89	0.1	E
CHAAP-21B-DS-SB02-10	SL4180-004	1.39	0.1	E
CHAAP-21B-DS-SS06	SL4180-005	1.92	0.1	E
CHAAP-21B-DS-SB06-5	SL4180-006	1.19	0.1	E
CHAAP-21B-DS-SB06-10	SL4180-007	1.27	0.1	E
CHAAP-21B-DS-SS07	SL4180-008	1.1	0.1	O
CHAAP-21B-DS-SS07P	SL4180-008P	1.1	0.1	O
CHAAP-21B-DS-SS07S	SL4180-008S	1.14	0.1	O
CHAAP-21B-DS-SB07-5	SL4180-009	1.14	0.1	E
CHAAP-21B-DS-SB107-5	SL4180-010	1.57	0.1	E
CHAAP-21B-DS-SB07-10	SL4180-011	1.5	0.1	E
CHAAP-21B-DS-SS08	SL4180-012	1.27	0.1	E
CHAAP-21B-DS-SB08-5	SL4180-013	1.23	0.1	E
CHAAP-21B-DS-SS09	SL4180-014	1.11	0.1	E
CHAAP-21B-DS-SB09-5	SL4180-015	1.94	0.1	E
CHAAP-21B-DS-SS11	SL4180-016	1.58	0.1	E
CHAAP-21B-DS-SS111	SL4180-017	1.26	0.1	E

PREPARATION LOG

Lab Name: Katahdin Analytical Services **QC Batch ID:** LE21IMS2

Matrix: SOIL **SDG Name:** SL4180

Method: MS **Prep Date:** 05/21/2018

Client ID	Lab Sample ID	Initial (g)	Final (L)	Bottle ID
LCSOLE21IMS2	LCSOLE21IMS2	1	0.1	
PBSLE21IMS2	PBSLE21IMS2	1	0.1	
CHAAP-21B-DS-SB11-5	SL4180-018	1.21	0.1	N
CHAAP-21B-DS-SB11-5P	SL4180-018P	1.21	0.1	N
CHAAP-21B-DS-SB11-5S	SL4180-018S	1.21	0.1	N
CHAAP-21B-DS-SS10	SL4180-019	1.16	0.1	E
CHAAP-21B-DS-SB10-5	SL4180-020	1.03	0.1	E
CHAAP-21B-DS-SS04	SL4180-021	1.28	0.1	E
CHAAP-21B-DS-SB04-5	SL4180-022	1.02	0.1	E
CHAAP-21B-DS-SB04-10	SL4180-023	1.32	0.1	E
CHAAP-21B-DS-SS03	SL4180-024	1.55	0.1	E
CHAAP-21B-DS-SS103	SL4180-025	1.48	0.1	E
CHAAP-21B-DS-SB03-5	SL4180-026	1.26	0.1	E
CHAAP-21B-DS-SB03-10	SL4180-027	1.35	0.1	E

PREPARATION LOG

Lab Name: Katahdin Analytical Services **QC Batch ID:** LE21IMW2

Matrix: WATER **SDG Name:** SL4180

Method: MS **Prep Date:** 05/21/2018

Client ID	Lab Sample ID	Initial (L)	Final (L)	Bottle ID
LCSWLE21IMW2	LCSWLE21IMW2	0.05	0.05	
PBWLE21IMW2	PBWLE21IMW2	0.05	0.05	
CHAAP-EB-051418	SL4180-029	0.05	0.05	D

ANALYSIS RUN LOG

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Instrument ID: CETAC M6100 **File Name:** HLE17A

Date: 5/17/2018 **Method:** CV

Lab Sample ID	Client ID	D.F.	Time	Elements
Calibration Blank		1	12:34	Hg
Standard #1 (0.2 ppb		1	12:37	Hg
Standard #2 (0.5 ppb		1	12:39	Hg
Standard #3 (1.0 ppb		1	12:41	Hg
Standard #4 (5.0 ppb		1	12:43	Hg
Standard #5 (10.0 pp		1	12:45	Hg
ICV		1	12:47	HG
ICB		1	12:49	HG
PQL		1	12:51	HG
CCV		1	12:54	HG
CCB		1	12:56	HG
ZZZZZZ		1	12:58	
ZZZZZZ		1	13:00	
ZZZZZZ		1	13:02	
ZZZZZZ		1	13:04	
ZZZZZZ		1	13:06	
ZZZZZZ		1	13:09	
ZZZZZZ		1	13:11	
ZZZZZZ		1	13:13	
ZZZZZZ		1	13:15	
CCV		1	13:17	HG
CCB		1	13:19	HG
ZZZZZZ		1	13:21	
ZZZZZZ		1	13:23	
ZZZZZZ		1	13:26	
ZZZZZZ		1	13:28	
PBWLE17HGW2		1	13:30	HG

ANALYSIS RUN LOG

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Instrument ID: CETAC M6100 **File Name:** HLE17A

Date: 5/17/2018 **Method:** CV

Lab Sample ID	Client ID	D.F.	Time	Elements
LCSWLE17HGW2		1	13:32	HG
ZZZZZZ		1	13:34	
SL4180-029	CHAAP-EB-051418	1	13:36	HG
ZZZZZZ		1	13:38	
ZZZZZZ		1	13:41	
CCV		1	13:43	HG
CCB		1	13:46	HG

ANALYSIS RUN LOG

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Instrument ID: CETAC M6100 **File Name:** HLE21A

Date: 5/21/2018 **Method:** CV

Lab Sample ID	Client ID	D.F.	Time	Elements
Calibration Blank		1	11:16	Hg
Standard #1 (0.2 ppb		1	11:18	Hg
Standard #2 (0.5 ppb		1	11:20	Hg
Standard #3 (1.0 ppb		1	11:22	Hg
Standard #4 (5.0 ppb		1	11:24	Hg
Standard #5 (10.0 pp		1	11:27	Hg
ICV		1	11:30	HG
ICB		1	11:32	HG
PQL		1	11:34	HG
CCV		1	11:36	HG
CCB		1	11:38	HG
PBSLE21HGS1		1	11:40	HG
LCSOLE21HGS1		1	11:43	HG
SL4180-001	CHAAP-21B-DS-SS02	1	11:45	HG
SL4180-002	CHAAP-21B-DS-SS102	1	11:47	HG
SL4180-003	CHAAP-21B-DS-SB02-5	1	11:49	HG
SL4180-004	CHAAP-21B-DS-SB02-10	1	11:51	HG
SL4180-005	CHAAP-21B-DS-SS06	1	11:53	HG
SL4180-006	CHAAP-21B-DS-SB06-5	1	11:55	HG
SL4180-007	CHAAP-21B-DS-SB06-10	1	11:57	HG
CCV		1	12:00	HG
CCB		1	12:02	HG
SL4180-008	CHAAP-21B-DS-SS07	1	12:04	HG
SL4180-008L	CHAAP-21B-DS-SS07L	5	12:06	HG
ZZZZZZ		1	12:08	
SL4180-008S	CHAAP-21B-DS-SS07S	1	12:10	HG
SL4180-008P	CHAAP-21B-DS-SS07P	1	12:12	HG

ANALYSIS RUN LOG

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Instrument ID: CETAC M6100 **File Name:** HLE21A

Date: 5/21/2018 **Method:** CV

Lab Sample ID	Client ID	D.F.	Time	Elements
SL4180-009	CHAAP-21B-DS-SB07-5	1	12:15	HG
SL4180-010	CHAAP-21B-DS-SB107-5	1	12:17	HG
SL4180-011	CHAAP-21B-DS-SB07-10	1	12:19	HG
SL4180-012	CHAAP-21B-DS-SS08	1	12:21	HG
SL4180-013	CHAAP-21B-DS-SB08-5	1	12:23	HG
CCV		1	12:25	HG
CCB		1	12:27	HG
SL4180-014	CHAAP-21B-DS-SS09	1	12:30	HG
SL4180-015	CHAAP-21B-DS-SB09-5	1	12:32	HG
SL4180-016	CHAAP-21B-DS-SS11	1	12:34	HG
SL4180-017	CHAAP-21B-DS-SS111	1	12:36	HG
SL4180-019	CHAAP-21B-DS-SS10	1	12:38	HG
SL4180-020	CHAAP-21B-DS-SB10-5	1	12:40	HG
SL4180-021	CHAAP-21B-DS-SS04	1	12:43	HG
PBSLE21HGS2		1	12:45	HG
LCSOLE21HGS2		1	12:47	HG
SL4180-018	CHAAP-21B-DS-SB11-5	1	12:49	HG
CCV		1	12:51	HG
CCB		1	12:53	HG
SL4180-018L	CHAAP-21B-DS-SB11-5L	5	12:55	HG
ZZZZZZ		1	12:58	
SL4180-018S	CHAAP-21B-DS-SB11-5S	1	13:00	HG
SL4180-018P	CHAAP-21B-DS-SB11-5P	1	13:02	HG
SL4180-022	CHAAP-21B-DS-SB04-5	1	13:04	HG
SL4180-023	CHAAP-21B-DS-SB04-10	1	13:06	HG
SL4180-024	CHAAP-21B-DS-SS03	1	13:08	HG
SL4180-025	CHAAP-21B-DS-SS103	1	13:11	HG

ANALYSIS RUN LOG

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Instrument ID: CETAC M6100 **File Name:** HLE21A

Date: 5/21/2018 **Method:** CV

Lab Sample ID	Client ID	D.F.	Time	Elements
SL4180-026	CHAAP-21B-DS-SB03-5	1	13:13	HG
SL4180-027	CHAAP-21B-DS-SB03-10	1	13:15	HG
CCV		1	13:17	HG
CCB		1	13:19	HG
ZZZZZZ		1	13:21	
ZZZZZZ		1	13:23	
ZZZZZZ		1	13:26	
ZZZZZZ		1	13:28	
ZZZZZZ		1	13:30	
ZZZZZZ		1	13:32	
ZZZZZZ		1	13:34	
ZZZZZZ		1	13:37	
ZZZZZZ		1	13:39	
ZZZZZZ		1	13:41	
CCV		1	13:45	HG
CCB		1	13:47	HG
ZZZZZZ		1	13:49	
ZZZZZZ		1	13:52	
ZZZZZZ		1	13:54	
ZZZZZZ		1	13:56	
ZZZZZZ		1	13:58	
ZZZZZZ		1	14:00	
ZZZZZZ		5	14:02	
ZZZZZZ		1	14:05	
ZZZZZZ		1	14:07	
ZZZZZZ		1	14:09	
CCV		1	14:11	HG

ANALYSIS RUN LOG

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Instrument ID: CETAC M6100 **File Name:** HLE21A

Date: 5/21/2018 **Method:** CV

Lab Sample ID	Client ID	D.F.	Time	Elements
CCB		1	14:13	HG
ZZZZZZ		1	14:15	
ZZZZZZ		1	14:18	
ZZZZZZ		1	14:20	
ZZZZZZ		1	14:22	
ZZZZZZ		1	14:24	
ZZZZZZ		1	14:28	
ZZZZZZ		1	14:31	
ZZZZZZ		1	14:33	
ZZZZZZ		1	14:35	
ZZZZZZ		1	14:37	
CCV		1	14:39	HG
CCB		1	14:41	HG
ZZZZZZ		1	14:43	
ZZZZZZ		1	14:46	
ZZZZZZ		1	14:48	
ZZZZZZ		5	14:50	
ZZZZZZ		1	14:52	
ZZZZZZ		1	14:54	
ZZZZZZ		1	14:56	
ZZZZZZ		1	14:58	
ZZZZZZ		1	15:01	
ZZZZZZ		1	15:03	
CCV		1	15:05	HG
CCB		1	15:07	HG
ZZZZZZ		1	15:09	
SL4180-008A	CHAAP-21B-DS-SS07A	1	15:11	HG

ANALYSIS RUN LOG

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Instrument ID: CETAC M6100 **File Name:** HLE21A

Date: 5/21/2018 **Method:** CV

Lab Sample ID	Client ID	D.F.	Time	Elements
SL4180-018A	CHAAP-21B-DS-SB11-5A	1	15:13	HG
CCV		1	15:16	HG
CCB		1	15:18	HG

ANALYSIS RUN LOG

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Instrument ID: AGILENT 7500 ICP-MS **File Name:** JLE21C

Date: 5/21/2018 **Method:** MS

Lab Sample ID	Client ID	D.F.	Time	Elements
6020 TUNE		1	14:17	
200.8 TUNE		1	14:20	
Cal Blank		1	18:33	Al Sb As Ba Be Cd Ca Cr Co Fe Pb Mg Mn Mo Ni K Ag Na Tl V Zn
Cal Std		1	18:37	Al Sb As Ba Be Cd Ca Cr Co Fe Pb Mg Mn Mo Ni K Ag Na Tl V Zn
ICV		1	18:41	Al Sb As Ba Be Cd Ca Cr Co Fe Pb Mg Mn Mo Ni K Ag Na Tl V Zn
ICB		1	18:45	Al Sb As Ba Be Cd Ca Cr Co Fe Pb Mg Mn Mo Ni K Ag Na Tl V Zn
PQL		1	18:49	Al Sb As Ba Be Cd Ca Cr Co Fe Pb Mg Mn Mo Ni K Ag Na Tl V Zn
ZZZZZZ		1	18:53	
ICSA		1	18:58	Al Sb As Ba Be Cd Ca Cr Co Fe Pb Mg Mn Mo Ni K Ag Na Tl V Zn
ICSAB		1	19:02	Al Sb As Ba Be Cd Ca Cr Co Fe Pb Mg Mn Mo Ni K Ag Na Tl V Zn
ZZZZZZ		1	19:06	
ZZZZZZ		1	19:10	
ZZZZZZ		1	19:14	
ZZZZZZ		1	19:18	
ZZZZZZ		1	19:22	
CCV		1	19:27	Al Sb As Ba Be Cd Ca Cr Co Fe Pb Mg Mn Mo Ni K Ag Na Tl V Zn
CCB		1	19:31	Al Sb As Ba Be Cd Ca Cr Co Fe Pb Mg Mn Mo Ni K Ag Na Tl V Zn
ZZZZZZ		1	19:35	
ZZZZZZ		1	19:39	
ZZZZZZ		1	19:43	
ZZZZZZ		1	19:47	
ZZZZZZ		1	19:51	
ZZZZZZ		1	19:56	
ZZZZZZ		1	20:00	
ZZZZZZ		1	20:04	
ZZZZZZ		5	20:08	
ZZZZZZ		5	20:13	

ANALYSIS RUN LOG

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Instrument ID: AGILENT 7500 ICP-MS **File Name:** JLE21C

Date: 5/21/2018 **Method:** MS

| Lab Sample ID | Client ID | D.F. | Time | Elements | | |

ANALYSIS RUN LOG

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Instrument ID: AGILENT 7500 ICP-MS **File Name:** JLE21C

Date: 5/21/2018 **Method:** MS

Lab Sample ID	Client ID	D.F.	Time	Elements
ZZZZZZ		1	22:11	
ZZZZZZ		1	22:15	
ZZZZZZ		1	22:19	
ZZZZZZ		1	22:24	
ZZZZZZ		1	22:28	
ZZZZZZ		1	22:32	
PBWLE21IMW2		5	22:37	Al Sb As Ba Be Cd Ca Cr Co Fe Pb Mg Mn Ni K Ag Na Tl V Zn
LCSWLE21IMW2		5	22:41	Al Sb As Ba Be Cd Ca Cr Co Fe Pb Mg Mn Ni K Ag Na Tl V Zn
SL4180-029	CHAAP-EB-051418	5	22:45	Al Sb As Ba Be Cd Ca Cr Co Fe Pb Mg Mn Ni K Ag Na Tl V Zn
CCV		1	22:49	Al Sb As Ba Be Cd Ca Cr Co Fe Pb Mg Mn Mo Ni K Ag Na Tl V Zn
CCB		1	22:53	Al Sb As Ba Be Cd Ca Cr Co Fe Pb Mg Mn Mo Ni K Ag Na Tl V Zn
ZZZZZZ		5	22:58	
PBSLE21IMS1		5	23:02	Al Sb As Ba Be Cd Ca Cr Co Fe Pb Mg Mn Ni K Ag Na Tl V Zn
LCSOLE21IMS1		5	23:06	Al Sb As Ba Be Cd Ca Cr Co Fe Pb Mg Mn Ni K Ag Na Tl V Zn
ZZZZZZ		5	23:10	
SL4180-001	CHAAP-21B-DS-SS02	5	23:15	Al Sb As Ba Be Cd Ca Cr Co Fe Pb Mg Mn Ni K Ag Na Tl V Zn
SL4180-002	CHAAP-21B-DS-SS102	5	23:19	Al Sb As Ba Be Cd Ca Cr Co Fe Pb Mg Mn Ni K Ag Na Tl V Zn
SL4180-003	CHAAP-21B-DS-SB02-5	5	23:23	Al Sb As Ba Be Cd Ca Cr Co Fe Pb Mg Mn Ni K Ag Na Tl V Zn
SL4180-004	CHAAP-21B-DS-SB02-10	5	23:28	Al Sb As Ba Be Cd Ca Cr Co Fe Pb Mg Mn Ni K Ag Na Tl V Zn
SL4180-005	CHAAP-21B-DS-SS06	5	23:32	Al Sb As Ba Be Cd Ca Cr Co Fe Pb Mg Mn Ni K Ag Na Tl V Zn
ZZZZZZ		1	23:37	
CCV		1	23:41	Al Sb As Ba Be Cd Ca Cr Co Fe Pb Mg Mn Mo Ni K Ag Na Tl V Zn
CCB		1	23:45	Al Sb As Ba Be Cd Ca Cr Co Fe Pb Mg Mn Mo Ni K Ag Na Tl V Zn
SL4180-006	CHAAP-21B-DS-SB06-5	5	23:49	Al Sb As Ba Be Cd Ca Cr Co Pb Mg Mn Ni K Ag Na Tl V Zn
SL4180-007	CHAAP-21B-DS-SB06-10	5	23:54	Al Sb As Ba Be Cd Ca Cr Co Pb Mg Mn Ni K Ag Na Tl V Zn
SL4180-008	CHAAP-21B-DS-SS07	5	23:58	Al Sb As Ba Be Cd Ca Cr Co Pb Mg Mn Ni K Ag Na Tl V Zn
SL4180-008L	CHAAP-21B-DS-SS07L	25	0:03	Al Sb As Ba Be Cd Ca Cr Co Pb Mg Mn Ni K Ag Na Tl V Zn

ANALYSIS RUN LOG

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Instrument ID: AGILENT 7500 ICP-MS **File Name:** JLE21C

Date: 5/22/2018 **Method:** MS

Lab Sample ID	Client ID	D.F.	Time	Elements
SL4180-008A	CHAAP-21B-DS-SS07A	5	0:07	Al Sb As Ba Be Cd Ca Cr Co Pb Mg Mn Ni K Ag Na Tl V Zn
SL4180-008S	CHAAP-21B-DS-SS07S	5	0:11	Al Sb As Ba Be Cd Ca Cr Co Pb Mg Mn Ni K Ag Na Tl V Zn
SL4180-008P	CHAAP-21B-DS-SS07P	5	0:16	Al Sb As Ba Be Cd Ca Cr Co Pb Mg Mn Ni K Ag Na Tl V Zn
SL4180-009	CHAAP-21B-DS-SB07-5	5	0:20	Al Sb As Ba Be Cd Ca Cr Co Pb Mg Mn Ni K Ag Na Tl V Zn
SL4180-010	CHAAP-21B-DS-SB107-5	5	0:24	Al Sb As Ba Be Cd Ca Cr Co Pb Mg Mn Ni K Ag Na Tl V Zn
ZZZZZZ		1	0:29	
CCV		1	0:33	Al Sb As Ba Be Cd Ca Cr Co Fe Pb Mg Mn Mo Ni K Ag Na Tl V Zn
CCB		1	0:37	Al Sb As Ba Be Cd Ca Cr Co Fe Pb Mg Mn Mo Ni K Ag Na Tl V Zn
SL4180-011	CHAAP-21B-DS-SB07-10	5	0:41	Al Sb As Ba Be Cd Ca Cr Co Pb Mg Mn Ni K Ag Na Tl V Zn
SL4180-012	CHAAP-21B-DS-SS08	5	0:46	Al Sb As Ba Be Cd Ca Cr Co Pb Mg Mn Ni K Ag Na Tl V Zn
SL4180-013	CHAAP-21B-DS-SB08-5	5	0:50	Al Sb As Ba Be Cd Ca Cr Co Pb Mg Mn Ni K Ag Na Tl V Zn
SL4180-014	CHAAP-21B-DS-SS09	5	0:55	Al Sb As Ba Be Cd Ca Cr Co Pb Mg Mn Ni K Ag Na Tl V Zn
SL4180-015	CHAAP-21B-DS-SB09-5	5	0:59	Al Sb As Ba Be Cd Ca Cr Co Pb Mg Mn Ni K Ag Na Tl V Zn
SL4180-016	CHAAP-21B-DS-SS11	5	1:03	Al Sb As Ba Be Cd Ca Cr Co Pb Mg Mn Ni K Ag Na Tl V Zn
SL4180-017	CHAAP-21B-DS-SS111	5	1:08	Al Sb As Ba Be Cd Ca Cr Co Pb Mg Mn Ni K Ag Na Tl V Zn
ZZZZZZ		1	1:12	
PBSLE21IMS2		5	1:16	Al Sb As Ba Be Cd Ca Cr Co Pb Mg Ni K Ag Na Tl V Zn
LCSOLE21IMS2		5	1:20	Al Sb As Ba Be Cd Ca Cr Co Pb Mg Ni K Ag Na Tl V Zn
CCV		1	1:25	Al Sb As Ba Be Cd Ca Cr Co Fe Pb Mg Mn Mo Ni K Ag Na Tl V Zn
CCB		1	1:29	Al Sb As Ba Be Cd Ca Cr Co Fe Pb Mg Mn Mo Ni K Ag Na Tl V Zn
SL4180-018	CHAAP-21B-DS-SB11-5	5	1:33	Sb Ba Pb Tl
SL4180-018L	CHAAP-21B-DS-SB11-5L	25	1:38	Sb Ba Pb Tl
SL4180-018A	CHAAP-21B-DS-SB11-5A	5	1:42	Sb Ba Pb Tl
SL4180-018S	CHAAP-21B-DS-SB11-5S	5	1:46	Sb Ba Pb Tl
SL4180-018P	CHAAP-21B-DS-SB11-5P	5	1:51	Sb Ba Pb Tl
SL4180-019	CHAAP-21B-DS-SS10	5	1:55	Sb Ba Pb Tl
SL4180-020	CHAAP-21B-DS-SB10-5	5	1:59	Sb Ba Pb Tl

ANALYSIS RUN LOG

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Instrument ID: AGILENT 7500 ICP-MS **File Name:** JLE21C

Date: 5/22/2018 **Method:** MS

Lab Sample ID	Client ID	D.F.	Time	Elements
SL4180-021	CHAAP-21B-DS-SS04	5	2:04	Sb Ba Pb Tl
SL4180-022	CHAAP-21B-DS-SB04-5	5	2:08	Sb Ba Pb Tl
ZZZZZZ		1	2:13	
CCV		1	2:17	Al Sb As Ba Be Cd Ca Cr Co Fe Pb Mg Mn Mo Ni K Ag Na Tl V Zn
CCB		1	2:21	Al Sb As Ba Be Cd Ca Cr Co Fe Pb Mg Mn Mo Ni K Ag Na Tl V Zn
SL4180-023	CHAAP-21B-DS-SB04-10	5	2:25	Sb Ba Pb Tl
SL4180-024	CHAAP-21B-DS-SS03	5	2:30	Sb Ba Pb Tl
SL4180-025	CHAAP-21B-DS-SS103	5	2:34	Sb Ba Pb Tl
SL4180-026	CHAAP-21B-DS-SB03-5	5	2:39	Sb Ba Pb Tl
SL4180-027	CHAAP-21B-DS-SB03-10	5	2:43	Sb Ba Pb Tl
ZZZZZZ		5	2:47	
ZZZZZZ		5	2:52	
ZZZZZZ		5	2:56	
ZZZZZZ		5	3:00	
ZZZZZZ		1	3:05	
CCV		1	3:09	Al Sb As Ba Be Cd Ca Cr Co Fe Pb Mg Mn Mo Ni K Ag Na Tl V Zn
CCB		1	3:13	Al Sb As Ba Be Cd Ca Cr Co Fe Pb Mg Mn Mo Ni K Ag Na Tl V Zn

ANALYSIS RUN LOG

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Instrument ID: AGILENT 7500 ICP-MS **File Name:** JLE22A

Date: 5/22/2018 **Method:** MS

Lab Sample ID	Client ID	D.F.	Time	Elements
6020 TUNE		1	13:47	
200.8 TUNE		1	13:50	
Cal Blank		1	14:36	Al As Be Cd Ca Cr Co Cu Fe Mg Mn Mo Ni K Se Ag Na V Zn
Cal Std		1	14:39	Al As Be Cd Ca Cr Co Cu Fe Mg Mn Mo Ni K Se Ag Na V Zn
ICV		1	14:43	Al As Be Cd Ca Cr Co Cu Fe Mg Mn Mo Ni K Se Ag Na V Zn
ICB		1	14:47	Al As Be Cd Ca Cr Co Cu Fe Mg Mn Mo Ni K Se Ag Na V Zn
PQL		1	14:50	Al As Be Cd Ca Cr Co Cu Fe Mg Mn Mo Ni K Se Ag Na V Zn
ZZZZZZ		1	14:54	
ICSA		1	14:57	Al As Be Cd Ca Cr Co Cu Fe Mg Mn Mo Ni K Se Ag Na V Zn
ICSAB		1	15:01	Al As Be Cd Ca Cr Co Cu Fe Mg Mn Mo Ni K Se Ag Na V Zn
ZZZZZZ		1	15:05	
ZZZZZZ		1	15:09	
ZZZZZZ		1	15:12	
ZZZZZZ		1	15:16	
ZZZZZZ		1	15:19	
CCV		1	15:23	Al As Be Cd Ca Cr Co Cu Fe Mg Mn Mo Ni K Se Ag Na V Zn
CCB		1	15:27	Al As Be Cd Ca Cr Co Cu Fe Mg Mn Mo Ni K Se Ag Na V Zn
ZZZZZZ		1	15:30	
PBWLE21IMW2		5	15:34	Cu Se
LCSWLE21IMW2		5	15:38	Cu Se
SL4180-029	CHAAP-EB-051418	5	15:42	Cu Se
ZZZZZZ		5	15:45	
ZZZZZZ		5	15:49	
ZZZZZZ		5	15:53	
ZZZZZZ		5	15:57	
ZZZZZZ		5	16:00	
ZZZZZZ		1	16:04	

ANALYSIS RUN LOG

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Instrument ID: AGILENT 7500 ICP-MS **File Name:** JLE22A

Date: 5/22/2018 **Method:** MS

Lab Sample ID	Client ID	D.F.	Time	Elements
CCV		1	16:08	Al As Be Cd Ca Cr Co Cu Fe Mg Mn Mo Ni K Se Ag Na V Zn
CCB		1	16:12	Al As Be Cd Ca Cr Co Cu Fe Mg Mn Mo Ni K Se Ag Na V Zn
ZZZZZZ		5	16:16	
ZZZZZZ		5	16:20	
ZZZZZZ		5	16:24	
ZZZZZZ		5	16:27	
ZZZZZZ		5	16:31	
ZZZZZZ		5	16:35	
ZZZZZZ		5	16:39	
ZZZZZZ		5	16:43	
ZZZZZZ		5	16:47	
ZZZZZZ		1	16:51	
CCV		1	16:55	Al As Be Cd Ca Cr Co Cu Fe Mg Mn Mo Ni K Se Ag Na V Zn
CCB		1	16:59	Al As Be Cd Ca Cr Co Cu Fe Mg Mn Mo Ni K Se Ag Na V Zn
ZZZZZZ		25	17:03	
ZZZZZZ		5	17:07	
ZZZZZZ		5	17:11	
ZZZZZZ		5	17:15	
ZZZZZZ		5	17:19	
ZZZZZZ		5	17:23	
ZZZZZZ		1	17:27	
ZZZZZZ		1	17:31	
PBSLE21IMS1		5	17:35	Cu Se
LCSOLE21IMS1		5	17:39	Cu Se
CCV		1	17:43	Al As Be Cd Ca Cr Co Cu Fe Mg Mn Mo Ni K Se Ag Na V Zn
CCB		1	17:47	Al As Be Cd Ca Cr Co Cu Fe Mg Mn Mo Ni K Se Ag Na V Zn
SL4180-001	CHAAP-21B-DS-SS02	5	17:51	Cu Se

ANALYSIS RUN LOG

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Instrument ID: AGILENT 7500 ICP-MS **File Name:** JLE22A

Date: 5/22/2018 **Method:** MS

Lab Sample ID	Client ID	D.F.	Time	Elements
SL4180-002	CHAAP-21B-DS-SS102	5	17:55	Cu Se
SL4180-003	CHAAP-21B-DS-SB02-5	5	18:00	Cu Se
SL4180-004	CHAAP-21B-DS-SB02-10	5	18:04	Cu Se
SL4180-005	CHAAP-21B-DS-SS06	5	18:08	Cu Se
SL4180-006	CHAAP-21B-DS-SB06-5	5	18:12	Cu Fe Se
SL4180-007	CHAAP-21B-DS-SB06-10	5	18:16	Cu Fe Se
SL4180-008	CHAAP-21B-DS-SS07	5	18:21	Cu Fe Se
SL4180-008L	CHAAP-21B-DS-SS07L	25	18:25	Cu Fe Se
ZZZZZZ		1	18:29	
CCV		1	18:33	Al As Be Cd Ca Cr Co Cu Fe Mg Mn Mo Ni K Se Ag Na V Zn
CCB		1	18:37	Al As Be Cd Ca Cr Co Cu Fe Mg Mn Mo Ni K Se Ag Na V Zn
SL4180-008A	CHAAP-21B-DS-SS07A	5	18:41	Cu Fe Se
SL4180-008S	CHAAP-21B-DS-SS07S	5	18:46	Cu Fe Se
SL4180-008P	CHAAP-21B-DS-SS07P	5	18:50	Cu Fe Se
SL4180-009	CHAAP-21B-DS-SB07-5	5	18:54	Cu Fe Se
SL4180-010	CHAAP-21B-DS-SB107-5	5	18:58	Cu Fe Se
SL4180-011	CHAAP-21B-DS-SB07-10	5	19:03	Cu Fe Se
SL4180-012	CHAAP-21B-DS-SS08	5	19:07	Cu Fe Se
SL4180-013	CHAAP-21B-DS-SB08-5	5	19:11	Cu Fe Se
SL4180-014	CHAAP-21B-DS-SS09	5	19:15	Cu Fe Se
ZZZZZZ		1	19:20	
CCV		1	19:24	Al As Be Cd Ca Cr Co Cu Fe Mg Mn Mo Ni K Se Ag Na V Zn
CCB		1	19:28	Al As Be Cd Ca Cr Co Cu Fe Mg Mn Mo Ni K Se Ag Na V Zn
SL4180-015	CHAAP-21B-DS-SB09-5	5	19:32	Cu Fe Se
SL4180-016	CHAAP-21B-DS-SS11	5	19:36	Cu Fe Se
SL4180-017	CHAAP-21B-DS-SS111	5	19:41	Cu Fe Se
ZZZZZZ		1	19:45	

ANALYSIS RUN LOG

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Instrument ID: AGILENT 7500 ICP-MS **File Name:** JLE22A

Date: 5/22/2018 **Method:** MS

Lab Sample ID	Client ID	D.F.	Time	Elements
PBSLE21IMS2		5	19:49	Cu Fe Mn Se
LCSOLE21IMS2		5	19:54	Cu Fe Mn Se
SL4180-018	CHAAP-21B-DS-SB11-5	5	19:58	Al As Be Cd Ca Cr Co Cu Fe Mg Mn Ni K Se Ag Na V Zn
SL4180-018L	CHAAP-21B-DS-SB11-5L	25	20:02	Al As Be Cd Ca Cr Co Cu Fe Mg Mn Ni K Se Ag Na V Zn
SL4180-018A	CHAAP-21B-DS-SB11-5A	5	20:06	Al As Be Cd Ca Cr Co Cu Fe Mg Mn Ni K Se Ag Na V Zn
ZZZZZZ		1	20:10	
CCV		1	20:15	Al As Be Cd Ca Cr Co Cu Fe Mg Mn Mo Ni K Se Ag Na V Zn
CCB		1	20:19	Al As Be Cd Ca Cr Co Cu Fe Mg Mn Mo Ni K Se Ag Na V Zn
SL4180-018S	CHAAP-21B-DS-SB11-5S	5	20:23	Al As Be Cd Ca Cr Co Cu Fe Mg Mn Ni K Se Ag Na V Zn
SL4180-018P	CHAAP-21B-DS-SB11-5P	5	20:27	Al As Be Cd Ca Cr Co Cu Fe Mg Mn Ni K Se Ag Na V Zn
SL4180-019	CHAAP-21B-DS-SS10	5	20:31	Al As Be Cd Ca Cr Co Cu Fe Mg Mn Ni K Se Ag Na V Zn
SL4180-020	CHAAP-21B-DS-SB10-5	5	20:36	Al As Be Cd Ca Cr Co Cu Fe Mg Mn Ni K Se Ag Na V Zn
SL4180-021	CHAAP-21B-DS-SS04	5	20:40	Al As Be Cd Ca Cr Co Cu Fe Mg Mn Ni K Se Ag Na V Zn
SL4180-022	CHAAP-21B-DS-SB04-5	5	20:44	Al As Be Cd Ca Cr Co Cu Fe Mg Mn Ni K Se Ag Na V Zn
SL4180-023	CHAAP-21B-DS-SB04-10	5	20:49	Al As Be Cd Ca Cr Co Cu Fe Mg Mn Ni K Se Ag Na V Zn
SL4180-024	CHAAP-21B-DS-SS03	5	20:53	Al As Be Cd Ca Cr Co Cu Fe Mg Mn Ni K Se Ag Na V Zn
SL4180-025	CHAAP-21B-DS-SS103	5	20:57	Al As Be Cd Ca Cr Co Cu Fe Mg Mn Ni K Se Ag Na V Zn
ZZZZZZ		1	21:02	
CCV		1	21:06	Al As Be Cd Ca Cr Co Cu Fe Mg Mn Mo Ni K Se Ag Na V Zn
CCB		1	21:10	Al As Be Cd Ca Cr Co Cu Fe Mg Mn Mo Ni K Se Ag Na V Zn
SL4180-026	CHAAP-21B-DS-SB03-5	5	21:14	Al As Be Cd Ca Cr Co Cu Fe Mg Mn Ni K Se Ag Na V Zn
SL4180-027	CHAAP-21B-DS-SB03-10	5	21:19	Al As Be Cd Ca Cr Co Cu Fe Mg Mn Ni K Se Ag Na V Zn
ZZZZZZ		5	21:23	
ZZZZZZ		5	21:27	
ZZZZZZ		10	21:31	
ZZZZZZ		5	21:36	
ZZZZZZ		5	21:40	

ANALYSIS RUN LOG

Lab Name: Katahdin Analytical Services **SDG Name:** SL4180

Instrument ID: AGILENT 7500 ICP-MS **File Name:** JLE22A

Date: 5/22/2018 **Method:** MS

Lab Sample ID	Client ID	D.F.	Time	Elements
ZZZZZZ		5	21:44	
ZZZZZZ		5	21:48	
ZZZZZZ		1	21:53	
CCV		1	21:57	Al As Be Cd Ca Cr Co Cu Fe Mg Mn Mo Ni K Se Ag Na V Zn
CCB		1	22:01	Al As Be Cd Ca Cr Co Cu Fe Mg Mn Mo Ni K Se Ag Na V Zn

Raw Data Section

KATAHDIN ANALYTICAL SERVICES, LLC
METALS ANALYSIS RUN INFORMATION SHEET

INSTR. ID: Cetac M6100 (H) **ANALYST**: AMJ **ANALYSIS DATE**: 05/17/2018

FILE NAME: HLE17A **METHOD**: **CVAA**

☑ 245.1
☑ 7470
☐ 7471
☑ DoD
☐ _____

REVIEWED
5/17/18
KATAHDIN ANALYTICAL
METALS SECTION

Analyte : Mercury

$SnCl_2$ Lot : MR2013

STANDARDS USED:

Standard Name	Prep. Date	Expiration Date	Standard Conc.
Cal. Blank / ICB / CCB	05/17/2018	06/01/2018	0.00 ug/L
Standard #1 / PQL	05/17/2018	06/01/2018	0.20 ug/L
Standard #2	05/17/2018	06/01/2018	0.50 ug/L
Standard #3	05/17/2018	06/01/2018	1.00 ug/L
Standard #4 / CCV	05/17/2018	06/01/2018	5.00 ug/L
Standard #5	05/17/2018	06/01/2018	10.00 ug/L
ICV	05/17/2018	06/01/2018	6.00 ug/L

Additional Comments and Notes:

5/17/18

Post Spike (245.1/7470): 0.005 mL MW17721 (pipet M17) into 8.0mL (pipet M12) of sample

Post Spike (7471): 0.008 mL MW17721 (pipet M17) into 8.0mL (pipet M12) of sample

2X Dilution: 4mL (pipet M13) of Cal.Blank + 4mL (pipet M13) of sample.

5x Dilution: 1.6mL (pipet M13) of sample + 6.4mL (pipet M13) of Cal. Blank

O flag: Sample concentration over calibration, re-analyzed at dilution

Q flag: Analytical run QC outside laboratory limits

INSTRUMENT RUNLOG

Instrument: CETAC M6100

SAMPLE ID	DF	FILE	DATE	TIME	ANALYST
Calibration Blank	1.0000	HLE17A	5/17/2018	12:34	AMJ
Standard #1 (0.2 ppb)	1.0000	HLE17A	5/17/2018	12:37	AMJ
Standard #2 (0.5 ppb)	1.0000	HLE17A	5/17/2018	12:39	AMJ
Standard #3 (1.0 ppb)	1.0000	HLE17A	5/17/2018	12:41	AMJ
Standard #4 (5.0 ppb)	1.0000	HLE17A	5/17/2018	12:43	AMJ
Standard #5 (10.0 ppb)	1.0000	HLE17A	5/17/2018	12:45	AMJ
ICV	1.0000	HLE17A	5/17/2018	12:47	AMJ
ICB	1.0000	HLE17A	5/17/2018	12:49	AMJ
PQL	1.0000	HLE17A	5/17/2018	12:51	AMJ
CCV	1.0000	HLE17A	5/17/2018	12:54	AMJ
CCB	1.0000	HLE17A	5/17/2018	12:56	AMJ
PBWLE15HGW2	1.0000	HLE17A	5/17/2018	12:58	AMJ
LCSWLE15HGW2	1.0000	HLE17A	5/17/2018	13:00	AMJ
LC2WLE15HGW2	1.0000	HLE17A	5/17/2018	13:02	AMJ
SL4035-002	1.0000	HLE17A	5/17/2018	13:04	AMJ
SL4094-001	1.0000	HLE17A	5/17/2018	13:06	AMJ
PBWLE17HGW1	1.0000	HLE17A	5/17/2018	13:09	AMJ
LCSWLE17HGW1	1.0000	HLE17A	5/17/2018	13:11	AMJ
SL4223-001	1.0000	HLE17A	5/17/2018	13:13	AMJ
SL4223-003	1.0000	HLE17A	5/17/2018	13:15	AMJ
CCV	1.0000	HLE17A	5/17/2018	13:17	AMJ
CCB	1.0000	HLE17A	5/17/2018	13:19	AMJ
SL4224-001	1.0000	HLE17A	5/17/2018	13:21	AMJ
SL4237-001	1.0000	HLE17A	5/17/2018	13:23	AMJ
SL4276-001	1.0000	HLE17A	5/17/2018	13:26	AMJ
SL4276-002	1.0000	HLE17A	5/17/2018	13:28	AMJ
PBWLE17HGW2	1.0000	HLE17A	5/17/2018	13:30	AMJ
LCSWLE17HGW2	1.0000	HLE17A	5/17/2018	13:32	AMJ
PBT1454A	1.0000	HLE17A	5/17/2018	13:34	AMJ
SL4180-029	1.0000	HLE17A	5/17/2018	13:36	AMJ
SL4201-001	1.0000	HLE17A	5/17/2018	13:38	AMJ
SL4202-001	1.0000	HLE17A	5/17/2018	13:41	AMJ
CCV	1.0000	HLE17A	5/17/2018	13:43	AMJ
CCB	1.0000	HLE17A	5/17/2018	13:46	AMJ
SL4202-001L	5.0000	HLE17A	5/17/2018	13:48	AMJ
SL4202-001A	1.0000	HLE17A	5/17/2018	13:50	AMJ
SL4202-001S	1.0000	HLE17A	5/17/2018	13:52	AMJ
SL4202-001P	1.0000	HLE17A	5/17/2018	13:54	AMJ
SL4203-001	1.0000	HLE17A	5/17/2018	13:56	AMJ
SL4206-002	1.0000	HLE17A	5/17/2018	13:59	AMJ
SL4206-003	1.0000	HLE17A	5/17/2018	14:01	AMJ
SL4206-004	1.0000	HLE17A	5/17/2018	14:03	AMJ
SL4206-005	1.0000	HLE17A	5/17/2018	14:05	AMJ
SL4206-006	1.0000	HLE17A	5/17/2018	14:07	AMJ

SAMPLE ID	DF	FILE	DATE	TIME	ANALYST
CCV	1.0000	HLE17A	5/17/2018	14:09	AMJ
CCB	1.0000	HLE17A	5/17/2018	14:11	AMJ
SL4206-007	1.0000	HLE17A	5/17/2018	14:14	AMJ
SL4206-008	1.0000	HLE17A	5/17/2018	14:16	AMJ
SL4206-009	1.0000	HLE17A	5/17/2018	14:18	AMJ
SL4233-054	1.0000	HLE17A	5/17/2018	14:20	AMJ
SL4223-003	2.0000	HLE17A	5/17/2018	14:22	AMJ
CCV	1.0000	HLE17A	5/17/2018	14:24	AMJ
CCB	1.0000	HLE17A	5/17/2018	14:26	AMJ

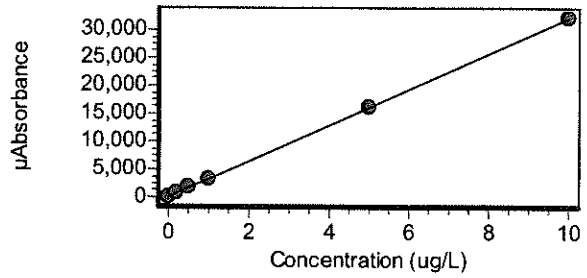
Report Generated By CETAC QuickTrace
Analyst: kasgc
Worksheet file: C:\Program Files\QuickTrace\Worksheets\HLE17A.wsz
Date Started: 5/17/2018 11:41:04 AM
Comment:

Results

Sample Name					Type	Date/Time	Conc (ug/L)	µAbs	%RSD	Flags	DF
Calibration Blank					STD	05/17/18 12:34:59 pm	0.000	-10	253.36		1.00
Replicates	-1.0	-9.9	15.7	-46.1							
Standard #1 (0.2 ppb)					STD	05/17/18 12:37:05 pm	0.200	628	3.46		1.00
Replicates	624.4	616.0	612.4	659.9							
Standard #2 (0.5 ppb)					STD	05/17/18 12:39:13 pm	0.500	1616	0.95		1.00
Replicates	1597.3	1617.4	1634.8	1613.1							
Standard #3 (1.0 ppb)					STD	05/17/18 12:41:20 pm	1.000	3282	1.41		1.00
Replicates	3249.0	3244.6	3292.5	3343.8							
Standard #4 (5.0 ppb)					STD	05/17/18 12:43:28 pm	5.000	16048	0.68		1.00
Replicates	15889.3	16070.7	16097.5	16136.2							
Standard #5 (10.0 ppb)					STD	05/17/18 12:45:37 pm	10.000	32125	0.32		1.00
Replicates	32025.4	32052.9	32186.1	32237.1							

Calibration

Equation: A = 10.634 + 3211.136C
R2: 0.99999
SEE: 35.5813
Flags:



ICV					ICV	05/17/18 12:47:47 pm	6.588	21165	0.89		1.00
Replicates	21062.9	20994.0	21178.2	21423.5							
% Recovery	109.79										
ICB					ICB	05/17/18 12:49:53 pm	-0.006	-8	28.26		1.00
Replicates	-10.8	-6.0	-7.5	-6.5							

Katahdin Analytical Services 4000134

Sample Name					Type	Date/Time	Conc (ug/L)	µAbs	%RSD	Flags	DF
PQL					CRDL	05/17/18 12:51:59 pm	0.215	700	3.80		1.00
	Replicates	725.8	706.0	662.9	707.0						
	% Recovery	107.41									
CCV					CCV	05/17/18 12:54:08 pm	5.035	16178	0.56		1.00
	Replicates	16229.3	16060.3	16159.3	16264.8						
	% Recovery	100.70									
CCB					CCB	05/17/18 12:56:14 pm	-0.001	9	189.01		1.00
	Replicates	-6.2	20.3	26.8	-4.9						
PBWLE15HGW2					PBK	05/17/18 12:58:21 pm	-0.003	2	031.34		1.00
	Replicates	16.0	23.1	0.6	-30.4						
LCSWLE15HGW2					LCS	05/17/18 01:00:29 pm	4.965	15953	0.32		1.00
	Replicates	15980.8	15990.5	15964.1	15877.1						
	% Recovery	99.30									
LC2WLE15HGW2					LCS	05/17/18 01:02:37 pm	4.894	15725	0.76		1.00
	Replicates	15571.8	15721.6	15863.6	15744.5						
	% Recovery	97.88									
SL4035-002					UNK	05/17/18 01:04:45 pm	-0.007	-12	63.69		1.00
	Replicates	-10.3	-10.1	-5.6	-23.9						
SL4094-001					UNK	05/17/18 01:06:53 pm	-0.010	-22	71.01		1.00
	Replicates	0.8	-31.7	-23.9	-31.2						
PBWLE17HGW1					PBK	05/17/18 01:09:01 pm	-0.010	-22	69.69		1.00
	Replicates	-19.2	-2.7	-26.9	-39.6						
LCSWLE17HGW1					LCS	05/17/18 01:11:09 pm	5.114	16433	0.61		1.00
	Replicates	16300.0	16414.9	16523.9	16494.9						
	% Recovery	102.29									
SL4223-001					UNK	05/17/18 01:13:17 pm	-0.003	0	331.29		1.00
	Replicates	-15.7	20.4	13.9	-17.5						
SL4223-003					UNK	05/17/18 01:15:26 pm	13.600	43679	0.61	O	1.00
	Replicates	43469.8	43488.0	43714.7	44042.9						

Sample Name				Type	Date/Time	Conc (ug/L)	µAbs	%RSD	Flags	DF
CCV				CCV	05/17/18 01:17:34 pm	5.053	16235	0.55		1.00
Replicates	16191.2	16248.1	16353.4	16148.7						
% Recovery	101.05									
CCB				CCB	05/17/18 01:19:41 pm	-0.028	-78	32.31		1.00
Replicates	-88.4	-42.1	-80.1	-100.1						
SL4224-001				UNK	05/17/18 01:21:50 pm	0.008	37	106.15		1.00
Replicates	-12.0	33.3	42.5	83.0						
SL4237-001				UNK	05/17/18 01:23:57 pm	-0.006	-10	289.80		1.00
Replicates	-33.9	-35.9	13.0	17.0						
SL4276-001				UNK	05/17/18 01:26:06 pm	0.001	13	311.59		1.00
Replicates	55.1	33.6	-1.4	-35.9						
SL4276-002				UNK	05/17/18 01:28:14 pm	0.031	111	10.90		1.00
Replicates	122.8	120.2	104.5	97.7						
PBWLE17HGW2				PBK	05/17/18 01:30:23 pm	-0.016	-41	53.66		1.00
Replicates	-45.1	-55.0	-55.7	-8.8						
LCSWLE17HGW2				LCS	05/17/18 01:32:32 pm	5.041	16197	0.63		1.00
Replicates	16165.6	16079.0	16218.7	16324.4						
% Recovery	100.81									
PBT1454A				UNK	05/17/18 01:34:41 pm	-0.006	-10	281.32		1.00
Replicates	-17.2	-11.2	-38.5	27.7						
SL4180-029				UNK	05/17/18 01:36:49 pm	-0.012	-27	56.62		1.00
Replicates	-24.0	-24.6	-47.6	-11.1						
SL4201-001				UNK	05/17/18 01:38:58 pm	-0.009	-19	141.49		1.00
Replicates	-25.8	-27.6	-43.5	19.9						
SL4202-001				UNK	05/17/18 01:41:07 pm	-0.007	-12	133.86		1.00
Replicates	-0.2	-17.0	-33.2	1.7						

Sample Name					Type	Date/Time	Conc (ug/L)	µAbs	%RSD	Flags	DF
CCV					CCV	05/17/18 01:43:16 pm	5.164	16594	0.35		1.00
	Replicates	16578.2	16521.5	16653.5	16622.8						
	% Recovery	103.29									
CCB					CCB	05/17/18 01:46:05 pm	-0.011	-24	93.00		1.00
	Replicates	-12.4	-58.4	-12.4	-14.4						
SL4202-001L					UNK	05/17/18 01:48:15 pm	0.009	17	218.35		5.00
	Replicates	31.1	47.0	24.0	-35.8						
SL4202-001A					UNK	05/17/18 01:50:23 pm	1.116	3593	0.47		1.00
	Replicates	3575.1	3583.8	3600.7	3612.7						
SL4202-001S					UNK	05/17/18 01:52:32 pm	2.293	7374	0.89		1.00
	Replicates	7319.0	7315.6	7426.2	7435.2						
SL4202-001P					UNK	05/17/18 01:54:41 pm	2.360	7589	0.82		1.00
	Replicates	7531.9	7552.4	7597.9	7672.4						
SL4203-001					UNK	05/17/18 01:56:51 pm	0.081	269	7.84		1.00
	Replicates	264.0	273.1	244.3	295.1						
SL4206-002					UNK	05/17/18 01:59:01 pm	0.001	12	105.41		1.00
	Replicates	1.3	2.6	16.6	29.0						
SL4206-003					UNK	05/17/18 02:01:10 pm	0.000	10	253.92		1.00
	Replicates	27.5	-7.3	-15.8	35.7						
SL4206-004					UNK	05/17/18 02:03:19 pm	0.008	36	41.46		1.00
	Replicates	26.5	30.5	28.2	57.8						
SL4206-005					UNK	05/17/18 02:05:29 pm	0.007	35	42.65		1.00
	Replicates	54.8	36.1	21.8	25.8						
SL4206-006					UNK	05/17/18 02:07:39 pm	0.010	44	62.88		1.00
	Replicates	9.0	40.7	49.7	75.7						

Sample Name					Type	Date/Time	Conc (ug/L)	µAbs	%RSD	Flags	DF
CCV					CCV	05/17/18 02:09:47 pm	5.037	16187	0.78		1.00
	Replicates	16080.1	16075.6	16273.0	16318.1						
	% Recovery	100.75									
CCB					CCB	05/17/18 02:11:53 pm	0.002	17	125.21		1.00
	Replicates	-11.8	39.7	22.5	18.0						
SL4206-007					UNK	05/17/18 02:14:03 pm	-0.001	9	686.74		1.00
	Replicates	-26.4	-17.3	101.4	-21.8						
SL4206-008					UNK	05/17/18 02:16:13 pm	0.003	20	85.65		1.00
	Replicates	5.2	41.8	7.8	24.3						
SL4206-009					UNK	05/17/18 02:18:22 pm	-0.002	4	731.97		1.00
	Replicates	10.9	-30.2	-6.2	42.1						
SL4233-054					UNK	05/17/18 02:20:32 pm	-0.007	-13	190.43		1.00
	Replicates	11.7	-48.8	-10.8	-5.6						
SL4223-003					UNK	05/17/18 02:22:41 pm	13.720	22047	0.86		2.00
	Replicates	21905.6	21891.5	22095.0	22294.2						
CCV					CCV	05/17/18 02:24:49 pm	5.081	16328	0.35		1.00
	Replicates	16254.7	16324.8	16341.5	16391.0						
	% Recovery	101.63									
CCB					CCB	05/17/18 02:26:56 pm	-0.013	-32	76.40		1.00
	Replicates	-19.2	-38.9	-63.0	-7.0						

KATAHDIN ANALYTICAL SERVICES, LLC
METALS ANALYSIS RUN INFORMATION SHEET

INSTR. ID: Cetac M6100 (H) **ANALYST**: AMJ **ANALYSIS DATE**: 05/21/2018

FILE NAME: HLE21A **METHOD**: **CVAA**

REVIEWED
JS 5.22.18
KATAHDIN ANALYTICAL
METALS SECTION

☐ 245.1
☐ 7470
☑ 7471
☑ DoD
☐ _____

Analyte : Mercury

$SnCl_2$ Lot : MR2013

STANDARDS USED:

Standard Name	Prep. Date	Expiration Date	Standard Conc.
Cal. Blank / ICB / CCB	05/21/2018	06/01/2018	0.00 ug/L
Standard #1 / PQL	05/21/2018	06/01/2018	0.20 ug/L
Standard #2	05/21/2018	06/01/2018	0.50 ug/L
Standard #3	05/21/2018	06/01/2018	1.00 ug/L
Standard #4 / CCV	05/21/2018	06/01/2018	5.00 ug/L
Standard #5	05/21/2018	06/01/2018	10.00 ug/L
ICV	05/21/2018	06/01/2018	6.00 ug/L

Additional Comments and Notes:

JS 5.22.18

Post Spike (245.1/7470): 0.005 mL MW17721 (pipet M17) into 8.0mL (pipet M12) of sample

Post Spike (7471): ~~0.008~~ 0.0114 mL MW17721 (pipet M17) into 8.0mL (pipet M12) of sample JS 5.22.18

5x Dilution: 1.6mL (pipet M13) of sample + 6.4mL (pipet M13) of Cal. Blank

O flag: Sample concentration over calibration, re-analyzed at dilution

Q flag: Analytical run QC outside laboratory limits

INSTRUMENT RUNLOG

Instrument: CETAC M6100

SAMPLE ID	DF	FILE	DATE	TIME	ANALYST
Calibration Blank	1.0000	HLE21A	5/21/2018	11:16	AMJ
Standard #1 (0.2 ppb)	1.0000	HLE21A	5/21/2018	11:18	AMJ
Standard #2 (0.5 ppb)	1.0000	HLE21A	5/21/2018	11:20	AMJ
Standard #3 (1.0 ppb)	1.0000	HLE21A	5/21/2018	11:22	AMJ
Standard #4 (5.0 ppb)	1.0000	HLE21A	5/21/2018	11:24	AMJ
Standard #5 (10.0 ppb)	1.0000	HLE21A	5/21/2018	11:27	AMJ
ICV	1.0000	HLE21A	5/21/2018	11:30	AMJ
ICB	1.0000	HLE21A	5/21/2018	11:32	AMJ
PQL	1.0000	HLE21A	5/21/2018	11:34	AMJ
CCV	1.0000	HLE21A	5/21/2018	11:36	AMJ
CCB	1.0000	HLE21A	5/21/2018	11:38	AMJ
PBSLE21HGS1	1.0000	HLE21A	5/21/2018	11:40	AMJ
LCSOLE21HGS1	1.0000	HLE21A	5/21/2018	11:43	AMJ
SL4180-001	1.0000	HLE21A	5/21/2018	11:45	AMJ
SL4180-002	1.0000	HLE21A	5/21/2018	11:47	AMJ
SL4180-003	1.0000	HLE21A	5/21/2018	11:49	AMJ
SL4180-004	1.0000	HLE21A	5/21/2018	11:51	AMJ
SL4180-005	1.0000	HLE21A	5/21/2018	11:53	AMJ
SL4180-006	1.0000	HLE21A	5/21/2018	11:55	AMJ
SL4180-007	1.0000	HLE21A	5/21/2018	11:57	AMJ
CCV	1.0000	HLE21A	5/21/2018	12:00	AMJ
CCB	1.0000	HLE21A	5/21/2018	12:02	AMJ
SL4180-008	1.0000	HLE21A	5/21/2018	12:04	AMJ
SL4180-008L	5.0000	HLE21A	5/21/2018	12:06	AMJ
SL4180-008A	1.0000	HLE21A	5/21/2018	12:08	AMJ
SL4180-008S	1.0000	HLE21A	5/21/2018	12:10	AMJ
SL4180-008P	1.0000	HLE21A	5/21/2018	12:12	AMJ
SL4180-009	1.0000	HLE21A	5/21/2018	12:15	AMJ
SL4180-010	1.0000	HLE21A	5/21/2018	12:17	AMJ
SL4180-011	1.0000	HLE21A	5/21/2018	12:19	AMJ
SL4180-012	1.0000	HLE21A	5/21/2018	12:21	AMJ
SL4180-013	1.0000	HLE21A	5/21/2018	12:23	AMJ
CCV	1.0000	HLE21A	5/21/2018	12:25	AMJ
CCB	1.0000	HLE21A	5/21/2018	12:27	AMJ
SL4180-014	1.0000	HLE21A	5/21/2018	12:30	AMJ
SL4180-015	1.0000	HLE21A	5/21/2018	12:32	AMJ
SL4180-016	1.0000	HLE21A	5/21/2018	12:34	AMJ
SL4180-017	1.0000	HLE21A	5/21/2018	12:36	AMJ
SL4180-019	1.0000	HLE21A	5/21/2018	12:38	AMJ
SL4180-020	1.0000	HLE21A	5/21/2018	12:40	AMJ
SL4180-021	1.0000	HLE21A	5/21/2018	12:43	AMJ
PBSLE21HGS2	1.0000	HLE21A	5/21/2018	12:45	AMJ
LCSOLE21HGS2	1.0000	HLE21A	5/21/2018	12:47	AMJ
SL4180-018	1.0000	HLE21A	5/21/2018	12:49	AMJ

SAMPLE ID	DF	FILE	DATE	TIME	ANALYST
CCV	1.0000	HLE21A	5/21/2018	12:51	AMJ
CCB	1.0000	HLE21A	5/21/2018	12:53	AMJ
SL4180-018L	5.0000	HLE21A	5/21/2018	12:55	AMJ
SL4180-018A	1.0000	HLE21A	5/21/2018	12:58	AMJ
SL4180-018S	1.0000	HLE21A	5/21/2018	13:00	AMJ
SL4180-018P	1.0000	HLE21A	5/21/2018	13:02	AMJ
SL4180-022	1.0000	HLE21A	5/21/2018	13:04	AMJ
SL4180-023	1.0000	HLE21A	5/21/2018	13:06	AMJ
SL4180-024	1.0000	HLE21A	5/21/2018	13:08	AMJ
SL4180-025	1.0000	HLE21A	5/21/2018	13:11	AMJ
SL4180-026	1.0000	HLE21A	5/21/2018	13:13	AMJ
SL4180-027	1.0000	HLE21A	5/21/2018	13:15	AMJ
CCV	1.0000	HLE21A	5/21/2018	13:17	AMJ
CCB	1.0000	HLE21A	5/21/2018	13:19	AMJ
SL4233-002	1.0000	HLE21A	5/21/2018	13:21	AMJ
SL4233-003	1.0000	HLE21A	5/21/2018	13:23	AMJ
SL4233-004	1.0000	HLE21A	5/21/2018	13:26	AMJ
SL4233-005	1.0000	HLE21A	5/21/2018	13:28	AMJ
SL4233-006	1.0000	HLE21A	5/21/2018	13:30	AMJ
SL4233-007	1.0000	HLE21A	5/21/2018	13:32	AMJ
SL4233-008	1.0000	HLE21A	5/21/2018	13:34	AMJ
SL4233-009	1.0000	HLE21A	5/21/2018	13:37	AMJ
SL4233-010	1.0000	HLE21A	5/21/2018	13:39	AMJ
SL4233-011	1.0000	HLE21A	5/21/2018	13:41	AMJ
CCV	1.0000	HLE21A	5/21/2018	13:45	AMJ
CCB	1.0000	HLE21A	5/21/2018	13:47	AMJ
SL4233-012	1.0000	HLE21A	5/21/2018	13:49	AMJ
SL4233-013	1.0000	HLE21A	5/21/2018	13:52	AMJ
PBSLE21HGS3	1.0000	HLE21A	5/21/2018	13:54	AMJ
LCSOLE21HGS3	1.0000	HLE21A	5/21/2018	13:56	AMJ
SL4233-014	1.0000	HLE21A	5/21/2018	13:58	AMJ
SL4233-015	1.0000	HLE21A	5/21/2018	14:00	AMJ
SL4233-015L	5.0000	HLE21A	5/21/2018	14:02	AMJ
SL4233-015A	1.0000	HLE21A	5/21/2018	14:05	AMJ
SL4233-015S	1.0000	HLE21A	5/21/2018	14:07	AMJ
SL4233-015P	1.0000	HLE21A	5/21/2018	14:09	AMJ
CCV	1.0000	HLE21A	5/21/2018	14:11	AMJ
CCB	1.0000	HLE21A	5/21/2018	14:13	AMJ
SL4233-017	1.0000	HLE21A	5/21/2018	14:15	AMJ
SL4233-019	1.0000	HLE21A	5/21/2018	14:18	AMJ
SL4233-021	1.0000	HLE21A	5/21/2018	14:20	AMJ
SL4233-022	1.0000	HLE21A	5/21/2018	14:22	AMJ
SL4233-023	1.0000	HLE21A	5/21/2018	14:24	AMJ
SL4233-024	1.0000	HLE21A	5/21/2018	14:28	AMJ
SL4233-025	1.0000	HLE21A	5/21/2018	14:31	AMJ
SL4233-026	1.0000	HLE21A	5/21/2018	14:33	AMJ
SL4233-027	1.0000	HLE21A	5/21/2018	14:35	AMJ

SAMPLE ID	DF	FILE	DATE	TIME	ANALYST
SL4233-028	1.0000	HLE21A	5/21/2018	14:37	AMJ
CCV	1.0000	HLE21A	5/21/2018	14:39	AMJ
CCB	1.0000	HLE21A	5/21/2018	14:41	AMJ
SL4233-029	1.0000	HLE21A	5/21/2018	14:43	AMJ
SL4233-030	1.0000	HLE21A	5/21/2018	14:46	AMJ
SL4233-031	1.0000	HLE21A	5/21/2018	14:48	AMJ
SL4233-031L	5.0000	HLE21A	5/21/2018	14:50	AMJ
SL4233-031A	1.0000	HLE21A	5/21/2018	14:52	AMJ
SL4233-031S	1.0000	HLE21A	5/21/2018	14:54	AMJ
SL4233-031P	1.0000	HLE21A	5/21/2018	14:56	AMJ
SL4233-032	1.0000	HLE21A	5/21/2018	14:58	AMJ
SL4233-033	1.0000	HLE21A	5/21/2018	15:01	AMJ
SL4233-034	1.0000	HLE21A	5/21/2018	15:03	AMJ
CCV	1.0000	HLE21A	5/21/2018	15:05	AMJ
CCB	1.0000	HLE21A	5/21/2018	15:07	AMJ
SL4233-035	1.0000	HLE21A	5/21/2018	15:09	AMJ
SL4180-008A	1.0000	HLE21A	5/21/2018	15:11	AMJ
SL4180-018A	1.0000	HLE21A	5/21/2018	15:13	AMJ
CCV	1.0000	HLE21A	5/21/2018	15:16	AMJ
CCB	1.0000	HLE21A	5/21/2018	15:18	AMJ

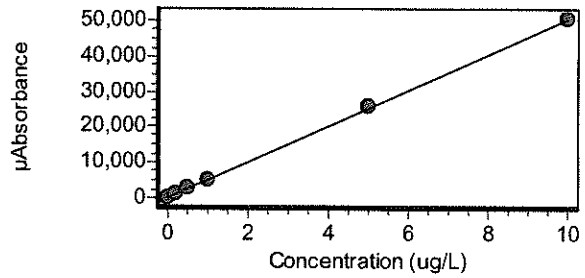
Report Generated By CETAC QuickTrace
Analyst: kasgc
Worksheet file: C:\Program Files\QuickTrace\Worksheets\HLE21A.wsz
Date Started: 5/21/2018 10:08:23 AM
Comment:

Results

Sample Name					Type	Date/Time	Conc (ug/L)	µAbs	%RSD	Flags	DF
Calibration Blank					STD	05/21/18 11:16:26 am	0.000	-7	705.30		1.00
Replicates	-35.4	60.0	-10.6	-40.3							
Standard #1 (0.2 ppb)					STD	05/21/18 11:18:32 am	0.200	1054	2.61		1.00
Replicates	1076.4	1064.9	1062.4	1014.2							
Standard #2 (0.5 ppb)					STD	05/21/18 11:20:40 am	0.500	2636	0.64		1.00
Replicates	2635.4	2656.4	2637.2	2615.1							
Standard #3 (1.0 ppb)					STD	05/21/18 11:22:48 am	1.000	5239	1.17		1.00
Replicates	5209.6	5185.6	5325.8	5234.5							
Standard #4 (5.0 ppb)					STD	05/21/18 11:24:56 am	5.000	25712	0.16		1.00
Replicates	25691.0	25667.2	25725.2	25762.9							
Standard #5 (10.0 ppb)					STD	05/21/18 11:27:05 am	10.000	50407	0.39		1.00
Replicates	50219.4	50258.7	50557.6	50591.4							

Calibration

Equation: A = 129.442 + 5045.781C
R2: 0.99991
SEE: 216.3448
Flags:



ICV					ICV	05/21/18 11:30:19 am	6.415	32499	0.48		1.00
Replicates	32394.0	32339.5	32600.6	32660.8							
% Recovery	106.92										
ICB					ICB	05/21/18 11:32:25 am	-0.029	-17	206.10		1.00
Replicates	-24.4	-62.7	0.6	18.3							

Katahdin Analytical Services 4000143

Sample Name					Type	Date/Time	Conc (ug/L)	µAbs	%RSD	Flags	DF
PQL					CRDL	05/21/18 11:34:32 am	0.176	1016	2.40		1.00
	Replicates	1045.4	986.1	1012.4	1019.4						
	% Recovery	87.83									
CCV					CCV	05/21/18 11:36:41 am	5.094	25835	0.31		1.00
	Replicates	25759.0	25787.2	25855.0	25936.9						
	% Recovery	101.89									
CCB					CCB	05/21/18 11:38:47 am	-0.033	-37	32.18		1.00
	Replicates	-20.9	-41.7	-48.8	-36.0						
PBSLE21HGS1					PBK	05/21/18 11:40:54 am	-0.019	33	72.45		1.00
	Replicates	26.1	65.0	7.0	35.3						
LCSOLE21HGS1					LCS	05/21/18 11:43:02 am	5.222	26480	0.22		1.00
	Replicates	26525.2	26412.1	26447.9	26533.1						
	% Recovery	104.44									
SL4180-001					UNK	05/21/18 11:45:10 am	0.122	747	2.80		1.00
	Replicates	750.0	719.6	770.5	747.0						
SL4180-002					UNK	05/21/18 11:47:19 am	0.110	683	2.67		1.00
	Replicates	657.4	682.0	690.9	699.7						
SL4180-003					UNK	05/21/18 11:49:27 am	0.142	847	4.33		1.00
	Replicates	831.0	891.8	806.5	858.7						
SL4180-004					UNK	05/21/18 11:51:35 am	0.091	588	6.96		1.00
	Replicates	624.8	577.7	534.7	615.0						
SL4180-005					UNK	05/21/18 11:53:43 am	0.097	617	3.10		1.00
	Replicates	593.7	640.4	614.4	618.0						
SL4180-006					UNK	05/21/18 11:55:51 am	0.125	759	3.67		1.00
	Replicates	732.8	747.5	797.8	757.8						
SL4180-007					UNK	05/21/18 11:57:59 am	0.116	717	2.81		1.00
	Replicates	701.6	738.4	697.9	729.6						

Sample Name				Type	Date/Time	Conc (ug/L)	µAbs	%RSD	Flags	DF
CCV				CCV	05/21/18 12:00:08 pm	5.121	25971	0.36		1.00
Replicates	26064.5	25854.8	25938.3	26026.7						
% Recovery	102.43									
CCB				CCB	05/21/18 12:02:14 pm	-0.030	-22	97.77		1.00
Replicates	8.5	-42.4	-24.4	-31.1						
SL4180-008				UNK	05/21/18 12:04:23 pm	0.070	483	6.91		1.00
Replicates	452.1	523.4	498.3	460.1						
SL4180-008L				UNK	05/21/18 12:06:31 pm	-0.081	47	24.34		5.00
Replicates	53.5	30.2	54.7	51.1						
SL4180-008A				UNK	05/21/18 12:08:39 pm	0.751	3921	0.48		1.00
Replicates	3927.7	3897.4	3942.0	3915.9						
SL4180-008S				UNK	05/21/18 12:10:48 pm	1.083	5595	0.64		1.00
Replicates	5606.5	5543.1	5624.6	5605.5						
SL4180-008P				UNK	05/21/18 12:12:57 pm	1.201	6192	1.48		1.00
Replicates	6325.3	6126.5	6175.6	6139.1						
SL4180-009				UNK	05/21/18 12:15:06 pm	0.132	798	4.71		1.00
Replicates	806.6	744.3	807.3	832.6						
SL4180-010				UNK	05/21/18 12:17:14 pm	0.122	743	5.38		1.00
Replicates	683.7	765.0	756.3	767.8						
SL4180-011				UNK	05/21/18 12:19:23 pm	0.221	1245	1.59		1.00
Replicates	1252.3	1236.7	1269.0	1223.2						
SL4180-012				UNK	05/21/18 12:21:31 pm	0.083	547	1.57		1.00
Replicates	559.3	540.3	548.0	542.0						
SL4180-013				UNK	05/21/18 12:23:41 pm	0.085	557	5.06		1.00
Replicates	517.8	581.7	555.7	572.2						

Sample ran data rejected spiked incorrectly

Sample Name				Type	Date/Time	Conc (ug/L)	µAbs	%RSD	Flags	DF
CCV				CCV	05/21/18 12:25:49 pm	5.034	25531	0.67		1.00
Replicates	25414.4	25377.0	25583.9	25748.7						
% Recovery	100.68									
CCB				CCB	05/21/18 12:27:55 pm	-0.021	23	90.47		1.00
Replicates	-1.5	24.4	20.1	49.4						
SL4180-014				UNK	05/21/18 12:30:05 pm	0.164	955	1.89		1.00
Replicates	929.9	958.7	972.9	958.6						
SL4180-015				UNK	05/21/18 12:32:13 pm	0.083	546	4.65		1.00
Replicates	565.8	568.3	515.3	535.6						
SL4180-016				UNK	05/21/18 12:34:22 pm	0.106	665	1.88		1.00
Replicates	666.8	657.6	653.8	682.0						
SL4180-017				UNK	05/21/18 12:36:31 pm	0.129	781	3.73		1.00
Replicates	786.5	796.3	803.5	738.8						
SL4180-019				UNK	05/21/18 12:38:41 pm	0.152	897	2.67		1.00
Replicates	908.6	925.5	873.4	882.2						
SL4180-020				UNK	05/21/18 12:40:51 pm	0.121	742	5.64		1.00
Replicates	734.0	802.9	710.1	720.4						
SL4180-021				UNK	05/21/18 12:43:00 pm	0.116	712	4.28		1.00
Replicates	742.6	677.2	697.4	732.9						
PBSLE21HGS2				PBK	05/21/18 12:45:09 pm	-0.033	-37	65.99		1.00
Replicates	-41.7	-41.3	-61.1	-3.1						
LCSOLE21HGS2				LCS	05/21/18 12:47:19 pm	4.612	23399	0.54		1.00
Replicates	23579.4	23386.0	23282.6	23348.8						
% Recovery	92.23									
SL4180-018				UNK	05/21/18 12:49:29 pm	0.166	968	3.23		1.00
Replicates	993.1	995.5	948.0	934.0						

Sample Name				Type	Date/Time	Conc (ug/L)	µAbs	%RSD	Flags	DF
CCV				CCV	05/21/18 12:51:37 pm	4.588	23281	1.43		1.00
Replicates	23770.3	23209.8	23038.6	23105.9						
% Recovery	91.77									
CCB				CCB	05/21/18 12:53:43 pm	-0.027	-7	406.02		1.00
Replicates	-4.5	-12.2	30.0	-42.8						
SL4180-018L				UNK	05/21/18 12:55:54 pm	0.060	190	16.39		5.00
Replicates	149.4	184.2	206.6	221.1						
SL4180-018A				UNK	05/21/18 12:58:03 pm	0.748	3905	1.05		1.00
Replicates	3958.5	3858.3	3900.3	3901.6						
									Sampleerror	
									data rejected spiked incorrectly	
SL4180-018S				UNK	05/21/18 01:00:12 pm	1.032	5339	0.67		1.00
Replicates	5345.5	5287.9	5351.6	5371.4						
SL4180-018P				UNK	05/21/18 01:02:22 pm	1.064	5497	0.46		1.00
Replicates	5513.2	5485.2	5468.2	5522.7						
SL4180-022				UNK	05/21/18 01:04:32 pm	0.116	712	4.71		1.00
Replicates	742.7	669.4	701.4	734.6						
SL4180-023				UNK	05/21/18 01:06:43 pm	0.106	666	4.35		1.00
Replicates	663.7	658.3	635.6	705.1						
SL4180-024				UNK	05/21/18 01:08:53 pm	0.145	862	4.39		1.00
Replicates	840.1	910.8	825.1	870.3						
SL4180-025				UNK	05/21/18 01:11:03 pm	0.072	494	3.99		1.00
Replicates	469.4	506.0	488.2	513.5						
SL4180-026				UNK	05/21/18 01:13:13 pm	0.149	880	2.56		1.00
Replicates	852.9	880.9	908.1	879.8						
SL4180-027				UNK	05/21/18 01:15:24 pm	0.111	688	2.98		1.00
Replicates	661.5	701.1	707.3	684.0						

Sample Name				Type	Date/Time	Conc (ug/L)	µAbs	%RSD	Flags	DF
CCV				CCV	05/21/18 01:17:32 pm	4.481	22738	0.40		1.00
Replicates	22873.8	22699.6	22687.1	22692.1						
% Recovery	89.61									
CCB				CCB	05/21/18 01:19:39 pm	-0.028	-11	260.64		1.00
Replicates	19.9	-39.6	5.6	-28.9						
SL4233-002				UNK	05/21/18 01:21:49 pm	0.134	806	2.06		1.00
Replicates	822.0	808.3	812.0	783.0						
SL4233-003				UNK	05/21/18 01:23:59 pm	0.082	545	4.34		1.00
Replicates	543.4	540.3	576.2	518.8						
SL4233-004				UNK	05/21/18 01:26:09 pm	0.146	866	1.56		1.00
Replicates	867.0	850.0	863.0	882.6						
SL4233-005				UNK	05/21/18 01:28:20 pm	0.049	376	6.32		1.00
Replicates	390.0	341.4	392.9	379.5						
SL4233-006				UNK	05/21/18 01:30:31 pm	0.142	848	3.03		1.00
Replicates	827.9	837.2	841.5	885.7						
SL4233-007				UNK	05/21/18 01:32:42 pm	0.096	615	5.16		1.00
Replicates	655.4	578.1	612.1	612.7						
SL4233-008				UNK	05/21/18 01:34:52 pm	0.093	599	3.27		1.00
Replicates	624.9	591.8	578.3	600.7						
SL4233-009				UNK	05/21/18 01:37:03 pm	0.115	710	4.12		1.00
Replicates	753.3	692.7	696.4	695.9						
SL4233-010				UNK	05/21/18 01:39:14 pm	0.293	1610	1.87		1.00
Replicates	1591.2	1580.0	1622.4	1646.4						
SL4233-011				UNK	05/21/18 01:41:25 pm	0.097	617	4.22		1.00
Replicates	597.7	613.7	655.0	602.7						

Sample Name				Type	Date/Time	Conc (ug/L)	µAbs	%RSD	Flags	DF
CCV				CCV	05/21/18 01:45:31 pm	4.499	22830	0.44		1.00
Replicates	22969.9	22835.7	22741.0	22773.2						
% Recovery	89.98									
CCB				CCB	05/21/18 01:47:38 pm	-0.027	-8	305.84		1.00
Replicates	-15.7	-7.1	24.1	-32.2						
SL4233-012				UNK	05/21/18 01:49:49 pm	0.112	692	4.42		1.00
Replicates	679.0	656.9	727.2	704.9						
SL4233-013				UNK	05/21/18 01:52:00 pm	0.073	498	3.60		1.00
Replicates	509.7	489.9	476.2	514.9						
PBSLE21HGS3				PBK	05/21/18 01:54:11 pm	-0.026	-4	846.41		1.00
Replicates	-45.9	9.7	28.0	-6.8						
LCSOLE21HGS3				LCS	05/21/18 01:56:22 pm	4.633	23506	0.53		1.00
Replicates	23552.3	23395.8	23413.9	23662.3						
% Recovery	92.66									
SL4233-014				UNK	05/21/18 01:58:33 pm	0.157	920	2.07		1.00
Replicates	938.2	917.8	928.3	893.8						
SL4233-015				UNK	05/21/18 02:00:45 pm	0.048	373	5.29		1.00
Replicates	385.0	343.6	385.3	376.5						
SL4233-015L				UNK	05/21/18 02:02:56 pm	-0.052	77	9.56		5.00
Replicates	86.3	74.5	69.0	79.9						
SL4233-015A				UNK	05/21/18 02:05:07 pm	0.982	5084	2.92		1.00
Replicates	5260.5	5131.1	5032.5	4910.6						
SL4233-015S				UNK	05/21/18 02:07:19 pm	0.912	4732	0.79		1.00
Replicates	4769.2	4685.5	4754.0	4720.5						
SL4233-015P				UNK	05/21/18 02:09:31 pm	0.899	4666	1.06		1.00
Replicates	4740.0	4636.2	4648.2	4639.9						

Sample Name				Type	Date/Time	Conc (ug/L)	µAbs	%RSD	Flags	DF
CCV				CCV	05/21/18 02:11:39 pm	4.503	22852	0.19		1.00
Replicates	22912.8	22838.0	22844.4	22812.7						
% Recovery	90.07									
CCB				CCB	05/21/18 02:13:46 pm	-0.023	16	318.03		1.00
Replicates	-38.2	-6.3	78.4	28.9						
SL4233-017				UNK	05/21/18 02:15:58 pm	0.089	578	5.43		1.00
Replicates	541.9	584.8	567.2	616.5						
SL4233-019				UNK	05/21/18 02:18:05 pm	0.079	530	6.30		1.00
Replicates	528.9	547.9	484.0	560.2						
SL4233-021				UNK	05/21/18 02:20:13 pm	0.055	406	9.39		1.00
Replicates	402.5	380.1	381.3	461.4						
SL4233-022				UNK	05/21/18 02:22:20 pm	0.091	589	2.60		1.00
Replicates	587.0	609.0	571.9	587.0						
SL4233-023				UNK	05/21/18 02:24:29 pm	0.074	501	4.88		1.00
Replicates	471.0	494.0	512.5	527.7						
SL4233-024				UNK	05/21/18 02:28:58 pm	0.094	602	2.09		1.00
Replicates	589.0	603.9	597.7	618.9						
SL4233-025				UNK	05/21/18 02:31:05 pm	0.059	425	2.81		1.00
Replicates	414.6	425.6	441.3	417.6						
SL4233-026				UNK	05/21/18 02:33:13 pm	0.090	582	6.73		1.00
Replicates	619.8	547.0	550.0	612.5						
SL4233-027				UNK	05/21/18 02:35:21 pm	0.114	704	7.58		1.00
Replicates	655.0	738.6	760.0	661.6						
SL4233-028				UNK	05/21/18 02:37:30 pm	0.077	520	3.62		1.00
Replicates	546.5	521.4	508.4	505.0						

Sample Name				Type	Date/Time	Conc (ug/L)	µAbs	%RSD	Flags	DF
CCV				CCV	05/21/18 02:39:38 pm	5.013	25423	2.37		1.00
Replicates	24758.3	25147.7	25643.9	26143.6						
% Recovery	100.26									
CCB				CCB	05/21/18 02:41:45 pm	-0.033	-36	127.91		1.00
Replicates	-85.1	-6.7	11.8	-62.9						
SL4233-029				UNK	05/21/18 02:43:54 pm	0.065	458	5.91		1.00
Replicates	474.0	458.5	479.3	419.5						
SL4233-030				UNK	05/21/18 02:46:02 pm	0.061	439	4.08		1.00
Replicates	436.4	463.5	436.0	420.4						
SL4233-031				UNK	05/21/18 02:48:10 pm	0.084	555	3.23		1.00
Replicates	551.5	533.8	557.8	577.3						
SL4233-031L				UNK	05/21/18 02:50:19 pm	0.012	141	18.70		5.00
Replicates	168.3	146.6	144.8	105.0						
SL4233-031A				UNK	05/21/18 02:52:28 pm	0.712	3719	0.90		1.00
Replicates	3768.5	3709.5	3704.8	3694.5						
data rejected spike incorrectly										
SL4233-031S				UNK	05/21/18 02:54:37 pm	0.909	4719	0.56		1.00
Replicates	4722.2	4686.6	4751.3	4714.8						
SL4233-031P				UNK	05/21/18 02:56:45 pm	0.931	4828	0.74		1.00
Replicates	4825.9	4825.6	4874.6	4787.5						
SL4233-032				UNK	05/21/18 02:58:54 pm	0.050	384	4.05		1.00
Replicates	367.3	403.2	376.1	387.7						
SL4233-033				UNK	05/21/18 03:01:02 pm	0.084	553	1.71		1.00
Replicates	561.8	551.5	557.9	540.2						
SL4233-034				UNK	05/21/18 03:03:12 pm	0.068	471	5.50		1.00
Replicates	495.0	445.7	492.2	452.2						

Sample Name					Type	Date/Time	Conc (ug/L)	µAbs	%RSD	Flags	DF
CCV					CCV	05/21/18 03:05:20 pm	4.844	24569	0.58		1.00
	Replicates	24774.7	24481.0	24463.5	24557.5						
	% Recovery	96.87									
CCB					CCB	05/21/18 03:07:26 pm	-0.033	-36	42.07		1.00
	Replicates	-31.7	-38.5	-55.5	-19.0						
SL4233-035					UNK	05/21/18 03:09:36 pm	0.104	654	0.24		1.00
	Replicates	653.1	655.5	651.9	654.0						
SL4180-008A					UNK	05/21/18 03:11:45 pm	0.972	5033	3.11		1.00
	Replicates	5250.9	5044.0	4919.1	4919.5						
SL4180-018A					UNK	05/21/18 03:13:54 pm	1.097	5664	0.63		1.00
	Replicates	5716.5	5652.7	5647.0	5638.4						
CCV					CCV	05/21/18 03:16:02 pm	4.709	23891	0.45		1.00
	Replicates	24049.5	23826.8	23867.8	23820.5						
	% Recovery	94.18									
CCB					CCB	05/21/18 03:18:08 pm	-0.028	-12	373.27		1.00
	Replicates	36.7	-3.1	-11.1	-69.1						

KATAHDIN ANALYTICAL SERVICES, LLC
METALS ANALYSIS RUN INFORMATION SHEET

INSTR. ID: J (Agilent 7500) **ANALYST**: MD **ANALYSIS DATE**: 05/21/2018

REVIEWED
JS 5.22.18
KATAHDIN ANALYTICAL
METALS SECTION

FILE NAME: JLE21C

METHOD: ICP-MS
- ☑ 200.8
- ☑ 6020
- ☑ DOD

The pHs of all samples that were tested by direct analysis in this analytical run were checked just prior to analysis and confirmed
to be <2. The time of preservation of these samples was checked in the "Measured Turbidity and Preservation of Incoming Samples" logbook to verify that they had been preserved at least 16 hours prior to analysis. These verifications were performed by
JS (initals) on 5.21.18 (date).

STANDARDS USED:

Standard Name	Standard ID	Prep Date	Expiration Date	Standard Conc.
Cal. Blk/ICB/CCB	MW17781	05/21/2018	05/21/2019	0 ug/L
Standard 1	MW17784	05/21/2018	06/21/2018	Varies by Element
ICV	MW17783	05/21/2018	08/21/2018	Varies by Element
PQL	MW17786	05/21/2018	07/13/2018	Varies by Element
LRS1	MW17735	05/04/2018	08/04/2018	Varies by Element
LRS2	MW17776	05/16/2018	08/16/2018	Varies by Element
ICSA	MW17779	05/17/2018	05/23/2018	Varies by Element
ICSAB	MW17780	05/17/2018	05/23/2018	Varies by Element
CCV	MW17785	05/21/2018	06/21/2018	Varies by Element
Internal Standard	MW17762	05/14/2018	08/14/2018	0.4 mg/L (Li,Sc,Ge/Y,Tb,Bi)

Additional Comments and Notes:

- Ag filed high in LRS identified as "LRS1", accepted Ag results for DoD 5.0 or higher samples w/ Ag concentrations less than the calibration concentration for Ag
- The final PQL failed high for Ca and low for the internal standards Li, Sc and Ge due to the rinse station emptying during analysis. Accepted all affected analytes for non-DoD samples.

JS 5.22.18

Dilutions: Some samples were diluted based on history or due to interfering element concentrations. Dilution preparations are as follows:

25x serial diln.: 1.6mL of 5x diln. of sample(pipet M18) + 6.4mL of MW17761 (pipet M18)

5x diln.: 1.6mL of sample(pipet M18) + 6.4mL of MW17761 (pipet M18)

Post Spike: 0.08mL of MW17698 (pipet M16) into 5x diln. of sample (pipet M18)

(Unless otherwise specified)

ME-019 – Revision 1 – 01/20/2016

INSTRUMENT RUNLOG

Instrument: AGILENT 7500

SAMPLE ID	DF	FILE	DATE	TIME	ANALYST
6020 TUNE	1	JLE21C	5/21/2018	6:33:00 14:17	MD
200.8 TUNE	1	JLE21C	5/21/2018	6:33:00 14:20	MD
Cal Blank	1	JLE21C	5/21/2018	6:33:00 18:33	MD
Cal Std	1	JLE21C	5/21/2018	6:37:00 18:37	MD
ICV	1	JLE21C	5/21/2018	6:41:00 18:41	MD
ICB	1	JLE21C	5/21/2018	6:45:00 18:45	MD
PQL	1	JLE21C	5/21/2018	6:49:00 18:49	MD
RINSE	1	JLE21C	5/21/2018	6:53:00 18:53	MD
ICSA	1	JLE21C	5/21/2018	6:58:00 18:58	MD
ICSAB	1	JLE21C	5/21/2018	7:02:00 19:02	MD
RINSE	1	JLE21C	5/21/2018	7:06:00 19:06	MD
LRS1	1	JLE21C	5/21/2018	7:10:00 19:10	MD
LRS2	1	JLE21C	5/21/2018	7:14:00 19:14	MD
RINSE	1	JLE21C	5/21/2018	7:18:00 19:18	MD
RINSE	1	JLE21C	5/21/2018	7:22:00 19:22	MD
CCV	1	JLE21C	5/21/2018	7:27:00 19:27	MD
CCB	1	JLE21C	5/21/2018	7:31:00 19:31	MD
SL4303-001	1	JLE21C	5/21/2018	7:35:00 19:35	MD
SL4303-002	1	JLE21C	5/21/2018	7:39:00 19:39	MD
SL4303-003	1	JLE21C	5/21/2018	7:43:00 19:43	MD
SL4303-004	1	JLE21C	5/21/2018	7:47:00 19:47	MD
SL4303-005	1	JLE21C	5/21/2018	7:51:00 19:51	MD
SL4303-006	1	JLE21C	5/21/2018	7:56:00 19:56	MD
SL4303-007	1	JLE21C	5/21/2018	8:00:00 20:00	MD
SL4310-001	5	JLE21C	5/21/2018	8:04:00 20:04	MD
PBWLE09IMW3	5	JLE21C	5/21/2018	8:08:00 20:08	MD
LCSWLE09IMW3	5	JLE21C	5/21/2018	8:13:00 20:13	MD
CCV	1	JLE21C	5/21/2018	8:17:00 20:17	MD
CCB	1	JLE21C	5/21/2018	8:21:00 20:21	MD
SL3265-001	5	JLE21C	5/21/2018	8:25:00 20:25	MD
SL3265-002	5	JLE21C	5/21/2018	8:29:00 20:29	MD
SL3265-003	5	JLE21C	5/21/2018	8:33:00 20:33	MD
SL3380-001	5	JLE21C	5/21/2018	8:38:00 20:38	MD
SL3380-002	5	JLE21C	5/21/2018	8:42:00 20:42	MD
SL3380-003	5	JLE21C	5/21/2018	8:46:00 20:46	MD
SL3380-003L	25	JLE21C	5/21/2018	8:50:00 20:50	MD
SL3380-003A	5	JLE21C	5/21/2018	8:55:00 20:55	MD
SL3380-003S	5	JLE21C	5/21/2018	8:59:00 20:59	MD
RINSE	5	JLE21C	5/21/2018	9:03:00 21:03	MD
CCV	1	JLE21C	5/21/2018	9:07:00 21:07	MD
CCB	1	JLE21C	5/21/2018	9:12:00 21:12	MD
SL3380-003P	5	JLE21C	5/21/2018	9:16:00 21:16	MD
SL3604-001	5	JLE21C	5/21/2018	9:20:00 21:20	MD
SL3810-001	5	JLE21C	5/21/2018	9:24:00 21:24	MD

MD 5/23/18

SAMPLE ID	DF	FILE	DATE	TIME	ANALYST
SL3810-002	5	JLE21C	5/21/2018 9:29:00	21:29	MD
SL3810-003	5	JLE21C	5/21/2018 9:33:00	21:33	MD
SL3810-004	5	JLE21C	5/21/2018 9:37:00	21:37	MD
SL3810-005	5	JLE21C	5/21/2018 9:41:00	21:41	MD
RINSE	1	JLE21C	5/21/2018 9:46:00	21:46	MD
PBWLE21IMW1	1	JLE21C	5/21/2018 9:50:00	21:50	MD
LCSWLE21IMW1	5	JLE21C	5/21/2018 9:54:00	21:54	MD
CCV	1	JLE21C	5/21/2018 9:58:00	21:58	MD
CCB	1	JLE21C	5/21/2018 10:02:0	22:02	MD
SL4149-001	1	JLE21C	5/21/2018 10:07:0	22:07	MD
SL4177-001	1	JLE21C	5/21/2018 10:11:0	22:11	MD
SL4185-001	1	JLE21C	5/21/2018 10:15:0	22:15	MD
SL4240-001	1	JLE21C	5/21/2018 10:19:0	22:19	MD
SL4243-001	1	JLE21C	5/21/2018 10:24:0	22:24	MD
SL4246-001	1	JLE21C	5/21/2018 10:28:0	22:28	MD
RINSE	1	JLE21C	5/21/2018 10:32:0	22:32	MD
PBWLE21IMW2	5	JLE21C	5/21/2018 10:37:0	22:37	MD
LCSWLE21IMW2	5	JLE21C	5/21/2018 10:41:0	22:41	MD
SL4180-029	5	JLE21C	5/21/2018 10:45:0	22:45	MD
CCV	1	JLE21C	5/21/2018 10:49:0	22:49	MD
CCB	1	JLE21C	5/21/2018 10:53:0	22:53	MD
SL4290-014	5	JLE21C	5/21/2018 10:58:0	22:58	MD
PBSLE21IMS1	5	JLE21C	5/21/2018 11:02:0	23:02	MD
LCSOLE21IMS1	5	JLE21C	5/21/2018 11:06:0	23:06	MD
SL4067-001	5	JLE21C	5/21/2018 11:10:0	23:10	MD
SL4180-001	5	JLE21C	5/21/2018 11:15:0	23:15	MD
SL4180-002	5	JLE21C	5/21/2018 11:19:0	23:19	MD
SL4180-003	5	JLE21C	5/21/2018 11:23:0	23:23	MD
SL4180-004	5	JLE21C	5/21/2018 11:28:0	23:28	MD
SL4180-005	5	JLE21C	5/21/2018 11:32:0	23:32	MD
RINSE	1	JLE21C	5/21/2018 11:37:0	23:37	MD
CCV	1	JLE21C	5/21/2018 11:41:0	23:41	MD
CCB	1	JLE21C	5/21/2018 11:45:0	23:45	MD
SL4180-006	5	JLE21C	5/21/2018 11:49:0	23:49	MD
SL4180-007	5	JLE21C	5/21/2018 11:54:0	23:54	MD
SL4180-008	5	JLE21C	5/21/2018 11:58:0	23:58	MD
SL4180-008L	25	JLE21C	5/22/2018 12:03:0	0:03	MD
SL4180-008A	5	JLE21C	5/22/2018 12:07:0	0:07	MD
SL4180-008S	5	JLE21C	5/22/2018 12:11:0	0:11	MD
SL4180-008P	5	JLE21C	5/22/2018 12:16:0	0:16	MD
SL4180-009	5	JLE21C	5/22/2018 12:20:0	0:20	MD
SL4180-010	5	JLE21C	5/22/2018 12:24:0	0:24	MD
RINSE	1	JLE21C	5/22/2018 12:29:0	0:29	MD
CCV	1	JLE21C	5/22/2018 12:33:0	0:33	MD
CCB	1	JLE21C	5/22/2018 12:37:0	0:37	MD
SL4180-011	5	JLE21C	5/22/2018 12:41:0	0:41	MD
SL4180-012	5	JLE21C	5/22/2018 12:46:0	0:46	MD

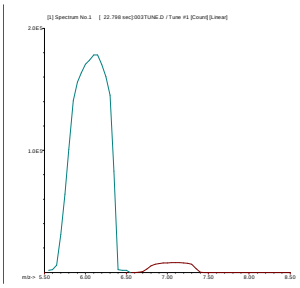
SAMPLE ID	DF	FILE	DATE	TIME	ANALYST
SL4180-013	5	JLE21C	5/22/2018 12:50:0	0:50	MD
SL4180-014	5	JLE21C	5/22/2018 12:55:0	0:55	MD
SL4180-015	5	JLE21C	5/22/2018 12:59:0	0:59	MD
SL4180-016	5	JLE21C	5/22/2018 1:03:00	1:03	MD
SL4180-017	5	JLE21C	5/22/2018 1:08:00	1:08	MD
RINSE	1	JLE21C	5/22/2018 1:12:00	1:12	MD
PBSLE21IMS2	5	JLE21C	5/22/2018 1:16:00	1:16	MD
LCSOLE21IMS2	5	JLE21C	5/22/2018 1:20:00	1:20	MD
CCV	1	JLE21C	5/22/2018 1:25:00	1:25	MD
CCB	1	JLE21C	5/22/2018 1:29:00	1:29	MD
SL4180-018	5	JLE21C	5/22/2018 1:33:00	1:33	MD
SL4180-018L	25	JLE21C	5/22/2018 1:38:00	1:38	MD
SL4180-018A	5	JLE21C	5/22/2018 1:42:00	1:42	MD
SL4180-018S	5	JLE21C	5/22/2018 1:46:00	1:46	MD
SL4180-018P	5	JLE21C	5/22/2018 1:51:00	1:51	MD
SL4180-019	5	JLE21C	5/22/2018 1:55:00	1:55	MD
SL4180-020	5	JLE21C	5/22/2018 1:59:00	1:59	MD
SL4180-021	5	JLE21C	5/22/2018 2:04:00	2:04	MD
SL4180-022	5	JLE21C	5/22/2018 2:08:00	2:08	MD
RINSE	1	JLE21C	5/22/2018 2:13:00	2:13	MD
CCV	1	JLE21C	5/22/2018 2:17:00	2:17	MD
CCB	1	JLE21C	5/22/2018 2:21:00	2:21	MD
SL4180-023	5	JLE21C	5/22/2018 2:25:00	2:25	MD
SL4180-024	5	JLE21C	5/22/2018 2:30:00	2:30	MD
SL4180-025	5	JLE21C	5/22/2018 2:34:00	2:34	MD
SL4180-026	5	JLE21C	5/22/2018 2:39:00	2:39	MD
SL4180-027	5	JLE21C	5/22/2018 2:43:00	2:43	MD
SL4233-002	5	JLE21C	5/22/2018 2:47:00	2:47	MD
SL4233-003	5	JLE21C	5/22/2018 2:52:00	2:52	MD
SL4233-004	5	JLE21C	5/22/2018 2:56:00	2:56	MD
SL4233-005	5	JLE21C	5/22/2018 3:00:00	3:00	MD
RINSE	1	JLE21C	5/22/2018 3:05:00	3:05	MD
CCV	1	JLE21C	5/22/2018 3:09:00	3:09	MD
CCB	1	JLE21C	5/22/2018 3:13:00	3:13	MD
SL4233-006	5	JLE21C	5/22/2018 3:18:00	3:18	MD
SL4233-007	5	JLE21C	5/22/2018 3:22:00	3:22	MD
SL4233-008	5	JLE21C	5/22/2018 3:26:00	3:26	MD
SL4233-009	5	JLE21C	5/22/2018 3:31:00	3:31	MD
SL4233-010	5	JLE21C	5/22/2018 3:35:00	3:35	MD
RINSE	1	JLE21C	5/22/2018 3:39:00	3:39	MD
CCV	1	JLE21C	5/22/2018 3:44:00	3:44	MD
CCB	1	JLE21C	5/22/2018 3:48:00	3:48	MD
PQL	1	JLE21C	5/22/2018 3:52:00	3:52	MD
CCV	1	JLE21C	5/22/2018 3:57:00	3:57	MD
CCB	1	JLE21C	5/22/2018 4:01:00	4:01	MD

6020 QC Tune Report

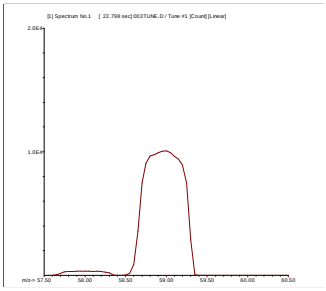
Data File: C:\ICPCHEM\1\DATA\JLE21A.B\003TUNE.D
Date Acquired: May 21 2018 02:17 pm
Acq. Method: TN6020E.M
Operator: JS
Sample Name: 6020 TUNE
Misc Info:
Vial Number: 1107
Current Method: C:\ICPCHEM\1\METHODS\TN6020E.M

RSD (%)

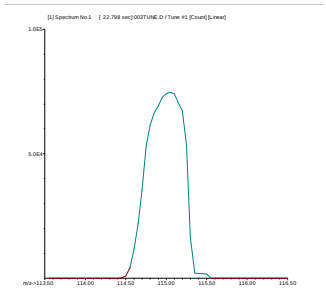
Element	Actual	Required	Flag
7 Li	1.00	5.00	
59 Co	0.83	5.00	
115 In	1.47	5.00	
205 Tl	1.07	5.00	



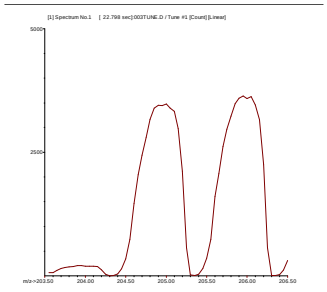
7 Li
Mass Calib.
Actual: 7.10
Required: 6.90 - 7.10
Flag:
Peak Width
Actual: 0.60
Required: 0.90
Flag:



59 Co
Mass Calib.
Actual: 58.95
Required: 58.90 - 59.10
Flag:
Peak Width
Actual: 0.65
Required: 0.90
Flag:



115 In
Mass Calib.
Actual: 115.05
Required: 114.90 - 115.10
Flag:
Peak Width
Actual: 0.70
Required: 0.90
Flag:



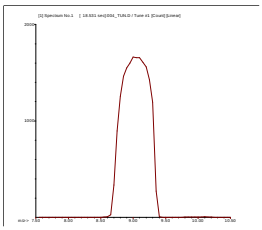
205 Tl
Mass Calib.
Actual: 204.95
Required: 204.90 - 205.10
Flag:
Peak Width
Actual: 0.65
Required: 0.90
Flag:

200.8 QC Tune Report

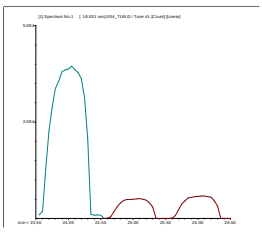
Data File: C:\ICPCHEM\1\DATA\JLE21A.B\004_TUN.D
Date Acquired: May 21 2018 02:20 pm
Acq. Method: TN200_8E.M
Operator: JS
Sample Name: 200.8 TUNE
Misc Info:
Vial Number: 1107
Current Method: C:\ICPCHEM\1\METHODS\TN200_8E.M

RSD (%)

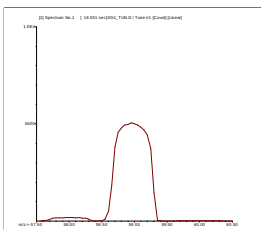
Element	Actual	Required	Flag
9 Be	1.42	5.00	
24 Mg	1.33	5.00	
59 Co	0.57	5.00	
115 In	0.77	5.00	
208 Pb	0.89	5.00	



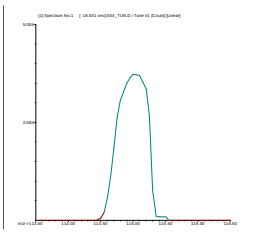
9 Be
Mass Calib.
Actual: 9.05
Required: 8.90 - 9.10
Flag:
Peak Width
Actual: 0.65
Required: 1.00
Flag:



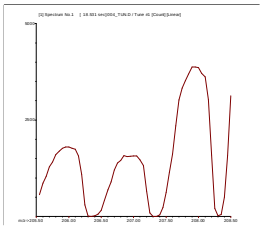
24 Mg
Mass Calib.
Actual: 24.00
Required: 23.90 - 24.10
Flag:
Peak Width
Actual: 0.65
Required: 1.00
Flag:



59 Co
Mass Calib.
Actual: 58.95
Required: 58.90 - 59.10
Flag:
Peak Width
Actual: 0.70
Required: 1.00
Flag:



115 In
Mass Calib.
Actual: 115.05
Required: 114.90 - 115.10
Flag:
Peak Width
Actual: 0.70
Required: 1.00
Flag:



208 Pb
Mass Calib.
Actual: 207.95
Required: 207.90 - 208.10
Flag:
Peak Width
Actual: 0.65
Required: 1.00
Flag:

Tune Result: Pass

Katahdin Analytical Services 4000158

Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.I
Date Acquired: May 21 2018 06:33 pm
Operator: MD
Sample Name: Cal Blank
Misc Info:
Vial Number: 1203
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal Update: May 21 2018 06:36 pm
Sample Type: CalBlk
Total Dil Factor: 1.00

QC&ISTD Elements

Element		CPS Mean		SD	RSD(%)
6	Li	3691109.00	A	58870.00	1.59
9	Be	19.63	P	2.31	11.78
11	B	251.12	P	26.94	10.73
23	Na	41147.20	P	600.50	1.46
25	Mg	326.69	P	58.12	17.79
27	Al	4502.13	P	353.10	7.84
28	Si	2701756.00	A	27700.00	1.03
29	Si	172005.00	P	1313.00	0.76
39	K	1465360.00	A	11770.00	0.80
43	Ca	200.03	P	22.23	11.11
44	Ca	5678.84	P	394.90	6.95
45	Sc	2910448.00	A	46200.00	1.59
51	V	2172.20	P	622.00	28.64
52	Cr	6750.61	P	101.50	1.50
53	Cr	8927.38	P	195.50	2.19
55	Mn	1644.59	P	72.45	4.41
56	Fe	1312020.00	A	6955.00	0.53
57	Fe	17721.14	P	447.70	2.53
59	Co	126.68	P	46.67	36.84
60	Ni	89.35	P	5.79	6.48
63	Cu	1636.81	P	36.05	2.20
65	Cu	768.93	P	75.75	9.85
66	Zn	878.94	P	72.76	8.28
68	Zn	1311.21	P	83.30	6.35
72	Ge	556535.31	P	5075.00	0.91
75	As	176.27	P	87.89	49.86
82	Se	15.94	P	6.56	41.15
88	Sr	81.49	P	12.83	15.74
89	Y	3397081.00	A	30880.00	0.91
98	Mo	42.52	P	6.69	15.73
107	Ag	30.00	P	12.02	40.07
109	Ag	17.78	P	10.71	60.24
111	Cd	1060.10	P	29.41	2.77
114	Cd	-18.57	P	9.62	51.79
115	In	2945493.00	A	5877.00	0.20
118	Sn	274.46	P	1.93	0.70
120	Sn	373.35	P	37.12	9.94
121	Sb	95.56	P	15.75	16.48
123	Sb	73.34	P	20.28	27.65
135	Ba	28.89	P	1.93	6.66
137	Ba	43.33	P	20.82	48.04
159	Tb	2966504.00	A	7606.00	0.26
182	W	18.89	P	8.39	44.41
203	Tl	27.78	P	10.71	38.56
205	Tl	43.33	P	13.33	30.76
208	Pb	356.68	P	28.48	7.98
209	Bi	1486792.00	A	5675.00	0.38
232	Th	20.00	P	5.77	28.87
238	U	17.78	P	3.85	21.65

Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\016CALI.D\016CALI.D#
Date Acquired: May 21 2018 06:37 pm
Operator: MD
Sample Name: Cal Std
Misc Info:
Vial Number: 1101
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal Update: May 21 2018 06:36 pm
Sample Type: CalStd
Total Dil Factor: 1.00

QC&ISTD Elements

Element	CPS Mean		SD	RSD(%)
6 Li	3687593.00	A	27810.00	0.75
9 Be	136681.59	P	1111.00	0.81
11 B	72226.14	P	1188.00	1.64
23 Na	87380872.00	A	720400.00	0.82
25 Mg	7241863.00	A	25990.00	0.36
27 Al	6636947.00	A	145000.00	2.18
28 Si	6470539.00	A	26650.00	0.41
29 Si	360832.09	P	4180.00	1.16
39 K	91311960.00	A	697800.00	0.76
43 Ca	157623.91	P	1032.00	0.65
44 Ca	2555777.00	A	47860.00	1.87
45 Sc	2855410.00	A	47900.00	1.68
51 V	514595.41	P	1891.00	0.37
52 Cr	431296.69	P	2902.00	0.67
53 Cr	56344.60	P	873.30	1.55
55 Mn	523327.19	P	7569.00	1.45
56 Fe	85004624.00	A	109700.00	0.13
57 Fe	2077462.00	A	17480.00	0.84
59 Co	434886.69	P	3664.00	0.84
60 Ni	96196.41	P	1089.00	1.13
63 Cu	234999.30	P	1706.00	0.73
65 Cu	110453.50	P	764.30	0.69
66 Zn	59601.02	P	393.30	0.66
68 Zn	44053.22	P	322.70	0.73
72 Ge	541098.88	P	8248.00	1.52
75 As	66430.30	P	691.10	1.04
82 Se	4025.28	P	42.32	1.05
88 Sr	565526.63	P	3454.00	0.61
89 Y	3374483.00	A	28830.00	0.85
98 Mo	163450.80	P	665.40	0.41
107 Ag	246165.00	P	306.70	0.12
109 Ag	234717.30	P	822.60	0.35
111 Cd	51219.12	P	241.70	0.47
114 Cd	110068.20	P	277.90	0.25
115 In	2954850.00	A	13870.00	0.47
118 Sn	150776.59	P	1412.00	0.94
120 Sn	206977.09	P	1613.00	0.78
121 Sb	203407.59	P	369.10	0.18
123 Sb	153371.30	P	224.40	0.15
135 Ba	44880.99	P	318.10	0.71
137 Ba	75983.13	P	579.70	0.76
159 Tb	3036419.00	A	35020.00	1.15
182 W	124803.30	P	751.90	0.60
203 Tl	108301.80	P	1478.00	1.36
205 Tl	256032.41	P	621.80	0.24
208 Pb	351671.19	P	2323.00	0.66
209 Bi	1472503.00	A	10390.00	0.71
232 Th	380303.09	P	2909.00	0.76
238 U	365227.81	P	1804.00	0.49

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3687592.80	0.75	3691108.80	99.9	79.5 - 120.4	
45 Sc	2855409.80	1.68	2910447.80	98.1	79.5 - 120.4	
72 Ge	541098.88	1.52	556535.31	97.2	79.5 - 120.4	
159 Tb	3036419.30	1.15	2966504.30	102.4	79.5 - 120.4	
209 Bi	1472503.30	0.71	1486792.30	99.0	79.5 - 120.4	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

--- :Element Failures --- :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000160

ICV QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\017_ICV.D\017_ICV.D#
Date Acquired: May 21 2018 06:41 pm
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: ICV
Misc Info:
Vial Number: 1202
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Dilution Factor: 1.00
QC Range (%): 89.499998 - 110.5

QC Elements

Element	Conc.		RSD(%)	Expected	Rec (%)	Flag
9 Be	19.86	ppb	2.31	20	99.3	
11 B	19.96	ppb	2.28	20	99.8	
23 Na	3,949.	ppb	0.32	4,000	98.725	
25 Mg	3,971.	ppb	2.15	4,000	99.275	
27 Al	391.9	ppb	1.99	400	97.975	
28 Si	414.6	ppb	0.70	400	103.65	
29 Si	389.4	ppb	0.50	400	97.35	
39 K	3,960.	ppb	1.32	4,000	99	
43 Ca	4,042.	ppb	0.70	4,000	101.05	
44 Ca	4,049.	ppb	1.45	4,000	101.225	
51 V	19.25	ppb	1.80	20	96.25	
52 Cr	19.28	ppb	1.78	20	96.4	
53 Cr	16.43	ppb	3.16	20	82.15	
55 Mn	19.39	ppb	0.47	20	96.95	
56 Fe	3,863.	ppb	0.49	4,000	96.575	
57 Fe	3,974.	ppb	0.74	4,000	99.35	
59 Co	19.75	ppb	0.14	20	98.75	
60 Ni	20.22	ppb	0.14	20	101.1	
63 Cu	19.14	ppb	0.98	20	95.7	
65 Cu	19.46	ppb	0.83	20	97.3	
66 Zn	20.04	ppb	1.45	20	100.2	
68 Zn	19.59	ppb	1.78	20	97.95	
75 As	19.57	ppb	0.75	20	97.85	
82 Se	19.86	ppb	0.59	20	99.3	
88 Sr	19.38	ppb	0.28	20	96.9	
89 Y	--------	---	--------	---	#VALUE!	
98 Mo	38.5	ppb	0.66	40	96.25	
107 Ag	20.19	ppb	0.75	20	100.95	
109 Ag	20.01	ppb	0.16	20	100.05	
111 Cd	19.81	ppb	0.69	20	99.05	
114 Cd	20.18	ppb	0.87	20	100.9	
115 In	--------	---	--------	---	#VALUE!	
118 Sn	19.57	ppb	0.56	20	97.85	
120 Sn	19.51	ppb	1.54	20	97.55	
121 Sb	19.49	ppb	0.51	20	97.45	
123 Sb	19.69	ppb	1.61	20	98.45	
135 Ba	19.33	ppb	1.31	20	96.65	
137 Ba	19.66	ppb	1.83	20	98.3	
182 W	19.97	ppb	2.16	20	99.85	
203 Tl	20.16	ppb	1.69	20	100.8	
205 Tl	20.33	ppb	0.80	20	101.65	
208 Pb	19.6	ppb	0.37	20	98	
232 Th	19.66	ppb	1.44	20	98.3	
238 U	19.58	ppb	0.58	20	97.9	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3565075.80	1.83	3691108.80	96.6	80 - 120.4	
45 Sc	2791700.50	1.01	2910447.80	95.9	80 - 120.4	
72 Ge	542565.38	0.49	556535.31	97.5	80 - 120.4	
159 Tb	3046962.80	0.50	2966504.30	102.7	80 - 120.4	
209 Bi	1504744.10	0.76	1486792.30	101.2	80 - 120.4	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000161

ICB QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\018_ICB.D\018_ICB.D#
Date Acquired: May 21 2018 06:45 pm
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: ICB
Misc Info:
Vial Number: 1203
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: 6-ICB
Dilution Factor: 1.00

QC Elements

Element	Conc.		RSD(%)	High Limit	Flag
9 Be	0.005	ppb	44.87	1.00	
11 B	0.1691	ppb	33.42	1.00	
23 Na	0.0882	ppb	240.19	1.00	
25 Mg	0.0065	ppb	1375.80	1.00	
27 Al	-0.0028	ppb	978.97	1.00	
28 Si	29.85	ppb	82.71	1.00	
29 Si	10.2	ppb	103.53	1.00	
39 K	1.48	ppb	54.79	1.00	
43 Ca	1.433	ppb	134.19	1.00	
44 Ca	-0.8402	ppb	24.05	1.00	
51 V	-0.0366	ppb	164.17	1.00	
52 Cr	-0.0976	ppb	8.51	1.00	
53 Cr	-2.601	ppb	1.24	1.00	
55 Mn	0.0009	ppb	565.22	1.00	
56 Fe	-6.964	ppb	9.91	1.00	
57 Fe	-2.918	ppb	138.62	1.00	
59 Co	0.0032	ppb	89.17	1.00	
60 Ni	-0.0143	ppb	33.77	1.00	
63 Cu	-0.021	ppb	70.54	1.00	
65 Cu	-0.0242	ppb	95.57	1.00	
66 Zn	-0.0273	ppb	170.52	1.00	
68 Zn	0.1429	ppb	74.53	1.00	
75 As	-0.1169	ppb	83.57	1.00	
82 Se	-0.1597	ppb	119.97	1.00	
88 Sr	0.0025	ppb	111.54	1.00	
89 Y	--------	---	--------	---	
98 Mo	0.0368	ppb	15.44	1.00	
107 Ag	0.0031	ppb	36.17	1.00	
109 Ag	0.0034	ppb	55.04	1.00	
111 Cd	-0.0228	ppb	197.98	1.00	
114 Cd	0.0049	ppb	93.19	1.00	
115 In	--------	---	--------	---	
118 Sn	0.0339	ppb	65.62	1.00	
120 Sn	0.0293	ppb	12.45	1.00	
121 Sb	0.007	ppb	37.57	1.00	
123 Sb	0.0023	ppb	37.78	1.00	
135 Ba	0.0028	ppb	801.07	1.00	
137 Ba	-0.0132	ppb	78.34	1.00	
182 W	0.0487	ppb	20.88	1.00	
203 Tl	0.0021	ppb	133.90	1.00	
205 Tl	0.0002	ppb	1212.50	1.00	
208 Pb	0.0011	ppb	404.91	1.00	
232 Th	0.0429	ppb	15.84	1.00	
238 U	0.0011	ppb	40.42	1.00	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3529977.50	1.39	3691108.80	95.6	79.5 - 120	
45 Sc	2757444.30	0.99	2910447.80	94.7	79.5 - 120	
72 Ge	542102.13	1.03	556535.31	97.4	79.5 - 120	
159 Tb	3043535.50	0.94	2966504.30	102.6	79.5 - 120	
209 Bi	1525977.00	0.89	1486792.30	102.6	79.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000162

PQL QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\019_PQL.D\019_PQL.D#
Date Acquired: May 21 2018 06:49 pm
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: PQL
Misc Info:
Vial Number: 1302
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Dilution Factor: 1.00
QC Range (%): 69.599998 - 130.4

QC Elements

Element	Conc.		RSD(%)	Expected	Rec (%)	Flag
9 Be	0.2142	ppb	6.39	0.20	107.1	
11 B	4.052	ppb	5.20	4.00	101.3	
23 Na	204.9	ppb	1.82	200.00	102.45	
25 Mg	20.11	ppb	0.66	20.00	100.55	
27 Al	20.29	ppb	2.50	20.00	101.45	
28 Si	128.9	ppb	15.09	100.00	128.9	
29 Si	111.4	ppb	13.03	100.00	111.4	
39 K	199.4	ppb	3.37	200.00	99.7	
43 Ca	23.84	ppb	12.87	20.00	119.2	
44 Ca	21.36	ppb	13.68	20.00	106.8	
51 V	0.9801	ppb	5.32	1.00	98.01	
52 Cr	0.9	ppb	2.78	1.00	90	
53 Cr	-1.349	ppb	14.31	---	#VALUE!	
55 Mn	0.4074	ppb	2.01	0.40	101.85	
56 Fe	11.82	ppb	9.16	20.00	59.1	
57 Fe	19.82	ppb	7.92	20.00	99.1	
59 Co	0.2116	ppb	4.77	0.20	105.8	
60 Ni	0.4062	ppb	4.92	0.40	101.55	
63 Cu	0.5396	ppb	1.20	0.60	89.9333	
65 Cu	0.5801	ppb	4.18	0.60	96.6833	
66 Zn	2.076	ppb	4.22	2.00	103.8	
68 Zn	1.916	ppb	5.85	2.00	95.8	
75 As	0.8949	ppb	11.51	1.00	89.49	
82 Se	0.7245	ppb	19.81	1.00	72.45	Fail-DoD
88 Sr	1.025	ppb	0.58	1.00	102.5	
89 Y	--------	---	--------	---	#VALUE!	
98 Mo	1.008	ppb	2.97	1.00	100.8	
107 Ag	0.2095	ppb	4.50	0.20	104.75	
109 Ag	0.2168	ppb	7.06	0.20	108.4	
111 Cd	0.1702	ppb	36.19	0.20	85.1	
114 Cd	0.2163	ppb	3.02	0.20	108.15	
115 In	--------	---	--------	---	#VALUE!	
118 Sn	1.022	ppb	2.19	1.00	102.2	
120 Sn	1.034	ppb	2.95	1.00	103.4	
121 Sb	0.2066	ppb	1.22	0.20	103.3	
123 Sb	0.2048	ppb	5.21	0.20	102.4	
135 Ba	0.4126	ppb	2.83	0.40	103.15	
137 Ba	0.4366	ppb	9.37	0.40	109.15	
182 W	1.038	ppb	3.89	1.00	103.8	
203 Tl	0.1923	ppb	0.85	0.20	96.15	
205 Tl	0.2003	ppb	0.97	0.20	100.15	
208 Pb	0.1968	ppb	1.58	0.20	98.4	
232 Th	0.2014	ppb	2.77	0.20	100.7	
238 U	0.195	ppb	8.41	0.20	97.5	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3505317.80	1.08	3691108.80	95.0	80 - 120.4	
45 Sc	2758314.30	1.06	2910447.80	94.8	80 - 120.4	
72 Ge	539752.88	0.23	556535.31	97.0	80 - 120.4	
159 Tb	3047341.00	0.43	2966504.30	102.7	80 - 120.4	
209 Bi	1529620.10	0.98	1486792.30	102.9	80 - 120.4	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Katahdin Analytical Services 4000163

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\020SMPL.D\020SMPL.D#
Date Acquired: May 21 2018 06:53 pm
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: RINSE
Misc Info:
Vial Number: 1301
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0024	0.0024	ppb	101.96	100.	
11 B	0.0346	0.0346	ppb	56.64	1000.	
23 Na	0.6693	0.6693	ppb	3.95	200000.	
25 Mg	0.0372	0.0372	ppb	155.77	200000.	
27 Al	-0.1134	-0.1134	ppb	64.78	200000.	
28 Si	65.32	65.32	ppb	13.25	#VALUE!	
29 Si	45.97	45.97	ppb	23.39	10000.	
39 K	6.595	6.595	ppb	29.08	200000.	
43 Ca	1.403	1.403	ppb	382.25	#VALUE!	
44 Ca	0.3397	0.3397	ppb	196.88	200000.	
51 V	-0.0323	-0.0323	ppb	144.98	1000.	
52 Cr	-0.0933	-0.0933	ppb	42.42	2000.	
53 Cr	-2.404	-2.404	ppb	3.91	#VALUE!	
55 Mn	0.0117	0.0117	ppb	72.02	2000.	
56 Fe	-5.611	-5.611	ppb	16.50	#VALUE!	
57 Fe	-2.656	-2.656	ppb	148.42	100000.	
59 Co	0.0048	0.0048	ppb	38.88	1000.	
60 Ni	-0.0038	-0.0038	ppb	50.47	1000.	
63 Cu	-0.0603	-0.0603	ppb	11.62	#VALUE!	
65 Cu	-0.0507	-0.0507	ppb	43.19	2000.	
66 Zn	0.0241	0.0241	ppb	59.00	2000.	
68 Zn	0.0774	0.0774	ppb	60.16	#VALUE!	
75 As	-0.0248	-0.0248	ppb	128.11	1000.	
82 Se	-0.1719	-0.1719	ppb	49.44	1000.	
88 Sr	0.003	0.003	ppb	115.20	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	0.0022	0.0022	ppb	37.71	1000.	
107 Ag	0.0012	0.0012	ppb	87.98	100.	
109 Ag	0.0009	0.0009	ppb	326.75	#VALUE!	
111 Cd	-0.0199	-0.0199	ppb	93.98	#VALUE!	
114 Cd	0.0034	0.0034	ppb	96.61	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	0.0038	0.0038	ppb	455.39	1000.	
120 Sn	0.0125	0.0125	ppb	45.23	#VALUE!	
121 Sb	0.0044	0.0044	ppb	139.97	#VALUE!	
123 Sb	0.0012	0.0012	ppb	652.33	1000.	
135 Ba	-0.0004	-0.0004	ppb	1406.30	2000.	
137 Ba	-0.0062	-0.0062	ppb	82.28	#VALUE!	
182 W	0.0121	0.0121	ppb	34.59	1000.	
203 Tl	-0.0021	-0.0021	ppb	122.62	1000.	
205 Tl	-0.0001	-0.0001	ppb	1210.20	#VALUE!	
208 Pb	0.0046	0.0046	ppb	175.69	2000.	
232 Th	0.0133	0.0133	ppb	34.01	1000.	
238 U	0.0007	0.0007	ppb	213.82	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3395236.50	1.10	3691108.80	92.0	69.5 - 120	
45 Sc	2670729.50	0.95	2910447.80	91.8	69.5 - 120	
72 Ge	532785.56	0.34	556535.31	95.7	69.5 - 120	
159 Tb	3002005.50	0.26	2966504.30	101.2	69.5 - 120	
209 Bi	1499390.30	1.04	1486792.30	100.8	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000164

ICS-A QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\021ICSA.D\021ICSA.D#
Date Acquired: May 21 2018 06:58 pm
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: ICSA
Misc Info:
Vial Number: 1104
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: 6-ICSA
Dilution Factor: 1.00

QC Elements

Element	Conc.		RSD(%)	High Limit	Flag
9 Be	0.0023	ppb	41.37		
11 B	0.4384	ppb	7.21		
23 Na	101,600.	ppb	0.95		
25 Mg	100,500.	ppb	1.49		
27 Al	100,500.	ppb	1.80		
28 Si	82.82	ppb	25.33		
29 Si	46.33	ppb	39.31		
39 K	103,500.	ppb	1.84		
43 Ca	108,500.	ppb	1.58		
44 Ca	103,000.	ppb	1.66		
51 V	0.1166	ppb	31.99		
52 Cr	0.8034	ppb	6.33		
53 Cr	-1.296	ppb	11.13		
55 Mn	0.3651	ppb	5.61		
56 Fe	98,030.	ppb	0.94		
57 Fe	95,700.	ppb	0.84		
59 Co	0.125	ppb	2.92		
60 Ni	-0.1097	ppb	76.28		
63 Cu	3.286	ppb	1.79		
65 Cu	1.106	ppb	7.04		
66 Zn	2.591	ppb	9.67		
68 Zn	0.8296	ppb	4.58		
75 As	0.3415	ppb	62.23		
82 Se	-0.0664	ppb	244.91		
88 Sr	0.9609	ppb	2.65		
89 Y	--------	---	--------		
98 Mo	2,007.	ppb	1.59		
107 Ag	0.0227	ppb	17.09		
109 Ag	0.0256	ppb	22.64		
111 Cd	-0.0369	ppb	183.21		
114 Cd	0.0275	ppb	31.15		
115 In	--------	---	--------		
118 Sn	0.0635	ppb	10.48		
120 Sn	0.0582	ppb	21.52		
121 Sb	0.1803	ppb	11.59		
123 Sb	0.1994	ppb	20.92		
135 Ba	0.0981	ppb	25.23		
137 Ba	0.0839	ppb	25.25		
182 W	0.269	ppb	9.53		
203 Tl	-0.0026	ppb	128.74		
205 Tl	0.003	ppb	81.96		
208 Pb	0.1005	ppb	3.88		
232 Th	0.05	ppb	41.38		
238 U	-0.0007	ppb	142.09		

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3115512.00	2.88	3691108.80	84.4	69.5 - 120.4	
45 Sc	2683477.30	2.71	2910447.80	92.2	69.5 - 120.4	
72 Ge	537517.00	1.37	556535.31	96.6	69.5 - 120.4	
159 Tb	2930174.30	0.70	2966504.30	98.8	69.5 - 120.4	
209 Bi	1346806.80	1.24	1486792.30	90.6	69.5 - 120.4	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000165

ICS-AB QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\022ICSB.D\022ICSB.D#
Date Acquired: May 21 2018 07:02 pm
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: ICSAB
Misc Info:
Vial Number: 1105
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: 6-ICSAB
Dilution Factor: 1.00

QC Elements

Element	Conc.		RSD(%)	Expected	QC Range(%)	Flag
9 Be	23.57	ppb	1.25	20.00	79.5 - 120	
11 B	22.71	ppb	1.09	20.00	79.5 - 120	
23 Na	102,600.	ppb	1.87	#########	79.5 - 120	
25 Mg	101,500.	ppb	1.30	#########	79.5 - 120	
27 Al	102,500.	ppb	1.67	#########	79.5 - 120	
28 Si	622.8	ppb	3.43	---	##### - #####	
29 Si	557.4	ppb	4.41	---	##### - #####	
39 K	106,600.	ppb	1.31	#########	79.5 - 120	
43 Ca	111,500.	ppb	1.31	#########	79.5 - 120	
44 Ca	105,500.	ppb	0.32	#########	79.5 - 120	
51 V	21.86	ppb	2.00	20.00	79.5 - 120	
52 Cr	21.85	ppb	2.12	20.00	79.5 - 120	
53 Cr	20.94	ppb	0.80	---	##### - #####	
55 Mn	21.39	ppb	1.55	20.00	79.5 - 120	
56 Fe	102,700.	ppb	0.89	#########	79.5 - 120	
57 Fe	99,630.	ppb	1.23	#########	79.5 - 120	
59 Co	21.33	ppb	2.45	20.00	79.5 - 120	
60 Ni	20.84	ppb	0.99	20.00	79.5 - 120	
63 Cu	24.22	ppb	0.47	20.00	79.5 - 120	
65 Cu	21.9	ppb	1.70	20.00	79.5 - 120	
66 Zn	23.43	ppb	2.71	20.00	79.5 - 120	
68 Zn	21.98	ppb	2.94	20.00	79.5 - 120	
75 As	22.7	ppb	2.60	20.00	79.5 - 120	
82 Se	22.03	ppb	2.40	20.00	79.5 - 120	
88 Sr	22.76	ppb	1.08	20.00	79.5 - 120	
89 Y	--------	---	--------	---	##### - #####	
98 Mo	2,127.	ppb	1.77	2000.00	79.5 - 120	
107 Ag	20.93	ppb	0.72	20.00	79.5 - 120	
109 Ag	21.07	ppb	1.19	20.00	79.5 - 120	
111 Cd	21.01	ppb	1.92	20.00	79.5 - 120	
114 Cd	21.39	ppb	1.28	20.00	79.5 - 120	
115 In	--------	---	--------	---	##### - #####	
118 Sn	22.39	ppb	3.42	20.00	79.5 - 120	
120 Sn	22.45	ppb	3.67	20.00	79.5 - 120	
121 Sb	22.74	ppb	2.28	20.00	79.5 - 120	
123 Sb	22.72	ppb	3.21	20.00	79.5 - 120	
135 Ba	22.59	ppb	3.50	20.00	79.5 - 120	
137 Ba	22.57	ppb	2.10	20.00	79.5 - 120	
182 W	23.22	ppb	2.53	20.00	79.5 - 120	
203 Tl	23.16	ppb	2.17	20.00	79.5 - 120	
205 Tl	23.24	ppb	2.26	20.00	79.5 - 120	
208 Pb	23.19	ppb	2.84	20.00	79.5 - 120	
232 Th	24.25	ppb	2.73	20.00	79.5 - 120	
238 U	23.82	ppb	2.60	20.00	79.5 - 120	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3083201.30	1.29	3691108.80	83.5	69.5 - 120	
45 Sc	2701274.80	1.58	2910447.80	92.8	69.5 - 120	
72 Ge	529208.44	1.05	556535.31	95.1	69.5 - 120	
159 Tb	2911476.50	2.16	2966504.30	98.1	69.5 - 120	
209 Bi	1317789.80	1.74	1486792.30	88.6	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Katahdin Analytical Services 4000166

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\023SMPL.D\023SMPL.D#
Date Acquired: May 21 2018 07:06 pm
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: RINSE
Misc Info:
Vial Number: 1303
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0006	0.0006	ppb	412.39	100.	
11 B	0.1422	0.1422	ppb	20.66	1000.	
23 Na	6.38	6.38	ppb	6.21	200000.	
25 Mg	1.066	1.066	ppb	14.44	200000.	
27 Al	0.1376	0.1376	ppb	52.61	200000.	
28 Si	64.79	64.79	ppb	36.40	#VALUE!	
29 Si	-42.02	-42.02	ppb	41.10	10000.	
39 K	-6.061	-6.061	ppb	17.23	200000.	
43 Ca	1.676	1.676	ppb	245.64	#VALUE!	
44 Ca	2.515	2.515	ppb	44.14	200000.	
51 V	0.0184	0.0184	ppb	312.87	1000.	
52 Cr	-0.0709	-0.0709	ppb	11.40	2000.	
53 Cr	-2.39	-2.39	ppb	5.59	#VALUE!	
55 Mn	-0.0079	-0.0079	ppb	116.27	2000.	
56 Fe	-3.101	-3.101	ppb	207.87	#VALUE!	
57 Fe	-4.314	-4.314	ppb	40.59	100000.	
59 Co	-0.0019	-0.0019	ppb	240.09	1000.	
60 Ni	0.0034	0.0034	ppb	376.72	1000.	
63 Cu	0.1285	0.1285	ppb	8.93	#VALUE!	
65 Cu	0.1263	0.1263	ppb	7.13	2000.	
66 Zn	0.1124	0.1124	ppb	56.74	2000.	
68 Zn	0.0139	0.0139	ppb	497.70	#VALUE!	
75 As	-0.0239	-0.0239	ppb	640.05	1000.	
82 Se	-0.0589	-0.0589	ppb	160.50	1000.	
88 Sr	0.0048	0.0048	ppb	63.74	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	0.7987	0.7987	ppb	45.09	1000.	
107 Ag	0.0027	0.0027	ppb	182.87	100.	
109 Ag	0.0061	0.0061	ppb	34.31	#VALUE!	
111 Cd	-0.17	-0.17	ppb	18.48	#VALUE!	
114 Cd	0.0086	0.0086	ppb	55.76	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	0.0148	0.0148	ppb	52.55	1000.	
120 Sn	0.0227	0.0227	ppb	66.08	#VALUE!	
121 Sb	0.0198	0.0198	ppb	15.97	#VALUE!	
123 Sb	0.0162	0.0162	ppb	27.81	1000.	
135 Ba	0.0142	0.0142	ppb	40.28	2000.	
137 Ba	0.0017	0.0017	ppb	297.12	#VALUE!	
182 W	0.0133	0.0133	ppb	32.85	1000.	
203 Tl	0.0035	0.0035	ppb	226.41	1000.	
205 Tl	-0.0006	-0.0006	ppb	148.37	#VALUE!	
208 Pb	0.0061	0.0061	ppb	80.92	2000.	
232 Th	0.0155	0.0155	ppb	25.92	1000.	
238 U	0.001	0.001	ppb	96.18	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3386064.00	1.92	3691108.80	91.7	69.5 - 120	
45 Sc	2655562.80	1.52	2910447.80	91.2	69.5 - 120	
72 Ge	523401.69	2.21	556535.31	94.0	69.5 - 120	
159 Tb	2952597.80	1.08	2966504.30	99.5	69.5 - 120	
209 Bi	1443019.30	1.38	1486792.30	97.1	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000167

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\024SMPL.D\024SMPL.D#
Date Acquired: May 21 2018 07:10 pm
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: LRS1
Misc Info:
Vial Number: 3511
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	102.6	102.6	ppb	4.32	100.	>LDR
11 B	0.0345	0.0345	ppb	7.83	1000.	
23 Na	5.428	5.428	ppb	4.57	200000.	
25 Mg	1.567	1.567	ppb	3.13	200000.	
27 Al	1.547	1.547	ppb	2.37	200000.	
28 Si	58.99	58.99	ppb	13.78	#VALUE!	
29 Si	-24.07	-24.07	ppb	50.52	10000.	
39 K	-3.41	-3.41	ppb	4.49	200000.	
43 Ca	1,686.	1,686.	ppb	4.32	#VALUE!	
44 Ca	240.1	240.1	ppb	5.62	200000.	
51 V	1,044.	1,044.	ppb	1.59	1000.	>LDR
52 Cr	2,062.	2,062.	ppb	0.37	2000.	>LDR
53 Cr	2,191.	2,191.	ppb	0.65	#VALUE!	
55 Mn	2,051.	2,051.	ppb	1.21	2000.	>LDR
56 Fe	-4.455	-4.455	ppb	46.67	#VALUE!	
57 Fe	-6.171	-6.171	ppb	31.76	100000.	
59 Co	1,054.	1,054.	ppb	1.26	1000.	>LDR
60 Ni	1,081.	1,081.	ppb	0.78	1000.	>LDR
63 Cu	2,050.	2,050.	ppb	0.50	#VALUE!	
65 Cu	2,079.	2,079.	ppb	0.87	2000.	>LDR
66 Zn	2,069.	2,069.	ppb	0.94	2000.	>LDR
68 Zn	2,107.	2,107.	ppb	1.14	#VALUE!	
75 As	1,067.	1,067.	ppb	0.77	1000.	>LDR
82 Se	1,087.	1,087.	ppb	1.30	1000.	>LDR
88 Sr	2,045.	2,045.	ppb	0.86	2000.	>LDR
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	1,053.	1,053.	ppb	0.80	1000.	>LDR
107 Ag	113.1	113.1	ppb	1.55	100.	>LDR
109 Ag	113.5	113.5	ppb	1.71	#VALUE!	
111 Cd	1,084.	1,084.	ppb	0.94	#VALUE!	
114 Cd	1,067.	1,067.	ppb	0.54	1000.	>LDR
115 In	----	--------	--- ---		#VALUE!	
118 Sn	1,030.	1,030.	ppb	2.15	1000.	>LDR
120 Sn	1,024.	1,024.	ppb	1.93	#VALUE!	
121 Sb	1,029.	1,029.	ppb	1.86	#VALUE!	
123 Sb	1,043.	1,043.	ppb	1.87	1000.	>LDR
135 Ba	2,095.	2,095.	ppb	1.15	2000.	>LDR
137 Ba	2,078.	2,078.	ppb	1.45	#VALUE!	
182 W	1,034.	1,034.	ppb	2.14	1000.	>LDR
203 Tl	1,049.	1,049.	ppb	1.62	1000.	>LDR
205 Tl	1,024.	1,024.	ppb	1.38	#VALUE!	
208 Pb	2,042.	2,042.	ppb	1.52	2000.	>LDR
232 Th	1,029.	1,029.	ppb	1.76	1000.	>LDR
238 U	1,013.	1,013.	ppb	1.30	1000.	>LDR

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3436499.00	2.82	3691108.80	93.1	69.5 - 120	
45 Sc	2615981.30	0.17	2910447.80	89.9	69.5 - 120	
72 Ge	508155.28	0.35	556535.31	91.3	69.5 - 120	
159 Tb	2937093.00	1.01	2966504.30	99.0	69.5 - 120	
209 Bi	1457075.60	1.24	1486792.30	98.0	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

22 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Katahdin Analytical Services 4000168

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\025SMPL.D\025SMPL.D#
Date Acquired: May 21 2018 07:14 pm
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: LRS2
Misc Info:
Vial Number: 3512
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0148	0.0148	ppb	44.96	100.	
11 B	0.5613	0.5613	ppb	6.20	1000.	
23 Na	189,900.	189,900.	ppb	2.79	200000.	
25 Mg	188,100.	188,100.	ppb	1.98	200000.	
27 Al	191,200.	191,200.	ppb	1.24	200000.	
28 Si	9,834.	9,834.	ppb	2.52	#VALUE!	
29 Si	10,580.	10,580.	ppb	2.24	10000.	>LDR
39 K	192,600.	192,600.	ppb	1.57	200000.	
43 Ca	202,300.	202,300.	ppb	2.22	#VALUE!	
44 Ca	194,100.	194,100.	ppb	2.00	200000.	
51 V	0.067	0.067	ppb	46.74	1000.	
52 Cr	0.6049	0.6049	ppb	3.79	2000.	
53 Cr	-3.203	-3.203	ppb	3.24	#VALUE!	
55 Mn	7.438	7.438	ppb	1.60	2000.	
56 Fe	96,560.	96,560.	ppb	1.34	#VALUE!	
57 Fe	93,940.	93,940.	ppb	2.35	100000.	
59 Co	0.6244	0.6244	ppb	5.59	1000.	
60 Ni	0.8938	0.8938	ppb	13.54	1000.	
63 Cu	7.126	7.126	ppb	2.19	#VALUE!	
65 Cu	1.587	1.587	ppb	1.17	2000.	
66 Zn	3.106	3.106	ppb	1.16	2000.	
68 Zn	1.184	1.184	ppb	16.28	#VALUE!	
75 As	0.6835	0.6835	ppb	30.04	1000.	
82 Se	0.4635	0.4635	ppb	30.29	1000.	
88 Sr	6.755	6.755	ppb	3.55	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	1.038	1.038	ppb	40.34	1000.	
107 Ag	0.3478	0.3478	ppb	4.08	100.	
109 Ag	0.3534	0.3534	ppb	6.91	#VALUE!	
111 Cd	-0.1616	-0.1616	ppb	7.01	#VALUE!	
114 Cd	0.0079	0.0079	ppb	124.00	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	0.6879	0.6879	ppb	29.86	1000.	
120 Sn	0.6905	0.6905	ppb	23.84	#VALUE!	
121 Sb	0.6168	0.6168	ppb	7.50	#VALUE!	
123 Sb	0.6045	0.6045	ppb	8.81	1000.	
135 Ba	0.2315	0.2315	ppb	13.81	2000.	
137 Ba	0.2221	0.2221	ppb	11.27	#VALUE!	
182 W	1.288	1.288	ppb	43.11	1000.	
203 Tl	0.0422	0.0422	ppb	19.35	1000.	
205 Tl	0.0411	0.0411	ppb	31.29	#VALUE!	
208 Pb	0.4847	0.4847	ppb	4.77	2000.	
232 Th	1.35	1.35	ppb	47.67	1000.	
238 U	0.0914	0.0914	ppb	10.58	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2933172.50	0.97	3691108.80	79.5	69.5 - 120	
45 Sc	2632345.80	2.71	2910447.80	90.4	69.5 - 120	
72 Ge	499059.97	1.38	556535.31	89.7	69.5 - 120	
159 Tb	2557045.30	2.08	2966504.30	86.2	69.5 - 120	
209 Bi	1141713.10	1.28	1486792.30	76.8	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Katahdin Analytical Services 4000169

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\026SMPL.D\026SMPL.D#
Date Acquired: May 21 2018 07:18 pm
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: RINSE
Misc Info:
Vial Number: 1303
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0048	0.0048	ppb	15.00	100.	
11 B	0.1029	0.1029	ppb	36.61	1000.	
23 Na	11.72	11.72	ppb	16.75	200000.	
25 Mg	1.451	1.451	ppb	17.62	200000.	
27 Al	0.186	0.186	ppb	59.30	200000.	
28 Si	109.9	109.9	ppb	13.57	#VALUE!	
29 Si	-29.03	-29.03	ppb	27.77	10000.	
39 K	-3.162	-3.162	ppb	102.31	200000.	
43 Ca	1.906	1.906	ppb	108.87	#VALUE!	
44 Ca	3.698	3.698	ppb	53.11	200000.	
51 V	0.0055	0.0055	ppb	1159.60	1000.	
52 Cr	-0.0423	-0.0423	ppb	21.48	2000.	
53 Cr	-1.003	-1.003	ppb	36.78	#VALUE!	
55 Mn	0.01	0.01	ppb	23.96	2000.	
56 Fe	1.831	1.831	ppb	115.84	#VALUE!	
57 Fe	-2.173	-2.173	ppb	79.98	100000.	
59 Co	0.0054	0.0054	ppb	39.78	1000.	
60 Ni	-0.0013	-0.0013	ppb	1387.30	1000.	
63 Cu	0.2024	0.2024	ppb	15.41	#VALUE!	
65 Cu	0.19	0.19	ppb	11.75	2000.	
66 Zn	0.146	0.146	ppb	71.85	2000.	
68 Zn	0.1686	0.1686	ppb	20.77	#VALUE!	
75 As	0.0051	0.0051	ppb	2660.70	1000.	
82 Se	-0.0714	-0.0714	ppb	311.77	1000.	
88 Sr	0.0006	0.0006	ppb	858.82	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	0.1369	0.1369	ppb	47.47	1000.	
107 Ag	0.0029	0.0029	ppb	103.84	100.	
109 Ag	0.0033	0.0033	ppb	24.43	#VALUE!	
111 Cd	-0.2021	-0.2021	ppb	7.90	#VALUE!	
114 Cd	0.0011	0.0011	ppb	731.46	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	0.1175	0.1175	ppb	10.17	1000.	
120 Sn	0.1379	0.1379	ppb	26.67	#VALUE!	
121 Sb	0.0583	0.0583	ppb	29.84	#VALUE!	
123 Sb	0.046	0.046	ppb	41.76	1000.	
135 Ba	0.0056	0.0056	ppb	340.53	2000.	
137 Ba	0.0226	0.0226	ppb	20.80	#VALUE!	
182 W	0.2233	0.2233	ppb	38.92	1000.	
203 Tl	0.004	0.004	ppb	67.51	1000.	
205 Tl	0.0072	0.0072	ppb	67.26	#VALUE!	
208 Pb	0.0116	0.0116	ppb	36.78	2000.	
232 Th	0.0502	0.0502	ppb	58.69	1000.	
238 U	0.0039	0.0039	ppb	17.01	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3299474.00	2.48	3691108.80	89.4	69.5 - 120	
45 Sc	2667875.30	1.87	2910447.80	91.7	69.5 - 120	
72 Ge	515369.56	1.18	556535.31	92.6	69.5 - 120	
159 Tb	2745018.00	1.70	2966504.30	92.5	69.5 - 120	
209 Bi	1353792.90	1.36	1486792.30	91.1	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000170

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\027SMPL.D\027SMPL.D#
Date Acquired: May 21 2018 07:22 pm
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: RINSE
Misc Info:
Vial Number: 1303
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0015	0.0015	ppb	62.08	100.	
11 B	0.0538	0.0538	ppb	88.59	1000.	
23 Na	5.962	5.962	ppb	3.64	200000.	
25 Mg	1.621	1.621	ppb	14.31	200000.	
27 Al	0.1098	0.1098	ppb	102.73	200000.	
28 Si	105.7	105.7	ppb	15.16	#VALUE!	
29 Si	-24.06	-24.06	ppb	52.41	10000.	
39 K	-4.055	-4.055	ppb	18.09	200000.	
43 Ca	3.639	3.639	ppb	199.75	#VALUE!	
44 Ca	1.79	1.79	ppb	32.16	200000.	
51 V	0.0034	0.0034	ppb	1417.70	1000.	
52 Cr	-0.0252	-0.0252	ppb	83.12	2000.	
53 Cr	-0.594	-0.594	ppb	36.65	#VALUE!	
55 Mn	0.0123	0.0123	ppb	15.87	2000.	
56 Fe	-1.095	-1.095	ppb	303.38	#VALUE!	
57 Fe	-3.501	-3.501	ppb	29.22	100000.	
59 Co	0.0025	0.0025	ppb	122.41	1000.	
60 Ni	0.003	0.003	ppb	277.89	1000.	
63 Cu	0.1098	0.1098	ppb	3.52	#VALUE!	
65 Cu	0.1005	0.1005	ppb	10.05	2000.	
66 Zn	0.1386	0.1386	ppb	38.25	2000.	
68 Zn	0.1446	0.1446	ppb	18.40	#VALUE!	
75 As	-0.0676	-0.0676	ppb	189.43	1000.	
82 Se	-0.1439	-0.1439	ppb	51.84	1000.	
88 Sr	0.003	0.003	ppb	55.18	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	0.053	0.053	ppb	60.37	1000.	
107 Ag	0.0031	0.0031	ppb	46.18	100.	
109 Ag	0.004	0.004	ppb	22.41	#VALUE!	
111 Cd	-0.2008	-0.2008	ppb	12.37	#VALUE!	
114 Cd	0.006	0.006	ppb	47.60	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	0.0767	0.0767	ppb	20.30	1000.	
120 Sn	0.0553	0.0553	ppb	35.51	#VALUE!	
121 Sb	0.0262	0.0262	ppb	16.38	#VALUE!	
123 Sb	0.0328	0.0328	ppb	52.27	1000.	
135 Ba	0.0273	0.0273	ppb	64.97	2000.	
137 Ba	0.0238	0.0238	ppb	77.74	#VALUE!	
182 W	0.0906	0.0906	ppb	41.63	1000.	
203 Tl	0.0025	0.0025	ppb	200.71	1000.	
205 Tl	0.0006	0.0006	ppb	329.68	#VALUE!	
208 Pb	0.0071	0.0071	ppb	102.66	2000.	
232 Th	0.0346	0.0346	ppb	55.33	1000.	
238 U	0.0008	0.0008	ppb	67.10	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3323798.80	0.79	3691108.80	90.0	69.5 - 120	
45 Sc	2671873.00	0.38	2910447.80	91.8	69.5 - 120	
72 Ge	516093.84	0.89	556535.31	92.7	69.5 - 120	
159 Tb	2811245.30	1.23	2966504.30	94.8	69.5 - 120	
209 Bi	1385653.00	1.59	1486792.30	93.2	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000171

CCV QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\028_CCV.D\028_CCV.D#
Date Acquired: May 21 2018 07:27 pm
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: CCV
Misc Info:
Vial Number: 1206
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Dilution Factor: 1.00
QC Range (%): 89.5 - 110.5

QC Elements

Element	Conc.		RSD(%)	Expected	Rec (%)	Flag
9 Be	25.58	ppb	1.20	25	102.32	
11 B	23.6	ppb	2.01	25	94.4	
23 Na	4,836.	ppb	2.36	5,000	96.72	
25 Mg	4,955.	ppb	1.97	5,000	99.1	
27 Al	488.4	ppb	1.09	500	97.68	
28 Si	576.	ppb	2.06	500	115.2	
29 Si	455.	ppb	1.97	500	91	
39 K	4,868.	ppb	1.13	5,000	97.36	
43 Ca	4,948.	ppb	1.53	5,000	98.96	
44 Ca	5,073.	ppb	1.96	5,000	101.46	
51 V	24.44	ppb	1.76	25	97.76	
52 Cr	24.38	ppb	0.86	25	97.52	
53 Cr	23.2	ppb	3.65	25	92.8	
55 Mn	24.58	ppb	0.88	25	98.32	
56 Fe	4,796.	ppb	0.62	5,000	95.92	
57 Fe	4,926.	ppb	0.80	5,000	98.52	
59 Co	25.02	ppb	1.34	25	100.08	
60 Ni	25.38	ppb	0.40	25	101.52	
63 Cu	24.96	ppb	0.70	25	99.84	
65 Cu	25.41	ppb	0.67	25	101.64	
66 Zn	25.29	ppb	1.92	25	101.16	
68 Zn	24.66	ppb	1.14	25	98.64	
75 As	24.81	ppb	1.54	25	99.24	
82 Se	24.1	ppb	1.89	25	96.4	
88 Sr	24.91	ppb	1.53	25	99.64	
89 Y	--------	---	--------	---	#VALUE!	
98 Mo	25.09	ppb	0.58	25	100.36	
107 Ag	25.91	ppb	0.62	25	103.64	
109 Ag	25.87	ppb	0.20	25	103.48	
111 Cd	25.23	ppb	1.02	25	100.92	
114 Cd	25.63	ppb	0.55	25	102.52	
115 In	--------	---	--------	---	#VALUE!	
118 Sn	24.87	ppb	2.50	25	99.48	
120 Sn	24.67	ppb	1.76	25	98.68	
121 Sb	25.13	ppb	1.27	25	100.52	
123 Sb	25.14	ppb	1.24	25	100.56	
135 Ba	24.98	ppb	1.05	25	99.92	
137 Ba	25.19	ppb	2.72	25	100.76	
182 W	24.39	ppb	0.98	25	97.56	
203 Tl	25.	ppb	2.51	25	100	
205 Tl	24.97	ppb	1.88	25	99.88	
208 Pb	24.87	ppb	2.09	25	99.48	
232 Th	24.31	ppb	2.23	25	97.24	
238 U	24.39	ppb	3.15	25	97.56	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3228667.80	0.75	3691108.80	87.5	80 - 120.4	
45 Sc	2655818.50	0.68	2910447.80	91.3	80 - 120.4	
72 Ge	514088.38	0.50	556535.31	92.4	80 - 120.4	
159 Tb	2922715.80	1.15	2966504.30	98.5	80 - 120.4	
209 Bi	1433467.80	1.65	1486792.30	96.4	80 - 120.4	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000172

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\029_CCB.D\029_CCB.D#
Date Acquired: May 21 2018 07:31 pm
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: CCB
Misc Info:
Vial Number: 1207
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: 6-CCB
Dilution Factor: 1.00

QC Elements

Element	Conc.		RSD(%)	High Limit	Flag
9 Be	0.0033	ppb	45.27	1.00	
11 B	0.1086	ppb	14.51	1.00	
23 Na	2.9	ppb	4.96	1.00	
25 Mg	1.331	ppb	7.44	1.00	
27 Al	-0.0306	ppb	253.02	1.00	
28 Si	120.3	ppb	30.42	1.00	
29 Si	-6.08	ppb	482.40	1.00	
39 K	-1.775	ppb	143.04	1.00	
43 Ca	2.69	ppb	14.64	1.00	
44 Ca	1.919	ppb	34.04	1.00	
51 V	-0.0335	ppb	87.40	1.00	
52 Cr	-0.0887	ppb	12.04	1.00	
53 Cr	-2.437	ppb	3.79	1.00	
55 Mn	0.0306	ppb	19.71	1.00	
56 Fe	-6.318	ppb	19.33	1.00	
57 Fe	-4.176	ppb	44.09	1.00	
59 Co	0.0025	ppb	247.49	1.00	
60 Ni	0.0229	ppb	55.97	1.00	
63 Cu	0.0879	ppb	22.38	1.00	
65 Cu	0.0672	ppb	6.84	1.00	
66 Zn	0.0122	ppb	515.79	1.00	
68 Zn	0.0029	ppb	1883.00	1.00	
75 As	-0.09	ppb	95.61	1.00	
82 Se	-0.1493	ppb	185.40	1.00	
88 Sr	0.0007	ppb	622.70	1.00	
89 Y	--------	---	--------	---	
98 Mo	0.0374	ppb	38.84	1.00	
107 Ag	0.0015	ppb	113.87	1.00	
109 Ag	0.0047	ppb	27.20	1.00	
111 Cd	-0.2009	ppb	22.24	1.00	
114 Cd	0.0075	ppb	9.30	1.00	
115 In	--------	---	--------	---	
118 Sn	0.0423	ppb	13.75	1.00	
120 Sn	0.0513	ppb	6.06	1.00	
121 Sb	0.0271	ppb	30.64	1.00	
123 Sb	0.0211	ppb	33.24	1.00	
135 Ba	0.0108	ppb	132.53	1.00	
137 Ba	0.0035	ppb	267.74	1.00	
182 W	0.0719	ppb	25.62	1.00	
203 Tl	-0.0038	ppb	88.22	1.00	
205 Tl	0.0018	ppb	223.65	1.00	
208 Pb	0.0054	ppb	110.45	1.00	
232 Th	0.0643	ppb	16.90	1.00	
238 U	0.0012	ppb	62.97	1.00	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3154648.50	5.10	3691108.80	85.5	79.5 - 120	
45 Sc	2573084.30	2.33	2910447.80	88.4	79.5 - 120	
72 Ge	507158.09	1.25	556535.31	91.1	79.5 - 120	
159 Tb	2918034.80	1.13	2966504.30	98.4	79.5 - 120	
209 Bi	1446684.90	1.00	1486792.30	97.3	79.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000173

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\030SMPL.D\030SMPL.D#
Date Acquired: May 21 2018 07:35 pm
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: SL4303-001
Misc Info: AQ
Vial Number: 2101
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0064	0.0064	ppb	40.09	100.	
11 B	9.796	9.796	ppb	2.41	1000.	
23 Na	15,030.	15,030.	ppb	1.68	200000.	
25 Mg	2,899.	2,899.	ppb	1.26	200000.	
27 Al	3.35	3.35	ppb	7.61	200000.	
28 Si	8,193.	8,193.	ppb	1.48	#VALUE!	
29 Si	8,807.	8,807.	ppb	1.85	10000.	
39 K	2,816.	2,816.	ppb	0.75	200000.	
43 Ca	14,830.	14,830.	ppb	1.20	#VALUE!	
44 Ca	14,470.	14,470.	ppb	1.12	200000.	
51 V	0.1098	0.1098	ppb	10.34	1000.	
52 Cr	0.2974	0.2974	ppb	6.10	2000.	
53 Cr	-4.322	-4.322	ppb	12.95	#VALUE!	
55 Mn	1.591	1.591	ppb	1.21	2000.	
56 Fe	-2.246	-2.246	ppb	157.39	#VALUE!	
57 Fe	26.21	26.21	ppb	16.64	100000.	
59 Co	0.0772	0.0772	ppb	4.63	1000.	
60 Ni	1.163	1.163	ppb	5.31	1000.	
63 Cu	433.6	433.6	ppb	0.85	#VALUE!	
65 Cu	447.4	447.4	ppb	1.08	2000.	
66 Zn	124.5	124.5	ppb	0.62	2000.	
68 Zn	120.4	120.4	ppb	1.08	#VALUE!	
75 As	0.1899	0.1899	ppb	67.04	1000.	
82 Se	-0.0783	-0.0783	ppb	147.99	1000.	
88 Sr	68.73	68.73	ppb	0.30	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	0.2533	0.2533	ppb	10.51	1000.	
107 Ag	0.0401	0.0401	ppb	41.47	100.	
109 Ag	0.0249	0.0249	ppb	15.83	#VALUE!	
111 Cd	-0.0687	-0.0687	ppb	35.52	#VALUE!	
114 Cd	0.1275	0.1275	ppb	3.38	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	-0.014	-0.014	ppb	36.19	1000.	
120 Sn	-0.0113	-0.0113	ppb	77.30	#VALUE!	
121 Sb	0.0137	0.0137	ppb	26.51	#VALUE!	
123 Sb	0.0223	0.0223	ppb	17.30	1000.	
135 Ba	5.788	5.788	ppb	0.69	2000.	
137 Ba	5.765	5.765	ppb	1.19	#VALUE!	
182 W	0.0408	0.0408	ppb	48.16	1000.	
203 Tl	0.0111	0.0111	ppb	12.48	1000.	
205 Tl	0.0135	0.0135	ppb	26.41	#VALUE!	
208 Pb	2.496	2.496	ppb	2.65	2000.	
232 Th	0.0204	0.0204	ppb	41.90	1000.	
238 U	0.3768	0.3768	ppb	2.72	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3056556.80	2.49	3691108.80	82.8	69.5 - 120	
45 Sc	2538037.00	0.82	2910447.80	87.2	69.5 - 120	
72 Ge	510350.19	0.51	556535.31	91.7	69.5 - 120	
159 Tb	2965575.30	1.79	2966504.30	100.0	69.5 - 120	
209 Bi	1461620.90	1.79	1486792.30	98.3	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000174

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\031SMPL.D\031SMPL.D#
Date Acquired: May 21 2018 07:39 pm
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: SL4303-002
Misc Info: AQ
Vial Number: 2102
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0048	0.0048	ppb	34.98	100.	
11 B	9.987	9.987	ppb	3.23	1000.	
23 Na	14,980.	14,980.	ppb	3.10	200000.	
25 Mg	2,715.	2,715.	ppb	2.62	200000.	
27 Al	3.35	3.35	ppb	1.93	200000.	
28 Si	7,980.	7,980.	ppb	1.90	#VALUE!	
29 Si	8,719.	8,719.	ppb	2.46	10000.	
39 K	2,877.	2,877.	ppb	2.22	200000.	
43 Ca	17,790.	17,790.	ppb	2.30	#VALUE!	
44 Ca	17,240.	17,240.	ppb	2.03	200000.	
51 V	0.154	0.154	ppb	14.92	1000.	
52 Cr	0.537	0.537	ppb	3.94	2000.	
53 Cr	-3.264	-3.264	ppb	7.76	#VALUE!	
55 Mn	3.124	3.124	ppb	1.07	2000.	
56 Fe	5.317	5.317	ppb	25.24	#VALUE!	
57 Fe	33.21	33.21	ppb	8.82	100000.	
59 Co	0.0633	0.0633	ppb	14.89	1000.	
60 Ni	8.556	8.556	ppb	0.48	1000.	
63 Cu	504.	504.	ppb	1.59	#VALUE!	
65 Cu	515.4	515.4	ppb	2.33	2000.	
66 Zn	816.4	816.4	ppb	2.08	2000.	
68 Zn	805.1	805.1	ppb	0.93	#VALUE!	
75 As	0.1085	0.1085	ppb	101.11	1000.	
82 Se	-0.1677	-0.1677	ppb	107.16	1000.	
88 Sr	71.69	71.69	ppb	1.70	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	0.2519	0.2519	ppb	9.90	1000.	
107 Ag	0.011	0.011	ppb	11.48	100.	
109 Ag	0.0133	0.0133	ppb	49.60	#VALUE!	
111 Cd	-0.105	-0.105	ppb	26.31	#VALUE!	
114 Cd	0.0885	0.0885	ppb	18.76	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	0.4119	0.4119	ppb	6.00	1000.	
120 Sn	0.4175	0.4175	ppb	1.73	#VALUE!	
121 Sb	0.0177	0.0177	ppb	24.93	#VALUE!	
123 Sb	0.0232	0.0232	ppb	8.71	1000.	
135 Ba	5.748	5.748	ppb	2.88	2000.	
137 Ba	5.632	5.632	ppb	1.19	#VALUE!	
182 W	0.0374	0.0374	ppb	26.28	1000.	
203 Tl	0.0109	0.0109	ppb	68.41	1000.	
205 Tl	0.0101	0.0101	ppb	13.94	#VALUE!	
208 Pb	1.91	1.91	ppb	3.23	2000.	
232 Th	0.0183	0.0183	ppb	75.86	1000.	
238 U	0.4325	0.4325	ppb	1.86	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2946067.30	3.34	3691108.80	79.8	69.5 - 120	
45 Sc	2489518.00	2.53	2910447.80	85.5	69.5 - 120	
72 Ge	505713.72	1.66	556535.31	90.9	69.5 - 120	
159 Tb	3024129.50	1.65	2966504.30	101.9	69.5 - 120	
209 Bi	1473280.80	1.46	1486792.30	99.1	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000175

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\032SMPL.D\032SMPL.D#
Date Acquired: May 21 2018 07:43 pm
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: SL4303-003
Misc Info: AQ
Vial Number: 2103
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0049	0.0049	ppb	13.70	100.	
11 B	9.824	9.824	ppb	4.58	1000.	
23 Na	14,960.	14,960.	ppb	4.49	200000.	
25 Mg	2,879.	2,879.	ppb	2.98	200000.	
27 Al	3.455	3.455	ppb	4.55	200000.	
28 Si	8,307.	8,307.	ppb	2.31	#VALUE!	
29 Si	8,907.	8,907.	ppb	3.17	10000.	
39 K	2,816.	2,816.	ppb	2.71	200000.	
43 Ca	15,090.	15,090.	ppb	3.94	#VALUE!	
44 Ca	14,780.	14,780.	ppb	2.94	200000.	
51 V	0.1364	0.1364	ppb	16.87	1000.	
52 Cr	0.2208	0.2208	ppb	12.71	2000.	
53 Cr	-3.118	-3.118	ppb	14.17	#VALUE!	
55 Mn	2.095	2.095	ppb	2.72	2000.	
56 Fe	-5.673	-5.673	ppb	48.90	#VALUE!	
57 Fe	17.36	17.36	ppb	24.34	100000.	
59 Co	0.0666	0.0666	ppb	5.98	1000.	
60 Ni	2.932	2.932	ppb	1.41	1000.	
63 Cu	813.3	813.3	ppb	2.04	#VALUE!	
65 Cu	844.2	844.2	ppb	2.07	2000.	
66 Zn	628.6	628.6	ppb	1.75	2000.	
68 Zn	617.1	617.1	ppb	1.82	#VALUE!	
75 As	0.1574	0.1574	ppb	40.78	1000.	
82 Se	0.161	0.161	ppb	100.81	1000.	
88 Sr	70.02	70.02	ppb	1.66	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	0.2475	0.2475	ppb	4.73	1000.	
107 Ag	0.023	0.023	ppb	6.94	100.	
109 Ag	0.0236	0.0236	ppb	16.32	#VALUE!	
111 Cd	-0.1566	-0.1566	ppb	17.37	#VALUE!	
114 Cd	0.0301	0.0301	ppb	6.41	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	-0.015	-0.015	ppb	83.60	1000.	
120 Sn	-0.0226	-0.0226	ppb	12.62	#VALUE!	
121 Sb	0.0487	0.0487	ppb	3.25	#VALUE!	
123 Sb	0.0503	0.0503	ppb	11.62	1000.	
135 Ba	5.803	5.803	ppb	3.56	2000.	
137 Ba	5.89	5.89	ppb	4.43	#VALUE!	
182 W	0.0265	0.0265	ppb	15.92	1000.	
203 Tl	0.0134	0.0134	ppb	40.59	1000.	
205 Tl	0.0128	0.0128	ppb	34.68	#VALUE!	
208 Pb	1.739	1.739	ppb	4.19	2000.	
232 Th	0.0118	0.0118	ppb	41.32	1000.	
238 U	0.4578	0.4578	ppb	1.85	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2892066.50	1.06	3691108.80	78.4	69.5 - 120	
45 Sc	2475393.00	2.33	2910447.80	85.1	69.5 - 120	
72 Ge	498464.22	1.57	556535.31	89.6	69.5 - 120	
159 Tb	2955064.80	2.71	2966504.30	99.6	69.5 - 120	
209 Bi	1453737.30	2.45	1486792.30	97.8	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000176

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\033SMPL.D\033SMPL.D#
Date Acquired: May 21 2018 07:47 pm
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: SL4303-004
Misc Info: AQ
Vial Number: 2104
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0029	0.0029	ppb	30.20	100.	
11 B	12.32	12.32	ppb	1.39	1000.	
23 Na	14,660.	14,660.	ppb	1.85	200000.	
25 Mg	2,881.	2,881.	ppb	0.77	200000.	
27 Al	1.555	1.555	ppb	2.77	200000.	
28 Si	6,525.	6,525.	ppb	1.01	#VALUE!	
29 Si	7,154.	7,154.	ppb	2.98	10000.	
39 K	2,920.	2,920.	ppb	3.07	200000.	
43 Ca	18,070.	18,070.	ppb	3.33	#VALUE!	
44 Ca	17,410.	17,410.	ppb	0.74	200000.	
51 V	0.0795	0.0795	ppb	8.58	1000.	
52 Cr	0.128	0.128	ppb	17.85	2000.	
53 Cr	-3.668	-3.668	ppb	4.36	#VALUE!	
55 Mn	6.498	6.498	ppb	1.16	2000.	
56 Fe	-5.068	-5.068	ppb	33.19	#VALUE!	
57 Fe	25.71	25.71	ppb	8.67	100000.	
59 Co	0.1271	0.1271	ppb	12.63	1000.	
60 Ni	14.59	14.59	ppb	0.92	1000.	
63 Cu	1,371.	1,371.	ppb	0.84	#VALUE!	
65 Cu	1,416.	1,416.	ppb	0.51	2000.	
66 Zn	1,099.	1,099.	ppb	0.50	2000.	
68 Zn	1,064.	1,064.	ppb	0.52	#VALUE!	
75 As	0.1031	0.1031	ppb	75.42	1000.	
82 Se	0.0641	0.0641	ppb	278.70	1000.	
88 Sr	76.11	76.11	ppb	0.37	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	0.242	0.242	ppb	12.77	1000.	
107 Ag	0.0365	0.0365	ppb	28.93	100.	
109 Ag	0.0354	0.0354	ppb	12.06	#VALUE!	
111 Cd	-0.0369	-0.0369	ppb	122.98	#VALUE!	
114 Cd	0.1235	0.1235	ppb	4.51	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	-0.0194	-0.0194	ppb	35.52	1000.	
120 Sn	-0.0185	-0.0185	ppb	39.56	#VALUE!	
121 Sb	0.1304	0.1304	ppb	3.30	#VALUE!	
123 Sb	0.1313	0.1313	ppb	15.65	1000.	
135 Ba	5.468	5.468	ppb	1.95	2000.	
137 Ba	5.725	5.725	ppb	1.98	#VALUE!	
182 W	0.0261	0.0261	ppb	22.04	1000.	
203 Tl	0.0151	0.0151	ppb	40.51	1000.	
205 Tl	0.0131	0.0131	ppb	49.16	#VALUE!	
208 Pb	2.494	2.494	ppb	2.35	2000.	
232 Th	0.0073	0.0073	ppb	64.79	1000.	
238 U	0.2162	0.2162	ppb	1.27	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2922468.50	1.04	3691108.80	79.2	69.5 - 120	
45 Sc	2479446.50	1.41	2910447.80	85.2	69.5 - 120	
72 Ge	498374.00	0.35	556535.31	89.5	69.5 - 120	
159 Tb	2955474.30	1.48	2966504.30	99.6	69.5 - 120	
209 Bi	1468257.00	0.89	1486792.30	98.8	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000177

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\034SMPL.D\034SMPL.D#
Date Acquired: May 21 2018 07:51 pm
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: SL4303-005
Misc Info: AQ
Vial Number: 2105
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0015	0.0015	ppb	152.17	100.	
11 B	9.916	9.916	ppb	3.09	1000.	
23 Na	15,390.	15,390.	ppb	0.54	200000.	
25 Mg	2,878.	2,878.	ppb	1.47	200000.	
27 Al	3.663	3.663	ppb	0.72	200000.	
28 Si	8,347.	8,347.	ppb	0.63	#VALUE!	
29 Si	9,034.	9,034.	ppb	1.37	10000.	
39 K	2,877.	2,877.	ppb	1.00	200000.	
43 Ca	16,460.	16,460.	ppb	1.28	#VALUE!	
44 Ca	16,150.	16,150.	ppb	0.39	200000.	
51 V	0.1155	0.1155	ppb	26.88	1000.	
52 Cr	0.2563	0.2563	ppb	9.75	2000.	
53 Cr	-4.37	-4.37	ppb	3.79	#VALUE!	
55 Mn	3.461	3.461	ppb	1.36	2000.	
56 Fe	-2.558	-2.558	ppb	102.89	#VALUE!	
57 Fe	27.22	27.22	ppb	11.39	100000.	
59 Co	0.0386	0.0386	ppb	9.51	1000.	
60 Ni	0.5993	0.5993	ppb	7.07	1000.	
63 Cu	241.7	241.7	ppb	1.01	#VALUE!	
65 Cu	252.4	252.4	ppb	0.57	2000.	
66 Zn	48.78	48.78	ppb	1.32	2000.	
68 Zn	46.85	46.85	ppb	0.71	#VALUE!	
75 As	0.1841	0.1841	ppb	41.35	1000.	
82 Se	0.0051	0.0051	ppb	3582.40	1000.	
88 Sr	69.91	69.91	ppb	0.68	2000.	
89 Y	----	--------	---	---	#VALUE!	
98 Mo	0.2259	0.2259	ppb	4.06	1000.	
107 Ag	0.0031	0.0031	ppb	141.32	100.	
109 Ag	0.0048	0.0048	ppb	58.68	#VALUE!	
111 Cd	-0.1682	-0.1682	ppb	13.98	#VALUE!	
114 Cd	0.016	0.016	ppb	54.51	1000.	
115 In	----	--------	---	---	#VALUE!	
118 Sn	-0.0262	-0.0262	ppb	30.09	1000.	
120 Sn	-0.0268	-0.0268	ppb	14.00	#VALUE!	
121 Sb	-0.0042	-0.0042	ppb	116.55	#VALUE!	
123 Sb	0.0007	0.0007	ppb	642.30	1000.	
135 Ba	5.369	5.369	ppb	3.73	2000.	
137 Ba	5.453	5.453	ppb	3.07	#VALUE!	
182 W	0.0264	0.0264	ppb	23.18	1000.	
203 Tl	0.0038	0.0038	ppb	277.81	1000.	
205 Tl	0.0095	0.0095	ppb	42.00	#VALUE!	
208 Pb	1.237	1.237	ppb	2.58	2000.	
232 Th	0.0037	0.0037	ppb	76.44	1000.	
238 U	0.4798	0.4798	ppb	0.88	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2923424.80	2.12	3691108.80	79.2	69.5 - 120	
45 Sc	2446076.80	0.81	2910447.80	84.0	69.5 - 120	
72 Ge	500948.13	1.52	556535.31	90.0	69.5 - 120	
159 Tb	2971755.30	2.09	2966504.30	100.2	69.5 - 120	
209 Bi	1468566.80	1.17	1486792.30	98.8	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000178

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\035SMPL.D\035SMPL.D#
Date Acquired: May 21 2018 07:56 pm
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: SL4303-006
Misc Info: AQ
Vial Number: 2106
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0018	0.0018	ppb	129.62	100.	
11 B	10.27	10.27	ppb	4.41	1000.	
23 Na	14,740.	14,740.	ppb	1.92	200000.	
25 Mg	2,747.	2,747.	ppb	2.38	200000.	
27 Al	3.312	3.312	ppb	1.64	200000.	
28 Si	8,089.	8,089.	ppb	1.59	#VALUE!	
29 Si	8,823.	8,823.	ppb	3.62	10000.	
39 K	2,853.	2,853.	ppb	1.40	200000.	
43 Ca	16,630.	16,630.	ppb	0.30	#VALUE!	
44 Ca	16,120.	16,120.	ppb	0.91	200000.	
51 V	0.2016	0.2016	ppb	6.12	1000.	
52 Cr	0.4058	0.4058	ppb	6.99	2000.	
53 Cr	-0.1161	-0.1161	ppb	345.31	#VALUE!	
55 Mn	2.344	2.344	ppb	2.19	2000.	
56 Fe	-2.579	-2.579	ppb	107.75	#VALUE!	
57 Fe	25.8	25.8	ppb	7.50	100000.	
59 Co	0.0474	0.0474	ppb	7.38	1000.	
60 Ni	0.7019	0.7019	ppb	8.53	1000.	
63 Cu	530.5	530.5	ppb	1.30	#VALUE!	
65 Cu	553.5	553.5	ppb	0.77	2000.	
66 Zn	40.11	40.11	ppb	1.21	2000.	
68 Zn	38.63	38.63	ppb	1.40	#VALUE!	
75 As	0.0903	0.0903	ppb	82.93	1000.	
82 Se	0.004	0.004	ppb	7761.90	1000.	
88 Sr	73.27	73.27	ppb	0.74	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	0.2107	0.2107	ppb	5.90	1000.	
107 Ag	0.0184	0.0184	ppb	27.01	100.	
109 Ag	0.0163	0.0163	ppb	7.74	#VALUE!	
111 Cd	-0.1405	-0.1405	ppb	19.46	#VALUE!	
114 Cd	0.0164	0.0164	ppb	50.14	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	-0.002	-0.002	ppb	909.05	1000.	
120 Sn	-0.0022	-0.0022	ppb	300.83	#VALUE!	
121 Sb	0.0287	0.0287	ppb	28.53	#VALUE!	
123 Sb	0.0357	0.0357	ppb	20.08	1000.	
135 Ba	6.263	6.263	ppb	2.93	2000.	
137 Ba	6.354	6.354	ppb	1.81	#VALUE!	
182 W	0.0245	0.0245	ppb	5.03	1000.	
203 Tl	0.0123	0.0123	ppb	8.78	1000.	
205 Tl	0.0136	0.0136	ppb	16.55	#VALUE!	
208 Pb	2.019	2.019	ppb	2.52	2000.	
232 Th	0.0089	0.0089	ppb	9.37	1000.	
238 U	0.3882	0.3882	ppb	4.30	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3067657.80	3.04	3691108.80	83.1	69.5 - 120	
45 Sc	2535778.00	0.98	2910447.80	87.1	69.5 - 120	
72 Ge	507818.06	0.51	556535.31	91.2	69.5 - 120	
159 Tb	3019371.30	0.45	2966504.30	101.8	69.5 - 120	
209 Bi	1480483.50	0.78	1486792.30	99.6	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000179

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\036SMPL.D\036SMPL.D#
Date Acquired: May 21 2018 08:00 pm
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: SL4303-007
Misc Info: AQ
Vial Number: 2107
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0021	0.0021	ppb	194.18	100.	
11 B	10.19	10.19	ppb	4.42	1000.	
23 Na	14,950.	14,950.	ppb	1.84	200000.	
25 Mg	2,776.	2,776.	ppb	2.62	200000.	
27 Al	4.901	4.901	ppb	3.29	200000.	
28 Si	8,225.	8,225.	ppb	1.91	#VALUE!	
29 Si	8,954.	8,954.	ppb	1.27	10000.	
39 K	2,936.	2,936.	ppb	1.80	200000.	
43 Ca	16,920.	16,920.	ppb	1.11	#VALUE!	
44 Ca	16,390.	16,390.	ppb	1.80	200000.	
51 V	0.1918	0.1918	ppb	32.20	1000.	
52 Cr	0.4207	0.4207	ppb	4.86	2000.	
53 Cr	0.4184	0.4184	ppb	67.54	#VALUE!	
55 Mn	2.54	2.54	ppb	1.04	2000.	
56 Fe	-0.4797	-0.4797	ppb	322.70	#VALUE!	
57 Fe	28.74	28.74	ppb	7.59	100000.	
59 Co	0.0481	0.0481	ppb	12.62	1000.	
60 Ni	4.7	4.7	ppb	1.65	1000.	
63 Cu	379.5	379.5	ppb	2.02	#VALUE!	
65 Cu	385.6	385.6	ppb	1.54	2000.	
66 Zn	122.4	122.4	ppb	0.89	2000.	
68 Zn	120.2	120.2	ppb	0.39	#VALUE!	
75 As	0.2197	0.2197	ppb	79.24	1000.	
82 Se	-0.0544	-0.0544	ppb	256.29	1000.	
88 Sr	74.14	74.14	ppb	1.75	2000.	
89 Y	----	--------	---	---	#VALUE!	
98 Mo	0.2154	0.2154	ppb	7.09	1000.	
107 Ag	0.0079	0.0079	ppb	6.57	100.	
109 Ag	0.0119	0.0119	ppb	5.66	#VALUE!	
111 Cd	-0.1635	-0.1635	ppb	7.14	#VALUE!	
114 Cd	0.0203	0.0203	ppb	46.53	1000.	
115 In	----	--------	---	---	#VALUE!	
118 Sn	0.0026	0.0026	ppb	178.15	1000.	
120 Sn	0.0156	0.0156	ppb	5.85	#VALUE!	
121 Sb	0.021	0.021	ppb	32.81	#VALUE!	
123 Sb	0.0248	0.0248	ppb	24.93	1000.	
135 Ba	5.904	5.904	ppb	1.42	2000.	
137 Ba	6.087	6.087	ppb	0.32	#VALUE!	
182 W	0.0176	0.0176	ppb	39.26	1000.	
203 Tl	0.0102	0.0102	ppb	70.18	1000.	
205 Tl	0.0125	0.0125	ppb	44.13	#VALUE!	
208 Pb	1.266	1.266	ppb	1.66	2000.	
232 Th	0.0074	0.0074	ppb	19.35	1000.	
238 U	0.3854	0.3854	ppb	0.62	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2984539.80	3.69	3691108.80	80.9	69.5 - 120	
45 Sc	2479325.50	2.51	2910447.80	85.2	69.5 - 120	
72 Ge	502316.09	1.53	556535.31	90.3	69.5 - 120	
159 Tb	3038139.00	0.79	2966504.30	102.4	69.5 - 120	
209 Bi	1486241.80	0.80	1486792.30	100.0	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000180

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\037SMPL.D\037SMPL.D#
Date Acquired: May 21 2018 08:04 pm
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: SL4310-001
Misc Info: DW
Vial Number: 2108
Current Method: C:\ICPCHEM\1\DATA\JLE21C.B\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\DATA\JLE21C.B\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0107	0.0107	ppb	29.73	100.	
11 B	2.726	2.726	ppb	3.35	1000.	
23 Na	7,101.	7,101.	ppb	1.22	200000.	
25 Mg	410.4	410.4	ppb	0.86	200000.	
27 Al	47.34	47.34	ppb	2.31	200000.	
28 Si	2,645.	2,645.	ppb	2.22	#VALUE!	
29 Si	2,606.	2,606.	ppb	0.32	10000.	
39 K	536.4	536.4	ppb	0.90	200000.	
43 Ca	5,326.	5,326.	ppb	1.39	#VALUE!	
44 Ca	5,353.	5,353.	ppb	0.72	200000.	
51 V	0.3158	0.3158	ppb	10.66	1000.	
52 Cr	0.0262	0.0262	ppb	57.28	2000.	
53 Cr	-2.131	-2.131	ppb	11.62	#VALUE!	
55 Mn	9.423	9.423	ppb	1.32	2000.	
56 Fe	20.	20.	ppb	1.58	#VALUE!	
57 Fe	27.47	27.47	ppb	2.53	100000.	
59 Co	0.0346	0.0346	ppb	19.19	1000.	
60 Ni	1.423	1.423	ppb	2.00	1000.	
63 Cu	209.8	209.8	ppb	0.54	#VALUE!	
65 Cu	216.4	216.4	ppb	0.78	2000.	
66 Zn	14.76	14.76	ppb	1.65	2000.	
68 Zn	14.53	14.53	ppb	2.67	#VALUE!	
75 As	0.0687	0.0687	ppb	205.03	1000.	
82 Se	-0.0222	-0.0222	ppb	551.55	1000.	
88 Sr	23.34	23.34	ppb	1.48	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	0.1625	0.1625	ppb	13.11	1000.	
107 Ag	0.0081	0.0081	ppb	49.17	100.	
109 Ag	0.0097	0.0097	ppb	50.57	#VALUE!	
111 Cd	-0.1196	-0.1196	ppb	47.22	#VALUE!	
114 Cd	0.0118	0.0118	ppb	26.63	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	0.0185	0.0185	ppb	22.96	1000.	
120 Sn	0.0207	0.0207	ppb	65.77	#VALUE!	
121 Sb	0.0217	0.0217	ppb	36.05	#VALUE!	
123 Sb	0.0206	0.0206	ppb	31.91	1000.	
135 Ba	3.466	3.466	ppb	2.31	2000.	
137 Ba	3.494	3.494	ppb	2.62	#VALUE!	
182 W	0.0092	0.0092	ppb	67.53	1000.	
203 Tl	0.0026	0.0026	ppb	263.94	1000.	
205 Tl	0.0075	0.0075	ppb	41.78	#VALUE!	
208 Pb	0.0461	0.0461	ppb	23.43	2000.	
232 Th	0.0305	0.0305	ppb	24.56	1000.	
238 U	0.0123	0.0123	ppb	5.09	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2957204.00	0.63	3691108.80	80.1	69.5 - 120	
45 Sc	2418311.00	0.89	2910447.80	83.1	69.5 - 120	
72 Ge	495637.03	0.92	556535.31	89.1	69.5 - 120	
159 Tb	3027502.50	0.60	2966504.30	102.1	69.5 - 120	
209 Bi	1488495.00	0.95	1486792.30	100.1	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000181

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\038SMPL.D\038SMPL.D#
Date Acquired: May 21 2018 08:08 pm
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: PBWLE09IMW3
Misc Info:
Vial Number: 2109
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0094	0.0019	ppb	264.74	100.	
11 B	0.5605	0.1121	ppb	15.45	1000.	
23 Na	30.215	6.043	ppb	10.68	200000.	
25 Mg	17.84	3.568	ppb	6.96	200000.	
27 Al	8.53	1.706	ppb	2.44	200000.	
28 Si	695.	139.	ppb	18.43	#VALUE!	
29 Si	272.65	54.53	ppb	53.24	10000.	
39 K	49.975	9.995	ppb	24.19	200000.	
43 Ca	29.895	5.979	ppb	31.39	#VALUE!	
44 Ca	32.155	6.431	ppb	14.61	200000.	
51 V	0.1597	0.0319	ppb	67.84	1000.	
52 Cr	0.872	0.1744	ppb	5.75	2000.	
53 Cr	48.155	9.631	ppb	3.26	#VALUE!	
55 Mn	0.5665	0.1133	ppb	10.22	2000.	
56 Fe	25.165	5.033	ppb	84.82	#VALUE!	
57 Fe	-7.215	-1.443	ppb	235.90	100000.	
59 Co	0.0197	0.0039	ppb	112.59	1000.	
60 Ni	0.0417	0.0083	ppb	144.25	1000.	
63 Cu	1.1505	0.2301	ppb	28.33	#VALUE!	
65 Cu	1.118	0.2236	ppb	13.23	2000.	
66 Zn	1.0455	0.2091	ppb	11.66	2000.	
68 Zn	0.625	0.125	ppb	58.47	#VALUE!	
75 As	0.406	0.0812	ppb	122.86	1000.	
82 Se	-0.985	-0.197	ppb	79.95	1000.	
88 Sr	0.0759	0.0152	ppb	39.82	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	0.0503	0.0101	ppb	67.38	1000.	
107 Ag	0.0113	0.0023	ppb	86.36	100.	
109 Ag	0.0165	0.0033	ppb	86.55	#VALUE!	
111 Cd	-0.4224	-0.0845	ppb	60.68	#VALUE!	
114 Cd	0.0363	0.0073	ppb	145.22	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	1.0315	0.2063	ppb	13.41	1000.	
120 Sn	0.9675	0.1935	ppb	2.69	#VALUE!	
121 Sb	0.6055	0.1211	ppb	20.72	#VALUE!	
123 Sb	0.582	0.1164	ppb	11.42	1000.	
135 Ba	0.0848	0.017	ppb	71.86	2000.	
137 Ba	0.0768	0.0154	ppb	81.77	#VALUE!	
182 W	0.0847	0.0169	ppb	44.20	1000.	
203 Tl	-0.0045	-0.0009	ppb	181.15	1000.	
205 Tl	-0.0061	-0.0012	ppb	133.88	#VALUE!	
208 Pb	0.071	0.0142	ppb	23.25	2000.	
232 Th	0.0508	0.0102	ppb	39.23	1000.	
238 U	-0.0037	-0.0007	ppb	143.60	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2959636.50	6.21	3691108.80	80.2	69.5 - 120	
45 Sc	2366698.00	2.75	2910447.80	81.3	69.5 - 120	
72 Ge	479651.34	3.33	556535.31	86.2	69.5 - 120	
159 Tb	3003436.50	2.65	2966504.30	101.2	69.5 - 120	
209 Bi	1469171.50	1.34	1486792.30	98.8	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000182

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\039SMPL.D\039SMPL.D#
Date Acquired: May 21 2018 08:13 pm
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: LCSWLE09IMW3
Misc Info:
Vial Number: 2110
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	50.2	10.04	ppb	2.39	100.	
11 B	493.65	98.73	ppb	5.29	1000.	
23 Na	7,635.	1,527.	ppb	2.47	200000.	
25 Mg	5,090.	1,018.	ppb	1.61	200000.	
27 Al	2,102.5	420.5	ppb	1.71	200000.	
28 Si	1,471.	294.2	ppb	9.38	#VALUE!	
29 Si	1,098.	219.6	ppb	11.18	10000.	
39 K	10,420.	2,084.	ppb	2.69	200000.	
43 Ca	3,062.	612.4	ppb	1.69	#VALUE!	
44 Ca	2,628.5	525.7	ppb	1.69	200000.	
51 V	496.9	99.38	ppb	2.60	1000.	
52 Cr	197.2	39.44	ppb	2.26	2000.	
53 Cr	247.8	49.56	ppb	2.21	#VALUE!	
55 Mn	505.5	101.1	ppb	2.20	2000.	
56 Fe	1,003.	200.6	ppb	3.40	#VALUE!	
57 Fe	991.	198.2	ppb	2.32	100000.	
59 Co	528.	105.6	ppb	2.46	1000.	
60 Ni	526.	105.2	ppb	2.46	1000.	
63 Cu	258.65	51.73	ppb	1.92	#VALUE!	
65 Cu	263.45	52.69	ppb	2.61	2000.	
66 Zn	515.5	103.1	ppb	1.70	2000.	
68 Zn	582.	116.4	ppb	2.33	#VALUE!	
75 As	103.75	20.75	ppb	1.70	1000.	
82 Se	100.15	20.03	ppb	2.22	1000.	
88 Sr	518.	103.6	ppb	2.20	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	107.8	21.56	ppb	1.87	1000.	
107 Ag	57.	11.4	ppb	1.96	100.	
109 Ag	56.75	11.35	ppb	2.00	#VALUE!	
111 Cd	277.65	55.53	ppb	2.21	#VALUE!	
114 Cd	281.65	56.33	ppb	1.68	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	486.6	97.32	ppb	1.04	1000.	
120 Sn	486.55	97.31	ppb	1.45	#VALUE!	
121 Sb	100.35	20.07	ppb	1.30	#VALUE!	
123 Sb	101.1	20.22	ppb	1.74	1000.	
135 Ba	1,995.5	399.1	ppb	0.98	2000.	
137 Ba	2,019.5	403.9	ppb	2.01	#VALUE!	
182 W	102.95	20.59	ppb	1.50	1000.	
203 Tl	104.95	20.99	ppb	1.86	1000.	
205 Tl	105.8	21.16	ppb	1.66	#VALUE!	
208 Pb	104.65	20.93	ppb	1.46	2000.	
232 Th	99.8	19.96	ppb	2.02	1000.	
238 U	99.9	19.98	ppb	1.90	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3162123.30	2.88	3691108.80	85.7	69.5 - 120	
45 Sc	2425446.30	2.21	2910447.80	83.3	69.5 - 120	
72 Ge	487493.50	1.81	556535.31	87.6	69.5 - 120	
159 Tb	3111906.50	1.32	2966504.30	104.9	69.5 - 120	
209 Bi	1517621.50	0.82	1486792.30	102.1	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000183

CCV QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\040_CCV.D\040_CCV.D#
Date Acquired: May 21 2018 08:17 pm
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: CCV
Misc Info:
Vial Number: 1206
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Dilution Factor: 1.00
QC Range (%): 89.5 - 110.5

QC Elements

Element	Conc.		RSD(%)	Expected	Rec (%)	Flag
9 Be	25.39	ppb	0.75	25	101.56	
11 B	24.59	ppb	0.77	25	98.36	
23 Na	4,868.	ppb	2.06	5,000	97.36	
25 Mg	4,915.	ppb	1.22	5,000	98.3	
27 Al	490.7	ppb	0.63	500	98.14	
28 Si	564.7	ppb	1.60	500	112.94	
29 Si	504.8	ppb	2.52	500	100.96	
39 K	5,009.	ppb	1.29	5,000	100.18	
43 Ca	4,993.	ppb	2.56	5,000	99.86	
44 Ca	5,054.	ppb	1.64	5,000	101.08	
51 V	23.85	ppb	0.69	25	95.4	
52 Cr	24.22	ppb	1.31	25	96.88	
53 Cr	23.25	ppb	4.23	25	93	
55 Mn	24.36	ppb	0.89	25	97.44	
56 Fe	4,771.	ppb	0.80	5,000	95.42	
57 Fe	4,889.	ppb	0.69	5,000	97.78	
59 Co	24.79	ppb	1.07	25	99.16	
60 Ni	25.51	ppb	0.98	25	102.04	
63 Cu	24.89	ppb	1.40	25	99.56	
65 Cu	25.32	ppb	0.74	25	101.28	
66 Zn	25.35	ppb	1.98	25	101.4	
68 Zn	25.09	ppb	0.69	25	100.36	
75 As	24.72	ppb	0.50	25	98.88	
82 Se	24.25	ppb	1.10	25	97	
88 Sr	25.03	ppb	1.58	25	100.12	
89 Y	--------	---	--------	---	#VALUE!	
98 Mo	25.51	ppb	0.66	25	102.04	
107 Ag	26.4	ppb	1.14	25	105.6	
109 Ag	26.6	ppb	0.53	25	106.4	
111 Cd	26.17	ppb	1.26	25	104.68	
114 Cd	26.46	ppb	0.88	25	105.84	
115 In	--------	---	--------	---	#VALUE!	
118 Sn	23.96	ppb	1.46	25	95.84	
120 Sn	24.15	ppb	0.49	25	96.6	
121 Sb	24.59	ppb	1.61	25	98.36	
123 Sb	24.67	ppb	1.57	25	98.68	
135 Ba	24.76	ppb	0.97	25	99.04	
137 Ba	24.84	ppb	1.93	25	99.36	
182 W	24.71	ppb	0.85	25	98.84	
203 Tl	24.88	ppb	1.62	25	99.52	
205 Tl	25.04	ppb	1.97	25	100.16	
208 Pb	24.92	ppb	1.12	25	99.68	
232 Th	24.41	ppb	2.55	25	97.64	
238 U	24.11	ppb	1.93	25	96.44	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3126479.80	0.62	3691108.80	84.7	80 - 120.4	
45 Sc	2518435.30	1.08	2910447.80	86.5	80 - 120.4	
72 Ge	498992.09	0.30	556535.31	89.7	80 - 120.4	
159 Tb	3013784.80	0.41	2966504.30	101.6	80 - 120.4	
209 Bi	1481101.60	1.18	1486792.30	99.6	80 - 120.4	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000184

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\041_CCB.D\041_CCB.D#
Date Acquired: May 21 2018 08:21 pm
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: CCB
Misc Info:
Vial Number: 1207
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: 6-CCB
Dilution Factor: 1.00

QC Elements

Element	Conc.		RSD(%)	High Limit	Flag
9 Be	0.0016	ppb	184.21	1.00	
11 B	0.2694	ppb	21.39	1.00	
23 Na	1.056	ppb	11.67	1.00	
25 Mg	0.4161	ppb	17.09	1.00	
27 Al	-0.0411	ppb	67.47	1.00	
28 Si	97.17	ppb	14.59	1.00	
29 Si	44.83	ppb	34.15	1.00	
39 K	7.492	ppb	23.47	1.00	
43 Ca	6.274	ppb	105.58	1.00	
44 Ca	1.073	ppb	72.77	1.00	
51 V	-0.0079	ppb	644.97	1.00	
52 Cr	-0.0807	ppb	24.99	1.00	
53 Cr	-2.081	ppb	10.97	1.00	
55 Mn	0.0162	ppb	37.10	1.00	
56 Fe	-5.983	ppb	16.81	1.00	
57 Fe	-1.142	ppb	446.85	1.00	
59 Co	0.004	ppb	77.54	1.00	
60 Ni	0.0195	ppb	13.36	1.00	
63 Cu	0.0033	ppb	494.71	1.00	
65 Cu	-0.0022	ppb	1221.60	1.00	
66 Zn	-0.0111	ppb	361.60	1.00	
68 Zn	-0.0148	ppb	228.65	1.00	
75 As	-0.0736	ppb	214.54	1.00	
82 Se	-0.2903	ppb	43.61	1.00	
88 Sr	0.003	ppb	110.12	1.00	
89 Y	--------	---	--------	---	
98 Mo	0.0161	ppb	40.24	1.00	
107 Ag	0.003	ppb	46.11	1.00	
109 Ag	0.0028	ppb	41.72	1.00	
111 Cd	-0.0434	ppb	89.68	1.00	
114 Cd	0.0043	ppb	57.99	1.00	
115 In	--------	---	--------	---	
118 Sn	0.0331	ppb	23.88	1.00	
120 Sn	0.0407	ppb	33.72	1.00	
121 Sb	0.0214	ppb	22.23	1.00	
123 Sb	0.0182	ppb	18.41	1.00	
135 Ba	0.0147	ppb	99.52	1.00	
137 Ba	0.0058	ppb	81.03	1.00	
182 W	0.046	ppb	16.86	1.00	
203 Tl	0.0064	ppb	135.69	1.00	
205 Tl	-0.0003	ppb	207.73	1.00	
208 Pb	-0.0045	ppb	74.05	1.00	
232 Th	0.0683	ppb	8.69	1.00	
238 U	0.0026	ppb	33.76	1.00	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3144562.50	0.67	3691108.80	85.2	79.5 - 120	
45 Sc	2481780.30	1.16	2910447.80	85.3	79.5 - 120	
72 Ge	495522.13	0.91	556535.31	89.0	79.5 - 120	
159 Tb	2917845.50	0.21	2966504.30	98.4	79.5 - 120	
209 Bi	1469888.40	0.94	1486792.30	98.9	79.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000185

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\042SMPL.D\042SMPL.D#
Date Acquired: May 21 2018 08:25 pm
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: SL3265-001
Misc Info:
Vial Number: 2111
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0059	0.0012	ppb	62.61	100.	
11 B	236.9	47.38	ppb	3.43	1000.	
23 Na	246,600.	49,320.	ppb	2.02	200000.	
25 Mg	16,945.	3,389.	ppb	2.78	200000.	
27 Al	14.92	2.984	ppb	5.45	200000.	
28 Si	4,523.5	904.7	ppb	4.81	#VALUE!	
29 Si	4,448.5	889.7	ppb	5.03	10000.	
39 K	3,303.	660.6	ppb	2.15	200000.	
43 Ca	55,950.	11,190.	ppb	1.29	#VALUE!	
44 Ca	54,800.	10,960.	ppb	1.63	200000.	
51 V	0.2396	0.0479	ppb	90.15	1000.	
52 Cr	0.4738	0.0948	ppb	14.97	2000.	
53 Cr	27.165	5.433	ppb	4.23	#VALUE!	
55 Mn	1.2575	0.2515	ppb	8.88	2000.	
56 Fe	-25.77	-5.154	ppb	13.72	#VALUE!	
57 Fe	110.6	22.12	ppb	6.63	100000.	
59 Co	0.1132	0.0226	ppb	22.92	1000.	
60 Ni	0.698	0.1396	ppb	17.30	1000.	
63 Cu	8.795	1.759	ppb	3.10	#VALUE!	
65 Cu	2.234	0.4468	ppb	2.76	2000.	
66 Zn	3.444	0.6888	ppb	8.18	2000.	
68 Zn	4.226	0.8452	ppb	19.10	#VALUE!	
75 As	1.8365	0.3673	ppb	48.68	1000.	
82 Se	0.0751	0.015	ppb	375.88	1000.	
88 Sr	553.	110.6	ppb	1.74	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	0.1808	0.0362	ppb	27.31	1000.	
107 Ag	0.0192	0.0038	ppb	117.46	100.	
109 Ag	0.0123	0.0025	ppb	78.65	#VALUE!	
111 Cd	-0.186	-0.0372	ppb	62.39	#VALUE!	
114 Cd	0.1659	0.0332	ppb	14.67	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	3.658	0.7316	ppb	5.59	1000.	
120 Sn	3.659	0.7318	ppb	6.85	#VALUE!	
121 Sb	0.5785	0.1157	ppb	15.38	#VALUE!	
123 Sb	0.5395	0.1079	ppb	13.40	1000.	
135 Ba	37.735	7.547	ppb	1.47	2000.	
137 Ba	38.575	7.715	ppb	0.79	#VALUE!	
182 W	0.2106	0.0421	ppb	20.21	1000.	
203 Tl	-0.0166	-0.0033	ppb	94.22	1000.	
205 Tl	0.0077	0.0015	ppb	153.07	#VALUE!	
208 Pb	0.4824	0.0965	ppb	1.32	2000.	
232 Th	0.5165	0.1033	ppb	15.03	1000.	
238 U	0.1016	0.0203	ppb	17.74	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3170339.00	2.63	3691108.80	85.9	69.5 - 120	
45 Sc	2495895.50	2.54	2910447.80	85.8	69.5 - 120	
72 Ge	500340.22	1.54	556535.31	89.9	69.5 - 120	
159 Tb	3091224.50	1.23	2966504.30	104.2	69.5 - 120	
209 Bi	1448619.90	0.25	1486792.30	97.4	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000186

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\043SMPL.D\043SMPL.D#
Date Acquired: May 21 2018 08:29 pm
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: SL3265-002
Misc Info:
Vial Number: 2112
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.66	0.132	ppb	4.88	100.	
11 B	52.55	10.51	ppb	2.03	1000.	
23 Na	5,480.	1,096.	ppb	0.95	200000.	
25 Mg	5,525.	1,105.	ppb	0.77	200000.	
27 Al	331.95	66.39	ppb	0.90	200000.	
28 Si	21,215.	4,243.	ppb	0.41	#VALUE!	
29 Si	24,200.	4,840.	ppb	0.54	10000.	
39 K	1,933.5	386.7	ppb	0.90	200000.	
43 Ca	9,300.	1,860.	ppb	3.16	#VALUE!	
44 Ca	9,235.	1,847.	ppb	1.14	200000.	
51 V	0.4071	0.0814	ppb	48.52	1000.	
52 Cr	0.8315	0.1663	ppb	1.67	2000.	
53 Cr	41.88	8.376	ppb	4.07	#VALUE!	
55 Mn	541.5	108.3	ppb	1.12	2000.	
56 Fe	10,460.	2,092.	ppb	0.90	#VALUE!	
57 Fe	10,745.	2,149.	ppb	0.70	100000.	
59 Co	5.88	1.176	ppb	3.20	1000.	
60 Ni	23.685	4.737	ppb	3.00	1000.	
63 Cu	2.1835	0.4367	ppb	1.83	#VALUE!	
65 Cu	2.1225	0.4245	ppb	6.81	2000.	
66 Zn	35.29	7.058	ppb	1.32	2000.	
68 Zn	35.015	7.003	ppb	1.67	#VALUE!	
75 As	1.269	0.2538	ppb	93.07	1000.	
82 Se	-0.3895	-0.0779	ppb	212.07	1000.	
88 Sr	58.8	11.76	ppb	0.80	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	0.0404	0.0081	ppb	80.76	1000.	
107 Ag	0.0054	0.0011	ppb	4.83	100.	
109 Ag	0.0036	0.0007	ppb	102.01	#VALUE!	
111 Cd	-0.1021	-0.0204	ppb	179.42	#VALUE!	
114 Cd	0.0924	0.0185	ppb	31.87	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	0.888	0.1776	ppb	12.22	1000.	
120 Sn	0.8555	0.1711	ppb	7.31	#VALUE!	
121 Sb	0.4394	0.0879	ppb	1.74	#VALUE!	
123 Sb	0.543	0.1086	ppb	6.70	1000.	
135 Ba	12.54	2.508	ppb	1.64	2000.	
137 Ba	13.09	2.618	ppb	4.09	#VALUE!	
182 W	0.0748	0.015	ppb	58.54	1000.	
203 Tl	-0.0163	-0.0033	ppb	94.27	1000.	
205 Tl	0.0087	0.0017	ppb	7.36	#VALUE!	
208 Pb	0.2916	0.0583	ppb	6.49	2000.	
232 Th	0.1835	0.0367	ppb	33.47	1000.	
238 U	0.0049	0.001	ppb	55.07	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3649760.00	2.05	3691108.80	98.9	69.5 - 120	
45 Sc	2696808.50	1.21	2910447.80	92.7	69.5 - 120	
72 Ge	523882.44	0.74	556535.31	94.1	69.5 - 120	
159 Tb	3091237.80	0.79	2966504.30	104.2	69.5 - 120	
209 Bi	1517780.10	1.27	1486792.30	102.1	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000187

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\044SMPL.D\044SMPL.D#
Date Acquired: May 21 2018 08:33 pm
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: SL3265-003
Misc Info:
Vial Number: 2201
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	-0.0001	0.	ppb	9404.80	100.	
11 B	241.25	48.25	ppb	0.78	1000.	
23 Na	156,600.	31,320.	ppb	1.74	200000.	
25 Mg	6,380.	1,276.	ppb	0.72	200000.	
27 Al	15.41	3.082	ppb	4.75	200000.	
28 Si	9,650.	1,930.	ppb	0.84	#VALUE!	
29 Si	9,845.	1,969.	ppb	1.84	10000.	
39 K	2,189.5	437.9	ppb	1.89	200000.	
43 Ca	6,270.	1,254.	ppb	1.36	#VALUE!	
44 Ca	6,120.	1,224.	ppb	1.51	200000.	
51 V	0.7465	0.1493	ppb	65.55	1000.	
52 Cr	0.7675	0.1535	ppb	13.82	2000.	
53 Cr	41.74	8.348	ppb	1.74	#VALUE!	
55 Mn	4.617	0.9234	ppb	0.97	2000.	
56 Fe	43.255	8.651	ppb	19.92	#VALUE!	
57 Fe	74.6	14.92	ppb	9.02	100000.	
59 Co	0.0466	0.0093	ppb	31.77	1000.	
60 Ni	0.3064	0.0613	ppb	32.18	1000.	
63 Cu	5.735	1.147	ppb	3.37	#VALUE!	
65 Cu	1.272	0.2544	ppb	18.69	2000.	
66 Zn	0.3905	0.0781	ppb	64.03	2000.	
68 Zn	11.67	2.334	ppb	2.82	#VALUE!	
75 As	-0.4699	-0.094	ppb	104.14	1000.	
82 Se	-0.1216	-0.0243	ppb	921.46	1000.	
88 Sr	194.75	38.95	ppb	1.88	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	0.0679	0.0136	ppb	50.17	1000.	
107 Ag	-0.0049	-0.001	ppb	3.85	100.	
109 Ag	0.0014	0.0003	ppb	410.40	#VALUE!	
111 Cd	-0.0961	-0.0192	ppb	167.52	#VALUE!	
114 Cd	0.0213	0.0043	ppb	116.21	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	0.8295	0.1659	ppb	6.12	1000.	
120 Sn	0.7565	0.1513	ppb	5.33	#VALUE!	
121 Sb	0.4572	0.0914	ppb	19.98	#VALUE!	
123 Sb	0.4251	0.085	ppb	4.11	1000.	
135 Ba	268.35	53.67	ppb	2.78	2000.	
137 Ba	272.2	54.44	ppb	2.27	#VALUE!	
182 W	0.1355	0.0271	ppb	15.71	1000.	
203 Tl	-0.0192	-0.0038	ppb	91.63	1000.	
205 Tl	-0.0048	-0.001	ppb	386.11	#VALUE!	
208 Pb	0.0477	0.0095	ppb	35.10	2000.	
232 Th	0.1534	0.0307	ppb	26.87	1000.	
238 U	0.0134	0.0027	ppb	39.32	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3484964.80	2.59	3691108.80	94.4	69.5 - 120	
45 Sc	2663600.30	1.00	2910447.80	91.5	69.5 - 120	
72 Ge	518524.13	0.76	556535.31	93.2	69.5 - 120	
159 Tb	2984127.80	1.51	2966504.30	100.6	69.5 - 120	
209 Bi	1457029.60	2.66	1486792.30	98.0	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000188

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\045SMPL.D\045SMPL.D#
Date Acquired: May 21 2018 08:38 pm
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: SL3380-001
Misc Info:
Vial Number: 2202
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0393	0.0079	ppb	37.31	100.	
11 B	38.695	7.739	ppb	2.19	1000.	
23 Na	20,880.	4,176.	ppb	1.86	200000.	
25 Mg	10,295.	2,059.	ppb	3.66	200000.	
27 Al	11.035	2.207	ppb	2.70	200000.	
28 Si	10,240.	2,048.	ppb	3.00	#VALUE!	
29 Si	10,700.	2,140.	ppb	1.36	10000.	
39 K	1,097.5	219.5	ppb	2.92	200000.	
43 Ca	14,795.	2,959.	ppb	2.22	#VALUE!	
44 Ca	14,700.	2,940.	ppb	0.74	200000.	
51 V	0.845	0.169	ppb	29.85	1000.	
52 Cr	0.9865	0.1973	ppb	13.11	2000.	
53 Cr	44.14	8.828	ppb	4.22	#VALUE!	
55 Mn	2.8675	0.5735	ppb	0.54	2000.	
56 Fe	-12.87	-2.574	ppb	32.46	#VALUE!	
57 Fe	17.385	3.477	ppb	75.61	100000.	
59 Co	0.1013	0.0203	ppb	36.77	1000.	
60 Ni	2.052	0.4104	ppb	4.26	1000.	
63 Cu	5.41	1.082	ppb	2.57	#VALUE!	
65 Cu	4.908	0.9816	ppb	6.40	2000.	
66 Zn	6.46	1.292	ppb	8.35	2000.	
68 Zn	6.865	1.373	ppb	7.20	#VALUE!	
75 As	-0.027	-0.0054	ppb	1662.30	1000.	
82 Se	-1.1075	-0.2215	ppb	32.75	1000.	
88 Sr	152.5	30.5	ppb	1.36	2000.	
89 Y	----	--------	---	---	#VALUE!	
98 Mo	-0.0129	-0.0026	ppb	12.43	1000.	
107 Ag	0.0091	0.0018	ppb	202.36	100.	
109 Ag	0.0001	0.	ppb	9432.70	#VALUE!	
111 Cd	0.0118	0.0024	ppb	567.18	#VALUE!	
114 Cd	0.0523	0.0105	ppb	19.25	1000.	
115 In	----	--------	---	---	#VALUE!	
118 Sn	1.435	0.287	ppb	9.75	1000.	
120 Sn	1.46	0.292	ppb	4.29	#VALUE!	
121 Sb	0.4812	0.0962	ppb	8.70	#VALUE!	
123 Sb	0.4906	0.0981	ppb	1.22	1000.	
135 Ba	32.255	6.451	ppb	1.61	2000.	
137 Ba	33.42	6.684	ppb	0.78	#VALUE!	
182 W	0.1209	0.0242	ppb	8.73	1000.	
203 Tl	-0.0127	-0.0025	ppb	141.42	1000.	
205 Tl	0.0054	0.0011	ppb	142.24	#VALUE!	
208 Pb	0.2764	0.0553	ppb	17.45	2000.	
232 Th	0.0716	0.0143	ppb	15.56	1000.	
238 U	0.0226	0.0045	ppb	46.44	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3566504.00	3.36	3691108.80	96.6	69.5 - 120	
45 Sc	2624417.50	2.09	2910447.80	90.2	69.5 - 120	
72 Ge	519488.19	1.55	556535.31	93.3	69.5 - 120	
159 Tb	3007055.30	0.62	2966504.30	101.4	69.5 - 120	
209 Bi	1486478.40	0.74	1486792.30	100.0	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000189

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\046SMPL.D\046SMPL.D#
Date Acquired: May 21 2018 08:42 pm
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: SL3380-002
Misc Info:
Vial Number: 2203
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0398	0.008	ppb	11.85	100.	
11 B	38.33	7.666	ppb	2.97	1000.	
23 Na	20,945.	4,189.	ppb	0.22	200000.	
25 Mg	10,195.	2,039.	ppb	2.34	200000.	
27 Al	12.415	2.483	ppb	1.61	200000.	
28 Si	10,365.	2,073.	ppb	1.71	#VALUE!	
29 Si	10,765.	2,153.	ppb	1.31	10000.	
39 K	1,092.5	218.5	ppb	0.81	200000.	
43 Ca	14,700.	2,940.	ppb	1.16	#VALUE!	
44 Ca	14,830.	2,966.	ppb	0.68	200000.	
51 V	0.4694	0.0939	ppb	143.91	1000.	
52 Cr	1.1115	0.2223	ppb	8.61	2000.	
53 Cr	47.485	9.497	ppb	3.74	#VALUE!	
55 Mn	2.8955	0.5791	ppb	1.61	2000.	
56 Fe	-1.992	-0.3984	ppb	242.34	#VALUE!	
57 Fe	42.435	8.487	ppb	42.36	100000.	
59 Co	0.0885	0.0177	ppb	15.32	1000.	
60 Ni	2.363	0.4726	ppb	9.64	1000.	
63 Cu	5.15	1.03	ppb	7.36	#VALUE!	
65 Cu	4.6815	0.9363	ppb	6.19	2000.	
66 Zn	6.485	1.297	ppb	4.92	2000.	
68 Zn	7.335	1.467	ppb	2.94	#VALUE!	
75 As	0.133	0.0266	ppb	275.23	1000.	
82 Se	-0.2083	-0.0417	ppb	354.78	1000.	
88 Sr	152.3	30.46	ppb	0.18	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	-0.007	-0.0014	ppb	193.09	1000.	
107 Ag	0.0056	0.0011	ppb	129.39	100.	
109 Ag	0.0074	0.0015	ppb	47.01	#VALUE!	
111 Cd	0.0695	0.0139	ppb	119.37	#VALUE!	
114 Cd	0.0542	0.0108	ppb	24.13	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	1.0015	0.2003	ppb	5.73	1000.	
120 Sn	0.9545	0.1909	ppb	2.86	#VALUE!	
121 Sb	0.4484	0.0897	ppb	15.75	#VALUE!	
123 Sb	0.4915	0.0983	ppb	10.64	1000.	
135 Ba	32.23	6.446	ppb	4.91	2000.	
137 Ba	32.58	6.516	ppb	3.59	#VALUE!	
182 W	0.1181	0.0236	ppb	20.07	1000.	
203 Tl	-0.0096	-0.0019	ppb	162.12	1000.	
205 Tl	-0.0028	-0.0006	ppb	3.79	#VALUE!	
208 Pb	0.4715	0.0943	ppb	8.30	2000.	
232 Th	0.0638	0.0128	ppb	12.22	1000.	
238 U	0.0214	0.0043	ppb	24.23	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3559956.30	3.29	3691108.80	96.4	69.5 - 120	
45 Sc	2632018.50	0.78	2910447.80	90.4	69.5 - 120	
72 Ge	520732.63	0.77	556535.31	93.6	69.5 - 120	
159 Tb	2973894.80	1.06	2966504.30	100.2	69.5 - 120	
209 Bi	1470722.00	0.27	1486792.30	98.9	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000190

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\047SMPL.D\047SMPL.D#
Date Acquired: May 21 2018 08:46 pm
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: SL3380-003
Misc Info:
Vial Number: 2204
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0059	0.0012	ppb	48.17	100.	
11 B	233.9	46.78	ppb	1.21	1000.	
23 Na	170,450.	34,090.	ppb	2.57	200000.	
25 Mg	2,966.5	593.3	ppb	1.57	200000.	
27 Al	12.95	2.59	ppb	14.78	200000.	
28 Si	4,523.	904.6	ppb	1.43	#VALUE!	
29 Si	4,674.	934.8	ppb	1.88	10000.	
39 K	924.5	184.9	ppb	1.79	200000.	
43 Ca	11,015.	2,203.	ppb	2.19	#VALUE!	
44 Ca	11,135.	2,227.	ppb	1.31	200000.	
51 V	0.908	0.1816	ppb	34.28	1000.	
52 Cr	0.956	0.1912	ppb	17.28	2000.	
53 Cr	44.365	8.873	ppb	5.12	#VALUE!	
55 Mn	5.755	1.151	ppb	4.31	2000.	
56 Fe	10.845	2.169	ppb	95.30	#VALUE!	
57 Fe	40.74	8.148	ppb	25.00	100000.	
59 Co	0.0474	0.0095	ppb	24.24	1000.	
60 Ni	0.354	0.0708	ppb	12.91	1000.	
63 Cu	5.91	1.182	ppb	2.58	#VALUE!	
65 Cu	1.338	0.2676	ppb	7.96	2000.	
66 Zn	0.489	0.0978	ppb	56.38	2000.	
68 Zn	3.4615	0.6923	ppb	9.96	#VALUE!	
75 As	0.1368	0.0274	ppb	337.68	1000.	
82 Se	-0.7615	-0.1523	ppb	119.83	1000.	
88 Sr	81.2	16.24	ppb	1.64	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	0.1175	0.0235	ppb	19.65	1000.	
107 Ag	0.0068	0.0014	ppb	241.02	100.	
109 Ag	0.005	0.001	ppb	113.49	#VALUE!	
111 Cd	-0.12	-0.024	ppb	194.33	#VALUE!	
114 Cd	0.045	0.009	ppb	24.06	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	0.813	0.1626	ppb	11.26	1000.	
120 Sn	0.775	0.155	ppb	2.07	#VALUE!	
121 Sb	0.458	0.0916	ppb	15.07	#VALUE!	
123 Sb	0.4937	0.0987	ppb	10.48	1000.	
135 Ba	67.15	13.43	ppb	0.15	2000.	
137 Ba	67.2	13.44	ppb	0.94	#VALUE!	
182 W	0.0579	0.0116	ppb	93.96	1000.	
203 Tl	0.0082	0.0016	ppb	456.83	1000.	
205 Tl	0.0041	0.0008	ppb	219.27	#VALUE!	
208 Pb	0.0513	0.0103	ppb	22.47	2000.	
232 Th	0.0615	0.0123	ppb	24.45	1000.	
238 U	0.2295	0.0459	ppb	14.83	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3407304.00	2.05	3691108.80	92.3	69.5 - 120	
45 Sc	2656272.00	0.48	2910447.80	91.3	69.5 - 120	
72 Ge	520509.59	0.22	556535.31	93.5	69.5 - 120	
159 Tb	2936181.50	1.27	2966504.30	99.0	69.5 - 120	
209 Bi	1427400.10	1.25	1486792.30	96.0	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000191

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\048SMPL.D\048SMPL.D#
Date Acquired: May 21 2018 08:50 pm
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: SL3380-003L
Misc Info:
Vial Number: 2205
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: Sample
Dilution Factor: 25.00
Autodil Factor: Undiluted
Final Dil Factor: 25.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0473	0.0019	ppb	100.85	100.	
11 B	244.95	9.798	ppb	0.48	1000.	
23 Na	177,625.	7,105.	ppb	2.70	200000.	
25 Mg	3,177.5	127.1	ppb	2.15	200000.	
27 Al	24.7625	0.9905	ppb	7.65	200000.	
28 Si	5,785.	231.4	ppb	10.38	#VALUE!	
29 Si	5,347.5	213.9	ppb	7.14	10000.	
39 K	1,071.25	42.85	ppb	5.66	200000.	
43 Ca	12,095.	483.8	ppb	3.30	#VALUE!	
44 Ca	11,542.5	461.7	ppb	0.58	200000.	
51 V	0.8273	0.0331	ppb	93.93	1000.	
52 Cr	-0.1551	-0.0062	ppb	56.89	2000.	
53 Cr	18.2275	0.7291	ppb	11.46	#VALUE!	
55 Mn	6.3225	0.2529	ppb	6.86	2000.	
56 Fe	-85.525	-3.421	ppb	70.30	#VALUE!	
57 Fe	87.9	3.516	ppb	81.91	100000.	
59 Co	0.0715	0.0029	ppb	64.09	1000.	
60 Ni	0.4215	0.0169	ppb	36.32	1000.	
63 Cu	7.9525	0.3181	ppb	6.77	#VALUE!	
65 Cu	2.7725	0.1109	ppb	2.84	2000.	
66 Zn	-1.3293	-0.0532	ppb	57.25	2000.	
68 Zn	4.59	0.1836	ppb	48.26	#VALUE!	
75 As	0.368	0.0147	ppb	281.18	1000.	
82 Se	-5.2525	-0.2101	ppb	52.17	1000.	
88 Sr	83.85	3.354	ppb	2.58	2000.	
89 Y	----	--------	---	---	#VALUE!	
98 Mo	0.1491	0.006	ppb	17.25	1000.	
107 Ag	0.0021	0.0001	ppb	1868.00	100.	
109 Ag	0.0352	0.0014	ppb	152.06	#VALUE!	
111 Cd	-0.2163	-0.0087	ppb	839.56	#VALUE!	
114 Cd	-0.0357	-0.0014	ppb	298.95	1000.	
115 In	----	--------	---	---	#VALUE!	
118 Sn	0.9875	0.0395	ppb	33.70	1000.	
120 Sn	1.0443	0.0418	ppb	6.83	#VALUE!	
121 Sb	0.2718	0.0109	ppb	69.61	#VALUE!	
123 Sb	0.545	0.0218	ppb	21.12	1000.	
135 Ba	69.05	2.762	ppb	2.75	2000.	
137 Ba	71.425	2.857	ppb	1.70	#VALUE!	
182 W	0.2293	0.0092	ppb	1.31	1000.	
203 Tl	-0.1596	-0.0064	ppb	43.02	1000.	
205 Tl	-0.0144	-0.0006	ppb	176.31	#VALUE!	
208 Pb	0.0909	0.0036	ppb	77.34	2000.	
232 Th	0.0548	0.0022	ppb	76.60	1000.	
238 U	0.2366	0.0095	ppb	2.32	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3421952.30	1.80	3691108.80	92.7	69.5 - 120	
45 Sc	2697786.80	1.54	2910447.80	92.7	69.5 - 120	
72 Ge	527821.25	0.87	556535.31	94.8	69.5 - 120	
159 Tb	2877060.00	0.71	2966504.30	97.0	69.5 - 120	
209 Bi	1433652.80	0.66	1486792.30	96.4	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000192

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\049SMPL.D\049SMPL.D#
Date Acquired: May 21 2018 08:55 pm
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: SL3380-003A
Misc Info:
Vial Number: 2206
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	11.055	2.211	ppb	1.78	100.	
11 B	446.3	89.26	ppb	0.23	1000.	
23 Na	181,600.	36,320.	ppb	2.05	200000.	
25 Mg	4,020.	804.	ppb	1.63	200000.	
27 Al	1,143.5	228.7	ppb	1.60	200000.	
28 Si	10,005.	2,001.	ppb	1.33	#VALUE!	
29 Si	10,250.	2,050.	ppb	3.46	10000.	
39 K	11,665.	2,333.	ppb	2.22	200000.	
43 Ca	12,305.	2,461.	ppb	6.56	#VALUE!	
44 Ca	12,200.	2,440.	ppb	2.04	200000.	
51 V	54.5	10.9	ppb	0.60	1000.	
52 Cr	54.6	10.92	ppb	0.64	2000.	
53 Cr	102.25	20.45	ppb	2.70	#VALUE!	
55 Mn	27.26	5.452	ppb	0.97	2000.	
56 Fe	1,052.5	210.5	ppb	1.42	#VALUE!	
57 Fe	1,102.5	220.5	ppb	2.81	100000.	
59 Co	11.06	2.212	ppb	1.63	1000.	
60 Ni	22.68	4.536	ppb	1.04	1000.	
63 Cu	38.91	7.782	ppb	1.17	#VALUE!	
65 Cu	35.05	7.01	ppb	3.04	2000.	
66 Zn	112.4	22.48	ppb	0.76	2000.	
68 Zn	110.15	22.03	ppb	1.57	#VALUE!	
75 As	57.25	11.45	ppb	1.83	1000.	
82 Se	54.	10.8	ppb	1.00	1000.	
88 Sr	135.2	27.04	ppb	1.43	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	54.05	10.81	ppb	1.09	1000.	
107 Ag	11.04	2.208	ppb	1.17	100.	
109 Ag	11.01	2.202	ppb	3.11	#VALUE!	
111 Cd	11.015	2.203	ppb	0.63	#VALUE!	
114 Cd	11.33	2.266	ppb	2.01	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	55.	11.	ppb	3.03	1000.	
120 Sn	54.75	10.95	ppb	2.53	#VALUE!	
121 Sb	11.5	2.3	ppb	1.38	#VALUE!	
123 Sb	11.705	2.341	ppb	3.94	1000.	
135 Ba	89.55	17.91	ppb	3.25	2000.	
137 Ba	90.	18.	ppb	3.59	#VALUE!	
182 W	55.5	11.1	ppb	3.56	1000.	
203 Tl	11.2	2.24	ppb	2.11	1000.	
205 Tl	11.185	2.237	ppb	1.17	#VALUE!	
208 Pb	11.26	2.252	ppb	0.31	2000.	
232 Th	10.965	2.193	ppb	1.19	1000.	
238 U	11.67	2.334	ppb	1.63	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3436089.30	0.67	3691108.80	93.1	69.5 - 120	
45 Sc	2629580.30	1.03	2910447.80	90.3	69.5 - 120	
72 Ge	512765.59	0.58	556535.31	92.1	69.5 - 120	
159 Tb	2951204.00	3.46	2966504.30	99.5	69.5 - 120	
209 Bi	1425792.40	1.38	1486792.30	95.9	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000193

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\050SMPL.D\050SMPL.D#
Date Acquired: May 21 2018 08:59 pm
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: SL3380-003S
Misc Info:
Vial Number: 2207
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	52.55	10.51	ppb	0.59	100.	
11 B	752.	150.4	ppb	1.37	1000.	
23 Na	179,250.	35,850.	ppb	1.88	200000.	
25 Mg	8,700.	1,740.	ppb	1.48	200000.	
27 Al	2,200.5	440.1	ppb	0.85	200000.	
28 Si	5,800.	1,160.	ppb	1.53	#VALUE!	
29 Si	5,790.	1,158.	ppb	1.11	10000.	
39 K	11,305.	2,261.	ppb	1.73	200000.	
43 Ca	14,405.	2,881.	ppb	1.16	#VALUE!	
44 Ca	13,890.	2,778.	ppb	1.23	200000.	
51 V	533.5	106.7	ppb	0.10	1000.	
52 Cr	207.1	41.42	ppb	0.73	2000.	
53 Cr	254.65	50.93	ppb	1.54	#VALUE!	
55 Mn	521.5	104.3	ppb	0.48	2000.	
56 Fe	1,049.	209.8	ppb	0.91	#VALUE!	
57 Fe	1,080.	216.	ppb	1.77	100000.	
59 Co	536.	107.2	ppb	0.11	1000.	
60 Ni	533.5	106.7	ppb	0.26	1000.	
63 Cu	268.6	53.72	ppb	0.44	#VALUE!	
65 Cu	267.05	53.41	ppb	0.54	2000.	
66 Zn	532.5	106.5	ppb	0.55	2000.	
68 Zn	603.5	120.7	ppb	0.57	#VALUE!	
75 As	108.	21.6	ppb	0.24	1000.	
82 Se	103.95	20.79	ppb	1.03	1000.	
88 Sr	597.	119.4	ppb	1.21	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	108.1	21.62	ppb	0.29	1000.	
107 Ag	53.55	10.71	ppb	1.41	100.	
109 Ag	53.85	10.77	ppb	0.40	#VALUE!	
111 Cd	266.8	53.36	ppb	0.76	#VALUE!	
114 Cd	270.75	54.15	ppb	1.24	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	516.	103.2	ppb	1.18	1000.	
120 Sn	518.5	103.7	ppb	0.80	#VALUE!	
121 Sb	106.5	21.3	ppb	0.79	#VALUE!	
123 Sb	105.85	21.17	ppb	1.35	1000.	
135 Ba	2,163.5	432.7	ppb	0.86	2000.	
137 Ba	2,182.5	436.5	ppb	0.66	#VALUE!	
182 W	105.55	21.11	ppb	1.09	1000.	
203 Tl	106.55	21.31	ppb	1.30	1000.	
205 Tl	106.3	21.26	ppb	1.58	#VALUE!	
208 Pb	106.5	21.3	ppb	1.30	2000.	
232 Th	106.3	21.26	ppb	1.75	1000.	
238 U	108.85	21.77	ppb	1.39	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3434462.30	0.39	3691108.80	93.0	69.5 - 120	
45 Sc	2606718.00	1.24	2910447.80	89.6	69.5 - 120	
72 Ge	505049.19	0.62	556535.31	90.7	69.5 - 120	
159 Tb	2965147.50	1.05	2966504.30	100.0	69.5 - 120	
209 Bi	1436028.60	1.77	1486792.30	96.6	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000194

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\051SMPL.D\051SMPL.D#
Date Acquired: May 21 2018 09:03 pm
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: RINSE
Misc Info:
Vial Number: 2208
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0104	0.0021	ppb	107.31	100.	
11 B	3.7705	0.7541	ppb	16.27	1000.	
23 Na	8.66	1.732	ppb	5.57	200000.	
25 Mg	5.565	1.113	ppb	13.44	200000.	
27 Al	2.196	0.4392	ppb	4.36	200000.	
28 Si	385.4	77.08	ppb	31.18	#VALUE!	
29 Si	252.7	50.54	ppb	52.18	10000.	
39 K	42.835	8.567	ppb	36.29	200000.	
43 Ca	20.465	4.093	ppb	55.27	#VALUE!	
44 Ca	13.17	2.634	ppb	40.66	200000.	
51 V	-0.0927	-0.0185	ppb	170.37	1000.	
52 Cr	-0.2418	-0.0484	ppb	49.79	2000.	
53 Cr	-8.5	-1.7	ppb	10.52	#VALUE!	
55 Mn	0.0645	0.0129	ppb	68.46	2000.	
56 Fe	2.499	0.4998	ppb	59.38	#VALUE!	
57 Fe	8.345	1.669	ppb	233.97	100000.	
59 Co	0.0154	0.0031	ppb	136.74	1000.	
60 Ni	0.036	0.0072	ppb	107.99	1000.	
63 Cu	0.313	0.0626	ppb	33.24	#VALUE!	
65 Cu	0.2685	0.0537	ppb	36.62	2000.	
66 Zn	-0.505	-0.101	ppb	9.13	2000.	
68 Zn	-0.0206	-0.0041	ppb	1661.20	#VALUE!	
75 As	-0.1821	-0.0364	ppb	102.80	1000.	
82 Se	-0.0449	-0.009	ppb	2598.50	1000.	
88 Sr	0.0195	0.0039	ppb	33.25	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	0.0324	0.0065	ppb	64.27	1000.	
107 Ag	0.0079	0.0016	ppb	141.68	100.	
109 Ag	0.0019	0.0004	ppb	975.35	#VALUE!	
111 Cd	0.0282	0.0056	ppb	760.51	#VALUE!	
114 Cd	0.047	0.0094	ppb	10.73	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	0.0938	0.0188	ppb	76.39	1000.	
120 Sn	0.099	0.0198	ppb	39.96	#VALUE!	
121 Sb	0.0126	0.0025	ppb	383.71	#VALUE!	
123 Sb	0.0319	0.0064	ppb	103.53	1000.	
135 Ba	0.055	0.011	ppb	31.77	2000.	
137 Ba	0.0551	0.011	ppb	203.81	#VALUE!	
182 W	0.1459	0.0292	ppb	47.84	1000.	
203 Tl	-0.0097	-0.0019	ppb	47.77	1000.	
205 Tl	-0.0157	-0.0031	ppb	33.54	#VALUE!	
208 Pb	0.0356	0.0071	ppb	48.81	2000.	
232 Th	0.2568	0.0514	ppb	1.67	1000.	
238 U	0.0047	0.0009	ppb	133.28	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3297855.50	1.06	3691108.80	89.3	69.5 - 120	
45 Sc	2598783.50	1.60	2910447.80	89.3	69.5 - 120	
72 Ge	504434.06	0.87	556535.31	90.6	69.5 - 120	
159 Tb	2820992.00	1.44	2966504.30	95.1	69.5 - 120	
209 Bi	1403111.30	0.51	1486792.30	94.4	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000195

CCV QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\052_CCV.D\052_CCV.D#
Date Acquired: May 21 2018 09:07 pm
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: CCV
Misc Info:
Vial Number: 1206
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Dilution Factor: 1.00
QC Range (%): 89.5 - 110.5

QC Elements

Element	Conc.		RSD(%)	Expected	Rec (%)	Flag
9 Be	25.12	ppb	3.87	25	100.48	
11 B	24.65	ppb	3.41	25	98.6	
23 Na	4,980.	ppb	1.66	5,000	99.6	
25 Mg	5,025.	ppb	2.45	5,000	100.5	
27 Al	499.7	ppb	1.77	500	99.94	
28 Si	534.8	ppb	3.05	500	106.96	
29 Si	511.1	ppb	6.11	500	102.22	
39 K	4,936.	ppb	2.25	5,000	98.72	
43 Ca	5,091.	ppb	2.76	5,000	101.82	
44 Ca	5,135.	ppb	1.81	5,000	102.7	
51 V	25.13	ppb	1.48	25	100.52	
52 Cr	25.17	ppb	3.34	25	100.68	
53 Cr	24.5	ppb	4.11	25	98	
55 Mn	25.34	ppb	0.76	25	101.36	
56 Fe	4,960.	ppb	1.49	5,000	99.2	
57 Fe	5,062.	ppb	1.39	5,000	101.24	
59 Co	25.31	ppb	2.68	25	101.24	
60 Ni	25.69	ppb	2.77	25	102.76	
63 Cu	25.32	ppb	1.37	25	101.28	
65 Cu	25.27	ppb	1.93	25	101.08	
66 Zn	25.52	ppb	2.54	25	102.08	
68 Zn	25.75	ppb	1.30	25	103	
75 As	25.31	ppb	2.88	25	101.24	
82 Se	24.88	ppb	1.38	25	99.52	
88 Sr	25.18	ppb	1.92	25	100.72	
89 Y	--------	---	--------	---	#VALUE!	
98 Mo	24.85	ppb	2.42	25	99.4	
107 Ag	25.5	ppb	2.04	25	102	
109 Ag	25.47	ppb	2.44	25	101.88	
111 Cd	24.99	ppb	0.85	25	99.96	
114 Cd	25.47	ppb	2.38	25	101.88	
115 In	--------	---	--------	---	#VALUE!	
118 Sn	24.74	ppb	3.52	25	98.96	
120 Sn	24.69	ppb	3.02	25	98.76	
121 Sb	25.12	ppb	3.08	25	100.48	
123 Sb	25.54	ppb	3.30	25	102.16	
135 Ba	25.05	ppb	3.76	25	100.2	
137 Ba	25.56	ppb	3.60	25	102.24	
182 W	24.41	ppb	3.52	25	97.64	
203 Tl	25.27	ppb	2.27	25	101.08	
205 Tl	25.26	ppb	1.95	25	101.04	
208 Pb	25.14	ppb	2.69	25	100.56	
232 Th	24.77	ppb	2.66	25	99.08	
238 U	25.11	ppb	3.07	25	100.44	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3422280.50	3.87	3691108.80	92.7	80 - 120.4	
45 Sc	2679136.80	2.15	2910447.80	92.1	80 - 120.4	
72 Ge	506905.69	1.25	556535.31	91.1	80 - 120.4	
159 Tb	2845878.80	2.05	2966504.30	95.9	80 - 120.4	
209 Bi	1392372.60	1.37	1486792.30	93.6	80 - 120.4	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\053_CCB.D\053_CCB.D#
Date Acquired: May 21 2018 09:12 pm
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: CCB
Misc Info:
Vial Number: 1207
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: 6-CCB
Dilution Factor: 1.00

QC Elements

Element	Conc.		RSD(%)	High Limit	Flag
9 Be	0.0021	ppb	148.73	1.00	
11 B	0.2514	ppb	23.05	1.00	
23 Na	1.804	ppb	14.01	1.00	
25 Mg	0.4584	ppb	12.21	1.00	
27 Al	-0.0065	ppb	1179.10	1.00	
28 Si	95.56	ppb	6.07	1.00	
29 Si	67.36	ppb	0.88	1.00	
39 K	11.09	ppb	7.82	1.00	
43 Ca	0.7963	ppb	465.78	1.00	
44 Ca	0.7009	ppb	60.85	1.00	
51 V	0.0079	ppb	608.96	1.00	
52 Cr	-0.0445	ppb	36.15	1.00	
53 Cr	-1.931	ppb	13.46	1.00	
55 Mn	0.0335	ppb	6.46	1.00	
56 Fe	-2.768	ppb	121.75	1.00	
57 Fe	4.347	ppb	10.53	1.00	
59 Co	0.0069	ppb	18.63	1.00	
60 Ni	0.0202	ppb	28.31	1.00	
63 Cu	-0.0061	ppb	172.81	1.00	
65 Cu	-0.0342	ppb	39.70	1.00	
66 Zn	-0.0122	ppb	179.98	1.00	
68 Zn	0.0461	ppb	99.83	1.00	
75 As	-0.1645	ppb	10.06	1.00	
82 Se	-0.3442	ppb	43.58	1.00	
88 Sr	0.0072	ppb	30.61	1.00	
89 Y	--------	---	--------	---	
98 Mo	0.0168	ppb	52.66	1.00	
107 Ag	0.0009	ppb	393.75	1.00	
109 Ag	0.0002	ppb	786.81	1.00	
111 Cd	-0.0402	ppb	21.72	1.00	
114 Cd	0.0016	ppb	241.10	1.00	
115 In	--------	---	--------	---	
118 Sn	0.0419	ppb	16.23	1.00	
120 Sn	0.0389	ppb	5.02	1.00	
121 Sb	0.009	ppb	54.79	1.00	
123 Sb	0.0159	ppb	23.69	1.00	
135 Ba	-0.0022	ppb	517.90	1.00	
137 Ba	-0.0039	ppb	144.44	1.00	
182 W	0.0418	ppb	47.17	1.00	
203 Tl	-0.0014	ppb	128.53	1.00	
205 Tl	0.0017	ppb	107.69	1.00	
208 Pb	0.0035	ppb	101.00	1.00	
232 Th	0.0671	ppb	7.23	1.00	
238 U	0.0027	ppb	102.52	1.00	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3294170.30	1.11	3691108.80	89.2	79.5 - 120	
45 Sc	2539393.80	1.06	2910447.80	87.3	79.5 - 120	
72 Ge	499738.50	0.13	556535.31	89.8	79.5 - 120	
159 Tb	2809174.50	0.51	2966504.30	94.7	79.5 - 120	
209 Bi	1398203.90	1.11	1486792.30	94.0	79.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000197

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\054SMPL.D\054SMPL.D#
Date Acquired: May 21 2018 09:16 pm
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: SL3380-003P
Misc Info:
Vial Number: 2209
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	51.75	10.35	ppb	2.22	100.	
11 B	753.	150.6	ppb	0.82	1000.	
23 Na	182,950.	36,590.	ppb	1.92	200000.	
25 Mg	8,650.	1,730.	ppb	1.47	200000.	
27 Al	2,197.5	439.5	ppb	0.61	200000.	
28 Si	5,780.	1,156.	ppb	1.15	#VALUE!	
29 Si	5,760.	1,152.	ppb	1.21	10000.	
39 K	11,275.	2,255.	ppb	1.50	200000.	
43 Ca	14,240.	2,848.	ppb	0.54	#VALUE!	
44 Ca	14,005.	2,801.	ppb	2.57	200000.	
51 V	529.	105.8	ppb	0.83	1000.	
52 Cr	205.65	41.13	ppb	0.66	2000.	
53 Cr	248.6	49.72	ppb	0.03	#VALUE!	
55 Mn	526.	105.2	ppb	0.50	2000.	
56 Fe	1,038.5	207.7	ppb	1.50	#VALUE!	
57 Fe	1,120.5	224.1	ppb	1.11	100000.	
59 Co	532.5	106.5	ppb	1.23	1000.	
60 Ni	533.	106.6	ppb	0.79	1000.	
63 Cu	266.3	53.26	ppb	0.59	#VALUE!	
65 Cu	268.25	53.65	ppb	0.72	2000.	
66 Zn	535.	107.	ppb	0.67	2000.	
68 Zn	602.	120.4	ppb	0.59	#VALUE!	
75 As	106.2	21.24	ppb	0.83	1000.	
82 Se	104.15	20.83	ppb	0.92	1000.	
88 Sr	603.	120.6	ppb	1.20	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	106.05	21.21	ppb	0.42	1000.	
107 Ag	54.05	10.81	ppb	0.97	100.	
109 Ag	54.	10.8	ppb	0.86	#VALUE!	
111 Cd	263.65	52.73	ppb	0.99	#VALUE!	
114 Cd	268.35	53.67	ppb	0.28	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	518.5	103.7	ppb	1.08	1000.	
120 Sn	518.	103.6	ppb	1.27	#VALUE!	
121 Sb	105.2	21.04	ppb	2.26	#VALUE!	
123 Sb	106.05	21.21	ppb	1.22	1000.	
135 Ba	2,157.5	431.5	ppb	1.03	2000.	
137 Ba	2,184.	436.8	ppb	1.06	#VALUE!	
182 W	104.9	20.98	ppb	0.72	1000.	
203 Tl	105.75	21.15	ppb	1.69	1000.	
205 Tl	106.05	21.21	ppb	1.07	#VALUE!	
208 Pb	106.35	21.27	ppb	2.05	2000.	
232 Th	106.8	21.36	ppb	3.23	1000.	
238 U	108.7	21.74	ppb	1.95	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3491757.50	1.72	3691108.80	94.6	69.5 - 120	
45 Sc	2632296.50	0.63	2910447.80	90.4	69.5 - 120	
72 Ge	506190.00	0.22	556535.31	91.0	69.5 - 120	
159 Tb	2949194.80	1.11	2966504.30	99.4	69.5 - 120	
209 Bi	1426993.90	1.73	1486792.30	96.0	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000198

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\055SMPL.D\055SMPL.D#
Date Acquired: May 21 2018 09:20 pm
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: SL3604-001
Misc Info:
Vial Number: 2210
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0096	0.0019	ppb	40.26	100.	
11 B	60.5	12.1	ppb	4.68	1000.	
23 Na	42,800.	8,560.	ppb	1.23	200000.	
25 Mg	20,285.	4,057.	ppb	4.18	200000.	
27 Al	27.43	5.486	ppb	5.43	200000.	
28 Si	7,635.	1,527.	ppb	3.79	#VALUE!	
29 Si	7,845.	1,569.	ppb	3.22	10000.	
39 K	1,187.5	237.5	ppb	3.69	200000.	
43 Ca	86,000.	17,200.	ppb	2.42	#VALUE!	
44 Ca	83,650.	16,730.	ppb	2.42	200000.	
51 V	0.761	0.1522	ppb	49.83	1000.	
52 Cr	0.877	0.1754	ppb	3.46	2000.	
53 Cr	34.44	6.888	ppb	5.19	#VALUE!	
55 Mn	209.45	41.89	ppb	1.72	2000.	
56 Fe	1,436.	287.2	ppb	2.50	#VALUE!	
57 Fe	1,754.5	350.9	ppb	3.83	100000.	
59 Co	0.1686	0.0337	ppb	9.71	1000.	
60 Ni	-0.2005	-0.0401	ppb	25.34	1000.	
63 Cu	1.953	0.3906	ppb	7.92	#VALUE!	
65 Cu	1.024	0.2048	ppb	3.14	2000.	
66 Zn	0.9015	0.1803	ppb	4.60	2000.	
68 Zn	8.82	1.764	ppb	7.27	#VALUE!	
75 As	0.3928	0.0786	ppb	385.18	1000.	
82 Se	-0.3037	-0.0607	ppb	543.13	1000.	
88 Sr	234.5	46.9	ppb	2.39	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	0.3217	0.0643	ppb	6.87	1000.	
107 Ag	0.0069	0.0014	ppb	207.59	100.	
109 Ag	0.0062	0.0012	ppb	276.08	#VALUE!	
111 Cd	-0.0615	-0.0123	ppb	345.04	#VALUE!	
114 Cd	0.0081	0.0016	ppb	355.61	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	1.075	0.215	ppb	5.08	1000.	
120 Sn	1.0085	0.2017	ppb	11.29	#VALUE!	
121 Sb	0.4284	0.0857	ppb	14.67	#VALUE!	
123 Sb	0.439	0.0878	ppb	25.76	1000.	
135 Ba	189.85	37.97	ppb	3.49	2000.	
137 Ba	190.35	38.07	ppb	1.85	#VALUE!	
182 W	0.3247	0.0649	ppb	23.18	1000.	
203 Tl	-0.0348	-0.007	ppb	46.56	1000.	
205 Tl	-0.0098	-0.002	ppb	109.74	#VALUE!	
208 Pb	0.0805	0.0161	ppb	24.07	2000.	
232 Th	0.7575	0.1515	ppb	23.98	1000.	
238 U	0.0758	0.0152	ppb	26.46	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3472451.80	4.83	3691108.80	94.1	69.5 - 120	
45 Sc	2633298.80	2.34	2910447.80	90.5	69.5 - 120	
72 Ge	517174.44	2.20	556535.31	92.9	69.5 - 120	
159 Tb	2978628.50	1.68	2966504.30	100.4	69.5 - 120	
209 Bi	1442023.90	0.46	1486792.30	97.0	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000199

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\056SMPL.D\056SMPL.D#
Date Acquired: May 21 2018 09:24 pm
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: SL3810-001
Misc Info:
Vial Number: 2211
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.001	0.0002	ppb	303.42	100.	
11 B	153.8	30.76	ppb	1.75	1000.	
23 Na	66,350.	13,270.	ppb	1.87	200000.	
25 Mg	64,400.	12,880.	ppb	0.54	200000.	
27 Al	18.435	3.687	ppb	11.48	200000.	
28 Si	5,355.	1,071.	ppb	1.52	#VALUE!	
29 Si	5,490.	1,098.	ppb	2.02	10000.	
39 K	2,901.	580.2	ppb	1.13	200000.	
43 Ca	75,950.	15,190.	ppb	2.52	#VALUE!	
44 Ca	73,700.	14,740.	ppb	1.91	200000.	
51 V	0.513	0.1026	ppb	92.75	1000.	
52 Cr	0.7815	0.1563	ppb	9.76	2000.	
53 Cr	35.745	7.149	ppb	5.16	#VALUE!	
55 Mn	7.675	1.535	ppb	3.61	2000.	
56 Fe	9.51	1.902	ppb	24.67	#VALUE!	
57 Fe	217.35	43.47	ppb	1.86	100000.	
59 Co	0.1785	0.0357	ppb	20.48	1000.	
60 Ni	0.3019	0.0604	ppb	21.53	1000.	
63 Cu	2.945	0.589	ppb	6.45	#VALUE!	
65 Cu	1.4095	0.2819	ppb	7.28	2000.	
66 Zn	2.188	0.4376	ppb	10.73	2000.	
68 Zn	3.331	0.6662	ppb	3.76	#VALUE!	
75 As	-0.519	-0.1038	ppb	112.52	1000.	
82 Se	0.0338	0.0068	ppb	4858.50	1000.	
88 Sr	664.	132.8	ppb	0.98	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	0.476	0.0952	ppb	3.86	1000.	
107 Ag	0.003	0.0006	ppb	239.38	100.	
109 Ag	0.0049	0.001	ppb	313.75	#VALUE!	
111 Cd	-0.0226	-0.0045	ppb	944.91	#VALUE!	
114 Cd	0.0226	0.0045	ppb	115.77	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	0.9615	0.1923	ppb	12.28	1000.	
120 Sn	0.941	0.1882	ppb	13.10	#VALUE!	
121 Sb	0.373	0.0746	ppb	5.72	#VALUE!	
123 Sb	0.4164	0.0833	ppb	20.69	1000.	
135 Ba	50.75	10.15	ppb	1.36	2000.	
137 Ba	52.1	10.42	ppb	1.87	#VALUE!	
182 W	0.0893	0.0179	ppb	7.03	1000.	
203 Tl	0.0021	0.0004	ppb	789.31	1000.	
205 Tl	0.0146	0.0029	ppb	117.46	#VALUE!	
208 Pb	0.0786	0.0157	ppb	30.88	2000.	
232 Th	0.2653	0.0531	ppb	40.25	1000.	
238 U	0.779	0.1558	ppb	4.69	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3517947.80	2.14	3691108.80	95.3	69.5 - 120	
45 Sc	2676483.80	0.83	2910447.80	92.0	69.5 - 120	
72 Ge	523842.75	0.93	556535.31	94.1	69.5 - 120	
159 Tb	3010127.30	0.81	2966504.30	101.5	69.5 - 120	
209 Bi	1438676.30	1.94	1486792.30	96.8	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000200

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\057SMPL.D\057SMPL.D#
Date Acquired: May 21 2018 09:29 pm
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: SL3810-002
Misc Info:
Vial Number: 2212
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0071	0.0014	ppb	265.73	100.	
11 B	104.75	20.95	ppb	1.94	1000.	
23 Na	27,315.	5,463.	ppb	2.25	200000.	
25 Mg	14,740.	2,948.	ppb	2.63	200000.	
27 Al	9.37	1.874	ppb	9.11	200000.	
28 Si	7,585.	1,517.	ppb	3.19	#VALUE!	
29 Si	7,795.	1,559.	ppb	4.66	10000.	
39 K	1,058.5	211.7	ppb	5.13	200000.	
43 Ca	78,800.	15,760.	ppb	3.42	#VALUE!	
44 Ca	76,850.	15,370.	ppb	2.18	200000.	
51 V	0.2836	0.0567	ppb	245.99	1000.	
52 Cr	0.74	0.148	ppb	13.12	2000.	
53 Cr	37.89	7.578	ppb	8.96	#VALUE!	
55 Mn	112.4	22.48	ppb	2.38	2000.	
56 Fe	1,263.	252.6	ppb	1.92	#VALUE!	
57 Fe	1,512.5	302.5	ppb	3.73	100000.	
59 Co	0.1907	0.0381	ppb	16.16	1000.	
60 Ni	-0.1222	-0.0244	ppb	91.36	1000.	
63 Cu	2.521	0.5042	ppb	8.15	#VALUE!	
65 Cu	1.8115	0.3623	ppb	4.42	2000.	
66 Zn	0.9115	0.1823	ppb	10.20	2000.	
68 Zn	5.195	1.039	ppb	16.90	#VALUE!	
75 As	-0.1175	-0.0235	ppb	850.64	1000.	
82 Se	-0.7005	-0.1401	ppb	115.35	1000.	
88 Sr	219.6	43.92	ppb	2.08	2000.	
89 Y	----	--------	---	---	#VALUE!	
98 Mo	0.1959	0.0392	ppb	20.57	1000.	
107 Ag	0.0039	0.0008	ppb	205.08	100.	
109 Ag	0.0047	0.0009	ppb	240.87	#VALUE!	
111 Cd	-0.0084	-0.0017	ppb	2693.50	#VALUE!	
114 Cd	0.017	0.0034	ppb	179.18	1000.	
115 In	----	--------	---	---	#VALUE!	
118 Sn	0.938	0.1876	ppb	5.76	1000.	
120 Sn	0.8555	0.1711	ppb	2.13	#VALUE!	
121 Sb	0.3705	0.0741	ppb	8.78	#VALUE!	
123 Sb	0.4511	0.0902	ppb	21.28	1000.	
135 Ba	104.7	20.94	ppb	1.57	2000.	
137 Ba	107.45	21.49	ppb	3.08	#VALUE!	
182 W	0.1472	0.0294	ppb	3.12	1000.	
203 Tl	0.0027	0.0005	ppb	976.30	1000.	
205 Tl	0.0002	0.	ppb	2820.40	#VALUE!	
208 Pb	0.1488	0.0298	ppb	9.00	2000.	
232 Th	0.1612	0.0322	ppb	47.50	1000.	
238 U	0.0206	0.0041	ppb	38.17	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3542562.80	1.17	3691108.80	96.0	69.5 - 120	
45 Sc	2688717.50	2.20	2910447.80	92.4	69.5 - 120	
72 Ge	528510.63	1.47	556535.31	95.0	69.5 - 120	
159 Tb	3016723.00	1.70	2966504.30	101.7	69.5 - 120	
209 Bi	1478593.40	2.29	1486792.30	99.4	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000201

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\058SMPL.D\058SMPL.D#
Date Acquired: May 21 2018 09:33 pm
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: SL3810-003
Misc Info:
Vial Number: 2301
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0098	0.002	ppb	59.60	100.	
11 B	238.25	47.65	ppb	2.10	1000.	
23 Na	189,100.	37,820.	ppb	1.45	200000.	
25 Mg	2,124.5	424.9	ppb	1.74	200000.	
27 Al	12.465	2.493	ppb	5.21	200000.	
28 Si	4,410.	882.	ppb	3.48	#VALUE!	
29 Si	4,491.	898.2	ppb	2.91	10000.	
39 K	899.	179.8	ppb	1.65	200000.	
43 Ca	3,449.5	689.9	ppb	2.13	#VALUE!	
44 Ca	3,325.	665.	ppb	1.88	200000.	
51 V	0.3408	0.0682	ppb	104.84	1000.	
52 Cr	0.73	0.146	ppb	6.29	2000.	
53 Cr	34.505	6.901	ppb	4.63	#VALUE!	
55 Mn	3.3955	0.6791	ppb	2.21	2000.	
56 Fe	18.835	3.767	ppb	38.71	#VALUE!	
57 Fe	19.69	3.938	ppb	50.56	100000.	
59 Co	0.0456	0.0091	ppb	14.61	1000.	
60 Ni	0.3765	0.0753	ppb	10.70	1000.	
63 Cu	7.515	1.503	ppb	2.57	#VALUE!	
65 Cu	2.0925	0.4185	ppb	19.53	2000.	
66 Zn	0.377	0.0754	ppb	66.79	2000.	
68 Zn	1.7265	0.3453	ppb	34.03	#VALUE!	
75 As	0.671	0.1342	ppb	150.82	1000.	
82 Se	-0.931	-0.1862	ppb	69.23	1000.	
88 Sr	60.1	12.02	ppb	0.77	2000.	
89 Y	----	--------	---	---	#VALUE!	
98 Mo	0.0491	0.0098	ppb	23.49	1000.	
107 Ag	0.0004	0.0001	ppb	1704.10	100.	
109 Ag	0.001	0.0002	ppb	1459.20	#VALUE!	
111 Cd	-0.0242	-0.0048	ppb	102.54	#VALUE!	
114 Cd	0.036	0.0072	ppb	50.58	1000.	
115 In	----	--------	---	---	#VALUE!	
118 Sn	1.3895	0.2779	ppb	2.39	1000.	
120 Sn	1.4935	0.2987	ppb	5.27	#VALUE!	
121 Sb	0.3775	0.0755	ppb	16.77	#VALUE!	
123 Sb	0.3708	0.0742	ppb	17.20	1000.	
135 Ba	32.11	6.422	ppb	3.84	2000.	
137 Ba	31.525	6.305	ppb	1.21	#VALUE!	
182 W	0.1469	0.0294	ppb	10.99	1000.	
203 Tl	-0.0008	-0.0002	ppb	924.55	1000.	
205 Tl	0.0002	0.	ppb	4004.70	#VALUE!	
208 Pb	0.0446	0.0089	ppb	18.44	2000.	
232 Th	0.1067	0.0213	ppb	46.98	1000.	
238 U	0.0609	0.0122	ppb	12.02	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3549811.30	0.64	3691108.80	96.2	69.5 - 120	
45 Sc	2724923.00	1.48	2910447.80	93.6	69.5 - 120	
72 Ge	528681.63	0.68	556535.31	95.0	69.5 - 120	
159 Tb	3022370.50	1.19	2966504.30	101.9	69.5 - 120	
209 Bi	1443024.90	1.10	1486792.30	97.1	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000202

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\059SMPL.D\059SMPL.D#
Date Acquired: May 21 2018 09:37 pm
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: SL3810-004
Misc Info:
Vial Number: 2302
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0136	0.0027	ppb	102.31	100.	
11 B	37.8	7.56	ppb	2.92	1000.	
23 Na	56,000.	11,200.	ppb	0.65	200000.	
25 Mg	57,750.	11,550.	ppb	0.77	200000.	
27 Al	46.675	9.335	ppb	4.48	200000.	
28 Si	8,130.	1,626.	ppb	2.93	#VALUE!	
29 Si	8,240.	1,648.	ppb	2.23	10000.	
39 K	1,758.	351.6	ppb	1.38	200000.	
43 Ca	154,650.	30,930.	ppb	1.45	#VALUE!	
44 Ca	150,900.	30,180.	ppb	0.90	200000.	
51 V	0.2958	0.0592	ppb	131.56	1000.	
52 Cr	0.728	0.1456	ppb	13.57	2000.	
53 Cr	31.29	6.258	ppb	5.95	#VALUE!	
55 Mn	2,446.	489.2	ppb	0.34	2000.	
56 Fe	9,120.	1,824.	ppb	1.04	#VALUE!	
57 Fe	9,715.	1,943.	ppb	1.62	100000.	
59 Co	4.9525	0.9905	ppb	4.09	1000.	
60 Ni	3.1805	0.6361	ppb	1.43	1000.	
63 Cu	3.4035	0.6807	ppb	2.13	#VALUE!	
65 Cu	2.233	0.4466	ppb	6.26	2000.	
66 Zn	5.23	1.046	ppb	0.23	2000.	
68 Zn	7.145	1.429	ppb	1.59	#VALUE!	
75 As	3.5065	0.7013	ppb	13.91	1000.	
82 Se	-0.0977	-0.0195	ppb	164.31	1000.	
88 Sr	839.	167.8	ppb	0.23	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	2.7925	0.5585	ppb	3.24	1000.	
107 Ag	-0.0017	-0.0003	ppb	614.84	100.	
109 Ag	0.0036	0.0007	ppb	269.83	#VALUE!	
111 Cd	0.0788	0.0158	ppb	109.14	#VALUE!	
114 Cd	0.0456	0.0091	ppb	66.69	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	0.797	0.1594	ppb	17.38	1000.	
120 Sn	0.8895	0.1779	ppb	3.92	#VALUE!	
121 Sb	0.4551	0.091	ppb	9.66	#VALUE!	
123 Sb	0.4986	0.0997	ppb	16.40	1000.	
135 Ba	59.7	11.94	ppb	2.44	2000.	
137 Ba	60.4	12.08	ppb	1.47	#VALUE!	
182 W	0.2741	0.0548	ppb	4.59	1000.	
203 Tl	0.0063	0.0013	ppb	318.53	1000.	
205 Tl	0.0096	0.0019	ppb	47.68	#VALUE!	
208 Pb	0.2104	0.0421	ppb	21.50	2000.	
232 Th	0.1028	0.0206	ppb	30.73	1000.	
238 U	8.47	1.694	ppb	3.37	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3491321.80	1.64	3691108.80	94.6	69.5 - 120	
45 Sc	2681575.30	1.81	2910447.80	92.1	69.5 - 120	
72 Ge	524945.56	0.69	556535.31	94.3	69.5 - 120	
159 Tb	3026296.50	1.46	2966504.30	102.0	69.5 - 120	
209 Bi	1457669.40	0.92	1486792.30	98.0	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000203

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\060SMPL.D\060SMPL.D#
Date Acquired: May 21 2018 09:41 pm
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: SL3810-005
Misc Info:
Vial Number: 2303
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0186	0.0037	ppb	55.13	100.	
11 B	99.45	19.89	ppb	4.86	1000.	
23 Na	62,950.	12,590.	ppb	2.77	200000.	
25 Mg	220,200.	44,040.	ppb	2.33	200000.	
27 Al	732.	146.4	ppb	4.08	200000.	
28 Si	8,450.	1,690.	ppb	5.72	#VALUE!	
29 Si	8,650.	1,730.	ppb	3.64	10000.	
39 K	6,075.	1,215.	ppb	2.97	200000.	
43 Ca	387,600.	77,520.	ppb	2.60	#VALUE!	
44 Ca	360,800.	72,160.	ppb	2.57	200000.	
51 V	1.969	0.3938	ppb	14.91	1000.	
52 Cr	2.07	0.414	ppb	10.18	2000.	
53 Cr	36.02	7.204	ppb	15.53	#VALUE!	
55 Mn	536.5	107.3	ppb	3.26	2000.	
56 Fe	1,176.5	235.3	ppb	4.33	#VALUE!	
57 Fe	2,105.	421.	ppb	3.77	100000.	
59 Co	2.4815	0.4963	ppb	3.86	1000.	
60 Ni	3.4645	0.6929	ppb	7.08	1000.	
63 Cu	4.794	0.9588	ppb	7.14	#VALUE!	
65 Cu	4.9	0.98	ppb	10.87	2000.	
66 Zn	10.895	2.179	ppb	6.27	2000.	
68 Zn	8.515	1.703	ppb	4.37	#VALUE!	
75 As	1.8155	0.3631	ppb	58.77	1000.	
82 Se	-0.0852	-0.017	ppb	1431.60	1000.	
88 Sr	2,984.5	596.9	ppb	3.59	2000.	
89 Y	----	--------	---	---	#VALUE!	
98 Mo	3.7325	0.7465	ppb	6.84	1000.	
107 Ag	0.0146	0.0029	ppb	64.38	100.	
109 Ag	0.0038	0.0008	ppb	266.10	#VALUE!	
111 Cd	0.1577	0.0315	ppb	56.84	#VALUE!	
114 Cd	0.2993	0.0599	ppb	14.40	1000.	
115 In	----	--------	---	---	#VALUE!	
118 Sn	0.852	0.1704	ppb	11.15	1000.	
120 Sn	0.9015	0.1803	ppb	6.78	#VALUE!	
121 Sb	0.4451	0.089	ppb	16.18	#VALUE!	
123 Sb	0.4944	0.0989	ppb	10.33	1000.	
135 Ba	13.315	2.663	ppb	7.09	2000.	
137 Ba	13.065	2.613	ppb	4.46	#VALUE!	
182 W	0.25	0.05	ppb	53.53	1000.	
203 Tl	0.0111	0.0022	ppb	34.86	1000.	
205 Tl	0.028	0.0056	ppb	23.12	#VALUE!	
208 Pb	0.724	0.1448	ppb	5.98	2000.	
232 Th	0.2723	0.0545	ppb	8.87	1000.	
238 U	9.905	1.981	ppb	3.30	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3399026.50	5.40	3691108.80	92.1	69.5 - 120	
45 Sc	2644775.50	3.42	2910447.80	90.9	69.5 - 120	
72 Ge	522326.06	3.07	556535.31	93.9	69.5 - 120	
159 Tb	2990243.00	1.83	2966504.30	100.8	69.5 - 120	
209 Bi	1417229.90	1.43	1486792.30	95.3	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000204

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\061SMPL.D\061SMPL.D#
Date Acquired: May 21 2018 09:46 pm
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: RINSE
Misc Info:
Vial Number: 2304
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0007	0.0007	ppb	174.39	100.	
11 B	0.1545	0.1545	ppb	13.23	1000.	
23 Na	2.667	2.667	ppb	10.27	200000.	
25 Mg	1.25	1.25	ppb	5.18	200000.	
27 Al	0.5732	0.5732	ppb	5.22	200000.	
28 Si	79.45	79.45	ppb	37.42	#VALUE!	
29 Si	55.46	55.46	ppb	55.91	10000.	
39 K	8.547	8.547	ppb	38.96	200000.	
43 Ca	3.085	3.085	ppb	72.06	#VALUE!	
44 Ca	5.186	5.186	ppb	10.84	200000.	
51 V	0.0187	0.0187	ppb	147.75	1000.	
52 Cr	-0.0173	-0.0173	ppb	84.71	2000.	
53 Cr	-1.138	-1.138	ppb	11.90	#VALUE!	
55 Mn	0.0851	0.0851	ppb	9.36	2000.	
56 Fe	3.585	3.585	ppb	43.04	#VALUE!	
57 Fe	6.536	6.536	ppb	33.87	100000.	
59 Co	0.0016	0.0016	ppb	266.94	1000.	
60 Ni	-0.0028	-0.0028	ppb	57.75	1000.	
63 Cu	0.4593	0.4593	ppb	6.89	#VALUE!	
65 Cu	0.4288	0.4288	ppb	4.22	2000.	
66 Zn	-0.0388	-0.0388	ppb	236.92	2000.	
68 Zn	0.0005	0.0005	ppb	5081.60	#VALUE!	
75 As	-0.0123	-0.0123	ppb	388.30	1000.	
82 Se	-0.1101	-0.1101	ppb	105.45	1000.	
88 Sr	0.0049	0.0049	ppb	71.26	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	-0.0013	-0.0013	ppb	206.88	1000.	
107 Ag	-0.0024	-0.0024	ppb	28.76	100.	
109 Ag	-0.0005	-0.0005	ppb	190.92	#VALUE!	
111 Cd	0.0136	0.0136	ppb	91.98	#VALUE!	
114 Cd	0.0049	0.0049	ppb	83.40	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	0.0076	0.0076	ppb	228.99	1000.	
120 Sn	0.0049	0.0049	ppb	112.68	#VALUE!	
121 Sb	-0.006	-0.006	ppb	36.70	#VALUE!	
123 Sb	-0.0008	-0.0008	ppb	1011.00	1000.	
135 Ba	-0.0055	-0.0055	ppb	240.92	2000.	
137 Ba	-0.0017	-0.0017	ppb	200.69	#VALUE!	
182 W	0.0026	0.0026	ppb	112.90	1000.	
203 Tl	-0.0017	-0.0017	ppb	275.26	1000.	
205 Tl	-0.0001	-0.0001	ppb	4151.40	#VALUE!	
208 Pb	0.0001	0.0001	ppb	2444.60	2000.	
232 Th	0.0016	0.0016	ppb	127.95	1000.	
238 U	0.0003	0.0003	ppb	209.91	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3419263.00	1.41	3691108.80	92.6	69.5 - 120	
45 Sc	2728423.80	1.93	2910447.80	93.7	69.5 - 120	
72 Ge	519274.81	1.21	556535.31	93.3	69.5 - 120	
159 Tb	2750418.50	1.23	2966504.30	92.7	69.5 - 120	
209 Bi	1379918.30	1.01	1486792.30	92.8	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000205

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\062SMPL.D\062SMPL.D#
Date Acquired: May 21 2018 09:50 pm
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: PBWLE21IMW1
Misc Info:
Vial Number: 2305
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0015	0.0015	ppb	59.41	100.	
11 B	0.2402	0.2402	ppb	17.69	1000.	
23 Na	13.24	13.24	ppb	2.75	200000.	
25 Mg	8.006	8.006	ppb	3.09	200000.	
27 Al	5.239	5.239	ppb	4.96	200000.	
28 Si	112.2	112.2	ppb	33.49	#VALUE!	
29 Si	85.77	85.77	ppb	44.36	10000.	
39 K	12.13	12.13	ppb	46.04	200000.	
43 Ca	7.099	7.099	ppb	96.11	#VALUE!	
44 Ca	9.717	9.717	ppb	15.77	200000.	
51 V	-0.0552	-0.0552	ppb	88.30	1000.	
52 Cr	0.0114	0.0114	ppb	168.60	2000.	
53 Cr	-0.8163	-0.8163	ppb	33.35	#VALUE!	
55 Mn	0.4361	0.4361	ppb	5.04	2000.	
56 Fe	5.058	5.058	ppb	42.82	#VALUE!	
57 Fe	7.04	7.04	ppb	46.51	100000.	
59 Co	0.0111	0.0111	ppb	39.58	1000.	
60 Ni	0.092	0.092	ppb	19.88	1000.	
63 Cu	0.3005	0.3005	ppb	1.57	#VALUE!	
65 Cu	0.3187	0.3187	ppb	3.84	2000.	
66 Zn	1.563	1.563	ppb	6.74	2000.	
68 Zn	1.549	1.549	ppb	10.14	#VALUE!	
75 As	-0.1794	-0.1794	ppb	56.69	1000.	
82 Se	-0.302	-0.302	ppb	16.78	1000.	
88 Sr	0.0259	0.0259	ppb	29.56	2000.	
89 Y	----	--------	---	---	#VALUE!	
98 Mo	0.1036	0.1036	ppb	0.52	1000.	
107 Ag	0.0017	0.0017	ppb	22.55	100.	
109 Ag	0.0001	0.0001	ppb	2900.80	#VALUE!	
111 Cd	-0.0134	-0.0134	ppb	203.65	#VALUE!	
114 Cd	0.0071	0.0071	ppb	45.98	1000.	
115 In	----	--------	---	---	#VALUE!	
118 Sn	0.0374	0.0374	ppb	45.73	1000.	
120 Sn	0.0347	0.0347	ppb	38.95	#VALUE!	
121 Sb	0.0082	0.0082	ppb	49.87	#VALUE!	
123 Sb	0.0163	0.0163	ppb	62.24	1000.	
135 Ba	0.0168	0.0168	ppb	109.42	2000.	
137 Ba	0.0213	0.0213	ppb	52.56	#VALUE!	
182 W	0.0022	0.0022	ppb	174.26	1000.	
203 Tl	-0.0016	-0.0016	ppb	375.83	1000.	
205 Tl	-0.002	-0.002	ppb	35.30	#VALUE!	
208 Pb	0.0207	0.0207	ppb	6.37	2000.	
232 Th	0.0025	0.0025	ppb	78.91	1000.	
238 U	-0.0004	-0.0004	ppb	110.32	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3439649.00	0.99	3691108.80	93.2	69.5 - 120	
45 Sc	2678370.00	3.34	2910447.80	92.0	69.5 - 120	
72 Ge	514042.31	2.10	556535.31	92.4	69.5 - 120	
159 Tb	2727169.80	0.89	2966504.30	91.9	69.5 - 120	
209 Bi	1355167.00	1.06	1486792.30	91.1	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000206

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\063SMPL.D\063SMPL.D#
Date Acquired: May 21 2018 09:54 pm
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: LCSWLE21IMW1
Misc Info:
Vial Number: 2306
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	49.615	9.923	ppb	1.59	100.	
11 B	499.15	99.83	ppb	0.87	1000.	
23 Na	7,690.	1,538.	ppb	0.96	200000.	
25 Mg	5,260.	1,052.	ppb	2.02	200000.	
27 Al	2,069.	413.8	ppb	2.45	200000.	
28 Si	1,428.	285.6	ppb	6.32	#VALUE!	
29 Si	1,220.5	244.1	ppb	8.03	10000.	
39 K	10,025.	2,005.	ppb	3.01	200000.	
43 Ca	2,892.	578.4	ppb	3.78	#VALUE!	
44 Ca	2,572.5	514.5	ppb	1.91	200000.	
51 V	512.5	102.5	ppb	0.53	1000.	
52 Cr	199.7	39.94	ppb	1.04	2000.	
53 Cr	196.6	39.32	ppb	1.05	#VALUE!	
55 Mn	507.	101.4	ppb	0.87	2000.	
56 Fe	1,012.5	202.5	ppb	0.83	#VALUE!	
57 Fe	1,019.5	203.9	ppb	1.38	100000.	
59 Co	521.	104.2	ppb	0.59	1000.	
60 Ni	521.5	104.3	ppb	1.05	1000.	
63 Cu	253.75	50.75	ppb	0.60	#VALUE!	
65 Cu	257.6	51.52	ppb	0.05	2000.	
66 Zn	512.5	102.5	ppb	1.02	2000.	
68 Zn	575.5	115.1	ppb	0.64	#VALUE!	
75 As	102.75	20.55	ppb	0.67	1000.	
82 Se	100.55	20.11	ppb	1.95	1000.	
88 Sr	492.45	98.49	ppb	0.23	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	97.	19.4	ppb	1.11	1000.	
107 Ag	50.2	10.04	ppb	0.45	100.	
109 Ag	49.91	9.982	ppb	1.32	#VALUE!	
111 Cd	247.	49.4	ppb	0.62	#VALUE!	
114 Cd	251.4	50.28	ppb	1.01	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	497.4	99.48	ppb	1.10	1000.	
120 Sn	500.	100.	ppb	0.69	#VALUE!	
121 Sb	104.5	20.9	ppb	1.20	#VALUE!	
123 Sb	105.2	21.04	ppb	2.06	1000.	
135 Ba	2,041.5	408.3	ppb	0.91	2000.	
137 Ba	2,049.	409.8	ppb	0.79	#VALUE!	
182 W	98.3	19.66	ppb	1.27	1000.	
203 Tl	102.45	20.49	ppb	1.08	1000.	
205 Tl	102.2	20.44	ppb	1.18	#VALUE!	
208 Pb	101.75	20.35	ppb	1.71	2000.	
232 Th	93.6	18.72	ppb	2.42	1000.	
238 U	96.1	19.22	ppb	0.72	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3517070.30	1.04	3691108.80	95.3	69.5 - 120	
45 Sc	2707039.30	1.89	2910447.80	93.0	69.5 - 120	
72 Ge	508179.66	0.65	556535.31	91.3	69.5 - 120	
159 Tb	2739848.80	0.91	2966504.30	92.4	69.5 - 120	
209 Bi	1357494.00	0.54	1486792.30	91.3	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000207

CCV QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\064_CCV.D\064_CCV.D#
Date Acquired: May 21 2018 09:58 pm
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: CCV
Misc Info:
Vial Number: 1206
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Dilution Factor: 1.00
QC Range (%): 89.5 - 110.5

QC Elements

Element	Conc.		RSD(%)	Expected	Rec (%)	Flag
9 Be	25.2	ppb	1.11	25	100.8	
11 B	25.84	ppb	3.89	25	103.36	
23 Na	5,059.	ppb	3.06	5,000	101.18	
25 Mg	5,064.	ppb	2.77	5,000	101.28	
27 Al	498.3	ppb	0.78	500	99.66	
28 Si	559.5	ppb	5.75	500	111.9	
29 Si	527.5	ppb	5.07	500	105.5	
39 K	4,979.	ppb	1.88	5,000	99.58	
43 Ca	5,007.	ppb	2.17	5,000	100.14	
44 Ca	5,087.	ppb	2.46	5,000	101.74	
51 V	25.	ppb	0.77	25	100	
52 Cr	25.31	ppb	1.25	25	101.24	
53 Cr	24.5	ppb	3.04	25	98	
55 Mn	25.4	ppb	1.12	25	101.6	
56 Fe	4,954.	ppb	0.75	5,000	99.08	
57 Fe	5,050.	ppb	0.86	5,000	101	
59 Co	25.3	ppb	1.33	25	101.2	
60 Ni	25.51	ppb	0.49	25	102.04	
63 Cu	25.27	ppb	1.17	25	101.08	
65 Cu	25.75	ppb	0.76	25	103	
66 Zn	25.07	ppb	0.40	25	100.28	
68 Zn	25.2	ppb	1.42	25	100.8	
75 As	24.99	ppb	2.15	25	99.96	
82 Se	24.32	ppb	1.54	25	97.28	
88 Sr	24.45	ppb	0.95	25	97.8	
89 Y	--------	---	--------	---	#VALUE!	
98 Mo	24.28	ppb	0.30	25	97.12	
107 Ag	24.82	ppb	1.78	25	99.28	
109 Ag	24.77	ppb	1.33	25	99.08	
111 Cd	24.42	ppb	1.49	25	97.68	
114 Cd	24.6	ppb	1.43	25	98.4	
115 In	--------	---	--------	---	#VALUE!	
118 Sn	25.18	ppb	0.89	25	100.72	
120 Sn	25.14	ppb	0.70	25	100.56	
121 Sb	25.43	ppb	1.51	25	101.72	
123 Sb	25.61	ppb	0.70	25	102.44	
135 Ba	25.41	ppb	1.36	25	101.64	
137 Ba	25.7	ppb	0.63	25	102.8	
182 W	24.67	ppb	0.33	25	98.68	
203 Tl	24.73	ppb	2.02	25	98.92	
205 Tl	24.91	ppb	2.23	25	99.64	
208 Pb	24.81	ppb	1.48	25	99.24	
232 Th	24.3	ppb	3.48	25	97.2	
238 U	24.08	ppb	2.63	25	96.32	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3483523.50	1.36	3691108.80	94.4	80 - 120.4	
45 Sc	2721621.00	1.22	2910447.80	93.5	80 - 120.4	
72 Ge	512898.25	1.26	556535.31	92.2	80 - 120.4	
159 Tb	2759340.80	0.91	2966504.30	93.0	80 - 120.4	
209 Bi	1370424.00	1.90	1486792.30	92.2	80 - 120.4	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\065_CCB.D\065_CCB.D#
Date Acquired: May 21 2018 10:02 pm
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: CCB
Misc Info:
Vial Number: 1207
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: 6-CCB
Dilution Factor: 1.00

QC Elements

Element	Conc.		RSD(%)	High Limit	Flag
9 Be	0.0033	ppb	21.51	1.00	
11 B	0.2844	ppb	16.63	1.00	
23 Na	0.9114	ppb	29.99	1.00	
25 Mg	0.3767	ppb	22.19	1.00	
27 Al	-0.0076	ppb	1061.40	1.00	
28 Si	86.24	ppb	15.54	1.00	
29 Si	59.55	ppb	17.53	1.00	
39 K	8.213	ppb	41.02	1.00	
43 Ca	-2.591	ppb	59.13	1.00	
44 Ca	2.054	ppb	103.89	1.00	
51 V	-0.0559	ppb	45.80	1.00	
52 Cr	-0.0339	ppb	68.97	1.00	
53 Cr	-1.896	ppb	3.18	1.00	
55 Mn	0.0468	ppb	3.25	1.00	
56 Fe	0.1528	ppb	927.36	1.00	
57 Fe	7.181	ppb	21.89	1.00	
59 Co	0.0048	ppb	77.93	1.00	
60 Ni	0.0295	ppb	34.00	1.00	
63 Cu	0.0989	ppb	18.16	1.00	
65 Cu	0.0966	ppb	33.22	1.00	
66 Zn	-0.028	ppb	151.93	1.00	
68 Zn	0.1197	ppb	32.03	1.00	
75 As	-0.11	ppb	65.20	1.00	
82 Se	-0.1458	ppb	113.17	1.00	
88 Sr	0.0081	ppb	110.92	1.00	
89 Y	--------	---	--------	---	
98 Mo	0.0175	ppb	78.89	1.00	
107 Ag	0.0023	ppb	209.83	1.00	
109 Ag	0.0006	ppb	477.31	1.00	
111 Cd	-0.0085	ppb	107.11	1.00	
114 Cd	0.0054	ppb	70.41	1.00	
115 In	--------	---	--------	---	
118 Sn	0.0614	ppb	23.59	1.00	
120 Sn	0.0862	ppb	36.65	1.00	
121 Sb	0.006	ppb	150.96	1.00	
123 Sb	0.0162	ppb	33.86	1.00	
135 Ba	-0.0022	ppb	579.92	1.00	
137 Ba	0.009	ppb	172.21	1.00	
182 W	0.0512	ppb	20.29	1.00	
203 Tl	0.0001	ppb	4803.50	1.00	
205 Tl	0.0027	ppb	65.02	1.00	
208 Pb	-0.0009	ppb	393.05	1.00	
232 Th	0.0678	ppb	4.30	1.00	
238 U	0.0031	ppb	60.42	1.00	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3434223.00	1.69	3691108.80	93.0	79.5 - 120	
45 Sc	2656711.50	2.10	2910447.80	91.3	79.5 - 120	
72 Ge	504350.38	0.33	556535.31	90.6	79.5 - 120	
159 Tb	2679839.30	1.02	2966504.30	90.3	79.5 - 120	
209 Bi	1353633.40	1.34	1486792.30	91.0	79.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000209

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\066SMPL.D\066SMPL.D#
Date Acquired: May 21 2018 10:07 pm
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: SL4149-001
Misc Info:
Vial Number: 2307
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0091	0.0091	ppb	38.98	100.	
11 B	3.562	3.562	ppb	1.11	1000.	
23 Na	9,328.	9,328.	ppb	4.08	200000.	
25 Mg	585.3	585.3	ppb	2.49	200000.	
27 Al	29.01	29.01	ppb	0.80	200000.	
28 Si	1,595.	1,595.	ppb	5.04	#VALUE!	
29 Si	1,608.	1,608.	ppb	4.88	10000.	
39 K	486.2	486.2	ppb	4.59	200000.	
43 Ca	2,985.	2,985.	ppb	4.41	#VALUE!	
44 Ca	2,990.	2,990.	ppb	2.25	200000.	
51 V	0.0567	0.0567	ppb	16.77	1000.	
52 Cr	0.0866	0.0866	ppb	9.56	2000.	
53 Cr	-2.227	-2.227	ppb	4.41	#VALUE!	
55 Mn	2.481	2.481	ppb	2.19	2000.	
56 Fe	30.76	30.76	ppb	12.74	#VALUE!	
57 Fe	43.	43.	ppb	3.73	100000.	
59 Co	0.0246	0.0246	ppb	31.51	1000.	
60 Ni	0.1871	0.1871	ppb	4.03	1000.	
63 Cu	12.74	12.74	ppb	1.93	#VALUE!	
65 Cu	12.53	12.53	ppb	1.81	2000.	
66 Zn	106.3	106.3	ppb	1.68	2000.	
68 Zn	102.6	102.6	ppb	2.35	#VALUE!	
75 As	0.0803	0.0803	ppb	56.79	1000.	
82 Se	-0.0392	-0.0392	ppb	78.43	1000.	
88 Sr	21.32	21.32	ppb	2.37	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	0.1156	0.1156	ppb	17.75	1000.	
107 Ag	0.0059	0.0059	ppb	90.17	100.	
109 Ag	0.0031	0.0031	ppb	105.67	#VALUE!	
111 Cd	-0.0167	-0.0167	ppb	227.81	#VALUE!	
114 Cd	0.0019	0.0019	ppb	309.09	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	0.064	0.064	ppb	37.10	1000.	
120 Sn	0.0677	0.0677	ppb	17.57	#VALUE!	
121 Sb	0.0469	0.0469	ppb	17.19	#VALUE!	
123 Sb	0.0483	0.0483	ppb	21.38	1000.	
135 Ba	3.654	3.654	ppb	3.12	2000.	
137 Ba	3.461	3.461	ppb	4.06	#VALUE!	
182 W	0.0176	0.0176	ppb	78.25	1000.	
203 Tl	0.0006	0.0006	ppb	537.29	1000.	
205 Tl	0.001	0.001	ppb	149.95	#VALUE!	
208 Pb	0.3163	0.3163	ppb	3.74	2000.	
232 Th	0.0887	0.0887	ppb	24.35	1000.	
238 U	0.1781	0.1781	ppb	1.49	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3536377.80	2.26	3691108.80	95.8	69.5 - 120	
45 Sc	2677910.00	3.00	2910447.80	92.0	69.5 - 120	
72 Ge	513521.75	1.77	556535.31	92.3	69.5 - 120	
159 Tb	2740526.50	1.61	2966504.30	92.4	69.5 - 120	
209 Bi	1360514.30	1.57	1486792.30	91.5	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000210

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\067SMPL.D\067SMPL.D#
Date Acquired: May 21 2018 10:11 pm
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: SL4177-001
Misc Info:
Vial Number: 2308
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0058	0.0058	ppb	70.50	100.	
11 B	13.3	13.3	ppb	1.27	1000.	
23 Na	48,240.	48,240.	ppb	1.71	200000.	
25 Mg	17,660.	17,660.	ppb	1.25	200000.	
27 Al	6.407	6.407	ppb	1.38	200000.	
28 Si	2,367.	2,367.	ppb	1.36	#VALUE!	
29 Si	2,407.	2,407.	ppb	2.78	10000.	
39 K	1,544.	1,544.	ppb	1.88	200000.	
43 Ca	60,600.	60,600.	ppb	2.04	#VALUE!	
44 Ca	56,750.	56,750.	ppb	1.76	200000.	
51 V	-0.0404	-0.0404	ppb	77.67	1000.	
52 Cr	0.3641	0.3641	ppb	0.44	2000.	
53 Cr	-1.744	-1.744	ppb	2.21	#VALUE!	
55 Mn	0.6368	0.6368	ppb	0.87	2000.	
56 Fe	9.552	9.552	ppb	3.11	#VALUE!	
57 Fe	162.	162.	ppb	6.02	100000.	
59 Co	0.1883	0.1883	ppb	3.19	1000.	
60 Ni	0.72	0.72	ppb	8.97	1000.	
63 Cu	1.802	1.802	ppb	1.75	#VALUE!	
65 Cu	0.7432	0.7432	ppb	2.79	2000.	
66 Zn	1.914	1.914	ppb	8.21	2000.	
68 Zn	3.438	3.438	ppb	5.59	#VALUE!	
75 As	0.0125	0.0125	ppb	1666.40	1000.	
82 Se	0.2384	0.2384	ppb	50.29	1000.	
88 Sr	230.3	230.3	ppb	1.29	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	0.0134	0.0134	ppb	7.29	1000.	
107 Ag	0.0078	0.0078	ppb	44.62	100.	
109 Ag	0.0064	0.0064	ppb	28.58	#VALUE!	
111 Cd	0.0255	0.0255	ppb	170.54	#VALUE!	
114 Cd	0.041	0.041	ppb	11.16	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	0.0499	0.0499	ppb	22.61	1000.	
120 Sn	0.0493	0.0493	ppb	13.18	#VALUE!	
121 Sb	0.0216	0.0216	ppb	30.91	#VALUE!	
123 Sb	0.032	0.032	ppb	0.94	1000.	
135 Ba	44.03	44.03	ppb	0.07	2000.	
137 Ba	44.2	44.2	ppb	1.09	#VALUE!	
182 W	0.0087	0.0087	ppb	18.18	1000.	
203 Tl	0.0054	0.0054	ppb	31.82	1000.	
205 Tl	0.0052	0.0052	ppb	68.49	#VALUE!	
208 Pb	0.0274	0.0274	ppb	9.85	2000.	
232 Th	0.0321	0.0321	ppb	40.23	1000.	
238 U	0.0023	0.0023	ppb	57.63	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3324060.30	2.52	3691108.80	90.1	69.5 - 120	
45 Sc	2657529.30	2.28	2910447.80	91.3	69.5 - 120	
72 Ge	508997.94	1.39	556535.31	91.5	69.5 - 120	
159 Tb	2706440.80	0.98	2966504.30	91.2	69.5 - 120	
209 Bi	1289934.60	1.87	1486792.30	86.8	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000211

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\068SMPL.D\068SMPL.D#
Date Acquired: May 21 2018 10:15 pm
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: SL4185-001
Misc Info:
Vial Number: 2309
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0072	0.0072	ppb	31.37	100.	
11 B	5.8	5.8	ppb	0.62	1000.	
23 Na	7,305.	7,305.	ppb	0.28	200000.	
25 Mg	2,922.	2,922.	ppb	0.91	200000.	
27 Al	8.981	8.981	ppb	1.86	200000.	
28 Si	6,758.	6,758.	ppb	1.17	#VALUE!	
29 Si	7,313.	7,313.	ppb	0.93	10000.	
39 K	2,851.	2,851.	ppb	1.92	200000.	
43 Ca	23,580.	23,580.	ppb	1.45	#VALUE!	
44 Ca	22,910.	22,910.	ppb	0.74	200000.	
51 V	0.1865	0.1865	ppb	28.16	1000.	
52 Cr	0.0066	0.0066	ppb	342.89	2000.	
53 Cr	-2.116	-2.116	ppb	9.39	#VALUE!	
55 Mn	19.4	19.4	ppb	0.13	2000.	
56 Fe	144.	144.	ppb	0.36	#VALUE!	
57 Fe	212.3	212.3	ppb	1.62	100000.	
59 Co	0.0397	0.0397	ppb	6.53	1000.	
60 Ni	0.0212	0.0212	ppb	159.78	1000.	
63 Cu	7.69	7.69	ppb	1.14	#VALUE!	
65 Cu	7.636	7.636	ppb	1.55	2000.	
66 Zn	1.22	1.22	ppb	6.45	2000.	
68 Zn	1.367	1.367	ppb	9.03	#VALUE!	
75 As	5.595	5.595	ppb	3.52	1000.	
82 Se	0.0636	0.0636	ppb	314.87	1000.	
88 Sr	62.92	62.92	ppb	0.36	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	1.464	1.464	ppb	2.74	1000.	
107 Ag	0.0023	0.0023	ppb	151.87	100.	
109 Ag	0.002	0.002	ppb	139.64	#VALUE!	
111 Cd	-0.0693	-0.0693	ppb	28.50	#VALUE!	
114 Cd	0.0071	0.0071	ppb	44.19	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	0.027	0.027	ppb	41.21	1000.	
120 Sn	0.0377	0.0377	ppb	14.43	#VALUE!	
121 Sb	0.0723	0.0723	ppb	11.92	#VALUE!	
123 Sb	0.0689	0.0689	ppb	11.60	1000.	
135 Ba	1.218	1.218	ppb	8.37	2000.	
137 Ba	1.266	1.266	ppb	6.72	#VALUE!	
182 W	0.0508	0.0508	ppb	19.29	1000.	
203 Tl	0.0064	0.0064	ppb	64.30	1000.	
205 Tl	0.0064	0.0064	ppb	95.21	#VALUE!	
208 Pb	0.1198	0.1198	ppb	4.18	2000.	
232 Th	0.021	0.021	ppb	52.90	1000.	
238 U	166.4	166.4	ppb	0.38	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3504653.30	0.56	3691108.80	94.9	69.5 - 120	
45 Sc	2721008.80	0.92	2910447.80	93.5	69.5 - 120	
72 Ge	521097.44	0.73	556535.31	93.6	69.5 - 120	
159 Tb	2814963.50	1.20	2966504.30	94.9	69.5 - 120	
209 Bi	1385443.60	0.36	1486792.30	93.2	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000212

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\069SMPL.D\069SMPL.D#
Date Acquired: May 21 2018 10:19 pm
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: SL4240-001
Misc Info:
Vial Number: 2310
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0009	0.0009	ppb	75.86	100.	
11 B	67.95	67.95	ppb	1.39	1000.	
23 Na	62,750.	62,750.	ppb	0.04	200000.	
25 Mg	5,367.	5,367.	ppb	2.35	200000.	
27 Al	20.56	20.56	ppb	4.43	200000.	
28 Si	3,373.	3,373.	ppb	2.06	#VALUE!	
29 Si	3,800.	3,800.	ppb	0.61	10000.	
39 K	3,925.	3,925.	ppb	1.12	200000.	
43 Ca	39,690.	39,690.	ppb	0.31	#VALUE!	
44 Ca	38,540.	38,540.	ppb	0.73	200000.	
51 V	0.3414	0.3414	ppb	24.13	1000.	
52 Cr	0.1749	0.1749	ppb	1.65	2000.	
53 Cr	-2.054	-2.054	ppb	6.90	#VALUE!	
55 Mn	43.25	43.25	ppb	0.90	2000.	
56 Fe	281.1	281.1	ppb	2.09	#VALUE!	
57 Fe	403.	403.	ppb	2.31	100000.	
59 Co	0.1899	0.1899	ppb	9.31	1000.	
60 Ni	0.6409	0.6409	ppb	8.45	1000.	
63 Cu	3.11	3.11	ppb	3.45	#VALUE!	
65 Cu	1.32	1.32	ppb	2.41	2000.	
66 Zn	6.239	6.239	ppb	2.35	2000.	
68 Zn	6.749	6.749	ppb	1.59	#VALUE!	
75 As	0.9864	0.9864	ppb	10.97	1000.	
82 Se	0.0314	0.0314	ppb	612.62	1000.	
88 Sr	203.1	203.1	ppb	0.49	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	0.2816	0.2816	ppb	7.61	1000.	
107 Ag	0.0168	0.0168	ppb	55.48	100.	
109 Ag	0.0187	0.0187	ppb	3.37	#VALUE!	
111 Cd	-0.0134	-0.0134	ppb	329.29	#VALUE!	
114 Cd	0.0119	0.0119	ppb	32.35	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	0.0653	0.0653	ppb	16.01	1000.	
120 Sn	0.0585	0.0585	ppb	5.37	#VALUE!	
121 Sb	0.1472	0.1472	ppb	5.43	#VALUE!	
123 Sb	0.1426	0.1426	ppb	10.41	1000.	
135 Ba	13.03	13.03	ppb	3.17	2000.	
137 Ba	13.23	13.23	ppb	0.49	#VALUE!	
182 W	0.0121	0.0121	ppb	19.46	1000.	
203 Tl	-0.0001	-0.0001	ppb	3603.00	1000.	
205 Tl	-0.0004	-0.0004	ppb	174.72	#VALUE!	
208 Pb	0.1263	0.1263	ppb	9.24	2000.	
232 Th	0.0174	0.0174	ppb	36.35	1000.	
238 U	0.1063	0.1063	ppb	6.97	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3411969.30	0.79	3691108.80	92.4	69.5 - 120	
45 Sc	2721782.00	0.75	2910447.80	93.5	69.5 - 120	
72 Ge	515528.75	0.87	556535.31	92.6	69.5 - 120	
159 Tb	2791736.30	0.98	2966504.30	94.1	69.5 - 120	
209 Bi	1321158.00	0.53	1486792.30	88.9	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000213

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\070SMPL.D\070SMPL.D#
Date Acquired: May 21 2018 10:24 pm
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: SL4243-001
Misc Info:
Vial Number: 2311
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0056	0.0056	ppb	18.99	100.	
11 B	73.67	73.67	ppb	3.14	1000.	
23 Na	71,860.	71,860.	ppb	0.98	200000.	
25 Mg	5,055.	5,055.	ppb	1.13	200000.	
27 Al	20.44	20.44	ppb	1.35	200000.	
28 Si	2,743.	2,743.	ppb	1.80	#VALUE!	
29 Si	2,780.	2,780.	ppb	1.76	10000.	
39 K	6,192.	6,192.	ppb	1.17	200000.	
43 Ca	43,680.	43,680.	ppb	0.55	#VALUE!	
44 Ca	42,220.	42,220.	ppb	0.73	200000.	
51 V	0.2785	0.2785	ppb	20.05	1000.	
52 Cr	0.2527	0.2527	ppb	10.36	2000.	
53 Cr	-2.317	-2.317	ppb	2.79	#VALUE!	
55 Mn	206.	206.	ppb	1.04	2000.	
56 Fe	644.3	644.3	ppb	0.45	#VALUE!	
57 Fe	768.4	768.4	ppb	1.26	100000.	
59 Co	0.4177	0.4177	ppb	3.41	1000.	
60 Ni	2.526	2.526	ppb	2.68	1000.	
63 Cu	7.291	7.291	ppb	1.61	#VALUE!	
65 Cu	5.432	5.432	ppb	3.02	2000.	
66 Zn	21.8	21.8	ppb	2.16	2000.	
68 Zn	21.53	21.53	ppb	1.89	#VALUE!	
75 As	1.079	1.079	ppb	2.22	1000.	
82 Se	0.263	0.263	ppb	26.53	1000.	
88 Sr	196.5	196.5	ppb	1.42	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	0.4915	0.4915	ppb	2.93	1000.	
107 Ag	0.0236	0.0236	ppb	16.52	100.	
109 Ag	0.0218	0.0218	ppb	20.31	#VALUE!	
111 Cd	-0.0452	-0.0452	ppb	103.40	#VALUE!	
114 Cd	0.0185	0.0185	ppb	19.48	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	0.1598	0.1598	ppb	13.17	1000.	
120 Sn	0.1623	0.1623	ppb	10.78	#VALUE!	
121 Sb	0.2563	0.2563	ppb	11.88	#VALUE!	
123 Sb	0.2705	0.2705	ppb	3.65	1000.	
135 Ba	15.8	15.8	ppb	1.94	2000.	
137 Ba	15.86	15.86	ppb	1.06	#VALUE!	
182 W	0.0231	0.0231	ppb	46.47	1000.	
203 Tl	0.0015	0.0015	ppb	338.65	1000.	
205 Tl	-0.0009	-0.0009	ppb	81.12	#VALUE!	
208 Pb	0.2414	0.2414	ppb	2.52	2000.	
232 Th	0.0164	0.0164	ppb	10.33	1000.	
238 U	0.1144	0.1144	ppb	4.96	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3326012.50	1.04	3691108.80	90.1	69.5 - 120	
45 Sc	2674862.50	1.16	2910447.80	91.9	69.5 - 120	
72 Ge	513114.94	1.01	556535.31	92.2	69.5 - 120	
159 Tb	2801403.30	0.67	2966504.30	94.4	69.5 - 120	
209 Bi	1326359.30	1.71	1486792.30	89.2	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000214

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\071SMPL.D\071SMPL.D#
Date Acquired: May 21 2018 10:28 pm
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: SL4246-001
Misc Info:
Vial Number: 2312
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0462	0.0462	ppb	2.39	100.	
11 B	9.599	9.599	ppb	2.23	1000.	
23 Na	37,870.	37,870.	ppb	1.14	200000.	
25 Mg	1,519.	1,519.	ppb	0.31	200000.	
27 Al	303.	303.	ppb	3.27	200000.	
28 Si	2,028.	2,028.	ppb	1.85	#VALUE!	
29 Si	2,049.	2,049.	ppb	1.71	10000.	
39 K	1,389.	1,389.	ppb	0.13	200000.	
43 Ca	30,420.	30,420.	ppb	0.94	#VALUE!	
44 Ca	29,720.	29,720.	ppb	0.12	200000.	
51 V	1.432	1.432	ppb	2.13	1000.	
52 Cr	2.811	2.811	ppb	1.71	2000.	
53 Cr	0.2198	0.2198	ppb	88.67	#VALUE!	
55 Mn	130.	130.	ppb	1.42	2000.	
56 Fe	512.5	512.5	ppb	1.38	#VALUE!	
57 Fe	608.2	608.2	ppb	1.97	100000.	
59 Co	0.3453	0.3453	ppb	8.05	1000.	
60 Ni	1.218	1.218	ppb	3.57	1000.	
63 Cu	2.791	2.791	ppb	0.59	#VALUE!	
65 Cu	1.852	1.852	ppb	2.92	2000.	
66 Zn	19.42	19.42	ppb	1.68	2000.	
68 Zn	18.88	18.88	ppb	1.01	#VALUE!	
75 As	1.173	1.173	ppb	12.57	1000.	
82 Se	5.014	5.014	ppb	7.41	1000.	
88 Sr	68.63	68.63	ppb	0.87	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	1.583	1.583	ppb	3.70	1000.	
107 Ag	0.0013	0.0013	ppb	31.64	100.	
109 Ag	0.0017	0.0017	ppb	99.37	#VALUE!	
111 Cd	0.2362	0.2362	ppb	2.43	#VALUE!	
114 Cd	0.2488	0.2488	ppb	8.75	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	0.1623	0.1623	ppb	10.54	1000.	
120 Sn	0.1511	0.1511	ppb	4.00	#VALUE!	
121 Sb	0.0628	0.0628	ppb	18.11	#VALUE!	
123 Sb	0.0615	0.0615	ppb	7.09	1000.	
135 Ba	12.68	12.68	ppb	3.34	2000.	
137 Ba	12.81	12.81	ppb	2.14	#VALUE!	
182 W	0.2376	0.2376	ppb	2.89	1000.	
203 Tl	0.0143	0.0143	ppb	30.30	1000.	
205 Tl	0.015	0.015	ppb	32.51	#VALUE!	
208 Pb	1.201	1.201	ppb	0.60	2000.	
232 Th	0.0381	0.0381	ppb	0.60	1000.	
238 U	0.9804	0.9804	ppb	1.57	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3526450.80	0.67	3691108.80	95.5	69.5 - 120	
45 Sc	2736806.00	0.24	2910447.80	94.0	69.5 - 120	
72 Ge	520969.00	0.60	556535.31	93.6	69.5 - 120	
159 Tb	2815748.50	0.62	2966504.30	94.9	69.5 - 120	
209 Bi	1342131.00	0.69	1486792.30	90.3	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000215

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\072SMPL.D\072SMPL.D#
Date Acquired: May 21 2018 10:32 pm
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: RINSE
Misc Info:
Vial Number: 2401
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0033	0.0033	ppb	56.55	100.	
11 B	0.2091	0.2091	ppb	32.67	1000.	
23 Na	5.096	5.096	ppb	17.13	200000.	
25 Mg	0.1613	0.1613	ppb	33.81	200000.	
27 Al	0.9705	0.9705	ppb	5.09	200000.	
28 Si	118.	118.	ppb	11.92	#VALUE!	
29 Si	87.32	87.32	ppb	20.88	10000.	
39 K	12.96	12.96	ppb	22.74	200000.	
43 Ca	0.4653	0.4653	ppb	761.23	#VALUE!	
44 Ca	2.638	2.638	ppb	27.58	200000.	
51 V	-0.0068	-0.0068	ppb	677.26	1000.	
52 Cr	-0.0163	-0.0163	ppb	117.85	2000.	
53 Cr	-1.819	-1.819	ppb	14.89	#VALUE!	
55 Mn	0.0329	0.0329	ppb	28.84	2000.	
56 Fe	4.108	4.108	ppb	48.73	#VALUE!	
57 Fe	6.735	6.735	ppb	31.31	100000.	
59 Co	0.0055	0.0055	ppb	34.98	1000.	
60 Ni	0.2857	0.2857	ppb	5.78	1000.	
63 Cu	0.1947	0.1947	ppb	3.30	#VALUE!	
65 Cu	0.1467	0.1467	ppb	18.22	2000.	
66 Zn	-0.0114	-0.0114	ppb	508.48	2000.	
68 Zn	0.0573	0.0573	ppb	219.02	#VALUE!	
75 As	-0.0596	-0.0596	ppb	171.51	1000.	
82 Se	-0.2156	-0.2156	ppb	39.41	1000.	
88 Sr	0.0069	0.0069	ppb	41.85	2000.	
89 Y	----	--------	---	---	#VALUE!	
98 Mo	-0.0041	-0.0041	ppb	73.25	1000.	
107 Ag	0.0004	0.0004	ppb	96.30	100.	
109 Ag	-0.0001	-0.0001	ppb	1196.90	#VALUE!	
111 Cd	0.0076	0.0076	ppb	443.83	#VALUE!	
114 Cd	0.006	0.006	ppb	52.00	1000.	
115 In	----	--------	---	---	#VALUE!	
118 Sn	0.0194	0.0194	ppb	119.29	1000.	
120 Sn	0.0218	0.0218	ppb	14.34	#VALUE!	
121 Sb	0.0081	0.0081	ppb	67.88	#VALUE!	
123 Sb	0.0095	0.0095	ppb	39.85	1000.	
135 Ba	0.0039	0.0039	ppb	172.64	2000.	
137 Ba	0.0001	0.0001	ppb	4520.80	#VALUE!	
182 W	0.006	0.006	ppb	26.73	1000.	
203 Tl	0.0014	0.0014	ppb	245.58	1000.	
205 Tl	-0.0002	-0.0002	ppb	765.92	#VALUE!	
208 Pb	-0.002	-0.002	ppb	91.65	2000.	
232 Th	0.0053	0.0053	ppb	37.88	1000.	
238 U	0.0008	0.0008	ppb	153.03	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3325662.80	2.01	3691108.80	90.1	69.5 - 120	
45 Sc	2600526.80	1.86	2910447.80	89.4	69.5 - 120	
72 Ge	498500.19	0.47	556535.31	89.6	69.5 - 120	
159 Tb	2657180.00	0.71	2966504.30	89.6	69.5 - 120	
209 Bi	1335048.40	0.97	1486792.30	89.8	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000216

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\073SMPL.D\073SMPL.D#
Date Acquired: May 21 2018 10:37 pm
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: PBWLE21IMW2
Misc Info:
Vial Number: 2402
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0017	0.0003	ppb	155.13	100.	
11 B	0.859	0.1718	ppb	22.69	1000.	
23 Na	34.86	6.972	ppb	7.42	200000.	
25 Mg	12.96	2.592	ppb	3.14	200000.	
27 Al	8.995	1.799	ppb	12.36	200000.	
28 Si	336.45	67.29	ppb	16.26	#VALUE!	
29 Si	306.55	61.31	ppb	9.82	10000.	
39 K	54.65	10.93	ppb	8.44	200000.	
43 Ca	29.43	5.886	ppb	45.69	#VALUE!	
44 Ca	18.72	3.744	ppb	27.97	200000.	
51 V	0.0261	0.0052	ppb	2659.90	1000.	
52 Cr	0.799	0.1598	ppb	23.16	2000.	
53 Cr	36.995	7.399	ppb	5.58	#VALUE!	
55 Mn	0.3323	0.0665	ppb	3.25	2000.	
56 Fe	15.435	3.087	ppb	37.38	#VALUE!	
57 Fe	26.665	5.333	ppb	37.09	100000.	
59 Co	0.0463	0.0093	ppb	27.13	1000.	
60 Ni	0.0615	0.0123	ppb	86.09	1000.	
63 Cu	2.172	0.4344	ppb	16.93	#VALUE!	
65 Cu	2.1105	0.4221	ppb	14.86	2000.	
66 Zn	0.1626	0.0325	ppb	14.45	2000.	
68 Zn	0.0299	0.006	ppb	1319.20	#VALUE!	
75 As	-0.1902	-0.038	ppb	369.97	1000.	
82 Se	-0.3598	-0.072	ppb	78.18	1000.	
88 Sr	0.0714	0.0143	ppb	29.87	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	-0.0211	-0.0042	ppb	4.08	1000.	
107 Ag	0.0028	0.0006	ppb	334.10	100.	
109 Ag	-0.002	-0.0004	ppb	402.80	#VALUE!	
111 Cd	0.0469	0.0094	ppb	151.69	#VALUE!	
114 Cd	0.0088	0.0018	ppb	236.01	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	0.725	0.145	ppb	20.82	1000.	
120 Sn	0.729	0.1458	ppb	5.50	#VALUE!	
121 Sb	0.3526	0.0705	ppb	20.41	#VALUE!	
123 Sb	0.4155	0.0831	ppb	10.33	1000.	
135 Ba	0.0484	0.0097	ppb	217.41	2000.	
137 Ba	0.0613	0.0123	ppb	94.53	#VALUE!	
182 W	0.1164	0.0233	ppb	30.34	1000.	
203 Tl	0.0103	0.0021	ppb	159.93	1000.	
205 Tl	-0.0014	-0.0003	ppb	1261.40	#VALUE!	
208 Pb	0.0363	0.0073	ppb	83.31	2000.	
232 Th	0.0502	0.01	ppb	24.40	1000.	
238 U	-0.0031	-0.0006	ppb	122.21	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3460755.00	1.23	3691108.80	93.8	69.5 - 120	
45 Sc	2636533.50	0.49	2910447.80	90.6	69.5 - 120	
72 Ge	508001.38	0.41	556535.31	91.3	69.5 - 120	
159 Tb	2841053.00	2.22	2966504.30	95.8	69.5 - 120	
209 Bi	1380756.60	1.08	1486792.30	92.9	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000217

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\074SMPL.D\074SMPL.D#
Date Acquired: May 21 2018 10:41 pm
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: LCSWLE21IMW2
Misc Info:
Vial Number: 2403
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	50.25	10.05	ppb	1.95	100.	
11 B	513.	102.6	ppb	3.32	1000.	
23 Na	7,975.	1,595.	ppb	1.50	200000.	
25 Mg	5,585.	1,117.	ppb	5.23	200000.	
27 Al	2,152.	430.4	ppb	3.40	200000.	
28 Si	1,289.5	257.9	ppb	5.29	#VALUE!	
29 Si	1,130.5	226.1	ppb	3.28	10000.	
39 K	10,315.	2,063.	ppb	0.55	200000.	
43 Ca	3,010.5	602.1	ppb	4.52	#VALUE!	
44 Ca	2,651.	530.2	ppb	2.80	200000.	
51 V	516.5	103.3	ppb	0.97	1000.	
52 Cr	204.05	40.81	ppb	1.06	2000.	
53 Cr	249.85	49.97	ppb	1.80	#VALUE!	
55 Mn	517.5	103.5	ppb	0.85	2000.	
56 Fe	1,029.	205.8	ppb	2.35	#VALUE!	
57 Fe	1,068.	213.6	ppb	3.42	100000.	
59 Co	528.5	105.7	ppb	0.85	1000.	
60 Ni	529.	105.8	ppb	1.06	1000.	
63 Cu	258.45	51.69	ppb	1.13	#VALUE!	
65 Cu	262.45	52.49	ppb	1.05	2000.	
66 Zn	509.	101.8	ppb	0.21	2000.	
68 Zn	577.5	115.5	ppb	1.19	#VALUE!	
75 As	106.45	21.29	ppb	2.60	1000.	
82 Se	103.45	20.69	ppb	1.61	1000.	
88 Sr	510.5	102.1	ppb	0.24	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	101.9	20.38	ppb	0.29	1000.	
107 Ag	52.45	10.49	ppb	0.74	100.	
109 Ag	53.2	10.64	ppb	0.80	#VALUE!	
111 Cd	260.3	52.06	ppb	0.18	#VALUE!	
114 Cd	262.3	52.46	ppb	0.24	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	499.55	99.91	ppb	2.05	1000.	
120 Sn	502.5	100.5	ppb	2.11	#VALUE!	
121 Sb	104.7	20.94	ppb	2.13	#VALUE!	
123 Sb	104.25	20.85	ppb	1.86	1000.	
135 Ba	2,053.	410.6	ppb	1.97	2000.	
137 Ba	2,064.5	412.9	ppb	2.10	#VALUE!	
182 W	100.85	20.17	ppb	1.80	1000.	
203 Tl	105.6	21.12	ppb	1.90	1000.	
205 Tl	105.1	21.02	ppb	1.36	#VALUE!	
208 Pb	105.55	21.11	ppb	1.91	2000.	
232 Th	99.2	19.84	ppb	2.86	1000.	
238 U	99.65	19.93	ppb	2.27	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3572945.30	2.02	3691108.80	96.8	69.5 - 120	
45 Sc	2660389.00	0.11	2910447.80	91.4	69.5 - 120	
72 Ge	507764.53	0.44	556535.31	91.2	69.5 - 120	
159 Tb	2907148.30	1.39	2966504.30	98.0	69.5 - 120	
209 Bi	1421322.90	1.82	1486792.30	95.6	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000218

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\075SMPL.D\075SMPL.D#
Date Acquired: May 21 2018 10:45 pm
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: SL4180-029
Misc Info:
Vial Number: 2404
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0103	0.0021	ppb	130.88	100.	
11 B	3.0025	0.6005	ppb	28.98	1000.	
23 Na	37.845	7.569	ppb	4.52	200000.	
25 Mg	15.205	3.041	ppb	4.79	200000.	
27 Al	18.485	3.697	ppb	0.75	200000.	
28 Si	224.	44.8	ppb	7.82	#VALUE!	
29 Si	167.5	33.5	ppb	1.87	10000.	
39 K	44.965	8.993	ppb	5.10	200000.	
43 Ca	67.45	13.49	ppb	28.51	#VALUE!	
44 Ca	51.85	10.37	ppb	4.81	200000.	
51 V	0.4526	0.0905	ppb	132.58	1000.	
52 Cr	0.9505	0.1901	ppb	6.29	2000.	
53 Cr	40.555	8.111	ppb	6.97	#VALUE!	
55 Mn	0.4993	0.0999	ppb	9.40	2000.	
56 Fe	22.68	4.536	ppb	41.05	#VALUE!	
57 Fe	47.52	9.504	ppb	23.16	100000.	
59 Co	0.0329	0.0066	ppb	25.91	1000.	
60 Ni	0.3398	0.068	ppb	16.95	1000.	
63 Cu	1.6935	0.3387	ppb	3.14	#VALUE!	
65 Cu	1.5895	0.3179	ppb	14.52	2000.	
66 Zn	1.1595	0.2319	ppb	27.79	2000.	
68 Zn	1.6005	0.3201	ppb	12.13	#VALUE!	
75 As	0.2338	0.0468	ppb	296.47	1000.	
82 Se	-0.571	-0.1142	ppb	186.60	1000.	
88 Sr	0.1958	0.0392	ppb	0.67	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	0.504	0.1008	ppb	3.41	1000.	
107 Ag	0.021	0.0042	ppb	75.62	100.	
109 Ag	0.017	0.0034	ppb	46.99	#VALUE!	
111 Cd	0.0161	0.0032	ppb	507.61	#VALUE!	
114 Cd	0.026	0.0052	ppb	48.11	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	0.977	0.1954	ppb	4.51	1000.	
120 Sn	0.977	0.1954	ppb	13.63	#VALUE!	
121 Sb	0.3717	0.0743	ppb	9.03	#VALUE!	
123 Sb	0.453	0.0906	ppb	14.48	1000.	
135 Ba	0.1384	0.0277	ppb	66.47	2000.	
137 Ba	0.127	0.0254	ppb	4.20	#VALUE!	
182 W	0.1439	0.0288	ppb	14.67	1000.	
203 Tl	-0.0226	-0.0045	ppb	61.08	1000.	
205 Tl	-0.0002	0.	ppb	6327.10	#VALUE!	
208 Pb	0.2049	0.041	ppb	6.69	2000.	
232 Th	0.5815	0.1163	ppb	14.24	1000.	
238 U	0.005	0.001	ppb	129.12	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3689195.80	1.69	3691108.80	99.9	69.5 - 120	
45 Sc	2666379.30	0.60	2910447.80	91.6	69.5 - 120	
72 Ge	506822.59	0.57	556535.31	91.1	69.5 - 120	
159 Tb	2849140.30	0.76	2966504.30	96.0	69.5 - 120	
209 Bi	1380723.80	0.85	1486792.30	92.9	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000219

CCV QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\076_CCV.D\076_CCV.D#
Date Acquired: May 21 2018 10:49 pm
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: CCV
Misc Info:
Vial Number: 1206
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Dilution Factor: 1.00
QC Range (%): 89.5 - 110.5

QC Elements

Element	Conc.		RSD(%)	Expected	Rec (%)	Flag
9 Be	25.25	ppb	1.67	25	101	
11 B	25.02	ppb	2.91	25	100.08	
23 Na	5,011.	ppb	1.64	5,000	100.22	
25 Mg	5,148.	ppb	0.26	5,000	102.96	
27 Al	509.5	ppb	1.26	500	101.9	
28 Si	543.3	ppb	3.30	500	108.66	
29 Si	535.1	ppb	2.47	500	107.02	
39 K	4,929.	ppb	0.38	5,000	98.58	
43 Ca	5,113.	ppb	1.19	5,000	102.26	
44 Ca	5,152.	ppb	1.19	5,000	103.04	
51 V	25.46	ppb	1.97	25	101.84	
52 Cr	25.55	ppb	0.75	25	102.2	
53 Cr	24.98	ppb	1.00	25	99.92	
55 Mn	25.73	ppb	1.28	25	102.92	
56 Fe	4,990.	ppb	0.24	5,000	99.8	
57 Fe	5,092.	ppb	0.79	5,000	101.84	
59 Co	25.6	ppb	1.18	25	102.4	
60 Ni	26.04	ppb	1.67	25	104.16	
63 Cu	25.35	ppb	0.88	25	101.4	
65 Cu	25.38	ppb	0.44	25	101.52	
66 Zn	25.28	ppb	1.61	25	101.12	
68 Zn	24.84	ppb	1.46	25	99.36	
75 As	25.51	ppb	0.36	25	102.04	
82 Se	25.11	ppb	1.95	25	100.44	
88 Sr	24.89	ppb	0.71	25	99.56	
89 Y	--------	---	--------	---	#VALUE!	
98 Mo	24.47	ppb	0.10	25	97.88	
107 Ag	24.83	ppb	0.48	25	99.32	
109 Ag	24.79	ppb	1.38	25	99.16	
111 Cd	24.37	ppb	0.58	25	97.48	
114 Cd	24.6	ppb	1.06	25	98.4	
115 In	--------	---	--------	---	#VALUE!	
118 Sn	24.8	ppb	1.54	25	99.2	
120 Sn	24.97	ppb	0.49	25	99.88	
121 Sb	25.48	ppb	0.93	25	101.92	
123 Sb	25.53	ppb	0.39	25	102.12	
135 Ba	25.36	ppb	1.85	25	101.44	
137 Ba	25.51	ppb	1.81	25	102.04	
182 W	24.	ppb	1.81	25	96	
203 Tl	25.14	ppb	0.87	25	100.56	
205 Tl	24.94	ppb	0.39	25	99.76	
208 Pb	24.95	ppb	0.80	25	99.8	
232 Th	24.21	ppb	2.25	25	96.84	
238 U	24.46	ppb	1.29	25	97.84	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3599476.50	2.34	3691108.80	97.5	80 - 120.4	
45 Sc	2753254.30	0.77	2910447.80	94.6	80 - 120.4	
72 Ge	512580.22	0.91	556535.31	92.1	80 - 120.4	
159 Tb	2778525.50	0.57	2966504.30	93.7	80 - 120.4	
209 Bi	1366259.40	0.76	1486792.30	91.9	80 - 120.4	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000220

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\077_CCB.D\077_CCB.D#
Date Acquired: May 21 2018 10:53 pm
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: CCB
Misc Info:
Vial Number: 1207
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: 6-CCB
Dilution Factor: 1.00

QC Elements

Element	Conc.		RSD(%)	High Limit	Flag
9 Be	0.0034	ppb	34.12	1.00	
11 B	0.1917	ppb	13.39	1.00	
23 Na	1.231	ppb	11.11	1.00	
25 Mg	0.3401	ppb	26.87	1.00	
27 Al	-0.0369	ppb	203.55	1.00	
28 Si	69.68	ppb	37.50	1.00	
29 Si	50.16	ppb	23.51	1.00	
39 K	6.992	ppb	13.15	1.00	
43 Ca	-2.197	ppb	159.81	1.00	
44 Ca	-0.0923	ppb	991.99	1.00	
51 V	-0.0688	ppb	72.08	1.00	
52 Cr	-0.0331	ppb	58.34	1.00	
53 Cr	-1.75	ppb	10.03	1.00	
55 Mn	0.0326	ppb	25.98	1.00	
56 Fe	-1.98	ppb	135.15	1.00	
57 Fe	6.206	ppb	39.88	1.00	
59 Co	0.0026	ppb	68.48	1.00	
60 Ni	0.0153	ppb	75.83	1.00	
63 Cu	0.0782	ppb	20.27	1.00	
65 Cu	0.0822	ppb	11.76	1.00	
66 Zn	-0.0233	ppb	162.17	1.00	
68 Zn	0.1193	ppb	84.91	1.00	
75 As	-0.0611	ppb	251.60	1.00	
82 Se	-0.0423	ppb	142.86	1.00	
88 Sr	0.0046	ppb	60.07	1.00	
89 Y	--------	---	--------	---	
98 Mo	0.0123	ppb	60.14	1.00	
107 Ag	0.0021	ppb	154.85	1.00	
109 Ag	0.0024	ppb	30.01	1.00	
111 Cd	0.0086	ppb	263.11	1.00	
114 Cd	0.0037	ppb	182.47	1.00	
115 In	--------	---	--------	---	
118 Sn	0.0434	ppb	14.74	1.00	
120 Sn	0.0388	ppb	20.41	1.00	
121 Sb	0.0026	ppb	462.20	1.00	
123 Sb	0.0142	ppb	112.48	1.00	
135 Ba	0.0078	ppb	177.95	1.00	
137 Ba	0.0098	ppb	129.67	1.00	
182 W	0.0456	ppb	27.50	1.00	
203 Tl	0.0035	ppb	155.98	1.00	
205 Tl	0.0032	ppb	55.96	1.00	
208 Pb	0.0014	ppb	564.44	1.00	
232 Th	0.064	ppb	9.56	1.00	
238 U	0.0021	ppb	135.04	1.00	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3540849.00	1.05	3691108.80	95.9	79.5 - 120	
45 Sc	2687682.00	0.40	2910447.80	92.3	79.5 - 120	
72 Ge	504059.19	0.62	556535.31	90.6	79.5 - 120	
159 Tb	2681022.30	1.22	2966504.30	90.4	79.5 - 120	
209 Bi	1351902.80	0.78	1486792.30	90.9	79.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\078SMPL.D\078SMPL.D#
Date Acquired: May 21 2018 10:58 pm
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: SL4290-014
Misc Info:
Vial Number: 2405
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0075	0.0015	ppb	73.18	100.	
11 B	0.8375	0.1675	ppb	20.26	1000.	
23 Na	43.195	8.639	ppb	3.61	200000.	
25 Mg	17.32	3.464	ppb	9.97	200000.	
27 Al	18.865	3.773	ppb	4.29	200000.	
28 Si	280.65	56.13	ppb	26.39	#VALUE!	
29 Si	232.15	46.43	ppb	11.52	10000.	
39 K	79.05	15.81	ppb	7.20	200000.	
43 Ca	103.8	20.76	ppb	26.01	#VALUE!	
44 Ca	101.55	20.31	ppb	7.55	200000.	
51 V	-0.5765	-0.1153	ppb	117.17	1000.	
52 Cr	0.9785	0.1957	ppb	10.61	2000.	
53 Cr	43.095	8.619	ppb	4.21	#VALUE!	
55 Mn	0.6685	0.1337	ppb	11.68	2000.	
56 Fe	20.155	4.031	ppb	51.45	#VALUE!	
57 Fe	58.5	11.7	ppb	13.19	100000.	
59 Co	0.046	0.0092	ppb	27.24	1000.	
60 Ni	0.004	0.0008	ppb	1374.30	1000.	
63 Cu	1.5195	0.3039	ppb	9.24	#VALUE!	
65 Cu	1.425	0.285	ppb	13.53	2000.	
66 Zn	1.848	0.3696	ppb	17.13	2000.	
68 Zn	1.5715	0.3143	ppb	32.58	#VALUE!	
75 As	-0.6205	-0.1241	ppb	95.49	1000.	
82 Se	-1.3735	-0.2747	ppb	47.91	1000.	
88 Sr	0.2219	0.0444	ppb	16.75	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	0.1778	0.0356	ppb	29.93	1000.	
107 Ag	0.0177	0.0035	ppb	40.66	100.	
109 Ag	0.007	0.0014	ppb	134.21	#VALUE!	
111 Cd	0.0792	0.0158	ppb	227.04	#VALUE!	
114 Cd	0.0342	0.0068	ppb	63.28	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	1.282	0.2564	ppb	11.77	1000.	
120 Sn	1.146	0.2292	ppb	12.22	#VALUE!	
121 Sb	0.3039	0.0608	ppb	29.91	#VALUE!	
123 Sb	0.4329	0.0866	ppb	22.72	1000.	
135 Ba	0.1994	0.0399	ppb	29.46	2000.	
137 Ba	0.2278	0.0456	ppb	29.42	#VALUE!	
182 W	0.0797	0.0159	ppb	51.09	1000.	
203 Tl	-0.0056	-0.0011	ppb	398.04	1000.	
205 Tl	0.	0.	ppb	75533.00	#VALUE!	
208 Pb	0.1075	0.0215	ppb	32.94	2000.	
232 Th	0.4371	0.0874	ppb	16.79	1000.	
238 U	0.0043	0.0009	ppb	176.85	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3573151.50	0.58	3691108.80	96.8	69.5 - 120	
45 Sc	2646689.50	0.97	2910447.80	90.9	69.5 - 120	
72 Ge	503380.25	0.88	556535.31	90.4	69.5 - 120	
159 Tb	2791875.00	1.34	2966504.30	94.1	69.5 - 120	
209 Bi	1371557.40	0.71	1486792.30	92.2	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000222

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\079SMPL.D\079SMPL.D#
Date Acquired: May 21 2018 11:02 pm
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: PBSLE21IMS1
Misc Info:
Vial Number: 2406
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0099	0.002	ppb	46.28	100.	
11 B	1.0325	0.2065	ppb	8.54	1000.	
23 Na	41.085	8.217	ppb	2.04	200000.	
25 Mg	28.665	5.733	ppb	3.25	200000.	
27 Al	18.655	3.731	ppb	7.17	200000.	
28 Si	167.4	33.48	ppb	40.74	#VALUE!	
29 Si	195.4	39.08	ppb	38.36	10000.	
39 K	63.2	12.64	ppb	25.67	200000.	
43 Ca	96.25	19.25	ppb	13.29	#VALUE!	
44 Ca	81.6	16.32	ppb	10.23	200000.	
51 V	-0.0131	-0.0026	ppb	3665.50	1000.	
52 Cr	1.628	0.3256	ppb	4.47	2000.	
53 Cr	42.7	8.54	ppb	4.45	#VALUE!	
55 Mn	0.598	0.1196	ppb	8.50	2000.	
56 Fe	22.285	4.457	ppb	19.25	#VALUE!	
57 Fe	59.45	11.89	ppb	17.43	100000.	
59 Co	0.0399	0.008	ppb	39.81	1000.	
60 Ni	0.4316	0.0863	ppb	30.07	1000.	
63 Cu	2.305	0.461	ppb	3.36	#VALUE!	
65 Cu	2.1745	0.4349	ppb	8.50	2000.	
66 Zn	1.0305	0.2061	ppb	9.06	2000.	
68 Zn	0.8375	0.1675	ppb	35.31	#VALUE!	
75 As	-0.238	-0.0476	ppb	541.60	1000.	
82 Se	-0.1311	-0.0262	ppb	374.68	1000.	
88 Sr	0.4111	0.0822	ppb	7.63	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	0.2268	0.0454	ppb	18.88	1000.	
107 Ag	0.0073	0.0015	ppb	200.82	100.	
109 Ag	0.0066	0.0013	ppb	161.44	#VALUE!	
111 Cd	0.0438	0.0088	ppb	266.16	#VALUE!	
114 Cd	-0.0247	-0.0049	ppb	498.58	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	44.905	8.981	ppb	1.25	1000.	
120 Sn	45.255	9.051	ppb	1.33	#VALUE!	
121 Sb	0.0288	0.0058	ppb	104.85	#VALUE!	
123 Sb	0.1474	0.0295	ppb	14.48	1000.	
135 Ba	0.4713	0.0943	ppb	21.11	2000.	
137 Ba	0.3863	0.0773	ppb	10.71	#VALUE!	
182 W	0.0612	0.0122	ppb	60.52	1000.	
203 Tl	0.0362	0.0072	ppb	82.18	1000.	
205 Tl	0.0013	0.0003	ppb	632.53	#VALUE!	
208 Pb	0.0648	0.013	ppb	34.75	2000.	
232 Th	0.1874	0.0375	ppb	41.15	1000.	
238 U	0.0052	0.001	ppb	97.01	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3708995.30	1.66	3691108.80	100.5	69.5 - 120	
45 Sc	2712031.30	1.53	2910447.80	93.2	69.5 - 120	
72 Ge	512285.28	1.09	556535.31	92.0	69.5 - 120	
159 Tb	2836346.00	1.41	2966504.30	95.6	69.5 - 120	
209 Bi	1366631.60	1.35	1486792.30	91.9	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000223

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\080SMPL.D\080SMPL.D#
Date Acquired: May 21 2018 11:06 pm
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: LCSOLE21IMS1
Misc Info:
Vial Number: 2407
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	50.2	10.04	ppb	3.74	100.	
11 B	515.	103.	ppb	3.98	1000.	
23 Na	7,940.	1,588.	ppb	1.82	200000.	
25 Mg	5,495.	1,099.	ppb	1.82	200000.	
27 Al	2,136.5	427.3	ppb	0.75	200000.	
28 Si	1,104.	220.8	ppb	8.73	#VALUE!	
29 Si	1,053.5	210.7	ppb	6.49	10000.	
39 K	10,245.	2,049.	ppb	2.16	200000.	
43 Ca	3,042.	608.4	ppb	1.02	#VALUE!	
44 Ca	2,616.	523.2	ppb	0.35	200000.	
51 V	513.5	102.7	ppb	2.17	1000.	
52 Cr	204.7	40.94	ppb	0.78	2000.	
53 Cr	259.4	51.88	ppb	1.38	#VALUE!	
55 Mn	517.5	103.5	ppb	0.13	2000.	
56 Fe	1,040.5	208.1	ppb	1.53	#VALUE!	
57 Fe	1,063.5	212.7	ppb	3.37	100000.	
59 Co	524.	104.8	ppb	1.40	1000.	
60 Ni	523.5	104.7	ppb	0.43	1000.	
63 Cu	253.8	50.76	ppb	0.49	#VALUE!	
65 Cu	256.5	51.3	ppb	1.32	2000.	
66 Zn	505.	101.	ppb	0.37	2000.	
68 Zn	572.5	114.5	ppb	0.79	#VALUE!	
75 As	104.25	20.85	ppb	1.40	1000.	
82 Se	101.6	20.32	ppb	1.01	1000.	
88 Sr	500.	100.	ppb	1.83	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	99.6	19.92	ppb	0.79	1000.	
107 Ag	50.25	10.05	ppb	1.78	100.	
109 Ag	50.7	10.14	ppb	2.35	#VALUE!	
111 Cd	248.9	49.78	ppb	1.45	#VALUE!	
114 Cd	249.85	49.97	ppb	1.57	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	537.	107.4	ppb	1.00	1000.	
120 Sn	536.	107.2	ppb	0.40	#VALUE!	
121 Sb	101.3	20.26	ppb	1.09	#VALUE!	
123 Sb	101.55	20.31	ppb	1.50	1000.	
135 Ba	2,004.5	400.9	ppb	0.22	2000.	
137 Ba	2,032.5	406.5	ppb	0.74	#VALUE!	
182 W	98.	19.6	ppb	0.50	1000.	
203 Tl	102.9	20.58	ppb	1.85	1000.	
205 Tl	103.	20.6	ppb	0.25	#VALUE!	
208 Pb	102.95	20.59	ppb	0.83	2000.	
232 Th	99.65	19.93	ppb	1.04	1000.	
238 U	101.2	20.24	ppb	1.20	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3731967.80	4.34	3691108.80	101.1	69.5 - 120	
45 Sc	2738428.50	1.70	2910447.80	94.1	69.5 - 120	
72 Ge	514240.81	1.22	556535.31	92.4	69.5 - 120	
159 Tb	2877107.80	0.55	2966504.30	97.0	69.5 - 120	
209 Bi	1394275.80	0.24	1486792.30	93.8	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000224

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\081SMPL.D\081SMPL.D#
Date Acquired: May 21 2018 11:10 pm
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: SL4067-001
Misc Info:
Vial Number: 2408
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.572	0.1144	ppb	2.44	100.	
11 B	89.8	17.96	ppb	4.72	1000.	
23 Na	3,158.5	631.7	ppb	0.80	200000.	
25 Mg	11,695.	2,339.	ppb	1.73	200000.	
27 Al	58,500.	11,700.	ppb	3.31	200000.	
28 Si	3,505.	701.	ppb	2.48	#VALUE!	
29 Si	3,543.	708.6	ppb	0.70	10000.	
39 K	13,785.	2,757.	ppb	1.15	200000.	
43 Ca	37,200.	7,440.	ppb	2.30	#VALUE!	
44 Ca	36,740.	7,348.	ppb	1.76	200000.	
51 V	35.395	7.079	ppb	4.02	1000.	
52 Cr	139.85	27.97	ppb	1.81	2000.	
53 Cr	188.55	37.71	ppb	3.42	#VALUE!	
55 Mn	1,206.5	241.3	ppb	2.95	2000.	
56 Fe	26,920.	5,384.	ppb	2.35	#VALUE!	
57 Fe	27,465.	5,493.	ppb	1.17	100000.	
59 Co	11.9	2.38	ppb	1.73	1000.	
60 Ni	103.75	20.75	ppb	1.17	1000.	
63 Cu	358.65	71.73	ppb	2.11	#VALUE!	
65 Cu	363.65	72.73	ppb	2.00	2000.	
66 Zn	1,024.5	204.9	ppb	1.51	2000.	
68 Zn	992.5	198.5	ppb	1.98	#VALUE!	
75 As	14.83	2.966	ppb	3.35	1000.	
82 Se	0.3823	0.0765	ppb	55.55	1000.	
88 Sr	526.5	105.3	ppb	2.04	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	12.875	2.575	ppb	3.04	1000.	
107 Ag	0.4633	0.0927	ppb	6.31	100.	
109 Ag	0.4394	0.0879	ppb	14.47	#VALUE!	
111 Cd	5.435	1.087	ppb	4.48	#VALUE!	
114 Cd	5.39	1.078	ppb	2.70	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	44.725	8.945	ppb	4.48	1000.	
120 Sn	44.62	8.924	ppb	3.68	#VALUE!	
121 Sb	0.8885	0.1777	ppb	15.32	#VALUE!	
123 Sb	0.8445	0.1689	ppb	13.62	1000.	
135 Ba	293.5	58.7	ppb	3.81	2000.	
137 Ba	297.2	59.44	ppb	3.82	#VALUE!	
182 W	1.065	0.213	ppb	14.60	1000.	
203 Tl	0.504	0.1008	ppb	21.39	1000.	
205 Tl	0.559	0.1118	ppb	7.82	#VALUE!	
208 Pb	11.735	2.347	ppb	2.95	2000.	
232 Th	4.1745	0.8349	ppb	3.33	1000.	
238 U	3.496	0.6992	ppb	3.62	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3746976.30	3.23	3691108.80	101.5	69.5 - 120	
45 Sc	2744068.00	0.83	2910447.80	94.3	69.5 - 120	
72 Ge	516371.69	1.31	556535.31	92.8	69.5 - 120	
159 Tb	2919031.30	4.02	2966504.30	98.4	69.5 - 120	
209 Bi	1444169.10	3.98	1486792.30	97.1	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000225

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\082SMPL.D\082SMPL.D#
Date Acquired: May 21 2018 11:15 pm
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: SL4180-001
Misc Info:
Vial Number: 2409
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	9.5	1.9	ppb	1.38	100.	
11 B	112.8	22.56	ppb	2.39	1000.	
23 Na	2,749.5	549.9	ppb	1.07	200000.	
25 Mg	44,015.	8,803.	ppb	1.42	200000.	
27 Al	187,600.	37,520.	ppb	1.44	200000.	
28 Si	5,380.	1,076.	ppb	7.19	#VALUE!	
29 Si	5,560.	1,112.	ppb	2.24	10000.	
39 K	64,150.	12,830.	ppb	2.23	200000.	
43 Ca	32,195.	6,439.	ppb	2.46	#VALUE!	
44 Ca	31,660.	6,332.	ppb	0.78	200000.	
51 V	350.45	70.09	ppb	2.07	1000.	
52 Cr	188.9	37.78	ppb	0.66	2000.	
53 Cr	235.65	47.13	ppb	2.05	#VALUE!	
55 Mn	4,319.	863.8	ppb	1.01	2000.	
56 Fe	159,150.	31,830.	ppb	1.83	#VALUE!	
57 Fe	153,900.	30,780.	ppb	0.76	100000.	
59 Co	82.25	16.45	ppb	0.21	1000.	
60 Ni	134.6	26.92	ppb	1.08	1000.	
63 Cu	142.05	28.41	ppb	0.67	#VALUE!	
65 Cu	146.65	29.33	ppb	0.24	2000.	
66 Zn	570.5	114.1	ppb	0.53	2000.	
68 Zn	639.	127.8	ppb	0.22	#VALUE!	
75 As	40.98	8.196	ppb	2.99	1000.	
82 Se	7.965	1.593	ppb	11.66	1000.	
88 Sr	499.1	99.82	ppb	0.76	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	24.47	4.894	ppb	2.42	1000.	
107 Ag	1.056	0.2112	ppb	7.49	100.	
109 Ag	0.972	0.1944	ppb	11.05	#VALUE!	
111 Cd	5.5	1.1	ppb	4.91	#VALUE!	
114 Cd	2.601	0.5202	ppb	3.40	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	51.95	10.39	ppb	1.52	1000.	
120 Sn	51.65	10.33	ppb	1.57	#VALUE!	
121 Sb	1.984	0.3968	ppb	5.96	#VALUE!	
123 Sb	1.9505	0.3901	ppb	7.20	1000.	
135 Ba	2,124.	424.8	ppb	1.12	2000.	
137 Ba	2,160.	432.	ppb	1.33	#VALUE!	
182 W	1.1385	0.2277	ppb	6.32	1000.	
203 Tl	3.5435	0.7087	ppb	5.13	1000.	
205 Tl	3.541	0.7082	ppb	4.76	#VALUE!	
208 Pb	280.75	56.15	ppb	0.98	2000.	
232 Th	116.1	23.22	ppb	1.69	1000.	
238 U	22.795	4.559	ppb	1.26	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3651056.50	0.64	3691108.80	98.9	69.5 - 120	
45 Sc	2775856.00	0.96	2910447.80	95.4	69.5 - 120	
72 Ge	520663.38	0.82	556535.31	93.6	69.5 - 120	
159 Tb	2953245.50	1.38	2966504.30	99.6	69.5 - 120	
209 Bi	1407091.10	0.76	1486792.30	94.6	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000226

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\083SMPL.D\083SMPL.D#
Date Acquired: May 21 2018 11:19 pm
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: SL4180-002
Misc Info:
Vial Number: 2410
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	7.5	1.5	ppb	0.25	100.	
11 B	92.65	18.53	ppb	4.02	1000.	
23 Na	2,341.	468.2	ppb	0.76	200000.	
25 Mg	36,840.	7,368.	ppb	0.66	200000.	
27 Al	151,950.	30,390.	ppb	1.02	200000.	
28 Si	4,446.5	889.3	ppb	5.63	#VALUE!	
29 Si	4,257.5	851.5	ppb	1.86	10000.	
39 K	52,650.	10,530.	ppb	0.79	200000.	
43 Ca	26,335.	5,267.	ppb	0.60	#VALUE!	
44 Ca	26,010.	5,202.	ppb	1.67	200000.	
51 V	290.4	58.08	ppb	0.28	1000.	
52 Cr	156.4	31.28	ppb	0.57	2000.	
53 Cr	193.85	38.77	ppb	1.19	#VALUE!	
55 Mn	3,676.	735.2	ppb	1.96	2000.	
56 Fe	133,900.	26,780.	ppb	1.15	#VALUE!	
57 Fe	129,150.	25,830.	ppb	1.29	100000.	
59 Co	72.3	14.46	ppb	0.46	1000.	
60 Ni	113.05	22.61	ppb	1.28	1000.	
63 Cu	117.6	23.52	ppb	0.94	#VALUE!	
65 Cu	119.85	23.97	ppb	0.98	2000.	
66 Zn	471.45	94.29	ppb	1.08	2000.	
68 Zn	528.5	105.7	ppb	0.53	#VALUE!	
75 As	34.19	6.838	ppb	1.63	1000.	
82 Se	6.415	1.283	ppb	9.59	1000.	
88 Sr	416.3	83.26	ppb	1.78	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	18.195	3.639	ppb	3.52	1000.	
107 Ag	0.888	0.1776	ppb	6.27	100.	
109 Ag	0.7515	0.1503	ppb	6.57	#VALUE!	
111 Cd	4.641	0.9282	ppb	3.29	#VALUE!	
114 Cd	1.793	0.3586	ppb	2.33	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	49.85	9.97	ppb	2.67	1000.	
120 Sn	50.2	10.04	ppb	3.29	#VALUE!	
121 Sb	1.4955	0.2991	ppb	0.12	#VALUE!	
123 Sb	1.4895	0.2979	ppb	7.73	1000.	
135 Ba	1,740.5	348.1	ppb	1.61	2000.	
137 Ba	1,747.	349.4	ppb	1.81	#VALUE!	
182 W	0.916	0.1832	ppb	7.37	1000.	
203 Tl	2.912	0.5824	ppb	6.44	1000.	
205 Tl	2.8955	0.5791	ppb	4.83	#VALUE!	
208 Pb	228.4	45.68	ppb	0.95	2000.	
232 Th	100.15	20.03	ppb	0.66	1000.	
238 U	19.195	3.839	ppb	0.22	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3803175.30	1.78	3691108.80	103.0	69.5 - 120	
45 Sc	2831903.00	0.74	2910447.80	97.3	69.5 - 120	
72 Ge	522459.97	1.42	556535.31	93.9	69.5 - 120	
159 Tb	2911498.50	1.35	2966504.30	98.1	69.5 - 120	
209 Bi	1372414.30	0.14	1486792.30	92.3	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000227

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\084SMPL.D\084SMPL.D#
Date Acquired: May 21 2018 11:23 pm
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: SL4180-003
Misc Info:
Vial Number: 2411
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	13.195	2.639	ppb	1.28	100.	
11 B	184.5	36.9	ppb	2.41	1000.	
23 Na	31,595.	6,319.	ppb	2.15	200000.	
25 Mg	124,900.	24,980.	ppb	2.50	200000.	
27 Al	280,750.	56,150.	ppb	0.76	200000.	
28 Si	4,917.5	983.5	ppb	2.70	#VALUE!	
29 Si	4,794.	958.8	ppb	1.12	10000.	
39 K	68,750.	13,750.	ppb	1.05	200000.	
43 Ca	513,000.	102,600.	ppb	1.13	#VALUE!	
44 Ca	482,800.	96,560.	ppb	0.72	200000.	
51 V	598.	119.6	ppb	1.14	1000.	
52 Cr	272.	54.4	ppb	1.10	2000.	
53 Cr	316.65	63.33	ppb	1.31	#VALUE!	
55 Mn	4,894.5	978.9	ppb	0.31	2000.	
56 Fe	267,050.	53,410.	ppb	0.26	#VALUE!	
57 Fe	262,150.	52,430.	ppb	0.46	100000.	
59 Co	128.4	25.68	ppb	0.52	1000.	
60 Ni	242.6	48.52	ppb	0.83	1000.	
63 Cu	189.6	37.92	ppb	1.72	#VALUE!	
65 Cu	193.7	38.74	ppb	1.40	2000.	
66 Zn	724.	144.8	ppb	1.39	2000.	
68 Zn	829.	165.8	ppb	1.20	#VALUE!	
75 As	120.5	24.1	ppb	1.84	1000.	
82 Se	5.96	1.192	ppb	27.71	1000.	
88 Sr	1,185.5	237.1	ppb	2.30	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	11.88	2.376	ppb	2.95	1000.	
107 Ag	1.3135	0.2627	ppb	6.36	100.	
109 Ag	0.903	0.1806	ppb	2.40	#VALUE!	
111 Cd	5.72	1.144	ppb	3.22	#VALUE!	
114 Cd	0.3499	0.07	ppb	37.94	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	55.35	11.07	ppb	1.39	1000.	
120 Sn	55.65	11.13	ppb	1.54	#VALUE!	
121 Sb	3.2035	0.6407	ppb	0.85	#VALUE!	
123 Sb	3.38	0.676	ppb	0.79	1000.	
135 Ba	3,202.5	640.5	ppb	1.04	2000.	
137 Ba	3,216.5	643.3	ppb	1.53	#VALUE!	
182 W	0.9705	0.1941	ppb	14.62	1000.	
203 Tl	4.513	0.9026	ppb	3.72	1000.	
205 Tl	4.49	0.898	ppb	1.11	#VALUE!	
208 Pb	197.15	39.43	ppb	0.43	2000.	
232 Th	120.75	24.15	ppb	1.00	1000.	
238 U	28.81	5.762	ppb	0.86	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3687383.30	0.27	3691108.80	99.9	69.5 - 120	
45 Sc	2812374.00	0.68	2910447.80	96.6	69.5 - 120	
72 Ge	516920.59	0.80	556535.31	92.9	69.5 - 120	
159 Tb	2873335.50	0.50	2966504.30	96.9	69.5 - 120	
209 Bi	1329105.40	0.11	1486792.30	89.4	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000228

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\085SMPL.D\085SMPL.D#
Date Acquired: May 21 2018 11:28 pm
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: SL4180-004
Misc Info:
Vial Number: 2412
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	10.67	2.134	ppb	2.42	100.	
11 B	129.45	25.89	ppb	1.37	1000.	
23 Na	7,600.	1,520.	ppb	1.82	200000.	
25 Mg	91,450.	18,290.	ppb	1.75	200000.	
27 Al	234,150.	46,830.	ppb	0.47	200000.	
28 Si	5,350.	1,070.	ppb	9.96	#VALUE!	
29 Si	4,704.	940.8	ppb	3.33	10000.	
39 K	46,185.	9,237.	ppb	2.03	200000.	
43 Ca	178,550.	35,710.	ppb	2.08	#VALUE!	
44 Ca	174,750.	34,950.	ppb	0.97	200000.	
51 V	461.25	92.25	ppb	1.77	1000.	
52 Cr	231.5	46.3	ppb	0.41	2000.	
53 Cr	280.35	56.07	ppb	2.37	#VALUE!	
55 Mn	4,770.5	954.1	ppb	1.90	2000.	
56 Fe	216,900.	43,380.	ppb	1.05	#VALUE!	
57 Fe	211,400.	42,280.	ppb	1.49	100000.	
59 Co	84.65	16.93	ppb	1.13	1000.	
60 Ni	215.65	43.13	ppb	0.29	1000.	
63 Cu	174.	34.8	ppb	1.84	#VALUE!	
65 Cu	175.85	35.17	ppb	0.46	2000.	
66 Zn	665.	133.	ppb	1.33	2000.	
68 Zn	773.5	154.7	ppb	0.38	#VALUE!	
75 As	42.925	8.585	ppb	0.63	1000.	
82 Se	3.807	0.7614	ppb	17.85	1000.	
88 Sr	686.	137.2	ppb	1.47	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	6.695	1.339	ppb	1.54	1000.	
107 Ag	0.9585	0.1917	ppb	7.30	100.	
109 Ag	0.7085	0.1417	ppb	10.10	#VALUE!	
111 Cd	5.03	1.006	ppb	11.52	#VALUE!	
114 Cd	1.7735	0.3547	ppb	8.28	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	52.4	10.48	ppb	0.60	1000.	
120 Sn	52.65	10.53	ppb	0.41	#VALUE!	
121 Sb	1.9135	0.3827	ppb	3.69	#VALUE!	
123 Sb	1.9215	0.3843	ppb	8.67	1000.	
135 Ba	3,213.	642.6	ppb	0.24	2000.	
137 Ba	3,240.5	648.1	ppb	0.43	#VALUE!	
182 W	0.649	0.1298	ppb	2.32	1000.	
203 Tl	3.8465	0.7693	ppb	2.56	1000.	
205 Tl	3.921	0.7842	ppb	2.52	#VALUE!	
208 Pb	163.85	32.77	ppb	0.95	2000.	
232 Th	103.7	20.74	ppb	0.51	1000.	
238 U	12.39	2.478	ppb	0.87	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3889112.80	0.99	3691108.80	105.4	69.5 - 120	
45 Sc	2902923.00	0.99	2910447.80	99.7	69.5 - 120	
72 Ge	525435.69	1.04	556535.31	94.4	69.5 - 120	
159 Tb	2859877.80	0.55	2966504.30	96.4	69.5 - 120	
209 Bi	1331511.10	0.56	1486792.30	89.6	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000229

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\086SMPL.D\086SMPL.D#
Date Acquired: May 21 2018 11:32 pm
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: SL4180-005
Misc Info:
Vial Number: 2501
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	10.94	2.188	ppb	1.08	100.	
11 B	148.	29.6	ppb	1.70	1000.	
23 Na	2,671.	534.2	ppb	1.77	200000.	
25 Mg	51,350.	10,270.	ppb	0.90	200000.	
27 Al	227,450.	45,490.	ppb	1.04	200000.	
28 Si	5,350.	1,070.	ppb	4.51	#VALUE!	
29 Si	4,992.	998.4	ppb	2.14	10000.	
39 K	56,800.	11,360.	ppb	1.05	200000.	
43 Ca	63,050.	12,610.	ppb	0.43	#VALUE!	
44 Ca	61,600.	12,320.	ppb	1.24	200000.	
51 V	444.25	88.85	ppb	1.20	1000.	
52 Cr	221.1	44.22	ppb	0.77	2000.	
53 Cr	271.05	54.21	ppb	0.98	#VALUE!	
55 Mn	5,355.	1,071.	ppb	0.82	2000.	
56 Fe	192,400.	38,480.	ppb	1.08	#VALUE!	
57 Fe	186,500.	37,300.	ppb	1.08	100000.	
59 Co	92.85	18.57	ppb	1.15	1000.	
60 Ni	162.45	32.49	ppb	0.64	1000.	
63 Cu	159.35	31.87	ppb	0.32	#VALUE!	
65 Cu	162.9	32.58	ppb	1.94	2000.	
66 Zn	618.5	123.7	ppb	1.09	2000.	
68 Zn	716.5	143.3	ppb	0.97	#VALUE!	
75 As	54.05	10.81	ppb	0.88	1000.	
82 Se	7.44	1.488	ppb	3.37	1000.	
88 Sr	572.	114.4	ppb	0.94	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	14.99	2.998	ppb	2.06	1000.	
107 Ag	1.06	0.212	ppb	6.08	100.	
109 Ag	0.807	0.1614	ppb	9.75	#VALUE!	
111 Cd	6.7	1.34	ppb	5.86	#VALUE!	
114 Cd	2.476	0.4952	ppb	4.01	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	59.2	11.84	ppb	0.76	1000.	
120 Sn	59.2	11.84	ppb	1.03	#VALUE!	
121 Sb	2.536	0.5072	ppb	3.14	#VALUE!	
123 Sb	2.5725	0.5145	ppb	5.21	1000.	
135 Ba	2,669.5	533.9	ppb	0.79	2000.	
137 Ba	2,707.	541.4	ppb	0.99	#VALUE!	
182 W	1.1375	0.2275	ppb	5.31	1000.	
203 Tl	4.0585	0.8117	ppb	3.47	1000.	
205 Tl	4.0355	0.8071	ppb	3.48	#VALUE!	
208 Pb	328.15	65.63	ppb	1.22	2000.	
232 Th	135.05	27.01	ppb	1.30	1000.	
238 U	26.885	5.377	ppb	1.54	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3808948.80	1.27	3691108.80	103.2	69.5 - 120	
45 Sc	2878082.30	1.39	2910447.80	98.9	69.5 - 120	
72 Ge	522150.38	1.06	556535.31	93.8	69.5 - 120	
159 Tb	2833304.80	0.75	2966504.30	95.5	69.5 - 120	
209 Bi	1338798.40	1.10	1486792.30	90.0	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000230

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\087SMPL.D\087SMPL.D#
Date Acquired: May 21 2018 11:37 pm
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: RINSE
Misc Info:
Vial Number: 2502
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0012	0.0012	ppb	204.13	100.	
11 B	0.1458	0.1458	ppb	36.98	1000.	
23 Na	-0.1836	-0.1836	ppb	98.48	200000.	
25 Mg	0.97	0.97	ppb	12.72	200000.	
27 Al	0.6266	0.6266	ppb	6.59	200000.	
28 Si	65.53	65.53	ppb	52.33	#VALUE!	
29 Si	3.31	3.31	ppb	885.50	10000.	
39 K	0.3604	0.3604	ppb	1431.50	200000.	
43 Ca	-1.705	-1.705	ppb	300.94	#VALUE!	
44 Ca	2.897	2.897	ppb	31.35	200000.	
51 V	-0.0283	-0.0283	ppb	53.04	1000.	
52 Cr	-0.0548	-0.0548	ppb	60.13	2000.	
53 Cr	-2.177	-2.177	ppb	4.44	#VALUE!	
55 Mn	0.0221	0.0221	ppb	23.01	2000.	
56 Fe	-1.108	-1.108	ppb	134.48	#VALUE!	
57 Fe	6.974	6.974	ppb	51.18	100000.	
59 Co	0.003	0.003	ppb	141.50	1000.	
60 Ni	-0.0092	-0.0092	ppb	58.16	1000.	
63 Cu	0.1131	0.1131	ppb	12.15	#VALUE!	
65 Cu	0.1019	0.1019	ppb	40.47	2000.	
66 Zn	-0.0226	-0.0226	ppb	88.97	2000.	
68 Zn	0.0806	0.0806	ppb	192.36	#VALUE!	
75 As	-0.0618	-0.0618	ppb	119.13	1000.	
82 Se	-0.1014	-0.1014	ppb	115.48	1000.	
88 Sr	0.0002	0.0002	ppb	2161.60	2000.	
89 Y	----	--------	---	---	#VALUE!	
98 Mo	-0.0025	-0.0025	ppb	70.92	1000.	
107 Ag	0.0007	0.0007	ppb	209.86	100.	
109 Ag	0.	0.	ppb	4636.00	#VALUE!	
111 Cd	-0.0652	-0.0652	ppb	23.37	#VALUE!	
114 Cd	0.0064	0.0064	ppb	32.97	1000.	
115 In	----	--------	---	---	#VALUE!	
118 Sn	0.0252	0.0252	ppb	12.05	1000.	
120 Sn	0.0157	0.0157	ppb	14.84	#VALUE!	
121 Sb	-0.0037	-0.0037	ppb	134.28	#VALUE!	
123 Sb	-0.0071	-0.0071	ppb	30.52	1000.	
135 Ba	0.001	0.001	ppb	402.83	2000.	
137 Ba	0.0085	0.0085	ppb	92.86	#VALUE!	
182 W	0.0096	0.0096	ppb	26.41	1000.	
203 Tl	-0.0058	-0.0058	ppb	50.65	1000.	
205 Tl	0.0006	0.0006	ppb	284.36	#VALUE!	
208 Pb	0.0039	0.0039	ppb	87.74	2000.	
232 Th	0.0269	0.0269	ppb	30.80	1000.	
238 U	0.	0.	ppb	9466.00	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3800198.80	1.64	3691108.80	103.0	69.5 - 120	
45 Sc	2771871.80	2.78	2910447.80	95.2	69.5 - 120	
72 Ge	517397.69	1.58	556535.31	93.0	69.5 - 120	
159 Tb	2657325.50	1.55	2966504.30	89.6	69.5 - 120	
209 Bi	1310362.90	1.38	1486792.30	88.1	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000231

CCV QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\088_CCV.D\088_CCV.D#
Date Acquired: May 21 2018 11:41 pm
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: CCV
Misc Info:
Vial Number: 1306
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Dilution Factor: 1.00
QC Range (%): 89.5 - 110.5

QC Elements

Element	Conc.		RSD(%)	Expected	Rec (%)	Flag
9 Be	24.65	ppb	2.01	25	98.6	
11 B	24.92	ppb	2.27	25	99.68	
23 Na	5,010.	ppb	1.33	5,000	100.2	
25 Mg	5,037.	ppb	0.83	5,000	100.74	
27 Al	512.7	ppb	0.92	500	102.54	
28 Si	541.6	ppb	1.05	500	108.32	
29 Si	486.1	ppb	1.66	500	97.22	
39 K	4,931.	ppb	0.75	5,000	98.62	
43 Ca	5,053.	ppb	2.52	5,000	101.06	
44 Ca	5,128.	ppb	0.61	5,000	102.56	
51 V	26.13	ppb	0.24	25	104.52	
52 Cr	26.08	ppb	0.99	25	104.32	
53 Cr	24.9	ppb	1.75	25	99.6	
55 Mn	26.2	ppb	0.65	25	104.8	
56 Fe	5,113.	ppb	0.31	5,000	102.26	
57 Fe	5,176.	ppb	0.29	5,000	103.52	
59 Co	25.89	ppb	0.78	25	103.56	
60 Ni	26.17	ppb	0.66	25	104.68	
63 Cu	25.48	ppb	0.29	25	101.92	
65 Cu	25.67	ppb	0.54	25	102.68	
66 Zn	26.17	ppb	0.42	25	104.68	
68 Zn	26.15	ppb	0.89	25	104.6	
75 As	25.37	ppb	1.70	25	101.48	
82 Se	25.22	ppb	1.21	25	100.88	
88 Sr	24.81	ppb	0.94	25	99.24	
89 Y	--------	---	--------	---	#VALUE!	
98 Mo	24.08	ppb	0.49	25	96.32	
107 Ag	24.32	ppb	0.95	25	97.28	
109 Ag	24.37	ppb	0.31	25	97.48	
111 Cd	23.69	ppb	0.58	25	94.76	
114 Cd	23.91	ppb	0.77	25	95.64	
115 In	--------	---	--------	---	#VALUE!	
118 Sn	25.61	ppb	1.07	25	102.44	
120 Sn	25.52	ppb	1.30	25	102.08	
121 Sb	26.02	ppb	0.37	25	104.08	
123 Sb	26.14	ppb	1.92	25	104.56	
135 Ba	26.01	ppb	1.64	25	104.04	
137 Ba	26.17	ppb	0.82	25	104.68	
182 W	24.28	ppb	1.36	25	97.12	
203 Tl	24.92	ppb	3.10	25	99.68	
205 Tl	24.91	ppb	2.03	25	99.64	
208 Pb	25.01	ppb	1.94	25	100.04	
232 Th	24.69	ppb	2.16	25	98.76	
238 U	24.91	ppb	2.41	25	99.64	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3763317.80	1.90	3691108.80	102.0	80 - 120.4	
45 Sc	2831112.80	0.58	2910447.80	97.3	80 - 120.4	
72 Ge	515352.09	0.65	556535.31	92.6	80 - 120.4	
159 Tb	2661014.80	0.38	2966504.30	89.7	80 - 120.4	
209 Bi	1320513.80	0.60	1486792.30	88.8	80 - 120.4	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\089_CCB.D\089_CCB.D#
Date Acquired: May 21 2018 11:45 pm
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: CCB
Misc Info:
Vial Number: 1207
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: 6-CCB
Dilution Factor: 1.00

QC Elements

Element	Conc.		RSD(%)	High Limit	Flag
9 Be	0.0025	ppb	37.39	1.00	
11 B	0.1564	ppb	18.85	1.00	
23 Na	0.3758	ppb	80.18	1.00	
25 Mg	0.2892	ppb	7.63	1.00	
27 Al	-0.0215	ppb	136.40	1.00	
28 Si	72.6	ppb	27.14	1.00	
29 Si	17.23	ppb	109.46	1.00	
39 K	3.675	ppb	70.50	1.00	
43 Ca	1.716	ppb	242.02	1.00	
44 Ca	1.855	ppb	51.88	1.00	
51 V	-0.0317	ppb	249.18	1.00	
52 Cr	-0.0511	ppb	25.34	1.00	
53 Cr	-1.901	ppb	18.95	1.00	
55 Mn	0.0406	ppb	31.86	1.00	
56 Fe	0.5587	ppb	118.76	1.00	
57 Fe	8.957	ppb	17.96	1.00	
59 Co	-0.0007	ppb	270.08	1.00	
60 Ni	0.0198	ppb	71.85	1.00	
63 Cu	0.0078	ppb	96.47	1.00	
65 Cu	-0.0054	ppb	237.40	1.00	
66 Zn	0.0032	ppb	373.97	1.00	
68 Zn	0.075	ppb	28.61	1.00	
75 As	-0.101	ppb	82.93	1.00	
82 Se	-0.1998	ppb	40.28	1.00	
88 Sr	0.0041	ppb	54.54	1.00	
89 Y	--------	---	--------	---	
98 Mo	0.0215	ppb	57.74	1.00	
107 Ag	0.0024	ppb	88.77	1.00	
109 Ag	0.0026	ppb	31.78	1.00	
111 Cd	-0.0921	ppb	15.02	1.00	
114 Cd	0.0019	ppb	82.48	1.00	
115 In	--------	---	--------	---	
118 Sn	0.0325	ppb	14.00	1.00	
120 Sn	0.045	ppb	74.47	1.00	
121 Sb	0.0073	ppb	50.04	1.00	
123 Sb	0.0083	ppb	55.10	1.00	
135 Ba	0.0115	ppb	176.37	1.00	
137 Ba	0.0082	ppb	173.87	1.00	
182 W	0.0454	ppb	22.85	1.00	
203 Tl	-0.003	ppb	120.46	1.00	
205 Tl	0.0027	ppb	61.22	1.00	
208 Pb	-0.0075	ppb	49.77	1.00	
232 Th	0.0576	ppb	15.36	1.00	
238 U	0.0012	ppb	117.90	1.00	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3670803.30	3.19	3691108.80	99.4	79.5 - 120	
45 Sc	2755581.80	1.16	2910447.80	94.7	79.5 - 120	
72 Ge	512976.78	1.25	556535.31	92.2	79.5 - 120	
159 Tb	2619124.00	1.31	2966504.30	88.3	79.5 - 120	
209 Bi	1321246.30	0.33	1486792.30	88.9	79.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\090SMPL.D\090SMPL.D#
Date Acquired: May 21 2018 11:49 pm
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: SL4180-006
Misc Info:
Vial Number: 2503
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	12.565	2.513	ppb	3.93	100.	
11 B	147.55	29.51	ppb	2.96	1000.	
23 Na	10,065.	2,013.	ppb	0.98	200000.	
25 Mg	94,450.	18,890.	ppb	0.62	200000.	
27 Al	266,800.	53,360.	ppb	1.64	200000.	
28 Si	5,140.	1,028.	ppb	11.06	#VALUE!	
29 Si	4,845.5	969.1	ppb	4.04	10000.	
39 K	53,750.	10,750.	ppb	0.93	200000.	
43 Ca	228,550.	45,710.	ppb	3.15	#VALUE!	
44 Ca	215,000.	43,000.	ppb	0.72	200000.	
51 V	543.	108.6	ppb	0.96	1000.	
52 Cr	263.7	52.74	ppb	1.67	2000.	
53 Cr	313.6	62.72	ppb	0.61	#VALUE!	
55 Mn	5,245.	1,049.	ppb	0.71	2000.	
56 Fe	258,500.	51,700.	ppb	1.53	#VALUE!	
57 Fe	250,950.	50,190.	ppb	0.87	100000.	
59 Co	112.55	22.51	ppb	1.45	1000.	
60 Ni	234.9	46.98	ppb	0.29	1000.	
63 Cu	191.45	38.29	ppb	0.87	#VALUE!	
65 Cu	195.55	39.11	ppb	1.25	2000.	
66 Zn	794.5	158.9	ppb	0.96	2000.	
68 Zn	901.5	180.3	ppb	1.50	#VALUE!	
75 As	62.2	12.44	ppb	1.65	1000.	
82 Se	4.8415	0.9683	ppb	20.60	1000.	
88 Sr	694.5	138.9	ppb	0.83	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	5.47	1.094	ppb	2.15	1000.	
107 Ag	1.2115	0.2423	ppb	3.18	100.	
109 Ag	0.841	0.1682	ppb	4.25	#VALUE!	
111 Cd	5.4	1.08	ppb	0.95	#VALUE!	
114 Cd	1.2305	0.2461	ppb	18.58	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	56.5	11.3	ppb	0.94	1000.	
120 Sn	56.9	11.38	ppb	2.07	#VALUE!	
121 Sb	2.193	0.4386	ppb	3.15	#VALUE!	
123 Sb	2.183	0.4366	ppb	1.80	1000.	
135 Ba	3,231.	646.2	ppb	1.66	2000.	
137 Ba	3,239.5	647.9	ppb	1.60	#VALUE!	
182 W	0.7995	0.1599	ppb	19.40	1000.	
203 Tl	4.403	0.8806	ppb	3.88	1000.	
205 Tl	4.516	0.9032	ppb	0.82	#VALUE!	
208 Pb	173.8	34.76	ppb	2.11	2000.	
232 Th	123.95	24.79	ppb	1.90	1000.	
238 U	13.865	2.773	ppb	1.31	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3837145.80	1.81	3691108.80	104.0	69.5 - 120	
45 Sc	2934645.00	1.28	2910447.80	100.8	69.5 - 120	
72 Ge	520026.56	0.22	556535.31	93.4	69.5 - 120	
159 Tb	2752308.80	1.48	2966504.30	92.8	69.5 - 120	
209 Bi	1293924.90	1.79	1486792.30	87.0	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000234

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\091SMPL.D\091SMPL.D#
Date Acquired: May 21 2018 11:54 pm
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: SL4180-007
Misc Info:
Vial Number: 2504
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	9.39	1.878	ppb	3.16	100.	
11 B	125.45	25.09	ppb	1.51	1000.	
23 Na	18,935.	3,787.	ppb	1.53	200000.	
25 Mg	78,900.	15,780.	ppb	0.60	200000.	
27 Al	206,100.	41,220.	ppb	1.11	200000.	
28 Si	4,985.5	997.1	ppb	1.80	#VALUE!	
29 Si	4,521.5	904.3	ppb	3.33	10000.	
39 K	42,135.	8,427.	ppb	1.03	200000.	
43 Ca	399,750.	79,950.	ppb	0.58	#VALUE!	
44 Ca	378,000.	75,600.	ppb	0.80	200000.	
51 V	426.55	85.31	ppb	0.22	1000.	
52 Cr	204.3	40.86	ppb	0.13	2000.	
53 Cr	250.45	50.09	ppb	0.27	#VALUE!	
55 Mn	5,215.	1,043.	ppb	0.98	2000.	
56 Fe	181,900.	36,380.	ppb	0.57	#VALUE!	
57 Fe	176,750.	35,350.	ppb	0.42	100000.	
59 Co	64.8	12.96	ppb	0.76	1000.	
60 Ni	224.5	44.9	ppb	1.72	1000.	
63 Cu	156.8	31.36	ppb	0.89	#VALUE!	
65 Cu	160.4	32.08	ppb	1.39	2000.	
66 Zn	496.7	99.34	ppb	0.49	2000.	
68 Zn	561.	112.2	ppb	1.28	#VALUE!	
75 As	41.34	8.268	ppb	1.98	1000.	
82 Se	4.6485	0.9297	ppb	20.64	1000.	
88 Sr	710.	142.	ppb	0.30	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	3.781	0.7562	ppb	2.95	1000.	
107 Ag	0.9345	0.1869	ppb	2.90	100.	
109 Ag	0.677	0.1354	ppb	2.27	#VALUE!	
111 Cd	4.911	0.9822	ppb	3.06	#VALUE!	
114 Cd	1.2645	0.2529	ppb	6.88	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	51.15	10.23	ppb	1.75	1000.	
120 Sn	51.35	10.27	ppb	0.95	#VALUE!	
121 Sb	2.0195	0.4039	ppb	7.69	#VALUE!	
123 Sb	2.0425	0.4085	ppb	1.97	1000.	
135 Ba	2,017.5	403.5	ppb	0.17	2000.	
137 Ba	2,030.5	406.1	ppb	0.31	#VALUE!	
182 W	0.628	0.1256	ppb	10.62	1000.	
203 Tl	3.4245	0.6849	ppb	2.71	1000.	
205 Tl	3.51	0.702	ppb	6.50	#VALUE!	
208 Pb	107.45	21.49	ppb	2.14	2000.	
232 Th	85.	17.	ppb	1.00	1000.	
238 U	12.25	2.45	ppb	2.72	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3846978.30	1.41	3691108.80	104.2	69.5 - 120	
45 Sc	2872284.30	0.83	2910447.80	98.7	69.5 - 120	
72 Ge	517369.53	0.55	556535.31	93.0	69.5 - 120	
159 Tb	2767620.30	0.65	2966504.30	93.3	69.5 - 120	
209 Bi	1304934.90	1.12	1486792.30	87.8	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000235

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\092SMPL.D\092SMPL.D#
Date Acquired: May 21 2018 11:58 pm
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: SL4180-008
Misc Info:
Vial Number: 2505
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	9.625	1.925	ppb	3.08	100.	
11 B	92.75	18.55	ppb	2.09	1000.	
23 Na	1,615.	323.	ppb	1.61	200000.	
25 Mg	54,350.	10,870.	ppb	1.81	200000.	
27 Al	223,750.	44,750.	ppb	0.57	200000.	
28 Si	2,878.5	575.7	ppb	1.43	#VALUE!	
29 Si	2,443.	488.6	ppb	2.10	10000.	
39 K	44,285.	8,857.	ppb	0.75	200000.	
43 Ca	36,915.	7,383.	ppb	2.17	#VALUE!	
44 Ca	36,625.	7,325.	ppb	0.84	200000.	
51 V	328.7	65.74	ppb	1.04	1000.	
52 Cr	189.55	37.91	ppb	0.63	2000.	
53 Cr	237.2	47.44	ppb	0.95	#VALUE!	
55 Mn	2,466.5	493.3	ppb	1.37	2000.	
56 Fe	179,150.	35,830.	ppb	1.45	#VALUE!	
57 Fe	173,550.	34,710.	ppb	0.69	100000.	
59 Co	72.85	14.57	ppb	1.24	1000.	
60 Ni	147.75	29.55	ppb	0.64	1000.	
63 Cu	139.95	27.99	ppb	0.49	#VALUE!	
65 Cu	142.	28.4	ppb	1.29	2000.	
66 Zn	495.55	99.11	ppb	0.13	2000.	
68 Zn	545.	109.	ppb	1.02	#VALUE!	
75 As	44.93	8.986	ppb	0.84	1000.	
82 Se	3.8635	0.7727	ppb	11.59	1000.	
88 Sr	396.35	79.27	ppb	0.72	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	5.96	1.192	ppb	4.61	1000.	
107 Ag	0.6825	0.1365	ppb	5.12	100.	
109 Ag	0.5495	0.1099	ppb	8.01	#VALUE!	
111 Cd	2.4685	0.4937	ppb	13.08	#VALUE!	
114 Cd	0.1782	0.0356	ppb	38.76	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	53.9	10.78	ppb	1.69	1000.	
120 Sn	53.65	10.73	ppb	0.40	#VALUE!	
121 Sb	1.7815	0.3563	ppb	4.36	#VALUE!	
123 Sb	1.797	0.3594	ppb	3.94	1000.	
135 Ba	1,698.	339.6	ppb	1.11	2000.	
137 Ba	1,707.5	341.5	ppb	0.61	#VALUE!	
182 W	0.4675	0.0935	ppb	20.03	1000.	
203 Tl	3.3385	0.6677	ppb	6.84	1000.	
205 Tl	3.203	0.6406	ppb	7.54	#VALUE!	
208 Pb	132.95	26.59	ppb	1.20	2000.	
232 Th	94.5	18.9	ppb	1.72	1000.	
238 U	13.705	2.741	ppb	1.97	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3983490.00	1.70	3691108.80	107.9	69.5 - 120	
45 Sc	2966279.00	0.42	2910447.80	101.9	69.5 - 120	
72 Ge	526480.75	0.96	556535.31	94.6	69.5 - 120	
159 Tb	2737703.00	0.43	2966504.30	92.3	69.5 - 120	
209 Bi	1284404.60	1.02	1486792.30	86.4	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000236

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\093SMPL.D\093SMPL.D#
Date Acquired: May 22 2018 12:03 am
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: SL4180-008L
Misc Info:
Vial Number: 2506
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: Sample
Dilution Factor: 25.00
Autodil Factor: Undiluted
Final Dil Factor: 25.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	9.9725	0.3989	ppb	2.90	100.	
11 B	94.45	3.778	ppb	1.89	1000.	
23 Na	1,775.25	71.01	ppb	1.72	200000.	
25 Mg	59,925.	2,397.	ppb	1.12	200000.	
27 Al	239,850.	9,594.	ppb	1.02	200000.	
28 Si	4,707.5	188.3	ppb	9.68	#VALUE!	
29 Si	2,474.5	98.98	ppb	21.37	10000.	
39 K	47,325.	1,893.	ppb	0.93	200000.	
43 Ca	39,800.	1,592.	ppb	2.55	#VALUE!	
44 Ca	38,700.	1,548.	ppb	1.06	200000.	
51 V	335.75	13.43	ppb	2.44	1000.	
52 Cr	198.65	7.946	ppb	0.80	2000.	
53 Cr	211.95	8.478	ppb	2.78	#VALUE!	
55 Mn	2,685.	107.4	ppb	0.83	2000.	
56 Fe	187,275.	7,491.	ppb	1.02	#VALUE!	
57 Fe	188,675.	7,547.	ppb	1.20	100000.	
59 Co	78.7	3.148	ppb	1.63	1000.	
60 Ni	156.85	6.274	ppb	1.19	1000.	
63 Cu	148.225	5.929	ppb	1.77	#VALUE!	
65 Cu	151.725	6.069	ppb	3.50	2000.	
66 Zn	526.5	21.06	ppb	1.02	2000.	
68 Zn	583.25	23.33	ppb	1.63	#VALUE!	
75 As	44.6	1.784	ppb	10.65	1000.	
82 Se	1.4723	0.0589	ppb	516.22	1000.	
88 Sr	412.5	16.5	ppb	0.14	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	5.49	0.2196	ppb	6.05	1000.	
107 Ag	0.7175	0.0287	ppb	25.38	100.	
109 Ag	0.551	0.022	ppb	4.81	#VALUE!	
111 Cd	1.34	0.0536	ppb	72.30	#VALUE!	
114 Cd	0.4088	0.0164	ppb	82.14	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	55.575	2.223	ppb	2.29	1000.	
120 Sn	55.85	2.234	ppb	1.45	#VALUE!	
121 Sb	1.7263	0.0691	ppb	8.04	#VALUE!	
123 Sb	1.8808	0.0752	ppb	2.27	1000.	
135 Ba	1,750.	70.	ppb	0.70	2000.	
137 Ba	1,770.5	70.82	ppb	0.89	#VALUE!	
182 W	0.399	0.016	ppb	38.70	1000.	
203 Tl	3.0375	0.1215	ppb	8.91	1000.	
205 Tl	3.07	0.1228	ppb	11.57	#VALUE!	
208 Pb	134.15	5.366	ppb	0.81	2000.	
232 Th	91.	3.64	ppb	1.23	1000.	
238 U	12.8425	0.5137	ppb	2.74	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3966999.00	0.72	3691108.80	107.5	69.5 - 120	
45 Sc	2853221.00	1.35	2910447.80	98.0	69.5 - 120	
72 Ge	522907.34	1.32	556535.31	94.0	69.5 - 120	
159 Tb	2681776.30	0.76	2966504.30	90.4	69.5 - 120	
209 Bi	1306290.30	0.84	1486792.30	87.9	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000237

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\094SMPL.D\094SMPL.D#
Date Acquired: May 22 2018 12:07 am
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: SL4180-008A
Misc Info:
Vial Number: 2507
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	19.33	3.866	ppb	2.46	100.	
11 B	296.9	59.38	ppb	1.04	1000.	
23 Na	11,870.	2,374.	ppb	1.49	200000.	
25 Mg	53,400.	10,680.	ppb	0.70	200000.	
27 Al	217,650.	43,530.	ppb	1.79	200000.	
28 Si	8,000.	1,600.	ppb	0.97	#VALUE!	
29 Si	7,815.	1,563.	ppb	1.98	10000.	
39 K	52,650.	10,530.	ppb	0.49	200000.	
43 Ca	37,130.	7,426.	ppb	1.58	#VALUE!	
44 Ca	36,880.	7,376.	ppb	1.53	200000.	
51 V	382.3	76.46	ppb	1.21	1000.	
52 Cr	236.4	47.28	ppb	0.49	2000.	
53 Cr	292.75	58.55	ppb	1.98	#VALUE!	
55 Mn	2,450.5	490.1	ppb	1.04	2000.	
56 Fe	177,800.	35,560.	ppb	0.71	#VALUE!	
57 Fe	173,000.	34,600.	ppb	0.61	100000.	
59 Co	82.45	16.49	ppb	1.00	1000.	
60 Ni	165.	33.	ppb	0.78	1000.	
63 Cu	167.4	33.48	ppb	1.10	#VALUE!	
65 Cu	170.1	34.02	ppb	0.50	2000.	
66 Zn	580.5	116.1	ppb	1.15	2000.	
68 Zn	631.5	126.3	ppb	0.61	#VALUE!	
75 As	97.2	19.44	ppb	0.26	1000.	
82 Se	55.4	11.08	ppb	0.62	1000.	
88 Sr	435.7	87.14	ppb	0.56	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	54.85	10.97	ppb	0.66	1000.	
107 Ag	10.24	2.048	ppb	0.86	100.	
109 Ag	10.22	2.044	ppb	1.84	#VALUE!	
111 Cd	11.86	2.372	ppb	0.20	#VALUE!	
114 Cd	9.565	1.913	ppb	3.47	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	104.5	20.9	ppb	1.63	1000.	
120 Sn	104.95	20.99	ppb	0.81	#VALUE!	
121 Sb	12.585	2.517	ppb	2.20	#VALUE!	
123 Sb	12.535	2.507	ppb	2.88	1000.	
135 Ba	1,682.5	336.5	ppb	0.72	2000.	
137 Ba	1,692.5	338.5	ppb	1.50	#VALUE!	
182 W	50.9	10.18	ppb	0.82	1000.	
203 Tl	13.8	2.76	ppb	1.02	1000.	
205 Tl	13.795	2.759	ppb	3.30	#VALUE!	
208 Pb	138.6	27.72	ppb	0.47	2000.	
232 Th	102.35	20.47	ppb	1.18	1000.	
238 U	24.295	4.859	ppb	0.85	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	4042998.80	1.42	3691108.80	109.5	69.5 - 120	
45 Sc	2982108.50	0.54	2910447.80	102.5	69.5 - 120	
72 Ge	523997.16	0.82	556535.31	94.2	69.5 - 120	
159 Tb	2662840.00	1.08	2966504.30	89.8	69.5 - 120	
209 Bi	1257970.90	0.55	1486792.30	84.6	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000238

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\095SMPL.D\095SMPL.D#
Date Acquired: May 22 2018 12:11 am
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: SL4180-008S
Misc Info:
Vial Number: 2508
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	57.85	11.57	ppb	0.69	100.	
11 B	521.	104.2	ppb	0.46	1000.	
23 Na	9,420.	1,884.	ppb	1.84	200000.	
25 Mg	67,700.	13,540.	ppb	1.15	200000.	
27 Al	250,100.	50,020.	ppb	1.85	200000.	
28 Si	3,201.	640.2	ppb	4.88	#VALUE!	
29 Si	2,886.	577.2	ppb	3.54	10000.	
39 K	56,800.	11,360.	ppb	1.51	200000.	
43 Ca	44,100.	8,820.	ppb	1.74	#VALUE!	
44 Ca	43,765.	8,753.	ppb	1.46	200000.	
51 V	829.	165.8	ppb	0.11	1000.	
52 Cr	404.3	80.86	ppb	0.37	2000.	
53 Cr	463.85	92.77	ppb	1.65	#VALUE!	
55 Mn	2,833.	566.6	ppb	1.10	2000.	
56 Fe	198,750.	39,750.	ppb	1.09	#VALUE!	
57 Fe	192,000.	38,400.	ppb	0.58	100000.	
59 Co	587.5	117.5	ppb	1.52	1000.	
60 Ni	671.5	134.3	ppb	0.31	1000.	
63 Cu	387.8	77.56	ppb	0.74	#VALUE!	
65 Cu	392.75	78.55	ppb	1.37	2000.	
66 Zn	1,025.	205.	ppb	0.84	2000.	
68 Zn	1,146.	229.2	ppb	1.38	#VALUE!	
75 As	150.1	30.02	ppb	1.26	1000.	
82 Se	103.4	20.68	ppb	1.86	1000.	
88 Sr	903.5	180.7	ppb	1.24	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	95.1	19.02	ppb	1.17	1000.	
107 Ag	47.425	9.485	ppb	1.47	100.	
109 Ag	46.94	9.388	ppb	2.39	#VALUE!	
111 Cd	234.3	46.86	ppb	0.88	#VALUE!	
114 Cd	232.3	46.46	ppb	1.30	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	559.	111.8	ppb	0.10	1000.	
120 Sn	557.	111.4	ppb	0.76	#VALUE!	
121 Sb	54.5	10.9	ppb	1.71	#VALUE!	
123 Sb	55.	11.	ppb	0.53	1000.	
135 Ba	3,844.	768.8	ppb	0.42	2000.	
137 Ba	3,872.	774.4	ppb	0.49	#VALUE!	
182 W	65.4	13.08	ppb	0.65	1000.	
203 Tl	108.3	21.66	ppb	0.45	1000.	
205 Tl	108.	21.6	ppb	0.41	#VALUE!	
208 Pb	239.45	47.89	ppb	0.56	2000.	
232 Th	197.05	39.41	ppb	0.91	1000.	
238 U	118.05	23.61	ppb	0.55	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	4041233.30	1.43	3691108.80	109.5	69.5 - 120	
45 Sc	2904013.50	2.33	2910447.80	99.8	69.5 - 120	
72 Ge	512690.19	1.41	556535.31	92.1	69.5 - 120	
159 Tb	2618722.30	0.50	2966504.30	88.3	69.5 - 120	
209 Bi	1234333.90	0.88	1486792.30	83.0	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000239

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\096SMPL.D\096SMPL.D#
Date Acquired: May 22 2018 12:16 am
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: SL4180-008P
Misc Info:
Vial Number: 2509
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	57.	11.4	ppb	2.19	100.	
11 B	515.	103.	ppb	1.69	1000.	
23 Na	9,490.	1,898.	ppb	0.78	200000.	
25 Mg	53,850.	10,770.	ppb	1.11	200000.	
27 Al	204,450.	40,890.	ppb	1.25	200000.	
28 Si	3,073.5	614.7	ppb	5.34	#VALUE!	
29 Si	2,491.	498.2	ppb	2.76	10000.	
39 K	50,900.	10,180.	ppb	0.40	200000.	
43 Ca	38,710.	7,742.	ppb	1.70	#VALUE!	
44 Ca	37,980.	7,596.	ppb	0.45	200000.	
51 V	793.	158.6	ppb	0.39	1000.	
52 Cr	384.3	76.86	ppb	1.13	2000.	
53 Cr	439.95	87.99	ppb	1.22	#VALUE!	
55 Mn	2,624.	524.8	ppb	1.06	2000.	
56 Fe	164,100.	32,820.	ppb	0.54	#VALUE!	
57 Fe	159,850.	31,970.	ppb	0.84	100000.	
59 Co	585.5	117.1	ppb	0.80	1000.	
60 Ni	646.	129.2	ppb	1.15	1000.	
63 Cu	386.9	77.38	ppb	0.37	#VALUE!	
65 Cu	392.85	78.57	ppb	0.11	2000.	
66 Zn	966.	193.2	ppb	0.66	2000.	
68 Zn	1,063.	212.6	ppb	0.31	#VALUE!	
75 As	132.2	26.44	ppb	0.81	1000.	
82 Se	102.3	20.46	ppb	3.99	1000.	
88 Sr	876.	175.2	ppb	1.02	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	95.25	19.05	ppb	0.92	1000.	
107 Ag	47.63	9.526	ppb	1.09	100.	
109 Ag	47.65	9.53	ppb	0.99	#VALUE!	
111 Cd	233.35	46.67	ppb	0.97	#VALUE!	
114 Cd	231.8	46.36	ppb	0.61	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	561.	112.2	ppb	1.06	1000.	
120 Sn	561.	112.2	ppb	0.96	#VALUE!	
121 Sb	51.65	10.33	ppb	1.69	#VALUE!	
123 Sb	51.95	10.39	ppb	1.27	1000.	
135 Ba	3,155.	631.	ppb	0.97	2000.	
137 Ba	3,195.	639.	ppb	1.04	#VALUE!	
182 W	64.4	12.88	ppb	1.18	1000.	
203 Tl	109.1	21.82	ppb	2.62	1000.	
205 Tl	107.95	21.59	ppb	2.00	#VALUE!	
208 Pb	219.8	43.96	ppb	1.70	2000.	
232 Th	197.6	39.52	ppb	2.04	1000.	
238 U	119.6	23.92	ppb	1.70	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	4057330.30	1.48	3691108.80	109.9	69.5 - 120	
45 Sc	2906706.80	0.72	2910447.80	99.9	69.5 - 120	
72 Ge	512420.16	0.69	556535.31	92.1	69.5 - 120	
159 Tb	2590823.50	0.92	2966504.30	87.3	69.5 - 120	
209 Bi	1231859.50	1.48	1486792.30	82.9	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000240

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\097SMPL.D\097SMPL.D#
Date Acquired: May 22 2018 12:20 am
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: SL4180-009
Misc Info:
Vial Number: 2510
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	8.75	1.75	ppb	4.40	100.	
11 B	119.05	23.81	ppb	2.76	1000.	
23 Na	11,080.	2,216.	ppb	0.95	200000.	
25 Mg	73,450.	14,690.	ppb	2.37	200000.	
27 Al	194,300.	38,860.	ppb	2.33	200000.	
28 Si	4,630.5	926.1	ppb	3.87	#VALUE!	
29 Si	3,939.5	787.9	ppb	1.36	10000.	
39 K	38,585.	7,717.	ppb	2.10	200000.	
43 Ca	286,050.	57,210.	ppb	1.22	#VALUE!	
44 Ca	267,650.	53,530.	ppb	1.93	200000.	
51 V	440.7	88.14	ppb	2.94	1000.	
52 Cr	185.4	37.08	ppb	1.82	2000.	
53 Cr	236.1	47.22	ppb	1.33	#VALUE!	
55 Mn	6,600.	1,320.	ppb	0.99	2000.	
56 Fe	180,250.	36,050.	ppb	1.10	#VALUE!	
57 Fe	175,100.	35,020.	ppb	1.33	100000.	
59 Co	75.9	15.18	ppb	1.29	1000.	
60 Ni	170.95	34.19	ppb	0.80	1000.	
63 Cu	138.4	27.68	ppb	2.21	#VALUE!	
65 Cu	142.	28.4	ppb	0.51	2000.	
66 Zn	454.6	90.92	ppb	0.93	2000.	
68 Zn	592.5	118.5	ppb	1.65	#VALUE!	
75 As	73.3	14.66	ppb	2.00	1000.	
82 Se	3.3545	0.6709	ppb	33.46	1000.	
88 Sr	668.	133.6	ppb	2.04	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	4.721	0.9442	ppb	2.08	1000.	
107 Ag	0.8915	0.1783	ppb	9.31	100.	
109 Ag	0.632	0.1264	ppb	1.64	#VALUE!	
111 Cd	3.802	0.7604	ppb	9.58	#VALUE!	
114 Cd	0.4337	0.0867	ppb	14.76	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	52.3	10.46	ppb	1.14	1000.	
120 Sn	52.45	10.49	ppb	1.26	#VALUE!	
121 Sb	2.35	0.47	ppb	4.16	#VALUE!	
123 Sb	2.3675	0.4735	ppb	4.91	1000.	
135 Ba	3,693.5	738.7	ppb	1.88	2000.	
137 Ba	3,695.	739.	ppb	3.42	#VALUE!	
182 W	0.9805	0.1961	ppb	8.94	1000.	
203 Tl	3.278	0.6556	ppb	6.59	1000.	
205 Tl	3.282	0.6564	ppb	6.10	#VALUE!	
208 Pb	119.6	23.92	ppb	0.68	2000.	
232 Th	82.25	16.45	ppb	0.43	1000.	
238 U	12.035	2.407	ppb	2.53	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3914772.00	3.54	3691108.80	106.1	69.5 - 120	
45 Sc	2916854.30	2.09	2910447.80	100.2	69.5 - 120	
72 Ge	512002.50	1.48	556535.31	92.0	69.5 - 120	
159 Tb	2579025.30	1.42	2966504.30	86.9	69.5 - 120	
209 Bi	1210937.80	0.81	1486792.30	81.4	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000241

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\098SMPL.D\098SMPL.D#
Date Acquired: May 22 2018 12:24 am
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: SL4180-010
Misc Info:
Vial Number: 2511
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	10.58	2.116	ppb	3.44	100.	
11 B	125.45	25.09	ppb	1.59	1000.	
23 Na	16,230.	3,246.	ppb	1.57	200000.	
25 Mg	97,800.	19,560.	ppb	1.85	200000.	
27 Al	228,750.	45,750.	ppb	0.63	200000.	
28 Si	4,379.5	875.9	ppb	12.46	#VALUE!	
29 Si	3,691.5	738.3	ppb	4.77	10000.	
39 K	47,200.	9,440.	ppb	1.61	200000.	
43 Ca	449,600.	89,920.	ppb	1.30	#VALUE!	
44 Ca	424,400.	84,880.	ppb	1.17	200000.	
51 V	461.	92.2	ppb	1.41	1000.	
52 Cr	224.65	44.93	ppb	1.42	2000.	
53 Cr	268.75	53.75	ppb	0.50	#VALUE!	
55 Mn	6,895.	1,379.	ppb	0.93	2000.	
56 Fe	221,100.	44,220.	ppb	0.67	#VALUE!	
57 Fe	217,150.	43,430.	ppb	0.83	100000.	
59 Co	102.55	20.51	ppb	0.83	1000.	
60 Ni	219.75	43.95	ppb	0.88	1000.	
63 Cu	169.45	33.89	ppb	1.44	#VALUE!	
65 Cu	171.6	34.32	ppb	1.39	2000.	
66 Zn	588.5	117.7	ppb	0.53	2000.	
68 Zn	724.5	144.9	ppb	1.29	#VALUE!	
75 As	53.95	10.79	ppb	2.61	1000.	
82 Se	3.6965	0.7393	ppb	14.78	1000.	
88 Sr	945.	189.	ppb	1.27	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	5.935	1.187	ppb	5.23	1000.	
107 Ag	1.0365	0.2073	ppb	3.77	100.	
109 Ag	0.7665	0.1533	ppb	7.63	#VALUE!	
111 Cd	4.8825	0.9765	ppb	8.15	#VALUE!	
114 Cd	0.766	0.1532	ppb	24.11	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	52.	10.4	ppb	2.07	1000.	
120 Sn	52.6	10.52	ppb	0.78	#VALUE!	
121 Sb	2.466	0.4932	ppb	6.39	#VALUE!	
123 Sb	2.541	0.5082	ppb	3.13	1000.	
135 Ba	3,717.	743.4	ppb	0.97	2000.	
137 Ba	3,741.	748.2	ppb	0.79	#VALUE!	
182 W	0.867	0.1734	ppb	5.93	1000.	
203 Tl	3.983	0.7966	ppb	2.52	1000.	
205 Tl	3.917	0.7834	ppb	3.34	#VALUE!	
208 Pb	163.6	32.72	ppb	1.98	2000.	
232 Th	108.3	21.66	ppb	1.29	1000.	
238 U	18.135	3.627	ppb	2.35	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3984492.50	1.93	3691108.80	107.9	69.5 - 120	
45 Sc	2919729.00	1.36	2910447.80	100.3	69.5 - 120	
72 Ge	514864.78	0.86	556535.31	92.5	69.5 - 120	
159 Tb	2680121.50	1.14	2966504.30	90.3	69.5 - 120	
209 Bi	1237173.80	1.71	1486792.30	83.2	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000242

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\099SMPL.D\099SMPL.D#
Date Acquired: May 22 2018 12:29 am
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: RINSE
Misc Info:
Vial Number: 2512
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0034	0.0034	ppb	75.42	100.	
11 B	0.1798	0.1798	ppb	10.89	1000.	
23 Na	-0.1332	-0.1332	ppb	48.99	200000.	
25 Mg	1.085	1.085	ppb	15.75	200000.	
27 Al	0.8975	0.8975	ppb	5.18	200000.	
28 Si	67.6	67.6	ppb	42.16	#VALUE!	
29 Si	-17.95	-17.95	ppb	137.94	10000.	
39 K	-3.576	-3.576	ppb	70.92	200000.	
43 Ca	2.222	2.222	ppb	183.66	#VALUE!	
44 Ca	4.269	4.269	ppb	17.39	200000.	
51 V	-0.0348	-0.0348	ppb	23.57	1000.	
52 Cr	-0.0404	-0.0404	ppb	21.82	2000.	
53 Cr	-2.609	-2.609	ppb	4.52	#VALUE!	
55 Mn	0.5523	0.5523	ppb	3.40	2000.	
56 Fe	4.437	4.437	ppb	41.54	#VALUE!	
57 Fe	6.22	6.22	ppb	32.43	100000.	
59 Co	0.0058	0.0058	ppb	34.85	1000.	
60 Ni	-0.0007	-0.0007	ppb	2867.30	1000.	
63 Cu	0.177	0.177	ppb	20.66	#VALUE!	
65 Cu	0.1767	0.1767	ppb	29.36	2000.	
66 Zn	-0.0157	-0.0157	ppb	142.43	2000.	
68 Zn	0.1754	0.1754	ppb	12.41	#VALUE!	
75 As	-0.209	-0.209	ppb	10.78	1000.	
82 Se	-0.0088	-0.0088	ppb	1937.50	1000.	
88 Sr	0.0054	0.0054	ppb	16.09	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	0.0055	0.0055	ppb	77.46	1000.	
107 Ag	0.0017	0.0017	ppb	84.42	100.	
109 Ag	0.001	0.001	ppb	143.89	#VALUE!	
111 Cd	-0.1314	-0.1314	ppb	23.59	#VALUE!	
114 Cd	0.0051	0.0051	ppb	89.51	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	0.021	0.021	ppb	50.36	1000.	
120 Sn	0.0186	0.0186	ppb	33.20	#VALUE!	
121 Sb	-0.0075	-0.0075	ppb	2.70	#VALUE!	
123 Sb	-0.005	-0.005	ppb	97.41	1000.	
135 Ba	0.0097	0.0097	ppb	157.18	2000.	
137 Ba	0.0022	0.0022	ppb	422.95	#VALUE!	
182 W	0.0018	0.0018	ppb	233.48	1000.	
203 Tl	0.0059	0.0059	ppb	62.97	1000.	
205 Tl	0.0033	0.0033	ppb	108.26	#VALUE!	
208 Pb	0.0205	0.0205	ppb	24.25	2000.	
232 Th	0.0182	0.0182	ppb	50.84	1000.	
238 U	-0.0001	-0.0001	ppb	908.85	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3849564.50	1.93	3691108.80	104.3	69.5 - 120	
45 Sc	2796552.80	1.60	2910447.80	96.1	69.5 - 120	
72 Ge	514521.63	1.58	556535.31	92.5	69.5 - 120	
159 Tb	2550951.30	1.21	2966504.30	86.0	69.5 - 120	
209 Bi	1257874.00	1.08	1486792.30	84.6	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000243

CCV QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\100_CCV.D\100_CCV.D#
Date Acquired: May 22 2018 12:33 am
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: CCV
Misc Info:
Vial Number: 1306
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Dilution Factor: 1.00
QC Range (%): 89.5 - 110.5

QC Elements

Element	Conc.		RSD(%)	Expected	Rec (%)	Flag
9 Be	23.66	ppb	2.09	25	94.64	
11 B	24.06	ppb	4.73	25	96.24	
23 Na	5,061.	ppb	2.04	5,000	101.22	
25 Mg	5,085.	ppb	2.10	5,000	101.7	
27 Al	509.3	ppb	1.30	500	101.86	
28 Si	540.7	ppb	5.53	500	108.14	
29 Si	452.8	ppb	3.84	500	90.56	
39 K	4,884.	ppb	0.90	5,000	97.68	
43 Ca	4,978.	ppb	0.29	5,000	99.56	
44 Ca	5,065.	ppb	1.47	5,000	101.3	
51 V	26.25	ppb	1.78	25	105	
52 Cr	26.35	ppb	1.71	25	105.4	
53 Cr	25.23	ppb	2.47	25	100.92	
55 Mn	26.14	ppb	1.28	25	104.56	
56 Fe	5,107.	ppb	1.29	5,000	102.14	
57 Fe	5,192.	ppb	2.42	5,000	103.84	
59 Co	26.07	ppb	0.92	25	104.28	
60 Ni	26.19	ppb	0.63	25	104.76	
63 Cu	25.57	ppb	1.64	25	102.28	
65 Cu	25.43	ppb	0.78	25	101.72	
66 Zn	25.84	ppb	0.59	25	103.36	
68 Zn	26.19	ppb	2.20	25	104.76	
75 As	25.27	ppb	0.17	25	101.08	
82 Se	25.19	ppb	1.50	25	100.76	
88 Sr	24.49	ppb	0.79	25	97.96	
89 Y	--------	---	--------	---	#VALUE!	
98 Mo	23.57	ppb	1.13	25	94.28	
107 Ag	23.42	ppb	1.48	25	93.68	
109 Ag	23.45	ppb	0.25	25	93.8	
111 Cd	22.71	ppb	1.14	25	90.84	
114 Cd	23.13	ppb	1.17	25	92.52	
115 In	--------	---	--------	---	#VALUE!	
118 Sn	25.48	ppb	0.78	25	101.92	
120 Sn	25.58	ppb	0.60	25	102.32	
121 Sb	26.22	ppb	1.03	25	104.88	
123 Sb	26.17	ppb	0.74	25	104.68	
135 Ba	26.06	ppb	0.41	25	104.24	
137 Ba	26.31	ppb	0.37	25	105.24	
182 W	23.73	ppb	1.70	25	94.92	
203 Tl	24.91	ppb	0.51	25	99.64	
205 Tl	24.73	ppb	0.59	25	98.92	
208 Pb	24.8	ppb	0.04	25	99.2	
232 Th	24.4	ppb	0.59	25	97.6	
238 U	24.84	ppb	0.87	25	99.36	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3981500.80	1.89	3691108.80	107.9	80 - 120.4	
45 Sc	2906937.30	1.05	2910447.80	99.9	80 - 120.4	
72 Ge	519434.66	1.43	556535.31	93.3	80 - 120.4	
159 Tb	2572914.80	0.79	2966504.30	86.7	80 - 120.4	
209 Bi	1261290.10	0.54	1486792.30	84.8	80 - 120.4	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000244

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\101_CCB.D\101_CCB.D#
Date Acquired: May 22 2018 12:37 am
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: CCB
Misc Info:
Vial Number: 1307
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: 6-CCB
Dilution Factor: 1.00

QC Elements

Element	Conc.		RSD(%)	High Limit	Flag
9 Be	0.0029	ppb	45.15	1.00	
11 B	0.1736	ppb	17.28	1.00	
23 Na	2.537	ppb	9.95	1.00	
25 Mg	0.5239	ppb	12.38	1.00	
27 Al	0.818	ppb	12.84	1.00	
28 Si	71.45	ppb	48.30	1.00	
29 Si	-11.89	ppb	298.57	1.00	
39 K	-1.304	ppb	411.35	1.00	
43 Ca	8.587	ppb	44.58	1.00	
44 Ca	6.03	ppb	14.35	1.00	
51 V	-0.0248	ppb	362.65	1.00	
52 Cr	0.0051	ppb	411.38	1.00	
53 Cr	-1.967	ppb	16.34	1.00	
55 Mn	0.2417	ppb	5.46	1.00	
56 Fe	7.731	ppb	44.32	1.00	
57 Fe	11.01	ppb	19.34	1.00	
59 Co	0.0062	ppb	36.38	1.00	
60 Ni	0.0576	ppb	12.03	1.00	
63 Cu	0.2725	ppb	2.21	1.00	
65 Cu	0.2117	ppb	18.03	1.00	
66 Zn	0.4654	ppb	11.32	1.00	
68 Zn	0.5957	ppb	8.77	1.00	
75 As	-0.1384	ppb	69.59	1.00	
82 Se	-0.1938	ppb	47.46	1.00	
88 Sr	0.0083	ppb	84.54	1.00	
89 Y	--------	---	--------	---	
98 Mo	0.0205	ppb	36.51	1.00	
107 Ag	0.0017	ppb	162.76	1.00	
109 Ag	0.0016	ppb	51.75	1.00	
111 Cd	-0.1347	ppb	16.74	1.00	
114 Cd	0.0016	ppb	494.68	1.00	
115 In	--------	---	--------	---	
118 Sn	0.0579	ppb	18.71	1.00	
120 Sn	0.0685	ppb	27.40	1.00	
121 Sb	0.0065	ppb	134.86	1.00	
123 Sb	0.0125	ppb	35.24	1.00	
135 Ba	0.0342	ppb	75.02	1.00	
137 Ba	0.0515	ppb	6.67	1.00	
182 W	0.0465	ppb	42.94	1.00	
203 Tl	-0.0024	ppb	117.08	1.00	
205 Tl	0.0027	ppb	40.66	1.00	
208 Pb	0.0061	ppb	52.63	1.00	
232 Th	0.0482	ppb	15.44	1.00	
238 U	0.0016	ppb	45.03	1.00	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3853173.80	1.17	3691108.80	104.4	79.5 - 120	
45 Sc	2838560.30	3.05	2910447.80	97.5	79.5 - 120	
72 Ge	509281.88	2.30	556535.31	91.5	79.5 - 120	
159 Tb	2506871.30	2.45	2966504.30	84.5	79.5 - 120	
209 Bi	1243035.30	3.08	1486792.30	83.6	79.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\102SMPL.D\102SMPL.D#
Date Acquired: May 22 2018 12:41 am
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: SL4180-011
Misc Info:
Vial Number: 3101
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	10.585	2.117	ppb	3.73	100.	
11 B	125.55	25.11	ppb	4.25	1000.	
23 Na	11,750.	2,350.	ppb	2.18	200000.	
25 Mg	86,450.	17,290.	ppb	3.12	200000.	
27 Al	230,900.	46,180.	ppb	2.28	200000.	
28 Si	5,230.	1,046.	ppb	6.34	#VALUE!	
29 Si	4,898.5	979.7	ppb	3.47	10000.	
39 K	43,985.	8,797.	ppb	2.31	200000.	
43 Ca	136,350.	27,270.	ppb	1.00	#VALUE!	
44 Ca	133,600.	26,720.	ppb	1.45	200000.	
51 V	509.	101.8	ppb	3.13	1000.	
52 Cr	237.05	47.41	ppb	1.64	2000.	
53 Cr	295.65	59.13	ppb	2.03	#VALUE!	
55 Mn	3,377.	675.4	ppb	2.04	2000.	
56 Fe	228,850.	45,770.	ppb	2.37	#VALUE!	
57 Fe	221,250.	44,250.	ppb	2.85	100000.	
59 Co	77.4	15.48	ppb	2.25	1000.	
60 Ni	191.6	38.32	ppb	2.40	1000.	
63 Cu	179.55	35.91	ppb	2.22	#VALUE!	
65 Cu	183.55	36.71	ppb	1.61	2000.	
66 Zn	651.5	130.3	ppb	1.26	2000.	
68 Zn	726.	145.2	ppb	2.47	#VALUE!	
75 As	71.75	14.35	ppb	1.70	1000.	
82 Se	3.2355	0.6471	ppb	3.89	1000.	
88 Sr	532.5	106.5	ppb	2.41	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	5.365	1.073	ppb	4.11	1000.	
107 Ag	1.1005	0.2201	ppb	12.14	100.	
109 Ag	0.859	0.1718	ppb	4.52	#VALUE!	
111 Cd	4.3805	0.8761	ppb	3.13	#VALUE!	
114 Cd	0.5975	0.1195	ppb	23.10	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	53.65	10.73	ppb	2.77	1000.	
120 Sn	53.15	10.63	ppb	3.54	#VALUE!	
121 Sb	2.142	0.4284	ppb	9.61	#VALUE!	
123 Sb	2.3675	0.4735	ppb	6.28	1000.	
135 Ba	2,515.5	503.1	ppb	2.70	2000.	
137 Ba	2,526.	505.2	ppb	2.40	#VALUE!	
182 W	0.6745	0.1349	ppb	8.30	1000.	
203 Tl	3.809	0.7618	ppb	5.38	1000.	
205 Tl	3.866	0.7732	ppb	3.22	#VALUE!	
208 Pb	157.3	31.46	ppb	1.14	2000.	
232 Th	105.95	21.19	ppb	0.21	1000.	
238 U	11.8	2.36	ppb	1.54	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3999856.50	2.05	3691108.80	108.4	69.5 - 120	
45 Sc	2946272.00	1.54	2910447.80	101.2	69.5 - 120	
72 Ge	518175.06	1.72	556535.31	93.1	69.5 - 120	
159 Tb	2655884.30	2.64	2966504.30	89.5	69.5 - 120	
209 Bi	1236432.10	0.89	1486792.30	83.2	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000246

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\103SMPL.D\103SMPL.D#
Date Acquired: May 22 2018 12:46 am
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: SL4180-012
Misc Info:
Vial Number: 3102
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6.83	1.366	ppb	2.31	100.	
11 B	85.85	17.17	ppb	3.13	1000.	
23 Na	2,104.	420.8	ppb	3.72	200000.	
25 Mg	33,300.	6,660.	ppb	1.99	200000.	
27 Al	138,600.	27,720.	ppb	0.14	200000.	
28 Si	4,575.	915.	ppb	5.80	#VALUE!	
29 Si	4,390.	878.	ppb	6.86	10000.	
39 K	42,955.	8,591.	ppb	0.81	200000.	
43 Ca	26,015.	5,203.	ppb	1.01	#VALUE!	
44 Ca	26,070.	5,214.	ppb	0.71	200000.	
51 V	282.1	56.42	ppb	0.76	1000.	
52 Cr	147.5	29.5	ppb	0.68	2000.	
53 Cr	200.35	40.07	ppb	1.38	#VALUE!	
55 Mn	3,457.	691.4	ppb	0.79	2000.	
56 Fe	121,550.	24,310.	ppb	0.88	#VALUE!	
57 Fe	118,800.	23,760.	ppb	0.58	100000.	
59 Co	69.85	13.97	ppb	0.63	1000.	
60 Ni	104.15	20.83	ppb	0.61	1000.	
63 Cu	97.9	19.58	ppb	0.34	#VALUE!	
65 Cu	99.	19.8	ppb	1.47	2000.	
66 Zn	401.	80.2	ppb	0.23	2000.	
68 Zn	449.7	89.94	ppb	0.27	#VALUE!	
75 As	32.32	6.464	ppb	3.36	1000.	
82 Se	5.835	1.167	ppb	16.05	1000.	
88 Sr	360.45	72.09	ppb	0.42	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	14.24	2.848	ppb	2.44	1000.	
107 Ag	0.702	0.1404	ppb	7.76	100.	
109 Ag	0.597	0.1194	ppb	8.94	#VALUE!	
111 Cd	3.1845	0.6369	ppb	8.41	#VALUE!	
114 Cd	1.317	0.2634	ppb	5.38	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	50.7	10.14	ppb	0.97	1000.	
120 Sn	50.6	10.12	ppb	2.12	#VALUE!	
121 Sb	1.4265	0.2853	ppb	8.14	#VALUE!	
123 Sb	1.4805	0.2961	ppb	3.17	1000.	
135 Ba	1,513.5	302.7	ppb	0.33	2000.	
137 Ba	1,525.5	305.1	ppb	0.71	#VALUE!	
182 W	0.827	0.1654	ppb	4.38	1000.	
203 Tl	2.591	0.5182	ppb	5.81	1000.	
205 Tl	2.746	0.5492	ppb	3.18	#VALUE!	
208 Pb	421.4	84.28	ppb	1.08	2000.	
232 Th	92.25	18.45	ppb	1.58	1000.	
238 U	15.445	3.089	ppb	1.38	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3953039.50	1.93	3691108.80	107.1	69.5 - 120	
45 Sc	2905681.00	1.34	2910447.80	99.8	69.5 - 120	
72 Ge	513206.97	0.67	556535.31	92.2	69.5 - 120	
159 Tb	2615269.50	0.25	2966504.30	88.2	69.5 - 120	
209 Bi	1248107.40	0.90	1486792.30	83.9	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000247

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\104SMPL.D\104SMPL.D#
Date Acquired: May 22 2018 12:50 am
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: SL4180-013
Misc Info:
Vial Number: 3103
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	8.685	1.737	ppb	4.53	100.	
11 B	120.	24.	ppb	2.62	1000.	
23 Na	16,495.	3,299.	ppb	1.95	200000.	
25 Mg	80,650.	16,130.	ppb	0.92	200000.	
27 Al	194,700.	38,940.	ppb	0.61	200000.	
28 Si	4,743.	948.6	ppb	7.50	#VALUE!	
29 Si	4,400.	880.	ppb	4.93	10000.	
39 K	51,450.	10,290.	ppb	1.95	200000.	
43 Ca	417,450.	83,490.	ppb	1.78	#VALUE!	
44 Ca	392,150.	78,430.	ppb	1.08	200000.	
51 V	431.15	86.23	ppb	2.17	1000.	
52 Cr	190.05	38.01	ppb	0.56	2000.	
53 Cr	236.2	47.24	ppb	0.41	#VALUE!	
55 Mn	4,487.	897.4	ppb	0.49	2000.	
56 Fe	181,000.	36,200.	ppb	0.94	#VALUE!	
57 Fe	176,850.	35,370.	ppb	0.11	100000.	
59 Co	85.75	17.15	ppb	0.93	1000.	
60 Ni	187.75	37.55	ppb	1.09	1000.	
63 Cu	121.85	24.37	ppb	1.46	#VALUE!	
65 Cu	126.	25.2	ppb	0.87	2000.	
66 Zn	458.4	91.68	ppb	0.70	2000.	
68 Zn	552.	110.4	ppb	1.01	#VALUE!	
75 As	62.7	12.54	ppb	0.79	1000.	
82 Se	4.06	0.812	ppb	24.19	1000.	
88 Sr	721.5	144.3	ppb	0.42	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	10.235	2.047	ppb	5.10	1000.	
107 Ag	0.831	0.1662	ppb	2.62	100.	
109 Ag	0.5705	0.1141	ppb	6.80	#VALUE!	
111 Cd	3.996	0.7992	ppb	5.53	#VALUE!	
114 Cd	0.714	0.1428	ppb	22.15	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	52.15	10.43	ppb	3.45	1000.	
120 Sn	52.05	10.41	ppb	1.53	#VALUE!	
121 Sb	2.245	0.449	ppb	8.80	#VALUE!	
123 Sb	2.341	0.4682	ppb	7.67	1000.	
135 Ba	2,601.	520.2	ppb	0.42	2000.	
137 Ba	2,621.5	524.3	ppb	0.97	#VALUE!	
182 W	0.8735	0.1747	ppb	7.91	1000.	
203 Tl	3.295	0.659	ppb	3.32	1000.	
205 Tl	3.299	0.6598	ppb	6.67	#VALUE!	
208 Pb	123.4	24.68	ppb	0.49	2000.	
232 Th	83.4	16.68	ppb	0.74	1000.	
238 U	16.93	3.386	ppb	1.29	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3980345.80	2.54	3691108.80	107.8	69.5 - 120	
45 Sc	2900568.80	1.56	2910447.80	99.7	69.5 - 120	
72 Ge	516397.47	0.14	556535.31	92.8	69.5 - 120	
159 Tb	2639289.00	1.84	2966504.30	89.0	69.5 - 120	
209 Bi	1237459.00	1.63	1486792.30	83.2	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000248

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\105SMPL.D\105SMPL.D#
Date Acquired: May 22 2018 12:55 am
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: SL4180-014
Misc Info:
Vial Number: 3104
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	7.21	1.442	ppb	1.38	100.	
11 B	108.6	21.72	ppb	2.48	1000.	
23 Na	3,158.5	631.7	ppb	2.19	200000.	
25 Mg	43,855.	8,771.	ppb	2.73	200000.	
27 Al	162,400.	32,480.	ppb	1.83	200000.	
28 Si	4,680.5	936.1	ppb	10.37	#VALUE!	
29 Si	4,272.	854.4	ppb	0.59	10000.	
39 K	51,650.	10,330.	ppb	1.02	200000.	
43 Ca	19,265.	3,853.	ppb	1.70	#VALUE!	
44 Ca	19,350.	3,870.	ppb	0.52	200000.	
51 V	287.25	57.45	ppb	1.89	1000.	
52 Cr	155.25	31.05	ppb	1.06	2000.	
53 Cr	198.2	39.64	ppb	2.01	#VALUE!	
55 Mn	2,317.	463.4	ppb	1.71	2000.	
56 Fe	134,700.	26,940.	ppb	1.37	#VALUE!	
57 Fe	130,800.	26,160.	ppb	1.83	100000.	
59 Co	59.5	11.9	ppb	1.14	1000.	
60 Ni	118.3	23.66	ppb	0.93	1000.	
63 Cu	105.3	21.06	ppb	1.28	#VALUE!	
65 Cu	107.6	21.52	ppb	1.09	2000.	
66 Zn	417.95	83.59	ppb	0.83	2000.	
68 Zn	486.6	97.32	ppb	1.75	#VALUE!	
75 As	29.495	5.899	ppb	2.69	1000.	
82 Se	3.7815	0.7563	ppb	25.16	1000.	
88 Sr	374.95	74.99	ppb	1.14	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	10.36	2.072	ppb	3.15	1000.	
107 Ag	0.607	0.1214	ppb	5.56	100.	
109 Ag	0.4706	0.0941	ppb	10.36	#VALUE!	
111 Cd	2.3185	0.4637	ppb	10.67	#VALUE!	
114 Cd	0.76	0.152	ppb	15.15	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	51.1	10.22	ppb	0.77	1000.	
120 Sn	50.8	10.16	ppb	0.93	#VALUE!	
121 Sb	1.577	0.3154	ppb	5.34	#VALUE!	
123 Sb	1.665	0.333	ppb	6.50	1000.	
135 Ba	1,872.5	374.5	ppb	0.66	2000.	
137 Ba	1,886.5	377.3	ppb	1.44	#VALUE!	
182 W	0.6795	0.1359	ppb	12.52	1000.	
203 Tl	2.4295	0.4859	ppb	2.69	1000.	
205 Tl	2.6785	0.5357	ppb	2.78	#VALUE!	
208 Pb	146.45	29.29	ppb	0.51	2000.	
232 Th	79.6	15.92	ppb	1.31	1000.	
238 U	13.71	2.742	ppb	1.09	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	4065248.80	0.70	3691108.80	110.1	69.5 - 120	
45 Sc	2936737.30	2.58	2910447.80	100.9	69.5 - 120	
72 Ge	519123.28	1.36	556535.31	93.3	69.5 - 120	
159 Tb	2607825.50	0.85	2966504.30	87.9	69.5 - 120	
209 Bi	1230616.60	0.65	1486792.30	82.8	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000249

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\106SMPL.D\106SMPL.D#
Date Acquired: May 22 2018 12:59 am
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: SL4180-015
Misc Info:
Vial Number: 3105
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	13.59	2.718	ppb	2.67	100.	
11 B	189.7	37.94	ppb	1.85	1000.	
23 Na	30,610.	6,122.	ppb	1.90	200000.	
25 Mg	141,800.	28,360.	ppb	0.75	200000.	
27 Al	312,250.	62,450.	ppb	2.01	200000.	
28 Si	5,340.	1,068.	ppb	0.24	#VALUE!	
29 Si	4,991.5	998.3	ppb	3.34	10000.	
39 K	76,700.	15,340.	ppb	0.63	200000.	
43 Ca	235,100.	47,020.	ppb	1.82	#VALUE!	
44 Ca	222,300.	44,460.	ppb	0.72	200000.	
51 V	655.	131.	ppb	1.51	1000.	
52 Cr	320.6	64.12	ppb	0.70	2000.	
53 Cr	376.5	75.3	ppb	0.97	#VALUE!	
55 Mn	5,365.	1,073.	ppb	0.12	2000.	
56 Fe	297,300.	59,460.	ppb	1.09	#VALUE!	
57 Fe	289,300.	57,860.	ppb	1.15	100000.	
59 Co	128.25	25.65	ppb	0.86	1000.	
60 Ni	270.65	54.13	ppb	1.31	1000.	
63 Cu	199.1	39.82	ppb	0.30	#VALUE!	
65 Cu	201.4	40.28	ppb	1.40	2000.	
66 Zn	718.	143.6	ppb	0.81	2000.	
68 Zn	806.5	161.3	ppb	0.90	#VALUE!	
75 As	78.15	15.63	ppb	0.69	1000.	
82 Se	6.935	1.387	ppb	6.62	1000.	
88 Sr	951.5	190.3	ppb	1.40	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	7.485	1.497	ppb	2.62	1000.	
107 Ag	1.1875	0.2375	ppb	0.80	100.	
109 Ag	0.7995	0.1599	ppb	2.56	#VALUE!	
111 Cd	4.354	0.8708	ppb	10.84	#VALUE!	
114 Cd	-0.69	-0.138	ppb	10.83	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	56.35	11.27	ppb	0.20	1000.	
120 Sn	56.85	11.37	ppb	0.92	#VALUE!	
121 Sb	2.747	0.5494	ppb	4.88	#VALUE!	
123 Sb	2.961	0.5922	ppb	5.14	1000.	
135 Ba	2,872.	574.4	ppb	0.39	2000.	
137 Ba	2,884.	576.8	ppb	0.44	#VALUE!	
182 W	0.741	0.1482	ppb	6.33	1000.	
203 Tl	4.7815	0.9563	ppb	4.11	1000.	
205 Tl	4.831	0.9662	ppb	2.01	#VALUE!	
208 Pb	225.15	45.03	ppb	0.44	2000.	
232 Th	131.9	26.38	ppb	0.33	1000.	
238 U	19.675	3.935	ppb	1.70	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	4009473.30	0.81	3691108.80	108.6	69.5 - 120	
45 Sc	2954471.80	0.82	2910447.80	101.5	69.5 - 120	
72 Ge	510704.47	1.01	556535.31	91.8	69.5 - 120	
159 Tb	2548067.30	0.72	2966504.30	85.9	69.5 - 120	
209 Bi	1171882.90	0.40	1486792.30	78.8	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000250

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\107SMPL.D\107SMPL.D#
Date Acquired: May 22 2018 01:03 am
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: SL4180-016
Misc Info:
Vial Number: 3106
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	11.67	2.334	ppb	2.31	100.	
11 B	165.8	33.16	ppb	4.91	1000.	
23 Na	2,130.5	426.1	ppb	0.76	200000.	
25 Mg	73,000.	14,600.	ppb	1.77	200000.	
27 Al	274,600.	54,920.	ppb	2.42	200000.	
28 Si	5,000.	1,000.	ppb	0.63	#VALUE!	
29 Si	4,658.	931.6	ppb	1.43	10000.	
39 K	68,950.	13,790.	ppb	1.14	200000.	
43 Ca	40,635.	8,127.	ppb	2.20	#VALUE!	
44 Ca	40,250.	8,050.	ppb	0.57	200000.	
51 V	482.6	96.52	ppb	1.49	1000.	
52 Cr	248.3	49.66	ppb	0.55	2000.	
53 Cr	304.	60.8	ppb	2.07	#VALUE!	
55 Mn	4,747.5	949.5	ppb	0.74	2000.	
56 Fe	225,400.	45,080.	ppb	0.64	#VALUE!	
57 Fe	217,500.	43,500.	ppb	0.44	100000.	
59 Co	98.6	19.72	ppb	1.24	1000.	
60 Ni	193.7	38.74	ppb	0.80	1000.	
63 Cu	157.35	31.47	ppb	0.72	#VALUE!	
65 Cu	159.6	31.92	ppb	0.63	2000.	
66 Zn	642.5	128.5	ppb	0.46	2000.	
68 Zn	725.	145.	ppb	0.89	#VALUE!	
75 As	59.85	11.97	ppb	0.95	1000.	
82 Se	7.13	1.426	ppb	2.65	1000.	
88 Sr	611.5	122.3	ppb	1.14	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	16.98	3.396	ppb	0.80	1000.	
107 Ag	1.108	0.2216	ppb	4.03	100.	
109 Ag	0.84	0.168	ppb	5.61	#VALUE!	
111 Cd	4.987	0.9974	ppb	7.07	#VALUE!	
114 Cd	0.5645	0.1129	ppb	14.29	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	54.65	10.93	ppb	3.09	1000.	
120 Sn	55.05	11.01	ppb	1.22	#VALUE!	
121 Sb	2.394	0.4788	ppb	5.59	#VALUE!	
123 Sb	2.4295	0.4859	ppb	3.86	1000.	
135 Ba	2,445.5	489.1	ppb	0.62	2000.	
137 Ba	2,468.5	493.7	ppb	0.55	#VALUE!	
182 W	1.154	0.2308	ppb	6.36	1000.	
203 Tl	4.0715	0.8143	ppb	2.24	1000.	
205 Tl	4.0665	0.8133	ppb	1.63	#VALUE!	
208 Pb	168.6	33.72	ppb	0.38	2000.	
232 Th	118.75	23.75	ppb	0.55	1000.	
238 U	20.405	4.081	ppb	1.19	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3997063.80	3.67	3691108.80	108.3	69.5 - 120	
45 Sc	2958946.30	0.72	2910447.80	101.7	69.5 - 120	
72 Ge	511510.47	0.71	556535.31	91.9	69.5 - 120	
159 Tb	2488789.00	1.29	2966504.30	83.9	69.5 - 120	
209 Bi	1182458.40	0.72	1486792.30	79.5	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000251

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\108SMPL.D\108SMPL.D#
Date Acquired: May 22 2018 01:08 am
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: SL4180-017
Misc Info:
Vial Number: 3107
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	10.465	2.093	ppb	1.77	100.	
11 B	150.25	30.05	ppb	1.49	1000.	
23 Na	1,841.5	368.3	ppb	2.44	200000.	
25 Mg	73,900.	14,780.	ppb	1.48	200000.	
27 Al	235,800.	47,160.	ppb	0.70	200000.	
28 Si	5,255.	1,051.	ppb	14.04	#VALUE!	
29 Si	4,059.	811.8	ppb	4.18	10000.	
39 K	60,250.	12,050.	ppb	1.08	200000.	
43 Ca	34,855.	6,971.	ppb	0.28	#VALUE!	
44 Ca	34,685.	6,937.	ppb	0.86	200000.	
51 V	417.8	83.56	ppb	2.84	1000.	
52 Cr	206.65	41.33	ppb	0.91	2000.	
53 Cr	256.4	51.28	ppb	0.59	#VALUE!	
55 Mn	3,508.5	701.7	ppb	1.09	2000.	
56 Fe	193,750.	38,750.	ppb	1.75	#VALUE!	
57 Fe	187,300.	37,460.	ppb	0.43	100000.	
59 Co	86.2	17.24	ppb	0.94	1000.	
60 Ni	174.15	34.83	ppb	0.43	1000.	
63 Cu	143.05	28.61	ppb	1.15	#VALUE!	
65 Cu	144.85	28.97	ppb	1.76	2000.	
66 Zn	538.	107.6	ppb	0.24	2000.	
68 Zn	613.	122.6	ppb	0.61	#VALUE!	
75 As	55.9	11.18	ppb	2.42	1000.	
82 Se	6.535	1.307	ppb	20.47	1000.	
88 Sr	538.5	107.7	ppb	2.23	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	10.825	2.165	ppb	2.34	1000.	
107 Ag	0.9135	0.1827	ppb	8.06	100.	
109 Ag	0.809	0.1618	ppb	2.65	#VALUE!	
111 Cd	4.2375	0.8475	ppb	10.42	#VALUE!	
114 Cd	0.1774	0.0355	ppb	34.96	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	54.35	10.87	ppb	2.42	1000.	
120 Sn	54.6	10.92	ppb	1.33	#VALUE!	
121 Sb	2.3885	0.4777	ppb	8.37	#VALUE!	
123 Sb	2.3575	0.4715	ppb	3.52	1000.	
135 Ba	2,285.	457.	ppb	0.95	2000.	
137 Ba	2,307.	461.4	ppb	1.30	#VALUE!	
182 W	1.049	0.2098	ppb	0.72	1000.	
203 Tl	3.5715	0.7143	ppb	5.48	1000.	
205 Tl	3.5345	0.7069	ppb	0.93	#VALUE!	
208 Pb	143.6	28.72	ppb	0.73	2000.	
232 Th	103.35	20.67	ppb	1.02	1000.	
238 U	12.26	2.452	ppb	1.16	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3873725.30	1.32	3691108.80	104.9	69.5 - 120	
45 Sc	2944789.80	1.29	2910447.80	101.2	69.5 - 120	
72 Ge	507528.09	1.41	556535.31	91.2	69.5 - 120	
159 Tb	2473606.80	1.25	2966504.30	83.4	69.5 - 120	
209 Bi	1168042.10	0.63	1486792.30	78.6	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000252

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\109SMPL.D\109SMPL.D#
Date Acquired: May 22 2018 01:12 am
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: RINSE
Misc Info:
Vial Number: 3108
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	-0.0002	-0.0002	ppb	361.29	100.	
11 B	0.2145	0.2145	ppb	23.40	1000.	
23 Na	0.1787	0.1787	ppb	80.58	200000.	
25 Mg	1.09	1.09	ppb	22.35	200000.	
27 Al	4.365	4.365	ppb	3.83	200000.	
28 Si	138.3	138.3	ppb	28.61	#VALUE!	
29 Si	55.36	55.36	ppb	38.01	10000.	
39 K	7.573	7.573	ppb	50.13	200000.	
43 Ca	2.849	2.849	ppb	73.46	#VALUE!	
44 Ca	5.096	5.096	ppb	13.84	200000.	
51 V	0.0206	0.0206	ppb	324.61	1000.	
52 Cr	0.0231	0.0231	ppb	53.65	2000.	
53 Cr	-1.5	-1.5	ppb	5.56	#VALUE!	
55 Mn	0.0528	0.0528	ppb	42.75	2000.	
56 Fe	9.109	9.109	ppb	39.51	#VALUE!	
57 Fe	9.645	9.645	ppb	2.42	100000.	
59 Co	0.0047	0.0047	ppb	86.31	1000.	
60 Ni	-0.0009	-0.0009	ppb	1791.80	1000.	
63 Cu	0.1409	0.1409	ppb	12.94	#VALUE!	
65 Cu	0.0985	0.0985	ppb	25.35	2000.	
66 Zn	0.0359	0.0359	ppb	141.69	2000.	
68 Zn	0.1165	0.1165	ppb	27.01	#VALUE!	
75 As	0.0688	0.0688	ppb	176.39	1000.	
82 Se	-0.164	-0.164	ppb	53.54	1000.	
88 Sr	0.0014	0.0014	ppb	124.86	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	-0.0051	-0.0051	ppb	2.51	1000.	
107 Ag	0.0009	0.0009	ppb	219.93	100.	
109 Ag	0.0003	0.0003	ppb	756.71	#VALUE!	
111 Cd	-0.112	-0.112	ppb	34.65	#VALUE!	
114 Cd	-0.0013	-0.0013	ppb	533.78	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	0.0096	0.0096	ppb	96.68	1000.	
120 Sn	0.0099	0.0099	ppb	187.25	#VALUE!	
121 Sb	-0.0117	-0.0117	ppb	21.02	#VALUE!	
123 Sb	-0.0067	-0.0067	ppb	93.78	1000.	
135 Ba	0.0246	0.0246	ppb	70.23	2000.	
137 Ba	0.0171	0.0171	ppb	25.45	#VALUE!	
182 W	0.0049	0.0049	ppb	159.52	1000.	
203 Tl	-0.0004	-0.0004	ppb	1593.50	1000.	
205 Tl	0.0048	0.0048	ppb	50.87	#VALUE!	
208 Pb	0.0061	0.0061	ppb	17.04	2000.	
232 Th	0.0205	0.0205	ppb	23.58	1000.	
238 U	-0.0005	-0.0005	ppb	67.60	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3725757.80	2.74	3691108.80	100.9	69.5 - 120	
45 Sc	2672879.30	2.03	2910447.80	91.8	69.5 - 120	
72 Ge	484349.63	1.99	556535.31	87.0	69.5 - 120	
159 Tb	2352652.50	0.57	2966504.30	79.3	69.5 - 120	
209 Bi	1165519.00	0.52	1486792.30	78.4	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000253

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\110SMPL.D\110SMPL.D#
Date Acquired: May 22 2018 01:16 am
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: PBSLE21IMS2
Misc Info:
Vial Number: 3109
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0125	0.0025	ppb	72.49	100.	
11 B	1.234	0.2468	ppb	11.20	1000.	
23 Na	26.66	5.332	ppb	2.57	200000.	
25 Mg	23.66	4.732	ppb	8.93	200000.	
27 Al	11.31	2.262	ppb	2.91	200000.	
28 Si	390.35	78.07	ppb	14.41	#VALUE!	
29 Si	110.35	22.07	ppb	35.94	10000.	
39 K	48.09	9.618	ppb	10.36	200000.	
43 Ca	45.54	9.108	ppb	93.14	#VALUE!	
44 Ca	72.75	14.55	ppb	21.44	200000.	
51 V	1.1555	0.2311	ppb	44.79	1000.	
52 Cr	1.852	0.3704	ppb	4.66	2000.	
53 Cr	50.2	10.04	ppb	1.99	#VALUE!	
55 Mn	2.01	0.402	ppb	1.64	2000.	
56 Fe	66.	13.2	ppb	6.63	#VALUE!	
57 Fe	67.65	13.53	ppb	28.13	100000.	
59 Co	0.0768	0.0154	ppb	31.54	1000.	
60 Ni	0.3391	0.0678	ppb	51.62	1000.	
63 Cu	1.724	0.3448	ppb	12.44	#VALUE!	
65 Cu	1.696	0.3392	ppb	15.40	2000.	
66 Zn	1.193	0.2386	ppb	14.38	2000.	
68 Zn	1.1455	0.2291	ppb	10.49	#VALUE!	
75 As	-0.2348	-0.047	ppb	440.68	1000.	
82 Se	-0.916	-0.1832	ppb	12.22	1000.	
88 Sr	0.2637	0.0527	ppb	12.93	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	0.0491	0.0098	ppb	27.36	1000.	
107 Ag	0.0033	0.0007	ppb	193.98	100.	
109 Ag	0.0161	0.0032	ppb	71.46	#VALUE!	
111 Cd	-0.4048	-0.081	ppb	23.32	#VALUE!	
114 Cd	-0.0444	-0.0089	ppb	217.81	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	44.89	8.978	ppb	1.31	1000.	
120 Sn	44.175	8.835	ppb	0.76	#VALUE!	
121 Sb	0.0158	0.0032	ppb	111.14	#VALUE!	
123 Sb	0.0313	0.0063	ppb	31.26	1000.	
135 Ba	0.2545	0.0509	ppb	33.19	2000.	
137 Ba	0.339	0.0678	ppb	26.05	#VALUE!	
182 W	0.0157	0.0031	ppb	191.29	1000.	
203 Tl	-0.0198	-0.004	ppb	53.38	1000.	
205 Tl	0.0097	0.0019	ppb	65.20	#VALUE!	
208 Pb	0.0679	0.0136	ppb	24.16	2000.	
232 Th	0.1417	0.0283	ppb	31.15	1000.	
238 U	0.0038	0.0008	ppb	231.25	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3915986.30	1.48	3691108.80	106.1	69.5 - 120	
45 Sc	2804453.80	0.10	2910447.80	96.4	69.5 - 120	
72 Ge	501301.81	0.05	556535.31	90.1	69.5 - 120	
159 Tb	2469648.30	1.55	2966504.30	83.3	69.5 - 120	
209 Bi	1207521.40	1.20	1486792.30	81.2	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000254

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\111SMPL.D\111SMPL.D#
Date Acquired: May 22 2018 01:20 am
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: LCSOLE21IMS2
Misc Info:
Vial Number: 3110
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	48.01	9.602	ppb	0.87	100.	
11 B	488.5	97.7	ppb	3.17	1000.	
23 Na	8,325.	1,665.	ppb	2.14	200000.	
25 Mg	5,865.	1,173.	ppb	2.58	200000.	
27 Al	2,249.5	449.9	ppb	1.83	200000.	
28 Si	1,377.	275.4	ppb	14.31	#VALUE!	
29 Si	1,071.5	214.3	ppb	13.03	10000.	
39 K	10,595.	2,119.	ppb	3.79	200000.	
43 Ca	3,193.5	638.7	ppb	3.54	#VALUE!	
44 Ca	2,770.5	554.1	ppb	1.15	200000.	
51 V	562.5	112.5	ppb	3.04	1000.	
52 Cr	221.55	44.31	ppb	2.04	2000.	
53 Cr	285.15	57.03	ppb	0.86	#VALUE!	
55 Mn	562.	112.4	ppb	0.29	2000.	
56 Fe	1,178.	235.6	ppb	1.61	#VALUE!	
57 Fe	1,177.5	235.5	ppb	3.20	100000.	
59 Co	563.	112.6	ppb	1.65	1000.	
60 Ni	558.	111.6	ppb	1.08	1000.	
63 Cu	268.8	53.76	ppb	0.57	#VALUE!	
65 Cu	271.75	54.35	ppb	1.46	2000.	
66 Zn	526.5	105.3	ppb	1.64	2000.	
68 Zn	606.	121.2	ppb	0.82	#VALUE!	
75 As	109.85	21.97	ppb	0.93	1000.	
82 Se	106.45	21.29	ppb	2.25	1000.	
88 Sr	521.	104.2	ppb	2.02	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	100.	20.	ppb	1.88	1000.	
107 Ag	50.25	10.05	ppb	1.26	100.	
109 Ag	49.915	9.983	ppb	1.37	#VALUE!	
111 Cd	244.2	48.84	ppb	2.33	#VALUE!	
114 Cd	247.25	49.45	ppb	1.76	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	575.5	115.1	ppb	0.97	1000.	
120 Sn	576.	115.2	ppb	0.67	#VALUE!	
121 Sb	109.75	21.95	ppb	1.28	#VALUE!	
123 Sb	109.25	21.85	ppb	0.43	1000.	
135 Ba	2,154.5	430.9	ppb	0.26	2000.	
137 Ba	2,177.5	435.5	ppb	0.16	#VALUE!	
182 W	100.45	20.09	ppb	1.20	1000.	
203 Tl	107.	21.4	ppb	1.71	1000.	
205 Tl	108.3	21.66	ppb	1.69	#VALUE!	
208 Pb	107.4	21.48	ppb	1.50	2000.	
232 Th	104.25	20.85	ppb	1.50	1000.	
238 U	105.15	21.03	ppb	1.71	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	4152925.30	1.52	3691108.80	112.5	69.5 - 120	
45 Sc	2815462.00	2.99	2910447.80	96.7	69.5 - 120	
72 Ge	502699.38	1.19	556535.31	90.3	69.5 - 120	
159 Tb	2557728.80	0.12	2966504.30	86.2	69.5 - 120	
209 Bi	1235546.50	1.34	1486792.30	83.1	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000255

CCV QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\112_CCV.D\112_CCV.D#
Date Acquired: May 22 2018 01:25 am
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: CCV
Misc Info:
Vial Number: 1306
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Dilution Factor: 1.00
QC Range (%): 89.5 - 110.5

QC Elements

Element	Conc.		RSD(%)	Expected	Rec (%)	Flag
9 Be	23.85	ppb	2.60	25	95.4	
11 B	24.55	ppb	1.18	25	98.2	
23 Na	5,143.	ppb	2.25	5,000	102.86	
25 Mg	5,146.	ppb	1.03	5,000	102.92	
27 Al	507.5	ppb	2.08	500	101.5	
28 Si	586.6	ppb	3.86	500	117.32	
29 Si	516.1	ppb	3.87	500	103.22	
39 K	4,932.	ppb	0.80	5,000	98.64	
43 Ca	5,003.	ppb	2.00	5,000	100.06	
44 Ca	5,129.	ppb	0.92	5,000	102.58	
51 V	26.42	ppb	0.85	25	105.68	
52 Cr	26.94	ppb	0.85	25	107.76	
53 Cr	26.81	ppb	1.34	25	107.24	
55 Mn	26.59	ppb	0.11	25	106.36	
56 Fe	5,198.	ppb	0.33	5,000	103.96	
57 Fe	5,344.	ppb	1.67	5,000	106.88	
59 Co	26.34	ppb	0.36	25	105.36	
60 Ni	26.53	ppb	1.54	25	106.12	
63 Cu	25.74	ppb	0.56	25	102.96	
65 Cu	25.86	ppb	0.43	25	103.44	
66 Zn	26.32	ppb	1.40	25	105.28	
68 Zn	26.18	ppb	1.56	25	104.72	
75 As	25.43	ppb	0.61	25	101.72	
82 Se	25.11	ppb	0.77	25	100.44	
88 Sr	24.57	ppb	0.62	25	98.28	
89 Y	--------	---	--------	---	#VALUE!	
98 Mo	23.43	ppb	0.48	25	93.72	
107 Ag	23.4	ppb	0.18	25	93.6	
109 Ag	23.38	ppb	0.37	25	93.52	
111 Cd	22.77	ppb	1.56	25	91.08	
114 Cd	22.86	ppb	1.12	25	91.44	
115 In	--------	---	--------	---	#VALUE!	
118 Sn	25.51	ppb	1.52	25	102.04	
120 Sn	25.53	ppb	0.68	25	102.12	
121 Sb	26.05	ppb	0.84	25	104.2	
123 Sb	26.34	ppb	1.45	25	105.36	
135 Ba	25.97	ppb	1.63	25	103.88	
137 Ba	26.27	ppb	2.17	25	105.08	
182 W	23.55	ppb	2.14	25	94.2	
203 Tl	25.02	ppb	2.17	25	100.08	
205 Tl	24.76	ppb	1.06	25	99.04	
208 Pb	24.82	ppb	0.99	25	99.28	
232 Th	24.73	ppb	0.55	25	98.92	
238 U	25.08	ppb	0.99	25	100.32	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3872520.80	2.56	3691108.80	104.9	80 - 120.4	
45 Sc	2819251.50	1.04	2910447.80	96.9	80 - 120.4	
72 Ge	500014.00	0.76	556535.31	89.8	80 - 120.4	
159 Tb	2458216.50	0.21	2966504.30	82.9	80 - 120.4	
209 Bi	1200430.50	1.08	1486792.30	80.7	80 - 120.4	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000256

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\113_CCB.D\113_CCB.D#
Date Acquired: May 22 2018 01:29 am
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: CCB
Misc Info:
Vial Number: 1307
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: 6-CCB
Dilution Factor: 1.00

QC Elements

Element	Conc.		RSD(%)	High Limit	Flag
9 Be	0.0039	ppb	44.68	1.00	
11 B	0.2521	ppb	12.38	1.00	
23 Na	2.634	ppb	1.26	1.00	
25 Mg	0.6626	ppb	21.82	1.00	
27 Al	0.8311	ppb	15.93	1.00	
28 Si	102.3	ppb	22.61	1.00	
29 Si	27.06	ppb	61.53	1.00	
39 K	5.208	ppb	21.83	1.00	
43 Ca	8.276	ppb	63.63	1.00	
44 Ca	8.013	ppb	7.38	1.00	
51 V	0.0011	ppb	4709.20	1.00	
52 Cr	0.0105	ppb	82.22	1.00	
53 Cr	-1.021	ppb	18.40	1.00	
55 Mn	0.2632	ppb	4.45	1.00	
56 Fe	9.332	ppb	12.12	1.00	
57 Fe	12.44	ppb	29.91	1.00	
59 Co	0.0066	ppb	33.35	1.00	
60 Ni	0.044	ppb	13.41	1.00	
63 Cu	0.2071	ppb	1.23	1.00	
65 Cu	0.1982	ppb	8.31	1.00	
66 Zn	0.5059	ppb	10.28	1.00	
68 Zn	0.5057	ppb	11.97	1.00	
75 As	-0.1311	ppb	34.58	1.00	
82 Se	-0.1831	ppb	106.23	1.00	
88 Sr	0.0054	ppb	61.94	1.00	
89 Y	--------	---	--------	---	
98 Mo	0.015	ppb	75.67	1.00	
107 Ag	0.0044	ppb	17.59	1.00	
109 Ag	0.0058	ppb	40.91	1.00	
111 Cd	-0.0663	ppb	80.38	1.00	
114 Cd	0.0094	ppb	27.28	1.00	
115 In	--------	---	--------	---	
118 Sn	0.082	ppb	15.54	1.00	
120 Sn	0.0696	ppb	9.83	1.00	
121 Sb	0.0034	ppb	198.58	1.00	
123 Sb	0.0092	ppb	92.72	1.00	
135 Ba	0.0713	ppb	17.23	1.00	
137 Ba	0.0406	ppb	37.87	1.00	
182 W	0.047	ppb	36.90	1.00	
203 Tl	0.0011	ppb	191.34	1.00	
205 Tl	-0.0025	ppb	66.54	1.00	
208 Pb	0.0079	ppb	36.53	1.00	
232 Th	0.054	ppb	13.73	1.00	
238 U	0.0007	ppb	153.62	1.00	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3890372.50	1.51	3691108.80	105.4	79.5 - 120	
45 Sc	2789944.00	0.88	2910447.80	95.9	79.5 - 120	
72 Ge	498772.56	0.80	556535.31	89.6	79.5 - 120	
159 Tb	2417129.80	0.78	2966504.30	81.5	79.5 - 120	
209 Bi	1203693.00	0.79	1486792.30	81.0	79.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000257

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\114SMPL.D\114SMPL.D#
Date Acquired: May 22 2018 01:33 am
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: SL4180-018
Misc Info:
Vial Number: 3111
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	7.86	1.572	ppb	4.99	100.	
11 B	140.35	28.07	ppb	2.65	1000.	
23 Na	16,110.	3,222.	ppb	2.25	200000.	
25 Mg	90,250.	18,050.	ppb	2.69	200000.	
27 Al	190,800.	38,160.	ppb	3.59	200000.	
28 Si	4,945.	989.	ppb	8.43	#VALUE!	
29 Si	4,214.	842.8	ppb	3.97	10000.	
39 K	49,895.	9,979.	ppb	2.97	200000.	
43 Ca	493,650.	98,730.	ppb	2.85	#VALUE!	
44 Ca	470,550.	94,110.	ppb	2.50	200000.	
51 V	408.8	81.76	ppb	3.24	1000.	
52 Cr	188.05	37.61	ppb	3.21	2000.	
53 Cr	233.25	46.65	ppb	2.63	#VALUE!	
55 Mn	2,807.	561.4	ppb	2.00	2000.	
56 Fe	169,900.	33,980.	ppb	2.66	#VALUE!	
57 Fe	165,950.	33,190.	ppb	2.75	100000.	
59 Co	75.85	15.17	ppb	2.69	1000.	
60 Ni	164.	32.8	ppb	2.40	1000.	
63 Cu	121.55	24.31	ppb	2.06	#VALUE!	
65 Cu	123.8	24.76	ppb	2.80	2000.	
66 Zn	463.05	92.61	ppb	3.26	2000.	
68 Zn	569.5	113.9	ppb	2.86	#VALUE!	
75 As	43.33	8.666	ppb	1.95	1000.	
82 Se	2.474	0.4948	ppb	17.74	1000.	
88 Sr	1,123.	224.6	ppb	2.66	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	7.98	1.596	ppb	1.84	1000.	
107 Ag	0.8755	0.1751	ppb	7.53	100.	
109 Ag	0.662	0.1324	ppb	4.82	#VALUE!	
111 Cd	2.923	0.5846	ppb	3.67	#VALUE!	
114 Cd	-0.2072	-0.0414	ppb	49.12	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	51.65	10.33	ppb	1.70	1000.	
120 Sn	51.7	10.34	ppb	3.77	#VALUE!	
121 Sb	2.1515	0.4303	ppb	6.76	#VALUE!	
123 Sb	2.365	0.473	ppb	2.43	1000.	
135 Ba	2,992.	598.4	ppb	2.32	2000.	
137 Ba	3,024.	604.8	ppb	3.40	#VALUE!	
182 W	0.7185	0.1437	ppb	9.05	1000.	
203 Tl	2.945	0.589	ppb	3.56	1000.	
205 Tl	2.9745	0.5949	ppb	6.55	#VALUE!	
208 Pb	99.6	19.92	ppb	2.63	2000.	
232 Th	81.35	16.27	ppb	2.95	1000.	
238 U	17.8	3.56	ppb	1.30	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3981420.80	3.05	3691108.80	107.9	69.5 - 120	
45 Sc	2864860.30	2.52	2910447.80	98.4	69.5 - 120	
72 Ge	504818.34	2.03	556535.31	90.7	69.5 - 120	
159 Tb	2583719.80	3.33	2966504.30	87.1	69.5 - 120	
209 Bi	1197407.90	2.81	1486792.30	80.5	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000258

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\115SMPL.D\115SMPL.D#
Date Acquired: May 22 2018 01:38 am
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: SL4180-018L
Misc Info:
Vial Number: 3112
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: Sample
Dilution Factor: 25.00
Autodil Factor: Undiluted
Final Dil Factor: 25.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	8.8075	0.3523	ppb	4.54	100.	
11 B	147.45	5.898	ppb	1.27	1000.	
23 Na	16,607.5	664.3	ppb	3.55	200000.	
25 Mg	97,825.	3,913.	ppb	0.95	200000.	
27 Al	204,475.	8,179.	ppb	0.50	200000.	
28 Si	6,172.5	246.9	ppb	13.07	#VALUE!	
29 Si	3,457.5	138.3	ppb	12.72	10000.	
39 K	52,475.	2,099.	ppb	2.44	200000.	
43 Ca	509,000.	20,360.	ppb	0.95	#VALUE!	
44 Ca	497,750.	19,910.	ppb	1.34	200000.	
51 V	405.5	16.22	ppb	1.49	1000.	
52 Cr	193.3	7.732	ppb	1.71	2000.	
53 Cr	183.65	7.346	ppb	3.54	#VALUE!	
55 Mn	3,020.	120.8	ppb	0.99	2000.	
56 Fe	176,150.	7,046.	ppb	0.83	#VALUE!	
57 Fe	178,650.	7,146.	ppb	1.38	100000.	
59 Co	79.25	3.17	ppb	1.65	1000.	
60 Ni	174.95	6.998	ppb	1.51	1000.	
63 Cu	129.375	5.175	ppb	2.14	#VALUE!	
65 Cu	134.3	5.372	ppb	1.62	2000.	
66 Zn	500.75	20.03	ppb	1.67	2000.	
68 Zn	601.5	24.06	ppb	1.59	#VALUE!	
75 As	41.1	1.644	ppb	3.40	1000.	
82 Se	-0.4835	-0.0193	ppb	801.96	1000.	
88 Sr	1,177.5	47.1	ppb	1.17	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	8.3775	0.3351	ppb	3.34	1000.	
107 Ag	0.9498	0.038	ppb	6.90	100.	
109 Ag	0.712	0.0285	ppb	14.44	#VALUE!	
111 Cd	0.0744	0.003	ppb	882.73	#VALUE!	
114 Cd	-0.0805	-0.0032	ppb	372.79	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	53.7	2.148	ppb	2.31	1000.	
120 Sn	54.4	2.176	ppb	1.69	#VALUE!	
121 Sb	2.4963	0.0999	ppb	6.47	#VALUE!	
123 Sb	2.4485	0.0979	ppb	16.29	1000.	
135 Ba	3,122.5	124.9	ppb	1.27	2000.	
137 Ba	3,135.	125.4	ppb	0.43	#VALUE!	
182 W	1.0063	0.0403	ppb	11.09	1000.	
203 Tl	2.765	0.1106	ppb	10.20	1000.	
205 Tl	2.9425	0.1177	ppb	8.01	#VALUE!	
208 Pb	99.9	3.996	ppb	1.55	2000.	
232 Th	76.975	3.079	ppb	1.91	1000.	
238 U	17.57	0.7028	ppb	0.75	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3853380.00	1.68	3691108.80	104.4	69.5 - 120	
45 Sc	2836365.50	1.89	2910447.80	97.5	69.5 - 120	
72 Ge	514132.91	1.49	556535.31	92.4	69.5 - 120	
159 Tb	2590997.00	1.00	2966504.30	87.3	69.5 - 120	
209 Bi	1267634.60	0.42	1486792.30	85.3	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000259

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\116SMPL.D\116SMPL.D#
Date Acquired: May 22 2018 01:42 am
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: SL4180-018A
Misc Info:
Vial Number: 3201
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	17.235	3.447	ppb	2.01	100.	
11 B	329.05	65.81	ppb	2.53	1000.	
23 Na	25,720.	5,144.	ppb	1.41	200000.	
25 Mg	87,350.	17,470.	ppb	1.66	200000.	
27 Al	184,750.	36,950.	ppb	1.61	200000.	
28 Si	9,435.	1,887.	ppb	3.28	#VALUE!	
29 Si	9,080.	1,816.	ppb	2.18	10000.	
39 K	58,350.	11,670.	ppb	1.77	200000.	
43 Ca	477,900.	95,580.	ppb	2.39	#VALUE!	
44 Ca	456,700.	91,340.	ppb	1.92	200000.	
51 V	447.85	89.57	ppb	1.83	1000.	
52 Cr	232.2	46.44	ppb	1.87	2000.	
53 Cr	275.4	55.08	ppb	1.87	#VALUE!	
55 Mn	2,739.5	547.9	ppb	1.79	2000.	
56 Fe	165,250.	33,050.	ppb	2.51	#VALUE!	
57 Fe	162,400.	32,480.	ppb	1.43	100000.	
59 Co	84.4	16.88	ppb	1.12	1000.	
60 Ni	180.25	36.05	ppb	1.42	1000.	
63 Cu	149.1	29.82	ppb	1.65	#VALUE!	
65 Cu	151.15	30.23	ppb	0.30	2000.	
66 Zn	547.5	109.5	ppb	1.49	2000.	
68 Zn	649.5	129.9	ppb	1.36	#VALUE!	
75 As	95.9	19.18	ppb	2.00	1000.	
82 Se	53.45	10.69	ppb	2.87	1000.	
88 Sr	1,139.5	227.9	ppb	1.66	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	57.5	11.5	ppb	1.95	1000.	
107 Ag	10.545	2.109	ppb	0.50	100.	
109 Ag	10.5	2.1	ppb	1.86	#VALUE!	
111 Cd	12.42	2.484	ppb	1.96	#VALUE!	
114 Cd	9.13	1.826	ppb	3.67	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	100.75	20.15	ppb	0.21	1000.	
120 Sn	101.75	20.35	ppb	0.52	#VALUE!	
121 Sb	12.665	2.533	ppb	2.87	#VALUE!	
123 Sb	12.705	2.541	ppb	0.88	1000.	
135 Ba	2,902.	580.4	ppb	0.75	2000.	
137 Ba	2,910.	582.	ppb	0.25	#VALUE!	
182 W	51.05	10.21	ppb	1.52	1000.	
203 Tl	13.7	2.74	ppb	5.17	1000.	
205 Tl	13.825	2.765	ppb	3.41	#VALUE!	
208 Pb	106.85	21.37	ppb	1.00	2000.	
232 Th	89.1	17.82	ppb	2.09	1000.	
238 U	28.53	5.706	ppb	2.07	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	4005035.80	1.61	3691108.80	108.5	69.5 - 120	
45 Sc	2890698.80	0.94	2910447.80	99.3	69.5 - 120	
72 Ge	511638.28	0.81	556535.31	91.9	69.5 - 120	
159 Tb	2692658.00	0.76	2966504.30	90.8	69.5 - 120	
209 Bi	1236742.50	1.81	1486792.30	83.2	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000260

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\117SMPL.D\117SMPL.D#
Date Acquired: May 22 2018 01:46 am
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: SL4180-018S
Misc Info:
Vial Number: 3202
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	54.55	10.91	ppb	1.82	100.	
11 B	563.5	112.7	ppb	2.63	1000.	
23 Na	24,225.	4,845.	ppb	0.82	200000.	
25 Mg	98,550.	19,710.	ppb	0.92	200000.	
27 Al	209,250.	41,850.	ppb	0.51	200000.	
28 Si	4,318.	863.6	ppb	2.77	#VALUE!	
29 Si	3,947.	789.4	ppb	4.08	10000.	
39 K	62,100.	12,420.	ppb	1.73	200000.	
43 Ca	507,500.	101,500.	ppb	1.85	#VALUE!	
44 Ca	483,300.	96,660.	ppb	0.80	200000.	
51 V	932.5	186.5	ppb	0.78	1000.	
52 Cr	403.7	80.74	ppb	0.34	2000.	
53 Cr	454.2	90.84	ppb	0.43	#VALUE!	
55 Mn	3,174.	634.8	ppb	1.48	2000.	
56 Fe	176,950.	35,390.	ppb	0.29	#VALUE!	
57 Fe	174,450.	34,890.	ppb	0.78	100000.	
59 Co	586.5	117.3	ppb	0.85	1000.	
60 Ni	651.	130.2	ppb	0.18	1000.	
63 Cu	365.65	73.13	ppb	0.59	#VALUE!	
65 Cu	377.	75.4	ppb	0.13	2000.	
66 Zn	985.5	197.1	ppb	0.66	2000.	
68 Zn	1,157.	231.4	ppb	0.30	#VALUE!	
75 As	138.75	27.75	ppb	0.89	1000.	
82 Se	100.65	20.13	ppb	1.80	1000.	
88 Sr	1,616.5	323.3	ppb	0.55	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	96.85	19.37	ppb	0.64	1000.	
107 Ag	48.11	9.622	ppb	1.21	100.	
109 Ag	48.23	9.646	ppb	0.80	#VALUE!	
111 Cd	236.45	47.29	ppb	1.83	#VALUE!	
114 Cd	234.55	46.91	ppb	1.07	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	540.	108.	ppb	0.60	1000.	
120 Sn	540.5	108.1	ppb	0.32	#VALUE!	
121 Sb	37.71	7.542	ppb	1.51	#VALUE!	
123 Sb	37.42	7.484	ppb	1.89	1000.	
135 Ba	4,940.	988.	ppb	0.73	2000.	
137 Ba	5,000.	1,000.	ppb	0.68	#VALUE!	
182 W	47.225	9.445	ppb	0.79	1000.	
203 Tl	104.85	20.97	ppb	0.97	1000.	
205 Tl	106.3	21.26	ppb	0.58	#VALUE!	
208 Pb	210.6	42.12	ppb	0.53	2000.	
232 Th	187.25	37.45	ppb	0.79	1000.	
238 U	122.6	24.52	ppb	0.83	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	4025020.00	2.06	3691108.80	109.0	69.5 - 120	
45 Sc	2878834.30	1.68	2910447.80	98.9	69.5 - 120	
72 Ge	505712.38	0.77	556535.31	90.9	69.5 - 120	
159 Tb	2677761.80	0.70	2966504.30	90.3	69.5 - 120	
209 Bi	1243369.80	0.81	1486792.30	83.6	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000261

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\118SMPL.D\118SMPL.D#
Date Acquired: May 22 2018 01:51 am
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: SL4180-018P
Misc Info:
Vial Number: 3203
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	52.75	10.55	ppb	1.14	100.	
11 B	553.	110.6	ppb	0.38	1000.	
23 Na	21,590.	4,318.	ppb	1.10	200000.	
25 Mg	83,150.	16,630.	ppb	1.11	200000.	
27 Al	175,600.	35,120.	ppb	0.43	200000.	
28 Si	4,092.5	818.5	ppb	14.72	#VALUE!	
29 Si	3,323.	664.6	ppb	4.05	10000.	
39 K	53,150.	10,630.	ppb	0.81	200000.	
43 Ca	453,450.	90,690.	ppb	0.79	#VALUE!	
44 Ca	428,400.	85,680.	ppb	0.91	200000.	
51 V	872.	174.4	ppb	1.03	1000.	
52 Cr	371.85	74.37	ppb	1.60	2000.	
53 Cr	419.6	83.92	ppb	1.86	#VALUE!	
55 Mn	2,922.5	584.5	ppb	0.77	2000.	
56 Fe	145,400.	29,080.	ppb	0.92	#VALUE!	
57 Fe	142,100.	28,420.	ppb	0.91	100000.	
59 Co	579.5	115.9	ppb	1.22	1000.	
60 Ni	629.5	125.9	ppb	1.46	1000.	
63 Cu	350.15	70.03	ppb	1.35	#VALUE!	
65 Cu	354.55	70.91	ppb	1.02	2000.	
66 Zn	904.5	180.9	ppb	0.45	2000.	
68 Zn	1,062.5	212.5	ppb	0.99	#VALUE!	
75 As	132.4	26.48	ppb	0.70	1000.	
82 Se	99.3	19.86	ppb	0.81	1000.	
88 Sr	1,404.	280.8	ppb	1.67	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	96.8	19.36	ppb	0.46	1000.	
107 Ag	48.475	9.695	ppb	1.13	100.	
109 Ag	48.595	9.719	ppb	2.40	#VALUE!	
111 Cd	237.9	47.58	ppb	1.27	#VALUE!	
114 Cd	236.7	47.34	ppb	1.65	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	548.	109.6	ppb	0.62	1000.	
120 Sn	545.5	109.1	ppb	1.24	#VALUE!	
121 Sb	37.35	7.47	ppb	1.51	#VALUE!	
123 Sb	36.705	7.341	ppb	1.70	1000.	
135 Ba	4,480.	896.	ppb	1.24	2000.	
137 Ba	4,550.5	910.1	ppb	0.48	#VALUE!	
182 W	50.1	10.02	ppb	1.31	1000.	
203 Tl	106.05	21.21	ppb	1.30	1000.	
205 Tl	106.25	21.25	ppb	0.66	#VALUE!	
208 Pb	193.75	38.75	ppb	0.31	2000.	
232 Th	174.35	34.87	ppb	0.13	1000.	
238 U	121.6	24.32	ppb	0.43	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	4056228.80	1.62	3691108.80	109.9	69.5 - 120	
45 Sc	2836461.00	1.20	2910447.80	97.5	69.5 - 120	
72 Ge	505841.66	0.97	556535.31	90.9	69.5 - 120	
159 Tb	2687019.00	1.03	2966504.30	90.6	69.5 - 120	
209 Bi	1232779.00	0.71	1486792.30	82.9	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000262

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\119SMPL.D\119SMPL.D#
Date Acquired: May 22 2018 01:55 am
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: SL4180-019
Misc Info:
Vial Number: 3204
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	8.99	1.798	ppb	1.53	100.	
11 B	142.5	28.5	ppb	1.14	1000.	
23 Na	1,443.	288.6	ppb	0.27	200000.	
25 Mg	54,000.	10,800.	ppb	0.40	200000.	
27 Al	225,200.	45,040.	ppb	0.87	200000.	
28 Si	4,537.	907.4	ppb	7.10	#VALUE!	
29 Si	3,839.5	767.9	ppb	2.64	10000.	
39 K	64,900.	12,980.	ppb	1.12	200000.	
43 Ca	27,400.	5,480.	ppb	2.69	#VALUE!	
44 Ca	27,260.	5,452.	ppb	1.36	200000.	
51 V	351.4	70.28	ppb	0.77	1000.	
52 Cr	184.5	36.9	ppb	0.70	2000.	
53 Cr	226.85	45.37	ppb	1.44	#VALUE!	
55 Mn	2,567.5	513.5	ppb	1.29	2000.	
56 Fe	178,600.	35,720.	ppb	0.82	#VALUE!	
57 Fe	173,150.	34,630.	ppb	0.09	100000.	
59 Co	67.35	13.47	ppb	0.50	1000.	
60 Ni	166.1	33.22	ppb	0.55	1000.	
63 Cu	113.15	22.63	ppb	1.58	#VALUE!	
65 Cu	114.95	22.99	ppb	0.56	2000.	
66 Zn	528.5	105.7	ppb	1.10	2000.	
68 Zn	628.5	125.7	ppb	0.34	#VALUE!	
75 As	38.315	7.663	ppb	3.18	1000.	
82 Se	3.953	0.7906	ppb	20.72	1000.	
88 Sr	469.5	93.9	ppb	0.48	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	14.29	2.858	ppb	1.31	1000.	
107 Ag	0.9225	0.1845	ppb	10.88	100.	
109 Ag	0.6755	0.1351	ppb	6.78	#VALUE!	
111 Cd	3.79	0.758	ppb	5.58	#VALUE!	
114 Cd	0.539	0.1078	ppb	9.51	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	52.85	10.57	ppb	0.40	1000.	
120 Sn	52.9	10.58	ppb	1.05	#VALUE!	
121 Sb	2.4795	0.4959	ppb	6.75	#VALUE!	
123 Sb	2.3775	0.4755	ppb	3.77	1000.	
135 Ba	2,783.5	556.7	ppb	1.37	2000.	
137 Ba	2,815.	563.	ppb	0.96	#VALUE!	
182 W	1.1075	0.2215	ppb	9.04	1000.	
203 Tl	2.9285	0.5857	ppb	12.65	1000.	
205 Tl	2.98	0.596	ppb	3.11	#VALUE!	
208 Pb	126.8	25.36	ppb	1.01	2000.	
232 Th	73.55	14.71	ppb	0.88	1000.	
238 U	16.845	3.369	ppb	1.69	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	4009929.00	1.39	3691108.80	108.6	69.5 - 120	
45 Sc	2875744.30	0.60	2910447.80	98.8	69.5 - 120	
72 Ge	513045.47	0.41	556535.31	92.2	69.5 - 120	
159 Tb	2696403.50	1.00	2966504.30	90.9	69.5 - 120	
209 Bi	1268208.80	0.62	1486792.30	85.3	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000263

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\120SMPL.D\120SMPL.D#
Date Acquired: May 22 2018 01:59 am
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: SL4180-020
Misc Info:
Vial Number: 3205
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	7.19	1.438	ppb	3.56	100.	
11 B	121.8	24.36	ppb	0.66	1000.	
23 Na	4,388.	877.6	ppb	0.33	200000.	
25 Mg	82,950.	16,590.	ppb	1.82	200000.	
27 Al	157,450.	31,490.	ppb	2.87	200000.	
28 Si	4,077.5	815.5	ppb	3.74	#VALUE!	
29 Si	3,658.5	731.7	ppb	5.20	10000.	
39 K	46,145.	9,229.	ppb	0.90	200000.	
43 Ca	325,050.	65,010.	ppb	1.54	#VALUE!	
44 Ca	306,350.	61,270.	ppb	0.37	200000.	
51 V	304.6	60.92	ppb	2.38	1000.	
52 Cr	164.6	32.92	ppb	1.19	2000.	
53 Cr	203.65	40.73	ppb	1.47	#VALUE!	
55 Mn	1,928.	385.6	ppb	0.52	2000.	
56 Fe	135,250.	27,050.	ppb	0.67	#VALUE!	
57 Fe	130,800.	26,160.	ppb	0.26	100000.	
59 Co	54.3	10.86	ppb	0.87	1000.	
60 Ni	128.35	25.67	ppb	2.09	1000.	
63 Cu	110.85	22.17	ppb	0.68	#VALUE!	
65 Cu	113.35	22.67	ppb	1.06	2000.	
66 Zn	447.8	89.56	ppb	0.21	2000.	
68 Zn	623.	124.6	ppb	0.31	#VALUE!	
75 As	36.31	7.262	ppb	2.13	1000.	
82 Se	3.9755	0.7951	ppb	4.71	1000.	
88 Sr	938.	187.6	ppb	0.75	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	6.955	1.391	ppb	2.96	1000.	
107 Ag	0.9515	0.1903	ppb	8.99	100.	
109 Ag	0.7455	0.1491	ppb	3.87	#VALUE!	
111 Cd	2.3045	0.4609	ppb	12.01	#VALUE!	
114 Cd	-0.3977	-0.0795	ppb	31.71	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	51.6	10.32	ppb	1.74	1000.	
120 Sn	51.65	10.33	ppb	1.44	#VALUE!	
121 Sb	1.797	0.3594	ppb	6.16	#VALUE!	
123 Sb	1.8045	0.3609	ppb	6.47	1000.	
135 Ba	4,425.5	885.1	ppb	1.69	2000.	
137 Ba	4,454.	890.8	ppb	1.17	#VALUE!	
182 W	0.5645	0.1129	ppb	2.90	1000.	
203 Tl	2.7215	0.5443	ppb	2.43	1000.	
205 Tl	2.664	0.5328	ppb	2.53	#VALUE!	
208 Pb	90.65	18.13	ppb	2.17	2000.	
232 Th	68.7	13.74	ppb	2.79	1000.	
238 U	13.	2.6	ppb	1.02	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3965310.00	1.15	3691108.80	107.4	69.5 - 120	
45 Sc	2846654.80	1.46	2910447.80	97.8	69.5 - 120	
72 Ge	507896.22	0.17	556535.31	91.3	69.5 - 120	
159 Tb	2621998.30	1.91	2966504.30	88.4	69.5 - 120	
209 Bi	1222389.50	1.74	1486792.30	82.2	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000264

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\121SMPL.D\121SMPL.D#
Date Acquired: May 22 2018 02:04 am
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: SL4180-021
Misc Info:
Vial Number: 3206
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	11.465	2.293	ppb	1.43	100.	
11 B	134.3	26.86	ppb	1.62	1000.	
23 Na	2,504.	500.8	ppb	0.84	200000.	
25 Mg	87,400.	17,480.	ppb	0.71	200000.	
27 Al	245,050.	49,010.	ppb	0.65	200000.	
28 Si	2,495.5	499.1	ppb	6.21	#VALUE!	
29 Si	1,904.5	380.9	ppb	6.31	10000.	
39 K	72,150.	14,430.	ppb	1.43	200000.	
43 Ca	36,225.	7,245.	ppb	0.36	#VALUE!	
44 Ca	36,290.	7,258.	ppb	1.53	200000.	
51 V	342.85	68.57	ppb	0.89	1000.	
52 Cr	198.8	39.76	ppb	0.33	2000.	
53 Cr	242.3	48.46	ppb	2.39	#VALUE!	
55 Mn	1,869.	373.8	ppb	1.68	2000.	
56 Fe	197,000.	39,400.	ppb	1.37	#VALUE!	
57 Fe	192,400.	38,480.	ppb	1.63	100000.	
59 Co	81.4	16.28	ppb	1.05	1000.	
60 Ni	219.65	43.93	ppb	0.32	1000.	
63 Cu	144.4	28.88	ppb	0.88	#VALUE!	
65 Cu	147.5	29.5	ppb	0.88	2000.	
66 Zn	563.	112.6	ppb	0.44	2000.	
68 Zn	631.	126.2	ppb	0.50	#VALUE!	
75 As	57.05	11.41	ppb	1.24	1000.	
82 Se	4.154	0.8308	ppb	27.88	1000.	
88 Sr	677.	135.4	ppb	0.74	2000.	
89 Y	----	--------	---	---	#VALUE!	
98 Mo	6.255	1.251	ppb	1.05	1000.	
107 Ag	0.923	0.1846	ppb	8.42	100.	
109 Ag	0.818	0.1636	ppb	8.55	#VALUE!	
111 Cd	2.313	0.4626	ppb	14.64	#VALUE!	
114 Cd	-0.0705	-0.0141	ppb	253.80	1000.	
115 In	----	--------	---	---	#VALUE!	
118 Sn	55.75	11.15	ppb	2.82	1000.	
120 Sn	55.7	11.14	ppb	0.51	#VALUE!	
121 Sb	2.649	0.5298	ppb	4.88	#VALUE!	
123 Sb	2.495	0.499	ppb	2.23	1000.	
135 Ba	2,120.5	424.1	ppb	1.39	2000.	
137 Ba	2,139.5	427.9	ppb	1.27	#VALUE!	
182 W	0.599	0.1198	ppb	15.42	1000.	
203 Tl	3.514	0.7028	ppb	2.63	1000.	
205 Tl	3.5085	0.7017	ppb	5.08	#VALUE!	
208 Pb	147.5	29.5	ppb	1.02	2000.	
232 Th	95.3	19.06	ppb	1.75	1000.	
238 U	9.44	1.888	ppb	3.18	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3890562.80	1.18	3691108.80	105.4	69.5 - 120	
45 Sc	2908920.30	1.44	2910447.80	99.9	69.5 - 120	
72 Ge	511336.34	0.76	556535.31	91.9	69.5 - 120	
159 Tb	2608703.00	1.04	2966504.30	87.9	69.5 - 120	
209 Bi	1217818.40	1.13	1486792.30	81.9	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000265

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\122SMPL.D\122SMPL.D#
Date Acquired: May 22 2018 02:08 am
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: SL4180-022
Misc Info:
Vial Number: 3207
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	7.995	1.599	ppb	1.99	100.	
11 B	97.1	19.42	ppb	2.44	1000.	
23 Na	10,880.	2,176.	ppb	1.70	200000.	
25 Mg	77,950.	15,590.	ppb	2.32	200000.	
27 Al	191,400.	38,280.	ppb	2.32	200000.	
28 Si	4,039.5	807.9	ppb	4.03	#VALUE!	
29 Si	3,687.5	737.5	ppb	9.95	10000.	
39 K	39,535.	7,907.	ppb	2.27	200000.	
43 Ca	195,400.	39,080.	ppb	2.34	#VALUE!	
44 Ca	193,950.	38,790.	ppb	1.83	200000.	
51 V	351.45	70.29	ppb	2.25	1000.	
52 Cr	194.75	38.95	ppb	2.11	2000.	
53 Cr	248.4	49.68	ppb	1.19	#VALUE!	
55 Mn	6,095.	1,219.	ppb	0.74	2000.	
56 Fe	174,550.	34,910.	ppb	1.23	#VALUE!	
57 Fe	169,000.	33,800.	ppb	1.55	100000.	
59 Co	80.15	16.03	ppb	1.54	1000.	
60 Ni	206.6	41.32	ppb	2.12	1000.	
63 Cu	133.8	26.76	ppb	1.88	#VALUE!	
65 Cu	136.45	27.29	ppb	1.59	2000.	
66 Zn	540.	108.	ppb	1.86	2000.	
68 Zn	610.	122.	ppb	0.99	#VALUE!	
75 As	17.545	3.509	ppb	6.33	1000.	
82 Se	3.3465	0.6693	ppb	33.96	1000.	
88 Sr	605.	121.	ppb	2.25	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	7.645	1.529	ppb	3.48	1000.	
107 Ag	0.7065	0.1413	ppb	3.52	100.	
109 Ag	0.514	0.1028	ppb	15.83	#VALUE!	
111 Cd	3.7995	0.7599	ppb	3.70	#VALUE!	
114 Cd	1.7475	0.3495	ppb	1.89	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	52.55	10.51	ppb	2.31	1000.	
120 Sn	51.5	10.3	ppb	2.15	#VALUE!	
121 Sb	1.385	0.277	ppb	1.04	#VALUE!	
123 Sb	1.4125	0.2825	ppb	9.03	1000.	
135 Ba	2,220.5	444.1	ppb	2.18	2000.	
137 Ba	2,245.	449.	ppb	2.35	#VALUE!	
182 W	0.696	0.1392	ppb	1.40	1000.	
203 Tl	3.6915	0.7383	ppb	6.03	1000.	
205 Tl	3.6295	0.7259	ppb	4.32	#VALUE!	
208 Pb	123.75	24.75	ppb	2.92	2000.	
232 Th	84.05	16.81	ppb	3.09	1000.	
238 U	10.735	2.147	ppb	2.64	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3951293.30	0.45	3691108.80	107.0	69.5 - 120	
45 Sc	2873964.80	1.73	2910447.80	98.7	69.5 - 120	
72 Ge	504414.97	1.16	556535.31	90.6	69.5 - 120	
159 Tb	2538781.30	1.64	2966504.30	85.6	69.5 - 120	
209 Bi	1204686.80	2.53	1486792.30	81.0	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000266

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\123SMPL.D\123SMPL.D#
Date Acquired: May 22 2018 02:13 am
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: RINSE
Misc Info:
Vial Number: 3208
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0008	0.0008	ppb	112.16	100.	
11 B	0.2147	0.2147	ppb	14.88	1000.	
23 Na	-0.3744	-0.3744	ppb	64.56	200000.	
25 Mg	0.4598	0.4598	ppb	35.15	200000.	
27 Al	0.6645	0.6645	ppb	7.59	200000.	
28 Si	109.6	109.6	ppb	17.21	#VALUE!	
29 Si	-3.653	-3.653	ppb	299.75	10000.	
39 K	-1.1	-1.1	ppb	29.56	200000.	
43 Ca	3.328	3.328	ppb	133.35	#VALUE!	
44 Ca	2.734	2.734	ppb	21.35	200000.	
51 V	0.0185	0.0185	ppb	118.92	1000.	
52 Cr	-0.006	-0.006	ppb	88.09	2000.	
53 Cr	-1.719	-1.719	ppb	5.78	#VALUE!	
55 Mn	0.0351	0.0351	ppb	20.23	2000.	
56 Fe	9.325	9.325	ppb	26.46	#VALUE!	
57 Fe	9.675	9.675	ppb	29.12	100000.	
59 Co	0.0031	0.0031	ppb	87.96	1000.	
60 Ni	-0.0153	-0.0153	ppb	21.50	1000.	
63 Cu	0.0676	0.0676	ppb	23.32	#VALUE!	
65 Cu	0.0814	0.0814	ppb	56.45	2000.	
66 Zn	-0.0356	-0.0356	ppb	140.88	2000.	
68 Zn	0.0501	0.0501	ppb	229.74	#VALUE!	
75 As	-0.1446	-0.1446	ppb	38.49	1000.	
82 Se	-0.2911	-0.2911	ppb	87.32	1000.	
88 Sr	0.0033	0.0033	ppb	144.17	2000.	
89 Y	----	--------	---	---	#VALUE!	
98 Mo	0.0002	0.0002	ppb	937.80	1000.	
107 Ag	-0.0008	-0.0008	ppb	579.30	100.	
109 Ag	0.001	0.001	ppb	161.04	#VALUE!	
111 Cd	-0.1173	-0.1173	ppb	11.84	#VALUE!	
114 Cd	0.0037	0.0037	ppb	194.71	1000.	
115 In	----	--------	---	---	#VALUE!	
118 Sn	0.0252	0.0252	ppb	56.62	1000.	
120 Sn	0.0182	0.0182	ppb	89.21	#VALUE!	
121 Sb	-0.0068	-0.0068	ppb	85.36	#VALUE!	
123 Sb	-0.003	-0.003	ppb	103.38	1000.	
135 Ba	0.0076	0.0076	ppb	75.82	2000.	
137 Ba	0.0124	0.0124	ppb	113.99	#VALUE!	
182 W	0.008	0.008	ppb	12.98	1000.	
203 Tl	0.0004	0.0004	ppb	487.82	1000.	
205 Tl	-0.0007	-0.0007	ppb	158.03	#VALUE!	
208 Pb	0.0007	0.0007	ppb	309.41	2000.	
232 Th	0.0177	0.0177	ppb	31.76	1000.	
238 U	0.	0.	ppb	18668.00	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3814515.80	1.43	3691108.80	103.3	69.5 - 120	
45 Sc	2766805.80	0.58	2910447.80	95.1	69.5 - 120	
72 Ge	496547.16	0.38	556535.31	89.2	69.5 - 120	
159 Tb	2410223.00	1.20	2966504.30	81.2	69.5 - 120	
209 Bi	1210405.30	0.89	1486792.30	81.4	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000267

CCV QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\124_CCV.D\124_CCV.D#
Date Acquired: May 22 2018 02:17 am
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: CCV
Misc Info:
Vial Number: 1306
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Dilution Factor: 1.00
QC Range (%): 89.5 - 110.5

QC Elements

Element	Conc.		RSD(%)	Expected	Rec (%)	Flag
9 Be	24.11	ppb	4.40	25	96.44	
11 B	24.19	ppb	4.53	25	96.76	
23 Na	5,233.	ppb	2.61	5,000	104.66	
25 Mg	5,350.	ppb	3.26	5,000	107	
27 Al	528.1	ppb	3.30	500	105.62	
28 Si	634.4	ppb	8.25	500	126.88	
29 Si	531.9	ppb	9.02	500	106.38	
39 K	5,000.	ppb	3.55	5,000	100	
43 Ca	5,160.	ppb	1.99	5,000	103.2	
44 Ca	5,273.	ppb	2.66	5,000	105.46	
51 V	27.03	ppb	2.28	25	108.12	
52 Cr	26.96	ppb	1.87	25	107.84	
53 Cr	26.86	ppb	4.57	25	107.44	
55 Mn	26.91	ppb	2.30	25	107.64	
56 Fe	5,249.	ppb	2.44	5,000	104.98	
57 Fe	5,380.	ppb	2.88	5,000	107.6	
59 Co	26.69	ppb	2.14	25	106.76	
60 Ni	27.04	ppb	3.98	25	108.16	
63 Cu	26.15	ppb	2.83	25	104.6	
65 Cu	26.32	ppb	1.31	25	105.28	
66 Zn	26.61	ppb	3.18	25	106.44	
68 Zn	26.74	ppb	2.11	25	106.96	
75 As	26.01	ppb	2.97	25	104.04	
82 Se	25.23	ppb	2.82	25	100.92	
88 Sr	25.05	ppb	2.57	25	100.2	
89 Y	--------	---	--------	---	#VALUE!	
98 Mo	24.12	ppb	2.51	25	96.48	
107 Ag	24.03	ppb	3.21	25	96.12	
109 Ag	23.9	ppb	2.44	25	95.6	
111 Cd	23.2	ppb	3.40	25	92.8	
114 Cd	23.61	ppb	2.87	25	94.44	
115 In	--------	---	--------	---	#VALUE!	
118 Sn	26.23	ppb	2.79	25	104.92	
120 Sn	26.14	ppb	2.44	25	104.56	
121 Sb	26.92	ppb	2.44	25	107.68	
123 Sb	27.04	ppb	2.68	25	108.16	
135 Ba	26.5	ppb	2.78	25	106	
137 Ba	27.05	ppb	2.95	25	108.2	
182 W	24.11	ppb	2.88	25	96.44	
203 Tl	25.22	ppb	2.65	25	100.88	
205 Tl	25.27	ppb	2.49	25	101.08	
208 Pb	25.33	ppb	3.54	25	101.32	
232 Th	24.89	ppb	2.95	25	99.56	
238 U	25.23	ppb	3.23	25	100.92	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3779528.80	4.13	3691108.80	102.4	80 - 120.4	
45 Sc	2734928.80	3.19	2910447.80	94.0	80 - 120.4	
72 Ge	492488.13	2.83	556535.31	88.5	80 - 120.4	
159 Tb	2419152.50	2.03	2966504.30	81.5	80 - 120.4	
209 Bi	1184930.10	2.31	1486792.30	79.7	80 - 120.4	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\125_CCB.D\125_CCB.D#
Date Acquired: May 22 2018 02:21 am
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: CCB
Misc Info:
Vial Number: 1307
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: 6-CCB
Dilution Factor: 1.00

QC Elements

Element	Conc.		RSD(%)	High Limit	Flag
9 Be	0.0047	ppb	14.17	1.00	
11 B	0.2374	ppb	21.06	1.00	
23 Na	1.666	ppb	17.13	1.00	
25 Mg	0.4529	ppb	32.13	1.00	
27 Al	0.7343	ppb	13.26	1.00	
28 Si	387.8	ppb	5.03	1.00	
29 Si	59.54	ppb	30.28	1.00	
39 K	12.75	ppb	5.91	1.00	
43 Ca	5.568	ppb	30.28	1.00	
44 Ca	9.474	ppb	20.70	1.00	
51 V	-0.0504	ppb	170.29	1.00	
52 Cr	-0.0592	ppb	22.55	1.00	
53 Cr	-4.577	ppb	5.15	1.00	
55 Mn	0.2819	ppb	10.34	1.00	
56 Fe	4.731	ppb	27.18	1.00	
57 Fe	0.64	ppb	198.28	1.00	
59 Co	0.0112	ppb	18.22	1.00	
60 Ni	0.0557	ppb	3.06	1.00	
63 Cu	0.1846	ppb	7.81	1.00	
65 Cu	0.2039	ppb	12.19	1.00	
66 Zn	0.5325	ppb	12.91	1.00	
68 Zn	0.4625	ppb	21.07	1.00	
75 As	-0.1492	ppb	18.91	1.00	
82 Se	-0.1533	ppb	84.54	1.00	
88 Sr	0.009	ppb	37.72	1.00	
89 Y	--------	---	--------	---	
98 Mo	0.0247	ppb	39.75	1.00	
107 Ag	0.0045	ppb	44.06	1.00	
109 Ag	0.005	ppb	51.58	1.00	
111 Cd	-0.301	ppb	2.90	1.00	
114 Cd	0.0018	ppb	307.18	1.00	
115 In	--------	---	--------	---	
118 Sn	0.0597	ppb	9.07	1.00	
120 Sn	0.0783	ppb	8.98	1.00	
121 Sb	0.0072	ppb	36.72	1.00	
123 Sb	0.0137	ppb	24.05	1.00	
135 Ba	0.0392	ppb	4.39	1.00	
137 Ba	0.042	ppb	37.27	1.00	
182 W	0.0427	ppb	46.43	1.00	
203 Tl	0.0013	ppb	189.64	1.00	
205 Tl	0.0028	ppb	102.16	1.00	
208 Pb	0.0103	ppb	74.44	1.00	
232 Th	0.0515	ppb	8.40	1.00	
238 U	0.0021	ppb	23.10	1.00	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2267896.30	0.54	3691108.80	61.4	79.5 - 120	ISFail
45 Sc	1938920.10	0.54	2910447.80	66.6	79.5 - 120	ISFail
72 Ge	398434.53	0.79	556535.31	71.6	79.5 - 120	ISFail
159 Tb	2711380.50	0.99	2966504.30	91.4	79.5 - 120	
209 Bi	1345065.90	0.56	1486792.30	90.5	79.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
3 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

Katahdin Analytical Services 4000269

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\126SMPL.D\126SMPL.D#
Date Acquired: May 22 2018 02:25 am
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: SL4180-023
Misc Info:
Vial Number: 3209
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	8.855	1.771	ppb	3.09	100.	
11 B	106.7	21.34	ppb	2.56	1000.	
23 Na	17,235.	3,447.	ppb	1.60	200000.	
25 Mg	85,450.	17,090.	ppb	2.07	200000.	
27 Al	186,550.	37,310.	ppb	2.58	200000.	
28 Si	5,440.	1,088.	ppb	11.48	#VALUE!	
29 Si	3,742.5	748.5	ppb	2.29	10000.	
39 K	50,700.	10,140.	ppb	1.78	200000.	
43 Ca	159,300.	31,860.	ppb	0.49	#VALUE!	
44 Ca	154,900.	30,980.	ppb	0.15	200000.	
51 V	354.9	70.98	ppb	0.35	1000.	
52 Cr	193.05	38.61	ppb	0.55	2000.	
53 Cr	212.4	42.48	ppb	1.03	#VALUE!	
55 Mn	6,930.	1,386.	ppb	1.76	2000.	
56 Fe	185,750.	37,150.	ppb	2.07	#VALUE!	
57 Fe	182,150.	36,430.	ppb	1.01	100000.	
59 Co	186.95	37.39	ppb	0.64	1000.	
60 Ni	247.35	49.47	ppb	0.87	1000.	
63 Cu	152.55	30.51	ppb	0.93	#VALUE!	
65 Cu	154.85	30.97	ppb	1.64	2000.	
66 Zn	621.	124.2	ppb	1.10	2000.	
68 Zn	735.	147.	ppb	1.18	#VALUE!	
75 As	32.625	6.525	ppb	5.36	1000.	
82 Se	2.634	0.5268	ppb	31.66	1000.	
88 Sr	717.5	143.5	ppb	2.00	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	13.77	2.754	ppb	0.50	1000.	
107 Ag	1.018	0.2036	ppb	10.96	100.	
109 Ag	0.8885	0.1777	ppb	3.86	#VALUE!	
111 Cd	3.835	0.767	ppb	9.32	#VALUE!	
114 Cd	2.025	0.405	ppb	11.19	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	49.28	9.856	ppb	2.14	1000.	
120 Sn	48.58	9.716	ppb	1.10	#VALUE!	
121 Sb	1.9195	0.3839	ppb	5.40	#VALUE!	
123 Sb	1.8035	0.3607	ppb	4.86	1000.	
135 Ba	3,361.	672.2	ppb	1.95	2000.	
137 Ba	3,418.5	683.7	ppb	1.58	#VALUE!	
182 W	0.9195	0.1839	ppb	9.37	1000.	
203 Tl	3.695	0.739	ppb	3.46	1000.	
205 Tl	3.735	0.747	ppb	1.90	#VALUE!	
208 Pb	155.6	31.12	ppb	0.67	2000.	
232 Th	88.05	17.61	ppb	1.27	1000.	
238 U	11.305	2.261	ppb	1.36	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2411352.30	0.70	3691108.80	65.3	69.5 - 120	IS Fai
45 Sc	2004333.30	1.45	2910447.80	68.9	69.5 - 120	IS Fai
72 Ge	398896.59	1.09	556535.31	71.7	69.5 - 120	
159 Tb	2868519.00	1.10	2966504.30	96.7	69.5 - 120	
209 Bi	1340040.30	0.64	1486792.30	90.1	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
2 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
ISTD: Fail

Katahdin Analytical Services 4000270

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\127SMPL.D\127SMPL.D#
Date Acquired: May 22 2018 02:30 am
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: SL4180-024
Misc Info:
Vial Number: 3210
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	12.61	2.522	ppb	4.02	100.	
11 B	175.7	35.14	ppb	3.55	1000.	
23 Na	2,919.5	583.9	ppb	1.48	200000.	
25 Mg	88,750.	17,750.	ppb	1.58	200000.	
27 Al	251,500.	50,300.	ppb	1.57	200000.	
28 Si	4,998.	999.6	ppb	3.52	#VALUE!	
29 Si	3,399.5	679.9	ppb	6.36	10000.	
39 K	77,600.	15,520.	ppb	0.61	200000.	
43 Ca	134,450.	26,890.	ppb	0.57	#VALUE!	
44 Ca	132,550.	26,510.	ppb	1.02	200000.	
51 V	448.	89.6	ppb	0.71	1000.	
52 Cr	222.2	44.44	ppb	0.82	2000.	
53 Cr	240.45	48.09	ppb	0.44	#VALUE!	
55 Mn	3,033.	606.6	ppb	0.75	2000.	
56 Fe	211,700.	42,340.	ppb	0.83	#VALUE!	
57 Fe	209,350.	41,870.	ppb	0.63	100000.	
59 Co	93.65	18.73	ppb	0.71	1000.	
60 Ni	209.8	41.96	ppb	0.79	1000.	
63 Cu	169.1	33.82	ppb	0.68	#VALUE!	
65 Cu	172.25	34.45	ppb	1.32	2000.	
66 Zn	671.	134.2	ppb	0.65	2000.	
68 Zn	758.	151.6	ppb	0.70	#VALUE!	
75 As	56.45	11.29	ppb	2.37	1000.	
82 Se	4.701	0.9402	ppb	30.85	1000.	
88 Sr	1,436.5	287.3	ppb	0.46	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	18.32	3.664	ppb	0.23	1000.	
107 Ag	1.3485	0.2697	ppb	8.00	100.	
109 Ag	1.1925	0.2385	ppb	1.85	#VALUE!	
111 Cd	3.4415	0.6883	ppb	10.73	#VALUE!	
114 Cd	0.7025	0.1405	ppb	15.26	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	50.7	10.14	ppb	2.35	1000.	
120 Sn	51.4	10.28	ppb	3.18	#VALUE!	
121 Sb	3.0115	0.6023	ppb	2.23	#VALUE!	
123 Sb	2.999	0.5998	ppb	2.30	1000.	
135 Ba	2,899.	579.8	ppb	1.38	2000.	
137 Ba	2,905.	581.	ppb	1.42	#VALUE!	
182 W	1.2415	0.2483	ppb	7.92	1000.	
203 Tl	4.24	0.848	ppb	5.47	1000.	
205 Tl	4.1555	0.8311	ppb	2.64	#VALUE!	
208 Pb	218.05	43.61	ppb	2.89	2000.	
232 Th	109.1	21.82	ppb	2.97	1000.	
238 U	16.5	3.3	ppb	1.68	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2346793.30	2.87	3691108.80	63.6	69.5 - 120	IS Fai
45 Sc	2031883.10	0.82	2910447.80	69.8	69.5 - 120	
72 Ge	396101.00	0.31	556535.31	71.2	69.5 - 120	
159 Tb	2820677.80	1.05	2966504.30	95.1	69.5 - 120	
209 Bi	1327428.10	1.96	1486792.30	89.3	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

Katahdin Analytical Services 4000271

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\128SMPL.D\128SMPL.D#
Date Acquired: May 22 2018 02:34 am
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: SL4180-025
Misc Info:
Vial Number: 3211
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	12.99	2.598	ppb	2.53	100.	
11 B	160.05	32.01	ppb	3.40	1000.	
23 Na	2,963.	592.6	ppb	3.42	200000.	
25 Mg	92,350.	18,470.	ppb	2.27	200000.	
27 Al	237,600.	47,520.	ppb	1.13	200000.	
28 Si	4,724.5	944.9	ppb	10.65	#VALUE!	
29 Si	3,491.	698.2	ppb	11.27	10000.	
39 K	77,150.	15,430.	ppb	0.81	200000.	
43 Ca	47,865.	9,573.	ppb	1.54	#VALUE!	
44 Ca	47,495.	9,499.	ppb	1.34	200000.	
51 V	402.95	80.59	ppb	1.36	1000.	
52 Cr	207.	41.4	ppb	1.39	2000.	
53 Cr	224.45	44.89	ppb	2.41	#VALUE!	
55 Mn	2,923.5	584.7	ppb	1.21	2000.	
56 Fe	204,200.	40,840.	ppb	1.37	#VALUE!	
57 Fe	201,350.	40,270.	ppb	1.71	100000.	
59 Co	90.6	18.12	ppb	2.95	1000.	
60 Ni	213.8	42.76	ppb	1.99	1000.	
63 Cu	168.75	33.75	ppb	0.81	#VALUE!	
65 Cu	172.35	34.47	ppb	1.47	2000.	
66 Zn	645.	129.	ppb	1.27	2000.	
68 Zn	775.5	155.1	ppb	1.33	#VALUE!	
75 As	54.1	10.82	ppb	1.60	1000.	
82 Se	4.9445	0.9889	ppb	1.03	1000.	
88 Sr	905.	181.	ppb	1.86	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	16.415	3.283	ppb	1.04	1000.	
107 Ag	1.483	0.2966	ppb	3.41	100.	
109 Ag	1.175	0.235	ppb	3.31	#VALUE!	
111 Cd	3.232	0.6464	ppb	4.82	#VALUE!	
114 Cd	0.6055	0.1211	ppb	33.38	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	51.	10.2	ppb	1.03	1000.	
120 Sn	50.25	10.05	ppb	0.35	#VALUE!	
121 Sb	3.009	0.6018	ppb	2.56	#VALUE!	
123 Sb	3.1345	0.6269	ppb	3.63	1000.	
135 Ba	3,964.5	792.9	ppb	1.15	2000.	
137 Ba	3,997.	799.4	ppb	1.15	#VALUE!	
182 W	1.0385	0.2077	ppb	4.90	1000.	
203 Tl	4.319	0.8638	ppb	4.58	1000.	
205 Tl	4.284	0.8568	ppb	4.69	#VALUE!	
208 Pb	204.7	40.94	ppb	3.10	2000.	
232 Th	114.95	22.99	ppb	2.83	1000.	
238 U	16.38	3.276	ppb	2.46	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2315187.00	2.29	3691108.80	62.7	69.5 - 120	IS Fai
45 Sc	2028449.80	1.42	2910447.80	69.7	69.5 - 120	
72 Ge	400326.63	1.53	556535.31	71.9	69.5 - 120	
159 Tb	2812290.50	1.06	2966504.30	94.8	69.5 - 120	
209 Bi	1291978.40	2.76	1486792.30	86.9	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

Katahdin Analytical Services 4000272

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\129SMPL.D\129SMPL.D#
Date Acquired: May 22 2018 02:39 am
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: SL4180-026
Misc Info:
Vial Number: 3212
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	8.22	1.644	ppb	1.64	100.	
11 B	94.1	18.82	ppb	1.40	1000.	
23 Na	9,310.	1,862.	ppb	2.14	200000.	
25 Mg	77,100.	15,420.	ppb	2.35	200000.	
27 Al	160,350.	32,070.	ppb	1.19	200000.	
28 Si	4,933.	986.6	ppb	3.61	#VALUE!	
29 Si	3,328.	665.6	ppb	2.79	10000.	
39 K	39,405.	7,881.	ppb	2.22	200000.	
43 Ca	208,200.	41,640.	ppb	2.11	#VALUE!	
44 Ca	203,150.	40,630.	ppb	0.96	200000.	
51 V	370.1	74.02	ppb	0.54	1000.	
52 Cr	204.9	40.98	ppb	1.04	2000.	
53 Cr	219.5	43.9	ppb	1.83	#VALUE!	
55 Mn	4,250.5	850.1	ppb	0.37	2000.	
56 Fe	214,950.	42,990.	ppb	1.10	#VALUE!	
57 Fe	210,050.	42,010.	ppb	0.77	100000.	
59 Co	87.7	17.54	ppb	1.07	1000.	
60 Ni	191.1	38.22	ppb	1.59	1000.	
63 Cu	202.95	40.59	ppb	0.34	#VALUE!	
65 Cu	206.2	41.24	ppb	0.07	2000.	
66 Zn	539.	107.8	ppb	0.30	2000.	
68 Zn	629.	125.8	ppb	0.39	#VALUE!	
75 As	49.045	9.809	ppb	1.64	1000.	
82 Se	2.7855	0.5571	ppb	54.53	1000.	
88 Sr	757.5	151.5	ppb	1.25	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	13.59	2.718	ppb	2.06	1000.	
107 Ag	1.005	0.201	ppb	0.90	100.	
109 Ag	0.784	0.1568	ppb	4.65	#VALUE!	
111 Cd	3.2095	0.6419	ppb	6.24	#VALUE!	
114 Cd	2.053	0.4106	ppb	2.06	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	51.35	10.27	ppb	0.38	1000.	
120 Sn	51.35	10.27	ppb	0.41	#VALUE!	
121 Sb	2.367	0.4734	ppb	6.51	#VALUE!	
123 Sb	2.3785	0.4757	ppb	4.42	1000.	
135 Ba	2,761.	552.2	ppb	0.75	2000.	
137 Ba	2,768.5	553.7	ppb	0.95	#VALUE!	
182 W	0.8375	0.1675	ppb	8.47	1000.	
203 Tl	2.996	0.5992	ppb	2.14	1000.	
205 Tl	3.029	0.6058	ppb	3.08	#VALUE!	
208 Pb	121.6	24.32	ppb	0.51	2000.	
232 Th	79.35	15.87	ppb	0.84	1000.	
238 U	10.79	2.158	ppb	2.71	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2340828.80	1.78	3691108.80	63.4	69.5 - 120	IS Fai
45 Sc	1987207.90	1.06	2910447.80	68.3	69.5 - 120	IS Fai
72 Ge	396533.00	0.85	556535.31	71.3	69.5 - 120	
159 Tb	2785288.00	1.02	2966504.30	93.9	69.5 - 120	
209 Bi	1311261.50	0.74	1486792.30	88.2	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
2 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
ISTD: Fail

Katahdin Analytical Services 4000273

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\130SMPL.D\130SMPL.D#
Date Acquired: May 22 2018 02:43 am
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: SL4180-027
Misc Info:
Vial Number: 3301
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	9.185	1.837	ppb	6.33	100.	
11 B	104.5	20.9	ppb	5.38	1000.	
23 Na	6,605.	1,321.	ppb	0.79	200000.	
25 Mg	78,550.	15,710.	ppb	0.46	200000.	
27 Al	183,250.	36,650.	ppb	1.45	200000.	
28 Si	5,620.	1,124.	ppb	8.76	#VALUE!	
29 Si	3,870.	774.	ppb	2.40	10000.	
39 K	41,540.	8,308.	ppb	0.43	200000.	
43 Ca	139,250.	27,850.	ppb	2.54	#VALUE!	
44 Ca	134,950.	26,990.	ppb	2.02	200000.	
51 V	374.55	74.91	ppb	1.81	1000.	
52 Cr	198.75	39.75	ppb	0.71	2000.	
53 Cr	217.65	43.53	ppb	0.51	#VALUE!	
55 Mn	2,935.	587.	ppb	2.05	2000.	
56 Fe	196,300.	39,260.	ppb	1.96	#VALUE!	
57 Fe	192,300.	38,460.	ppb	1.30	100000.	
59 Co	102.4	20.48	ppb	1.54	1000.	
60 Ni	190.85	38.17	ppb	1.72	1000.	
63 Cu	147.5	29.5	ppb	1.44	#VALUE!	
65 Cu	149.15	29.83	ppb	0.99	2000.	
66 Zn	628.	125.6	ppb	0.92	2000.	
68 Zn	707.5	141.5	ppb	1.36	#VALUE!	
75 As	43.465	8.693	ppb	2.39	1000.	
82 Se	1.7265	0.3453	ppb	56.27	1000.	
88 Sr	684.	136.8	ppb	1.70	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	7.23	1.446	ppb	1.82	1000.	
107 Ag	0.984	0.1968	ppb	13.15	100.	
109 Ag	0.8625	0.1725	ppb	9.36	#VALUE!	
111 Cd	2.861	0.5722	ppb	5.73	#VALUE!	
114 Cd	1.6175	0.3235	ppb	12.78	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	47.39	9.478	ppb	1.49	1000.	
120 Sn	47.33	9.466	ppb	0.52	#VALUE!	
121 Sb	1.734	0.3468	ppb	1.30	#VALUE!	
123 Sb	1.649	0.3298	ppb	6.23	1000.	
135 Ba	2,695.5	539.1	ppb	1.30	2000.	
137 Ba	2,715.	543.	ppb	0.79	#VALUE!	
182 W	0.743	0.1486	ppb	1.57	1000.	
203 Tl	3.399	0.6798	ppb	1.54	1000.	
205 Tl	3.411	0.6822	ppb	2.35	#VALUE!	
208 Pb	114.05	22.81	ppb	1.71	2000.	
232 Th	91.55	18.31	ppb	2.18	1000.	
238 U	10.95	2.19	ppb	1.45	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2344351.00	3.35	3691108.80	63.5	69.5 - 120	IS Fai
45 Sc	2025080.60	0.12	2910447.80	69.6	69.5 - 120	
72 Ge	398554.59	1.28	556535.31	71.6	69.5 - 120	
159 Tb	2809838.00	1.24	2966504.30	94.7	69.5 - 120	
209 Bi	1301547.80	2.42	1486792.30	87.5	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
ISTD: Fail

Katahdin Analytical Services 4000274

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\131SMPL.D\131SMPL.D#
Date Acquired: May 22 2018 02:47 am
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: SL4233-002
Misc Info:
Vial Number: 3302
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	4.847	0.9694	ppb	4.85	100.	
11 B	48.4	9.68	ppb	0.35	1000.	
23 Na	1,014.5	202.9	ppb	3.97	200000.	
25 Mg	22,050.	4,410.	ppb	1.07	200000.	
27 Al	92,400.	18,480.	ppb	2.08	200000.	
28 Si	5,015.	1,003.	ppb	6.23	#VALUE!	
29 Si	3,353.	670.6	ppb	5.91	10000.	
39 K	28,505.	5,701.	ppb	0.83	200000.	
43 Ca	19,185.	3,837.	ppb	2.94	#VALUE!	
44 Ca	18,640.	3,728.	ppb	0.95	200000.	
51 V	176.	35.2	ppb	0.47	1000.	
52 Cr	95.15	19.03	ppb	1.38	2000.	
53 Cr	105.95	21.19	ppb	2.70	#VALUE!	
55 Mn	2,991.5	598.3	ppb	1.04	2000.	
56 Fe	86,450.	17,290.	ppb	0.91	#VALUE!	
57 Fe	86,500.	17,300.	ppb	0.61	100000.	
59 Co	56.3	11.26	ppb	1.81	1000.	
60 Ni	74.35	14.87	ppb	1.12	1000.	
63 Cu	80.55	16.11	ppb	1.40	#VALUE!	
65 Cu	83.4	16.68	ppb	1.09	2000.	
66 Zn	312.2	62.44	ppb	1.67	2000.	
68 Zn	343.1	68.62	ppb	2.63	#VALUE!	
75 As	20.115	4.023	ppb	1.59	1000.	
82 Se	3.531	0.7062	ppb	35.88	1000.	
88 Sr	276.45	55.29	ppb	1.77	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	15.09	3.018	ppb	3.90	1000.	
107 Ag	0.5765	0.1153	ppb	9.03	100.	
109 Ag	0.5395	0.1079	ppb	13.61	#VALUE!	
111 Cd	1.6575	0.3315	ppb	14.99	#VALUE!	
114 Cd	1.4055	0.2811	ppb	3.68	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	43.38	8.676	ppb	1.97	1000.	
120 Sn	43.2	8.64	ppb	0.75	#VALUE!	
121 Sb	1.115	0.223	ppb	1.03	#VALUE!	
123 Sb	1.0485	0.2097	ppb	1.16	1000.	
135 Ba	1,154.5	230.9	ppb	1.49	2000.	
137 Ba	1,171.	234.2	ppb	1.16	#VALUE!	
182 W	0.9975	0.1995	ppb	4.54	1000.	
203 Tl	2.0265	0.4053	ppb	6.33	1000.	
205 Tl	2.001	0.4002	ppb	3.87	#VALUE!	
208 Pb	146.7	29.34	ppb	0.91	2000.	
232 Th	63.6	12.72	ppb	0.70	1000.	
238 U	12.82	2.564	ppb	1.74	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2407011.80	0.97	3691108.80	65.2	69.5 - 120	IS Fai
45 Sc	1973746.60	1.12	2910447.80	67.8	69.5 - 120	IS Fai
72 Ge	397846.69	1.82	556535.31	71.5	69.5 - 120	
159 Tb	2824116.50	0.50	2966504.30	95.2	69.5 - 120	
209 Bi	1347427.00	1.25	1486792.30	90.6	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
2 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
ISTD: Fail

Katahdin Analytical Services 4000275

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\132SMPL.D\132SMPL.D#
Date Acquired: May 22 2018 02:52 am
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: SL4233-003
Misc Info:
Vial Number: 3303
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	5.23	1.046	ppb	1.60	100.	
11 B	71.35	14.27	ppb	3.55	1000.	
23 Na	5,130.	1,026.	ppb	2.09	200000.	
25 Mg	56,400.	11,280.	ppb	0.73	200000.	
27 Al	101,750.	20,350.	ppb	3.09	200000.	
28 Si	4,086.5	817.3	ppb	2.14	#VALUE!	
29 Si	2,607.5	521.5	ppb	2.82	10000.	
39 K	28,680.	5,736.	ppb	1.77	200000.	
43 Ca	1,518,500.	303,700.	ppb	1.27	#VALUE!	
44 Ca	1,478,500.	295,700.	ppb	1.60	200000.	>LDR
51 V	204.5	40.9	ppb	0.85	1000.	
52 Cr	102.8	20.56	ppb	0.61	2000.	
53 Cr	106.9	21.38	ppb	4.79	#VALUE!	
55 Mn	1,720.	344.	ppb	1.30	2000.	
56 Fe	89,700.	17,940.	ppb	1.68	#VALUE!	
57 Fe	91,500.	18,300.	ppb	1.70	100000.	
59 Co	43.885	8.777	ppb	1.87	1000.	
60 Ni	86.65	17.33	ppb	2.15	1000.	
63 Cu	93.65	18.73	ppb	0.50	#VALUE!	
65 Cu	98.2	19.64	ppb	0.37	2000.	
66 Zn	309.55	61.91	ppb	1.15	2000.	
68 Zn	518.	103.6	ppb	1.73	#VALUE!	
75 As	28.035	5.607	ppb	4.92	1000.	
82 Se	4.0785	0.8157	ppb	25.24	1000.	
88 Sr	1,909.5	381.9	ppb	2.07	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	3.5015	0.7003	ppb	5.47	1000.	
107 Ag	0.572	0.1144	ppb	11.44	100.	
109 Ag	0.4334	0.0867	ppb	16.37	#VALUE!	
111 Cd	6.	1.2	ppb	6.94	#VALUE!	
114 Cd	5.455	1.091	ppb	1.53	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	42.865	8.573	ppb	2.95	1000.	
120 Sn	43.175	8.635	ppb	1.33	#VALUE!	
121 Sb	1.159	0.2318	ppb	2.81	#VALUE!	
123 Sb	1.2575	0.2515	ppb	5.65	1000.	
135 Ba	5,485.	1,097.	ppb	1.45	2000.	
137 Ba	5,525.	1,105.	ppb	1.24	#VALUE!	
182 W	0.602	0.1204	ppb	4.05	1000.	
203 Tl	2.0915	0.4183	ppb	15.37	1000.	
205 Tl	2.0635	0.4127	ppb	5.81	#VALUE!	
208 Pb	74.5	14.9	ppb	0.94	2000.	
232 Th	45.645	9.129	ppb	1.53	1000.	
238 U	32.54	6.508	ppb	2.15	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2288599.00	1.70	3691108.80	62.0	69.5 - 120	IS Fai
45 Sc	1955850.40	1.03	2910447.80	67.2	69.5 - 120	IS Fai
72 Ge	388560.16	0.61	556535.31	69.8	69.5 - 120	
159 Tb	2847861.50	2.11	2966504.30	96.0	69.5 - 120	
209 Bi	1311006.40	1.33	1486792.30	88.2	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
2 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Fail

Katahdin Analytical Services 4000276

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\133SMPL.D\133SMPL.D#
Date Acquired: May 22 2018 02:56 am
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: SL4233-004
Misc Info:
Vial Number: 3304
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6.94	1.388	ppb	1.69	100.	
11 B	110.55	22.11	ppb	4.43	1000.	
23 Na	1,098.	219.6	ppb	1.95	200000.	
25 Mg	41,145.	8,229.	ppb	2.18	200000.	
27 Al	151,950.	30,390.	ppb	0.42	200000.	
28 Si	5,245.	1,049.	ppb	3.49	#VALUE!	
29 Si	3,731.	746.2	ppb	2.24	10000.	
39 K	52,250.	10,450.	ppb	1.57	200000.	
43 Ca	56,150.	11,230.	ppb	2.23	#VALUE!	
44 Ca	56,300.	11,260.	ppb	0.09	200000.	
51 V	275.5	55.1	ppb	0.89	1000.	
52 Cr	137.65	27.53	ppb	0.92	2000.	
53 Cr	142.6	28.52	ppb	1.20	#VALUE!	
55 Mn	2,630.5	526.1	ppb	1.07	2000.	
56 Fe	133,800.	26,760.	ppb	1.80	#VALUE!	
57 Fe	132,400.	26,480.	ppb	1.48	100000.	
59 Co	58.05	11.61	ppb	0.61	1000.	
60 Ni	120.65	24.13	ppb	1.03	1000.	
63 Cu	106.6	21.32	ppb	1.85	#VALUE!	
65 Cu	108.1	21.62	ppb	0.37	2000.	
66 Zn	419.45	83.89	ppb	0.43	2000.	
68 Zn	485.85	97.17	ppb	0.95	#VALUE!	
75 As	39.24	7.848	ppb	2.18	1000.	
82 Se	4.2705	0.8541	ppb	20.19	1000.	
88 Sr	505.	101.	ppb	1.26	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	11.48	2.296	ppb	1.83	1000.	
107 Ag	0.875	0.175	ppb	9.66	100.	
109 Ag	0.7205	0.1441	ppb	8.17	#VALUE!	
111 Cd	2.3815	0.4763	ppb	9.24	#VALUE!	
114 Cd	0.8355	0.1671	ppb	4.88	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	48.32	9.664	ppb	2.26	1000.	
120 Sn	48.715	9.743	ppb	1.68	#VALUE!	
121 Sb	1.8945	0.3789	ppb	2.42	#VALUE!	
123 Sb	1.7995	0.3599	ppb	2.70	1000.	
135 Ba	1,937.	387.4	ppb	0.93	2000.	
137 Ba	1,954.5	390.9	ppb	0.68	#VALUE!	
182 W	0.872	0.1744	ppb	9.52	1000.	
203 Tl	2.7005	0.5401	ppb	7.29	1000.	
205 Tl	2.6045	0.5209	ppb	2.61	#VALUE!	
208 Pb	128.7	25.74	ppb	0.64	2000.	
232 Th	75.2	15.04	ppb	0.60	1000.	
238 U	11.235	2.247	ppb	1.09	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2247465.80	2.34	3691108.80	60.9	69.5 - 120	IS Fai
45 Sc	1945261.00	1.81	2910447.80	66.8	69.5 - 120	IS Fai
72 Ge	395248.78	1.26	556535.31	71.0	69.5 - 120	
159 Tb	2946176.80	0.76	2966504.30	99.3	69.5 - 120	
209 Bi	1387175.30	1.18	1486792.30	93.3	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
2 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
ISTD: Fail

Katahdin Analytical Services 4000277

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\134SMPL.D\134SMPL.D#
Date Acquired: May 22 2018 03:00 am
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: SL4233-005
Misc Info:
Vial Number: 3305
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	8.405	1.681	ppb	3.78	100.	
11 B	118.7	23.74	ppb	3.73	1000.	
23 Na	1,253.5	250.7	ppb	2.46	200000.	
25 Mg	46,600.	9,320.	ppb	2.33	200000.	
27 Al	173,400.	34,680.	ppb	0.69	200000.	
28 Si	5,020.	1,004.	ppb	1.56	#VALUE!	
29 Si	3,528.5	705.7	ppb	0.99	10000.	
39 K	61,350.	12,270.	ppb	0.57	200000.	
43 Ca	54,300.	10,860.	ppb	1.38	#VALUE!	
44 Ca	53,950.	10,790.	ppb	0.15	200000.	
51 V	317.1	63.42	ppb	0.41	1000.	
52 Cr	162.55	32.51	ppb	0.93	2000.	
53 Cr	171.6	34.32	ppb	2.36	#VALUE!	
55 Mn	3,421.	684.2	ppb	0.79	2000.	
56 Fe	161,500.	32,300.	ppb	0.51	#VALUE!	
57 Fe	158,450.	31,690.	ppb	1.32	100000.	
59 Co	70.95	14.19	ppb	0.34	1000.	
60 Ni	144.75	28.95	ppb	0.86	1000.	
63 Cu	127.3	25.46	ppb	1.53	#VALUE!	
65 Cu	131.1	26.22	ppb	1.01	2000.	
66 Zn	510.5	102.1	ppb	0.72	2000.	
68 Zn	562.5	112.5	ppb	0.80	#VALUE!	
75 As	50.6	10.12	ppb	0.87	1000.	
82 Se	5.015	1.003	ppb	23.65	1000.	
88 Sr	588.5	117.7	ppb	1.12	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	15.835	3.167	ppb	2.25	1000.	
107 Ag	1.085	0.217	ppb	4.44	100.	
109 Ag	0.9845	0.1969	ppb	3.67	#VALUE!	
111 Cd	3.6695	0.7339	ppb	3.10	#VALUE!	
114 Cd	1.5725	0.3145	ppb	14.80	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	50.05	10.01	ppb	1.30	1000.	
120 Sn	50.2	10.04	ppb	1.26	#VALUE!	
121 Sb	4.4645	0.8929	ppb	3.38	#VALUE!	
123 Sb	4.575	0.915	ppb	2.44	1000.	
135 Ba	1,924.5	384.9	ppb	1.09	2000.	
137 Ba	1,938.	387.6	ppb	1.05	#VALUE!	
182 W	0.9625	0.1925	ppb	10.37	1000.	
203 Tl	3.1235	0.6247	ppb	7.76	1000.	
205 Tl	3.108	0.6216	ppb	4.03	#VALUE!	
208 Pb	679.	135.8	ppb	1.20	2000.	
232 Th	96.3	19.26	ppb	1.98	1000.	
238 U	13.835	2.767	ppb	0.47	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2311026.30	2.38	3691108.80	62.6	69.5 - 120	IS Fai
45 Sc	1937546.40	0.82	2910447.80	66.6	69.5 - 120	IS Fai
72 Ge	390123.69	0.82	556535.31	70.1	69.5 - 120	
159 Tb	2915509.30	0.52	2966504.30	98.3	69.5 - 120	
209 Bi	1358114.00	1.38	1486792.30	91.3	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
2 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

Katahdin Analytical Services 4000278

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\135SMPL.D\135SMPL.D#
Date Acquired: May 22 2018 03:05 am
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: RINSE
Misc Info:
Vial Number: 3306
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	-0.001	-0.001	ppb	326.11	100.	
11 B	0.2311	0.2311	ppb	26.35	1000.	
23 Na	-0.8941	-0.8941	ppb	1.10	200000.	
25 Mg	0.3908	0.3908	ppb	37.97	200000.	
27 Al	0.4901	0.4901	ppb	9.74	200000.	
28 Si	390.2	390.2	ppb	7.83	#VALUE!	
29 Si	34.95	34.95	ppb	65.38	10000.	
39 K	7.061	7.061	ppb	59.43	200000.	
43 Ca	-1.502	-1.502	ppb	163.52	#VALUE!	
44 Ca	5.63	5.63	ppb	69.79	200000.	
51 V	-0.033	-0.033	ppb	268.36	1000.	
52 Cr	-0.0812	-0.0812	ppb	40.34	2000.	
53 Cr	-5.207	-5.207	ppb	4.01	#VALUE!	
55 Mn	0.0614	0.0614	ppb	40.87	2000.	
56 Fe	6.203	6.203	ppb	44.40	#VALUE!	
57 Fe	3.264	3.264	ppb	17.28	100000.	
59 Co	0.0148	0.0148	ppb	57.98	1000.	
60 Ni	-0.0088	-0.0088	ppb	67.61	1000.	
63 Cu	-0.0263	-0.0263	ppb	85.20	#VALUE!	
65 Cu	-0.0397	-0.0397	ppb	37.12	2000.	
66 Zn	-0.0103	-0.0103	ppb	607.10	2000.	
68 Zn	0.013	0.013	ppb	721.62	#VALUE!	
75 As	-0.2746	-0.2746	ppb	43.77	1000.	
82 Se	-0.2624	-0.2624	ppb	83.19	1000.	
88 Sr	0.0066	0.0066	ppb	53.71	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	-0.0017	-0.0017	ppb	402.69	1000.	
107 Ag	0.0003	0.0003	ppb	179.89	100.	
109 Ag	-0.0004	-0.0004	ppb	617.87	#VALUE!	
111 Cd	-0.3038	-0.3038	ppb	7.14	#VALUE!	
114 Cd	0.0061	0.0061	ppb	93.19	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	0.0147	0.0147	ppb	77.82	1000.	
120 Sn	0.0128	0.0128	ppb	59.87	#VALUE!	
121 Sb	-0.0007	-0.0007	ppb	610.05	#VALUE!	
123 Sb	-0.002	-0.002	ppb	41.82	1000.	
135 Ba	0.0013	0.0013	ppb	999.23	2000.	
137 Ba	0.0089	0.0089	ppb	57.19	#VALUE!	
182 W	0.0031	0.0031	ppb	100.64	1000.	
203 Tl	0.0037	0.0037	ppb	93.35	1000.	
205 Tl	-0.0029	-0.0029	ppb	77.34	#VALUE!	
208 Pb	0.0081	0.0081	ppb	54.64	2000.	
232 Th	0.0174	0.0174	ppb	44.60	1000.	
238 U	-0.0004	-0.0004	ppb	330.02	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2286373.80	3.79	3691108.80	61.9	69.5 - 120	IS Fai
45 Sc	1896117.00	1.91	2910447.80	65.1	69.5 - 120	IS Fai
72 Ge	391373.91	0.70	556535.31	70.3	69.5 - 120	
159 Tb	2739517.80	0.68	2966504.30	92.3	69.5 - 120	
209 Bi	1336311.90	0.58	1486792.30	89.9	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
2 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
ISTD: Fail

Katahdin Analytical Services 4000279

CCV QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\136_CCV.D\136_CCV.D#
Date Acquired: May 22 2018 03:09 am
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: CCV
Misc Info:
Vial Number: 1306
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Dilution Factor: 1.00
QC Range (%): 89.5 - 110.5

QC Elements

Element	Conc.		RSD(%)	Expected	Rec (%)	Flag
9 Be	24.51	ppb	1.92	25	98.04	
11 B	22.07	ppb	4.68	25	88.28	Fail
23 Na	4,583.	ppb	1.61	5,000	91.66	
25 Mg	4,643.	ppb	2.89	5,000	92.86	
27 Al	469.8	ppb	1.40	500	93.96	
28 Si	799.9	ppb	0.95	500	159.98	
29 Si	487.7	ppb	1.31	500	97.54	
39 K	4,986.	ppb	0.72	5,000	99.72	
43 Ca	5,000.	ppb	3.87	5,000	100	
44 Ca	5,073.	ppb	0.54	5,000	101.46	
51 V	23.45	ppb	2.50	25	93.8	
52 Cr	23.63	ppb	0.97	25	94.52	
53 Cr	19.5	ppb	2.98	25	78	
55 Mn	24.79	ppb	0.07	25	99.16	
56 Fe	4,833.	ppb	0.75	5,000	96.66	
57 Fe	4,975.	ppb	1.38	5,000	99.5	
59 Co	24.98	ppb	0.67	25	99.92	
60 Ni	25.43	ppb	0.87	25	101.72	
63 Cu	25.6	ppb	0.94	25	102.4	
65 Cu	25.68	ppb	0.66	25	102.72	
66 Zn	26.29	ppb	0.57	25	105.16	
68 Zn	26.11	ppb	2.42	25	104.44	
75 As	24.32	ppb	1.76	25	97.28	
82 Se	23.76	ppb	1.12	25	95.04	
88 Sr	26.16	ppb	0.39	25	104.64	
89 Y	--------	---	--------	---	#VALUE!	
98 Mo	28.73	ppb	1.05	25	114.92	Fail
107 Ag	29.79	ppb	0.62	25	119.16	Fail
109 Ag	29.68	ppb	0.65	25	118.72	
111 Cd	28.84	ppb	1.12	25	115.36	
114 Cd	29.36	ppb	1.18	25	117.44	Fail
115 In	--------	---	--------	---	#VALUE!	
118 Sn	22.76	ppb	0.70	25	91.04	
120 Sn	22.93	ppb	2.94	25	91.72	
121 Sb	23.35	ppb	1.73	25	93.4	
123 Sb	23.33	ppb	0.78	25	93.32	
135 Ba	23.5	ppb	0.39	25	94	
137 Ba	23.87	ppb	2.12	25	95.48	
182 W	25.05	ppb	1.49	25	100.2	
203 Tl	24.85	ppb	1.29	25	99.4	
205 Tl	25.04	ppb	1.71	25	100.16	
208 Pb	25.15	ppb	1.27	25	100.6	
232 Th	24.23	ppb	1.61	25	96.92	
238 U	24.78	ppb	1.21	25	99.12	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2262229.30	2.16	3691108.80	61.3	80 - 120.4	ISFail
45 Sc	1940464.80	1.00	2910447.80	66.7	80 - 120.4	ISFail
72 Ge	395998.78	1.11	556535.31	71.2	80 - 120.4	ISFail
159 Tb	2811633.80	1.13	2966504.30	94.8	80 - 120.4	
209 Bi	1353718.90	0.65	1486792.30	91.0	80 - 120.4	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

4 :Element Failures 0 :Max. Number of Failures Allowed
3 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Fail

Katahdin Analytical Services 4000280

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\JLE21C.B\137_CCB.D\137_CCB.D#
Date Acquired: May 22 2018 03:13 am
Acq. Method: 1PTCALGe.M
Operator: MD
Sample Name: CCB
Misc Info:
Vial Number: 1307
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 21 2018 06:40 pm
Sample Type: 6-CCB
Dilution Factor: 1.00

QC Elements

Element	Conc.		RSD(%)	High Limit	Flag
9 Be	0.0003	ppb	409.83	1.00	
11 B	0.232	ppb	11.39	1.00	
23 Na	1.706	ppb	4.94	1.00	
25 Mg	0.433	ppb	29.19	1.00	
27 Al	0.7172	ppb	16.04	1.00	
28 Si	399.9	ppb	4.09	1.00	
29 Si	63.25	ppb	8.26	1.00	
39 K	14.36	ppb	8.96	1.00	
43 Ca	6.566	ppb	147.05	1.00	
44 Ca	9.723	ppb	24.03	1.00	
51 V	-0.0521	ppb	131.39	1.00	
52 Cr	-0.0822	ppb	46.66	1.00	
53 Cr	-5.04	ppb	2.91	1.00	
55 Mn	0.2705	ppb	3.52	1.00	
56 Fe	4.714	ppb	50.40	1.00	
57 Fe	5.897	ppb	22.33	1.00	
59 Co	0.0204	ppb	16.00	1.00	
60 Ni	0.0454	ppb	24.01	1.00	
63 Cu	0.1267	ppb	4.56	1.00	
65 Cu	0.1475	ppb	11.95	1.00	
66 Zn	0.4854	ppb	19.89	1.00	
68 Zn	0.5405	ppb	7.66	1.00	
75 As	-0.1761	ppb	80.86	1.00	
82 Se	-0.1003	ppb	110.07	1.00	
88 Sr	0.0017	ppb	170.68	1.00	
89 Y	--------	---	--------	---	
98 Mo	0.0245	ppb	39.49	1.00	
107 Ag	0.0044	ppb	76.29	1.00	
109 Ag	0.0042	ppb	24.21	1.00	
111 Cd	-0.293	ppb	4.88	1.00	
114 Cd	0.0009	ppb	514.57	1.00	
115 In	--------	---	--------	---	
118 Sn	0.0634	ppb	4.91	1.00	
120 Sn	0.0565	ppb	28.05	1.00	
121 Sb	0.0101	ppb	80.48	1.00	
123 Sb	0.0144	ppb	43.39	1.00	
135 Ba	0.0314	ppb	84.38	1.00	
137 Ba	0.0355	ppb	20.33	1.00	
182 W	0.0376	ppb	48.28	1.00	
203 Tl	-0.0022	ppb	117.48	1.00	
205 Tl	0.0026	ppb	171.66	1.00	
208 Pb	0.0134	ppb	13.83	1.00	
232 Th	0.0493	ppb	12.31	1.00	
238 U	0.0014	ppb	125.94	1.00	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2213850.00	1.85	3691108.80	60.0	79.5 - 120	ISFail
45 Sc	1872389.80	0.81	2910447.80	64.3	79.5 - 120	ISFail
72 Ge	388386.19	0.55	556535.31	69.8	79.5 - 120	ISFail
159 Tb	2745858.30	0.30	2966504.30	92.6	79.5 - 120	
209 Bi	1363482.30	0.47	1486792.30	91.7	79.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE21C.B\015CALB.D\015CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
3 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

Katahdin Analytical Services 4000281

KATAHDIN ANALYTICAL SERVICES, LLC
METALS ANALYSIS RUN INFORMATION SHEET

INSTR. ID: J (Agilent 7500)

ANALYST: JS

ANALYSIS DATE: 05/22/2018

REVIEWED
MD 5/23/18
KATAHDIN ANALYTICAL
METALS SECTION

FILE NAME: JLE22A

METHOD: ICP-MS
- ☑ 200.8
- ☐ 6020
- ☑ DOD

The pHs of all samples that were tested by direct analysis in this analytical run were checked just prior to analysis and confirmed to be <2. The time of preservation of these samples was checked in the "Measured Turbidity and Preservation of Incoming Samples" logbook to verify that they had been preserved at least 16 hours prior to analysis. These verifications were performed by JS (initals) on 5.22.18 (date).

STANDARDS USED:

Standard Name	Standard ID	Prep Date	Expiration Date	Standard Conc.
Cal. Blk/ICB/CCB	MW17781	05/21/2018	05/21/2019	0 ug/L
Standard 1	MW17784	05/21/2018	06/21/2018	Varies by Element
ICV	MW17783	05/21/2018	08/21/2018	Varies by Element
PQL	MW17786	05/21/2018	07/13/2018	Varies by Element
LRS1	MW17735	05/04/2018	08/04/2018	Varies by Element
LRS2	MW17776	05/16/2018	08/16/2018	Varies by Element
ICSA	MW17779	05/17/2018	05/23/2018	Varies by Element
ICSAB	MW17780	05/17/2018	05/23/2018	Varies by Element
CCV	MW17785	05/21/2018	06/21/2018	Varies by Element
Internal Standard	MW17762	05/14/2018	08/14/2018	0.4 mg/L (Li,Sc,Ge/Y,Tb,Bi)

Additional Comments and Notes:

MD 5/23/18

Dilutions: Some samples were diluted based on history or due to interfering element concentrations. Dilution preparations are as follows:

10x diln.: 1.0mL of sample(pipet M19) + 9.0mL of MW17781 (pipet M18)

25x serial diln.: 1.6mL of 5x diln. of sample(pipet M18) + 6.4mL of MW17781 (pipet M18)

5x diln.: 1.6mL of sample(pipet M18) + 6.4mL of MW17781 (pipet M18)

Post Spike: 0.08mL of MW17698 (pipet M16) into 5x diln. of sample (pipet M18)

(Unless otherwise specified)

INSTRUMENT RUNLOG

Instrument: AGILENT 7500

SAMPLE ID	DF	FILE	DATE	TIME	ANALYST
6020 TUNE	1	JLE22A	5/22/2018	2:36:00 13:47	JS
200.8 TUNE	1	JLE22A	5/22/2018	2:36:00 13:50	JS
Cal Blank	1	JLE22A	5/22/2018	2:36:00 14:36	JS
Cal Std	1	JLE22A	5/22/2018	2:39:00 14:39	JS
ICV	1	JLE22A	5/22/2018	2:43:00 14:43	JS
ICB	1	JLE22A	5/22/2018	2:47:00 14:47	JS
PQL	1	JLE22A	5/22/2018	2:50:00 14:50	JS
RINSE	1	JLE22A	5/22/2018	2:54:00 14:54	JS
ICSA	1	JLE22A	5/22/2018	2:57:00 14:57	JS
ICSAB	1	JLE22A	5/22/2018	3:01:00 15:01	JS
RINSE	1	JLE22A	5/22/2018	3:05:00 15:05	JS
LRS1	1	JLE22A	5/22/2018	3:09:00 15:09	JS
LRS2	1	JLE22A	5/22/2018	3:12:00 15:12	JS
RINSE	1	JLE22A	5/22/2018	3:16:00 15:16	JS
RINSE	1	JLE22A	5/22/2018	3:19:00 15:19	JS
CCV	1	JLE22A	5/22/2018	3:23:00 15:23	JS
CCB	1	JLE22A	5/22/2018	3:27:00 15:27	JS
SL4185-001	1	JLE22A	5/22/2018	3:30:00 15:30	JS
PBWLE21IMW2	5	JLE22A	5/22/2018	3:34:00 15:34	JS
LCSWLE21IMW2	5	JLE22A	5/22/2018	3:38:00 15:38	JS
SL4180-029	5	JLE22A	5/22/2018	3:42:00 15:42	JS
SL4290-014	5	JLE22A	5/22/2018	3:45:00 15:45	JS
PBWLE22IMW1	5	JLE22A	5/22/2018	3:49:00 15:49	JS
LCSWLE22IMW1	5	JLE22A	5/22/2018	3:53:00 15:53	JS
PBT1455A	5	JLE22A	5/22/2018	3:57:00 15:57	JS
SL4206-002	5	JLE22A	5/22/2018	4:00:00 16:00	JS
RINSE	1	JLE22A	5/22/2018	4:04:00 16:04	JS
CCV	1	JLE22A	5/22/2018	4:08:00 16:08	JS
CCB	1	JLE22A	5/22/2018	4:12:00 16:12	JS
SL4206-003	5	JLE22A	5/22/2018	4:16:00 16:16	JS
SL4206-004	5	JLE22A	5/22/2018	4:20:00 16:20	JS
SL4206-005	5	JLE22A	5/22/2018	4:24:00 16:24	JS
SL4206-006	5	JLE22A	5/22/2018	4:27:00 16:27	JS
SL4206-007	5	JLE22A	5/22/2018	4:31:00 16:31	JS
SL4206-008	5	JLE22A	5/22/2018	4:35:00 16:35	JS
SL4206-009	5	JLE22A	5/22/2018	4:39:00 16:39	JS
SL4233-054	5	JLE22A	5/22/2018	4:43:00 16:43	JS
SL4332-001	5	JLE22A	5/22/2018	4:47:00 16:47	JS
RINSE	1	JLE22A	5/22/2018	4:51:00 16:51	JS
CCV	1	JLE22A	5/22/2018	4:55:00 16:55	JS
CCB	1	JLE22A	5/22/2018	4:59:00 16:59	JS
SL4332-001L	25	JLE22A	5/22/2018	5:03:00 17:03	JS
SL4332-001A	5	JLE22A	5/22/2018	5:07:00 17:07	JS
SL4332-001S	5	JLE22A	5/22/2018	5:11:00 17:11	JS

SAMPLE ID	DF	FILE	DATE	TIME	ANALYST
SL4332-001P	5	JLE22A	5/22/2018	5:15:00 17:15	JS
SL4332-002	5	JLE22A	5/22/2018	5:19:00 17:19	JS
SL4332-003	5	JLE22A	5/22/2018	5:23:00 17:23	JS
RINSE	1	JLE22A	5/22/2018	5:27:00 17:27	JS
RINSE	1	JLE22A	5/22/2018	5:31:00 17:31	JS
PBSLE21IMS1	5	JLE22A	5/22/2018	5:35:00 17:35	JS
LCSOLE21IMS1	5	JLE22A	5/22/2018	5:39:00 17:39	JS
CCV	1	JLE22A	5/22/2018	5:43:00 17:43	JS
CCB	1	JLE22A	5/22/2018	5:47:00 17:47	JS
SL4180-001	5	JLE22A	5/22/2018	5:51:00 17:51	JS
SL4180-002	5	JLE22A	5/22/2018	5:55:00 17:55	JS
SL4180-003	5	JLE22A	5/22/2018	6:00:00 18:00	JS
SL4180-004	5	JLE22A	5/22/2018	6:04:00 18:04	JS
SL4180-005	5	JLE22A	5/22/2018	6:08:00 18:08	JS
SL4180-006	5	JLE22A	5/22/2018	6:12:00 18:12	JS
SL4180-007	5	JLE22A	5/22/2018	6:16:00 18:16	JS
SL4180-008	5	JLE22A	5/22/2018	6:21:00 18:21	JS
SL4180-008L	25	JLE22A	5/22/2018	6:25:00 18:25	JS
RINSE	1	JLE22A	5/22/2018	6:29:00 18:29	JS
CCV	1	JLE22A	5/22/2018	6:33:00 18:33	JS
CCB	1	JLE22A	5/22/2018	6:37:00 18:37	JS
SL4180-008A	5	JLE22A	5/22/2018	6:41:00 18:41	JS
SL4180-008S	5	JLE22A	5/22/2018	6:46:00 18:46	JS
SL4180-008P	5	JLE22A	5/22/2018	6:50:00 18:50	JS
SL4180-009	5	JLE22A	5/22/2018	6:54:00 18:54	JS
SL4180-010	5	JLE22A	5/22/2018	6:58:00 18:58	JS
SL4180-011	5	JLE22A	5/22/2018	7:03:00 19:03	JS
SL4180-012	5	JLE22A	5/22/2018	7:07:00 19:07	JS
SL4180-013	5	JLE22A	5/22/2018	7:11:00 19:11	JS
SL4180-014	5	JLE22A	5/22/2018	7:15:00 19:15	JS
RINSE	1	JLE22A	5/22/2018	7:20:00 19:20	JS
CCV	1	JLE22A	5/22/2018	7:24:00 19:24	JS
CCB	1	JLE22A	5/22/2018	7:28:00 19:28	JS
SL4180-015	5	JLE22A	5/22/2018	7:32:00 19:32	JS
SL4180-016	5	JLE22A	5/22/2018	7:36:00 19:36	JS
SL4180-017	5	JLE22A	5/22/2018	7:41:00 19:41	JS
RINSE	1	JLE22A	5/22/2018	7:45:00 19:45	JS
PBSLE21IMS2	5	JLE22A	5/22/2018	7:49:00 19:49	JS
LCSOLE21IMS2	5	JLE22A	5/22/2018	7:54:00 19:54	JS
SL4180-018	5	JLE22A	5/22/2018	7:58:00 19:58	JS
SL4180-018L	25	JLE22A	5/22/2018	8:02:00 20:02	JS
SL4180-018A	5	JLE22A	5/22/2018	8:06:00 20:06	JS
RINSE	1	JLE22A	5/22/2018	8:10:00 20:10	JS
CCV	1	JLE22A	5/22/2018	8:15:00 20:15	JS
CCB	1	JLE22A	5/22/2018	8:19:00 20:19	JS
SL4180-018S	5	JLE22A	5/22/2018	8:23:00 20:23	JS
SL4180-018P	5	JLE22A	5/22/2018	8:27:00 20:27	JS

SAMPLE ID	DF	FILE	DATE	TIME	ANALYST
SL4180-019	5	JLE22A	5/22/2018	8:31:00 20:31	JS
SL4180-020	5	JLE22A	5/22/2018	8:36:00 20:36	JS
SL4180-021	5	JLE22A	5/22/2018	8:40:00 20:40	JS
SL4180-022	5	JLE22A	5/22/2018	8:44:00 20:44	JS
SL4180-023	5	JLE22A	5/22/2018	8:49:00 20:49	JS
SL4180-024	5	JLE22A	5/22/2018	8:53:00 20:53	JS
SL4180-025	5	JLE22A	5/22/2018	8:57:00 20:57	JS
RINSE	1	JLE22A	5/22/2018	9:02:00 21:02	JS
CCV	1	JLE22A	5/22/2018	9:06:00 21:06	JS
CCB	1	JLE22A	5/22/2018	9:10:00 21:10	JS
SL4180-026	5	JLE22A	5/22/2018	9:14:00 21:14	JS
SL4180-027	5	JLE22A	5/22/2018	9:19:00 21:19	JS
SL4233-002	5	JLE22A	5/22/2018	9:23:00 21:23	JS
SL4233-003	5	JLE22A	5/22/2018	9:27:00 21:27	JS
SL4233-003	10	JLE22A	5/22/2018	9:31:00 21:31	JS
SL4233-004	5	JLE22A	5/22/2018	9:36:00 21:36	JS
SL4233-005	5	JLE22A	5/22/2018	9:40:00 21:40	JS
SL4233-006	5	JLE22A	5/22/2018	9:44:00 21:44	JS
SL4233-007	5	JLE22A	5/22/2018	9:48:00 21:48	JS
RINSE	1	JLE22A	5/22/2018	9:53:00 21:53	JS
CCV	1	JLE22A	5/22/2018	9:57:00 21:57	JS
CCB	1	JLE22A	5/22/2018	10:01:0 22:01	JS
SL4233-008	5	JLE22A	5/22/2018	10:05:0 22:05	JS
SL4233-009	5	JLE22A	5/22/2018	10:10:0 22:10	JS
SL4233-010	5	JLE22A	5/22/2018	10:14:0 22:14	JS
RINSE	1	JLE22A	5/22/2018	10:19:0 22:19	JS
PBWLE14IMW2	5	JLE22A	5/22/2018	10:23:0 22:23	JS
LCSWLE14IMW2	5	JLE22A	5/22/2018	10:27:0 22:27	JS
SL4032-001	5	JLE22A	5/22/2018	10:31:0 22:31	JS
SL4032-002	5	JLE22A	5/22/2018	10:35:0 22:35	JS
SL4032-003	5	JLE22A	5/22/2018	10:40:0 22:40	JS
RINSE	1	JLE22A	5/22/2018	10:44:0 22:44	JS
CCV	1	JLE22A	5/22/2018	10:48:0 22:48	JS
CCB	1	JLE22A	5/22/2018	10:52:0 22:52	JS
SL4032-003L	25	JLE22A	5/22/2018	10:56:0 22:56	JS
SL4032-003A	5	JLE22A	5/22/2018	11:01:0 23:01	JS
SL4032-003S	5	JLE22A	5/22/2018	11:05:0 23:05	JS
SL4032-003P	5	JLE22A	5/22/2018	11:09:0 23:09	JS
SL4032-004	5	JLE22A	5/22/2018	11:13:0 23:13	JS
SL4032-005	5	JLE22A	5/22/2018	11:17:0 23:17	JS
SL4032-006	5	JLE22A	5/22/2018	11:21:0 23:21	JS
SL4032-007	5	JLE22A	5/22/2018	11:26:0 23:26	JS
SL4032-008	5	JLE22A	5/22/2018	11:30:0 23:30	JS
RINSE	1	JLE22A	5/22/2018	11:34:0 23:34	JS
CCV	1	JLE22A	5/22/2018	11:38:0 23:38	JS
CCB	1	JLE22A	5/22/2018	11:42:0 23:42	JS
SL4089-001	5	JLE22A	5/22/2018	11:47:0 23:47	JS

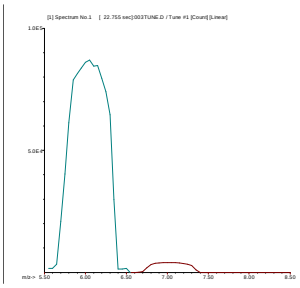
SAMPLE ID	DF	FILE	DATE	TIME	ANALYST
SL4089-002	5	JLE22A	5/22/2018	11:51:0 23:51	JS
SL4089-003	5	JLE22A	5/22/2018	11:55:0 23:55	JS
SL4089-004	5	JLE22A	5/22/2018	11:59:0 23:59	JS
SL4089-005	5	JLE22A	5/23/2018	12:04:0 0:04	JS
SL4089-006	5	JLE22A	5/23/2018	12:08:0 0:08	JS
SL4089-007	5	JLE22A	5/23/2018	12:12:0 0:12	JS
SL4089-008	5	JLE22A	5/23/2018	12:16:0 0:16	JS
SL4089-009	5	JLE22A	5/23/2018	12:20:0 0:20	JS
RINSE	1	JLE22A	5/23/2018	12:25:0 0:25	JS
CCV	1	JLE22A	5/23/2018	12:29:0 0:29	JS
CCB	1	JLE22A	5/23/2018	12:33:0 0:33	JS
SL4089-010	5	JLE22A	5/23/2018	12:37:0 0:37	JS
SL4089-011	5	JLE22A	5/23/2018	12:41:0 0:41	JS
SL4089-012	5	JLE22A	5/23/2018	12:46:0 0:46	JS
RINSE	1	JLE22A	5/23/2018	12:50:0 0:50	JS
CCV	1	JLE22A	5/23/2018	12:54:0 0:54	JS
CCB	1	JLE22A	5/23/2018	12:58:0 0:58	JS
PQL	1	JLE22A	5/23/2018	1:03:00 1:03	JS
CCV	1	JLE22A	5/23/2018	1:07:00 1:07	JS
CCB	1	JLE22A	5/23/2018	1:11:00 1:11	JS

6020 QC Tune Report

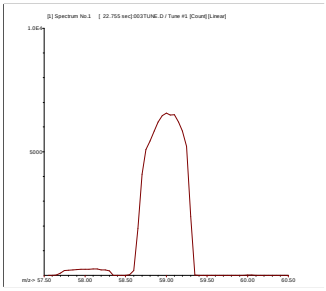
Data File: C:\ICPCHEM\1\DATA\JLE22A.B\003TUNE.D
Date Acquired: May 22 2018 01:47 pm
Acq. Method: TN6020E.M
Operator: JS
Sample Name: 6020 TUNE
Misc Info:
Vial Number: 1107
Current Method: C:\ICPCHEM\1\METHODS\TN6020E.M

RSD (%)

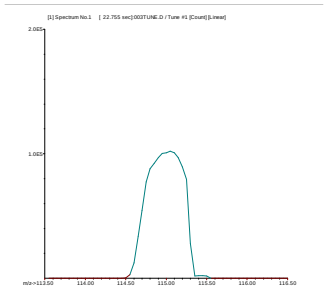
Element	Actual	Required	Flag
7 Li	2.19	5.00	
59 Co	0.92	5.00	
115 In	0.89	5.00	
205 Tl	1.41	5.00	



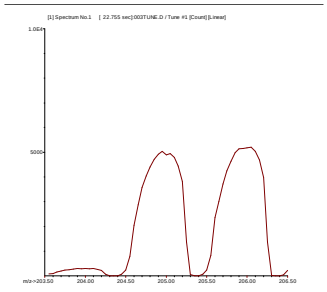
7 Li
Mass Calib.
Actual: 7.00
Required: 6.90 - 7.10
Flag:
Peak Width
Actual: 0.65
Required: 0.90
Flag:



59 Co
Mass Calib.
Actual: 59.00
Required: 58.90 - 59.10
Flag:
Peak Width
Actual: 0.65
Required: 0.90
Flag:



115 In
Mass Calib.
Actual: 115.05
Required: 114.90 - 115.10
Flag:
Peak Width
Actual: 0.70
Required: 0.90
Flag:



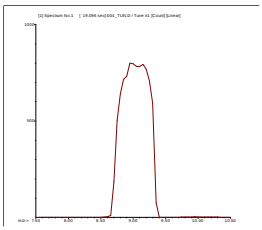
205 Tl
Mass Calib.
Actual: 205.00
Required: 204.90 - 205.10
Flag:
Peak Width
Actual: 0.65
Required: 0.90
Flag:

200.8 QC Tune Report

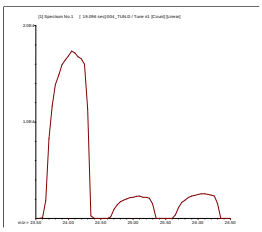
Data File: C:\ICPCHEM\1\DATA\JLE22A.B\004_TUN.D
Date Acquired: May 22 2018 01:50 pm
Acq. Method: TN200_8E.M
Operator: JS
Sample Name: 200.8 TUNE
Misc Info:
Vial Number: 1107
Current Method: C:\ICPCHEM\1\METHODS\TN200_8E.M

RSD (%)

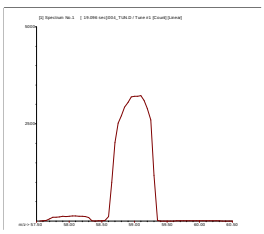
Element	Actual	Required	Flag
9 Be	0.74	5.00	
24 Mg	2.34	5.00	
59 Co	1.70	5.00	
115 In	0.72	5.00	
208 Pb	1.32	5.00	



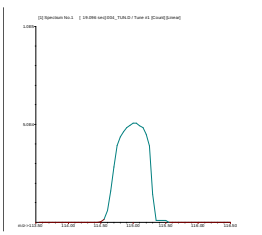
9 Be
Mass Calib.
Actual: 9.05
Required: 8.90 - 9.10
Flag:
Peak Width
Actual: 0.65
Required: 1.00
Flag:



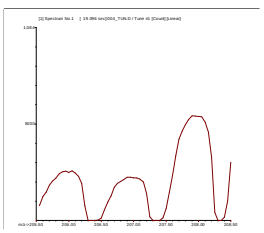
24 Mg
Mass Calib.
Actual: 24.10
Required: 23.90 - 24.10
Flag:
Peak Width
Actual: 0.65
Required: 1.00
Flag:



59 Co
Mass Calib.
Actual: 59.05
Required: 58.90 - 59.10
Flag:
Peak Width
Actual: 0.65
Required: 1.00
Flag:



115 In
Mass Calib.
Actual: 115.05
Required: 114.90 - 115.10
Flag:
Peak Width
Actual: 0.70
Required: 1.00
Flag:



208 Pb
Mass Calib.
Actual: 207.95
Required: 207.90 - 208.10
Flag:
Peak Width
Actual: 0.65
Required: 1.00
Flag:

Tune Result: Pass

Katahdin Analytical Services 4000288

Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.I
Date Acquired: May 22 2018 02:36 pm
Operator: JS
Sample Name: Cal Blank
Misc Info:
Vial Number: 1203
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal Update: May 22 2018 02:38 pm
Sample Type: CalBlk
Total Dil Factor: 1.00

QC&ISTD Elements

Element		CPS Mean		SD	RSD(%)
6	Li	2658649.00	A	77980.00	2.93
9	Be	14.44	P	2.94	20.35
11	B	153.34	P	18.56	12.10
23	Na	26909.71	P	1266.00	4.70
25	Mg	266.69	P	52.92	19.84
27	Al	2834.54	P	346.60	12.23
28	Si	2333061.00	A	49640.00	2.13
29	Si	111572.70	P	705.80	0.63
39	K	1011724.00	A	4014.00	0.40
43	Ca	144.46	P	69.39	48.03
44	Ca	4052.30	P	161.90	4.00
45	Sc	2094536.00	A	44990.00	2.15
51	V	1566.86	P	323.10	20.62
52	Cr	5423.38	P	77.07	1.42
53	Cr	6638.34	P	245.90	3.70
55	Mn	1630.14	P	156.80	9.62
56	Fe	1215143.00	A	7242.00	0.60
57	Fe	13028.50	P	339.40	2.61
59	Co	120.01	P	33.33	27.77
60	Ni	70.64	P	10.72	15.18
63	Cu	904.50	P	30.98	3.43
65	Cu	416.68	P	20.82	5.00
66	Zn	618.92	P	56.80	9.18
68	Zn	1084.52	P	37.17	3.43
72	Ge	441280.50	P	7933.00	1.80
75	As	36.12	P	149.30	413.38
82	Se	-1.09	P	2.45	224.23
88	Sr	74.08	P	27.97	37.76
89	Y	2861463.00	A	52830.00	1.85
98	Mo	16.34	P	5.49	33.61
107	Ag	30.00	P	3.33	11.11
109	Ag	18.89	P	1.93	10.19
111	Cd	581.48	P	29.97	5.15
114	Cd	2.57	P	8.40	327.20
115	In	2878535.00	A	42810.00	1.49
118	Sn	851.17	P	38.35	4.51
120	Sn	1192.31	P	34.05	2.86
121	Sb	122.23	P	21.69	17.75
123	Sb	74.45	P	10.72	14.40
135	Ba	22.22	P	3.85	17.32
137	Ba	22.22	P	1.93	8.66
159	Tb	3254384.00	A	36700.00	1.13
182	W	10.00	P	3.33	33.33
203	Tl	22.22	P	5.09	22.91
205	Tl	37.78	P	13.47	35.66
208	Pb	384.46	P	28.74	7.48
209	Bi	1622942.00	A	20060.00	1.24
232	Th	11.11	P	8.39	75.50
238	U	17.78	P	1.93	10.83

Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\018CALI.D\018CALI.D#
Date Acquired: May 22 2018 02:39 pm
Operator: JS
Sample Name: Cal Std
Misc Info:
Vial Number: 1101
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal Update: May 22 2018 02:38 pm
Sample Type: CalStd
Total Dil Factor: 1.00

QC&ISTD Elements

Element	CPS Mean		SD	RSD(%)
6 Li	2720293.00	A	49160.00	1.81
9 Be	98021.92	P	658.10	0.67
11 B	49041.07	P	1300.00	2.65
23 Na	63277360.00	A	394000.00	0.62
25 Mg	5247662.00	A	77030.00	1.47
27 Al	4929301.00	A	82140.00	1.67
28 Si	5052679.00	A	40670.00	0.80
29 Si	256111.80	P	493.60	0.19
39 K	68929664.00	A	471200.00	0.68
43 Ca	119313.90	P	619.90	0.52
44 Ca	1918794.00	A	23520.00	1.23
45 Sc	2164951.00	A	13430.00	0.62
51 V	390971.31	P	2405.00	0.62
52 Cr	335917.81	P	1647.00	0.49
53 Cr	42952.84	P	854.50	1.99
55 Mn	410309.09	P	5647.00	1.38
56 Fe	68167688.00	A	487600.00	0.72
57 Fe	1692721.00	A	2295.00	0.14
59 Co	357668.41	P	2515.00	0.70
60 Ni	80057.18	P	1030.00	1.29
63 Cu	196645.59	P	2691.00	1.37
65 Cu	93440.73	P	1098.00	1.18
66 Zn	47719.74	P	356.70	0.75
68 Zn	35081.85	P	277.80	0.79
72 Ge	447043.00	P	248.80	0.06
75 As	50353.89	P	490.70	0.97
82 Se	3152.68	P	44.08	1.40
88 Sr	483214.00	P	3482.00	0.72
89 Y	2931268.00	A	30200.00	1.03
98 Mo	145878.30	P	1356.00	0.93
107 Ag	236081.80	P	2423.00	1.03
109 Ag	225982.41	P	1361.00	0.60
111 Cd	47482.79	P	436.40	0.92
114 Cd	104423.60	P	974.10	0.93
115 In	2932316.00	A	27540.00	0.94
118 Sn	147309.50	P	1401.00	0.95
120 Sn	202313.59	P	1446.00	0.71
121 Sb	191612.70	P	2854.00	1.49
123 Sb	144557.41	P	1019.00	0.70
135 Ba	44266.04	P	537.90	1.22
137 Ba	76289.40	P	1121.00	1.47
159 Tb	3412130.00	A	31570.00	0.93
182 W	138640.00	P	794.00	0.57
203 Tl	119353.70	P	647.60	0.54
205 Tl	283100.91	P	4465.00	1.58
208 Pb	389256.69	P	4563.00	1.17
209 Bi	1637834.00	A	13770.00	0.84
232 Th	420433.19	P	5732.00	1.36
238 U	409378.81	P	4069.00	0.99

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2720293.00	1.81	2658648.80	102.3	79.5 - 120.4	
45 Sc	2164951.50	0.62	2094536.40	103.4	79.5 - 120.4	
72 Ge	447043.03	0.06	441280.53	101.3	79.5 - 120.4	
159 Tb	3412130.30	0.93	3254384.00	104.8	79.5 - 120.4	
209 Bi	1637834.50	0.84	1622942.50	100.9	79.5 - 120.4	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

--- :Element Failures --- :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000290

ICV QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\019_ICV.D\019_ICV.D#
Date Acquired: May 22 2018 02:43 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: ICV
Misc Info:
Vial Number: 1202
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Dilution Factor: 1.00
QC Range (%): 89.499998 - 110.5

QC Elements

Element	Conc.		RSD(%)	Expected	Rec (%)	Flag
9 Be	19.27	ppb	2.59	20	96.35	
11 B	21.04	ppb	3.37	20	105.2	
23 Na	3,901.	ppb	4.85	4,000	97.525	
25 Mg	4,026.	ppb	4.41	4,000	100.65	
27 Al	407.	ppb	2.47	400	101.75	
28 Si	397.7	ppb	13.58	400	99.425	
29 Si	376.6	ppb	10.49	400	94.15	
39 K	3,941.	ppb	3.59	4,000	98.525	
43 Ca	3,942.	ppb	2.51	4,000	98.55	
44 Ca	3,991.	ppb	2.04	4,000	99.775	
51 V	19.35	ppb	0.66	20	96.75	
52 Cr	19.09	ppb	1.67	20	95.45	
53 Cr	16.19	ppb	1.80	20	80.95	
55 Mn	19.7	ppb	1.95	20	98.5	
56 Fe	3,886.	ppb	0.44	4,000	97.15	
57 Fe	3,861.	ppb	0.70	4,000	96.525	
59 Co	19.83	ppb	0.40	20	99.15	
60 Ni	19.82	ppb	0.96	20	99.1	
63 Cu	19.48	ppb	1.24	20	97.4	
65 Cu	19.4	ppb	1.07	20	97	
66 Zn	19.83	ppb	2.03	20	99.15	
68 Zn	19.81	ppb	1.18	20	99.05	
75 As	19.46	ppb	0.73	20	97.3	
82 Se	19.79	ppb	1.38	20	98.95	
88 Sr	19.15	ppb	0.58	20	95.75	
89 Y	--------	---	--------	---	#VALUE!	
98 Mo	38.67	ppb	0.17	40	96.675	
107 Ag	19.66	ppb	0.25	20	98.3	
109 Ag	19.73	ppb	0.36	20	98.65	
111 Cd	19.75	ppb	0.84	20	98.75	
114 Cd	19.67	ppb	0.67	20	98.35	
115 In	--------	---	--------	---	#VALUE!	
118 Sn	19.44	ppb	0.89	20	97.2	
120 Sn	19.71	ppb	0.80	20	98.55	
121 Sb	19.62	ppb	0.29	20	98.1	
123 Sb	19.66	ppb	1.03	20	98.3	
135 Ba	19.76	ppb	1.81	20	98.8	
137 Ba	19.61	ppb	0.36	20	98.05	
182 W	20.07	ppb	1.51	20	100.35	
203 Tl	20.05	ppb	0.65	20	100.25	
205 Tl	19.81	ppb	0.69	20	99.05	
208 Pb	19.13	ppb	0.60	20	95.65	
232 Th	19.27	ppb	0.46	20	96.35	
238 U	18.9	ppb	0.24	20	94.5	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2702926.50	2.35	2658648.80	101.7	80 - 120.4	
45 Sc	2156549.50	2.62	2094536.40	103.0	80 - 120.4	
72 Ge	449716.69	0.30	441280.53	101.9	80 - 120.4	
159 Tb	3358920.30	0.52	3254384.00	103.2	80 - 120.4	
209 Bi	1664515.10	0.64	1622942.50	102.6	80 - 120.4	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000291

ICB QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\020_ICB.D\020_ICB.D#
Date Acquired: May 22 2018 02:47 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: ICB
Misc Info:
Vial Number: 1203
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Sample Type: 6-ICB
Dilution Factor: 1.00

QC Elements

Element	Conc.		RSD(%)	High Limit	Flag
9 Be	0.003	ppb	61.73	1.00	
11 B	0.4618	ppb	30.58	1.00	
23 Na	0.1206	ppb	195.52	1.00	
25 Mg	-0.0086	ppb	1320.40	1.00	
27 Al	-0.0053	ppb	723.34	1.00	
28 Si	32.54	ppb	19.36	1.00	
29 Si	14.7	ppb	39.31	1.00	
39 K	3.327	ppb	68.50	1.00	
43 Ca	0.7008	ppb	621.15	1.00	
44 Ca	1.049	ppb	102.29	1.00	
51 V	0.0037	ppb	622.09	1.00	
52 Cr	-0.0265	ppb	134.85	1.00	
53 Cr	-3.127	ppb	0.48	1.00	
55 Mn	0.0071	ppb	117.18	1.00	
56 Fe	-2.161	ppb	94.82	1.00	
57 Fe	-0.6884	ppb	558.25	1.00	
59 Co	0.0084	ppb	76.03	1.00	
60 Ni	0.0039	ppb	127.31	1.00	
63 Cu	-0.0151	ppb	45.87	1.00	
65 Cu	-0.0261	ppb	111.79	1.00	
66 Zn	0.0372	ppb	101.48	1.00	
68 Zn	-0.0671	ppb	117.22	1.00	
75 As	0.0002	ppb	37239.00	1.00	
82 Se	0.0709	ppb	169.18	1.00	
88 Sr	0.0006	ppb	347.16	1.00	
89 Y	--------	---	--------	---	
98 Mo	0.0564	ppb	21.89	1.00	
107 Ag	0.0036	ppb	30.17	1.00	
109 Ag	0.0044	ppb	27.21	1.00	
111 Cd	0.0091	ppb	157.99	1.00	
114 Cd	-0.003	ppb	198.24	1.00	
115 In	--------	---	--------	---	
118 Sn	0.0373	ppb	78.73	1.00	
120 Sn	0.0336	ppb	32.70	1.00	
121 Sb	-0.0005	ppb	1261.70	1.00	
123 Sb	0.004	ppb	68.54	1.00	
135 Ba	0.007	ppb	141.57	1.00	
137 Ba	0.0134	ppb	26.53	1.00	
182 W	0.0563	ppb	37.68	1.00	
203 Tl	0.005	ppb	106.86	1.00	
205 Tl	0.001	ppb	146.42	1.00	
208 Pb	0.0047	ppb	61.02	1.00	
232 Th	0.0523	ppb	13.07	1.00	
238 U	0.0019	ppb	79.94	1.00	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2550985.00	3.97	2658648.80	96.0	79.5 - 120	
45 Sc	2032892.00	1.45	2094536.40	97.1	79.5 - 120	
72 Ge	430927.66	1.03	441280.53	97.7	79.5 - 120	
159 Tb	3213132.80	1.10	3254384.00	98.7	79.5 - 120	
209 Bi	1592305.80	1.13	1622942.50	98.1	79.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

PQL QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\021_PQL.D\021_PQL.D#
Date Acquired: May 22 2018 02:50 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: PQL
Misc Info:
Vial Number: 1302
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Dilution Factor: 1.00
QC Range (%): 69.599998 - 130.4

QC Elements

Element	Conc.		RSD(%)	Expected	Rec (%)	Flag
9 Be	0.1948	ppb	4.72	0.20	97.4	
11 B	4.275	ppb	6.54	4.00	106.875	
23 Na	211.3	ppb	1.63	200.00	105.65	
25 Mg	19.91	ppb	1.64	20.00	99.55	
27 Al	20.02	ppb	0.81	20.00	100.1	
28 Si	104.4	ppb	12.49	100.00	104.4	
29 Si	94.73	ppb	7.93	100.00	94.73	
39 K	199.9	ppb	1.32	200.00	99.95	
43 Ca	21.05	ppb	25.40	20.00	105.25	
44 Ca	19.99	ppb	6.27	20.00	99.95	
51 V	1.043	ppb	3.56	1.00	104.3	
52 Cr	0.9558	ppb	1.93	1.00	95.58	
53 Cr	-1.754	ppb	7.01	---	#VALUE!	
55 Mn	0.404	ppb	3.01	0.40	101	
56 Fe	16.22	ppb	9.54	20.00	81.1	
57 Fe	17.32	ppb	24.61	20.00	86.6	
59 Co	0.2091	ppb	10.26	0.20	104.55	
60 Ni	0.4005	ppb	5.37	0.40	100.125	
63 Cu	0.6189	ppb	2.39	0.60	103.15	
65 Cu	0.5791	ppb	5.51	0.60	96.5167	
66 Zn	1.997	ppb	2.70	2.00	99.85	
68 Zn	2.034	ppb	8.96	2.00	101.7	
75 As	0.9309	ppb	13.28	1.00	93.09	
82 Se	0.9728	ppb	22.25	1.00	97.28	
88 Sr	0.9807	ppb	4.86	1.00	98.07	
89 Y	--------	---	--------	---	#VALUE!	
98 Mo	1.023	ppb	3.48	1.00	102.3	
107 Ag	0.2015	ppb	2.06	0.20	100.75	
109 Ag	0.2122	ppb	7.73	0.20	106.1	
111 Cd	0.1933	ppb	15.75	0.20	96.65	
114 Cd	0.2145	ppb	6.18	0.20	107.25	
115 In	--------	---	--------	---	#VALUE!	
118 Sn	0.8464	ppb	5.18	1.00	84.64	
120 Sn	0.8356	ppb	3.23	1.00	83.56	
121 Sb	0.2074	ppb	8.70	0.20	103.7	
123 Sb	0.2066	ppb	8.38	0.20	103.3	
135 Ba	0.4273	ppb	7.87	0.40	106.825	
137 Ba	0.4391	ppb	4.99	0.40	109.775	
182 W	1.048	ppb	3.58	1.00	104.8	
203 Tl	0.2033	ppb	16.70	0.20	101.65	
205 Tl	0.198	ppb	7.81	0.20	99	
208 Pb	0.1901	ppb	2.12	0.20	95.05	
232 Th	0.1974	ppb	2.13	0.20	98.7	
238 U	0.1912	ppb	1.01	0.20	95.6	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2652033.80	0.63	2658648.80	99.8	80 - 120.4	
45 Sc	2100869.30	0.39	2094536.40	100.3	80 - 120.4	
72 Ge	440785.03	0.83	441280.53	99.9	80 - 120.4	
159 Tb	3258358.80	1.24	3254384.00	100.1	80 - 120.4	
209 Bi	1631292.40	0.26	1622942.50	100.5	80 - 120.4	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000293

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\022SMPL.D\022SMPL.D#
Date Acquired: May 22 2018 02:54 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: RINSE
Misc Info:
Vial Number: 1301
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0003	0.0003	ppb	1211.70	100.	
11 B	0.1727	0.1727	ppb	26.02	1000.	
23 Na	0.041	0.041	ppb	912.60	200000.	
25 Mg	0.0886	0.0886	ppb	105.32	200000.	
27 Al	-0.0515	-0.0515	ppb	29.87	200000.	
28 Si	-8.967	-8.967	ppb	375.26	#VALUE!	
29 Si	-14.92	-14.92	ppb	139.41	10000.	
39 K	-1.768	-1.768	ppb	128.68	200000.	
43 Ca	2.841	2.841	ppb	129.00	#VALUE!	
44 Ca	0.9282	0.9282	ppb	125.83	200000.	
51 V	0.0553	0.0553	ppb	15.27	1000.	
52 Cr	-0.0592	-0.0592	ppb	13.80	2000.	
53 Cr	-2.588	-2.588	ppb	1.26	#VALUE!	
55 Mn	-0.0061	-0.0061	ppb	88.88	2000.	
56 Fe	-4.547	-4.547	ppb	20.26	#VALUE!	
57 Fe	-3.927	-3.927	ppb	61.83	100000.	
59 Co	-0.0005	-0.0005	ppb	1462.00	1000.	
60 Ni	0.0539	0.0539	ppb	24.85	1000.	
63 Cu	-0.0163	-0.0163	ppb	42.33	#VALUE!	
65 Cu	-0.0196	-0.0196	ppb	83.44	2000.	
66 Zn	0.0447	0.0447	ppb	131.89	2000.	
68 Zn	0.0279	0.0279	ppb	439.50	#VALUE!	
75 As	-0.0784	-0.0784	ppb	216.46	1000.	
82 Se	0.0504	0.0504	ppb	231.69	1000.	
88 Sr	0.0053	0.0053	ppb	112.11	2000.	
89 Y	----	--------	---	---	#VALUE!	
98 Mo	0.0108	0.0108	ppb	38.75	1000.	
107 Ag	-0.0017	-0.0017	ppb	126.82	100.	
109 Ag	0.0015	0.0015	ppb	196.07	#VALUE!	
111 Cd	-0.0011	-0.0011	ppb	3050.60	#VALUE!	
114 Cd	-0.004	-0.004	ppb	52.75	1000.	
115 In	----	--------	---	---	#VALUE!	
118 Sn	0.0174	0.0174	ppb	193.78	1000.	
120 Sn	0.0042	0.0042	ppb	219.67	#VALUE!	
121 Sb	-0.0075	-0.0075	ppb	115.01	#VALUE!	
123 Sb	0.	0.	ppb	16991.00	1000.	
135 Ba	-0.0016	-0.0016	ppb	288.54	2000.	
137 Ba	0.0097	0.0097	ppb	103.21	#VALUE!	
182 W	0.0137	0.0137	ppb	56.61	1000.	
203 Tl	-0.0011	-0.0011	ppb	237.63	1000.	
205 Tl	0.0007	0.0007	ppb	46.60	#VALUE!	
208 Pb	-0.0016	-0.0016	ppb	280.56	2000.	
232 Th	0.0177	0.0177	ppb	27.32	1000.	
238 U	-0.0006	-0.0006	ppb	121.95	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2694980.50	2.12	2658648.80	101.4	69.5 - 120	
45 Sc	2133807.50	1.77	2094536.40	101.9	69.5 - 120	
72 Ge	445718.38	0.84	441280.53	101.0	69.5 - 120	
159 Tb	3288428.30	0.88	3254384.00	101.0	69.5 - 120	
209 Bi	1657625.50	0.71	1622942.50	102.1	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000294

ICS-A QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\023ICSA.D\023ICSA.D#
Date Acquired: May 22 2018 02:57 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: ICSA
Misc Info:
Vial Number: 1104
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Sample Type: 6-ICSA
Dilution Factor: 1.00

QC Elements

Element	Conc.		RSD(%)	High Limit	Flag
9 Be	0.0054	ppb	56.78		
11 B	0.5216	ppb	3.14		
23 Na	102,900.	ppb	1.55		
25 Mg	103,000.	ppb	1.79		
27 Al	104,100.	ppb	1.59		
28 Si	-9.35	ppb	345.24		
29 Si	-7.314	ppb	140.14		
39 K	104,300.	ppb	1.40		
43 Ca	107,400.	ppb	2.48		
44 Ca	102,300.	ppb	1.67		
51 V	0.1967	ppb	21.56		
52 Cr	0.7818	ppb	4.44		
53 Cr	-2.966	ppb	5.55		
55 Mn	0.4482	ppb	3.02		
56 Fe	102,000.	ppb	1.63		
57 Fe	98,150.	ppb	1.30		
59 Co	0.1051	ppb	16.57		
60 Ni	-0.3175	ppb	8.02		
63 Cu	3.898	ppb	1.92		
65 Cu	1.162	ppb	1.29		
66 Zn	2.58	ppb	4.19		
68 Zn	0.5795	ppb	7.24		
75 As	0.2172	ppb	65.70		
82 Se	0.2892	ppb	79.70		
88 Sr	0.9436	ppb	1.59		
89 Y	--------	---	--------		
98 Mo	2,100.	ppb	2.12		
107 Ag	0.0251	ppb	21.70		
109 Ag	0.0192	ppb	42.66		
111 Cd	0.0214	ppb	256.34		
114 Cd	0.0402	ppb	120.14		
115 In	--------	---	--------		
118 Sn	-0.1109	ppb	9.10		
120 Sn	-0.1277	ppb	15.59		
121 Sb	0.1552	ppb	28.13		
123 Sb	0.1606	ppb	29.98		
135 Ba	0.0931	ppb	10.54		
137 Ba	0.11	ppb	7.82		
182 W	0.2627	ppb	5.49		
203 Tl	0.0029	ppb	76.28		
205 Tl	0.0026	ppb	22.28		
208 Pb	0.098	ppb	2.03		
232 Th	0.0492	ppb	31.32		
238 U	0.0004	ppb	432.69		

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2397628.00	2.24	2658648.80	90.2	69.5 - 120.4	
45 Sc	2121478.00	1.40	2094536.40	101.3	69.5 - 120.4	
72 Ge	447228.47	0.80	441280.53	101.3	69.5 - 120.4	
159 Tb	3371928.50	0.57	3254384.00	103.6	69.5 - 120.4	
209 Bi	1546067.60	0.54	1622942.50	95.3	69.5 - 120.4	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000295

ICS-AB QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\024ICSB.D\024ICSB.D#
Date Acquired: May 22 2018 03:01 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: ICSAB
Misc Info:
Vial Number: 1105
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Sample Type: 6-ICSAB
Dilution Factor: 1.00

QC Elements

Element	Conc.		RSD(%)	Expected	QC Range(%)	Flag
9 Be	22.91	ppb	3.53	20.00	79.5 - 120	
11 B	23.38	ppb	6.23	20.00	79.5 - 120	
23 Na	105,000.	ppb	0.47	#########	79.5 - 120	
25 Mg	104,000.	ppb	2.28	#########	79.5 - 120	
27 Al	105,100.	ppb	2.96	#########	79.5 - 120	
28 Si	543.3	ppb	5.09	---	##### - #####	
29 Si	539.4	ppb	4.29	---	##### - #####	
39 K	105,000.	ppb	0.76	#########	79.5 - 120	
43 Ca	108,900.	ppb	1.94	#########	79.5 - 120	
44 Ca	103,300.	ppb	0.56	#########	79.5 - 120	
51 V	21.98	ppb	1.40	20.00	79.5 - 120	
52 Cr	21.62	ppb	0.97	20.00	79.5 - 120	
53 Cr	19.84	ppb	2.73	---	##### - #####	
55 Mn	21.69	ppb	0.38	20.00	79.5 - 120	
56 Fe	103,200.	ppb	0.37	#########	79.5 - 120	
57 Fe	99,430.	ppb	1.52	#########	79.5 - 120	
59 Co	21.39	ppb	0.51	20.00	79.5 - 120	
60 Ni	20.61	ppb	0.66	20.00	79.5 - 120	
63 Cu	24.1	ppb	1.04	20.00	79.5 - 120	
65 Cu	21.48	ppb	0.19	20.00	79.5 - 120	
66 Zn	22.44	ppb	0.31	20.00	79.5 - 120	
68 Zn	20.94	ppb	1.52	20.00	79.5 - 120	
75 As	22.07	ppb	1.69	20.00	79.5 - 120	
82 Se	21.71	ppb	1.04	20.00	79.5 - 120	
88 Sr	22.61	ppb	0.80	20.00	79.5 - 120	
89 Y	--------	---	--------	---	##### - #####	
98 Mo	2,152.	ppb	1.27	2000.00	79.5 - 120	
107 Ag	20.47	ppb	1.12	20.00	79.5 - 120	
109 Ag	20.48	ppb	0.94	20.00	79.5 - 120	
111 Cd	21.07	ppb	2.16	20.00	79.5 - 120	
114 Cd	21.24	ppb	1.00	20.00	79.5 - 120	
115 In	--------	---	--------	---	##### - #####	
118 Sn	21.29	ppb	0.37	20.00	79.5 - 120	
120 Sn	21.27	ppb	0.66	20.00	79.5 - 120	
121 Sb	21.62	ppb	1.06	20.00	79.5 - 120	
123 Sb	21.64	ppb	1.41	20.00	79.5 - 120	
135 Ba	21.59	ppb	3.18	20.00	79.5 - 120	
137 Ba	22.08	ppb	2.02	20.00	79.5 - 120	
182 W	22.83	ppb	0.76	20.00	79.5 - 120	
203 Tl	22.41	ppb	0.76	20.00	79.5 - 120	
205 Tl	22.4	ppb	0.98	20.00	79.5 - 120	
208 Pb	22.46	ppb	1.27	20.00	79.5 - 120	
232 Th	23.68	ppb	0.59	20.00	79.5 - 120	
238 U	22.81	ppb	1.29	20.00	79.5 - 120	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2437185.00	3.53	2658648.80	91.7	69.5 - 120	
45 Sc	2126046.80	1.29	2094536.40	101.5	69.5 - 120	
72 Ge	445043.00	0.94	441280.53	100.9	69.5 - 120	
159 Tb	3489551.30	0.76	3254384.00	107.2	69.5 - 120	
209 Bi	1586219.30	0.71	1622942.50	97.7	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000296

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\025SMPL.D\025SMPL.D#
Date Acquired: May 22 2018 03:05 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: RINSE
Misc Info:
Vial Number: 1303
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0041	0.0041	ppb	58.96	100.	
11 B	0.2996	0.2996	ppb	18.34	1000.	
23 Na	4.337	4.337	ppb	12.26	200000.	
25 Mg	1.5	1.5	ppb	8.22	200000.	
27 Al	0.8082	0.8082	ppb	19.77	200000.	
28 Si	-5.859	-5.859	ppb	302.27	#VALUE!	
29 Si	-48.49	-48.49	ppb	30.36	10000.	
39 K	-5.614	-5.614	ppb	5.07	200000.	
43 Ca	1.666	1.666	ppb	93.10	#VALUE!	
44 Ca	2.192	2.192	ppb	130.38	200000.	
51 V	-0.0065	-0.0065	ppb	1325.90	1000.	
52 Cr	-0.028	-0.028	ppb	85.80	2000.	
53 Cr	-2.106	-2.106	ppb	14.35	#VALUE!	
55 Mn	-0.0215	-0.0215	ppb	6.09	2000.	
56 Fe	-5.365	-5.365	ppb	69.36	#VALUE!	
57 Fe	-6.352	-6.352	ppb	21.17	100000.	
59 Co	-0.0004	-0.0004	ppb	670.37	1000.	
60 Ni	0.0075	0.0075	ppb	124.49	1000.	
63 Cu	0.1701	0.1701	ppb	16.56	#VALUE!	
65 Cu	0.193	0.193	ppb	15.19	2000.	
66 Zn	0.0786	0.0786	ppb	45.64	2000.	
68 Zn	-0.0815	-0.0815	ppb	49.84	#VALUE!	
75 As	-0.0973	-0.0973	ppb	136.78	1000.	
82 Se	-0.1599	-0.1599	ppb	45.49	1000.	
88 Sr	-0.0017	-0.0017	ppb	255.78	2000.	
89 Y	----	--------	---	---	#VALUE!	
98 Mo	0.9762	0.9762	ppb	40.89	1000.	
107 Ag	0.0035	0.0035	ppb	82.93	100.	
109 Ag	0.0066	0.0066	ppb	60.32	#VALUE!	
111 Cd	-0.0679	-0.0679	ppb	22.28	#VALUE!	
114 Cd	-0.0027	-0.0027	ppb	182.60	1000.	
115 In	----	--------	---	---	#VALUE!	
118 Sn	-0.0235	-0.0235	ppb	54.32	1000.	
120 Sn	-0.0342	-0.0342	ppb	33.28	#VALUE!	
121 Sb	0.0095	0.0095	ppb	72.89	#VALUE!	
123 Sb	0.0168	0.0168	ppb	67.64	1000.	
135 Ba	0.002	0.002	ppb	968.72	2000.	
137 Ba	0.0266	0.0266	ppb	82.88	#VALUE!	
182 W	0.014	0.014	ppb	67.77	1000.	
203 Tl	0.005	0.005	ppb	33.41	1000.	
205 Tl	0.0025	0.0025	ppb	83.25	#VALUE!	
208 Pb	-0.0024	-0.0024	ppb	123.46	2000.	
232 Th	0.0167	0.0167	ppb	5.21	1000.	
238 U	0.0007	0.0007	ppb	162.58	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2386658.00	0.91	2658648.80	89.8	69.5 - 120	
45 Sc	2031289.40	0.27	2094536.40	97.0	69.5 - 120	
72 Ge	424496.28	0.97	441280.53	96.2	69.5 - 120	
159 Tb	3314320.00	1.18	3254384.00	101.8	69.5 - 120	
209 Bi	1640286.30	0.47	1622942.50	101.1	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000297

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\026SMPL.D\026SMPL.D#
Date Acquired: May 22 2018 03:09 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: LRS1
Misc Info:
Vial Number: 3511
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	102.2	102.2	ppb	2.33	100.	>LDR
11 B	0.1102	0.1102	ppb	46.68	1000.	
23 Na	3.601	3.601	ppb	9.34	200000.	
25 Mg	1.756	1.756	ppb	3.98	200000.	
27 Al	1.846	1.846	ppb	9.02	200000.	
28 Si	-58.99	-58.99	ppb	5.43	#VALUE!	
29 Si	-45.59	-45.59	ppb	43.45	10000.	
39 K	-5.689	-5.689	ppb	24.47	200000.	
43 Ca	1,443.	1,443.	ppb	4.95	#VALUE!	
44 Ca	84.33	84.33	ppb	13.85	200000.	
51 V	1,008.	1,008.	ppb	1.69	1000.	>LDR
52 Cr	1,978.	1,978.	ppb	1.33	2000.	
53 Cr	2,192.	2,192.	ppb	1.21	#VALUE!	
55 Mn	1,987.	1,987.	ppb	1.34	2000.	
56 Fe	-11.74	-11.74	ppb	13.14	#VALUE!	
57 Fe	-11.49	-11.49	ppb	28.12	100000.	
59 Co	1,020.	1,020.	ppb	1.10	1000.	>LDR
60 Ni	1,044.	1,044.	ppb	0.58	1000.	>LDR
63 Cu	1,963.	1,963.	ppb	0.54	#VALUE!	
65 Cu	1,987.	1,987.	ppb	1.36	2000.	
66 Zn	2,024.	2,024.	ppb	1.38	2000.	>LDR
68 Zn	2,086.	2,086.	ppb	1.55	#VALUE!	
75 As	1,046.	1,046.	ppb	1.50	1000.	>LDR
82 Se	1,063.	1,063.	ppb	0.99	1000.	>LDR
88 Sr	1,964.	1,964.	ppb	2.02	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	1,026.	1,026.	ppb	0.77	1000.	>LDR
107 Ag	106.5	106.5	ppb	1.10	100.	>LDR
109 Ag	106.9	106.9	ppb	1.13	#VALUE!	
111 Cd	1,052.	1,052.	ppb	1.37	#VALUE!	
114 Cd	1,034.	1,034.	ppb	1.89	1000.	>LDR
115 In	----	--------	--- ---		#VALUE!	
118 Sn	980.	980.	ppb	0.82	1000.	
120 Sn	972.3	972.3	ppb	0.86	#VALUE!	
121 Sb	981.6	981.6	ppb	0.64	#VALUE!	
123 Sb	999.9	999.9	ppb	0.55	1000.	
135 Ba	2,031.	2,031.	ppb	0.98	2000.	>LDR
137 Ba	1,998.	1,998.	ppb	0.73	#VALUE!	
182 W	1,018.	1,018.	ppb	0.57	1000.	>LDR
203 Tl	1,013.	1,013.	ppb	1.01	1000.	>LDR
205 Tl	976.	976.	ppb	1.23	#VALUE!	
208 Pb	1,956.	1,956.	ppb	1.36	2000.	
232 Th	987.8	987.8	ppb	1.00	1000.	
238 U	940.1	940.1	ppb	1.13	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2564668.00	2.12	2658648.80	96.5	69.5 - 120	
45 Sc	2056055.60	1.64	2094536.40	98.2	69.5 - 120	
72 Ge	423277.72	2.19	441280.53	95.9	69.5 - 120	
159 Tb	3404332.00	0.39	3254384.00	104.6	69.5 - 120	
209 Bi	1694506.10	1.03	1622942.50	104.4	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

13 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Katahdin Analytical Services 4000298

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\027SMPL.D\027SMPL.D#
Date Acquired: May 22 2018 03:12 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: LRS2
Misc Info:
Vial Number: 3512
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0107	0.0107	ppb	41.68	100.	
11 B	0.5632	0.5632	ppb	6.28	1000.	
23 Na	195,000.	195,000.	ppb	2.89	200000.	
25 Mg	190,300.	190,300.	ppb	1.91	200000.	
27 Al	195,000.	195,000.	ppb	0.77	200000.	
28 Si	10,380.	10,380.	ppb	1.43	#VALUE!	
29 Si	10,860.	10,860.	ppb	0.55	10000.	>LDR
39 K	192,800.	192,800.	ppb	1.71	200000.	
43 Ca	198,500.	198,500.	ppb	0.70	#VALUE!	
44 Ca	191,600.	191,600.	ppb	1.15	200000.	
51 V	0.0989	0.0989	ppb	68.60	1000.	
52 Cr	0.5752	0.5752	ppb	2.97	2000.	
53 Cr	-4.721	-4.721	ppb	5.26	#VALUE!	
55 Mn	7.536	7.536	ppb	1.90	2000.	
56 Fe	96,230.	96,230.	ppb	1.46	#VALUE!	
57 Fe	92,100.	92,100.	ppb	1.21	100000.	
59 Co	0.541	0.541	ppb	2.12	1000.	
60 Ni	0.6139	0.6139	ppb	10.81	1000.	
63 Cu	7.646	7.646	ppb	0.85	#VALUE!	
65 Cu	1.69	1.69	ppb	2.80	2000.	
66 Zn	3.044	3.044	ppb	1.96	2000.	
68 Zn	0.8285	0.8285	ppb	7.21	#VALUE!	
75 As	0.3993	0.3993	ppb	32.81	1000.	
82 Se	0.6045	0.6045	ppb	36.48	1000.	
88 Sr	6.668	6.668	ppb	1.01	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	1.27	1.27	ppb	41.60	1000.	
107 Ag	0.3821	0.3821	ppb	5.62	100.	
109 Ag	0.3349	0.3349	ppb	6.49	#VALUE!	
111 Cd	-0.0137	-0.0137	ppb	263.74	#VALUE!	
114 Cd	-0.0087	-0.0087	ppb	83.29	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	0.5274	0.5274	ppb	24.93	1000.	
120 Sn	0.5108	0.5108	ppb	32.71	#VALUE!	
121 Sb	0.5977	0.5977	ppb	11.93	#VALUE!	
123 Sb	0.6113	0.6113	ppb	14.86	1000.	
135 Ba	0.2125	0.2125	ppb	11.73	2000.	
137 Ba	0.2489	0.2489	ppb	11.32	#VALUE!	
182 W	1.393	1.393	ppb	38.27	1000.	
203 Tl	0.0367	0.0367	ppb	36.95	1000.	
205 Tl	0.0391	0.0391	ppb	32.57	#VALUE!	
208 Pb	0.4787	0.4787	ppb	2.61	2000.	
232 Th	1.342	1.342	ppb	47.74	1000.	
238 U	0.0987	0.0987	ppb	13.94	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2340324.30	1.04	2658648.80	88.0	69.5 - 120	
45 Sc	2081757.30	1.88	2094536.40	99.4	69.5 - 120	
72 Ge	426416.34	1.37	441280.53	96.6	69.5 - 120	
159 Tb	3125907.80	2.08	3254384.00	96.1	69.5 - 120	
209 Bi	1385047.00	1.85	1622942.50	85.3	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Katahdin Analytical Services 4000299

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\028SMPL.D\028SMPL.D#
Date Acquired: May 22 2018 03:16 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: RINSE
Misc Info:
Vial Number: 1303
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0172	0.0172	ppb	124.62	100.	
11 B	0.0869	0.0869	ppb	28.02	1000.	
23 Na	55.68	55.68	ppb	137.12	200000.	
25 Mg	61.54	61.54	ppb	164.77	200000.	
27 Al	37.33	37.33	ppb	169.92	200000.	
28 Si	38.26	38.26	ppb	63.96	#VALUE!	
29 Si	-25.2	-25.2	ppb	28.89	10000.	
39 K	33.24	33.24	ppb	189.14	200000.	
43 Ca	50.49	50.49	ppb	175.26	#VALUE!	
44 Ca	44.27	44.27	ppb	168.44	200000.	
51 V	0.0684	0.0684	ppb	220.70	1000.	
52 Cr	0.1802	0.1802	ppb	146.45	2000.	
53 Cr	2.571	2.571	ppb	7.81	#VALUE!	
55 Mn	0.1334	0.1334	ppb	187.86	2000.	
56 Fe	21.03	21.03	ppb	182.07	#VALUE!	
57 Fe	17.43	17.43	ppb	188.87	100000.	
59 Co	0.0823	0.0823	ppb	162.84	1000.	
60 Ni	0.0774	0.0774	ppb	176.29	1000.	
63 Cu	0.3274	0.3274	ppb	73.21	#VALUE!	
65 Cu	0.3054	0.3054	ppb	92.27	2000.	
66 Zn	0.233	0.233	ppb	106.87	2000.	
68 Zn	0.2789	0.2789	ppb	79.46	#VALUE!	
75 As	0.1399	0.1399	ppb	148.03	1000.	
82 Se	0.1256	0.1256	ppb	234.24	1000.	
88 Sr	0.1329	0.1329	ppb	170.28	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	0.2996	0.2996	ppb	80.37	1000.	
107 Ag	0.0105	0.0105	ppb	124.57	100.	
109 Ag	0.0109	0.0109	ppb	105.39	#VALUE!	
111 Cd	0.0049	0.0049	ppb	2407.70	#VALUE!	
114 Cd	0.0549	0.0549	ppb	197.49	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	0.1615	0.1615	ppb	42.45	1000.	
120 Sn	0.1814	0.1814	ppb	63.01	#VALUE!	
121 Sb	0.1005	0.1005	ppb	111.84	#VALUE!	
123 Sb	0.1221	0.1221	ppb	100.90	1000.	
135 Ba	0.1569	0.1569	ppb	155.70	2000.	
137 Ba	0.1559	0.1559	ppb	150.10	#VALUE!	
182 W	0.2863	0.2863	ppb	53.30	1000.	
203 Tl	0.0734	0.0734	ppb	157.65	1000.	
205 Tl	0.0804	0.0804	ppb	152.69	#VALUE!	
208 Pb	0.1525	0.1525	ppb	165.05	2000.	
232 Th	0.1252	0.1252	ppb	90.02	1000.	
238 U	0.069	0.069	ppb	162.17	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2547312.00	1.31	2658648.80	95.8	69.5 - 120	
45 Sc	2096503.10	1.40	2094536.40	100.1	69.5 - 120	
72 Ge	435302.09	0.34	441280.53	98.6	69.5 - 120	
159 Tb	3194004.00	0.64	3254384.00	98.1	69.5 - 120	
209 Bi	1572326.10	1.29	1622942.50	96.9	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000300

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\029SMPL.D\029SMPL.D#
Date Acquired: May 22 2018 03:19 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: RINSE
Misc Info:
Vial Number: 1303
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0036	0.0036	ppb	58.19	100.	
11 B	0.0555	0.0555	ppb	73.55	1000.	
23 Na	6.569	6.569	ppb	4.69	200000.	
25 Mg	2.03	2.03	ppb	1.89	200000.	
27 Al	0.1988	0.1988	ppb	56.69	200000.	
28 Si	47.82	47.82	ppb	133.73	#VALUE!	
29 Si	-10.94	-10.94	ppb	382.82	10000.	
39 K	-2.39	-2.39	ppb	283.10	200000.	
43 Ca	-1.228	-1.228	ppb	234.12	#VALUE!	
44 Ca	1.984	1.984	ppb	33.59	200000.	
51 V	0.1481	0.1481	ppb	55.74	1000.	
52 Cr	0.0676	0.0676	ppb	56.99	2000.	
53 Cr	2.841	2.841	ppb	23.67	#VALUE!	
55 Mn	-0.0117	-0.0117	ppb	52.42	2000.	
56 Fe	1.445	1.445	ppb	353.22	#VALUE!	
57 Fe	-2.889	-2.889	ppb	105.05	100000.	
59 Co	0.0052	0.0052	ppb	53.90	1000.	
60 Ni	0.0087	0.0087	ppb	139.83	1000.	
63 Cu	0.116	0.116	ppb	14.44	#VALUE!	
65 Cu	0.1355	0.1355	ppb	25.93	2000.	
66 Zn	0.0966	0.0966	ppb	14.38	2000.	
68 Zn	-0.0925	-0.0925	ppb	25.73	#VALUE!	
75 As	0.0963	0.0963	ppb	264.93	1000.	
82 Se	-0.1197	-0.1197	ppb	177.61	1000.	
88 Sr	0.0022	0.0022	ppb	121.12	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	0.079	0.079	ppb	43.73	1000.	
107 Ag	0.001	0.001	ppb	476.28	100.	
109 Ag	0.0001	0.0001	ppb	3480.60	#VALUE!	
111 Cd	-0.0371	-0.0371	ppb	143.35	#VALUE!	
114 Cd	-0.0044	-0.0044	ppb	69.83	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	0.0165	0.0165	ppb	59.42	1000.	
120 Sn	0.0335	0.0335	ppb	36.05	#VALUE!	
121 Sb	0.0154	0.0154	ppb	37.71	#VALUE!	
123 Sb	0.022	0.022	ppb	18.36	1000.	
135 Ba	0.0209	0.0209	ppb	49.93	2000.	
137 Ba	0.0193	0.0193	ppb	23.09	#VALUE!	
182 W	0.0991	0.0991	ppb	31.72	1000.	
203 Tl	0.0013	0.0013	ppb	214.91	1000.	
205 Tl	0.0009	0.0009	ppb	126.51	#VALUE!	
208 Pb	0.0092	0.0092	ppb	45.31	2000.	
232 Th	0.0412	0.0412	ppb	54.49	1000.	
238 U	0.0014	0.0014	ppb	100.78	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2585318.30	2.78	2658648.80	97.2	69.5 - 120	
45 Sc	2075090.60	4.46	2094536.40	99.1	69.5 - 120	
72 Ge	430571.66	3.11	441280.53	97.6	69.5 - 120	
159 Tb	3165167.30	4.34	3254384.00	97.3	69.5 - 120	
209 Bi	1558189.90	3.34	1622942.50	96.0	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000301

CCV QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\030_CCV.D\030_CCV.D#
Date Acquired: May 22 2018 03:23 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: CCV
Misc Info:
Vial Number: 1206
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Dilution Factor: 1.00
QC Range (%): 89.5 - 110.5

QC Elements

Element	Conc.		RSD(%)	Expected	Rec (%)	Flag
9 Be	25.08	ppb	2.50	25	100.32	
11 B	24.95	ppb	5.62	25	99.8	
23 Na	4,978.	ppb	1.67	5,000	99.56	
25 Mg	5,075.	ppb	1.46	5,000	101.5	
27 Al	499.7	ppb	0.88	500	99.94	
28 Si	492.2	ppb	1.05	500	98.44	
29 Si	440.7	ppb	1.86	500	88.14	Fail
39 K	4,827.	ppb	0.53	5,000	96.54	
43 Ca	4,914.	ppb	0.73	5,000	98.28	
44 Ca	4,984.	ppb	1.35	5,000	99.68	
51 V	24.79	ppb	0.04	25	99.16	
52 Cr	24.42	ppb	0.77	25	97.68	
53 Cr	25.92	ppb	3.35	25	103.68	
55 Mn	24.87	ppb	0.72	25	99.48	
56 Fe	4,848.	ppb	0.70	5,000	96.96	
57 Fe	4,903.	ppb	0.92	5,000	98.06	
59 Co	24.78	ppb	0.19	25	99.12	
60 Ni	24.92	ppb	1.46	25	99.68	
63 Cu	24.98	ppb	0.53	25	99.92	
65 Cu	24.8	ppb	0.93	25	99.2	
66 Zn	24.68	ppb	0.40	25	98.72	
68 Zn	24.59	ppb	1.76	25	98.36	
75 As	24.73	ppb	1.51	25	98.92	
82 Se	25.03	ppb	0.27	25	100.12	
88 Sr	24.11	ppb	1.00	25	96.44	
89 Y	--------	---	--------	---	#VALUE!	
98 Mo	24.71	ppb	1.79	25	98.84	
107 Ag	24.45	ppb	0.81	25	97.8	
109 Ag	24.51	ppb	0.61	25	98.04	
111 Cd	24.52	ppb	1.17	25	98.08	
114 Cd	24.64	ppb	0.41	25	98.56	
115 In	--------	---	--------	---	#VALUE!	
118 Sn	24.22	ppb	2.33	25	96.88	
120 Sn	24.39	ppb	1.19	25	97.56	
121 Sb	24.74	ppb	1.25	25	98.96	
123 Sb	25.	ppb	0.99	25	100	
135 Ba	25.14	ppb	1.20	25	100.56	
137 Ba	24.99	ppb	0.80	25	99.96	
182 W	23.96	ppb	1.92	25	95.84	
203 Tl	24.97	ppb	3.67	25	99.88	
205 Tl	24.67	ppb	1.92	25	98.68	
208 Pb	24.62	ppb	1.61	25	98.48	
232 Th	23.75	ppb	2.91	25	95	
238 U	22.91	ppb	1.51	25	91.64	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2676770.50	2.92	2658648.80	100.7	80 - 120.4	
45 Sc	2181832.30	0.83	2094536.40	104.2	80 - 120.4	
72 Ge	444760.69	0.59	441280.53	100.8	80 - 120.4	
159 Tb	3339252.80	0.50	3254384.00	102.6	80 - 120.4	
209 Bi	1621279.40	1.26	1622942.50	99.9	80 - 120.4	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\031_CCB.D\031_CCB.D#
Date Acquired: May 22 2018 03:27 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: CCB
Misc Info:
Vial Number: 1207
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Sample Type: 6-CCB
Dilution Factor: 1.00

QC Elements

Element	Conc.		RSD(%)	High Limit	Flag
9 Be	0.0044	ppb	90.66	1.00	
11 B	0.3863	ppb	25.45	1.00	
23 Na	3.868	ppb	15.09	1.00	
25 Mg	1.147	ppb	45.49	1.00	
27 Al	0.0911	ppb	77.26	1.00	
28 Si	39.26	ppb	32.65	1.00	
29 Si	-3.987	ppb	41.13	1.00	
39 K	-2.422	ppb	80.55	1.00	
43 Ca	1.286	ppb	207.93	1.00	
44 Ca	1.497	ppb	109.75	1.00	
51 V	0.0438	ppb	157.98	1.00	
52 Cr	-0.0203	ppb	40.13	1.00	
53 Cr	0.201	ppb	66.67	1.00	
55 Mn	-0.0195	ppb	86.89	1.00	
56 Fe	-4.568	ppb	75.94	1.00	
57 Fe	-5.049	ppb	81.30	1.00	
59 Co	0.0022	ppb	190.27	1.00	
60 Ni	0.0044	ppb	387.41	1.00	
63 Cu	0.1058	ppb	8.47	1.00	
65 Cu	0.0927	ppb	9.06	1.00	
66 Zn	0.0525	ppb	87.73	1.00	
68 Zn	-0.1169	ppb	85.45	1.00	
75 As	0.185	ppb	41.54	1.00	
82 Se	-0.0012	ppb	6161.50	1.00	
88 Sr	-0.0003	ppb	971.38	1.00	
89 Y	--------	---	--------	---	
98 Mo	0.0529	ppb	29.67	1.00	
107 Ag	0.0035	ppb	63.31	1.00	
109 Ag	0.0008	ppb	49.59	1.00	
111 Cd	-0.0592	ppb	33.55	1.00	
114 Cd	-0.0014	ppb	254.88	1.00	
115 In	--------	---	--------	---	
118 Sn	0.0259	ppb	19.82	1.00	
120 Sn	0.0612	ppb	16.20	1.00	
121 Sb	0.0051	ppb	39.16	1.00	
123 Sb	0.0162	ppb	72.55	1.00	
135 Ba	0.006	ppb	67.57	1.00	
137 Ba	0.0121	ppb	68.15	1.00	
182 W	0.0833	ppb	35.77	1.00	
203 Tl	0.0075	ppb	41.77	1.00	
205 Tl	0.0065	ppb	70.03	1.00	
208 Pb	0.0109	ppb	70.23	1.00	
232 Th	0.0887	ppb	18.90	1.00	
238 U	0.0027	ppb	85.27	1.00	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2573156.30	2.54	2658648.80	96.8	79.5 - 120	
45 Sc	2083863.80	1.00	2094536.40	99.5	79.5 - 120	
72 Ge	432687.44	0.45	441280.53	98.1	79.5 - 120	
159 Tb	3182472.00	0.67	3254384.00	97.8	79.5 - 120	
209 Bi	1582071.40	1.06	1622942.50	97.5	79.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000303

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\032SMPL.D\032SMPL.D#
Date Acquired: May 22 2018 03:30 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL4185-001
Misc Info: LE21IMW1
Vial Number: 2101
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.009	0.009	ppb	66.86	100.	
11 B	5.823	5.823	ppb	2.11	1000.	
23 Na	7,562.	7,562.	ppb	3.11	200000.	
25 Mg	3,026.	3,026.	ppb	2.46	200000.	
27 Al	8.892	8.892	ppb	3.38	200000.	
28 Si	7,024.	7,024.	ppb	2.58	#VALUE!	
29 Si	7,449.	7,449.	ppb	2.63	10000.	
39 K	2,833.	2,833.	ppb	1.47	200000.	
43 Ca	23,450.	23,450.	ppb	1.18	#VALUE!	
44 Ca	22,870.	22,870.	ppb	2.06	200000.	
51 V	0.2368	0.2368	ppb	26.62	1000.	
52 Cr	-0.0016	-0.0016	ppb	770.90	2000.	
53 Cr	-2.683	-2.683	ppb	11.18	#VALUE!	
55 Mn	19.31	19.31	ppb	1.31	2000.	
56 Fe	128.3	128.3	ppb	3.18	#VALUE!	
57 Fe	152.1	152.1	ppb	3.60	100000.	
59 Co	0.0296	0.0296	ppb	4.95	1000.	
60 Ni	0.0213	0.0213	ppb	76.84	1000.	
63 Cu	7.774	7.774	ppb	1.88	#VALUE!	
65 Cu	7.682	7.682	ppb	0.38	2000.	
66 Zn	1.314	1.314	ppb	9.09	2000.	
68 Zn	1.161	1.161	ppb	9.97	#VALUE!	
75 As	5.573	5.573	ppb	3.92	1000.	
82 Se	0.1969	0.1969	ppb	36.15	1000.	
88 Sr	62.43	62.43	ppb	1.69	2000.	
89 Y	----	--------	---	---	#VALUE!	
98 Mo	1.526	1.526	ppb	2.45	1000.	
107 Ag	0.0022	0.0022	ppb	39.43	100.	
109 Ag	0.0031	0.0031	ppb	117.64	#VALUE!	
111 Cd	-0.0675	-0.0675	ppb	8.57	#VALUE!	
114 Cd	0.	0.	ppb	13308.00	1000.	
115 In	----	--------	---	---	#VALUE!	
118 Sn	-0.1601	-0.1601	ppb	1.76	1000.	
120 Sn	-0.1575	-0.1575	ppb	3.95	#VALUE!	
121 Sb	0.0653	0.0653	ppb	19.34	#VALUE!	
123 Sb	0.0879	0.0879	ppb	11.25	1000.	
135 Ba	1.261	1.261	ppb	7.43	2000.	
137 Ba	1.236	1.236	ppb	2.63	#VALUE!	
182 W	0.0779	0.0779	ppb	22.51	1000.	
203 Tl	0.0102	0.0102	ppb	28.50	1000.	
205 Tl	0.0094	0.0094	ppb	10.05	#VALUE!	
208 Pb	0.1182	0.1182	ppb	1.90	2000.	
232 Th	0.0731	0.0731	ppb	20.09	1000.	
238 U	158.4	158.4	ppb	0.97	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2674044.30	1.25	2658648.80	100.6	69.5 - 120	
45 Sc	2108556.80	2.18	2094536.40	100.7	69.5 - 120	
72 Ge	437769.91	1.83	441280.53	99.2	69.5 - 120	
159 Tb	3399537.80	1.33	3254384.00	104.5	69.5 - 120	
209 Bi	1676403.50	0.33	1622942.50	103.3	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000304

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\033SMPL.D\033SMPL.D#
Date Acquired: May 22 2018 03:34 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: PBWLE21IMW2
Misc Info:
Vial Number: 2102
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0096	0.0019	ppb	88.45	100.	
11 B	1.2715	0.2543	ppb	11.74	1000.	
23 Na	35.96	7.192	ppb	4.75	200000.	
25 Mg	13.55	2.71	ppb	3.28	200000.	
27 Al	8.82	1.764	ppb	4.33	200000.	
28 Si	48.985	9.797	ppb	54.19	#VALUE!	
29 Si	-76.2	-15.24	ppb	32.22	10000.	
39 K	6.92	1.384	ppb	53.05	200000.	
43 Ca	23.62	4.724	ppb	103.34	#VALUE!	
44 Ca	17.44	3.488	ppb	27.54	200000.	
51 V	1.0595	0.2119	ppb	63.05	1000.	
52 Cr	1.68	0.336	ppb	12.84	2000.	
53 Cr	91.65	18.33	ppb	12.02	#VALUE!	
55 Mn	0.2007	0.0401	ppb	33.54	2000.	
56 Fe	12.955	2.591	ppb	112.16	#VALUE!	
57 Fe	-31.44	-6.288	ppb	16.57	100000.	
59 Co	0.0063	0.0013	ppb	208.86	1000.	
60 Ni	0.0662	0.0132	ppb	116.84	1000.	
63 Cu	1.02	0.204	ppb	10.98	#VALUE!	
65 Cu	0.8045	0.1609	ppb	31.19	2000.	
66 Zn	0.2967	0.0593	ppb	104.96	2000.	
68 Zn	0.1482	0.0296	ppb	250.44	#VALUE!	
75 As	1.9015	0.3803	ppb	117.46	1000.	
82 Se	0.818	0.1636	ppb	127.44	1000.	
88 Sr	0.0155	0.0031	ppb	100.52	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	0.1787	0.0357	ppb	21.69	1000.	
107 Ag	0.0231	0.0046	ppb	99.13	100.	
109 Ag	0.0178	0.0036	ppb	70.16	#VALUE!	
111 Cd	-0.2745	-0.0549	ppb	45.20	#VALUE!	
114 Cd	-0.0396	-0.0079	ppb	63.40	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	0.7645	0.1529	ppb	33.37	1000.	
120 Sn	0.828	0.1656	ppb	7.98	#VALUE!	
121 Sb	0.3727	0.0745	ppb	11.53	#VALUE!	
123 Sb	0.4957	0.0991	ppb	10.72	1000.	
135 Ba	-0.0543	-0.0109	ppb	34.28	2000.	
137 Ba	0.0619	0.0124	ppb	41.55	#VALUE!	
182 W	0.1768	0.0354	ppb	9.64	1000.	
203 Tl	0.033	0.0066	ppb	122.79	1000.	
205 Tl	0.0028	0.0006	ppb	299.34	#VALUE!	
208 Pb	0.0173	0.0035	ppb	116.68	2000.	
232 Th	0.2898	0.058	ppb	31.54	1000.	
238 U	0.0414	0.0083	ppb	32.78	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2506101.80	1.74	2658648.80	94.3	69.5 - 120	
45 Sc	1945838.10	0.57	2094536.40	92.9	69.5 - 120	
72 Ge	409595.22	0.44	441280.53	92.8	69.5 - 120	
159 Tb	3319029.00	1.90	3254384.00	102.0	69.5 - 120	
209 Bi	1629697.00	2.18	1622942.50	100.4	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000305

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\034SMPL.D\034SMPL.D#
Date Acquired: May 22 2018 03:38 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: LCSWLE21IMW2
Misc Info:
Vial Number: 2103
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	48.94	9.788	ppb	2.25	100.	
11 B	517.	103.4	ppb	4.45	1000.	
23 Na	7,800.	1,560.	ppb	2.72	200000.	
25 Mg	5,190.	1,038.	ppb	0.83	200000.	
27 Al	2,193.5	438.7	ppb	0.93	200000.	
28 Si	857.5	171.5	ppb	12.17	#VALUE!	
29 Si	882.5	176.5	ppb	3.82	10000.	
39 K	10,115.	2,023.	ppb	1.97	200000.	
43 Ca	3,036.	607.2	ppb	3.55	#VALUE!	
44 Ca	2,506.5	501.3	ppb	1.27	200000.	
51 V	523.	104.6	ppb	0.98	1000.	
52 Cr	202.4	40.48	ppb	0.31	2000.	
53 Cr	292.	58.4	ppb	2.91	#VALUE!	
55 Mn	520.	104.	ppb	2.33	2000.	
56 Fe	1,038.	207.6	ppb	4.08	#VALUE!	
57 Fe	977.	195.4	ppb	1.54	100000.	
59 Co	524.	104.8	ppb	0.98	1000.	
60 Ni	527.	105.4	ppb	0.65	1000.	
63 Cu	256.95	51.39	ppb	1.35	#VALUE!	
65 Cu	258.2	51.64	ppb	1.21	2000.	
66 Zn	516.	103.2	ppb	1.76	2000.	
68 Zn	578.5	115.7	ppb	2.64	#VALUE!	
75 As	106.7	21.34	ppb	1.01	1000.	
82 Se	105.9	21.18	ppb	3.52	1000.	
88 Sr	511.	102.2	ppb	1.10	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	103.7	20.74	ppb	2.07	1000.	
107 Ag	52.8	10.56	ppb	1.81	100.	
109 Ag	52.9	10.58	ppb	1.51	#VALUE!	
111 Cd	265.55	53.11	ppb	1.69	#VALUE!	
114 Cd	266.05	53.21	ppb	1.86	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	487.75	97.55	ppb	1.11	1000.	
120 Sn	489.5	97.9	ppb	0.11	#VALUE!	
121 Sb	101.65	20.33	ppb	1.17	#VALUE!	
123 Sb	101.1	20.22	ppb	1.35	1000.	
135 Ba	2,013.5	402.7	ppb	1.17	2000.	
137 Ba	2,004.5	400.9	ppb	1.06	#VALUE!	
182 W	102.65	20.53	ppb	1.57	1000.	
203 Tl	103.85	20.77	ppb	1.12	1000.	
205 Tl	103.2	20.64	ppb	0.43	#VALUE!	
208 Pb	103.7	20.74	ppb	0.85	2000.	
232 Th	97.8	19.56	ppb	1.99	1000.	
238 U	91.85	18.37	ppb	2.70	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2667896.00	2.20	2658648.80	100.3	69.5 - 120	
45 Sc	2019908.50	0.32	2094536.40	96.4	69.5 - 120	
72 Ge	417102.69	0.85	441280.53	94.5	69.5 - 120	
159 Tb	3409584.00	0.83	3254384.00	104.8	69.5 - 120	
209 Bi	1680581.10	1.34	1622942.50	103.6	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000306

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\035SMPL.D\035SMPL.D#
Date Acquired: May 22 2018 03:42 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL4180-029
Misc Info:
Vial Number: 2104
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0079	0.0016	ppb	190.12	100.	
11 B	6.825	1.365	ppb	25.71	1000.	
23 Na	43.525	8.705	ppb	5.43	200000.	
25 Mg	17.78	3.556	ppb	0.69	200000.	
27 Al	8.73	1.746	ppb	6.45	200000.	
28 Si	-25.085	-5.017	ppb	239.78	#VALUE!	
29 Si	-9.195	-1.839	ppb	342.96	10000.	
39 K	18.22	3.644	ppb	112.82	200000.	
43 Ca	35.815	7.163	ppb	57.41	#VALUE!	
44 Ca	38.225	7.645	ppb	38.67	200000.	
51 V	0.561	0.1122	ppb	35.70	1000.	
52 Cr	2.1055	0.4211	ppb	5.89	2000.	
53 Cr	77.4	15.48	ppb	6.12	#VALUE!	
55 Mn	1.324	0.2648	ppb	1.24	2000.	
56 Fe	35.885	7.177	ppb	41.95	#VALUE!	
57 Fe	-15.79	-3.158	ppb	72.48	100000.	
59 Co	0.0151	0.003	ppb	188.85	1000.	
60 Ni	0.118	0.0236	ppb	55.00	1000.	
63 Cu	0.9345	0.1869	ppb	12.40	#VALUE!	
65 Cu	0.894	0.1788	ppb	10.79	2000.	
66 Zn	1.109	0.2218	ppb	56.27	2000.	
68 Zn	0.162	0.0324	ppb	390.74	#VALUE!	
75 As	0.3684	0.0737	ppb	520.29	1000.	
82 Se	0.3352	0.067	ppb	112.84	1000.	
88 Sr	0.1261	0.0252	ppb	20.56	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	0.4874	0.0975	ppb	8.57	1000.	
107 Ag	0.0006	0.0001	ppb	2683.80	100.	
109 Ag	0.0184	0.0037	ppb	97.26	#VALUE!	
111 Cd	-0.1542	-0.0308	ppb	42.49	#VALUE!	
114 Cd	-0.0435	-0.0087	ppb	29.92	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	1.0625	0.2125	ppb	9.19	1000.	
120 Sn	1.0055	0.2011	ppb	3.42	#VALUE!	
121 Sb	0.3922	0.0784	ppb	27.74	#VALUE!	
123 Sb	0.4514	0.0903	ppb	13.40	1000.	
135 Ba	0.1375	0.0275	ppb	24.35	2000.	
137 Ba	0.0798	0.016	ppb	28.45	#VALUE!	
182 W	0.2	0.04	ppb	37.85	1000.	
203 Tl	-0.0034	-0.0007	ppb	1009.70	1000.	
205 Tl	-0.0014	-0.0003	ppb	761.29	#VALUE!	
208 Pb	0.0402	0.008	ppb	55.75	2000.	
232 Th	0.6815	0.1363	ppb	33.16	1000.	
238 U	0.0038	0.0008	ppb	217.31	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2552530.50	2.79	2658648.80	96.0	69.5 - 120	
45 Sc	1980599.80	1.47	2094536.40	94.6	69.5 - 120	
72 Ge	415772.38	0.83	441280.53	94.2	69.5 - 120	
159 Tb	3344066.50	0.35	3254384.00	102.8	69.5 - 120	
209 Bi	1652843.00	1.38	1622942.50	101.8	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000307

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\036SMPL.D\036SMPL.D#
Date Acquired: May 22 2018 03:45 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL4290-014
Misc Info:
Vial Number: 2105
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0192	0.0038	ppb	14.42	100.	
11 B	2.1345	0.4269	ppb	28.37	1000.	
23 Na	45.175	9.035	ppb	3.44	200000.	
25 Mg	16.745	3.349	ppb	7.06	200000.	
27 Al	17.945	3.589	ppb	2.12	200000.	
28 Si	-28.86	-5.772	ppb	564.28	#VALUE!	
29 Si	42.775	8.555	ppb	343.42	10000.	
39 K	40.5	8.1	ppb	48.10	200000.	
43 Ca	83.65	16.73	ppb	52.36	#VALUE!	
44 Ca	86.75	17.35	ppb	9.46	200000.	
51 V	0.802	0.1604	ppb	129.36	1000.	
52 Cr	1.9635	0.3927	ppb	7.10	2000.	
53 Cr	88.65	17.73	ppb	2.22	#VALUE!	
55 Mn	0.3374	0.0675	ppb	11.09	2000.	
56 Fe	29.19	5.838	ppb	40.63	#VALUE!	
57 Fe	-14.59	-2.918	ppb	52.64	100000.	
59 Co	0.0515	0.0103	ppb	38.60	1000.	
60 Ni	0.0362	0.0072	ppb	242.86	1000.	
63 Cu	1.007	0.2014	ppb	18.61	#VALUE!	
65 Cu	0.851	0.1702	ppb	26.29	2000.	
66 Zn	1.343	0.2686	ppb	32.27	2000.	
68 Zn	0.621	0.1242	ppb	64.19	#VALUE!	
75 As	0.896	0.1792	ppb	107.48	1000.	
82 Se	-0.777	-0.1554	ppb	148.71	1000.	
88 Sr	0.1708	0.0342	ppb	14.70	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	0.1242	0.0248	ppb	10.06	1000.	
107 Ag	-0.0143	-0.0029	ppb	42.26	100.	
109 Ag	0.0068	0.0014	ppb	54.01	#VALUE!	
111 Cd	-0.0552	-0.011	ppb	276.54	#VALUE!	
114 Cd	-0.018	-0.0036	ppb	310.92	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	1.0695	0.2139	ppb	8.17	1000.	
120 Sn	1.0625	0.2125	ppb	2.59	#VALUE!	
121 Sb	0.401	0.0802	ppb	10.96	#VALUE!	
123 Sb	0.4663	0.0933	ppb	17.08	1000.	
135 Ba	0.2541	0.0508	ppb	33.62	2000.	
137 Ba	0.2035	0.0407	ppb	23.20	#VALUE!	
182 W	0.0961	0.0192	ppb	35.01	1000.	
203 Tl	-0.0028	-0.0006	ppb	1195.90	1000.	
205 Tl	0.0058	0.0012	ppb	183.45	#VALUE!	
208 Pb	0.0819	0.0164	ppb	21.70	2000.	
232 Th	0.2416	0.0483	ppb	21.71	1000.	
238 U	-0.0008	-0.0002	ppb	929.43	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2528912.50	3.72	2658648.80	95.1	69.5 - 120	
45 Sc	1972770.80	3.01	2094536.40	94.2	69.5 - 120	
72 Ge	412182.88	2.05	441280.53	93.4	69.5 - 120	
159 Tb	3328922.30	0.92	3254384.00	102.3	69.5 - 120	
209 Bi	1635405.30	0.56	1622942.50	100.8	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000308

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\037SMPL.D\037SMPL.D#
Date Acquired: May 22 2018 03:49 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: PBWLE22IMW1
Misc Info:
Vial Number: 2106
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0082	0.0016	ppb	140.15	100.	
11 B	1.4785	0.2957	ppb	5.92	1000.	
23 Na	24.615	4.923	ppb	4.17	200000.	
25 Mg	13.	2.6	ppb	4.31	200000.	
27 Al	8.605	1.721	ppb	11.40	200000.	
28 Si	-98.45	-19.69	ppb	206.35	#VALUE!	
29 Si	49.085	9.817	ppb	228.99	10000.	
39 K	21.8	4.36	ppb	77.71	200000.	
43 Ca	13.495	2.699	ppb	219.71	#VALUE!	
44 Ca	8.98	1.796	ppb	47.57	200000.	
51 V	0.9015	0.1803	ppb	34.69	1000.	
52 Cr	2.1095	0.4219	ppb	4.70	2000.	
53 Cr	87.7	17.54	ppb	0.59	#VALUE!	
55 Mn	0.1618	0.0324	ppb	19.34	2000.	
56 Fe	16.055	3.211	ppb	12.51	#VALUE!	
57 Fe	-20.26	-4.052	ppb	59.18	100000.	
59 Co	0.0279	0.0056	ppb	114.99	1000.	
60 Ni	0.737	0.1474	ppb	12.34	1000.	
63 Cu	0.711	0.1422	ppb	17.99	#VALUE!	
65 Cu	0.7025	0.1405	ppb	7.16	2000.	
66 Zn	0.4485	0.0897	ppb	38.58	2000.	
68 Zn	0.2727	0.0545	ppb	99.21	#VALUE!	
75 As	0.3741	0.0748	ppb	425.61	1000.	
82 Se	-0.3176	-0.0635	ppb	312.50	1000.	
88 Sr	0.0381	0.0076	ppb	38.99	2000.	
89 Y	----	--------	---	---	#VALUE!	
98 Mo	0.0749	0.015	ppb	8.16	1000.	
107 Ag	-0.0067	-0.0013	ppb	183.01	100.	
109 Ag	0.0002	0.	ppb	4139.60	#VALUE!	
111 Cd	0.073	0.0146	ppb	172.65	#VALUE!	
114 Cd	-0.0093	-0.0019	ppb	311.16	1000.	
115 In	----	--------	---	---	#VALUE!	
118 Sn	1.0535	0.2107	ppb	9.87	1000.	
120 Sn	0.957	0.1914	ppb	5.66	#VALUE!	
121 Sb	0.3406	0.0681	ppb	23.70	#VALUE!	
123 Sb	0.3801	0.076	ppb	15.26	1000.	
135 Ba	0.0143	0.0029	ppb	199.93	2000.	
137 Ba	0.0709	0.0142	ppb	22.36	#VALUE!	
182 W	0.0724	0.0145	ppb	37.46	1000.	
203 Tl	0.0195	0.0039	ppb	138.51	1000.	
205 Tl	-0.0026	-0.0005	ppb	667.49	#VALUE!	
208 Pb	0.0158	0.0032	ppb	77.50	2000.	
232 Th	0.1144	0.0229	ppb	38.13	1000.	
238 U	0.0011	0.0002	ppb	176.72	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2506210.00	4.14	2658648.80	94.3	69.5 - 120	
45 Sc	1968877.00	2.70	2094536.40	94.0	69.5 - 120	
72 Ge	411319.81	1.44	441280.53	93.2	69.5 - 120	
159 Tb	3374978.30	0.70	3254384.00	103.7	69.5 - 120	
209 Bi	1654956.50	1.17	1622942.50	102.0	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000309

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\038SMPL.D\038SMPL.D#
Date Acquired: May 22 2018 03:53 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: LCSWLE22IMW1
Misc Info:
Vial Number: 2107
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	52.2	10.44	ppb	2.51	100.	
11 B	542.	108.4	ppb	3.68	1000.	
23 Na	8,210.	1,642.	ppb	2.63	200000.	
25 Mg	5,540.	1,108.	ppb	2.05	200000.	
27 Al	2,296.	459.2	ppb	1.34	200000.	
28 Si	865.	173.	ppb	5.92	#VALUE!	
29 Si	990.5	198.1	ppb	1.57	10000.	
39 K	10,675.	2,135.	ppb	2.44	200000.	
43 Ca	3,079.	615.8	ppb	1.29	#VALUE!	
44 Ca	2,724.5	544.9	ppb	0.37	200000.	
51 V	560.5	112.1	ppb	0.66	1000.	
52 Cr	215.25	43.05	ppb	1.43	2000.	
53 Cr	295.	59.	ppb	3.12	#VALUE!	
55 Mn	565.5	113.1	ppb	0.62	2000.	
56 Fe	1,119.	223.8	ppb	1.15	#VALUE!	
57 Fe	1,063.	212.6	ppb	3.91	100000.	
59 Co	557.5	111.5	ppb	1.57	1000.	
60 Ni	561.	112.2	ppb	0.89	1000.	
63 Cu	275.65	55.13	ppb	1.86	#VALUE!	
65 Cu	274.3	54.86	ppb	0.74	2000.	
66 Zn	547.5	109.5	ppb	0.22	2000.	
68 Zn	620.5	124.1	ppb	0.71	#VALUE!	
75 As	111.15	22.23	ppb	0.16	1000.	
82 Se	111.1	22.22	ppb	0.46	1000.	
88 Sr	540.	108.	ppb	0.56	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	111.6	22.32	ppb	0.88	1000.	
107 Ag	56.45	11.29	ppb	0.61	100.	
109 Ag	56.75	11.35	ppb	0.90	#VALUE!	
111 Cd	282.35	56.47	ppb	0.63	#VALUE!	
114 Cd	283.7	56.74	ppb	0.58	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	513.	102.6	ppb	1.54	1000.	
120 Sn	516.5	103.3	ppb	1.61	#VALUE!	
121 Sb	104.7	20.94	ppb	2.49	#VALUE!	
123 Sb	106.	21.2	ppb	1.36	1000.	
135 Ba	2,115.	423.	ppb	1.76	2000.	
137 Ba	2,125.5	425.1	ppb	1.56	#VALUE!	
182 W	108.8	21.76	ppb	0.43	1000.	
203 Tl	110.15	22.03	ppb	2.08	1000.	
205 Tl	109.7	21.94	ppb	0.88	#VALUE!	
208 Pb	110.6	22.12	ppb	1.55	2000.	
232 Th	103.35	20.67	ppb	1.70	1000.	
238 U	95.1	19.02	ppb	0.98	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2696461.80	3.10	2658648.80	101.4	69.5 - 120	
45 Sc	2035023.50	0.51	2094536.40	97.2	69.5 - 120	
72 Ge	415104.28	1.49	441280.53	94.1	69.5 - 120	
159 Tb	3488031.00	0.61	3254384.00	107.2	69.5 - 120	
209 Bi	1715100.90	1.03	1622942.50	105.7	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000310

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\039SMPL.D\039SMPL.D#
Date Acquired: May 22 2018 03:57 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: PBT1455A
Misc Info:
Vial Number: 2108
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0077	0.0015	ppb	86.52	100.	
11 B	11.725	2.345	ppb	16.02	1000.	
23 Na	83.85	16.77	ppb	2.82	200000.	
25 Mg	12.85	2.57	ppb	5.13	200000.	
27 Al	10.14	2.028	ppb	3.43	200000.	
28 Si	-78.1	-15.62	ppb	228.36	#VALUE!	
29 Si	89.65	17.93	ppb	131.40	10000.	
39 K	43.44	8.688	ppb	30.41	200000.	
43 Ca	57.65	11.53	ppb	20.09	#VALUE!	
44 Ca	38.58	7.716	ppb	7.31	200000.	
51 V	0.4379	0.0876	ppb	225.96	1000.	
52 Cr	1.6795	0.3359	ppb	11.29	2000.	
53 Cr	64.25	12.85	ppb	2.36	#VALUE!	
55 Mn	0.3295	0.0659	ppb	16.54	2000.	
56 Fe	25.465	5.093	ppb	54.90	#VALUE!	
57 Fe	-22.435	-4.487	ppb	29.60	100000.	
59 Co	0.0184	0.0037	ppb	114.10	1000.	
60 Ni	0.78	0.156	ppb	14.00	1000.	
63 Cu	1.327	0.2654	ppb	10.85	#VALUE!	
65 Cu	1.307	0.2614	ppb	9.09	2000.	
66 Zn	6.83	1.366	ppb	12.77	2000.	
68 Zn	6.56	1.312	ppb	8.12	#VALUE!	
75 As	1.4295	0.2859	ppb	65.41	1000.	
82 Se	0.7475	0.1495	ppb	44.82	1000.	
88 Sr	0.4046	0.0809	ppb	4.62	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	0.1485	0.0297	ppb	8.36	1000.	
107 Ag	0.0149	0.003	ppb	49.56	100.	
109 Ag	0.0172	0.0034	ppb	32.44	#VALUE!	
111 Cd	0.1211	0.0242	ppb	88.69	#VALUE!	
114 Cd	-0.0109	-0.0022	ppb	368.11	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	0.9435	0.1887	ppb	2.23	1000.	
120 Sn	1.1125	0.2225	ppb	8.13	#VALUE!	
121 Sb	0.3693	0.0739	ppb	26.28	#VALUE!	
123 Sb	0.4055	0.0811	ppb	10.20	1000.	
135 Ba	5.525	1.105	ppb	2.75	2000.	
137 Ba	5.785	1.157	ppb	6.41	#VALUE!	
182 W	0.1722	0.0344	ppb	37.38	1000.	
203 Tl	0.0035	0.0007	ppb	290.90	1000.	
205 Tl	0.0003	0.0001	ppb	3462.80	#VALUE!	
208 Pb	0.1942	0.0388	ppb	14.27	2000.	
232 Th	0.7045	0.1409	ppb	38.27	1000.	
238 U	-0.0002	0.	ppb	1038.70	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2490528.50	3.17	2658648.80	93.7	69.5 - 120	
45 Sc	1926894.80	3.22	2094536.40	92.0	69.5 - 120	
72 Ge	402181.72	2.40	441280.53	91.1	69.5 - 120	
159 Tb	3336436.00	1.48	3254384.00	102.5	69.5 - 120	
209 Bi	1656631.90	0.48	1622942.50	102.1	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000311

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\040SMPL.D\040SMPL.D#
Date Acquired: May 22 2018 04:00 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL4206-002
Misc Info:
Vial Number: 2109
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0178	0.0036	ppb	42.69	100.	
11 B	39.76	7.952	ppb	1.00	1000.	
23 Na	32,665.	6,533.	ppb	1.11	200000.	
25 Mg	14,395.	2,879.	ppb	1.03	200000.	
27 Al	11.275	2.255	ppb	2.58	200000.	
28 Si	2,899.	579.8	ppb	1.25	#VALUE!	
29 Si	3,137.	627.4	ppb	2.47	10000.	
39 K	2,174.	434.8	ppb	1.52	200000.	
43 Ca	28,345.	5,669.	ppb	0.94	#VALUE!	
44 Ca	28,660.	5,732.	ppb	0.52	200000.	
51 V	-0.0138	-0.0028	ppb	3876.60	1000.	
52 Cr	1.0175	0.2035	ppb	9.61	2000.	
53 Cr	52.	10.4	ppb	4.28	#VALUE!	
55 Mn	4,691.5	938.3	ppb	0.77	2000.	
56 Fe	398.95	79.79	ppb	0.62	#VALUE!	
57 Fe	409.35	81.87	ppb	5.62	100000.	
59 Co	2.7615	0.5523	ppb	6.03	1000.	
60 Ni	59.35	11.87	ppb	0.99	1000.	
63 Cu	1.515	0.303	ppb	13.11	#VALUE!	
65 Cu	0.704	0.1408	ppb	16.73	2000.	
66 Zn	12.865	2.573	ppb	6.10	2000.	
68 Zn	10.92	2.184	ppb	5.54	#VALUE!	
75 As	1.0595	0.2119	ppb	24.82	1000.	
82 Se	0.937	0.1874	ppb	73.96	1000.	
88 Sr	123.	24.6	ppb	0.88	2000.	
89 Y	----	--------	---	---	#VALUE!	
98 Mo	0.0699	0.014	ppb	9.05	1000.	
107 Ag	-0.0111	-0.0022	ppb	83.17	100.	
109 Ag	-0.0004	-0.0001	ppb	2177.10	#VALUE!	
111 Cd	0.2846	0.0569	ppb	12.82	#VALUE!	
114 Cd	0.2785	0.0557	ppb	26.14	1000.	
115 In	----	--------	---	---	#VALUE!	
118 Sn	1.0225	0.2045	ppb	5.39	1000.	
120 Sn	0.9265	0.1853	ppb	8.86	#VALUE!	
121 Sb	0.4422	0.0884	ppb	21.75	#VALUE!	
123 Sb	0.4698	0.094	ppb	16.50	1000.	
135 Ba	2.25	0.45	ppb	11.42	2000.	
137 Ba	2.16	0.432	ppb	3.77	#VALUE!	
182 W	0.1079	0.0216	ppb	35.39	1000.	
203 Tl	0.0263	0.0053	ppb	134.95	1000.	
205 Tl	0.0066	0.0013	ppb	157.11	#VALUE!	
208 Pb	0.0682	0.0136	ppb	50.03	2000.	
232 Th	0.2339	0.0468	ppb	36.49	1000.	
238 U	0.0007	0.0001	ppb	272.83	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2640640.50	0.47	2658648.80	99.3	69.5 - 120	
45 Sc	2015493.50	0.52	2094536.40	96.2	69.5 - 120	
72 Ge	422560.22	0.88	441280.53	95.8	69.5 - 120	
159 Tb	3500274.00	0.70	3254384.00	107.6	69.5 - 120	
209 Bi	1716530.40	0.56	1622942.50	105.8	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000312

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\041SMPL.D\041SMPL.D#
Date Acquired: May 22 2018 04:04 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: RINSE
Misc Info:
Vial Number: 2110
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0039	0.0039	ppb	40.30	100.	
11 B	4.518	4.518	ppb	6.16	1000.	
23 Na	5,859.	5,859.	ppb	1.51	200000.	
25 Mg	2,395.	2,395.	ppb	1.25	200000.	
27 Al	4.517	4.517	ppb	5.47	200000.	
28 Si	667.6	667.6	ppb	6.51	#VALUE!	
29 Si	712.5	712.5	ppb	4.23	10000.	
39 K	319.8	319.8	ppb	2.94	200000.	
43 Ca	4,443.	4,443.	ppb	2.57	#VALUE!	
44 Ca	4,576.	4,576.	ppb	1.30	200000.	
51 V	0.1378	0.1378	ppb	88.61	1000.	
52 Cr	0.2561	0.2561	ppb	4.80	2000.	
53 Cr	11.83	11.83	ppb	0.50	#VALUE!	
55 Mn	23.31	23.31	ppb	1.12	2000.	
56 Fe	-0.7742	-0.7742	ppb	356.88	#VALUE!	
57 Fe	-0.0092	-0.0092	ppb	41752.00	100000.	
59 Co	0.0292	0.0292	ppb	32.05	1000.	
60 Ni	1.756	1.756	ppb	2.03	1000.	
63 Cu	0.2941	0.2941	ppb	13.89	#VALUE!	
65 Cu	0.1491	0.1491	ppb	21.01	2000.	
66 Zn	0.6282	0.6282	ppb	18.78	2000.	
68 Zn	0.4742	0.4742	ppb	19.99	#VALUE!	
75 As	0.1702	0.1702	ppb	104.64	1000.	
82 Se	0.1141	0.1141	ppb	90.80	1000.	
88 Sr	23.98	23.98	ppb	1.16	2000.	
89 Y	----	--------	---	---	#VALUE!	
98 Mo	0.0183	0.0183	ppb	49.68	1000.	
107 Ag	0.0015	0.0015	ppb	356.27	100.	
109 Ag	-0.0003	-0.0003	ppb	635.25	#VALUE!	
111 Cd	0.0436	0.0436	ppb	47.73	#VALUE!	
114 Cd	0.0147	0.0147	ppb	8.14	1000.	
115 In	----	--------	---	---	#VALUE!	
118 Sn	0.2285	0.2285	ppb	3.46	1000.	
120 Sn	0.2253	0.2253	ppb	13.50	#VALUE!	
121 Sb	0.0649	0.0649	ppb	9.27	#VALUE!	
123 Sb	0.076	0.076	ppb	20.86	1000.	
135 Ba	2.037	2.037	ppb	2.61	2000.	
137 Ba	2.009	2.009	ppb	1.94	#VALUE!	
182 W	0.0168	0.0168	ppb	40.35	1000.	
203 Tl	-0.0006	-0.0006	ppb	472.97	1000.	
205 Tl	0.0019	0.0019	ppb	105.89	#VALUE!	
208 Pb	0.0098	0.0098	ppb	66.67	2000.	
232 Th	0.029	0.029	ppb	34.85	1000.	
238 U	0.0009	0.0009	ppb	186.84	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2611248.50	1.02	2658648.80	98.2	69.5 - 120	
45 Sc	2006377.60	2.14	2094536.40	95.8	69.5 - 120	
72 Ge	422902.59	0.81	441280.53	95.8	69.5 - 120	
159 Tb	3510678.80	2.00	3254384.00	107.9	69.5 - 120	
209 Bi	1726283.00	1.02	1622942.50	106.4	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000313

CCV QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\042_CCV.D\042_CCV.D#
Date Acquired: May 22 2018 04:08 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: CCV
Misc Info:
Vial Number: 1206
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Dilution Factor: 1.00
QC Range (%): 89.5 - 110.5

QC Elements

Element	Conc.		RSD(%)	Expected	Rec (%)	Flag
9 Be	25.29	ppb	5.26	25	101.16	
11 B	25.63	ppb	7.23	25	102.52	
23 Na	4,955.	ppb	1.58	5,000	99.1	
25 Mg	5,122.	ppb	3.66	5,000	102.44	
27 Al	510.6	ppb	2.61	500	102.12	
28 Si	484.3	ppb	10.60	500	96.86	
29 Si	497.2	ppb	9.45	500	99.44	
39 K	4,920.	ppb	1.62	5,000	98.4	
43 Ca	4,888.	ppb	0.80	5,000	97.76	
44 Ca	4,998.	ppb	0.50	5,000	99.96	
51 V	24.82	ppb	0.70	25	99.28	
52 Cr	24.44	ppb	1.53	25	97.76	
53 Cr	24.37	ppb	4.41	25	97.48	
55 Mn	24.93	ppb	0.81	25	99.72	
56 Fe	4,849.	ppb	0.66	5,000	96.98	
57 Fe	4,906.	ppb	0.52	5,000	98.12	
59 Co	25.03	ppb	0.46	25	100.12	
60 Ni	25.26	ppb	0.43	25	101.04	
63 Cu	24.97	ppb	0.52	25	99.88	
65 Cu	24.83	ppb	1.28	25	99.32	
66 Zn	25.41	ppb	0.84	25	101.64	
68 Zn	25.39	ppb	2.03	25	101.56	
75 As	24.74	ppb	0.29	25	98.96	
82 Se	25.2	ppb	1.24	25	100.8	
88 Sr	24.61	ppb	1.44	25	98.44	
89 Y	--------	---	--------	---	#VALUE!	
98 Mo	25.5	ppb	0.72	25	102	
107 Ag	25.51	ppb	0.68	25	102.04	
109 Ag	25.78	ppb	0.91	25	103.12	
111 Cd	25.67	ppb	0.49	25	102.68	
114 Cd	25.97	ppb	0.64	25	103.88	
115 In	--------	---	--------	---	#VALUE!	
118 Sn	23.78	ppb	2.09	25	95.12	
120 Sn	23.41	ppb	1.23	25	93.64	
121 Sb	24.	ppb	1.12	25	96	
123 Sb	24.28	ppb	0.91	25	97.12	
135 Ba	24.2	ppb	1.16	25	96.8	
137 Ba	24.31	ppb	1.29	25	97.24	
182 W	24.71	ppb	0.73	25	98.84	
203 Tl	24.8	ppb	1.96	25	99.2	
205 Tl	24.82	ppb	0.91	25	99.28	
208 Pb	24.83	ppb	1.54	25	99.32	
232 Th	23.2	ppb	2.99	25	92.8	
238 U	21.31	ppb	1.33	25	85.24	Fail

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2553749.30	5.09	2658648.80	96.1	80 - 120.4	
45 Sc	2051193.50	2.83	2094536.40	97.9	80 - 120.4	
72 Ge	425510.53	1.22	441280.53	96.4	80 - 120.4	
159 Tb	3474544.00	1.79	3254384.00	106.8	80 - 120.4	
209 Bi	1717079.00	1.12	1622942.50	105.8	80 - 120.4	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Katahdin Analytical Services 4000314

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\043_CCB.D\043_CCB.D#
Date Acquired: May 22 2018 04:12 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: CCB
Misc Info:
Vial Number: 1207
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Sample Type: 6-CCB
Dilution Factor: 1.00

QC Elements

Element	Conc.		RSD(%)	High Limit	Flag
9 Be	0.0029	ppb	93.88	1.00	
11 B	0.4155	ppb	26.79	1.00	
23 Na	1.1	ppb	13.07	1.00	
25 Mg	0.0192	ppb	244.96	1.00	
27 Al	0.0029	ppb	1935.30	1.00	
28 Si	31.27	ppb	69.94	1.00	
29 Si	45.56	ppb	26.78	1.00	
39 K	8.984	ppb	15.44	1.00	
43 Ca	1.929	ppb	56.25	1.00	
44 Ca	0.6439	ppb	252.21	1.00	
51 V	0.0094	ppb	593.77	1.00	
52 Cr	-0.0362	ppb	64.79	1.00	
53 Cr	-1.881	ppb	9.14	1.00	
55 Mn	-0.009	ppb	67.49	1.00	
56 Fe	-4.198	ppb	36.57	1.00	
57 Fe	-7.58	ppb	12.74	1.00	
59 Co	0.0032	ppb	114.95	1.00	
60 Ni	-0.0013	ppb	528.70	1.00	
63 Cu	0.0262	ppb	33.60	1.00	
65 Cu	0.0246	ppb	106.21	1.00	
66 Zn	0.0697	ppb	49.89	1.00	
68 Zn	-0.0464	ppb	118.29	1.00	
75 As	-0.1037	ppb	109.16	1.00	
82 Se	0.0537	ppb	329.92	1.00	
88 Sr	-0.0019	ppb	35.88	1.00	
89 Y	--------	---	--------	---	
98 Mo	0.0317	ppb	9.19	1.00	
107 Ag	0.0025	ppb	95.04	1.00	
109 Ag	0.0016	ppb	141.70	1.00	
111 Cd	0.0322	ppb	80.07	1.00	
114 Cd	-0.0055	ppb	88.50	1.00	
115 In	--------	---	--------	---	
118 Sn	0.0148	ppb	202.44	1.00	
120 Sn	0.0366	ppb	54.07	1.00	
121 Sb	0.0031	ppb	138.24	1.00	
123 Sb	0.0028	ppb	429.92	1.00	
135 Ba	0.	ppb	28509.00	1.00	
137 Ba	0.0084	ppb	30.48	1.00	
182 W	0.0628	ppb	26.18	1.00	
203 Tl	0.0045	ppb	83.81	1.00	
205 Tl	0.0023	ppb	39.43	1.00	
208 Pb	-0.0008	ppb	853.47	1.00	
232 Th	0.0726	ppb	9.65	1.00	
238 U	0.0016	ppb	103.86	1.00	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2449013.50	1.16	2658648.80	92.1	79.5 - 120	
45 Sc	1948021.00	0.34	2094536.40	93.0	79.5 - 120	
72 Ge	411810.44	0.50	441280.53	93.3	79.5 - 120	
159 Tb	3251373.80	0.82	3254384.00	99.9	79.5 - 120	
209 Bi	1645136.10	1.03	1622942.50	101.4	79.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000315

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\044SMPL.D\044SMPL.D#
Date Acquired: May 22 2018 04:16 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL4206-003
Misc Info:
Vial Number: 2111
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0094	0.0019	ppb	185.90	100.	
11 B	0.902	0.1804	ppb	6.15	1000.	
23 Na	6.98	1.396	ppb	38.86	200000.	
25 Mg	1.9395	0.3879	ppb	59.81	200000.	
27 Al	2.737	0.5474	ppb	23.58	200000.	
28 Si	128.95	25.79	ppb	64.25	#VALUE!	
29 Si	264.25	52.85	ppb	13.65	10000.	
39 K	49.385	9.877	ppb	30.24	200000.	
43 Ca	5.92	1.184	ppb	138.51	#VALUE!	
44 Ca	3.508	0.7016	ppb	89.04	200000.	
51 V	0.2152	0.043	ppb	49.36	1000.	
52 Cr	-0.146	-0.0292	ppb	25.52	2000.	
53 Cr	-8.	-1.6	ppb	4.20	#VALUE!	
55 Mn	-0.0699	-0.014	ppb	44.50	2000.	
56 Fe	-15.56	-3.112	ppb	92.74	#VALUE!	
57 Fe	-20.075	-4.015	ppb	20.46	100000.	
59 Co	0.0146	0.0029	ppb	56.75	1000.	
60 Ni	0.0014	0.0003	ppb	3053.30	1000.	
63 Cu	0.031	0.0062	ppb	387.70	#VALUE!	
65 Cu	0.1125	0.0225	ppb	141.26	2000.	
66 Zn	0.2488	0.0498	ppb	57.67	2000.	
68 Zn	0.0579	0.0116	ppb	1706.10	#VALUE!	
75 As	0.5485	0.1097	ppb	91.61	1000.	
82 Se	0.2641	0.0528	ppb	80.78	1000.	
88 Sr	0.0071	0.0014	ppb	139.59	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	0.0449	0.009	ppb	24.04	1000.	
107 Ag	0.0037	0.0007	ppb	223.91	100.	
109 Ag	0.003	0.0006	ppb	492.24	#VALUE!	
111 Cd	0.2672	0.0534	ppb	40.63	#VALUE!	
114 Cd	-0.0231	-0.0046	ppb	90.72	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	-0.088	-0.0176	ppb	172.95	1000.	
120 Sn	-0.1859	-0.0372	ppb	19.19	#VALUE!	
121 Sb	-0.0113	-0.0023	ppb	214.89	#VALUE!	
123 Sb	0.0228	0.0046	ppb	71.21	1000.	
135 Ba	-0.0193	-0.0039	ppb	153.34	2000.	
137 Ba	0.0273	0.0055	ppb	44.75	#VALUE!	
182 W	0.0889	0.0178	ppb	15.30	1000.	
203 Tl	0.0253	0.0051	ppb	68.56	1000.	
205 Tl	0.0158	0.0032	ppb	61.39	#VALUE!	
208 Pb	0.0091	0.0018	ppb	336.74	2000.	
232 Th	0.1285	0.0257	ppb	16.52	1000.	
238 U	-0.0027	-0.0005	ppb	152.95	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2511348.00	0.91	2658648.80	94.5	69.5 - 120	
45 Sc	1956138.10	1.53	2094536.40	93.4	69.5 - 120	
72 Ge	410790.34	0.68	441280.53	93.1	69.5 - 120	
159 Tb	3238193.50	0.87	3254384.00	99.5	69.5 - 120	
209 Bi	1631286.40	1.27	1622942.50	100.5	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000316

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\045SMPL.D\045SMPL.D#
Date Acquired: May 22 2018 04:20 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL4206-004
Misc Info:
Vial Number: 2112
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0101	0.002	ppb	66.47	100.	
11 B	20.11	4.022	ppb	1.48	1000.	
23 Na	21,210.	4,242.	ppb	1.08	200000.	
25 Mg	15,475.	3,095.	ppb	1.60	200000.	
27 Al	16.99	3.398	ppb	5.38	200000.	
28 Si	2,764.5	552.9	ppb	5.74	#VALUE!	
29 Si	3,123.	624.6	ppb	2.92	10000.	
39 K	1,221.	244.2	ppb	0.70	200000.	
43 Ca	22,210.	4,442.	ppb	2.08	#VALUE!	
44 Ca	22,625.	4,525.	ppb	0.89	200000.	
51 V	0.3088	0.0618	ppb	178.43	1000.	
52 Cr	0.9115	0.1823	ppb	6.38	2000.	
53 Cr	47.105	9.421	ppb	7.21	#VALUE!	
55 Mn	1.1895	0.2379	ppb	7.35	2000.	
56 Fe	-28.82	-5.764	ppb	13.81	#VALUE!	
57 Fe	5.665	1.133	ppb	204.24	100000.	
59 Co	0.0784	0.0157	ppb	64.26	1000.	
60 Ni	2.253	0.4506	ppb	0.87	1000.	
63 Cu	1.2225	0.2445	ppb	9.09	#VALUE!	
65 Cu	0.605	0.121	ppb	18.00	2000.	
66 Zn	4.1415	0.8283	ppb	9.67	2000.	
68 Zn	3.9995	0.7999	ppb	27.28	#VALUE!	
75 As	-0.4808	-0.0962	ppb	56.16	1000.	
82 Se	0.4324	0.0865	ppb	283.91	1000.	
88 Sr	117.75	23.55	ppb	0.41	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	0.1439	0.0288	ppb	14.84	1000.	
107 Ag	0.0357	0.0071	ppb	69.01	100.	
109 Ag	0.0433	0.0087	ppb	61.60	#VALUE!	
111 Cd	0.802	0.1604	ppb	14.97	#VALUE!	
114 Cd	0.529	0.1058	ppb	17.02	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	1.1555	0.2311	ppb	10.39	1000.	
120 Sn	1.0415	0.2083	ppb	12.27	#VALUE!	
121 Sb	0.2599	0.052	ppb	28.18	#VALUE!	
123 Sb	0.3608	0.0722	ppb	36.92	1000.	
135 Ba	9.71	1.942	ppb	3.93	2000.	
137 Ba	10.6	2.12	ppb	4.50	#VALUE!	
182 W	0.2417	0.0483	ppb	19.75	1000.	
203 Tl	0.0134	0.0027	ppb	136.44	1000.	
205 Tl	0.0013	0.0003	ppb	1022.70	#VALUE!	
208 Pb	0.0345	0.0069	ppb	33.46	2000.	
232 Th	0.3158	0.0632	ppb	22.19	1000.	
238 U	0.004	0.0008	ppb	120.28	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2642112.80	3.62	2658648.80	99.4	69.5 - 120	
45 Sc	2035198.50	1.47	2094536.40	97.2	69.5 - 120	
72 Ge	425405.69	0.87	441280.53	96.4	69.5 - 120	
159 Tb	3484166.00	1.26	3254384.00	107.1	69.5 - 120	
209 Bi	1706039.60	1.08	1622942.50	105.1	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000317

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\046SMPL.D\046SMPL.D#
Date Acquired: May 22 2018 04:24 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL4206-005
Misc Info:
Vial Number: 2201
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0088	0.0018	ppb	103.12	100.	
11 B	36.51	7.302	ppb	4.32	1000.	
23 Na	31,195.	6,239.	ppb	0.49	200000.	
25 Mg	17,965.	3,593.	ppb	1.04	200000.	
27 Al	18.4	3.68	ppb	6.60	200000.	
28 Si	4,284.5	856.9	ppb	4.43	#VALUE!	
29 Si	4,672.	934.4	ppb	2.77	10000.	
39 K	937.	187.4	ppb	1.31	200000.	
43 Ca	21,180.	4,236.	ppb	1.30	#VALUE!	
44 Ca	21,065.	4,213.	ppb	1.96	200000.	
51 V	0.3957	0.0791	ppb	150.26	1000.	
52 Cr	1.187	0.2374	ppb	4.37	2000.	
53 Cr	57.9	11.58	ppb	7.90	#VALUE!	
55 Mn	68.5	13.7	ppb	2.55	2000.	
56 Fe	411.4	82.28	ppb	3.66	#VALUE!	
57 Fe	448.95	89.79	ppb	4.05	100000.	
59 Co	9.35	1.87	ppb	1.73	1000.	
60 Ni	25.93	5.186	ppb	1.91	1000.	
63 Cu	1.701	0.3402	ppb	4.32	#VALUE!	
65 Cu	0.909	0.1818	ppb	22.79	2000.	
66 Zn	9.175	1.835	ppb	2.58	2000.	
68 Zn	7.695	1.539	ppb	4.75	#VALUE!	
75 As	1.275	0.255	ppb	60.51	1000.	
82 Se	0.2317	0.0463	ppb	384.55	1000.	
88 Sr	118.6	23.72	ppb	2.07	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	0.2896	0.0579	ppb	8.99	1000.	
107 Ag	0.1544	0.0309	ppb	5.92	100.	
109 Ag	0.1552	0.031	ppb	29.20	#VALUE!	
111 Cd	0.2142	0.0428	ppb	47.25	#VALUE!	
114 Cd	0.0706	0.0141	ppb	19.30	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	0.944	0.1888	ppb	7.24	1000.	
120 Sn	0.9265	0.1853	ppb	10.50	#VALUE!	
121 Sb	0.2919	0.0584	ppb	10.20	#VALUE!	
123 Sb	0.3533	0.0707	ppb	19.04	1000.	
135 Ba	13.975	2.795	ppb	3.44	2000.	
137 Ba	14.52	2.904	ppb	4.41	#VALUE!	
182 W	0.305	0.061	ppb	17.74	1000.	
203 Tl	-0.0031	-0.0006	ppb	444.05	1000.	
205 Tl	0.0082	0.0016	ppb	62.09	#VALUE!	
208 Pb	0.0291	0.0058	ppb	93.35	2000.	
232 Th	0.1361	0.0272	ppb	32.35	1000.	
238 U	0.0077	0.0015	ppb	15.80	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2646839.00	2.07	2658648.80	99.6	69.5 - 120	
45 Sc	2022875.80	1.96	2094536.40	96.6	69.5 - 120	
72 Ge	425627.41	1.87	441280.53	96.5	69.5 - 120	
159 Tb	3504213.80	0.20	3254384.00	107.7	69.5 - 120	
209 Bi	1732462.00	1.10	1622942.50	106.7	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000318

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\047SMPL.D\047SMPL.D#
Date Acquired: May 22 2018 04:27 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL4206-006
Misc Info:
Vial Number: 2202
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0066	0.0013	ppb	134.14	100.	
11 B	18.615	3.723	ppb	0.83	1000.	
23 Na	22,150.	4,430.	ppb	3.06	200000.	
25 Mg	8,975.	1,795.	ppb	1.79	200000.	
27 Al	29.04	5.808	ppb	4.46	200000.	
28 Si	4,873.	974.6	ppb	3.47	#VALUE!	
29 Si	5,205.	1,041.	ppb	3.37	10000.	
39 K	813.5	162.7	ppb	5.66	200000.	
43 Ca	13,050.	2,610.	ppb	0.36	#VALUE!	
44 Ca	12,800.	2,560.	ppb	2.18	200000.	
51 V	0.6775	0.1355	ppb	52.49	1000.	
52 Cr	1.719	0.3438	ppb	4.38	2000.	
53 Cr	71.85	14.37	ppb	4.13	#VALUE!	
55 Mn	243.1	48.62	ppb	1.71	2000.	
56 Fe	32.51	6.502	ppb	49.82	#VALUE!	
57 Fe	35.285	7.057	ppb	32.18	100000.	
59 Co	3.4385	0.6877	ppb	1.46	1000.	
60 Ni	18.69	3.738	ppb	2.60	1000.	
63 Cu	1.3965	0.2793	ppb	10.63	#VALUE!	
65 Cu	0.905	0.181	ppb	19.75	2000.	
66 Zn	20.175	4.035	ppb	2.39	2000.	
68 Zn	18.905	3.781	ppb	6.28	#VALUE!	
75 As	0.4309	0.0862	ppb	192.99	1000.	
82 Se	0.2226	0.0445	ppb	102.88	1000.	
88 Sr	120.6	24.12	ppb	1.49	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	0.0476	0.0095	ppb	30.94	1000.	
107 Ag	0.0268	0.0054	ppb	51.89	100.	
109 Ag	0.0194	0.0039	ppb	79.94	#VALUE!	
111 Cd	0.3989	0.0798	ppb	30.96	#VALUE!	
114 Cd	0.394	0.0788	ppb	11.19	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	0.8665	0.1733	ppb	15.32	1000.	
120 Sn	0.957	0.1914	ppb	12.50	#VALUE!	
121 Sb	0.2971	0.0594	ppb	1.84	#VALUE!	
123 Sb	0.2882	0.0576	ppb	15.68	1000.	
135 Ba	11.405	2.281	ppb	2.21	2000.	
137 Ba	11.235	2.247	ppb	3.50	#VALUE!	
182 W	0.0873	0.0175	ppb	9.60	1000.	
203 Tl	0.0124	0.0025	ppb	135.90	1000.	
205 Tl	-0.0009	-0.0002	ppb	1059.10	#VALUE!	
208 Pb	0.0038	0.0008	ppb	483.40	2000.	
232 Th	0.0871	0.0174	ppb	18.19	1000.	
238 U	-0.002	-0.0004	ppb	150.83	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2618337.80	2.24	2658648.80	98.5	69.5 - 120	
45 Sc	1997363.80	2.34	2094536.40	95.4	69.5 - 120	
72 Ge	419494.47	1.26	441280.53	95.1	69.5 - 120	
159 Tb	3475228.50	2.34	3254384.00	106.8	69.5 - 120	
209 Bi	1727739.00	1.96	1622942.50	106.5	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000319

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\048SMPL.D\048SMPL.D#
Date Acquired: May 22 2018 04:31 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL4206-007
Misc Info:
Vial Number: 2203
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0066	0.0013	ppb	111.89	100.	
11 B	20.38	4.076	ppb	5.69	1000.	
23 Na	24,320.	4,864.	ppb	3.19	200000.	
25 Mg	11,385.	2,277.	ppb	3.37	200000.	
27 Al	11.095	2.219	ppb	13.16	200000.	
28 Si	2,217.	443.4	ppb	13.45	#VALUE!	
29 Si	2,582.5	516.5	ppb	8.33	10000.	
39 K	1,083.5	216.7	ppb	5.54	200000.	
43 Ca	15,025.	3,005.	ppb	2.24	#VALUE!	
44 Ca	14,845.	2,969.	ppb	4.06	200000.	
51 V	0.6355	0.1271	ppb	39.59	1000.	
52 Cr	1.4485	0.2897	ppb	19.40	2000.	
53 Cr	74.6	14.92	ppb	5.96	#VALUE!	
55 Mn	1.091	0.2182	ppb	5.76	2000.	
56 Fe	-10.135	-2.027	ppb	153.63	#VALUE!	
57 Fe	3.6475	0.7295	ppb	253.60	100000.	
59 Co	0.1233	0.0247	ppb	6.13	1000.	
60 Ni	2.0455	0.4091	ppb	5.17	1000.	
63 Cu	1.181	0.2362	ppb	12.16	#VALUE!	
65 Cu	0.4779	0.0956	ppb	25.77	2000.	
66 Zn	1.114	0.2228	ppb	35.39	2000.	
68 Zn	0.1991	0.0398	ppb	269.53	#VALUE!	
75 As	1.36	0.272	ppb	167.54	1000.	
82 Se	0.4899	0.098	ppb	31.45	1000.	
88 Sr	80.5	16.1	ppb	2.33	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	0.057	0.0114	ppb	31.28	1000.	
107 Ag	0.0034	0.0007	ppb	554.39	100.	
109 Ag	-0.0026	-0.0005	ppb	314.03	#VALUE!	
111 Cd	0.1704	0.0341	ppb	105.75	#VALUE!	
114 Cd	-0.0336	-0.0067	ppb	36.65	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	1.01	0.202	ppb	3.60	1000.	
120 Sn	0.906	0.1812	ppb	7.22	#VALUE!	
121 Sb	0.2715	0.0543	ppb	40.30	#VALUE!	
123 Sb	0.3815	0.0763	ppb	13.03	1000.	
135 Ba	3.9835	0.7967	ppb	8.18	2000.	
137 Ba	3.8285	0.7657	ppb	7.71	#VALUE!	
182 W	0.0962	0.0192	ppb	36.14	1000.	
203 Tl	-0.0065	-0.0013	ppb	190.70	1000.	
205 Tl	-0.0059	-0.0012	ppb	331.37	#VALUE!	
208 Pb	0.0494	0.0099	ppb	100.26	2000.	
232 Th	0.074	0.0148	ppb	16.48	1000.	
238 U	-0.0038	-0.0008	ppb	74.43	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2554724.30	1.55	2658648.80	96.1	69.5 - 120	
45 Sc	1963199.40	3.60	2094536.40	93.7	69.5 - 120	
72 Ge	412931.31	2.67	441280.53	93.6	69.5 - 120	
159 Tb	3438948.30	1.32	3254384.00	105.7	69.5 - 120	
209 Bi	1700172.10	2.53	1622942.50	104.8	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000320

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\049SMPL.D\049SMPL.D#
Date Acquired: May 22 2018 04:35 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL4206-008
Misc Info:
Vial Number: 2204
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.003	0.0006	ppb	296.88	100.	
11 B	27.605	5.521	ppb	6.80	1000.	
23 Na	32,165.	6,433.	ppb	2.07	200000.	
25 Mg	16,860.	3,372.	ppb	2.31	200000.	
27 Al	52.	10.4	ppb	49.69	200000.	
28 Si	1,807.5	361.5	ppb	11.31	#VALUE!	
29 Si	2,179.5	435.9	ppb	5.25	10000.	
39 K	1,392.	278.4	ppb	3.95	200000.	
43 Ca	17,610.	3,522.	ppb	3.47	#VALUE!	
44 Ca	17,285.	3,457.	ppb	1.95	200000.	
51 V	0.8205	0.1641	ppb	79.34	1000.	
52 Cr	1.368	0.2736	ppb	3.21	2000.	
53 Cr	78.6	15.72	ppb	4.43	#VALUE!	
55 Mn	8.15	1.63	ppb	3.11	2000.	
56 Fe	58.3	11.66	ppb	34.37	#VALUE!	
57 Fe	56.45	11.29	ppb	23.13	100000.	
59 Co	0.245	0.049	ppb	24.00	1000.	
60 Ni	1.18	0.236	ppb	17.36	1000.	
63 Cu	1.469	0.2938	ppb	7.20	#VALUE!	
65 Cu	0.3422	0.0684	ppb	21.16	2000.	
66 Zn	2.201	0.4402	ppb	16.23	2000.	
68 Zn	1.234	0.2468	ppb	33.38	#VALUE!	
75 As	1.5565	0.3113	ppb	40.03	1000.	
82 Se	0.0349	0.007	ppb	4491.50	1000.	
88 Sr	86.2	17.24	ppb	3.55	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	0.112	0.0224	ppb	7.23	1000.	
107 Ag	0.0116	0.0023	ppb	170.13	100.	
109 Ag	-0.0083	-0.0017	ppb	96.06	#VALUE!	
111 Cd	0.2119	0.0424	ppb	93.42	#VALUE!	
114 Cd	0.006	0.0012	ppb	566.39	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	0.8205	0.1641	ppb	16.73	1000.	
120 Sn	0.8885	0.1777	ppb	6.97	#VALUE!	
121 Sb	0.2652	0.053	ppb	20.49	#VALUE!	
123 Sb	0.3151	0.063	ppb	9.49	1000.	
135 Ba	6.195	1.239	ppb	9.12	2000.	
137 Ba	6.38	1.276	ppb	4.99	#VALUE!	
182 W	0.0451	0.009	ppb	34.67	1000.	
203 Tl	0.01	0.002	ppb	133.98	1000.	
205 Tl	0.0062	0.0012	ppb	65.13	#VALUE!	
208 Pb	0.0573	0.0115	ppb	4.95	2000.	
232 Th	0.0825	0.0165	ppb	12.90	1000.	
238 U	0.0006	0.0001	ppb	678.49	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2655524.00	2.50	2658648.80	99.9	69.5 - 120	
45 Sc	2016828.50	2.05	2094536.40	96.3	69.5 - 120	
72 Ge	422417.56	2.10	441280.53	95.7	69.5 - 120	
159 Tb	3525925.30	0.40	3254384.00	108.3	69.5 - 120	
209 Bi	1736552.40	0.55	1622942.50	107.0	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000321

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\050SMPL.D\050SMPL.D#
Date Acquired: May 22 2018 04:39 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL4206-009
Misc Info:
Vial Number: 2205
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0138	0.0028	ppb	157.48	100.	
11 B	26.85	5.37	ppb	3.45	1000.	
23 Na	21,035.	4,207.	ppb	0.92	200000.	
25 Mg	12,570.	2,514.	ppb	1.38	200000.	
27 Al	46.675	9.335	ppb	7.28	200000.	
28 Si	2,729.	545.8	ppb	8.73	#VALUE!	
29 Si	3,106.5	621.3	ppb	4.49	10000.	
39 K	944.5	188.9	ppb	3.91	200000.	
43 Ca	16,980.	3,396.	ppb	1.95	#VALUE!	
44 Ca	16,700.	3,340.	ppb	0.61	200000.	
51 V	0.957	0.1914	ppb	19.20	1000.	
52 Cr	1.5835	0.3167	ppb	10.75	2000.	
53 Cr	76.95	15.39	ppb	1.40	#VALUE!	
55 Mn	216.55	43.31	ppb	0.57	2000.	
56 Fe	596.5	119.3	ppb	2.92	#VALUE!	
57 Fe	570.5	114.1	ppb	1.92	100000.	
59 Co	2.599	0.5198	ppb	5.00	1000.	
60 Ni	32.49	6.498	ppb	1.34	1000.	
63 Cu	1.2115	0.2423	ppb	3.64	#VALUE!	
65 Cu	0.5985	0.1197	ppb	19.52	2000.	
66 Zn	46.4	9.28	ppb	1.09	2000.	
68 Zn	45.22	9.044	ppb	1.88	#VALUE!	
75 As	1.76	0.352	ppb	54.83	1000.	
82 Se	0.283	0.0566	ppb	268.37	1000.	
88 Sr	89.95	17.99	ppb	1.69	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	0.0387	0.0077	ppb	83.29	1000.	
107 Ag	0.0072	0.0014	ppb	279.71	100.	
109 Ag	0.0075	0.0015	ppb	114.25	#VALUE!	
111 Cd	0.5825	0.1165	ppb	13.35	#VALUE!	
114 Cd	0.1423	0.0285	ppb	26.81	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	1.324	0.2648	ppb	15.83	1000.	
120 Sn	1.17	0.234	ppb	13.85	#VALUE!	
121 Sb	0.2507	0.0501	ppb	17.65	#VALUE!	
123 Sb	0.2502	0.05	ppb	13.40	1000.	
135 Ba	5.225	1.045	ppb	7.74	2000.	
137 Ba	5.11	1.022	ppb	1.97	#VALUE!	
182 W	0.0681	0.0136	ppb	61.80	1000.	
203 Tl	0.0096	0.0019	ppb	38.45	1000.	
205 Tl	0.0041	0.0008	ppb	166.85	#VALUE!	
208 Pb	0.039	0.0078	ppb	33.82	2000.	
232 Th	0.0673	0.0135	ppb	36.38	1000.	
238 U	-0.0015	-0.0003	ppb	344.08	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2751320.80	3.90	2658648.80	103.5	69.5 - 120	
45 Sc	2036572.30	3.61	2094536.40	97.2	69.5 - 120	
72 Ge	423735.09	2.06	441280.53	96.0	69.5 - 120	
159 Tb	3542498.80	0.81	3254384.00	108.9	69.5 - 120	
209 Bi	1749318.30	1.60	1622942.50	107.8	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000322

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\051SMPL.D\051SMPL.D#
Date Acquired: May 22 2018 04:43 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL4233-054
Misc Info:
Vial Number: 2206
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0086	0.0017	ppb	115.76	100.	
11 B	1.1885	0.2377	ppb	14.22	1000.	
23 Na	24.09	4.818	ppb	4.81	200000.	
25 Mg	15.4	3.08	ppb	6.27	200000.	
27 Al	16.365	3.273	ppb	4.46	200000.	
28 Si	-337.4	-67.48	ppb	36.65	#VALUE!	
29 Si	89.05	17.81	ppb	21.46	10000.	
39 K	47.295	9.459	ppb	6.99	200000.	
43 Ca	44.895	8.979	ppb	72.40	#VALUE!	
44 Ca	25.09	5.018	ppb	26.82	200000.	
51 V	0.1142	0.0228	ppb	1046.40	1000.	
52 Cr	1.612	0.3224	ppb	2.94	2000.	
53 Cr	89.2	17.84	ppb	3.52	#VALUE!	
55 Mn	0.2568	0.0514	ppb	31.17	2000.	
56 Fe	2.738	0.5476	ppb	306.25	#VALUE!	
57 Fe	-14.34	-2.868	ppb	44.91	100000.	
59 Co	0.0136	0.0027	ppb	213.65	1000.	
60 Ni	0.8185	0.1637	ppb	11.96	1000.	
63 Cu	0.4116	0.0823	ppb	1.47	#VALUE!	
65 Cu	0.4435	0.0887	ppb	11.49	2000.	
66 Zn	1.4165	0.2833	ppb	22.42	2000.	
68 Zn	0.1973	0.0395	ppb	88.92	#VALUE!	
75 As	0.4639	0.0928	ppb	201.77	1000.	
82 Se	0.3311	0.0662	ppb	125.25	1000.	
88 Sr	0.127	0.0254	ppb	25.44	2000.	
89 Y	----	--------	---	---	#VALUE!	
98 Mo	0.232	0.0464	ppb	7.50	1000.	
107 Ag	0.0001	0.	ppb	24174.00	100.	
109 Ag	0.0031	0.0006	ppb	232.97	#VALUE!	
111 Cd	0.2889	0.0578	ppb	17.22	#VALUE!	
114 Cd	-0.0167	-0.0033	ppb	18.55	1000.	
115 In	----	--------	---	---	#VALUE!	
118 Sn	0.8835	0.1767	ppb	17.39	1000.	
120 Sn	0.8445	0.1689	ppb	10.43	#VALUE!	
121 Sb	0.2755	0.0551	ppb	11.88	#VALUE!	
123 Sb	0.2975	0.0595	ppb	24.34	1000.	
135 Ba	0.1415	0.0283	ppb	31.45	2000.	
137 Ba	0.2548	0.051	ppb	12.86	#VALUE!	
182 W	0.0505	0.0101	ppb	54.64	1000.	
203 Tl	-0.0067	-0.0013	ppb	96.43	1000.	
205 Tl	0.0033	0.0007	ppb	75.73	#VALUE!	
208 Pb	0.0118	0.0024	ppb	256.65	2000.	
232 Th	0.0366	0.0073	ppb	4.00	1000.	
238 U	-0.005	-0.001	ppb	80.21	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2660594.80	2.29	2658648.80	100.1	69.5 - 120	
45 Sc	1970607.90	1.26	2094536.40	94.1	69.5 - 120	
72 Ge	408573.66	1.14	441280.53	92.6	69.5 - 120	
159 Tb	3453850.30	0.63	3254384.00	106.1	69.5 - 120	
209 Bi	1700728.00	1.74	1622942.50	104.8	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000323

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\052SMPL.D\052SMPL.D#
Date Acquired: May 22 2018 04:47 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL4332-001
Misc Info:
Vial Number: 2207
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0211	0.0042	ppb	72.10	100.	
11 B	30.59	6.118	ppb	4.44	1000.	
23 Na	626.	125.2	ppb	1.91	200000.	
25 Mg	385.3	77.06	ppb	3.56	200000.	
27 Al	464.75	92.95	ppb	3.18	200000.	
28 Si	2,832.	566.4	ppb	6.24	#VALUE!	
29 Si	3,300.	660.	ppb	2.03	10000.	
39 K	10,940.	2,188.	ppb	2.41	200000.	
43 Ca	763.	152.6	ppb	7.28	#VALUE!	
44 Ca	712.5	142.5	ppb	2.00	200000.	
51 V	24.93	4.986	ppb	2.82	1000.	
52 Cr	2.118	0.4236	ppb	2.94	2000.	
53 Cr	84.35	16.87	ppb	6.80	#VALUE!	
55 Mn	2.6035	0.5207	ppb	1.94	2000.	
56 Fe	279.5	55.9	ppb	3.78	#VALUE!	
57 Fe	249.55	49.91	ppb	6.57	100000.	
59 Co	0.0957	0.0191	ppb	37.64	1000.	
60 Ni	1.233	0.2466	ppb	2.41	1000.	
63 Cu	0.649	0.1298	ppb	21.37	#VALUE!	
65 Cu	0.74	0.148	ppb	12.19	2000.	
66 Zn	6.905	1.381	ppb	8.52	2000.	
68 Zn	7.55	1.51	ppb	3.64	#VALUE!	
75 As	11.16	2.232	ppb	16.17	1000.	
82 Se	0.2641	0.0528	ppb	158.87	1000.	
88 Sr	10.085	2.017	ppb	0.50	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	3.015	0.603	ppb	3.17	1000.	
107 Ag	0.0036	0.0007	ppb	167.35	100.	
109 Ag	-0.0038	-0.0008	ppb	66.99	#VALUE!	
111 Cd	0.1626	0.0325	ppb	54.85	#VALUE!	
114 Cd	-0.0312	-0.0062	ppb	86.61	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	0.967	0.1934	ppb	18.05	1000.	
120 Sn	1.0215	0.2043	ppb	18.74	#VALUE!	
121 Sb	0.3031	0.0606	ppb	15.71	#VALUE!	
123 Sb	0.4328	0.0866	ppb	25.94	1000.	
135 Ba	20.115	4.023	ppb	3.24	2000.	
137 Ba	20.125	4.025	ppb	4.42	#VALUE!	
182 W	0.19	0.038	ppb	30.68	1000.	
203 Tl	-0.0073	-0.0015	ppb	92.09	1000.	
205 Tl	0.0036	0.0007	ppb	272.02	#VALUE!	
208 Pb	0.1096	0.0219	ppb	33.61	2000.	
232 Th	0.0778	0.0156	ppb	6.92	1000.	
238 U	0.0662	0.0132	ppb	20.23	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2550544.30	6.32	2658648.80	95.9	69.5 - 120	
45 Sc	1968715.80	2.65	2094536.40	94.0	69.5 - 120	
72 Ge	410814.78	1.97	441280.53	93.1	69.5 - 120	
159 Tb	3441955.80	0.93	3254384.00	105.8	69.5 - 120	
209 Bi	1728049.60	0.37	1622942.50	106.5	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000324

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\053SMPL.D\053SMPL.D#
Date Acquired: May 22 2018 04:51 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: RINSE
Misc Info:
Vial Number: 2208
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0019	0.0019	ppb	98.14	100.	
11 B	1.33	1.33	ppb	8.40	1000.	
23 Na	24.64	24.64	ppb	0.86	200000.	
25 Mg	15.6	15.6	ppb	4.05	200000.	
27 Al	22.11	22.11	ppb	3.95	200000.	
28 Si	94.87	94.87	ppb	22.85	#VALUE!	
29 Si	173.1	173.1	ppb	4.93	10000.	
39 K	452.4	452.4	ppb	1.64	200000.	
43 Ca	32.74	32.74	ppb	12.77	#VALUE!	
44 Ca	28.72	28.72	ppb	9.18	200000.	
51 V	1.074	1.074	ppb	7.90	1000.	
52 Cr	0.0799	0.0799	ppb	36.92	2000.	
53 Cr	5.457	5.457	ppb	4.51	#VALUE!	
55 Mn	0.0857	0.0857	ppb	5.24	2000.	
56 Fe	6.026	6.026	ppb	21.24	#VALUE!	
57 Fe	6.055	6.055	ppb	33.38	100000.	
59 Co	0.0082	0.0082	ppb	39.63	1000.	
60 Ni	0.2111	0.2111	ppb	8.86	1000.	
63 Cu	0.0411	0.0411	ppb	13.97	#VALUE!	
65 Cu	0.058	0.058	ppb	43.55	2000.	
66 Zn	0.3201	0.3201	ppb	20.83	2000.	
68 Zn	0.2534	0.2534	ppb	61.76	#VALUE!	
75 As	0.4054	0.4054	ppb	44.80	1000.	
82 Se	0.0058	0.0058	ppb	2627.50	1000.	
88 Sr	0.4136	0.4136	ppb	11.22	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	0.1363	0.1363	ppb	18.09	1000.	
107 Ag	0.0005	0.0005	ppb	518.25	100.	
109 Ag	-0.0002	-0.0002	ppb	813.18	#VALUE!	
111 Cd	0.0496	0.0496	ppb	57.99	#VALUE!	
114 Cd	-0.0084	-0.0084	ppb	55.66	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	0.0425	0.0425	ppb	27.01	1000.	
120 Sn	0.0248	0.0248	ppb	30.02	#VALUE!	
121 Sb	0.0063	0.0063	ppb	25.66	#VALUE!	
123 Sb	0.0142	0.0142	ppb	78.26	1000.	
135 Ba	0.8555	0.8555	ppb	6.13	2000.	
137 Ba	0.9104	0.9104	ppb	2.48	#VALUE!	
182 W	0.0126	0.0126	ppb	27.87	1000.	
203 Tl	-0.0008	-0.0008	ppb	263.68	1000.	
205 Tl	0.0019	0.0019	ppb	79.94	#VALUE!	
208 Pb	0.0077	0.0077	ppb	40.46	2000.	
232 Th	0.0044	0.0044	ppb	34.30	1000.	
238 U	0.0028	0.0028	ppb	28.55	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2519371.50	3.72	2658648.80	94.8	69.5 - 120	
45 Sc	1929747.30	0.78	2094536.40	92.1	69.5 - 120	
72 Ge	406611.22	0.60	441280.53	92.1	69.5 - 120	
159 Tb	3359925.50	2.50	3254384.00	103.2	69.5 - 120	
209 Bi	1681828.90	0.33	1622942.50	103.6	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000325

CCV QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\054_CCV.D\054_CCV.D#
Date Acquired: May 22 2018 04:55 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: CCV
Misc Info:
Vial Number: 1206
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Dilution Factor: 1.00
QC Range (%): 89.5 - 110.5

QC Elements

Element	Conc.		RSD(%)	Expected	Rec (%)	Flag
9 Be	24.73	ppb	1.36	25	98.92	
11 B	24.79	ppb	3.55	25	99.16	
23 Na	5,142.	ppb	2.66	5,000	102.84	
25 Mg	5,180.	ppb	0.99	5,000	103.6	
27 Al	510.	ppb	2.00	500	102	
28 Si	434.2	ppb	3.12	500	86.84	
29 Si	501.6	ppb	2.05	500	100.32	
39 K	4,980.	ppb	2.10	5,000	99.6	
43 Ca	4,911.	ppb	0.30	5,000	98.22	
44 Ca	5,016.	ppb	0.48	5,000	100.32	
51 V	24.7	ppb	1.58	25	98.8	
52 Cr	24.6	ppb	0.72	25	98.4	
53 Cr	25.22	ppb	4.59	25	100.88	
55 Mn	24.99	ppb	1.51	25	99.96	
56 Fe	4,858.	ppb	0.82	5,000	97.16	
57 Fe	4,932.	ppb	0.97	5,000	98.64	
59 Co	25.1	ppb	0.31	25	100.4	
60 Ni	25.36	ppb	1.37	25	101.44	
63 Cu	24.91	ppb	0.77	25	99.64	
65 Cu	24.79	ppb	0.63	25	99.16	
66 Zn	25.38	ppb	0.85	25	101.52	
68 Zn	25.37	ppb	0.18	25	101.48	
75 As	24.9	ppb	1.21	25	99.6	
82 Se	25.38	ppb	1.41	25	101.52	
88 Sr	24.55	ppb	0.61	25	98.2	
89 Y	--------	---	--------	---	#VALUE!	
98 Mo	25.04	ppb	0.85	25	100.16	
107 Ag	25.44	ppb	0.43	25	101.76	
109 Ag	25.45	ppb	0.64	25	101.8	
111 Cd	25.73	ppb	0.54	25	102.92	
114 Cd	25.97	ppb	0.88	25	103.88	
115 In	--------	---	--------	---	#VALUE!	
118 Sn	23.29	ppb	0.77	25	93.16	
120 Sn	23.36	ppb	0.97	25	93.44	
121 Sb	23.73	ppb	0.48	25	94.92	
123 Sb	23.84	ppb	0.22	25	95.36	
135 Ba	23.98	ppb	1.56	25	95.92	
137 Ba	24.3	ppb	2.21	25	97.2	
182 W	24.44	ppb	1.81	25	97.76	
203 Tl	24.62	ppb	1.50	25	98.48	
205 Tl	24.42	ppb	1.51	25	97.68	
208 Pb	24.71	ppb	1.26	25	98.84	
232 Th	23.33	ppb	2.64	25	93.32	
238 U	21.46	ppb	2.20	25	85.84	Fail

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2704454.80	1.49	2658648.80	101.7	80 - 120.4	
45 Sc	2053934.10	0.53	2094536.40	98.1	80 - 120.4	
72 Ge	424917.53	1.08	441280.53	96.3	80 - 120.4	
159 Tb	3520666.50	0.08	3254384.00	108.2	80 - 120.4	
209 Bi	1750931.30	0.90	1622942.50	107.9	80 - 120.4	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Katahdin Analytical Services 4000326

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\055_CCB.D\055_CCB.D#
Date Acquired: May 22 2018 04:59 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: CCB
Misc Info:
Vial Number: 1207
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Sample Type: 6-CCB
Dilution Factor: 1.00

QC Elements

Element	Conc.		RSD(%)	High Limit	Flag
9 Be	0.0026	ppb	93.23	1.00	
11 B	0.3949	ppb	29.43	1.00	
23 Na	0.5206	ppb	36.84	1.00	
25 Mg	0.1343	ppb	40.91	1.00	
27 Al	0.0059	ppb	1435.00	1.00	
28 Si	-30.8	ppb	87.89	1.00	
29 Si	30.67	ppb	45.52	1.00	
39 K	8.862	ppb	13.41	1.00	
43 Ca	-0.526	ppb	611.41	1.00	
44 Ca	-0.3843	ppb	581.84	1.00	
51 V	0.0073	ppb	868.23	1.00	
52 Cr	-0.039	ppb	44.56	1.00	
53 Cr	-1.383	ppb	16.60	1.00	
55 Mn	-0.0138	ppb	90.70	1.00	
56 Fe	-6.335	ppb	47.89	1.00	
57 Fe	-5.59	ppb	93.72	1.00	
59 Co	0.0076	ppb	57.86	1.00	
60 Ni	0.023	ppb	79.09	1.00	
63 Cu	-0.025	ppb	42.69	1.00	
65 Cu	-0.0003	ppb	7434.50	1.00	
66 Zn	0.0497	ppb	65.22	1.00	
68 Zn	-0.1731	ppb	14.73	1.00	
75 As	0.0038	ppb	2586.00	1.00	
82 Se	0.087	ppb	449.50	1.00	
88 Sr	-0.0006	ppb	469.72	1.00	
89 Y	--------	---	--------	---	
98 Mo	0.026	ppb	28.19	1.00	
107 Ag	0.0021	ppb	98.19	1.00	
109 Ag	0.0028	ppb	45.63	1.00	
111 Cd	0.0254	ppb	23.92	1.00	
114 Cd	-0.0075	ppb	38.56	1.00	
115 In	--------	---	--------	---	
118 Sn	0.017	ppb	154.45	1.00	
120 Sn	0.0203	ppb	153.01	1.00	
121 Sb	-0.0004	ppb	2566.80	1.00	
123 Sb	0.0024	ppb	237.77	1.00	
135 Ba	-0.0017	ppb	1482.10	1.00	
137 Ba	0.0074	ppb	140.68	1.00	
182 W	0.0524	ppb	27.50	1.00	
203 Tl	0.0057	ppb	105.72	1.00	
205 Tl	0.0008	ppb	333.97	1.00	
208 Pb	-0.0001	ppb	5203.00	1.00	
232 Th	0.0677	ppb	5.77	1.00	
238 U	0.0015	ppb	64.72	1.00	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2477164.00	3.23	2658648.80	93.2	79.5 - 120	
45 Sc	1955036.40	0.74	2094536.40	93.3	79.5 - 120	
72 Ge	406431.47	0.66	441280.53	92.1	79.5 - 120	
159 Tb	3292364.80	0.79	3254384.00	101.2	79.5 - 120	
209 Bi	1669715.10	0.41	1622942.50	102.9	79.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000327

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\056SMPL.D\056SMPL.D#
Date Acquired: May 22 2018 05:03 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL4332-001L
Misc Info:
Vial Number: 2209
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Sample Type: Sample
Dilution Factor: 25.00
Autodil Factor: Undiluted
Final Dil Factor: 25.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.067	0.0027	ppb	42.98	100.	
11 B	2.525	0.101	ppb	39.62	1000.	
23 Na	13.4475	0.5379	ppb	55.22	200000.	
25 Mg	7.75	0.31	ppb	62.55	200000.	
27 Al	12.5525	0.5021	ppb	6.01	200000.	
28 Si	-1,040.5	-41.62	ppb	26.31	#VALUE!	
29 Si	758.75	30.35	ppb	11.24	10000.	
39 K	247.65	9.906	ppb	6.97	200000.	
43 Ca	-24.8175	-0.9927	ppb	120.08	#VALUE!	
44 Ca	-30.775	-1.231	ppb	43.00	200000.	
51 V	-0.935	-0.0374	ppb	276.74	1000.	
52 Cr	-1.5285	-0.0611	ppb	23.57	2000.	
53 Cr	-26.875	-1.075	ppb	34.61	#VALUE!	
55 Mn	-0.3755	-0.015	ppb	41.69	2000.	
56 Fe	-193.025	-7.721	ppb	10.11	#VALUE!	
57 Fe	-63.55	-2.542	ppb	74.27	100000.	
59 Co	0.0966	0.0039	ppb	131.31	1000.	
60 Ni	-0.2411	-0.0096	ppb	72.23	1000.	
63 Cu	-0.231	-0.0092	ppb	102.73	#VALUE!	
65 Cu	-0.4868	-0.0195	ppb	32.56	2000.	
66 Zn	0.8793	0.0352	ppb	81.32	2000.	
68 Zn	-2.3625	-0.0945	ppb	104.57	#VALUE!	
75 As	3.545	0.1418	ppb	89.85	1000.	
82 Se	1.8358	0.0734	ppb	293.34	1000.	
88 Sr	0.0346	0.0014	ppb	226.23	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	0.1746	0.007	ppb	124.18	1000.	
107 Ag	0.0369	0.0015	ppb	150.54	100.	
109 Ag	0.0809	0.0032	ppb	121.59	#VALUE!	
111 Cd	1.6008	0.064	ppb	41.82	#VALUE!	
114 Cd	-0.2339	-0.0094	ppb	15.85	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	-0.4688	-0.0188	ppb	91.15	1000.	
120 Sn	-0.6748	-0.027	ppb	18.20	#VALUE!	
121 Sb	-0.256	-0.0102	ppb	13.82	#VALUE!	
123 Sb	0.0142	0.0006	ppb	544.14	1000.	
135 Ba	-0.1117	-0.0045	ppb	128.59	2000.	
137 Ba	0.1048	0.0042	ppb	167.02	#VALUE!	
182 W	0.3365	0.0135	ppb	38.80	1000.	
203 Tl	-0.042	-0.0017	ppb	123.38	1000.	
205 Tl	-0.0288	-0.0012	ppb	153.25	#VALUE!	
208 Pb	0.0201	0.0008	ppb	385.60	2000.	
232 Th	0.6958	0.0278	ppb	19.64	1000.	
238 U	-0.005	-0.0002	ppb	526.42	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2568566.00	1.58	2658648.80	96.6	69.5 - 120	
45 Sc	1974395.40	0.73	2094536.40	94.3	69.5 - 120	
72 Ge	411803.78	0.19	441280.53	93.3	69.5 - 120	
159 Tb	3327258.30	0.81	3254384.00	102.2	69.5 - 120	
209 Bi	1676391.30	0.16	1622942.50	103.3	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000328

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\057SMPL.D\057SMPL.D#
Date Acquired: May 22 2018 05:07 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL4332-001A
Misc Info:
Vial Number: 2210
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	10.6	2.12	ppb	3.26	100.	
11 B	253.2	50.64	ppb	3.97	1000.	
23 Na	11,550.	2,310.	ppb	2.98	200000.	
25 Mg	1,504.5	300.9	ppb	3.04	200000.	
27 Al	1,604.5	320.9	ppb	3.62	200000.	
28 Si	8,150.	1,630.	ppb	4.27	#VALUE!	
29 Si	8,580.	1,716.	ppb	4.56	10000.	
39 K	21,450.	4,290.	ppb	5.28	200000.	
43 Ca	1,858.	371.6	ppb	9.50	#VALUE!	
44 Ca	1,810.	362.	ppb	3.24	200000.	
51 V	76.65	15.33	ppb	1.45	1000.	
52 Cr	54.5	10.9	ppb	0.80	2000.	
53 Cr	116.5	23.3	ppb	3.25	#VALUE!	
55 Mn	23.8	4.76	ppb	0.63	2000.	
56 Fe	1,304.5	260.9	ppb	0.89	#VALUE!	
57 Fe	1,314.	262.8	ppb	1.00	100000.	
59 Co	10.995	2.199	ppb	2.44	1000.	
60 Ni	23.065	4.613	ppb	1.89	1000.	
63 Cu	33.465	6.693	ppb	0.45	#VALUE!	
65 Cu	33.765	6.753	ppb	0.56	2000.	
66 Zn	114.	22.8	ppb	1.71	2000.	
68 Zn	111.05	22.21	ppb	0.64	#VALUE!	
75 As	64.6	12.92	ppb	1.74	1000.	
82 Se	52.4	10.48	ppb	2.41	1000.	
88 Sr	63.95	12.79	ppb	0.15	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	56.2	11.24	ppb	1.35	1000.	
107 Ag	10.945	2.189	ppb	1.24	100.	
109 Ag	11.	2.2	ppb	1.46	#VALUE!	
111 Cd	11.52	2.304	ppb	1.99	#VALUE!	
114 Cd	11.22	2.244	ppb	0.97	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	50.7	10.14	ppb	2.19	1000.	
120 Sn	50.85	10.17	ppb	2.50	#VALUE!	
121 Sb	10.345	2.069	ppb	3.28	#VALUE!	
123 Sb	10.34	2.068	ppb	4.32	1000.	
135 Ba	41.795	8.359	ppb	1.65	2000.	
137 Ba	41.27	8.254	ppb	2.23	#VALUE!	
182 W	53.9	10.78	ppb	1.26	1000.	
203 Tl	10.58	2.116	ppb	2.80	1000.	
205 Tl	10.78	2.156	ppb	2.40	#VALUE!	
208 Pb	10.73	2.146	ppb	0.90	2000.	
232 Th	10.485	2.097	ppb	1.11	1000.	
238 U	9.52	1.904	ppb	2.37	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2634520.50	3.54	2658648.80	99.1	69.5 - 120	
45 Sc	2017271.90	3.80	2094536.40	96.3	69.5 - 120	
72 Ge	416563.28	1.32	441280.53	94.4	69.5 - 120	
159 Tb	3525636.30	1.82	3254384.00	108.3	69.5 - 120	
209 Bi	1751584.50	0.71	1622942.50	107.9	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000329

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\058SMPL.D\058SMPL.D#
Date Acquired: May 22 2018 05:11 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL4332-001S
Misc Info:
Vial Number: 2211
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	23.99	4.798	ppb	3.96	100.	
11 B	297.05	59.41	ppb	4.29	1000.	
23 Na	4,438.5	887.7	ppb	2.61	200000.	
25 Mg	4,119.	823.8	ppb	2.64	200000.	
27 Al	6,140.	1,228.	ppb	2.63	200000.	
28 Si	16,425.	3,285.	ppb	4.56	#VALUE!	
29 Si	16,330.	3,266.	ppb	2.66	10000.	
39 K	16,305.	3,261.	ppb	3.58	200000.	
43 Ca	4,643.5	928.7	ppb	4.91	#VALUE!	
44 Ca	4,332.5	866.5	ppb	2.44	200000.	
51 V	267.	53.4	ppb	2.13	1000.	
52 Cr	99.	19.8	ppb	1.64	2000.	
53 Cr	180.6	36.12	ppb	3.51	#VALUE!	
55 Mn	261.45	52.29	ppb	2.26	2000.	
56 Fe	3,745.	749.	ppb	2.82	#VALUE!	
57 Fe	3,757.	751.4	ppb	2.00	100000.	
59 Co	244.8	48.96	ppb	1.56	1000.	
60 Ni	247.15	49.43	ppb	1.88	1000.	
63 Cu	121.5	24.3	ppb	2.65	#VALUE!	
65 Cu	122.05	24.41	ppb	1.60	2000.	
66 Zn	288.05	57.61	ppb	1.79	2000.	
68 Zn	317.2	63.44	ppb	4.02	#VALUE!	
75 As	61.	12.2	ppb	3.41	1000.	
82 Se	47.74	9.548	ppb	6.26	1000.	
88 Sr	262.75	52.55	ppb	1.83	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	50.4	10.08	ppb	3.52	1000.	
107 Ag	24.655	4.931	ppb	1.33	100.	
109 Ag	24.37	4.874	ppb	3.05	#VALUE!	
111 Cd	121.8	24.36	ppb	2.94	#VALUE!	
114 Cd	122.8	24.56	ppb	2.13	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	213.3	42.66	ppb	1.87	1000.	
120 Sn	215.55	43.11	ppb	1.95	#VALUE!	
121 Sb	43.985	8.797	ppb	2.52	#VALUE!	
123 Sb	43.8	8.76	ppb	1.76	1000.	
135 Ba	1,028.	205.6	ppb	1.80	2000.	
137 Ba	1,029.	205.8	ppb	1.96	#VALUE!	
182 W	45.645	9.129	ppb	2.47	1000.	
203 Tl	46.855	9.371	ppb	2.04	1000.	
205 Tl	46.835	9.367	ppb	2.05	#VALUE!	
208 Pb	48.27	9.654	ppb	1.64	2000.	
232 Th	44.865	8.973	ppb	0.77	1000.	
238 U	41.64	8.328	ppb	1.98	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2655105.30	3.22	2658648.80	99.9	69.5 - 120	
45 Sc	1991586.00	2.21	2094536.40	95.1	69.5 - 120	
72 Ge	411571.34	1.97	441280.53	93.3	69.5 - 120	
159 Tb	3538847.00	1.30	3254384.00	108.7	69.5 - 120	
209 Bi	1762977.50	1.25	1622942.50	108.6	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000330

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\059SMPL.D\059SMPL.D#
Date Acquired: May 22 2018 05:15 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL4332-001P
Misc Info:
Vial Number: 2212
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	19.655	3.931	ppb	3.81	100.	
11 B	251.5	50.3	ppb	4.20	1000.	
23 Na	3,670.	734.	ppb	3.52	200000.	
25 Mg	3,432.	686.4	ppb	0.96	200000.	
27 Al	5,335.	1,067.	ppb	2.92	200000.	
28 Si	14,240.	2,848.	ppb	1.81	#VALUE!	
29 Si	14,350.	2,870.	ppb	2.87	10000.	
39 K	13,480.	2,696.	ppb	3.97	200000.	
43 Ca	3,737.	747.4	ppb	0.19	#VALUE!	
44 Ca	3,664.	732.8	ppb	3.01	200000.	
51 V	223.45	44.69	ppb	0.53	1000.	
52 Cr	83.05	16.61	ppb	0.79	2000.	
53 Cr	165.9	33.18	ppb	2.98	#VALUE!	
55 Mn	217.75	43.55	ppb	1.51	2000.	
56 Fe	3,138.	627.6	ppb	2.04	#VALUE!	
57 Fe	3,120.	624.	ppb	1.28	100000.	
59 Co	203.25	40.65	ppb	1.18	1000.	
60 Ni	206.45	41.29	ppb	1.36	1000.	
63 Cu	100.85	20.17	ppb	1.76	#VALUE!	
65 Cu	100.95	20.19	ppb	0.67	2000.	
66 Zn	241.6	48.32	ppb	1.58	2000.	
68 Zn	263.8	52.76	ppb	0.79	#VALUE!	
75 As	50.15	10.03	ppb	2.51	1000.	
82 Se	39.095	7.819	ppb	3.35	1000.	
88 Sr	218.65	43.73	ppb	0.79	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	42.085	8.417	ppb	1.23	1000.	
107 Ag	20.34	4.068	ppb	2.66	100.	
109 Ag	20.52	4.104	ppb	2.42	#VALUE!	
111 Cd	101.85	20.37	ppb	1.15	#VALUE!	
114 Cd	101.5	20.3	ppb	1.59	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	180.2	36.04	ppb	1.10	1000.	
120 Sn	180.3	36.06	ppb	0.33	#VALUE!	
121 Sb	36.435	7.287	ppb	0.93	#VALUE!	
123 Sb	36.925	7.385	ppb	0.42	1000.	
135 Ba	859.	171.8	ppb	0.93	2000.	
137 Ba	861.5	172.3	ppb	1.35	#VALUE!	
182 W	38.17	7.634	ppb	3.98	1000.	
203 Tl	39.56	7.912	ppb	0.16	1000.	
205 Tl	39.39	7.878	ppb	0.48	#VALUE!	
208 Pb	40.54	8.108	ppb	1.79	2000.	
232 Th	37.67	7.534	ppb	1.26	1000.	
238 U	34.735	6.947	ppb	1.26	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2648279.00	5.91	2658648.80	99.6	69.5 - 120	
45 Sc	1992720.40	3.79	2094536.40	95.1	69.5 - 120	
72 Ge	410972.84	2.51	441280.53	93.1	69.5 - 120	
159 Tb	3524627.00	1.37	3254384.00	108.3	69.5 - 120	
209 Bi	1748610.80	1.21	1622942.50	107.7	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000331

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\060SMPL.D\060SMPL.D#
Date Acquired: May 22 2018 05:19 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL4332-002
Misc Info:
Vial Number: 2301
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	1.003	0.2006	ppb	3.45	100.	
11 B	73.6	14.72	ppb	5.54	1000.	
23 Na	501.5	100.3	ppb	3.83	200000.	
25 Mg	7,095.	1,419.	ppb	4.29	200000.	
27 Al	25,110.	5,022.	ppb	2.01	200000.	
28 Si	50,950.	10,190.	ppb	7.16	#VALUE!	
29 Si	53,800.	10,760.	ppb	8.71	10000.	>LDR
39 K	12,910.	2,582.	ppb	5.05	200000.	
43 Ca	3,031.5	606.3	ppb	2.90	#VALUE!	
44 Ca	2,922.5	584.5	ppb	1.40	200000.	
51 V	43.8	8.76	ppb	1.85	1000.	
52 Cr	19.325	3.865	ppb	3.60	2000.	
53 Cr	97.95	19.59	ppb	5.32	#VALUE!	
55 Mn	116.	23.2	ppb	1.66	2000.	
56 Fe	17,770.	3,554.	ppb	1.23	#VALUE!	
57 Fe	17,680.	3,536.	ppb	0.89	100000.	
59 Co	4.2995	0.8599	ppb	4.27	1000.	
60 Ni	15.255	3.051	ppb	1.39	1000.	
63 Cu	13.44	2.688	ppb	5.36	#VALUE!	
65 Cu	13.29	2.658	ppb	4.72	2000.	
66 Zn	92.5	18.5	ppb	0.76	2000.	
68 Zn	94.05	18.81	ppb	3.73	#VALUE!	
75 As	5.86	1.172	ppb	27.81	1000.	
82 Se	1.1685	0.2337	ppb	33.32	1000.	
88 Sr	45.915	9.183	ppb	2.57	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	0.826	0.1652	ppb	3.91	1000.	
107 Ag	0.0366	0.0073	ppb	27.72	100.	
109 Ag	0.0247	0.0049	ppb	93.09	#VALUE!	
111 Cd	0.188	0.0376	ppb	99.81	#VALUE!	
114 Cd	0.0275	0.0055	ppb	98.38	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	1.913	0.3826	ppb	7.80	1000.	
120 Sn	1.8135	0.3627	ppb	4.00	#VALUE!	
121 Sb	0.549	0.1098	ppb	0.76	#VALUE!	
123 Sb	0.6725	0.1345	ppb	11.60	1000.	
135 Ba	187.05	37.41	ppb	0.40	2000.	
137 Ba	187.25	37.45	ppb	1.16	#VALUE!	
182 W	0.1693	0.0339	ppb	13.24	1000.	
203 Tl	0.2319	0.0464	ppb	9.11	1000.	
205 Tl	0.2378	0.0476	ppb	15.28	#VALUE!	
208 Pb	8.17	1.634	ppb	1.67	2000.	
232 Th	5.585	1.117	ppb	1.75	1000.	
238 U	0.723	0.1446	ppb	1.73	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2665148.00	1.10	2658648.80	100.2	69.5 - 120	
45 Sc	2023385.00	3.51	2094536.40	96.6	69.5 - 120	
72 Ge	419699.66	1.17	441280.53	95.1	69.5 - 120	
159 Tb	3599223.30	1.15	3254384.00	110.6	69.5 - 120	
209 Bi	1776431.90	0.75	1622942.50	109.5	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Katahdin Analytical Services 4000332

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\061SMPL.D\061SMPL.D#
Date Acquired: May 22 2018 05:23 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL4332-003
Misc Info:
Vial Number: 2302
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.7885	0.1577	ppb	8.39	100.	
11 B	69.3	13.86	ppb	5.18	1000.	
23 Na	528.	105.6	ppb	1.30	200000.	
25 Mg	5,615.	1,123.	ppb	0.30	200000.	
27 Al	19,525.	3,905.	ppb	1.22	200000.	
28 Si	41,355.	8,271.	ppb	2.85	#VALUE!	
29 Si	43,860.	8,772.	ppb	2.56	10000.	
39 K	11,845.	2,369.	ppb	0.86	200000.	
43 Ca	2,776.	555.2	ppb	4.89	#VALUE!	
44 Ca	2,830.	566.	ppb	1.42	200000.	
51 V	37.17	7.434	ppb	1.27	1000.	
52 Cr	16.105	3.221	ppb	1.85	2000.	
53 Cr	99.75	19.95	ppb	2.23	#VALUE!	
55 Mn	93.15	18.63	ppb	1.28	2000.	
56 Fe	14,365.	2,873.	ppb	1.54	#VALUE!	
57 Fe	14,385.	2,877.	ppb	1.34	100000.	
59 Co	3.274	0.6548	ppb	7.01	1000.	
60 Ni	12.745	2.549	ppb	2.93	1000.	
63 Cu	11.155	2.231	ppb	1.48	#VALUE!	
65 Cu	11.085	2.217	ppb	1.17	2000.	
66 Zn	85.75	17.15	ppb	2.39	2000.	
68 Zn	89.2	17.84	ppb	1.36	#VALUE!	
75 As	5.48	1.096	ppb	30.22	1000.	
82 Se	0.3265	0.0653	ppb	186.86	1000.	
88 Sr	45.925	9.185	ppb	0.51	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	0.962	0.1924	ppb	2.93	1000.	
107 Ag	0.0216	0.0043	ppb	92.08	100.	
109 Ag	0.0231	0.0046	ppb	39.15	#VALUE!	
111 Cd	0.3445	0.0689	ppb	18.61	#VALUE!	
114 Cd	0.0285	0.0057	ppb	173.99	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	1.696	0.3392	ppb	15.84	1000.	
120 Sn	1.7135	0.3427	ppb	1.10	#VALUE!	
121 Sb	0.57	0.114	ppb	12.08	#VALUE!	
123 Sb	0.5525	0.1105	ppb	5.59	1000.	
135 Ba	187.6	37.52	ppb	2.29	2000.	
137 Ba	190.9	38.18	ppb	2.22	#VALUE!	
182 W	0.1258	0.0252	ppb	13.75	1000.	
203 Tl	0.1589	0.0318	ppb	29.99	1000.	
205 Tl	0.1867	0.0373	ppb	7.38	#VALUE!	
208 Pb	7.235	1.447	ppb	1.02	2000.	
232 Th	4.67	0.934	ppb	0.30	1000.	
238 U	0.606	0.1212	ppb	2.90	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2670994.80	3.73	2658648.80	100.5	69.5 - 120	
45 Sc	2024250.00	2.58	2094536.40	96.6	69.5 - 120	
72 Ge	421256.44	1.85	441280.53	95.5	69.5 - 120	
159 Tb	3548797.00	1.40	3254384.00	109.0	69.5 - 120	
209 Bi	1758273.10	1.40	1622942.50	108.3	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000333

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\062SMPL.D\062SMPL.D#
Date Acquired: May 22 2018 05:27 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: RINSE
Misc Info:
Vial Number: 2303
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0019	0.0019	ppb	63.92	100.	
11 B	0.2785	0.2785	ppb	41.19	1000.	
23 Na	0.377	0.377	ppb	14.89	200000.	
25 Mg	0.1664	0.1664	ppb	49.50	200000.	
27 Al	0.6448	0.6448	ppb	24.24	200000.	
28 Si	31.36	31.36	ppb	66.36	#VALUE!	
29 Si	53.48	53.48	ppb	35.36	10000.	
39 K	6.475	6.475	ppb	41.64	200000.	
43 Ca	-1.114	-1.114	ppb	311.49	#VALUE!	
44 Ca	0.3889	0.3889	ppb	257.65	200000.	
51 V	0.14	0.14	ppb	95.50	1000.	
52 Cr	0.0745	0.0745	ppb	34.85	2000.	
53 Cr	3.647	3.647	ppb	9.81	#VALUE!	
55 Mn	-0.008	-0.008	ppb	74.66	2000.	
56 Fe	-5.308	-5.308	ppb	1.76	#VALUE!	
57 Fe	-6.29	-6.29	ppb	34.94	100000.	
59 Co	0.0002	0.0002	ppb	3173.10	1000.	
60 Ni	0.0032	0.0032	ppb	370.54	1000.	
63 Cu	0.0052	0.0052	ppb	133.35	#VALUE!	
65 Cu	-0.0071	-0.0071	ppb	240.89	2000.	
66 Zn	0.0398	0.0398	ppb	169.68	2000.	
68 Zn	-0.1915	-0.1915	ppb	16.92	#VALUE!	
75 As	0.0901	0.0901	ppb	100.42	1000.	
82 Se	0.003	0.003	ppb	3763.60	1000.	
88 Sr	-0.0014	-0.0014	ppb	237.61	2000.	
89 Y	----	--------	---	---	#VALUE!	
98 Mo	0.004	0.004	ppb	32.37	1000.	
107 Ag	-0.0005	-0.0005	ppb	698.48	100.	
109 Ag	0.0009	0.0009	ppb	183.13	#VALUE!	
111 Cd	-0.0116	-0.0116	ppb	58.06	#VALUE!	
114 Cd	0.0001	0.0001	ppb	2587.10	1000.	
115 In	----	--------	---	---	#VALUE!	
118 Sn	-0.0262	-0.0262	ppb	56.40	1000.	
120 Sn	-0.0454	-0.0454	ppb	75.44	#VALUE!	
121 Sb	-0.0093	-0.0093	ppb	22.11	#VALUE!	
123 Sb	-0.0034	-0.0034	ppb	53.71	1000.	
135 Ba	-0.0094	-0.0094	ppb	86.34	2000.	
137 Ba	0.0075	0.0075	ppb	53.82	#VALUE!	
182 W	0.0096	0.0096	ppb	48.20	1000.	
203 Tl	0.0004	0.0004	ppb	333.77	1000.	
205 Tl	0.0004	0.0004	ppb	579.57	#VALUE!	
208 Pb	-0.0003	-0.0003	ppb	1474.30	2000.	
232 Th	0.0098	0.0098	ppb	29.13	1000.	
238 U	-0.0008	-0.0008	ppb	108.73	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2452698.00	2.58	2658648.80	92.3	69.5 - 120	
45 Sc	1930279.50	1.97	2094536.40	92.2	69.5 - 120	
72 Ge	404545.22	0.91	441280.53	91.7	69.5 - 120	
159 Tb	3275844.00	0.87	3254384.00	100.7	69.5 - 120	
209 Bi	1633216.10	1.64	1622942.50	100.6	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000334

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\063SMPL.D\063SMPL.D#
Date Acquired: May 22 2018 05:31 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: RINSE
Misc Info:
Vial Number: 2304
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0003	0.0003	ppb	277.55	100.	
11 B	0.1545	0.1545	ppb	23.04	1000.	
23 Na	0.2051	0.2051	ppb	27.93	200000.	
25 Mg	0.4337	0.4337	ppb	22.73	200000.	
27 Al	0.5574	0.5574	ppb	6.04	200000.	
28 Si	-19.81	-19.81	ppb	298.38	#VALUE!	
29 Si	24.57	24.57	ppb	131.71	10000.	
39 K	5.08	5.08	ppb	97.85	200000.	
43 Ca	-6.241	-6.241	ppb	46.88	#VALUE!	
44 Ca	2.346	2.346	ppb	72.12	200000.	
51 V	0.0452	0.0452	ppb	207.27	1000.	
52 Cr	0.0774	0.0774	ppb	67.83	2000.	
53 Cr	3.33	3.33	ppb	9.18	#VALUE!	
55 Mn	-0.0031	-0.0031	ppb	308.24	2000.	
56 Fe	-6.408	-6.408	ppb	83.80	#VALUE!	
57 Fe	-4.827	-4.827	ppb	34.04	100000.	
59 Co	-0.0002	-0.0002	ppb	3039.80	1000.	
60 Ni	-0.0033	-0.0033	ppb	224.54	1000.	
63 Cu	-0.0116	-0.0116	ppb	54.88	#VALUE!	
65 Cu	-0.0094	-0.0094	ppb	147.95	2000.	
66 Zn	-0.0389	-0.0389	ppb	92.77	2000.	
68 Zn	-0.109	-0.109	ppb	26.17	#VALUE!	
75 As	-0.0419	-0.0419	ppb	412.19	1000.	
82 Se	0.1118	0.1118	ppb	180.41	1000.	
88 Sr	0.002	0.002	ppb	149.07	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	0.0026	0.0026	ppb	98.87	1000.	
107 Ag	0.0009	0.0009	ppb	273.58	100.	
109 Ag	-0.0005	-0.0005	ppb	75.23	#VALUE!	
111 Cd	0.0304	0.0304	ppb	80.53	#VALUE!	
114 Cd	-0.0001	-0.0001	ppb	4733.70	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	-0.0254	-0.0254	ppb	16.33	1000.	
120 Sn	-0.025	-0.025	ppb	56.40	#VALUE!	
121 Sb	-0.0159	-0.0159	ppb	17.72	#VALUE!	
123 Sb	-0.0078	-0.0078	ppb	47.89	1000.	
135 Ba	-0.0068	-0.0068	ppb	55.26	2000.	
137 Ba	0.009	0.009	ppb	124.29	#VALUE!	
182 W	0.0054	0.0054	ppb	60.35	1000.	
203 Tl	-0.0019	-0.0019	ppb	347.80	1000.	
205 Tl	0.0001	0.0001	ppb	575.59	#VALUE!	
208 Pb	-0.0019	-0.0019	ppb	208.72	2000.	
232 Th	0.0059	0.0059	ppb	41.78	1000.	
238 U	-0.0011	-0.0011	ppb	77.50	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2567907.30	3.58	2658648.80	96.6	69.5 - 120	
45 Sc	2004503.50	3.94	2094536.40	95.7	69.5 - 120	
72 Ge	417087.94	3.80	441280.53	94.5	69.5 - 120	
159 Tb	3280564.00	1.39	3254384.00	100.8	69.5 - 120	
209 Bi	1645037.00	1.87	1622942.50	101.4	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000335

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\064SMPL.D\064SMPL.D#
Date Acquired: May 22 2018 05:35 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: PBSLE21IMS1
Misc Info:
Vial Number: 2305
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0125	0.0025	ppb	74.38	100.	
11 B	1.376	0.2752	ppb	8.20	1000.	
23 Na	36.33	7.266	ppb	4.10	200000.	
25 Mg	28.4	5.68	ppb	7.66	200000.	
27 Al	12.4	2.48	ppb	1.49	200000.	
28 Si	-231.3	-46.26	ppb	82.73	#VALUE!	
29 Si	53.75	10.75	ppb	354.33	10000.	
39 K	60.7	12.14	ppb	40.25	200000.	
43 Ca	94.3	18.86	ppb	18.47	#VALUE!	
44 Ca	71.65	14.33	ppb	20.38	200000.	
51 V	0.9885	0.1977	ppb	73.60	1000.	
52 Cr	2.5715	0.5143	ppb	4.43	2000.	
53 Cr	91.15	18.23	ppb	3.17	#VALUE!	
55 Mn	0.499	0.0998	ppb	22.77	2000.	
56 Fe	10.53	2.106	ppb	168.42	#VALUE!	
57 Fe	11.605	2.321	ppb	85.22	100000.	
59 Co	0.0387	0.0077	ppb	54.13	1000.	
60 Ni	0.4809	0.0962	ppb	20.55	1000.	
63 Cu	1.575	0.315	ppb	2.80	#VALUE!	
65 Cu	1.646	0.3292	ppb	9.23	2000.	
66 Zn	1.644	0.3288	ppb	15.29	2000.	
68 Zn	0.6355	0.1271	ppb	43.08	#VALUE!	
75 As	0.719	0.1438	ppb	166.06	1000.	
82 Se	0.4301	0.086	ppb	284.47	1000.	
88 Sr	0.3989	0.0798	ppb	24.92	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	0.2765	0.0553	ppb	6.35	1000.	
107 Ag	0.0022	0.0004	ppb	191.36	100.	
109 Ag	0.0026	0.0005	ppb	272.94	#VALUE!	
111 Cd	0.1357	0.0271	ppb	32.66	#VALUE!	
114 Cd	-0.0965	-0.0193	ppb	58.53	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	44.16	8.832	ppb	1.57	1000.	
120 Sn	43.915	8.783	ppb	2.06	#VALUE!	
121 Sb	0.0506	0.0101	ppb	46.71	#VALUE!	
123 Sb	0.05	0.01	ppb	63.38	1000.	
135 Ba	0.3388	0.0678	ppb	49.90	2000.	
137 Ba	0.2965	0.0593	ppb	19.87	#VALUE!	
182 W	0.0543	0.0109	ppb	1.11	1000.	
203 Tl	0.0087	0.0017	ppb	293.82	1000.	
205 Tl	0.0007	0.0001	ppb	551.99	#VALUE!	
208 Pb	0.0982	0.0196	ppb	14.46	2000.	
232 Th	0.0931	0.0186	ppb	37.84	1000.	
238 U	0.0053	0.0011	ppb	101.62	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2650024.50	4.59	2658648.80	99.7	69.5 - 120	
45 Sc	1997564.10	5.17	2094536.40	95.4	69.5 - 120	
72 Ge	413284.72	3.82	441280.53	93.7	69.5 - 120	
159 Tb	3364482.30	0.82	3254384.00	103.4	69.5 - 120	
209 Bi	1643740.90	1.63	1622942.50	101.3	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000336

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\065SMPL.D\065SMPL.D#
Date Acquired: May 22 2018 05:39 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: LCSOLE21IMS1
Misc Info:
Vial Number: 2306
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	48.995	9.799	ppb	1.03	100.	
11 B	516.	103.2	ppb	1.94	1000.	
23 Na	7,995.	1,599.	ppb	0.80	200000.	
25 Mg	5,315.	1,063.	ppb	1.62	200000.	
27 Al	2,149.	429.8	ppb	1.12	200000.	
28 Si	815.5	163.1	ppb	5.03	#VALUE!	
29 Si	1,042.5	208.5	ppb	3.60	10000.	
39 K	10,335.	2,067.	ppb	0.84	200000.	
43 Ca	2,951.5	590.3	ppb	1.06	#VALUE!	
44 Ca	2,510.5	502.1	ppb	0.35	200000.	
51 V	499.	99.8	ppb	3.05	1000.	
52 Cr	200.85	40.17	ppb	1.64	2000.	
53 Cr	294.05	58.81	ppb	0.18	#VALUE!	
55 Mn	509.	101.8	ppb	0.99	2000.	
56 Fe	1,037.	207.4	ppb	0.89	#VALUE!	
57 Fe	1,015.5	203.1	ppb	1.12	100000.	
59 Co	511.	102.2	ppb	0.81	1000.	
60 Ni	516.	103.2	ppb	1.14	1000.	
63 Cu	252.3	50.46	ppb	0.91	#VALUE!	
65 Cu	249.8	49.96	ppb	0.67	2000.	
66 Zn	498.85	99.77	ppb	1.24	2000.	
68 Zn	560.5	112.1	ppb	1.19	#VALUE!	
75 As	104.	20.8	ppb	1.73	1000.	
82 Se	101.8	20.36	ppb	1.54	1000.	
88 Sr	503.	100.6	ppb	1.93	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	102.75	20.55	ppb	0.76	1000.	
107 Ag	51.3	10.26	ppb	0.91	100.	
109 Ag	51.85	10.37	ppb	1.52	#VALUE!	
111 Cd	258.4	51.68	ppb	1.15	#VALUE!	
114 Cd	261.45	52.29	ppb	1.07	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	506.	101.2	ppb	0.78	1000.	
120 Sn	512.5	102.5	ppb	0.20	#VALUE!	
121 Sb	96.3	19.26	ppb	0.72	#VALUE!	
123 Sb	96.25	19.25	ppb	0.57	1000.	
135 Ba	1,935.	387.	ppb	0.41	2000.	
137 Ba	1,927.5	385.5	ppb	0.41	#VALUE!	
182 W	100.05	20.01	ppb	0.11	1000.	
203 Tl	101.25	20.25	ppb	1.17	1000.	
205 Tl	99.9	19.98	ppb	0.56	#VALUE!	
208 Pb	100.6	20.12	ppb	0.19	2000.	
232 Th	95.9	19.18	ppb	0.71	1000.	
238 U	90.05	18.01	ppb	1.14	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2636370.50	1.16	2658648.80	99.2	69.5 - 120	
45 Sc	1962750.40	0.86	2094536.40	93.7	69.5 - 120	
72 Ge	404148.31	0.83	441280.53	91.6	69.5 - 120	
159 Tb	3408351.50	0.83	3254384.00	104.7	69.5 - 120	
209 Bi	1674989.80	0.83	1622942.50	103.2	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000337

CCV QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\066_CCV.D\066_CCV.D#
Date Acquired: May 22 2018 05:43 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: CCV
Misc Info:
Vial Number: 1206
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Dilution Factor: 1.00
QC Range (%): 89.5 - 110.5

QC Elements

Element	Conc.		RSD(%)	Expected	Rec (%)	Flag
9 Be	25.47	ppb	2.07	25	101.88	
11 B	25.17	ppb	1.48	25	100.68	
23 Na	5,022.	ppb	2.10	5,000	100.44	
25 Mg	5,182.	ppb	1.01	5,000	103.64	
27 Al	510.7	ppb	1.20	500	102.14	
28 Si	447.6	ppb	5.56	500	89.52	
29 Si	480.	ppb	3.15	500	96	
39 K	4,872.	ppb	0.48	5,000	97.44	
43 Ca	4,888.	ppb	1.64	5,000	97.76	
44 Ca	5,038.	ppb	1.62	5,000	100.76	
51 V	24.93	ppb	0.49	25	99.72	
52 Cr	24.72	ppb	1.42	25	98.88	
53 Cr	26.27	ppb	3.19	25	105.08	
55 Mn	25.08	ppb	0.52	25	100.32	
56 Fe	4,890.	ppb	0.37	5,000	97.8	
57 Fe	4,916.	ppb	2.03	5,000	98.32	
59 Co	25.35	ppb	0.14	25	101.4	
60 Ni	25.34	ppb	1.35	25	101.36	
63 Cu	25.	ppb	1.18	25	100	
65 Cu	24.86	ppb	1.51	25	99.44	
66 Zn	25.28	ppb	0.37	25	101.12	
68 Zn	25.45	ppb	0.96	25	101.8	
75 As	24.92	ppb	0.87	25	99.68	
82 Se	25.24	ppb	1.57	25	100.96	
88 Sr	24.69	ppb	0.62	25	98.76	
89 Y	--------	---	--------	---	#VALUE!	
98 Mo	25.09	ppb	1.54	25	100.36	
107 Ag	25.31	ppb	0.56	25	101.24	
109 Ag	25.3	ppb	0.66	25	101.2	
111 Cd	25.71	ppb	1.27	25	102.84	
114 Cd	25.68	ppb	0.65	25	102.72	
115 In	--------	---	--------	---	#VALUE!	
118 Sn	23.42	ppb	2.15	25	93.68	
120 Sn	23.53	ppb	2.06	25	94.12	
121 Sb	24.15	ppb	1.09	25	96.6	
123 Sb	24.22	ppb	0.69	25	96.88	
135 Ba	25.05	ppb	1.65	25	100.2	
137 Ba	24.17	ppb	1.74	25	96.68	
182 W	24.48	ppb	1.58	25	97.92	
203 Tl	25.01	ppb	0.51	25	100.04	
205 Tl	24.74	ppb	1.09	25	98.96	
208 Pb	24.91	ppb	0.52	25	99.64	
232 Th	23.78	ppb	0.85	25	95.12	
238 U	22.38	ppb	1.66	25	89.52	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2598741.00	1.40	2658648.80	97.7	80 - 120.4	
45 Sc	2061205.10	0.98	2094536.40	98.4	80 - 120.4	
72 Ge	419476.28	1.01	441280.53	95.1	80 - 120.4	
159 Tb	3408500.50	1.23	3254384.00	104.7	80 - 120.4	
209 Bi	1678204.30	0.92	1622942.50	103.4	80 - 120.4	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\067_CCB.D\067_CCB.D#
Date Acquired: May 22 2018 05:47 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: CCB
Misc Info:
Vial Number: 1207
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Sample Type: 6-CCB
Dilution Factor: 1.00

QC Elements

Element	Conc.		RSD(%)	High Limit	Flag
9 Be	-0.0006	ppb	515.64	1.00	
11 B	0.6531	ppb	20.32	1.00	
23 Na	1.434	ppb	27.69	1.00	
25 Mg	0.1215	ppb	100.66	1.00	
27 Al	0.035	ppb	208.78	1.00	
28 Si	-12.41	ppb	87.75	1.00	
29 Si	25.75	ppb	44.62	1.00	
39 K	9.03	ppb	45.99	1.00	
43 Ca	3.607	ppb	24.63	1.00	
44 Ca	0.5066	ppb	262.34	1.00	
51 V	0.0836	ppb	40.87	1.00	
52 Cr	0.0422	ppb	34.26	1.00	
53 Cr	0.4348	ppb	16.85	1.00	
55 Mn	-0.0079	ppb	56.46	1.00	
56 Fe	-5.144	ppb	28.23	1.00	
57 Fe	-2.919	ppb	52.69	1.00	
59 Co	0.0096	ppb	27.00	1.00	
60 Ni	-0.0015	ppb	567.76	1.00	
63 Cu	-0.0511	ppb	10.44	1.00	
65 Cu	-0.0317	ppb	25.52	1.00	
66 Zn	0.0956	ppb	31.98	1.00	
68 Zn	-0.1	ppb	83.11	1.00	
75 As	-0.0721	ppb	38.33	1.00	
82 Se	-0.0128	ppb	671.76	1.00	
88 Sr	-0.0027	ppb	122.61	1.00	
89 Y	--------	---	--------	---	
98 Mo	0.0253	ppb	46.41	1.00	
107 Ag	0.0005	ppb	375.78	1.00	
109 Ag	0.0014	ppb	200.56	1.00	
111 Cd	0.0233	ppb	96.95	1.00	
114 Cd	-0.0083	ppb	50.61	1.00	
115 In	--------	---	--------	---	
118 Sn	0.1446	ppb	6.40	1.00	
120 Sn	0.1236	ppb	13.21	1.00	
121 Sb	-0.0051	ppb	65.11	1.00	
123 Sb	-0.0004	ppb	2790.60	1.00	
135 Ba	0.0212	ppb	63.63	1.00	
137 Ba	0.0092	ppb	78.25	1.00	
182 W	0.0366	ppb	42.23	1.00	
203 Tl	0.0013	ppb	268.91	1.00	
205 Tl	0.0029	ppb	59.38	1.00	
208 Pb	0.0017	ppb	371.31	1.00	
232 Th	0.0648	ppb	10.62	1.00	
238 U	0.0017	ppb	114.03	1.00	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2504119.30	3.00	2658648.80	94.2	79.5 - 120	
45 Sc	1955012.90	2.09	2094536.40	93.3	79.5 - 120	
72 Ge	406116.69	0.57	441280.53	92.0	79.5 - 120	
159 Tb	3243422.80	1.13	3254384.00	99.7	79.5 - 120	
209 Bi	1636058.40	1.48	1622942.50	100.8	79.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000339

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\068SMPL.D\068SMPL.D#
Date Acquired: May 22 2018 05:51 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL4180-001
Misc Info:
Vial Number: 2307
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	9.445	1.889	ppb	3.57	100.	
11 B	113.8	22.76	ppb	7.54	1000.	
23 Na	2,708.	541.6	ppb	2.82	200000.	
25 Mg	43,465.	8,693.	ppb	3.53	200000.	
27 Al	182,500.	36,500.	ppb	1.04	200000.	
28 Si	5,100.	1,020.	ppb	2.21	#VALUE!	
29 Si	5,015.	1,003.	ppb	1.17	10000.	
39 K	62,000.	12,400.	ppb	0.74	200000.	
43 Ca	31,010.	6,202.	ppb	1.43	#VALUE!	
44 Ca	30,805.	6,161.	ppb	0.79	200000.	
51 V	347.2	69.44	ppb	0.69	1000.	
52 Cr	185.05	37.01	ppb	0.42	2000.	
53 Cr	244.05	48.81	ppb	1.10	#VALUE!	
55 Mn	4,388.5	877.7	ppb	1.58	2000.	
56 Fe	158,450.	31,690.	ppb	1.24	#VALUE!	
57 Fe	153,000.	30,600.	ppb	2.34	100000.	
59 Co	82.75	16.55	ppb	1.45	1000.	
60 Ni	133.15	26.63	ppb	0.53	1000.	
63 Cu	142.25	28.45	ppb	2.07	#VALUE!	
65 Cu	144.05	28.81	ppb	1.49	2000.	
66 Zn	570.5	114.1	ppb	2.72	2000.	
68 Zn	631.5	126.3	ppb	1.80	#VALUE!	
75 As	41.335	8.267	ppb	0.39	1000.	
82 Se	8.405	1.681	ppb	10.55	1000.	
88 Sr	504.5	100.9	ppb	2.40	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	24.9	4.98	ppb	2.48	1000.	
107 Ag	0.992	0.1984	ppb	5.06	100.	
109 Ag	0.942	0.1884	ppb	9.32	#VALUE!	
111 Cd	5.285	1.057	ppb	3.35	#VALUE!	
114 Cd	2.702	0.5404	ppb	6.87	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	51.55	10.31	ppb	0.63	1000.	
120 Sn	50.9	10.18	ppb	0.48	#VALUE!	
121 Sb	1.835	0.367	ppb	6.27	#VALUE!	
123 Sb	1.8535	0.3707	ppb	3.64	1000.	
135 Ba	2,076.5	415.3	ppb	0.89	2000.	
137 Ba	2,088.	417.6	ppb	0.29	#VALUE!	
182 W	1.0665	0.2133	ppb	5.72	1000.	
203 Tl	3.46	0.692	ppb	5.52	1000.	
205 Tl	3.444	0.6888	ppb	2.77	#VALUE!	
208 Pb	278.25	55.65	ppb	0.70	2000.	
232 Th	110.6	22.12	ppb	0.02	1000.	
238 U	19.85	3.97	ppb	0.97	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2678811.00	7.04	2658648.80	100.8	69.5 - 120	
45 Sc	2148680.80	2.33	2094536.40	102.6	69.5 - 120	
72 Ge	424712.03	2.70	441280.53	96.2	69.5 - 120	
159 Tb	3489615.80	1.33	3254384.00	107.2	69.5 - 120	
209 Bi	1668998.30	0.39	1622942.50	102.8	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000340

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\069SMPL.D\069SMPL.D#
Date Acquired: May 22 2018 05:55 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL4180-002
Misc Info:
Vial Number: 2308
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	7.78	1.556	ppb	2.10	100.	
11 B	99.	19.8	ppb	1.81	1000.	
23 Na	2,357.	471.4	ppb	4.38	200000.	
25 Mg	37,110.	7,422.	ppb	4.30	200000.	
27 Al	153,350.	30,670.	ppb	1.96	200000.	
28 Si	4,263.5	852.7	ppb	7.05	#VALUE!	
29 Si	4,235.	847.	ppb	9.66	10000.	
39 K	52,300.	10,460.	ppb	3.35	200000.	
43 Ca	25,325.	5,065.	ppb	1.28	#VALUE!	
44 Ca	25,740.	5,148.	ppb	0.17	200000.	
51 V	288.5	57.7	ppb	0.86	1000.	
52 Cr	153.8	30.76	ppb	1.98	2000.	
53 Cr	196.	39.2	ppb	0.75	#VALUE!	
55 Mn	3,704.5	740.9	ppb	0.40	2000.	
56 Fe	133,850.	26,770.	ppb	0.52	#VALUE!	
57 Fe	129,150.	25,830.	ppb	0.75	100000.	
59 Co	71.9	14.38	ppb	0.91	1000.	
60 Ni	111.55	22.31	ppb	0.66	1000.	
63 Cu	117.	23.4	ppb	0.89	#VALUE!	
65 Cu	117.45	23.49	ppb	0.81	2000.	
66 Zn	468.05	93.61	ppb	1.57	2000.	
68 Zn	523.	104.6	ppb	0.91	#VALUE!	
75 As	33.825	6.765	ppb	5.52	1000.	
82 Se	6.905	1.381	ppb	16.21	1000.	
88 Sr	418.25	83.65	ppb	0.29	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	19.23	3.846	ppb	1.24	1000.	
107 Ag	0.754	0.1508	ppb	5.54	100.	
109 Ag	0.7065	0.1413	ppb	12.23	#VALUE!	
111 Cd	4.2905	0.8581	ppb	4.02	#VALUE!	
114 Cd	2.138	0.4276	ppb	11.41	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	49.31	9.862	ppb	1.79	1000.	
120 Sn	50.05	10.01	ppb	1.63	#VALUE!	
121 Sb	1.4155	0.2831	ppb	4.61	#VALUE!	
123 Sb	1.467	0.2934	ppb	3.74	1000.	
135 Ba	1,739.	347.8	ppb	2.08	2000.	
137 Ba	1,736.5	347.3	ppb	1.80	#VALUE!	
182 W	0.9325	0.1865	ppb	4.35	1000.	
203 Tl	2.8775	0.5755	ppb	4.11	1000.	
205 Tl	2.8145	0.5629	ppb	1.42	#VALUE!	
208 Pb	225.55	45.11	ppb	0.98	2000.	
232 Th	94.55	18.91	ppb	2.34	1000.	
238 U	16.685	3.337	ppb	0.85	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2650091.80	4.53	2658648.80	99.7	69.5 - 120	
45 Sc	2146948.00	2.20	2094536.40	102.5	69.5 - 120	
72 Ge	432281.34	2.40	441280.53	98.0	69.5 - 120	
159 Tb	3405484.30	0.54	3254384.00	104.6	69.5 - 120	
209 Bi	1629928.60	0.87	1622942.50	100.4	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000341

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\070SMPL.D\070SMPL.D#
Date Acquired: May 22 2018 06:00 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL4180-003
Misc Info:
Vial Number: 2309
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	13.17	2.634	ppb	2.29	100.	
11 B	187.1	37.42	ppb	3.44	1000.	
23 Na	32,285.	6,457.	ppb	3.21	200000.	
25 Mg	127,700.	25,540.	ppb	2.02	200000.	
27 Al	280,550.	56,110.	ppb	2.31	200000.	
28 Si	4,593.	918.6	ppb	8.81	#VALUE!	
29 Si	4,575.5	915.1	ppb	5.88	10000.	
39 K	68,500.	13,700.	ppb	1.89	200000.	
43 Ca	507,000.	101,400.	ppb	2.25	#VALUE!	
44 Ca	477,950.	95,590.	ppb	1.28	200000.	
51 V	612.5	122.5	ppb	0.99	1000.	
52 Cr	272.5	54.5	ppb	1.03	2000.	
53 Cr	314.05	62.81	ppb	3.03	#VALUE!	
55 Mn	5,095.	1,019.	ppb	1.13	2000.	
56 Fe	272,400.	54,480.	ppb	0.63	#VALUE!	
57 Fe	263,700.	52,740.	ppb	1.56	100000.	
59 Co	128.65	25.73	ppb	1.04	1000.	
60 Ni	241.7	48.34	ppb	2.35	1000.	
63 Cu	192.1	38.42	ppb	1.30	#VALUE!	
65 Cu	195.1	39.02	ppb	1.07	2000.	
66 Zn	730.	146.	ppb	2.09	2000.	
68 Zn	825.	165.	ppb	0.64	#VALUE!	
75 As	119.45	23.89	ppb	1.79	1000.	
82 Se	6.17	1.234	ppb	24.77	1000.	
88 Sr	1,226.	245.2	ppb	1.94	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	12.375	2.475	ppb	2.10	1000.	
107 Ag	1.205	0.241	ppb	5.10	100.	
109 Ag	0.9095	0.1819	ppb	2.57	#VALUE!	
111 Cd	5.28	1.056	ppb	3.45	#VALUE!	
114 Cd	1.045	0.209	ppb	4.26	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	54.6	10.92	ppb	0.61	1000.	
120 Sn	54.85	10.97	ppb	0.75	#VALUE!	
121 Sb	3.1475	0.6295	ppb	4.19	#VALUE!	
123 Sb	3.073	0.6146	ppb	6.60	1000.	
135 Ba	3,200.5	640.1	ppb	0.34	2000.	
137 Ba	3,228.5	645.7	ppb	0.35	#VALUE!	
182 W	0.9655	0.1931	ppb	2.77	1000.	
203 Tl	4.4645	0.8929	ppb	3.57	1000.	
205 Tl	4.5345	0.9069	ppb	1.52	#VALUE!	
208 Pb	199.65	39.93	ppb	1.67	2000.	
232 Th	117.6	23.52	ppb	1.23	1000.	
238 U	25.4	5.08	ppb	1.33	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2682919.30	3.15	2658648.80	100.9	69.5 - 120	
45 Sc	2167818.80	4.25	2094536.40	103.5	69.5 - 120	
72 Ge	424624.72	2.26	441280.53	96.2	69.5 - 120	
159 Tb	3424284.80	0.76	3254384.00	105.2	69.5 - 120	
209 Bi	1593979.30	0.56	1622942.50	98.2	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000342

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\071SMPL.D\071SMPL.D#
Date Acquired: May 22 2018 06:04 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL4180-004
Misc Info:
Vial Number: 2310
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	10.92	2.184	ppb	1.95	100.	
11 B	132.95	26.59	ppb	0.82	1000.	
23 Na	7,500.	1,500.	ppb	1.56	200000.	
25 Mg	91,000.	18,200.	ppb	2.43	200000.	
27 Al	238,150.	47,630.	ppb	2.96	200000.	
28 Si	5,090.	1,018.	ppb	12.78	#VALUE!	
29 Si	4,831.5	966.3	ppb	9.01	10000.	
39 K	46,475.	9,295.	ppb	1.66	200000.	
43 Ca	177,850.	35,570.	ppb	2.29	#VALUE!	
44 Ca	174,350.	34,870.	ppb	1.28	200000.	
51 V	450.65	90.13	ppb	1.97	1000.	
52 Cr	231.95	46.39	ppb	0.26	2000.	
53 Cr	289.7	57.94	ppb	0.85	#VALUE!	
55 Mn	4,845.	969.	ppb	0.78	2000.	
56 Fe	218,450.	43,690.	ppb	0.74	#VALUE!	
57 Fe	208,900.	41,780.	ppb	1.00	100000.	
59 Co	84.6	16.92	ppb	0.88	1000.	
60 Ni	212.7	42.54	ppb	0.49	1000.	
63 Cu	174.05	34.81	ppb	1.21	#VALUE!	
65 Cu	176.05	35.21	ppb	0.63	2000.	
66 Zn	660.5	132.1	ppb	1.12	2000.	
68 Zn	765.	153.	ppb	1.05	#VALUE!	
75 As	42.45	8.49	ppb	0.51	1000.	
82 Se	3.6495	0.7299	ppb	26.46	1000.	
88 Sr	697.5	139.5	ppb	1.62	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	6.725	1.345	ppb	1.09	1000.	
107 Ag	0.837	0.1674	ppb	6.93	100.	
109 Ag	0.744	0.1488	ppb	7.28	#VALUE!	
111 Cd	4.9465	0.9893	ppb	2.70	#VALUE!	
114 Cd	2.2225	0.4445	ppb	6.40	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	51.55	10.31	ppb	0.28	1000.	
120 Sn	51.95	10.39	ppb	1.51	#VALUE!	
121 Sb	1.814	0.3628	ppb	5.71	#VALUE!	
123 Sb	1.8105	0.3621	ppb	3.11	1000.	
135 Ba	3,200.	640.	ppb	1.28	2000.	
137 Ba	3,241.	648.2	ppb	0.78	#VALUE!	
182 W	0.5615	0.1123	ppb	2.13	1000.	
203 Tl	4.034	0.8068	ppb	1.46	1000.	
205 Tl	4.036	0.8072	ppb	2.24	#VALUE!	
208 Pb	163.15	32.63	ppb	0.81	2000.	
232 Th	98.5	19.7	ppb	0.54	1000.	
238 U	10.63	2.126	ppb	0.78	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2754120.80	2.01	2658648.80	103.6	69.5 - 120	
45 Sc	2234328.00	4.26	2094536.40	106.7	69.5 - 120	
72 Ge	440204.81	2.40	441280.53	99.8	69.5 - 120	
159 Tb	3439037.50	0.53	3254384.00	105.7	69.5 - 120	
209 Bi	1607009.90	0.40	1622942.50	99.0	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000343

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\072SMPL.D\072SMPL.D#
Date Acquired: May 22 2018 06:08 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL4180-005
Misc Info:
Vial Number: 2311
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	11.375	2.275	ppb	3.95	100.	
11 B	152.85	30.57	ppb	5.17	1000.	
23 Na	2,671.5	534.3	ppb	1.67	200000.	
25 Mg	50,900.	10,180.	ppb	1.56	200000.	
27 Al	224,050.	44,810.	ppb	1.77	200000.	
28 Si	4,904.	980.8	ppb	12.45	#VALUE!	
29 Si	4,601.5	920.3	ppb	5.02	10000.	
39 K	57,450.	11,490.	ppb	2.80	200000.	
43 Ca	62,250.	12,450.	ppb	2.26	#VALUE!	
44 Ca	61,300.	12,260.	ppb	0.90	200000.	
51 V	438.8	87.76	ppb	1.77	1000.	
52 Cr	219.05	43.81	ppb	0.77	2000.	
53 Cr	277.95	55.59	ppb	0.56	#VALUE!	
55 Mn	5,425.	1,085.	ppb	0.93	2000.	
56 Fe	192,050.	38,410.	ppb	1.78	#VALUE!	
57 Fe	184,750.	36,950.	ppb	0.43	100000.	
59 Co	93.3	18.66	ppb	1.61	1000.	
60 Ni	160.75	32.15	ppb	1.66	1000.	
63 Cu	158.	31.6	ppb	0.41	#VALUE!	
65 Cu	158.9	31.78	ppb	0.46	2000.	
66 Zn	621.	124.2	ppb	1.57	2000.	
68 Zn	705.	141.	ppb	1.33	#VALUE!	
75 As	56.2	11.24	ppb	1.22	1000.	
82 Se	8.29	1.658	ppb	6.42	1000.	
88 Sr	578.5	115.7	ppb	1.30	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	15.115	3.023	ppb	2.67	1000.	
107 Ag	0.91	0.182	ppb	6.48	100.	
109 Ag	0.7245	0.1449	ppb	3.54	#VALUE!	
111 Cd	6.48	1.296	ppb	3.38	#VALUE!	
114 Cd	3.027	0.6054	ppb	3.63	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	58.75	11.75	ppb	0.75	1000.	
120 Sn	58.8	11.76	ppb	0.86	#VALUE!	
121 Sb	2.4755	0.4951	ppb	3.47	#VALUE!	
123 Sb	2.397	0.4794	ppb	3.30	1000.	
135 Ba	2,689.	537.8	ppb	0.05	2000.	
137 Ba	2,676.	535.2	ppb	0.29	#VALUE!	
182 W	1.131	0.2262	ppb	10.42	1000.	
203 Tl	4.08	0.816	ppb	5.18	1000.	
205 Tl	4.03	0.806	ppb	3.18	#VALUE!	
208 Pb	324.6	64.92	ppb	0.65	2000.	
232 Th	126.95	25.39	ppb	1.34	1000.	
238 U	23.15	4.63	ppb	0.63	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2721040.80	5.18	2658648.80	102.3	69.5 - 120	
45 Sc	2262477.80	5.13	2094536.40	108.0	69.5 - 120	
72 Ge	445323.94	2.69	441280.53	100.9	69.5 - 120	
159 Tb	3373559.00	1.20	3254384.00	103.7	69.5 - 120	
209 Bi	1595546.30	0.62	1622942.50	98.3	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000344

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\073SMPL.D\073SMPL.D#
Date Acquired: May 22 2018 06:12 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL4180-006
Misc Info:
Vial Number: 2312
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	12.77	2.554	ppb	2.37	100.	
11 B	152.95	30.59	ppb	0.96	1000.	
23 Na	10,330.	2,066.	ppb	1.84	200000.	
25 Mg	96,050.	19,210.	ppb	2.45	200000.	
27 Al	263,150.	52,630.	ppb	2.18	200000.	
28 Si	4,975.5	995.1	ppb	12.72	#VALUE!	
29 Si	4,319.	863.8	ppb	2.36	10000.	
39 K	54,250.	10,850.	ppb	1.03	200000.	
43 Ca	217,500.	43,500.	ppb	1.27	#VALUE!	
44 Ca	213,000.	42,600.	ppb	0.93	200000.	
51 V	532.5	106.5	ppb	0.63	1000.	
52 Cr	257.95	51.59	ppb	1.47	2000.	
53 Cr	322.75	64.55	ppb	2.40	#VALUE!	
55 Mn	5,275.	1,055.	ppb	1.27	2000.	
56 Fe	255,000.	51,000.	ppb	0.74	#VALUE!	
57 Fe	247,550.	49,510.	ppb	1.24	100000.	
59 Co	111.35	22.27	ppb	1.13	1000.	
60 Ni	229.75	45.95	ppb	1.70	1000.	
63 Cu	192.1	38.42	ppb	0.47	#VALUE!	
65 Cu	194.8	38.96	ppb	0.66	2000.	
66 Zn	796.	159.2	ppb	2.05	2000.	
68 Zn	891.5	178.3	ppb	1.15	#VALUE!	
75 As	61.	12.2	ppb	0.61	1000.	
82 Se	5.43	1.086	ppb	20.51	1000.	
88 Sr	702.	140.4	ppb	1.95	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	5.615	1.123	ppb	3.45	1000.	
107 Ag	1.108	0.2216	ppb	5.98	100.	
109 Ag	0.9125	0.1825	ppb	8.50	#VALUE!	
111 Cd	5.01	1.002	ppb	1.21	#VALUE!	
114 Cd	1.856	0.3712	ppb	5.39	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	57.5	11.5	ppb	1.11	1000.	
120 Sn	56.75	11.35	ppb	2.09	#VALUE!	
121 Sb	2.0605	0.4121	ppb	9.36	#VALUE!	
123 Sb	2.291	0.4582	ppb	5.68	1000.	
135 Ba	3,251.5	650.3	ppb	0.61	2000.	
137 Ba	3,245.5	649.1	ppb	0.37	#VALUE!	
182 W	0.758	0.1516	ppb	5.15	1000.	
203 Tl	4.408	0.8816	ppb	3.77	1000.	
205 Tl	4.4955	0.8991	ppb	0.85	#VALUE!	
208 Pb	173.35	34.67	ppb	1.57	2000.	
232 Th	119.55	23.91	ppb	2.13	1000.	
238 U	12.065	2.413	ppb	3.92	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2715073.00	2.84	2658648.80	102.1	69.5 - 120	
45 Sc	2269134.50	3.77	2094536.40	108.3	69.5 - 120	
72 Ge	441285.78	2.69	441280.53	100.0	69.5 - 120	
159 Tb	3282831.80	0.54	3254384.00	100.9	69.5 - 120	
209 Bi	1523629.10	1.31	1622942.50	93.9	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000345

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\074SMPL.D\074SMPL.D#
Date Acquired: May 22 2018 06:16 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL4180-007
Misc Info:
Vial Number: 2401
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	9.54	1.908	ppb	1.97	100.	
11 B	128.8	25.76	ppb	4.48	1000.	
23 Na	19,150.	3,830.	ppb	1.04	200000.	
25 Mg	78,600.	15,720.	ppb	0.20	200000.	
27 Al	205,800.	41,160.	ppb	0.55	200000.	
28 Si	4,782.	956.4	ppb	11.31	#VALUE!	
29 Si	4,574.5	914.9	ppb	4.14	10000.	
39 K	42,515.	8,503.	ppb	1.57	200000.	
43 Ca	395,300.	79,060.	ppb	1.21	#VALUE!	
44 Ca	373,700.	74,740.	ppb	0.62	200000.	
51 V	407.3	81.46	ppb	1.07	1000.	
52 Cr	200.75	40.15	ppb	0.86	2000.	
53 Cr	241.65	48.33	ppb	1.81	#VALUE!	
55 Mn	5,350.	1,070.	ppb	1.30	2000.	
56 Fe	182,000.	36,400.	ppb	1.39	#VALUE!	
57 Fe	174,700.	34,940.	ppb	1.73	100000.	
59 Co	64.9	12.98	ppb	0.48	1000.	
60 Ni	221.55	44.31	ppb	0.44	1000.	
63 Cu	157.95	31.59	ppb	1.78	#VALUE!	
65 Cu	159.8	31.96	ppb	1.68	2000.	
66 Zn	494.55	98.91	ppb	1.38	2000.	
68 Zn	555.5	111.1	ppb	2.03	#VALUE!	
75 As	39.75	7.95	ppb	2.93	1000.	
82 Se	5.295	1.059	ppb	8.53	1000.	
88 Sr	726.	145.2	ppb	0.86	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	3.971	0.7942	ppb	1.69	1000.	
107 Ag	0.8205	0.1641	ppb	4.33	100.	
109 Ag	0.6945	0.1389	ppb	2.64	#VALUE!	
111 Cd	4.5565	0.9113	ppb	6.29	#VALUE!	
114 Cd	1.4555	0.2911	ppb	6.11	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	50.15	10.03	ppb	2.60	1000.	
120 Sn	49.93	9.986	ppb	1.18	#VALUE!	
121 Sb	1.784	0.3568	ppb	4.32	#VALUE!	
123 Sb	2.018	0.4036	ppb	6.34	1000.	
135 Ba	1,974.	394.8	ppb	1.06	2000.	
137 Ba	1,977.	395.4	ppb	1.20	#VALUE!	
182 W	0.693	0.1386	ppb	11.29	1000.	
203 Tl	3.601	0.7202	ppb	6.00	1000.	
205 Tl	3.5605	0.7121	ppb	2.24	#VALUE!	
208 Pb	107.7	21.54	ppb	1.56	2000.	
232 Th	82.15	16.43	ppb	1.32	1000.	
238 U	10.72	2.144	ppb	0.63	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2729759.50	1.44	2658648.80	102.7	69.5 - 120	
45 Sc	2169605.30	0.49	2094536.40	103.6	69.5 - 120	
72 Ge	428624.47	0.85	441280.53	97.1	69.5 - 120	
159 Tb	3401016.50	1.43	3254384.00	104.5	69.5 - 120	
209 Bi	1598033.90	1.76	1622942.50	98.5	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000346

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\075SMPL.D\075SMPL.D#
Date Acquired: May 22 2018 06:21 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL4180-008
Misc Info:
Vial Number: 2402
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	9.63	1.926	ppb	1.73	100.	
11 B	94.05	18.81	ppb	5.08	1000.	
23 Na	1,556.	311.2	ppb	0.88	200000.	
25 Mg	51,700.	10,340.	ppb	1.90	200000.	
27 Al	215,300.	43,060.	ppb	1.95	200000.	
28 Si	2,599.5	519.9	ppb	6.45	#VALUE!	
29 Si	2,233.5	446.7	ppb	3.09	10000.	
39 K	43,960.	8,792.	ppb	0.24	200000.	
43 Ca	35,660.	7,132.	ppb	0.28	#VALUE!	
44 Ca	35,505.	7,101.	ppb	0.83	200000.	
51 V	312.3	62.46	ppb	0.56	1000.	
52 Cr	179.55	35.91	ppb	0.66	2000.	
53 Cr	228.85	45.77	ppb	1.17	#VALUE!	
55 Mn	2,422.	484.4	ppb	1.35	2000.	
56 Fe	173,700.	34,740.	ppb	1.01	#VALUE!	
57 Fe	166,500.	33,300.	ppb	0.75	100000.	
59 Co	70.45	14.09	ppb	1.08	1000.	
60 Ni	142.05	28.41	ppb	1.05	1000.	
63 Cu	136.05	27.21	ppb	1.58	#VALUE!	
65 Cu	138.2	27.64	ppb	1.25	2000.	
66 Zn	481.9	96.38	ppb	1.04	2000.	
68 Zn	526.	105.2	ppb	0.75	#VALUE!	
75 As	44.18	8.836	ppb	2.70	1000.	
82 Se	4.157	0.8314	ppb	22.62	1000.	
88 Sr	389.6	77.92	ppb	1.16	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	6.065	1.213	ppb	4.39	1000.	
107 Ag	0.62	0.124	ppb	7.66	100.	
109 Ag	0.4967	0.0993	ppb	19.23	#VALUE!	
111 Cd	2.11	0.422	ppb	10.84	#VALUE!	
114 Cd	0.643	0.1286	ppb	18.52	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	52.45	10.49	ppb	3.21	1000.	
120 Sn	52.7	10.54	ppb	1.11	#VALUE!	
121 Sb	1.689	0.3378	ppb	2.06	#VALUE!	
123 Sb	1.804	0.3608	ppb	6.15	1000.	
135 Ba	1,661.	332.2	ppb	1.64	2000.	
137 Ba	1,654.	330.8	ppb	1.55	#VALUE!	
182 W	0.4715	0.0943	ppb	7.52	1000.	
203 Tl	3.0365	0.6073	ppb	1.32	1000.	
205 Tl	3.146	0.6292	ppb	0.58	#VALUE!	
208 Pb	128.1	25.62	ppb	1.40	2000.	
232 Th	86.15	17.23	ppb	0.34	1000.	
238 U	11.685	2.337	ppb	1.23	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2815861.80	4.56	2658648.80	105.9	69.5 - 120	
45 Sc	2300086.80	2.27	2094536.40	109.8	69.5 - 120	
72 Ge	452979.63	2.70	441280.53	102.7	69.5 - 120	
159 Tb	3316960.30	0.98	3254384.00	101.9	69.5 - 120	
209 Bi	1552891.80	0.87	1622942.50	95.7	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000347

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\076SMPL.D\076SMPL.D#
Date Acquired: May 22 2018 06:25 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL4180-008L
Misc Info:
Vial Number: 2403
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Sample Type: Sample
Dilution Factor: 25.00
Autodil Factor: Undiluted
Final Dil Factor: 25.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	10.94	0.4376	ppb	2.74	100.	
11 B	105.225	4.209	ppb	1.48	1000.	
23 Na	1,587.75	63.51	ppb	2.93	200000.	
25 Mg	57,600.	2,304.	ppb	1.20	200000.	
27 Al	229,000.	9,160.	ppb	2.38	200000.	
28 Si	3,242.5	129.7	ppb	33.39	#VALUE!	
29 Si	1,177.25	47.09	ppb	60.99	10000.	
39 K	45,950.	1,838.	ppb	1.75	200000.	
43 Ca	37,800.	1,512.	ppb	5.77	#VALUE!	
44 Ca	36,900.	1,476.	ppb	1.12	200000.	
51 V	319.25	12.77	ppb	0.99	1000.	
52 Cr	183.425	7.337	ppb	3.72	2000.	
53 Cr	195.425	7.817	ppb	4.57	#VALUE!	
55 Mn	2,592.5	103.7	ppb	0.27	2000.	
56 Fe	177,875.	7,115.	ppb	1.35	#VALUE!	
57 Fe	178,375.	7,135.	ppb	1.52	100000.	
59 Co	73.9	2.956	ppb	3.84	1000.	
60 Ni	149.775	5.991	ppb	1.14	1000.	
63 Cu	143.5	5.74	ppb	0.80	#VALUE!	
65 Cu	142.95	5.718	ppb	4.44	2000.	
66 Zn	503.75	20.15	ppb	0.88	2000.	
68 Zn	554.25	22.17	ppb	2.79	#VALUE!	
75 As	46.475	1.859	ppb	10.64	1000.	
82 Se	5.835	0.2334	ppb	148.89	1000.	
88 Sr	395.	15.8	ppb	1.36	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	6.06	0.2424	ppb	10.52	1000.	
107 Ag	0.5668	0.0227	ppb	25.32	100.	
109 Ag	0.502	0.0201	ppb	14.79	#VALUE!	
111 Cd	0.9278	0.0371	ppb	92.32	#VALUE!	
114 Cd	0.5993	0.024	ppb	77.10	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	55.85	2.234	ppb	1.50	1000.	
120 Sn	54.3	2.172	ppb	1.93	#VALUE!	
121 Sb	1.6498	0.066	ppb	3.55	#VALUE!	
123 Sb	1.7303	0.0692	ppb	19.77	1000.	
135 Ba	1,717.75	68.71	ppb	1.24	2000.	
137 Ba	1,726.5	69.06	ppb	1.33	#VALUE!	
182 W	0.506	0.0202	ppb	8.07	1000.	
203 Tl	2.71	0.1084	ppb	21.58	1000.	
205 Tl	3.185	0.1274	ppb	5.13	#VALUE!	
208 Pb	129.	5.16	ppb	2.02	2000.	
232 Th	83.6	3.344	ppb	2.88	1000.	
238 U	11.7275	0.4691	ppb	4.45	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2659450.30	1.16	2658648.80	100.0	69.5 - 120	
45 Sc	2203504.30	2.73	2094536.40	105.2	69.5 - 120	
72 Ge	452056.69	1.73	441280.53	102.4	69.5 - 120	
159 Tb	3185957.50	1.45	3254384.00	97.9	69.5 - 120	
209 Bi	1544097.00	1.76	1622942.50	95.1	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000348

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\077SMPL.D\077SMPL.D#
Date Acquired: May 22 2018 06:29 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: RINSE
Misc Info:
Vial Number: 2404
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.003	0.003	ppb	42.61	100.	
11 B	0.2214	0.2214	ppb	24.20	1000.	
23 Na	0.4586	0.4586	ppb	29.98	200000.	
25 Mg	0.2849	0.2849	ppb	39.14	200000.	
27 Al	0.8298	0.8298	ppb	11.07	200000.	
28 Si	47.94	47.94	ppb	76.01	#VALUE!	
29 Si	-34.39	-34.39	ppb	41.09	10000.	
39 K	-1.439	-1.439	ppb	67.07	200000.	
43 Ca	0.8921	0.8921	ppb	325.30	#VALUE!	
44 Ca	0.8601	0.8601	ppb	122.43	200000.	
51 V	0.0336	0.0336	ppb	94.89	1000.	
52 Cr	0.0026	0.0026	ppb	322.68	2000.	
53 Cr	-0.5866	-0.5866	ppb	38.37	#VALUE!	
55 Mn	0.0039	0.0039	ppb	205.13	2000.	
56 Fe	1.944	1.944	ppb	199.23	#VALUE!	
57 Fe	6.84	6.84	ppb	29.75	100000.	
59 Co	0.0057	0.0057	ppb	114.75	1000.	
60 Ni	0.0038	0.0038	ppb	163.33	1000.	
63 Cu	-0.0151	-0.0151	ppb	78.61	#VALUE!	
65 Cu	-0.0019	-0.0019	ppb	1648.70	2000.	
66 Zn	-0.0172	-0.0172	ppb	88.92	2000.	
68 Zn	-0.1405	-0.1405	ppb	35.68	#VALUE!	
75 As	-0.0192	-0.0192	ppb	1455.40	1000.	
82 Se	0.1244	0.1244	ppb	52.99	1000.	
88 Sr	0.0016	0.0016	ppb	150.18	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	0.0041	0.0041	ppb	104.02	1000.	
107 Ag	-0.0026	-0.0026	ppb	31.32	100.	
109 Ag	-0.0002	-0.0002	ppb	371.39	#VALUE!	
111 Cd	-0.0756	-0.0756	ppb	21.35	#VALUE!	
114 Cd	-0.0032	-0.0032	ppb	230.56	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	-0.006	-0.006	ppb	117.24	1000.	
120 Sn	-0.0099	-0.0099	ppb	341.16	#VALUE!	
121 Sb	-0.0123	-0.0123	ppb	62.02	#VALUE!	
123 Sb	-0.0073	-0.0073	ppb	18.84	1000.	
135 Ba	0.0065	0.0065	ppb	75.55	2000.	
137 Ba	0.0138	0.0138	ppb	81.92	#VALUE!	
182 W	0.0054	0.0054	ppb	30.87	1000.	
203 Tl	-0.0021	-0.0021	ppb	153.72	1000.	
205 Tl	0.0021	0.0021	ppb	120.60	#VALUE!	
208 Pb	0.0028	0.0028	ppb	77.60	2000.	
232 Th	0.0196	0.0196	ppb	34.35	1000.	
238 U	-0.0004	-0.0004	ppb	123.82	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2639162.80	3.01	2658648.80	99.3	69.5 - 120	
45 Sc	2144931.80	0.91	2094536.40	102.4	69.5 - 120	
72 Ge	438566.22	1.20	441280.53	99.4	69.5 - 120	
159 Tb	2998564.00	0.80	3254384.00	92.1	69.5 - 120	
209 Bi	1465797.60	0.20	1622942.50	90.3	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000349

CCV QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\078_CCV.D\078_CCV.D#
Date Acquired: May 22 2018 06:33 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: CCV
Misc Info:
Vial Number: 1206
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Dilution Factor: 1.00
QC Range (%): 89.5 - 110.5

QC Elements

Element	Conc.		RSD(%)	Expected	Rec (%)	Flag
9 Be	25.08	ppb	3.99	25	100.32	
11 B	24.85	ppb	5.26	25	99.4	
23 Na	4,944.	ppb	1.35	5,000	98.88	
25 Mg	5,074.	ppb	3.88	5,000	101.48	
27 Al	500.5	ppb	2.07	500	100.1	
28 Si	504.	ppb	7.93	500	100.8	
29 Si	441.1	ppb	5.31	500	88.22	Fail
39 K	4,918.	ppb	1.82	5,000	98.36	
43 Ca	4,907.	ppb	1.01	5,000	98.14	
44 Ca	4,998.	ppb	1.95	5,000	99.96	
51 V	25.54	ppb	1.75	25	102.16	
52 Cr	24.84	ppb	1.24	25	99.36	
53 Cr	25.48	ppb	1.06	25	101.92	
55 Mn	25.41	ppb	0.88	25	101.64	
56 Fe	4,970.	ppb	0.18	5,000	99.4	
57 Fe	5,071.	ppb	0.28	5,000	101.42	
59 Co	25.13	ppb	0.22	25	100.52	
60 Ni	25.29	ppb	1.19	25	101.16	
63 Cu	25.27	ppb	0.50	25	101.08	
65 Cu	25.05	ppb	0.51	25	100.2	
66 Zn	24.84	ppb	0.93	25	99.36	
68 Zn	24.95	ppb	1.27	25	99.8	
75 As	25.12	ppb	1.10	25	100.48	
82 Se	25.48	ppb	0.79	25	101.92	
88 Sr	24.03	ppb	0.19	25	96.12	
89 Y	--------	---	--------	---	#VALUE!	
98 Mo	24.32	ppb	1.12	25	97.28	
107 Ag	24.23	ppb	0.70	25	96.92	
109 Ag	24.36	ppb	0.97	25	97.44	
111 Cd	24.07	ppb	0.72	25	96.28	
114 Cd	24.1	ppb	0.31	25	96.4	
115 In	--------	---	--------	---	#VALUE!	
118 Sn	25.27	ppb	1.00	25	101.08	
120 Sn	25.34	ppb	0.90	25	101.36	
121 Sb	25.79	ppb	1.57	25	103.16	
123 Sb	25.94	ppb	1.01	25	103.76	
135 Ba	25.83	ppb	0.76	25	103.32	
137 Ba	25.73	ppb	2.06	25	102.92	
182 W	24.33	ppb	1.20	25	97.32	
203 Tl	24.72	ppb	0.40	25	98.88	
205 Tl	24.54	ppb	1.70	25	98.16	
208 Pb	24.56	ppb	0.83	25	98.24	
232 Th	22.93	ppb	0.91	25	91.72	
238 U	21.49	ppb	1.23	25	85.96	Fail

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2725526.00	5.00	2658648.80	102.5	80 - 120.4	
45 Sc	2229405.50	2.73	2094536.40	106.4	80 - 120.4	
72 Ge	448933.41	2.18	441280.53	101.7	80 - 120.4	
159 Tb	3165774.30	0.98	3254384.00	97.3	80 - 120.4	
209 Bi	1551598.80	0.72	1622942.50	95.6	80 - 120.4	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

2 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Katahdin Analytical Services 4000350

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\079_CCB.D\079_CCB.D#
Date Acquired: May 22 2018 06:37 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: CCB
Misc Info:
Vial Number: 1207
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Sample Type: 6-CCB
Dilution Factor: 1.00

QC Elements

Element	Conc.		RSD(%)	High Limit	Flag
9 Be	0.0033	ppb	119.98	1.00	
11 B	0.4114	ppb	18.14	1.00	
23 Na	1.265	ppb	7.17	1.00	
25 Mg	-0.0049	ppb	556.19	1.00	
27 Al	0.1003	ppb	17.83	1.00	
28 Si	62.41	ppb	58.68	1.00	
29 Si	-17.3	ppb	145.26	1.00	
39 K	1.313	ppb	311.73	1.00	
43 Ca	1.484	ppb	123.45	1.00	
44 Ca	0.6862	ppb	238.41	1.00	
51 V	0.1041	ppb	80.40	1.00	
52 Cr	0.0407	ppb	112.62	1.00	
53 Cr	1.864	ppb	40.63	1.00	
55 Mn	0.0158	ppb	38.91	1.00	
56 Fe	3.836	ppb	138.37	1.00	
57 Fe	2.462	ppb	95.49	1.00	
59 Co	0.0044	ppb	75.32	1.00	
60 Ni	-0.0051	ppb	177.60	1.00	
63 Cu	-0.0124	ppb	131.34	1.00	
65 Cu	-0.0113	ppb	196.02	1.00	
66 Zn	0.0841	ppb	87.40	1.00	
68 Zn	-0.0642	ppb	121.56	1.00	
75 As	-0.142	ppb	53.51	1.00	
82 Se	0.0586	ppb	287.25	1.00	
88 Sr	0.001	ppb	439.50	1.00	
89 Y	--------	---	--------	---	
98 Mo	0.0267	ppb	35.08	1.00	
107 Ag	0.0028	ppb	194.74	1.00	
109 Ag	0.0011	ppb	143.32	1.00	
111 Cd	-0.0461	ppb	31.44	1.00	
114 Cd	-0.0078	ppb	116.61	1.00	
115 In	--------	---	--------	---	
118 Sn	0.1598	ppb	21.56	1.00	
120 Sn	0.1284	ppb	15.87	1.00	
121 Sb	-0.0023	ppb	166.93	1.00	
123 Sb	0.0068	ppb	112.69	1.00	
135 Ba	0.006	ppb	248.55	1.00	
137 Ba	0.016	ppb	22.28	1.00	
182 W	0.0442	ppb	26.85	1.00	
203 Tl	0.0023	ppb	255.13	1.00	
205 Tl	0.0037	ppb	19.34	1.00	
208 Pb	0.001	ppb	160.13	1.00	
232 Th	0.0523	ppb	2.03	1.00	
238 U	0.0008	ppb	285.77	1.00	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2583699.80	3.15	2658648.80	97.2	79.5 - 120	
45 Sc	2110328.00	3.19	2094536.40	100.8	79.5 - 120	
72 Ge	433538.94	2.30	441280.53	98.2	79.5 - 120	
159 Tb	3019800.80	2.81	3254384.00	92.8	79.5 - 120	
209 Bi	1485748.90	2.91	1622942.50	91.5	79.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\080SMPL.D\080SMPL.D#
Date Acquired: May 22 2018 06:41 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL4180-008A
Misc Info:
Vial Number: 2405
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	20.205	4.041	ppb	3.28	100.	
11 B	307.9	61.58	ppb	2.45	1000.	
23 Na	11,805.	2,361.	ppb	1.23	200000.	
25 Mg	52,850.	10,570.	ppb	1.28	200000.	
27 Al	216,900.	43,380.	ppb	1.77	200000.	
28 Si	7,905.	1,581.	ppb	3.74	#VALUE!	
29 Si	7,475.	1,495.	ppb	2.34	10000.	
39 K	53,350.	10,670.	ppb	1.09	200000.	
43 Ca	37,175.	7,435.	ppb	0.84	#VALUE!	
44 Ca	36,585.	7,317.	ppb	1.20	200000.	
51 V	363.	72.6	ppb	0.86	1000.	
52 Cr	228.55	45.71	ppb	0.63	2000.	
53 Cr	280.65	56.13	ppb	1.90	#VALUE!	
55 Mn	2,421.5	484.3	ppb	1.22	2000.	
56 Fe	172,450.	34,490.	ppb	1.06	#VALUE!	
57 Fe	165,350.	33,070.	ppb	0.82	100000.	
59 Co	79.85	15.97	ppb	0.60	1000.	
60 Ni	160.35	32.07	ppb	1.10	1000.	
63 Cu	164.1	32.82	ppb	0.80	#VALUE!	
65 Cu	165.1	33.02	ppb	0.62	2000.	
66 Zn	572.	114.4	ppb	0.63	2000.	
68 Zn	624.5	124.9	ppb	0.96	#VALUE!	
75 As	94.95	18.99	ppb	0.82	1000.	
82 Se	55.2	11.04	ppb	1.11	1000.	
88 Sr	435.55	87.11	ppb	0.76	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	56.75	11.35	ppb	1.60	1000.	
107 Ag	10.565	2.113	ppb	0.76	100.	
109 Ag	10.395	2.079	ppb	2.19	#VALUE!	
111 Cd	12.19	2.438	ppb	3.93	#VALUE!	
114 Cd	10.595	2.119	ppb	1.48	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	103.95	20.79	ppb	1.02	1000.	
120 Sn	103.95	20.79	ppb	0.49	#VALUE!	
121 Sb	12.445	2.489	ppb	1.82	#VALUE!	
123 Sb	12.34	2.468	ppb	1.22	1000.	
135 Ba	1,676.5	335.3	ppb	0.68	2000.	
137 Ba	1,662.5	332.5	ppb	0.36	#VALUE!	
182 W	51.45	10.29	ppb	0.75	1000.	
203 Tl	13.6	2.72	ppb	3.28	1000.	
205 Tl	13.725	2.745	ppb	1.98	#VALUE!	
208 Pb	137.6	27.52	ppb	0.56	2000.	
232 Th	96.8	19.36	ppb	0.39	1000.	
238 U	21.195	4.239	ppb	1.16	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2809830.00	5.57	2658648.80	105.7	69.5 - 120	
45 Sc	2310705.50	3.98	2094536.40	110.3	69.5 - 120	
72 Ge	455642.84	2.78	441280.53	103.3	69.5 - 120	
159 Tb	3280268.80	0.74	3254384.00	100.8	69.5 - 120	
209 Bi	1538528.10	0.47	1622942.50	94.8	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000352

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\081SMPL.D\081SMPL.D#
Date Acquired: May 22 2018 06:46 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL4180-008S
Misc Info:
Vial Number: 2406
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	61.05	12.21	ppb	1.83	100.	
11 B	548.5	109.7	ppb	3.53	1000.	
23 Na	9,195.	1,839.	ppb	3.15	200000.	
25 Mg	66,500.	13,300.	ppb	1.45	200000.	
27 Al	246,400.	49,280.	ppb	1.58	200000.	
28 Si	2,901.5	580.3	ppb	3.90	#VALUE!	
29 Si	2,543.	508.6	ppb	2.59	10000.	
39 K	57,100.	11,420.	ppb	0.77	200000.	
43 Ca	43,185.	8,637.	ppb	1.86	#VALUE!	
44 Ca	43,490.	8,698.	ppb	1.83	200000.	
51 V	806.5	161.3	ppb	1.05	1000.	
52 Cr	390.2	78.04	ppb	1.34	2000.	
53 Cr	453.55	90.71	ppb	2.53	#VALUE!	
55 Mn	2,809.5	561.9	ppb	1.52	2000.	
56 Fe	192,050.	38,410.	ppb	0.89	#VALUE!	
57 Fe	185,800.	37,160.	ppb	1.47	100000.	
59 Co	587.	117.4	ppb	1.68	1000.	
60 Ni	664.5	132.9	ppb	0.89	1000.	
63 Cu	385.65	77.13	ppb	1.80	#VALUE!	
65 Cu	390.2	78.04	ppb	1.57	2000.	
66 Zn	1,026.5	205.3	ppb	0.44	2000.	
68 Zn	1,144.5	228.9	ppb	1.83	#VALUE!	
75 As	149.25	29.85	ppb	1.70	1000.	
82 Se	100.6	20.12	ppb	2.14	1000.	
88 Sr	931.5	186.3	ppb	1.60	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	98.75	19.75	ppb	1.63	1000.	
107 Ag	48.935	9.787	ppb	1.64	100.	
109 Ag	49.07	9.814	ppb	1.85	#VALUE!	
111 Cd	246.25	49.25	ppb	1.96	#VALUE!	
114 Cd	243.8	48.76	ppb	1.15	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	560.5	112.1	ppb	2.16	1000.	
120 Sn	565.	113.	ppb	2.46	#VALUE!	
121 Sb	54.8	10.96	ppb	1.84	#VALUE!	
123 Sb	54.8	10.96	ppb	1.35	1000.	
135 Ba	3,885.5	777.1	ppb	1.71	2000.	
137 Ba	3,902.	780.4	ppb	1.01	#VALUE!	
182 W	67.05	13.41	ppb	1.53	1000.	
203 Tl	107.75	21.55	ppb	1.91	1000.	
205 Tl	108.7	21.74	ppb	1.62	#VALUE!	
208 Pb	238.85	47.77	ppb	1.88	2000.	
232 Th	188.	37.6	ppb	2.19	1000.	
238 U	104.2	20.84	ppb	1.18	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2790247.30	6.25	2658648.80	104.9	69.5 - 120	
45 Sc	2277330.00	2.20	2094536.40	108.7	69.5 - 120	
72 Ge	444489.56	2.78	441280.53	100.7	69.5 - 120	
159 Tb	3217295.50	0.83	3254384.00	98.9	69.5 - 120	
209 Bi	1511166.40	1.57	1622942.50	93.1	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000353

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\082SMPL.D\082SMPL.D#
Date Acquired: May 22 2018 06:50 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL4180-008P
Misc Info:
Vial Number: 2407
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	59.5	11.9	ppb	0.19	100.	
11 B	539.5	107.9	ppb	3.05	1000.	
23 Na	9,480.	1,896.	ppb	0.55	200000.	
25 Mg	54,050.	10,810.	ppb	2.15	200000.	
27 Al	202,700.	40,540.	ppb	1.61	200000.	
28 Si	2,682.5	536.5	ppb	8.85	#VALUE!	
29 Si	2,363.5	472.7	ppb	7.92	10000.	
39 K	51,650.	10,330.	ppb	1.71	200000.	
43 Ca	38,175.	7,635.	ppb	2.54	#VALUE!	
44 Ca	38,085.	7,617.	ppb	0.46	200000.	
51 V	776.5	155.3	ppb	1.10	1000.	
52 Cr	368.3	73.66	ppb	0.57	2000.	
53 Cr	425.45	85.09	ppb	0.27	#VALUE!	
55 Mn	2,592.5	518.5	ppb	0.99	2000.	
56 Fe	159,650.	31,930.	ppb	2.01	#VALUE!	
57 Fe	154,750.	30,950.	ppb	1.90	100000.	
59 Co	583.	116.6	ppb	2.55	1000.	
60 Ni	630.	126.	ppb	0.72	1000.	
63 Cu	387.05	77.41	ppb	0.43	#VALUE!	
65 Cu	392.3	78.46	ppb	1.63	2000.	
66 Zn	961.5	192.3	ppb	0.43	2000.	
68 Zn	1,063.5	212.7	ppb	0.30	#VALUE!	
75 As	133.05	26.61	ppb	0.63	1000.	
82 Se	101.55	20.31	ppb	2.51	1000.	
88 Sr	884.5	176.9	ppb	0.81	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	99.55	19.91	ppb	1.31	1000.	
107 Ag	49.855	9.971	ppb	0.54	100.	
109 Ag	49.845	9.969	ppb	1.11	#VALUE!	
111 Cd	248.4	49.68	ppb	1.09	#VALUE!	
114 Cd	245.75	49.15	ppb	1.36	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	562.5	112.5	ppb	1.51	1000.	
120 Sn	563.5	112.7	ppb	1.46	#VALUE!	
121 Sb	50.9	10.18	ppb	1.69	#VALUE!	
123 Sb	51.15	10.23	ppb	1.76	1000.	
135 Ba	3,148.5	629.7	ppb	1.26	2000.	
137 Ba	3,185.	637.	ppb	1.60	#VALUE!	
182 W	65.3	13.06	ppb	0.11	1000.	
203 Tl	107.8	21.56	ppb	2.06	1000.	
205 Tl	107.95	21.59	ppb	1.28	#VALUE!	
208 Pb	219.1	43.82	ppb	1.45	2000.	
232 Th	188.05	37.61	ppb	2.16	1000.	
238 U	105.2	21.04	ppb	2.39	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2806797.30	2.37	2658648.80	105.6	69.5 - 120	
45 Sc	2230704.80	3.51	2094536.40	106.5	69.5 - 120	
72 Ge	438925.16	2.17	441280.53	99.5	69.5 - 120	
159 Tb	3226153.00	0.62	3254384.00	99.1	69.5 - 120	
209 Bi	1518086.90	1.38	1622942.50	93.5	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000354

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\083SMPL.D\083SMPL.D#
Date Acquired: May 22 2018 06:54 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL4180-009
Misc Info:
Vial Number: 2408
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	9.245	1.849	ppb	3.96	100.	
11 B	131.45	26.29	ppb	1.00	1000.	
23 Na	11,210.	2,242.	ppb	1.80	200000.	
25 Mg	74,150.	14,830.	ppb	2.80	200000.	
27 Al	197,600.	39,520.	ppb	3.39	200000.	
28 Si	4,231.	846.2	ppb	7.59	#VALUE!	
29 Si	3,962.5	792.5	ppb	3.10	10000.	
39 K	39,855.	7,971.	ppb	2.90	200000.	
43 Ca	285,250.	57,050.	ppb	3.04	#VALUE!	
44 Ca	271,500.	54,300.	ppb	1.04	200000.	
51 V	420.	84.	ppb	1.27	1000.	
52 Cr	182.2	36.44	ppb	2.06	2000.	
53 Cr	226.35	45.27	ppb	3.50	#VALUE!	
55 Mn	6,605.	1,321.	ppb	1.20	2000.	
56 Fe	179,100.	35,820.	ppb	1.49	#VALUE!	
57 Fe	172,300.	34,460.	ppb	1.63	100000.	
59 Co	74.25	14.85	ppb	2.02	1000.	
60 Ni	169.15	33.83	ppb	1.45	1000.	
63 Cu	139.3	27.86	ppb	0.79	#VALUE!	
65 Cu	144.25	28.85	ppb	2.31	2000.	
66 Zn	459.	91.8	ppb	1.61	2000.	
68 Zn	591.	118.2	ppb	0.78	#VALUE!	
75 As	73.75	14.75	ppb	0.79	1000.	
82 Se	4.6295	0.9259	ppb	10.93	1000.	
88 Sr	687.5	137.5	ppb	2.75	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	5.19	1.038	ppb	2.24	1000.	
107 Ag	0.8025	0.1605	ppb	6.10	100.	
109 Ag	0.5685	0.1137	ppb	8.87	#VALUE!	
111 Cd	3.7735	0.7547	ppb	11.13	#VALUE!	
114 Cd	0.935	0.187	ppb	17.52	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	53.15	10.63	ppb	1.32	1000.	
120 Sn	53.05	10.61	ppb	2.28	#VALUE!	
121 Sb	2.145	0.429	ppb	2.87	#VALUE!	
123 Sb	2.2665	0.4533	ppb	4.50	1000.	
135 Ba	3,713.5	742.7	ppb	1.53	2000.	
137 Ba	3,728.	745.6	ppb	2.29	#VALUE!	
182 W	0.937	0.1874	ppb	9.13	1000.	
203 Tl	3.105	0.621	ppb	9.16	1000.	
205 Tl	3.167	0.6334	ppb	3.67	#VALUE!	
208 Pb	119.35	23.87	ppb	1.03	2000.	
232 Th	78.45	15.69	ppb	0.73	1000.	
238 U	10.61	2.122	ppb	1.24	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2777474.30	4.80	2658648.80	104.5	69.5 - 120	
45 Sc	2238369.30	2.90	2094536.40	106.9	69.5 - 120	
72 Ge	435739.75	2.43	441280.53	98.7	69.5 - 120	
159 Tb	3234446.50	1.04	3254384.00	99.4	69.5 - 120	
209 Bi	1536911.10	0.49	1622942.50	94.7	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000355

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\084SMPL.D\084SMPL.D#
Date Acquired: May 22 2018 06:58 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL4180-010
Misc Info:
Vial Number: 2409
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	10.62	2.124	ppb	5.56	100.	
11 B	131.15	26.23	ppb	3.08	1000.	
23 Na	16,365.	3,273.	ppb	2.05	200000.	
25 Mg	97,050.	19,410.	ppb	0.76	200000.	
27 Al	225,350.	45,070.	ppb	1.70	200000.	
28 Si	3,781.5	756.3	ppb	2.99	#VALUE!	
29 Si	3,431.	686.2	ppb	3.12	10000.	
39 K	47,075.	9,415.	ppb	0.31	200000.	
43 Ca	442,100.	88,420.	ppb	1.79	#VALUE!	
44 Ca	417,600.	83,520.	ppb	0.51	200000.	
51 V	437.35	87.47	ppb	1.31	1000.	
52 Cr	216.65	43.33	ppb	1.09	2000.	
53 Cr	251.55	50.31	ppb	0.75	#VALUE!	
55 Mn	6,875.	1,375.	ppb	1.81	2000.	
56 Fe	219,350.	43,870.	ppb	1.17	#VALUE!	
57 Fe	209,650.	41,930.	ppb	1.67	100000.	
59 Co	100.3	20.06	ppb	0.84	1000.	
60 Ni	213.7	42.74	ppb	1.66	1000.	
63 Cu	167.3	33.46	ppb	0.43	#VALUE!	
65 Cu	167.65	33.53	ppb	1.06	2000.	
66 Zn	585.	117.	ppb	0.46	2000.	
68 Zn	714.5	142.9	ppb	0.76	#VALUE!	
75 As	52.25	10.45	ppb	0.97	1000.	
82 Se	4.746	0.9492	ppb	30.56	1000.	
88 Sr	959.5	191.9	ppb	1.39	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	6.2	1.24	ppb	3.09	1000.	
107 Ag	0.9595	0.1919	ppb	5.32	100.	
109 Ag	0.7455	0.1491	ppb	5.57	#VALUE!	
111 Cd	4.641	0.9282	ppb	7.51	#VALUE!	
114 Cd	1.3215	0.2643	ppb	8.17	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	51.6	10.32	ppb	1.65	1000.	
120 Sn	51.4	10.28	ppb	1.34	#VALUE!	
121 Sb	2.3645	0.4729	ppb	5.96	#VALUE!	
123 Sb	2.4385	0.4877	ppb	4.84	1000.	
135 Ba	3,660.5	732.1	ppb	1.54	2000.	
137 Ba	3,681.	736.2	ppb	1.01	#VALUE!	
182 W	0.954	0.1908	ppb	9.06	1000.	
203 Tl	3.8695	0.7739	ppb	2.94	1000.	
205 Tl	3.9235	0.7847	ppb	1.18	#VALUE!	
208 Pb	161.8	32.36	ppb	0.47	2000.	
232 Th	102.25	20.45	ppb	0.80	1000.	
238 U	15.57	3.114	ppb	0.95	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2893869.50	5.24	2658648.80	108.8	69.5 - 120	
45 Sc	2260392.80	2.05	2094536.40	107.9	69.5 - 120	
72 Ge	437279.22	2.17	441280.53	99.1	69.5 - 120	
159 Tb	3363397.00	1.93	3254384.00	103.3	69.5 - 120	
209 Bi	1569640.60	1.90	1622942.50	96.7	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000356

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\085SMPL.D\085SMPL.D#
Date Acquired: May 22 2018 07:03 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL4180-011
Misc Info:
Vial Number: 2410
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	10.8	2.16	ppb	6.74	100.	
11 B	131.8	26.36	ppb	1.89	1000.	
23 Na	11,725.	2,345.	ppb	1.04	200000.	
25 Mg	84,650.	16,930.	ppb	0.78	200000.	
27 Al	225,550.	45,110.	ppb	1.72	200000.	
28 Si	4,915.	983.	ppb	10.90	#VALUE!	
29 Si	4,450.5	890.1	ppb	7.70	10000.	
39 K	45,170.	9,034.	ppb	0.16	200000.	
43 Ca	136,500.	27,300.	ppb	1.74	#VALUE!	
44 Ca	133,850.	26,770.	ppb	1.41	200000.	
51 V	508.5	101.7	ppb	1.34	1000.	
52 Cr	232.95	46.59	ppb	0.69	2000.	
53 Cr	302.8	60.56	ppb	1.43	#VALUE!	
55 Mn	3,389.5	677.9	ppb	1.09	2000.	
56 Fe	226,950.	45,390.	ppb	1.21	#VALUE!	
57 Fe	218,550.	43,710.	ppb	1.32	100000.	
59 Co	77.95	15.59	ppb	1.47	1000.	
60 Ni	189.25	37.85	ppb	1.17	1000.	
63 Cu	180.55	36.11	ppb	1.50	#VALUE!	
65 Cu	182.6	36.52	ppb	1.71	2000.	
66 Zn	650.5	130.1	ppb	0.49	2000.	
68 Zn	730.5	146.1	ppb	0.32	#VALUE!	
75 As	71.9	14.38	ppb	1.23	1000.	
82 Se	5.08	1.016	ppb	12.92	1000.	
88 Sr	545.5	109.1	ppb	1.69	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	5.535	1.107	ppb	6.04	1000.	
107 Ag	0.985	0.197	ppb	7.58	100.	
109 Ag	0.8535	0.1707	ppb	6.10	#VALUE!	
111 Cd	3.858	0.7716	ppb	4.92	#VALUE!	
114 Cd	1.1155	0.2231	ppb	7.08	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	53.85	10.77	ppb	0.05	1000.	
120 Sn	54.3	10.86	ppb	0.86	#VALUE!	
121 Sb	2.2865	0.4573	ppb	3.66	#VALUE!	
123 Sb	2.3965	0.4793	ppb	2.80	1000.	
135 Ba	2,523.	504.6	ppb	0.85	2000.	
137 Ba	2,517.5	503.5	ppb	1.23	#VALUE!	
182 W	0.6135	0.1227	ppb	7.58	1000.	
203 Tl	3.955	0.791	ppb	1.09	1000.	
205 Tl	4.0465	0.8093	ppb	4.35	#VALUE!	
208 Pb	157.35	31.47	ppb	0.93	2000.	
232 Th	99.25	19.85	ppb	0.71	1000.	
238 U	9.85	1.97	ppb	0.86	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2833160.50	5.56	2658648.80	106.6	69.5 - 120	
45 Sc	2288848.80	3.24	2094536.40	109.3	69.5 - 120	
72 Ge	449636.94	2.62	441280.53	101.9	69.5 - 120	
159 Tb	3298520.50	0.40	3254384.00	101.4	69.5 - 120	
209 Bi	1526279.60	0.16	1622942.50	94.0	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000357

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\086SMPL.D\086SMPL.D#
Date Acquired: May 22 2018 07:07 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL4180-012
Misc Info:
Vial Number: 2411
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	7.085	1.417	ppb	4.63	100.	
11 B	88.9	17.78	ppb	2.49	1000.	
23 Na	2,115.	423.	ppb	2.13	200000.	
25 Mg	33,285.	6,657.	ppb	3.05	200000.	
27 Al	137,650.	27,530.	ppb	0.73	200000.	
28 Si	4,266.5	853.3	ppb	4.35	#VALUE!	
29 Si	3,795.	759.	ppb	2.14	10000.	
39 K	43,350.	8,670.	ppb	1.21	200000.	
43 Ca	26,005.	5,201.	ppb	0.88	#VALUE!	
44 Ca	26,085.	5,217.	ppb	0.67	200000.	
51 V	278.5	55.7	ppb	0.31	1000.	
52 Cr	141.9	28.38	ppb	0.63	2000.	
53 Cr	187.85	37.57	ppb	1.88	#VALUE!	
55 Mn	3,453.5	690.7	ppb	1.17	2000.	
56 Fe	120,700.	24,140.	ppb	0.74	#VALUE!	
57 Fe	117,200.	23,440.	ppb	0.17	100000.	
59 Co	69.25	13.85	ppb	0.44	1000.	
60 Ni	102.5	20.5	ppb	1.00	1000.	
63 Cu	97.9	19.58	ppb	0.33	#VALUE!	
65 Cu	98.45	19.69	ppb	0.45	2000.	
66 Zn	404.85	80.97	ppb	0.20	2000.	
68 Zn	451.8	90.36	ppb	1.61	#VALUE!	
75 As	33.38	6.676	ppb	1.39	1000.	
82 Se	6.92	1.384	ppb	3.13	1000.	
88 Sr	365.55	73.11	ppb	0.63	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	15.025	3.005	ppb	1.45	1000.	
107 Ag	0.68	0.136	ppb	12.52	100.	
109 Ag	0.6385	0.1277	ppb	11.22	#VALUE!	
111 Cd	3.2685	0.6537	ppb	6.13	#VALUE!	
114 Cd	1.748	0.3496	ppb	3.19	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	52.3	10.46	ppb	3.55	1000.	
120 Sn	51.7	10.34	ppb	2.38	#VALUE!	
121 Sb	1.4635	0.2927	ppb	7.50	#VALUE!	
123 Sb	1.6405	0.3281	ppb	2.95	1000.	
135 Ba	1,533.	306.6	ppb	2.65	2000.	
137 Ba	1,524.	304.8	ppb	3.35	#VALUE!	
182 W	0.856	0.1712	ppb	9.54	1000.	
203 Tl	2.5665	0.5133	ppb	8.09	1000.	
205 Tl	2.7445	0.5489	ppb	2.25	#VALUE!	
208 Pb	423.45	84.69	ppb	1.30	2000.	
232 Th	89.45	17.89	ppb	0.54	1000.	
238 U	14.18	2.836	ppb	0.22	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2694343.50	3.07	2658648.80	101.3	69.5 - 120	
45 Sc	2250823.00	3.47	2094536.40	107.5	69.5 - 120	
72 Ge	446638.56	2.21	441280.53	101.2	69.5 - 120	
159 Tb	3211534.00	1.78	3254384.00	98.7	69.5 - 120	
209 Bi	1522228.30	0.83	1622942.50	93.8	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000358

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\087SMPL.D\087SMPL.D#
Date Acquired: May 22 2018 07:11 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL4180-013
Misc Info:
Vial Number: 2412
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	8.975	1.795	ppb	1.92	100.	
11 B	118.8	23.76	ppb	2.65	1000.	
23 Na	16,090.	3,218.	ppb	2.13	200000.	
25 Mg	81,100.	16,220.	ppb	1.00	200000.	
27 Al	193,100.	38,620.	ppb	3.06	200000.	
28 Si	4,249.5	849.9	ppb	3.05	#VALUE!	
29 Si	4,169.	833.8	ppb	3.76	10000.	
39 K	51,750.	10,350.	ppb	1.01	200000.	
43 Ca	409,150.	81,830.	ppb	2.34	#VALUE!	
44 Ca	388,250.	77,650.	ppb	1.62	200000.	
51 V	416.3	83.26	ppb	1.24	1000.	
52 Cr	184.9	36.98	ppb	0.47	2000.	
53 Cr	210.7	42.14	ppb	4.51	#VALUE!	
55 Mn	4,473.	894.6	ppb	0.82	2000.	
56 Fe	178,300.	35,660.	ppb	1.09	#VALUE!	
57 Fe	172,350.	34,470.	ppb	0.16	100000.	
59 Co	84.35	16.87	ppb	2.18	1000.	
60 Ni	185.1	37.02	ppb	1.94	1000.	
63 Cu	122.75	24.55	ppb	0.96	#VALUE!	
65 Cu	124.7	24.94	ppb	2.35	2000.	
66 Zn	463.65	92.73	ppb	1.39	2000.	
68 Zn	544.5	108.9	ppb	1.65	#VALUE!	
75 As	63.	12.6	ppb	2.77	1000.	
82 Se	4.445	0.889	ppb	28.67	1000.	
88 Sr	734.5	146.9	ppb	0.87	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	11.095	2.219	ppb	1.97	1000.	
107 Ag	0.7365	0.1473	ppb	10.62	100.	
109 Ag	0.575	0.115	ppb	3.70	#VALUE!	
111 Cd	3.9135	0.7827	ppb	5.32	#VALUE!	
114 Cd	1.305	0.261	ppb	15.56	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	51.7	10.34	ppb	1.33	1000.	
120 Sn	52.1	10.42	ppb	1.94	#VALUE!	
121 Sb	2.152	0.4304	ppb	7.97	#VALUE!	
123 Sb	2.2635	0.4527	ppb	10.19	1000.	
135 Ba	2,555.5	511.1	ppb	1.38	2000.	
137 Ba	2,557.	511.4	ppb	1.38	#VALUE!	
182 W	0.8165	0.1633	ppb	8.90	1000.	
203 Tl	3.247	0.6494	ppb	3.08	1000.	
205 Tl	3.3565	0.6713	ppb	4.03	#VALUE!	
208 Pb	122.95	24.59	ppb	1.04	2000.	
232 Th	82.	16.4	ppb	1.55	1000.	
238 U	16.39	3.278	ppb	0.15	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2774132.30	4.08	2658648.80	104.3	69.5 - 120	
45 Sc	2218238.00	1.31	2094536.40	105.9	69.5 - 120	
72 Ge	434964.31	1.91	441280.53	98.6	69.5 - 120	
159 Tb	3329094.00	1.60	3254384.00	102.3	69.5 - 120	
209 Bi	1563051.50	2.23	1622942.50	96.3	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000359

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\088SMPL.D\088SMPL.D#
Date Acquired: May 22 2018 07:15 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL4180-014
Misc Info:
Vial Number: 2501
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	7.44	1.488	ppb	1.88	100.	
11 B	109.85	21.97	ppb	0.57	1000.	
23 Na	3,010.	602.	ppb	1.18	200000.	
25 Mg	42,045.	8,409.	ppb	1.40	200000.	
27 Al	158,800.	31,760.	ppb	2.48	200000.	
28 Si	4,468.5	893.7	ppb	2.94	#VALUE!	
29 Si	3,518.	703.6	ppb	4.41	10000.	
39 K	50,900.	10,180.	ppb	1.16	200000.	
43 Ca	19,035.	3,807.	ppb	1.35	#VALUE!	
44 Ca	18,540.	3,708.	ppb	0.27	200000.	
51 V	273.6	54.72	ppb	0.23	1000.	
52 Cr	145.7	29.14	ppb	0.47	2000.	
53 Cr	182.2	36.44	ppb	0.49	#VALUE!	
55 Mn	2,249.	449.8	ppb	0.33	2000.	
56 Fe	128,400.	25,680.	ppb	0.31	#VALUE!	
57 Fe	124,200.	24,840.	ppb	0.31	100000.	
59 Co	57.15	11.43	ppb	0.50	1000.	
60 Ni	110.55	22.11	ppb	0.78	1000.	
63 Cu	101.95	20.39	ppb	0.63	#VALUE!	
65 Cu	103.35	20.67	ppb	1.69	2000.	
66 Zn	406.5	81.3	ppb	1.09	2000.	
68 Zn	467.95	93.59	ppb	0.21	#VALUE!	
75 As	29.305	5.861	ppb	3.13	1000.	
82 Se	5.155	1.031	ppb	25.91	1000.	
88 Sr	366.5	73.3	ppb	0.44	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	10.42	2.084	ppb	1.97	1000.	
107 Ag	0.5025	0.1005	ppb	8.75	100.	
109 Ag	0.3998	0.08	ppb	17.16	#VALUE!	
111 Cd	2.2925	0.4585	ppb	6.26	#VALUE!	
114 Cd	1.01	0.202	ppb	17.67	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	52.15	10.43	ppb	0.10	1000.	
120 Sn	51.3	10.26	ppb	1.74	#VALUE!	
121 Sb	1.4435	0.2887	ppb	7.02	#VALUE!	
123 Sb	1.7495	0.3499	ppb	4.64	1000.	
135 Ba	1,847.	369.4	ppb	1.03	2000.	
137 Ba	1,848.	369.6	ppb	1.27	#VALUE!	
182 W	0.692	0.1384	ppb	7.34	1000.	
203 Tl	2.4655	0.4931	ppb	5.28	1000.	
205 Tl	2.5455	0.5091	ppb	2.81	#VALUE!	
208 Pb	142.6	28.52	ppb	1.07	2000.	
232 Th	76.35	15.27	ppb	1.49	1000.	
238 U	12.705	2.541	ppb	1.03	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2822608.50	2.89	2658648.80	106.2	69.5 - 120	
45 Sc	2297369.50	2.28	2094536.40	109.7	69.5 - 120	
72 Ge	454468.09	2.05	441280.53	103.0	69.5 - 120	
159 Tb	3201961.30	0.18	3254384.00	98.4	69.5 - 120	
209 Bi	1502699.80	0.62	1622942.50	92.6	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000360

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\089SMPL.D\089SMPL.D#
Date Acquired: May 22 2018 07:20 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: RINSE
Misc Info:
Vial Number: 2502
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0022	0.0022	ppb	100.14	100.	
11 B	0.4357	0.4357	ppb	26.88	1000.	
23 Na	0.0781	0.0781	ppb	174.71	200000.	
25 Mg	0.2185	0.2185	ppb	35.36	200000.	
27 Al	0.5935	0.5935	ppb	17.93	200000.	
28 Si	74.79	74.79	ppb	65.92	#VALUE!	
29 Si	-20.31	-20.31	ppb	127.13	10000.	
39 K	-0.0169	-0.0169	ppb	25974.00	200000.	
43 Ca	2.498	2.498	ppb	150.20	#VALUE!	
44 Ca	2.287	2.287	ppb	56.36	200000.	
51 V	0.1295	0.1295	ppb	60.64	1000.	
52 Cr	0.0378	0.0378	ppb	51.53	2000.	
53 Cr	-0.9818	-0.9818	ppb	38.78	#VALUE!	
55 Mn	0.006	0.006	ppb	231.69	2000.	
56 Fe	1.946	1.946	ppb	234.02	#VALUE!	
57 Fe	6.894	6.894	ppb	33.48	100000.	
59 Co	0.0002	0.0002	ppb	987.43	1000.	
60 Ni	0.0065	0.0065	ppb	98.91	1000.	
63 Cu	1.146	1.146	ppb	0.31	#VALUE!	
65 Cu	1.178	1.178	ppb	3.11	2000.	
66 Zn	1.251	1.251	ppb	4.29	2000.	
68 Zn	1.171	1.171	ppb	4.86	#VALUE!	
75 As	0.0273	0.0273	ppb	331.38	1000.	
82 Se	0.068	0.068	ppb	88.04	1000.	
88 Sr	0.0012	0.0012	ppb	335.55	2000.	
89 Y	----	--------	---	---	#VALUE!	
98 Mo	0.0026	0.0026	ppb	184.24	1000.	
107 Ag	0.0004	0.0004	ppb	663.33	100.	
109 Ag	0.0003	0.0003	ppb	695.20	#VALUE!	
111 Cd	-0.0845	-0.0845	ppb	25.44	#VALUE!	
114 Cd	-0.0041	-0.0041	ppb	203.05	1000.	
115 In	----	--------	---	---	#VALUE!	
118 Sn	0.0048	0.0048	ppb	462.96	1000.	
120 Sn	0.0313	0.0313	ppb	72.75	#VALUE!	
121 Sb	-0.0054	-0.0054	ppb	57.71	#VALUE!	
123 Sb	-0.0013	-0.0013	ppb	454.90	1000.	
135 Ba	0.0053	0.0053	ppb	316.61	2000.	
137 Ba	0.016	0.016	ppb	31.03	#VALUE!	
182 W	0.0053	0.0053	ppb	31.83	1000.	
203 Tl	0.0035	0.0035	ppb	119.26	1000.	
205 Tl	0.0015	0.0015	ppb	142.43	#VALUE!	
208 Pb	0.2925	0.2925	ppb	3.07	2000.	
232 Th	0.0229	0.0229	ppb	5.06	1000.	
238 U	-0.0005	-0.0005	ppb	265.31	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2649036.00	3.55	2658648.80	99.6	69.5 - 120	
45 Sc	2152197.80	2.98	2094536.40	102.8	69.5 - 120	
72 Ge	433537.94	2.77	441280.53	98.2	69.5 - 120	
159 Tb	2858886.80	1.20	3254384.00	87.8	69.5 - 120	
209 Bi	1413059.80	1.09	1622942.50	87.1	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000361

CCV QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\090_CCV.D\090_CCV.D#
Date Acquired: May 22 2018 07:24 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: CCV
Misc Info:
Vial Number: 1206
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Dilution Factor: 1.00
QC Range (%): 89.5 - 110.5

QC Elements

Element	Conc.		RSD(%)	Expected	Rec (%)	Flag
9 Be	24.49	ppb	2.68	25	97.96	
11 B	23.85	ppb	4.17	25	95.4	
23 Na	5,097.	ppb	1.10	5,000	101.94	
25 Mg	5,055.	ppb	1.21	5,000	101.1	
27 Al	493.6	ppb	2.03	500	98.72	
28 Si	527.5	ppb	6.30	500	105.5	
29 Si	457.2	ppb	1.63	500	91.44	
39 K	4,954.	ppb	0.51	5,000	99.08	
43 Ca	4,938.	ppb	0.92	5,000	98.76	
44 Ca	5,027.	ppb	1.12	5,000	100.54	
51 V	25.42	ppb	1.17	25	101.68	
52 Cr	24.99	ppb	1.35	25	99.96	
53 Cr	25.93	ppb	2.00	25	103.72	
55 Mn	25.47	ppb	0.58	25	101.88	
56 Fe	4,950.	ppb	1.47	5,000	99	
57 Fe	4,954.	ppb	0.98	5,000	99.08	
59 Co	25.04	ppb	0.86	25	100.16	
60 Ni	25.2	ppb	0.66	25	100.8	
63 Cu	25.09	ppb	1.14	25	100.36	
65 Cu	25.19	ppb	1.35	25	100.76	
66 Zn	25.04	ppb	1.05	25	100.16	
68 Zn	25.23	ppb	3.12	25	100.92	
75 As	25.1	ppb	0.79	25	100.4	
82 Se	25.72	ppb	2.11	25	102.88	
88 Sr	24.17	ppb	0.58	25	96.68	
89 Y	--------	---	--------	---	#VALUE!	
98 Mo	24.13	ppb	1.91	25	96.52	
107 Ag	23.69	ppb	1.92	25	94.76	
109 Ag	23.87	ppb	1.85	25	95.48	
111 Cd	23.49	ppb	2.03	25	93.96	
114 Cd	23.87	ppb	1.39	25	95.48	
115 In	--------	---	--------	---	#VALUE!	
118 Sn	25.78	ppb	1.74	25	103.12	
120 Sn	25.75	ppb	1.72	25	103	
121 Sb	26.1	ppb	1.55	25	104.4	
123 Sb	26.47	ppb	1.48	25	105.88	
135 Ba	26.18	ppb	2.92	25	104.72	
137 Ba	26.01	ppb	2.36	25	104.04	
182 W	24.08	ppb	0.77	25	96.32	
203 Tl	24.57	ppb	0.65	25	98.28	
205 Tl	24.59	ppb	0.48	25	98.36	
208 Pb	24.49	ppb	1.29	25	97.96	
232 Th	23.77	ppb	0.97	25	95.08	
238 U	23.55	ppb	1.17	25	94.2	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2775000.50	1.70	2658648.80	104.4	80 - 120.4	
45 Sc	2207340.80	2.76	2094536.40	105.4	80 - 120.4	
72 Ge	443253.81	3.06	441280.53	100.4	80 - 120.4	
159 Tb	3025856.80	0.41	3254384.00	93.0	80 - 120.4	
209 Bi	1483092.00	0.35	1622942.50	91.4	80 - 120.4	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000362

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\091_CCB.D\091_CCB.D#
Date Acquired: May 22 2018 07:28 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: CCB
Misc Info:
Vial Number: 1207
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Sample Type: 6-CCB
Dilution Factor: 1.00

QC Elements

Element	Conc.		RSD(%)	High Limit	Flag
9 Be	0.0021	ppb	144.28	1.00	
11 B	0.4887	ppb	18.34	1.00	
23 Na	1.823	ppb	43.85	1.00	
25 Mg	0.7691	ppb	175.27	1.00	
27 Al	1.194	ppb	155.19	1.00	
28 Si	65.26	ppb	37.02	1.00	
29 Si	-8.28	ppb	323.19	1.00	
39 K	4.675	ppb	37.90	1.00	
43 Ca	-0.5162	ppb	664.47	1.00	
44 Ca	3.218	ppb	57.96	1.00	
51 V	0.0582	ppb	82.56	1.00	
52 Cr	0.0354	ppb	71.21	1.00	
53 Cr	1.227	ppb	50.53	1.00	
55 Mn	0.0313	ppb	101.72	1.00	
56 Fe	4.617	ppb	74.81	1.00	
57 Fe	4.205	ppb	103.14	1.00	
59 Co	0.0112	ppb	39.91	1.00	
60 Ni	0.0195	ppb	108.66	1.00	
63 Cu	0.0064	ppb	242.99	1.00	
65 Cu	0.0005	ppb	3794.70	1.00	
66 Zn	0.072	ppb	49.78	1.00	
68 Zn	0.08	ppb	60.95	1.00	
75 As	0.0866	ppb	60.99	1.00	
82 Se	0.1461	ppb	66.59	1.00	
88 Sr	0.0067	ppb	162.06	1.00	
89 Y	--------	---	--------	---	
98 Mo	0.0293	ppb	25.30	1.00	
107 Ag	0.0034	ppb	146.97	1.00	
109 Ag	0.0053	ppb	66.72	1.00	
111 Cd	-0.07	ppb	22.47	1.00	
114 Cd	-0.0047	ppb	160.10	1.00	
115 In	--------	---	--------	---	
118 Sn	0.1607	ppb	2.70	1.00	
120 Sn	0.1529	ppb	16.42	1.00	
121 Sb	0.0121	ppb	114.18	1.00	
123 Sb	0.0103	ppb	36.74	1.00	
135 Ba	0.0238	ppb	89.07	1.00	
137 Ba	0.0241	ppb	91.32	1.00	
182 W	0.0465	ppb	17.48	1.00	
203 Tl	0.0087	ppb	59.81	1.00	
205 Tl	0.0057	ppb	63.02	1.00	
208 Pb	0.0087	ppb	45.37	1.00	
232 Th	0.0599	ppb	18.26	1.00	
238 U	0.0036	ppb	89.93	1.00	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2600569.00	2.54	2658648.80	97.8	79.5 - 120	
45 Sc	2123575.50	1.68	2094536.40	101.4	79.5 - 120	
72 Ge	428555.75	1.28	441280.53	97.1	79.5 - 120	
159 Tb	2914047.80	0.97	3254384.00	89.5	79.5 - 120	
209 Bi	1431378.40	1.79	1622942.50	88.2	79.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000363

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\092SMPL.D\092SMPL.D#
Date Acquired: May 22 2018 07:32 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL4180-015
Misc Info:
Vial Number: 2503
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	14.33	2.866	ppb	1.01	100.	
11 B	196.35	39.27	ppb	2.47	1000.	
23 Na	30,495.	6,099.	ppb	2.53	200000.	
25 Mg	143,200.	28,640.	ppb	2.27	200000.	
27 Al	307,700.	61,540.	ppb	1.30	200000.	
28 Si	4,804.	960.8	ppb	0.80	#VALUE!	
29 Si	4,570.	914.	ppb	2.59	10000.	
39 K	78,650.	15,730.	ppb	1.06	200000.	
43 Ca	225,750.	45,150.	ppb	0.39	#VALUE!	
44 Ca	221,150.	44,230.	ppb	1.67	200000.	
51 V	642.	128.4	ppb	1.65	1000.	
52 Cr	305.1	61.02	ppb	1.47	2000.	
53 Cr	377.65	75.53	ppb	1.08	#VALUE!	
55 Mn	5,350.	1,070.	ppb	0.51	2000.	
56 Fe	293,250.	58,650.	ppb	1.08	#VALUE!	
57 Fe	281,550.	56,310.	ppb	0.94	100000.	
59 Co	123.6	24.72	ppb	0.44	1000.	
60 Ni	265.6	53.12	ppb	0.66	1000.	
63 Cu	198.9	39.78	ppb	1.35	#VALUE!	
65 Cu	200.25	40.05	ppb	1.38	2000.	
66 Zn	708.	141.6	ppb	1.84	2000.	
68 Zn	796.	159.2	ppb	1.76	#VALUE!	
75 As	76.	15.2	ppb	2.21	1000.	
82 Se	6.87	1.374	ppb	21.08	1000.	
88 Sr	969.5	193.9	ppb	1.29	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	7.5	1.5	ppb	1.97	1000.	
107 Ag	1.122	0.2244	ppb	5.14	100.	
109 Ag	0.8255	0.1651	ppb	10.99	#VALUE!	
111 Cd	3.8935	0.7787	ppb	9.81	#VALUE!	
114 Cd	0.0871	0.0174	ppb	150.80	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	58.9	11.78	ppb	1.75	1000.	
120 Sn	58.75	11.75	ppb	1.58	#VALUE!	
121 Sb	2.8715	0.5743	ppb	4.60	#VALUE!	
123 Sb	2.9665	0.5933	ppb	6.42	1000.	
135 Ba	2,913.	582.6	ppb	0.29	2000.	
137 Ba	2,888.5	577.7	ppb	0.10	#VALUE!	
182 W	0.7555	0.1511	ppb	11.77	1000.	
203 Tl	4.5225	0.9045	ppb	6.31	1000.	
205 Tl	4.5195	0.9039	ppb	1.43	#VALUE!	
208 Pb	223.55	44.71	ppb	0.29	2000.	
232 Th	131.25	26.25	ppb	0.44	1000.	
238 U	19.325	3.865	ppb	1.42	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2783188.50	2.34	2658648.80	104.7	69.5 - 120	
45 Sc	2310355.50	1.98	2094536.40	110.3	69.5 - 120	
72 Ge	443420.81	2.61	441280.53	100.5	69.5 - 120	
159 Tb	3133996.50	0.34	3254384.00	96.3	69.5 - 120	
209 Bi	1458425.30	0.18	1622942.50	89.9	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000364

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\093SMPL.D\093SMPL.D#
Date Acquired: May 22 2018 07:36 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL4180-016
Misc Info:
Vial Number: 2504
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	12.77	2.554	ppb	2.27	100.	
11 B	168.25	33.65	ppb	2.44	1000.	
23 Na	2,172.	434.4	ppb	1.50	200000.	
25 Mg	74,550.	14,910.	ppb	0.56	200000.	
27 Al	270,350.	54,070.	ppb	1.35	200000.	
28 Si	4,342.	868.4	ppb	3.31	#VALUE!	
29 Si	3,946.5	789.3	ppb	6.00	10000.	
39 K	71,650.	14,330.	ppb	0.51	200000.	
43 Ca	40,570.	8,114.	ppb	2.48	#VALUE!	
44 Ca	40,340.	8,068.	ppb	0.95	200000.	
51 V	462.7	92.54	ppb	3.31	1000.	
52 Cr	242.	48.4	ppb	1.24	2000.	
53 Cr	291.8	58.36	ppb	1.85	#VALUE!	
55 Mn	4,775.5	955.1	ppb	1.21	2000.	
56 Fe	224,450.	44,890.	ppb	0.43	#VALUE!	
57 Fe	213,150.	42,630.	ppb	1.37	100000.	
59 Co	97.65	19.53	ppb	1.79	1000.	
60 Ni	191.3	38.26	ppb	0.86	1000.	
63 Cu	157.25	31.45	ppb	0.98	#VALUE!	
65 Cu	160.95	32.19	ppb	1.45	2000.	
66 Zn	639.5	127.9	ppb	0.99	2000.	
68 Zn	721.5	144.3	ppb	0.64	#VALUE!	
75 As	60.35	12.07	ppb	1.21	1000.	
82 Se	7.66	1.532	ppb	8.88	1000.	
88 Sr	621.5	124.3	ppb	1.04	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	17.92	3.584	ppb	2.21	1000.	
107 Ag	1.0535	0.2107	ppb	7.55	100.	
109 Ag	0.8495	0.1699	ppb	2.62	#VALUE!	
111 Cd	4.819	0.9638	ppb	2.48	#VALUE!	
114 Cd	1.4525	0.2905	ppb	12.66	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	56.05	11.21	ppb	2.41	1000.	
120 Sn	56.25	11.25	ppb	1.07	#VALUE!	
121 Sb	2.285	0.457	ppb	3.68	#VALUE!	
123 Sb	2.3955	0.4791	ppb	5.37	1000.	
135 Ba	2,474.	494.8	ppb	1.30	2000.	
137 Ba	2,477.5	495.5	ppb	1.94	#VALUE!	
182 W	1.201	0.2402	ppb	5.20	1000.	
203 Tl	4.251	0.8502	ppb	4.23	1000.	
205 Tl	4.0855	0.8171	ppb	3.92	#VALUE!	
208 Pb	169.45	33.89	ppb	0.22	2000.	
232 Th	120.7	24.14	ppb	0.83	1000.	
238 U	20.59	4.118	ppb	0.97	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2829105.30	3.66	2658648.80	106.4	69.5 - 120	
45 Sc	2330730.50	1.94	2094536.40	111.3	69.5 - 120	
72 Ge	450007.28	2.17	441280.53	102.0	69.5 - 120	
159 Tb	3150901.00	0.88	3254384.00	96.8	69.5 - 120	
209 Bi	1477954.90	0.32	1622942.50	91.1	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000365

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\094SMPL.D\094SMPL.D#
Date Acquired: May 22 2018 07:41 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL4180-017
Misc Info:
Vial Number: 2505
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	10.21	2.042	ppb	2.53	100.	
11 B	149.8	29.96	ppb	0.80	1000.	
23 Na	1,872.	374.4	ppb	2.81	200000.	
25 Mg	72,750.	14,550.	ppb	0.28	200000.	
27 Al	224,700.	44,940.	ppb	0.80	200000.	
28 Si	4,108.	821.6	ppb	12.08	#VALUE!	
29 Si	3,516.	703.2	ppb	6.53	10000.	
39 K	60,750.	12,150.	ppb	3.12	200000.	
43 Ca	34,530.	6,906.	ppb	1.62	#VALUE!	
44 Ca	34,910.	6,982.	ppb	1.27	200000.	
51 V	381.65	76.33	ppb	1.33	1000.	
52 Cr	196.05	39.21	ppb	0.98	2000.	
53 Cr	242.8	48.56	ppb	0.95	#VALUE!	
55 Mn	3,371.	674.2	ppb	0.22	2000.	
56 Fe	184,750.	36,950.	ppb	0.45	#VALUE!	
57 Fe	177,950.	35,590.	ppb	1.02	100000.	
59 Co	82.2	16.44	ppb	1.06	1000.	
60 Ni	166.95	33.39	ppb	0.73	1000.	
63 Cu	139.4	27.88	ppb	1.44	#VALUE!	
65 Cu	141.05	28.21	ppb	1.28	2000.	
66 Zn	525.5	105.1	ppb	1.61	2000.	
68 Zn	599.	119.8	ppb	0.81	#VALUE!	
75 As	56.05	11.21	ppb	1.07	1000.	
82 Se	6.28	1.256	ppb	28.73	1000.	
88 Sr	535.	107.	ppb	2.25	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	11.085	2.217	ppb	1.84	1000.	
107 Ag	0.8815	0.1763	ppb	3.18	100.	
109 Ag	0.6615	0.1323	ppb	4.91	#VALUE!	
111 Cd	3.734	0.7468	ppb	4.43	#VALUE!	
114 Cd	0.834	0.1668	ppb	20.50	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	53.65	10.73	ppb	1.85	1000.	
120 Sn	53.65	10.73	ppb	2.22	#VALUE!	
121 Sb	2.13	0.426	ppb	4.57	#VALUE!	
123 Sb	2.2835	0.4567	ppb	3.01	1000.	
135 Ba	2,229.5	445.9	ppb	0.87	2000.	
137 Ba	2,219.	443.8	ppb	1.02	#VALUE!	
182 W	0.9835	0.1967	ppb	8.05	1000.	
203 Tl	3.488	0.6976	ppb	4.98	1000.	
205 Tl	3.4155	0.6831	ppb	2.52	#VALUE!	
208 Pb	140.4	28.08	ppb	0.51	2000.	
232 Th	100.95	20.19	ppb	0.71	1000.	
238 U	12.07	2.414	ppb	1.52	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2901574.80	1.62	2658648.80	109.1	69.5 - 120	
45 Sc	2306035.80	4.74	2094536.40	110.1	69.5 - 120	
72 Ge	444937.63	3.09	441280.53	100.8	69.5 - 120	
159 Tb	3143462.00	0.42	3254384.00	96.6	69.5 - 120	
209 Bi	1457428.50	1.03	1622942.50	89.8	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000366

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\095SMPL.D\095SMPL.D#
Date Acquired: May 22 2018 07:45 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: RINSE
Misc Info:
Vial Number: 2506
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0032	0.0032	ppb	104.00	100.	
11 B	0.5024	0.5024	ppb	7.36	1000.	
23 Na	0.5264	0.5264	ppb	35.32	200000.	
25 Mg	0.7376	0.7376	ppb	18.09	200000.	
27 Al	1.19	1.19	ppb	30.01	200000.	
28 Si	59.07	59.07	ppb	93.47	#VALUE!	
29 Si	-10.32	-10.32	ppb	305.72	10000.	
39 K	4.036	4.036	ppb	151.51	200000.	
43 Ca	-1.824	-1.824	ppb	338.71	#VALUE!	
44 Ca	2.51	2.51	ppb	42.15	200000.	
51 V	0.0688	0.0688	ppb	106.41	1000.	
52 Cr	0.0356	0.0356	ppb	86.15	2000.	
53 Cr	-0.5937	-0.5937	ppb	37.75	#VALUE!	
55 Mn	0.0173	0.0173	ppb	67.42	2000.	
56 Fe	1.295	1.295	ppb	588.73	#VALUE!	
57 Fe	7.916	7.916	ppb	52.92	100000.	
59 Co	0.0038	0.0038	ppb	45.52	1000.	
60 Ni	-0.0006	-0.0006	ppb	1061.10	1000.	
63 Cu	0.0303	0.0303	ppb	22.35	#VALUE!	
65 Cu	0.0558	0.0558	ppb	29.19	2000.	
66 Zn	0.0069	0.0069	ppb	328.00	2000.	
68 Zn	-0.0624	-0.0624	ppb	99.15	#VALUE!	
75 As	0.0662	0.0662	ppb	342.49	1000.	
82 Se	0.0059	0.0059	ppb	1005.90	1000.	
88 Sr	0.0028	0.0028	ppb	136.33	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	0.0043	0.0043	ppb	128.65	1000.	
107 Ag	-0.002	-0.002	ppb	68.38	100.	
109 Ag	0.0009	0.0009	ppb	414.01	#VALUE!	
111 Cd	-0.0759	-0.0759	ppb	50.57	#VALUE!	
114 Cd	-0.0037	-0.0037	ppb	69.67	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	0.0376	0.0376	ppb	46.06	1000.	
120 Sn	0.034	0.034	ppb	32.31	#VALUE!	
121 Sb	-0.0077	-0.0077	ppb	51.23	#VALUE!	
123 Sb	0.0008	0.0008	ppb	30.21	1000.	
135 Ba	0.0171	0.0171	ppb	124.99	2000.	
137 Ba	0.0098	0.0098	ppb	57.63	#VALUE!	
182 W	0.0053	0.0053	ppb	58.90	1000.	
203 Tl	0.0023	0.0023	ppb	205.11	1000.	
205 Tl	0.0007	0.0007	ppb	531.39	#VALUE!	
208 Pb	0.0063	0.0063	ppb	106.29	2000.	
232 Th	0.0191	0.0191	ppb	28.27	1000.	
238 U	-0.0003	-0.0003	ppb	535.53	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2671457.50	4.62	2658648.80	100.5	69.5 - 120	
45 Sc	2127805.50	3.84	2094536.40	101.6	69.5 - 120	
72 Ge	433121.16	3.76	441280.53	98.2	69.5 - 120	
159 Tb	2875922.80	2.02	3254384.00	88.4	69.5 - 120	
209 Bi	1426773.30	2.22	1622942.50	87.9	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000367

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\096SMPL.D\096SMPL.D#
Date Acquired: May 22 2018 07:49 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: PBSLE21IMS2
Misc Info:
Vial Number: 2507
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0229	0.0046	ppb	36.77	100.	
11 B	1.6485	0.3297	ppb	10.84	1000.	
23 Na	28.75	5.75	ppb	8.08	200000.	
25 Mg	20.825	4.165	ppb	7.60	200000.	
27 Al	10.685	2.137	ppb	9.15	200000.	
28 Si	156.15	31.23	ppb	191.74	#VALUE!	
29 Si	-90.5	-18.1	ppb	152.49	10000.	
39 K	50.45	10.09	ppb	48.81	200000.	
43 Ca	80.5	16.1	ppb	2.65	#VALUE!	
44 Ca	57.55	11.51	ppb	6.19	200000.	
51 V	0.7265	0.1453	ppb	40.50	1000.	
52 Cr	2.3085	0.4617	ppb	5.14	2000.	
53 Cr	68.6	13.72	ppb	2.01	#VALUE!	
55 Mn	0.5785	0.1157	ppb	9.06	2000.	
56 Fe	35.345	7.069	ppb	57.49	#VALUE!	
57 Fe	55.55	11.11	ppb	56.94	100000.	
59 Co	0.0229	0.0046	ppb	134.07	1000.	
60 Ni	1.8535	0.3707	ppb	16.22	1000.	
63 Cu	0.86	0.172	ppb	6.92	#VALUE!	
65 Cu	1.05	0.21	ppb	6.44	2000.	
66 Zn	0.884	0.1768	ppb	56.56	2000.	
68 Zn	0.1997	0.0399	ppb	276.67	#VALUE!	
75 As	2.074	0.4148	ppb	62.27	1000.	
82 Se	0.4413	0.0883	ppb	288.69	1000.	
88 Sr	0.238	0.0476	ppb	13.61	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	0.1137	0.0227	ppb	44.39	1000.	
107 Ag	-0.0045	-0.0009	ppb	145.74	100.	
109 Ag	0.0002	0.	ppb	5166.70	#VALUE!	
111 Cd	-0.1844	-0.0369	ppb	80.61	#VALUE!	
114 Cd	-0.1162	-0.0232	ppb	25.11	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	47.15	9.43	ppb	0.93	1000.	
120 Sn	47.345	9.469	ppb	0.79	#VALUE!	
121 Sb	-0.0246	-0.0049	ppb	33.21	#VALUE!	
123 Sb	0.0292	0.0058	ppb	76.34	1000.	
135 Ba	0.3909	0.0782	ppb	18.28	2000.	
137 Ba	0.3155	0.0631	ppb	7.58	#VALUE!	
182 W	0.0831	0.0166	ppb	12.86	1000.	
203 Tl	0.0332	0.0066	ppb	23.57	1000.	
205 Tl	0.0025	0.0005	ppb	151.74	#VALUE!	
208 Pb	0.0792	0.0158	ppb	27.49	2000.	
232 Th	0.1491	0.0298	ppb	24.53	1000.	
238 U	0.0015	0.0003	ppb	319.50	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2793480.50	4.07	2658648.80	105.1	69.5 - 120	
45 Sc	2159679.80	5.18	2094536.40	103.1	69.5 - 120	
72 Ge	434076.53	3.31	441280.53	98.4	69.5 - 120	
159 Tb	2950064.30	0.73	3254384.00	90.6	69.5 - 120	
209 Bi	1424818.90	1.04	1622942.50	87.8	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000368

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\097SMPL.D\097SMPL.D#
Date Acquired: May 22 2018 07:54 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: LCSOLE21IMS2
Misc Info:
Vial Number: 2508
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	51.15	10.23	ppb	4.26	100.	
11 B	535.	107.	ppb	2.10	1000.	
23 Na	8,500.	1,700.	ppb	0.64	200000.	
25 Mg	5,590.	1,118.	ppb	0.60	200000.	
27 Al	2,244.5	448.9	ppb	1.68	200000.	
28 Si	1,088.	217.6	ppb	18.57	#VALUE!	
29 Si	881.5	176.3	ppb	11.84	10000.	
39 K	10,845.	2,169.	ppb	0.79	200000.	
43 Ca	3,121.5	624.3	ppb	3.07	#VALUE!	
44 Ca	2,706.5	541.3	ppb	1.20	200000.	
51 V	558.5	111.7	ppb	1.88	1000.	
52 Cr	217.4	43.48	ppb	1.59	2000.	
53 Cr	297.45	59.49	ppb	2.46	#VALUE!	
55 Mn	563.	112.6	ppb	0.52	2000.	
56 Fe	1,126.5	225.3	ppb	1.52	#VALUE!	
57 Fe	1,091.5	218.3	ppb	2.13	100000.	
59 Co	564.	112.8	ppb	2.46	1000.	
60 Ni	556.5	111.3	ppb	0.75	1000.	
63 Cu	268.55	53.71	ppb	1.22	#VALUE!	
65 Cu	273.35	54.67	ppb	0.47	2000.	
66 Zn	531.5	106.3	ppb	0.53	2000.	
68 Zn	600.5	120.1	ppb	0.83	#VALUE!	
75 As	113.25	22.65	ppb	0.58	1000.	
82 Se	109.1	21.82	ppb	1.52	1000.	
88 Sr	533.	106.6	ppb	0.17	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	104.75	20.95	ppb	1.51	1000.	
107 Ag	51.45	10.29	ppb	1.39	100.	
109 Ag	51.95	10.39	ppb	2.80	#VALUE!	
111 Cd	261.45	52.29	ppb	1.17	#VALUE!	
114 Cd	262.5	52.5	ppb	1.40	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	591.5	118.3	ppb	2.30	1000.	
120 Sn	595.	119.	ppb	1.97	#VALUE!	
121 Sb	112.55	22.51	ppb	1.85	#VALUE!	
123 Sb	112.7	22.54	ppb	1.64	1000.	
135 Ba	2,204.5	440.9	ppb	1.99	2000.	
137 Ba	2,199.5	439.9	ppb	2.17	#VALUE!	
182 W	104.35	20.87	ppb	1.41	1000.	
203 Tl	109.05	21.81	ppb	1.76	1000.	
205 Tl	109.5	21.9	ppb	1.53	#VALUE!	
208 Pb	108.55	21.71	ppb	2.22	2000.	
232 Th	106.85	21.37	ppb	1.10	1000.	
238 U	106.4	21.28	ppb	2.28	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2883950.30	1.75	2658648.80	108.5	69.5 - 120	
45 Sc	2157889.00	3.62	2094536.40	103.0	69.5 - 120	
72 Ge	428955.66	2.76	441280.53	97.2	69.5 - 120	
159 Tb	3074167.80	0.93	3254384.00	94.5	69.5 - 120	
209 Bi	1484074.50	1.29	1622942.50	91.4	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000369

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\098SMPL.D\098SMPL.D#
Date Acquired: May 22 2018 07:58 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL4180-018
Misc Info:
Vial Number: 2509
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	8.155	1.631	ppb	0.91	100.	
11 B	144.8	28.96	ppb	0.75	1000.	
23 Na	15,740.	3,148.	ppb	1.28	200000.	
25 Mg	89,550.	17,910.	ppb	0.98	200000.	
27 Al	185,250.	37,050.	ppb	0.33	200000.	
28 Si	3,957.5	791.5	ppb	2.54	#VALUE!	
29 Si	3,772.5	754.5	ppb	5.34	10000.	
39 K	49,265.	9,853.	ppb	1.56	200000.	
43 Ca	484,250.	96,850.	ppb	2.12	#VALUE!	
44 Ca	458,800.	91,760.	ppb	2.42	200000.	
51 V	376.	75.2	ppb	0.97	1000.	
52 Cr	176.95	35.39	ppb	1.46	2000.	
53 Cr	203.95	40.79	ppb	2.34	#VALUE!	
55 Mn	2,720.5	544.1	ppb	1.11	2000.	
56 Fe	162,200.	32,440.	ppb	0.86	#VALUE!	
57 Fe	156,750.	31,350.	ppb	0.54	100000.	
59 Co	71.85	14.37	ppb	0.96	1000.	
60 Ni	155.75	31.15	ppb	1.47	1000.	
63 Cu	116.8	23.36	ppb	1.91	#VALUE!	
65 Cu	119.1	23.82	ppb	1.37	2000.	
66 Zn	448.25	89.65	ppb	1.34	2000.	
68 Zn	547.	109.4	ppb	1.63	#VALUE!	
75 As	40.9	8.18	ppb	6.71	1000.	
82 Se	3.864	0.7728	ppb	16.62	1000.	
88 Sr	1,098.5	219.7	ppb	2.25	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	8.09	1.618	ppb	4.51	1000.	
107 Ag	0.84	0.168	ppb	16.45	100.	
109 Ag	0.6305	0.1261	ppb	8.83	#VALUE!	
111 Cd	2.4915	0.4983	ppb	4.50	#VALUE!	
114 Cd	0.1402	0.028	ppb	102.75	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	49.15	9.83	ppb	0.30	1000.	
120 Sn	49.08	9.816	ppb	0.33	#VALUE!	
121 Sb	2.041	0.4082	ppb	3.68	#VALUE!	
123 Sb	2.1765	0.4353	ppb	3.46	1000.	
135 Ba	2,815.	563.	ppb	0.91	2000.	
137 Ba	2,803.	560.6	ppb	0.35	#VALUE!	
182 W	0.96	0.192	ppb	35.52	1000.	
203 Tl	2.921	0.5842	ppb	11.56	1000.	
205 Tl	2.9115	0.5823	ppb	3.16	#VALUE!	
208 Pb	95.1	19.02	ppb	1.33	2000.	
232 Th	78.7	15.74	ppb	0.73	1000.	
238 U	16.98	3.396	ppb	2.23	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2818756.50	2.86	2658648.80	106.0	69.5 - 120	
45 Sc	2198011.50	3.07	2094536.40	104.9	69.5 - 120	
72 Ge	430304.16	2.64	441280.53	97.5	69.5 - 120	
159 Tb	3340159.50	0.92	3254384.00	102.6	69.5 - 120	
209 Bi	1559775.10	1.45	1622942.50	96.1	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000370

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\099SMPL.D\099SMPL.D#
Date Acquired: May 22 2018 08:02 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL4180-018L
Misc Info:
Vial Number: 2510
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Sample Type: Sample
Dilution Factor: 25.00
Autodil Factor: Undiluted
Final Dil Factor: 25.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	8.6875	0.3475	ppb	5.90	100.	
11 B	156.375	6.255	ppb	2.49	1000.	
23 Na	17,022.5	680.9	ppb	1.66	200000.	
25 Mg	98,550.	3,942.	ppb	3.17	200000.	
27 Al	200,700.	8,028.	ppb	3.29	200000.	
28 Si	2,827.5	113.1	ppb	23.46	#VALUE!	
29 Si	3,227.5	129.1	ppb	16.10	10000.	
39 K	53,225.	2,129.	ppb	1.94	200000.	
43 Ca	508,750.	20,350.	ppb	2.14	#VALUE!	
44 Ca	499,000.	19,960.	ppb	1.45	200000.	
51 V	398.5	15.94	ppb	1.18	1000.	
52 Cr	187.8	7.512	ppb	3.07	2000.	
53 Cr	158.425	6.337	ppb	6.66	#VALUE!	
55 Mn	3,060.	122.4	ppb	1.31	2000.	
56 Fe	174,850.	6,994.	ppb	1.36	#VALUE!	
57 Fe	176,375.	7,055.	ppb	2.06	100000.	
59 Co	77.375	3.095	ppb	1.69	1000.	
60 Ni	178.225	7.129	ppb	2.92	1000.	
63 Cu	129.125	5.165	ppb	1.58	#VALUE!	
65 Cu	129.5	5.18	ppb	2.02	2000.	
66 Zn	496.25	19.85	ppb	0.90	2000.	
68 Zn	595.25	23.81	ppb	0.92	#VALUE!	
75 As	46.025	1.841	ppb	15.94	1000.	
82 Se	5.805	0.2322	ppb	61.41	1000.	
88 Sr	1,186.	47.44	ppb	0.89	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	8.575	0.343	ppb	1.88	1000.	
107 Ag	0.806	0.0322	ppb	1.86	100.	
109 Ag	0.745	0.0298	ppb	21.21	#VALUE!	
111 Cd	1.6598	0.0664	ppb	37.55	#VALUE!	
114 Cd	0.1125	0.0045	ppb	576.92	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	52.175	2.087	ppb	4.01	1000.	
120 Sn	53.075	2.123	ppb	2.43	#VALUE!	
121 Sb	1.992	0.0797	ppb	10.82	#VALUE!	
123 Sb	2.3648	0.0946	ppb	14.29	1000.	
135 Ba	3,005.	120.2	ppb	1.85	2000.	
137 Ba	3,047.5	121.9	ppb	2.24	#VALUE!	
182 W	0.8365	0.0335	ppb	13.96	1000.	
203 Tl	3.2025	0.1281	ppb	12.56	1000.	
205 Tl	3.2275	0.1291	ppb	7.38	#VALUE!	
208 Pb	100.2	4.008	ppb	1.05	2000.	
232 Th	78.375	3.135	ppb	1.12	1000.	
238 U	17.7975	0.7119	ppb	1.66	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2853606.50	4.41	2658648.80	107.3	69.5 - 120	
45 Sc	2194062.80	2.22	2094536.40	104.8	69.5 - 120	
72 Ge	437738.91	2.80	441280.53	99.2	69.5 - 120	
159 Tb	3343753.80	1.01	3254384.00	102.7	69.5 - 120	
209 Bi	1613421.80	0.92	1622942.50	99.4	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000371

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\100SMPL.D\100SMPL.D#
Date Acquired: May 22 2018 08:06 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL4180-018A
Misc Info:
Vial Number: 2511
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	17.875	3.575	ppb	2.92	100.	
11 B	337.1	67.42	ppb	2.14	1000.	
23 Na	26,185.	5,237.	ppb	2.74	200000.	
25 Mg	91,750.	18,350.	ppb	2.02	200000.	
27 Al	189,900.	37,980.	ppb	0.95	200000.	
28 Si	9,655.	1,931.	ppb	5.34	#VALUE!	
29 Si	8,845.	1,769.	ppb	2.55	10000.	
39 K	59,450.	11,890.	ppb	0.46	200000.	
43 Ca	486,150.	97,230.	ppb	0.78	#VALUE!	
44 Ca	461,600.	92,320.	ppb	0.32	200000.	
51 V	434.1	86.82	ppb	1.34	1000.	
52 Cr	230.5	46.1	ppb	0.31	2000.	
53 Cr	263.45	52.69	ppb	0.97	#VALUE!	
55 Mn	2,787.	557.4	ppb	1.26	2000.	
56 Fe	166,900.	33,380.	ppb	1.20	#VALUE!	
57 Fe	161,850.	32,370.	ppb	0.82	100000.	
59 Co	83.1	16.62	ppb	1.68	1000.	
60 Ni	178.	35.6	ppb	1.22	1000.	
63 Cu	149.5	29.9	ppb	1.71	#VALUE!	
65 Cu	149.8	29.96	ppb	0.34	2000.	
66 Zn	556.	111.2	ppb	0.92	2000.	
68 Zn	651.5	130.3	ppb	1.09	#VALUE!	
75 As	95.5	19.1	ppb	2.17	1000.	
82 Se	54.7	10.94	ppb	1.61	1000.	
88 Sr	1,179.	235.8	ppb	0.91	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	60.55	12.11	ppb	1.19	1000.	
107 Ag	11.06	2.212	ppb	3.73	100.	
109 Ag	10.945	2.189	ppb	0.70	#VALUE!	
111 Cd	13.145	2.629	ppb	2.33	#VALUE!	
114 Cd	10.495	2.099	ppb	4.06	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	97.05	19.41	ppb	1.12	1000.	
120 Sn	98.15	19.63	ppb	2.75	#VALUE!	
121 Sb	11.835	2.367	ppb	1.69	#VALUE!	
123 Sb	11.98	2.396	ppb	5.00	1000.	
135 Ba	2,842.	568.4	ppb	2.00	2000.	
137 Ba	2,856.5	571.3	ppb	0.95	#VALUE!	
182 W	52.55	10.51	ppb	1.52	1000.	
203 Tl	13.375	2.675	ppb	3.42	1000.	
205 Tl	13.715	2.743	ppb	1.72	#VALUE!	
208 Pb	107.15	21.43	ppb	1.21	2000.	
232 Th	90.4	18.08	ppb	1.12	1000.	
238 U	28.22	5.644	ppb	2.19	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2909024.00	4.51	2658648.80	109.4	69.5 - 120	
45 Sc	2192951.80	3.44	2094536.40	104.7	69.5 - 120	
72 Ge	427514.28	2.75	441280.53	96.9	69.5 - 120	
159 Tb	3443187.80	1.42	3254384.00	105.8	69.5 - 120	
209 Bi	1609159.30	1.27	1622942.50	99.2	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000372

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\101SMPL.D\101SMPL.D#
Date Acquired: May 22 2018 08:10 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: RINSE
Misc Info:
Vial Number: 2512
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	-0.0002	-0.0002	ppb	1388.70	100.	
11 B	0.8494	0.8494	ppb	19.93	1000.	
23 Na	0.5611	0.5611	ppb	15.48	200000.	
25 Mg	0.36	0.36	ppb	78.47	200000.	
27 Al	0.9443	0.9443	ppb	32.03	200000.	
28 Si	7.402	7.402	ppb	740.48	#VALUE!	
29 Si	-19.01	-19.01	ppb	151.76	10000.	
39 K	2.657	2.657	ppb	106.96	200000.	
43 Ca	1.581	1.581	ppb	288.99	#VALUE!	
44 Ca	1.473	1.473	ppb	18.77	200000.	
51 V	0.0796	0.0796	ppb	38.70	1000.	
52 Cr	-0.0362	-0.0362	ppb	27.72	2000.	
53 Cr	-2.941	-2.941	ppb	4.32	#VALUE!	
55 Mn	0.0023	0.0023	ppb	73.02	2000.	
56 Fe	2.743	2.743	ppb	187.71	#VALUE!	
57 Fe	-2.144	-2.144	ppb	61.01	100000.	
59 Co	0.0055	0.0055	ppb	72.95	1000.	
60 Ni	0.004	0.004	ppb	140.55	1000.	
63 Cu	0.0348	0.0348	ppb	83.01	#VALUE!	
65 Cu	0.0397	0.0397	ppb	51.20	2000.	
66 Zn	0.0367	0.0367	ppb	23.11	2000.	
68 Zn	-0.099	-0.099	ppb	18.69	#VALUE!	
75 As	-0.0922	-0.0922	ppb	115.85	1000.	
82 Se	0.0847	0.0847	ppb	239.20	1000.	
88 Sr	-0.0004	-0.0004	ppb	930.83	2000.	
89 Y	----	--------	---	---	#VALUE!	
98 Mo	0.0048	0.0048	ppb	87.28	1000.	
107 Ag	-0.0009	-0.0009	ppb	341.30	100.	
109 Ag	-0.0011	-0.0011	ppb	124.35	#VALUE!	
111 Cd	-0.0076	-0.0076	ppb	226.54	#VALUE!	
114 Cd	-0.0039	-0.0039	ppb	151.17	1000.	
115 In	----	--------	---	---	#VALUE!	
118 Sn	-0.0057	-0.0057	ppb	437.18	1000.	
120 Sn	-0.0194	-0.0194	ppb	90.22	#VALUE!	
121 Sb	-0.0082	-0.0082	ppb	38.50	#VALUE!	
123 Sb	-0.0041	-0.0041	ppb	40.25	1000.	
135 Ba	0.0173	0.0173	ppb	34.56	2000.	
137 Ba	0.0132	0.0132	ppb	33.73	#VALUE!	
182 W	0.0146	0.0146	ppb	33.44	1000.	
203 Tl	0.0001	0.0001	ppb	9433.10	1000.	
205 Tl	0.0006	0.0006	ppb	168.67	#VALUE!	
208 Pb	0.0025	0.0025	ppb	122.31	2000.	
232 Th	0.0142	0.0142	ppb	39.50	1000.	
238 U	-0.0008	-0.0008	ppb	129.32	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2656070.30	5.02	2658648.80	99.9	69.5 - 120	
45 Sc	2044940.10	3.24	2094536.40	97.6	69.5 - 120	
72 Ge	416969.53	2.89	441280.53	94.5	69.5 - 120	
159 Tb	3139438.00	1.90	3254384.00	96.5	69.5 - 120	
209 Bi	1537871.90	1.55	1622942.50	94.8	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000373

CCV QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\102_CCV.D\102_CCV.D#
Date Acquired: May 22 2018 08:15 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: CCV
Misc Info:
Vial Number: 1306
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Dilution Factor: 1.00
QC Range (%): 89.5 - 110.5

QC Elements

Element	Conc.		RSD(%)	Expected	Rec (%)	Flag
9 Be	24.04	ppb	4.83	25	96.16	
11 B	24.14	ppb	3.94	25	96.56	
23 Na	5,070.	ppb	1.89	5,000	101.4	
25 Mg	5,124.	ppb	2.65	5,000	102.48	
27 Al	508.7	ppb	3.07	500	101.74	
28 Si	494.6	ppb	7.09	500	98.92	
29 Si	458.7	ppb	6.41	500	91.74	
39 K	5,037.	ppb	2.42	5,000	100.74	
43 Ca	4,984.	ppb	2.61	5,000	99.68	
44 Ca	5,028.	ppb	0.49	5,000	100.56	
51 V	25.46	ppb	0.52	25	101.84	
52 Cr	25.2	ppb	0.29	25	100.8	
53 Cr	23.32	ppb	2.29	25	93.28	
55 Mn	25.5	ppb	1.86	25	102	
56 Fe	4,986.	ppb	2.50	5,000	99.72	
57 Fe	5,037.	ppb	2.58	5,000	100.74	
59 Co	25.28	ppb	1.23	25	101.12	
60 Ni	25.51	ppb	1.51	25	102.04	
63 Cu	25.37	ppb	0.70	25	101.48	
65 Cu	25.1	ppb	2.44	25	100.4	
66 Zn	25.18	ppb	0.66	25	100.72	
68 Zn	25.1	ppb	0.84	25	100.4	
75 As	25.29	ppb	0.62	25	101.16	
82 Se	25.09	ppb	2.51	25	100.36	
88 Sr	24.32	ppb	0.78	25	97.28	
89 Y	--------	---	--------	---	#VALUE!	
98 Mo	24.65	ppb	0.87	25	98.6	
107 Ag	24.77	ppb	1.55	25	99.08	
109 Ag	24.85	ppb	1.85	25	99.4	
111 Cd	24.58	ppb	0.97	25	98.32	
114 Cd	24.84	ppb	0.67	25	99.36	
115 In	--------	---	--------	---	#VALUE!	
118 Sn	24.72	ppb	0.82	25	98.88	
120 Sn	24.48	ppb	1.20	25	97.92	
121 Sb	24.98	ppb	0.85	25	99.92	
123 Sb	25.3	ppb	1.90	25	101.2	
135 Ba	25.42	ppb	1.82	25	101.68	
137 Ba	25.21	ppb	1.67	25	100.84	
182 W	24.12	ppb	1.57	25	96.48	
203 Tl	24.63	ppb	1.99	25	98.52	
205 Tl	24.62	ppb	0.86	25	98.48	
208 Pb	24.5	ppb	0.68	25	98	
232 Th	24.35	ppb	0.36	25	97.4	
238 U	24.42	ppb	1.07	25	97.68	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2790806.00	4.01	2658648.80	105.0	80 - 120.4	
45 Sc	2132884.00	1.67	2094536.40	101.8	80 - 120.4	
72 Ge	433057.03	1.44	441280.53	98.1	80 - 120.4	
159 Tb	3245488.30	0.83	3254384.00	99.7	80 - 120.4	
209 Bi	1585603.90	0.85	1622942.50	97.7	80 - 120.4	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000374

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\103_CCB.D\103_CCB.D#
Date Acquired: May 22 2018 08:19 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: CCB
Misc Info:
Vial Number: 1307
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Sample Type: 6-CCB
Dilution Factor: 1.00

QC Elements

Element	Conc.		RSD(%)	High Limit	Flag
9 Be	0.0106	ppb	81.28	1.00	
11 B	0.4645	ppb	7.77	1.00	
23 Na	1.397	ppb	132.50	1.00	
25 Mg	2.156	ppb	174.21	1.00	
27 Al	2.552	ppb	170.61	1.00	
28 Si	-2.753	ppb	1388.70	1.00	
29 Si	-25.71	ppb	48.08	1.00	
39 K	3.002	ppb	133.74	1.00	
43 Ca	12.69	ppb	107.72	1.00	
44 Ca	6.564	ppb	160.27	1.00	
51 V	0.0309	ppb	91.60	1.00	
52 Cr	-0.009	ppb	81.24	1.00	
53 Cr	-2.648	ppb	5.64	1.00	
55 Mn	0.0476	ppb	174.70	1.00	
56 Fe	4.141	ppb	179.09	1.00	
57 Fe	2.863	ppb	234.26	1.00	
59 Co	0.0068	ppb	141.44	1.00	
60 Ni	0.0801	ppb	26.71	1.00	
63 Cu	-0.0077	ppb	172.53	1.00	
65 Cu	0.0042	ppb	26.81	1.00	
66 Zn	0.0543	ppb	90.62	1.00	
68 Zn	-0.0925	ppb	107.06	1.00	
75 As	0.0816	ppb	139.25	1.00	
82 Se	0.078	ppb	138.40	1.00	
88 Sr	0.024	ppb	168.07	1.00	
89 Y	--------	---	--------	---	
98 Mo	0.0209	ppb	57.26	1.00	
107 Ag	0.0062	ppb	133.56	1.00	
109 Ag	0.0097	ppb	130.39	1.00	
111 Cd	-0.0241	ppb	79.89	1.00	
114 Cd	-0.0044	ppb	206.59	1.00	
115 In	--------	---	--------	---	
118 Sn	0.043	ppb	64.15	1.00	
120 Sn	0.0372	ppb	9.51	1.00	
121 Sb	0.0048	ppb	356.06	1.00	
123 Sb	0.0164	ppb	86.83	1.00	
135 Ba	0.0455	ppb	148.23	1.00	
137 Ba	0.0537	ppb	157.16	1.00	
182 W	0.0442	ppb	40.60	1.00	
203 Tl	0.0039	ppb	72.22	1.00	
205 Tl	0.0043	ppb	96.72	1.00	
208 Pb	0.0098	ppb	100.76	1.00	
232 Th	0.0653	ppb	14.60	1.00	
238 U	0.0048	ppb	143.94	1.00	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2714098.00	3.38	2658648.80	102.1	79.5 - 120	
45 Sc	2079211.60	0.86	2094536.40	99.3	79.5 - 120	
72 Ge	419335.81	1.20	441280.53	95.0	79.5 - 120	
159 Tb	3115137.30	0.82	3254384.00	95.7	79.5 - 120	
209 Bi	1542508.40	1.04	1622942.50	95.0	79.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000375

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\104SMPL.D\104SMPL.D#
Date Acquired: May 22 2018 08:23 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL4180-018S
Misc Info:
Vial Number: 3101
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	54.85	10.97	ppb	3.35	100.	
11 B	570.5	114.1	ppb	4.98	1000.	
23 Na	24,825.	4,965.	ppb	1.43	200000.	
25 Mg	100,150.	20,030.	ppb	1.15	200000.	
27 Al	206,600.	41,320.	ppb	1.59	200000.	
28 Si	3,674.5	734.9	ppb	5.56	#VALUE!	
29 Si	3,640.	728.	ppb	3.45	10000.	
39 K	62,950.	12,590.	ppb	3.47	200000.	
43 Ca	509,500.	101,900.	ppb	2.23	#VALUE!	
44 Ca	480,500.	96,100.	ppb	1.96	200000.	
51 V	921.5	184.3	ppb	0.34	1000.	
52 Cr	392.2	78.44	ppb	1.92	2000.	
53 Cr	435.4	87.08	ppb	1.00	#VALUE!	
55 Mn	3,169.	633.8	ppb	0.57	2000.	
56 Fe	174,650.	34,930.	ppb	0.97	#VALUE!	
57 Fe	168,000.	33,600.	ppb	1.01	100000.	
59 Co	572.	114.4	ppb	1.21	1000.	
60 Ni	636.5	127.3	ppb	1.58	1000.	
63 Cu	360.4	72.08	ppb	1.09	#VALUE!	
65 Cu	364.6	72.92	ppb	0.71	2000.	
66 Zn	978.	195.6	ppb	1.66	2000.	
68 Zn	1,137.5	227.5	ppb	1.06	#VALUE!	
75 As	136.	27.2	ppb	2.00	1000.	
82 Se	99.6	19.92	ppb	1.96	1000.	
88 Sr	1,635.5	327.1	ppb	0.97	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	99.1	19.82	ppb	2.95	1000.	
107 Ag	50.3	10.06	ppb	1.15	100.	
109 Ag	49.955	9.991	ppb	1.76	#VALUE!	
111 Cd	248.65	49.73	ppb	1.57	#VALUE!	
114 Cd	247.45	49.49	ppb	1.30	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	512.	102.4	ppb	1.17	1000.	
120 Sn	514.	102.8	ppb	1.56	#VALUE!	
121 Sb	35.17	7.034	ppb	1.26	#VALUE!	
123 Sb	35.28	7.056	ppb	0.98	1000.	
135 Ba	4,800.5	960.1	ppb	2.92	2000.	
137 Ba	4,803.	960.6	ppb	1.94	#VALUE!	
182 W	47.515	9.503	ppb	2.20	1000.	
203 Tl	105.35	21.07	ppb	0.56	1000.	
205 Tl	105.65	21.13	ppb	0.52	#VALUE!	
208 Pb	209.9	41.98	ppb	0.77	2000.	
232 Th	189.45	37.89	ppb	0.96	1000.	
238 U	123.2	24.64	ppb	0.58	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2969121.80	7.33	2658648.80	111.7	69.5 - 120	
45 Sc	2184976.30	2.49	2094536.40	104.3	69.5 - 120	
72 Ge	427335.75	2.08	441280.53	96.8	69.5 - 120	
159 Tb	3461417.80	0.79	3254384.00	106.4	69.5 - 120	
209 Bi	1616426.30	1.89	1622942.50	99.6	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000376

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\105SMPL.D\105SMPL.D#
Date Acquired: May 22 2018 08:27 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL4180-018P
Misc Info:
Vial Number: 3102
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	56.35	11.27	ppb	2.67	100.	
11 B	576.	115.2	ppb	2.05	1000.	
23 Na	21,940.	4,388.	ppb	1.88	200000.	
25 Mg	84,800.	16,960.	ppb	2.17	200000.	
27 Al	178,050.	35,610.	ppb	2.05	200000.	
28 Si	3,131.	626.2	ppb	5.02	#VALUE!	
29 Si	2,963.	592.6	ppb	5.04	10000.	
39 K	54,200.	10,840.	ppb	1.54	200000.	
43 Ca	454,850.	90,970.	ppb	1.23	#VALUE!	
44 Ca	430,150.	86,030.	ppb	1.30	200000.	
51 V	868.	173.6	ppb	1.84	1000.	
52 Cr	365.35	73.07	ppb	1.84	2000.	
53 Cr	409.05	81.81	ppb	0.95	#VALUE!	
55 Mn	2,983.5	596.7	ppb	0.54	2000.	
56 Fe	145,850.	29,170.	ppb	0.55	#VALUE!	
57 Fe	141,800.	28,360.	ppb	0.95	100000.	
59 Co	583.	116.6	ppb	3.01	1000.	
60 Ni	632.5	126.5	ppb	0.41	1000.	
63 Cu	349.95	69.99	ppb	0.31	#VALUE!	
65 Cu	351.25	70.25	ppb	0.29	2000.	
66 Zn	910.	182.	ppb	0.80	2000.	
68 Zn	1,054.5	210.9	ppb	0.88	#VALUE!	
75 As	131.5	26.3	ppb	1.41	1000.	
82 Se	101.3	20.26	ppb	1.62	1000.	
88 Sr	1,441.	288.2	ppb	0.79	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	102.3	20.46	ppb	0.82	1000.	
107 Ag	51.	10.2	ppb	1.16	100.	
109 Ag	51.1	10.22	ppb	0.66	#VALUE!	
111 Cd	256.65	51.33	ppb	1.24	#VALUE!	
114 Cd	253.8	50.76	ppb	0.79	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	519.5	103.9	ppb	2.81	1000.	
120 Sn	523.	104.6	ppb	3.12	#VALUE!	
121 Sb	34.875	6.975	ppb	1.69	#VALUE!	
123 Sb	35.585	7.117	ppb	2.44	1000.	
135 Ba	4,349.5	869.9	ppb	2.92	2000.	
137 Ba	4,424.5	884.9	ppb	1.17	#VALUE!	
182 W	51.75	10.35	ppb	2.99	1000.	
203 Tl	107.05	21.41	ppb	1.79	1000.	
205 Tl	106.55	21.31	ppb	2.06	#VALUE!	
208 Pb	195.2	39.04	ppb	2.00	2000.	
232 Th	175.75	35.15	ppb	1.39	1000.	
238 U	121.6	24.32	ppb	1.84	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2893105.80	2.58	2658648.80	108.8	69.5 - 120	
45 Sc	2179459.30	2.79	2094536.40	104.1	69.5 - 120	
72 Ge	425608.16	1.48	441280.53	96.4	69.5 - 120	
159 Tb	3492993.00	1.85	3254384.00	107.3	69.5 - 120	
209 Bi	1630802.40	2.22	1622942.50	100.5	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000377

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\106SMPL.D\106SMPL.D#
Date Acquired: May 22 2018 08:31 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL4180-019
Misc Info:
Vial Number: 3103
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	9.6	1.92	ppb	3.29	100.	
11 B	154.45	30.89	ppb	2.75	1000.	
23 Na	1,417.	283.4	ppb	2.34	200000.	
25 Mg	53,300.	10,660.	ppb	0.96	200000.	
27 Al	222,300.	44,460.	ppb	2.62	200000.	
28 Si	3,784.	756.8	ppb	11.58	#VALUE!	
29 Si	3,433.	686.6	ppb	3.14	10000.	
39 K	64,500.	12,900.	ppb	1.84	200000.	
43 Ca	26,970.	5,394.	ppb	1.45	#VALUE!	
44 Ca	27,025.	5,405.	ppb	0.72	200000.	
51 V	347.15	69.43	ppb	0.48	1000.	
52 Cr	178.9	35.78	ppb	0.72	2000.	
53 Cr	220.2	44.04	ppb	0.71	#VALUE!	
55 Mn	2,627.	525.4	ppb	1.78	2000.	
56 Fe	178,750.	35,750.	ppb	1.66	#VALUE!	
57 Fe	172,200.	34,440.	ppb	0.50	100000.	
59 Co	66.65	13.33	ppb	0.63	1000.	
60 Ni	167.1	33.42	ppb	1.15	1000.	
63 Cu	112.55	22.51	ppb	0.80	#VALUE!	
65 Cu	114.75	22.95	ppb	1.12	2000.	
66 Zn	528.5	105.7	ppb	0.89	2000.	
68 Zn	622.5	124.5	ppb	0.93	#VALUE!	
75 As	38.83	7.766	ppb	3.46	1000.	
82 Se	4.4715	0.8943	ppb	7.07	1000.	
88 Sr	470.75	94.15	ppb	1.17	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	14.77	2.954	ppb	2.07	1000.	
107 Ag	0.8055	0.1611	ppb	8.02	100.	
109 Ag	0.723	0.1446	ppb	2.48	#VALUE!	
111 Cd	3.717	0.7434	ppb	6.03	#VALUE!	
114 Cd	1.0575	0.2115	ppb	17.37	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	52.9	10.58	ppb	0.87	1000.	
120 Sn	54.05	10.81	ppb	1.32	#VALUE!	
121 Sb	2.313	0.4626	ppb	5.86	#VALUE!	
123 Sb	2.373	0.4746	ppb	4.51	1000.	
135 Ba	2,771.5	554.3	ppb	0.56	2000.	
137 Ba	2,772.5	554.5	ppb	0.64	#VALUE!	
182 W	1.1025	0.2205	ppb	5.37	1000.	
203 Tl	2.9875	0.5975	ppb	5.94	1000.	
205 Tl	2.939	0.5878	ppb	1.21	#VALUE!	
208 Pb	126.95	25.39	ppb	0.55	2000.	
232 Th	73.95	14.79	ppb	1.29	1000.	
238 U	16.42	3.284	ppb	2.64	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2805528.30	6.51	2658648.80	105.5	69.5 - 120	
45 Sc	2280076.50	2.25	2094536.40	108.9	69.5 - 120	
72 Ge	445379.88	2.16	441280.53	100.9	69.5 - 120	
159 Tb	3386249.50	1.84	3254384.00	104.1	69.5 - 120	
209 Bi	1597693.30	1.50	1622942.50	98.4	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000378

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\107SMPL.D\107SMPL.D#
Date Acquired: May 22 2018 08:36 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL4180-020
Misc Info:
Vial Number: 3104
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	7.355	1.471	ppb	5.73	100.	
11 B	127.45	25.49	ppb	2.19	1000.	
23 Na	4,452.5	890.5	ppb	3.29	200000.	
25 Mg	83,850.	16,770.	ppb	1.41	200000.	
27 Al	157,100.	31,420.	ppb	3.01	200000.	
28 Si	3,483.5	696.7	ppb	7.61	#VALUE!	
29 Si	3,232.5	646.5	ppb	5.24	10000.	
39 K	47,300.	9,460.	ppb	0.58	200000.	
43 Ca	331,050.	66,210.	ppb	1.21	#VALUE!	
44 Ca	310,200.	62,040.	ppb	0.75	200000.	
51 V	299.8	59.96	ppb	1.82	1000.	
52 Cr	160.65	32.13	ppb	1.06	2000.	
53 Cr	187.55	37.51	ppb	1.12	#VALUE!	
55 Mn	1,990.	398.	ppb	1.46	2000.	
56 Fe	135,750.	27,150.	ppb	1.67	#VALUE!	
57 Fe	131,650.	26,330.	ppb	1.89	100000.	
59 Co	54.1	10.82	ppb	1.15	1000.	
60 Ni	129.55	25.91	ppb	1.76	1000.	
63 Cu	111.75	22.35	ppb	2.11	#VALUE!	
65 Cu	112.65	22.53	ppb	1.97	2000.	
66 Zn	455.	91.	ppb	1.22	2000.	
68 Zn	613.5	122.7	ppb	1.43	#VALUE!	
75 As	37.365	7.473	ppb	1.37	1000.	
82 Se	4.238	0.8476	ppb	19.29	1000.	
88 Sr	977.	195.4	ppb	2.30	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	7.61	1.522	ppb	2.20	1000.	
107 Ag	0.898	0.1796	ppb	5.19	100.	
109 Ag	0.7815	0.1563	ppb	2.51	#VALUE!	
111 Cd	1.978	0.3956	ppb	11.91	#VALUE!	
114 Cd	0.0044	0.0009	ppb	4196.40	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	50.5	10.1	ppb	2.48	1000.	
120 Sn	51.1	10.22	ppb	1.06	#VALUE!	
121 Sb	1.6805	0.3361	ppb	6.36	#VALUE!	
123 Sb	1.761	0.3522	ppb	2.35	1000.	
135 Ba	4,342.5	868.5	ppb	1.45	2000.	
137 Ba	4,387.5	877.5	ppb	0.83	#VALUE!	
182 W	0.641	0.1282	ppb	14.45	1000.	
203 Tl	2.8845	0.5769	ppb	3.35	1000.	
205 Tl	2.798	0.5596	ppb	4.87	#VALUE!	
208 Pb	91.65	18.33	ppb	0.47	2000.	
232 Th	70.05	14.01	ppb	0.84	1000.	
238 U	12.985	2.597	ppb	0.20	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2869925.50	5.09	2658648.80	107.9	69.5 - 120	
45 Sc	2209045.00	2.91	2094536.40	105.5	69.5 - 120	
72 Ge	434019.97	2.76	441280.53	98.4	69.5 - 120	
159 Tb	3421635.00	1.09	3254384.00	105.1	69.5 - 120	
209 Bi	1608864.90	0.20	1622942.50	99.1	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000379

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\108SMPL.D\108SMPL.D#
Date Acquired: May 22 2018 08:40 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL4180-021
Misc Info:
Vial Number: 3105
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	11.9	2.38	ppb	2.12	100.	
11 B	137.55	27.51	ppb	1.84	1000.	
23 Na	2,589.	517.8	ppb	1.91	200000.	
25 Mg	88,600.	17,720.	ppb	1.53	200000.	
27 Al	242,950.	48,590.	ppb	1.76	200000.	
28 Si	2,200.5	440.1	ppb	6.38	#VALUE!	
29 Si	1,761.5	352.3	ppb	4.79	10000.	
39 K	74,250.	14,850.	ppb	3.10	200000.	
43 Ca	37,340.	7,468.	ppb	2.22	#VALUE!	
44 Ca	36,640.	7,328.	ppb	1.82	200000.	
51 V	341.95	68.39	ppb	1.23	1000.	
52 Cr	196.4	39.28	ppb	1.74	2000.	
53 Cr	242.15	48.43	ppb	2.19	#VALUE!	
55 Mn	1,927.5	385.5	ppb	0.86	2000.	
56 Fe	202,400.	40,480.	ppb	1.26	#VALUE!	
57 Fe	190,300.	38,060.	ppb	0.74	100000.	
59 Co	82.45	16.49	ppb	0.73	1000.	
60 Ni	221.15	44.23	ppb	1.80	1000.	
63 Cu	147.3	29.46	ppb	1.42	#VALUE!	
65 Cu	149.15	29.83	ppb	1.84	2000.	
66 Zn	574.	114.8	ppb	1.69	2000.	
68 Zn	635.	127.	ppb	1.67	#VALUE!	
75 As	58.3	11.66	ppb	1.86	1000.	
82 Se	4.243	0.8486	ppb	21.19	1000.	
88 Sr	696.	139.2	ppb	1.90	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	6.435	1.287	ppb	4.57	1000.	
107 Ag	0.8995	0.1799	ppb	4.31	100.	
109 Ag	0.8355	0.1671	ppb	9.82	#VALUE!	
111 Cd	2.0915	0.4183	ppb	11.76	#VALUE!	
114 Cd	0.2733	0.0547	ppb	46.40	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	57.9	11.58	ppb	2.30	1000.	
120 Sn	58.2	11.64	ppb	0.86	#VALUE!	
121 Sb	2.5325	0.5065	ppb	7.53	#VALUE!	
123 Sb	2.6355	0.5271	ppb	1.76	1000.	
135 Ba	2,176.5	435.3	ppb	1.85	2000.	
137 Ba	2,163.	432.6	ppb	0.98	#VALUE!	
182 W	0.598	0.1196	ppb	12.80	1000.	
203 Tl	3.6625	0.7325	ppb	1.68	1000.	
205 Tl	3.6915	0.7383	ppb	0.83	#VALUE!	
208 Pb	149.05	29.81	ppb	1.32	2000.	
232 Th	95.4	19.08	ppb	1.83	1000.	
238 U	9.27	1.854	ppb	2.56	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2839447.80	1.98	2658648.80	106.8	69.5 - 120	
45 Sc	2312930.30	2.14	2094536.40	110.4	69.5 - 120	
72 Ge	452992.44	3.24	441280.53	102.7	69.5 - 120	
159 Tb	3224735.30	0.90	3254384.00	99.1	69.5 - 120	
209 Bi	1506845.40	0.76	1622942.50	92.8	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000380

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\109SMPL.D\109SMPL.D#
Date Acquired: May 22 2018 08:44 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL4180-022
Misc Info:
Vial Number: 3106
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	8.345	1.669	ppb	3.26	100.	
11 B	99.3	19.86	ppb	1.63	1000.	
23 Na	10,575.	2,115.	ppb	0.82	200000.	
25 Mg	76,700.	15,340.	ppb	1.46	200000.	
27 Al	185,200.	37,040.	ppb	1.79	200000.	
28 Si	3,544.	708.8	ppb	13.47	#VALUE!	
29 Si	3,145.	629.	ppb	2.75	10000.	
39 K	38,830.	7,766.	ppb	0.77	200000.	
43 Ca	193,000.	38,600.	ppb	1.81	#VALUE!	
44 Ca	191,050.	38,210.	ppb	0.67	200000.	
51 V	337.65	67.53	ppb	0.41	1000.	
52 Cr	185.2	37.04	ppb	0.60	2000.	
53 Cr	235.9	47.18	ppb	0.70	#VALUE!	
55 Mn	6,030.	1,206.	ppb	1.57	2000.	
56 Fe	169,700.	33,940.	ppb	1.41	#VALUE!	
57 Fe	163,650.	32,730.	ppb	1.18	100000.	
59 Co	77.8	15.56	ppb	0.90	1000.	
60 Ni	203.2	40.64	ppb	1.57	1000.	
63 Cu	130.85	26.17	ppb	1.09	#VALUE!	
65 Cu	134.15	26.83	ppb	2.02	2000.	
66 Zn	533.5	106.7	ppb	1.21	2000.	
68 Zn	598.	119.6	ppb	1.01	#VALUE!	
75 As	17.685	3.537	ppb	4.38	1000.	
82 Se	2.8795	0.5759	ppb	24.97	1000.	
88 Sr	596.	119.2	ppb	1.26	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	7.74	1.548	ppb	2.04	1000.	
107 Ag	0.6515	0.1303	ppb	1.22	100.	
109 Ag	0.548	0.1096	ppb	11.78	#VALUE!	
111 Cd	3.918	0.7836	ppb	1.85	#VALUE!	
114 Cd	1.9885	0.3977	ppb	8.67	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	52.45	10.49	ppb	1.14	1000.	
120 Sn	51.9	10.38	ppb	1.23	#VALUE!	
121 Sb	1.324	0.2648	ppb	4.49	#VALUE!	
123 Sb	1.404	0.2808	ppb	1.48	1000.	
135 Ba	2,163.	432.6	ppb	1.11	2000.	
137 Ba	2,161.5	432.3	ppb	0.82	#VALUE!	
182 W	0.6675	0.1335	ppb	5.26	1000.	
203 Tl	3.656	0.7312	ppb	2.17	1000.	
205 Tl	3.4555	0.6911	ppb	1.13	#VALUE!	
208 Pb	121.75	24.35	ppb	0.34	2000.	
232 Th	82.55	16.51	ppb	0.63	1000.	
238 U	10.35	2.07	ppb	1.48	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2838807.80	0.88	2658648.80	106.8	69.5 - 120	
45 Sc	2309260.50	2.13	2094536.40	110.3	69.5 - 120	
72 Ge	444779.09	2.34	441280.53	100.8	69.5 - 120	
159 Tb	3256110.00	0.42	3254384.00	100.1	69.5 - 120	
209 Bi	1523822.80	0.21	1622942.50	93.9	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000381

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\110SMPL.D\110SMPL.D#
Date Acquired: May 22 2018 08:49 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL4180-023
Misc Info:
Vial Number: 3107
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	9.295	1.859	ppb	0.99	100.	
11 B	121.15	24.23	ppb	0.98	1000.	
23 Na	19,245.	3,849.	ppb	0.66	200000.	
25 Mg	96,750.	19,350.	ppb	1.05	200000.	
27 Al	207,350.	41,470.	ppb	1.98	200000.	
28 Si	3,909.	781.8	ppb	5.83	#VALUE!	
29 Si	3,495.	699.	ppb	3.94	10000.	
39 K	51,200.	10,240.	ppb	0.75	200000.	
43 Ca	163,100.	32,620.	ppb	0.31	#VALUE!	
44 Ca	159,850.	31,970.	ppb	0.62	200000.	
51 V	393.25	78.65	ppb	1.27	1000.	
52 Cr	213.2	42.64	ppb	0.39	2000.	
53 Cr	269.8	53.96	ppb	0.08	#VALUE!	
55 Mn	7,475.	1,495.	ppb	0.69	2000.	
56 Fe	196,700.	39,340.	ppb	0.93	#VALUE!	
57 Fe	189,900.	37,980.	ppb	0.28	100000.	
59 Co	192.6	38.52	ppb	1.05	1000.	
60 Ni	249.35	49.87	ppb	1.01	1000.	
63 Cu	153.8	30.76	ppb	0.42	#VALUE!	
65 Cu	154.85	30.97	ppb	0.77	2000.	
66 Zn	616.5	123.3	ppb	0.61	2000.	
68 Zn	744.5	148.9	ppb	0.51	#VALUE!	
75 As	33.24	6.648	ppb	2.50	1000.	
82 Se	4.009	0.8018	ppb	20.55	1000.	
88 Sr	682.	136.4	ppb	0.78	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	12.095	2.419	ppb	3.58	1000.	
107 Ag	0.8395	0.1679	ppb	4.82	100.	
109 Ag	0.669	0.1338	ppb	2.80	#VALUE!	
111 Cd	4.2105	0.8421	ppb	1.20	#VALUE!	
114 Cd	1.5675	0.3135	ppb	14.34	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	55.85	11.17	ppb	1.23	1000.	
120 Sn	55.85	11.17	ppb	1.55	#VALUE!	
121 Sb	1.898	0.3796	ppb	3.82	#VALUE!	
123 Sb	1.985	0.397	ppb	6.85	1000.	
135 Ba	3,782.5	756.5	ppb	0.92	2000.	
137 Ba	3,822.5	764.5	ppb	0.14	#VALUE!	
182 W	0.881	0.1762	ppb	7.82	1000.	
203 Tl	3.576	0.7152	ppb	3.58	1000.	
205 Tl	3.623	0.7246	ppb	1.35	#VALUE!	
208 Pb	156.6	31.32	ppb	0.52	2000.	
232 Th	89.9	17.98	ppb	0.65	1000.	
238 U	11.39	2.278	ppb	1.73	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2887415.30	1.71	2658648.80	108.6	69.5 - 120	
45 Sc	2267571.80	1.71	2094536.40	108.3	69.5 - 120	
72 Ge	444347.03	1.49	441280.53	100.7	69.5 - 120	
159 Tb	3204415.30	0.78	3254384.00	98.5	69.5 - 120	
209 Bi	1472040.30	0.54	1622942.50	90.7	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000382

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\111SMPL.D\111SMPL.D#
Date Acquired: May 22 2018 08:53 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL4180-024
Misc Info:
Vial Number: 3108
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	13.215	2.643	ppb	3.85	100.	
11 B	193.55	38.71	ppb	7.72	1000.	
23 Na	3,353.5	670.7	ppb	1.65	200000.	
25 Mg	102,900.	20,580.	ppb	0.61	200000.	
27 Al	280,200.	56,040.	ppb	0.65	200000.	
28 Si	3,775.	755.	ppb	5.27	#VALUE!	
29 Si	3,331.	666.2	ppb	2.34	10000.	
39 K	81,050.	16,210.	ppb	1.00	200000.	
43 Ca	141,050.	28,210.	ppb	1.44	#VALUE!	
44 Ca	136,800.	27,360.	ppb	1.91	200000.	
51 V	508.5	101.7	ppb	1.02	1000.	
52 Cr	239.8	47.96	ppb	0.89	2000.	
53 Cr	311.	62.2	ppb	0.34	#VALUE!	
55 Mn	3,250.5	650.1	ppb	0.50	2000.	
56 Fe	223,950.	44,790.	ppb	0.46	#VALUE!	
57 Fe	213,400.	42,680.	ppb	0.89	100000.	
59 Co	95.35	19.07	ppb	0.48	1000.	
60 Ni	216.35	43.27	ppb	1.47	1000.	
63 Cu	171.	34.2	ppb	0.47	#VALUE!	
65 Cu	172.05	34.41	ppb	1.17	2000.	
66 Zn	664.	132.8	ppb	0.81	2000.	
68 Zn	768.	153.6	ppb	0.50	#VALUE!	
75 As	59.85	11.97	ppb	1.95	1000.	
82 Se	5.565	1.113	ppb	32.97	1000.	
88 Sr	1,362.	272.4	ppb	1.17	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	15.925	3.185	ppb	0.77	1000.	
107 Ag	1.096	0.2192	ppb	4.43	100.	
109 Ag	0.9215	0.1843	ppb	5.52	#VALUE!	
111 Cd	3.9045	0.7809	ppb	5.27	#VALUE!	
114 Cd	0.544	0.1088	ppb	60.06	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	58.6	11.72	ppb	0.90	1000.	
120 Sn	58.85	11.77	ppb	0.40	#VALUE!	
121 Sb	3.304	0.6608	ppb	4.77	#VALUE!	
123 Sb	3.4045	0.6809	ppb	5.15	1000.	
135 Ba	3,266.	653.2	ppb	1.25	2000.	
137 Ba	3,295.	659.	ppb	0.65	#VALUE!	
182 W	1.249	0.2498	ppb	4.22	1000.	
203 Tl	4.2815	0.8563	ppb	3.66	1000.	
205 Tl	4.2555	0.8511	ppb	3.17	#VALUE!	
208 Pb	218.25	43.65	ppb	1.29	2000.	
232 Th	111.55	22.31	ppb	2.12	1000.	
238 U	16.365	3.273	ppb	1.02	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2870590.00	7.24	2658648.80	108.0	69.5 - 120	
45 Sc	2296931.00	1.77	2094536.40	109.7	69.5 - 120	
72 Ge	448158.81	1.76	441280.53	101.6	69.5 - 120	
159 Tb	3132294.50	0.66	3254384.00	96.2	69.5 - 120	
209 Bi	1462781.90	1.57	1622942.50	90.1	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000383

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\112SMPL.D\112SMPL.D#
Date Acquired: May 22 2018 08:57 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL4180-025
Misc Info:
Vial Number: 3109
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	13.31	2.662	ppb	1.01	100.	
11 B	175.65	35.13	ppb	3.11	1000.	
23 Na	3,205.5	641.1	ppb	1.04	200000.	
25 Mg	103,700.	20,740.	ppb	0.16	200000.	
27 Al	262,200.	52,440.	ppb	0.71	200000.	
28 Si	2,976.	595.2	ppb	3.88	#VALUE!	
29 Si	2,572.	514.4	ppb	2.07	10000.	
39 K	76,000.	15,200.	ppb	1.08	200000.	
43 Ca	47,820.	9,564.	ppb	1.10	#VALUE!	
44 Ca	47,350.	9,470.	ppb	1.53	200000.	
51 V	446.2	89.24	ppb	3.88	1000.	
52 Cr	222.9	44.58	ppb	0.68	2000.	
53 Cr	271.7	54.34	ppb	0.44	#VALUE!	
55 Mn	3,133.	626.6	ppb	1.19	2000.	
56 Fe	215,050.	43,010.	ppb	1.97	#VALUE!	
57 Fe	204,900.	40,980.	ppb	0.22	100000.	
59 Co	91.85	18.37	ppb	1.57	1000.	
60 Ni	219.1	43.82	ppb	0.66	1000.	
63 Cu	169.4	33.88	ppb	0.39	#VALUE!	
65 Cu	169.7	33.94	ppb	0.89	2000.	
66 Zn	639.	127.8	ppb	0.14	2000.	
68 Zn	786.5	157.3	ppb	0.73	#VALUE!	
75 As	55.65	11.13	ppb	2.51	1000.	
82 Se	4.6875	0.9375	ppb	11.13	1000.	
88 Sr	856.	171.2	ppb	0.45	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	14.145	2.829	ppb	0.88	1000.	
107 Ag	1.136	0.2272	ppb	11.03	100.	
109 Ag	0.943	0.1886	ppb	9.17	#VALUE!	
111 Cd	3.336	0.6672	ppb	7.89	#VALUE!	
114 Cd	0.3618	0.0724	ppb	26.90	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	57.2	11.44	ppb	2.08	1000.	
120 Sn	57.75	11.55	ppb	0.54	#VALUE!	
121 Sb	3.1515	0.6303	ppb	1.52	#VALUE!	
123 Sb	3.43	0.686	ppb	0.43	1000.	
135 Ba	4,426.	885.2	ppb	1.22	2000.	
137 Ba	4,479.	895.8	ppb	1.33	#VALUE!	
182 W	1.086	0.2172	ppb	6.65	1000.	
203 Tl	4.212	0.8424	ppb	2.63	1000.	
205 Tl	4.167	0.8334	ppb	2.38	#VALUE!	
208 Pb	202.	40.4	ppb	1.43	2000.	
232 Th	112.85	22.57	ppb	1.98	1000.	
238 U	15.705	3.141	ppb	1.86	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2762839.80	3.41	2658648.80	103.9	69.5 - 120	
45 Sc	2364074.30	3.23	2094536.40	112.9	69.5 - 120	
72 Ge	449733.28	2.20	441280.53	101.9	69.5 - 120	
159 Tb	3118698.00	0.30	3254384.00	95.8	69.5 - 120	
209 Bi	1428492.80	1.04	1622942.50	88.0	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000384

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\113SMPL.D\113SMPL.D#
Date Acquired: May 22 2018 09:02 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: RINSE
Misc Info:
Vial Number: 3110
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.0023	0.0023	ppb	152.23	100.	
11 B	0.6482	0.6482	ppb	25.56	1000.	
23 Na	0.4003	0.4003	ppb	47.14	200000.	
25 Mg	0.5132	0.5132	ppb	39.07	200000.	
27 Al	0.9619	0.9619	ppb	10.75	200000.	
28 Si	108.8	108.8	ppb	9.89	#VALUE!	
29 Si	-0.7923	-0.7923	ppb	1073.70	10000.	
39 K	5.42	5.42	ppb	28.01	200000.	
43 Ca	0.8892	0.8892	ppb	496.85	#VALUE!	
44 Ca	2.426	2.426	ppb	47.40	200000.	
51 V	0.1464	0.1464	ppb	41.33	1000.	
52 Cr	0.0734	0.0734	ppb	12.77	2000.	
53 Cr	0.0264	0.0264	ppb	681.06	#VALUE!	
55 Mn	0.0292	0.0292	ppb	48.80	2000.	
56 Fe	6.391	6.391	ppb	22.17	#VALUE!	
57 Fe	10.74	10.74	ppb	33.42	100000.	
59 Co	0.0023	0.0023	ppb	136.31	1000.	
60 Ni	-0.0085	-0.0085	ppb	28.43	1000.	
63 Cu	0.0872	0.0872	ppb	33.56	#VALUE!	
65 Cu	0.0822	0.0822	ppb	14.76	2000.	
66 Zn	-0.0149	-0.0149	ppb	171.98	2000.	
68 Zn	0.0251	0.0251	ppb	516.91	#VALUE!	
75 As	0.1084	0.1084	ppb	127.49	1000.	
82 Se	0.0998	0.0998	ppb	108.33	1000.	
88 Sr	0.004	0.004	ppb	140.31	2000.	
89 Y	----	--------	---	---	#VALUE!	
98 Mo	0.005	0.005	ppb	83.49	1000.	
107 Ag	-0.0005	-0.0005	ppb	269.90	100.	
109 Ag	0.0012	0.0012	ppb	110.33	#VALUE!	
111 Cd	-0.0768	-0.0768	ppb	25.15	#VALUE!	
114 Cd	-0.0029	-0.0029	ppb	84.19	1000.	
115 In	----	--------	---	---	#VALUE!	
118 Sn	0.0569	0.0569	ppb	47.57	1000.	
120 Sn	0.0698	0.0698	ppb	22.06	#VALUE!	
121 Sb	-0.0129	-0.0129	ppb	20.50	#VALUE!	
123 Sb	-0.0026	-0.0026	ppb	150.70	1000.	
135 Ba	0.0196	0.0196	ppb	46.27	2000.	
137 Ba	0.03	0.03	ppb	118.89	#VALUE!	
182 W	0.0036	0.0036	ppb	41.98	1000.	
203 Tl	0.0028	0.0028	ppb	91.10	1000.	
205 Tl	0.0045	0.0045	ppb	80.73	#VALUE!	
208 Pb	0.0034	0.0034	ppb	226.70	2000.	
232 Th	0.0208	0.0208	ppb	21.48	1000.	
238 U	0.0001	0.0001	ppb	1739.00	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2622038.30	3.38	2658648.80	98.6	69.5 - 120	
45 Sc	2098031.00	0.44	2094536.40	100.2	69.5 - 120	
72 Ge	423225.81	0.47	441280.53	95.9	69.5 - 120	
159 Tb	2795652.30	0.40	3254384.00	85.9	69.5 - 120	
209 Bi	1376439.90	0.18	1622942.50	84.8	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000385

CCV QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\114_CCV.D\114_CCV.D#
Date Acquired: May 22 2018 09:06 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: CCV
Misc Info:
Vial Number: 1306
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Dilution Factor: 1.00
QC Range (%): 89.5 - 110.5

QC Elements

Element	Conc.		RSD(%)	Expected	Rec (%)	Flag
9 Be	24.37	ppb	2.16	25	97.48	
11 B	24.63	ppb	1.08	25	98.52	
23 Na	5,126.	ppb	2.21	5,000	102.52	
25 Mg	5,128.	ppb	1.19	5,000	102.56	
27 Al	502.8	ppb	1.33	500	100.56	
28 Si	551.5	ppb	6.15	500	110.3	
29 Si	470.4	ppb	4.51	500	94.08	
39 K	4,976.	ppb	1.60	5,000	99.52	
43 Ca	4,944.	ppb	2.87	5,000	98.88	
44 Ca	5,089.	ppb	1.45	5,000	101.78	
51 V	25.81	ppb	0.97	25	103.24	
52 Cr	25.51	ppb	1.09	25	102.04	
53 Cr	26.22	ppb	1.02	25	104.88	
55 Mn	25.62	ppb	0.65	25	102.48	
56 Fe	5,013.	ppb	1.64	5,000	100.26	
57 Fe	5,106.	ppb	1.56	5,000	102.12	
59 Co	25.33	ppb	1.90	25	101.32	
60 Ni	25.4	ppb	1.74	25	101.6	
63 Cu	25.32	ppb	2.23	25	101.28	
65 Cu	25.11	ppb	1.14	25	100.44	
66 Zn	25.33	ppb	1.22	25	101.32	
68 Zn	25.14	ppb	2.38	25	100.56	
75 As	25.31	ppb	1.82	25	101.24	
82 Se	25.14	ppb	1.63	25	100.56	
88 Sr	24.05	ppb	1.64	25	96.2	
89 Y	--------	---	--------	---	#VALUE!	
98 Mo	23.93	ppb	1.51	25	95.72	
107 Ag	23.65	ppb	1.05	25	94.6	
109 Ag	23.62	ppb	0.64	25	94.48	
111 Cd	23.73	ppb	1.15	25	94.92	
114 Cd	23.6	ppb	1.27	25	94.4	
115 In	--------	---	--------	---	#VALUE!	
118 Sn	25.84	ppb	1.59	25	103.36	
120 Sn	25.95	ppb	2.04	25	103.8	
121 Sb	26.41	ppb	2.06	25	105.64	
123 Sb	26.65	ppb	1.50	25	106.6	
135 Ba	26.09	ppb	1.14	25	104.36	
137 Ba	26.21	ppb	1.28	25	104.84	
182 W	24.08	ppb	1.11	25	96.32	
203 Tl	24.66	ppb	1.80	25	98.64	
205 Tl	24.67	ppb	3.05	25	98.68	
208 Pb	24.69	ppb	1.66	25	98.76	
232 Th	23.81	ppb	1.21	25	95.24	
238 U	23.24	ppb	1.71	25	92.96	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2797852.80	2.23	2658648.80	105.2	80 - 120.4	
45 Sc	2197894.00	1.66	2094536.40	104.9	80 - 120.4	
72 Ge	436933.91	1.48	441280.53	99.0	80 - 120.4	
159 Tb	2952909.30	0.96	3254384.00	90.7	80 - 120.4	
209 Bi	1441622.00	1.83	1622942.50	88.8	80 - 120.4	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000386

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\115_CCB.D\115_CCB.D#
Date Acquired: May 22 2018 09:10 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: CCB
Misc Info:
Vial Number: 1307
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Sample Type: 6-CCB
Dilution Factor: 1.00

QC Elements

Element	Conc.		RSD(%)	High Limit	Flag
9 Be	0.0039	ppb	47.77	1.00	
11 B	0.5352	ppb	16.09	1.00	
23 Na	0.3422	ppb	36.00	1.00	
25 Mg	0.0776	ppb	60.23	1.00	
27 Al	-0.0089	ppb	697.72	1.00	
28 Si	89.53	ppb	44.08	1.00	
29 Si	12.46	ppb	250.48	1.00	
39 K	6.377	ppb	68.76	1.00	
43 Ca	-0.5977	ppb	922.03	1.00	
44 Ca	1.147	ppb	130.95	1.00	
51 V	0.0664	ppb	168.88	1.00	
52 Cr	0.047	ppb	47.33	1.00	
53 Cr	0.952	ppb	26.29	1.00	
55 Mn	0.0245	ppb	25.80	1.00	
56 Fe	6.826	ppb	65.65	1.00	
57 Fe	6.718	ppb	34.40	1.00	
59 Co	0.0056	ppb	131.80	1.00	
60 Ni	0.0711	ppb	17.71	1.00	
63 Cu	0.0068	ppb	17.52	1.00	
65 Cu	0.0132	ppb	208.62	1.00	
66 Zn	0.0297	ppb	220.03	1.00	
68 Zn	0.153	ppb	10.45	1.00	
75 As	0.1824	ppb	65.79	1.00	
82 Se	0.0249	ppb	713.02	1.00	
88 Sr	0.	ppb	10635.00	1.00	
89 Y	--------	---	--------	---	
98 Mo	0.0189	ppb	27.47	1.00	
107 Ag	-0.0005	ppb	823.55	1.00	
109 Ag	0.0026	ppb	93.86	1.00	
111 Cd	-0.0616	ppb	46.36	1.00	
114 Cd	-0.0036	ppb	66.49	1.00	
115 In	--------	---	--------	---	
118 Sn	0.0444	ppb	18.13	1.00	
120 Sn	0.0561	ppb	22.69	1.00	
121 Sb	0.0088	ppb	117.45	1.00	
123 Sb	0.0117	ppb	86.22	1.00	
135 Ba	0.0193	ppb	44.15	1.00	
137 Ba	0.0245	ppb	2.78	1.00	
182 W	0.0541	ppb	36.49	1.00	
203 Tl	0.01	ppb	67.25	1.00	
205 Tl	0.0003	ppb	868.10	1.00	
208 Pb	0.0045	ppb	77.69	1.00	
232 Th	0.0525	ppb	4.91	1.00	
238 U	0.0011	ppb	145.53	1.00	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2648590.00	1.57	2658648.80	99.6	79.5 - 120	
45 Sc	2090843.50	2.25	2094536.40	99.8	79.5 - 120	
72 Ge	418743.81	2.65	441280.53	94.9	79.5 - 120	
159 Tb	2813016.00	1.73	3254384.00	86.4	79.5 - 120	
209 Bi	1374333.50	2.03	1622942.50	84.7	79.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000387

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\116SMPL.D\116SMPL.D#
Date Acquired: May 22 2018 09:14 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL4180-026
Misc Info:
Vial Number: 3111
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	8.46	1.692	ppb	3.71	100.	
11 B	101.1	20.22	ppb	4.21	1000.	
23 Na	10,320.	2,064.	ppb	1.06	200000.	
25 Mg	85,800.	17,160.	ppb	0.49	200000.	
27 Al	176,950.	35,390.	ppb	0.63	200000.	
28 Si	3,682.5	736.5	ppb	4.72	#VALUE!	
29 Si	3,232.5	646.5	ppb	5.62	10000.	
39 K	38,475.	7,695.	ppb	1.35	200000.	
43 Ca	210,150.	42,030.	ppb	1.59	#VALUE!	
44 Ca	206,400.	41,280.	ppb	0.50	200000.	
51 V	407.85	81.57	ppb	1.41	1000.	
52 Cr	219.25	43.85	ppb	0.64	2000.	
53 Cr	267.15	53.43	ppb	2.41	#VALUE!	
55 Mn	4,574.	914.8	ppb	1.81	2000.	
56 Fe	226,600.	45,320.	ppb	1.83	#VALUE!	
57 Fe	216,650.	43,330.	ppb	1.18	100000.	
59 Co	88.85	17.77	ppb	1.31	1000.	
60 Ni	193.2	38.64	ppb	0.54	1000.	
63 Cu	201.45	40.29	ppb	0.84	#VALUE!	
65 Cu	204.55	40.91	ppb	1.48	2000.	
66 Zn	540.	108.	ppb	1.58	2000.	
68 Zn	643.	128.6	ppb	1.49	#VALUE!	
75 As	50.95	10.19	ppb	1.70	1000.	
82 Se	4.3135	0.8627	ppb	16.27	1000.	
88 Sr	712.5	142.5	ppb	1.19	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	11.39	2.278	ppb	1.35	1000.	
107 Ag	0.76	0.152	ppb	5.96	100.	
109 Ag	0.6695	0.1339	ppb	8.60	#VALUE!	
111 Cd	4.0915	0.8183	ppb	1.88	#VALUE!	
114 Cd	1.8265	0.3653	ppb	2.98	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	57.55	11.51	ppb	1.02	1000.	
120 Sn	57.45	11.49	ppb	0.38	#VALUE!	
121 Sb	2.481	0.4962	ppb	3.07	#VALUE!	
123 Sb	2.6575	0.5315	ppb	2.88	1000.	
135 Ba	3,061.	612.2	ppb	1.03	2000.	
137 Ba	3,045.	609.	ppb	1.69	#VALUE!	
182 W	0.829	0.1658	ppb	7.97	1000.	
203 Tl	2.979	0.5958	ppb	4.61	1000.	
205 Tl	2.9425	0.5885	ppb	3.59	#VALUE!	
208 Pb	122.75	24.55	ppb	1.19	2000.	
232 Th	80.05	16.01	ppb	1.81	1000.	
238 U	10.575	2.115	ppb	0.82	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2875602.50	3.70	2658648.80	108.2	69.5 - 120	
45 Sc	2285237.30	2.85	2094536.40	109.1	69.5 - 120	
72 Ge	442835.09	2.45	441280.53	100.4	69.5 - 120	
159 Tb	3129141.00	0.86	3254384.00	96.2	69.5 - 120	
209 Bi	1436256.40	0.61	1622942.50	88.5	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000388

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\117SMPL.D\117SMPL.D#
Date Acquired: May 22 2018 09:19 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL4180-027
Misc Info:
Vial Number: 3112
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	9.905	1.981	ppb	3.61	100.	
11 B	119.1	23.82	ppb	4.16	1000.	
23 Na	7,610.	1,522.	ppb	0.54	200000.	
25 Mg	93,400.	18,680.	ppb	0.39	200000.	
27 Al	213,650.	42,730.	ppb	1.98	200000.	
28 Si	4,302.	860.4	ppb	3.34	#VALUE!	
29 Si	3,916.5	783.3	ppb	4.62	10000.	
39 K	43,505.	8,701.	ppb	3.01	200000.	
43 Ca	144,400.	28,880.	ppb	1.31	#VALUE!	
44 Ca	142,400.	28,480.	ppb	2.06	200000.	
51 V	440.65	88.13	ppb	0.46	1000.	
52 Cr	225.95	45.19	ppb	1.66	2000.	
53 Cr	285.8	57.16	ppb	3.57	#VALUE!	
55 Mn	3,295.	659.	ppb	2.41	2000.	
56 Fe	218,400.	43,680.	ppb	2.40	#VALUE!	
57 Fe	207,800.	41,560.	ppb	2.41	100000.	
59 Co	109.45	21.89	ppb	1.65	1000.	
60 Ni	201.75	40.35	ppb	2.46	1000.	
63 Cu	154.45	30.89	ppb	2.11	#VALUE!	
65 Cu	156.15	31.23	ppb	1.21	2000.	
66 Zn	653.5	130.7	ppb	1.98	2000.	
68 Zn	755.	151.	ppb	1.29	#VALUE!	
75 As	50.4	10.08	ppb	4.48	1000.	
82 Se	4.0905	0.8181	ppb	20.94	1000.	
88 Sr	679.	135.8	ppb	1.80	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	6.455	1.291	ppb	1.61	1000.	
107 Ag	0.883	0.1766	ppb	5.84	100.	
109 Ag	0.717	0.1434	ppb	17.59	#VALUE!	
111 Cd	3.728	0.7456	ppb	7.31	#VALUE!	
114 Cd	1.4425	0.2885	ppb	1.69	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	57.1	11.42	ppb	2.02	1000.	
120 Sn	57.1	11.42	ppb	0.51	#VALUE!	
121 Sb	1.845	0.369	ppb	3.78	#VALUE!	
123 Sb	1.9875	0.3975	ppb	4.32	1000.	
135 Ba	3,129.5	625.9	ppb	0.97	2000.	
137 Ba	3,159.	631.8	ppb	1.39	#VALUE!	
182 W	0.7385	0.1477	ppb	9.78	1000.	
203 Tl	3.752	0.7504	ppb	3.07	1000.	
205 Tl	3.6245	0.7249	ppb	2.39	#VALUE!	
208 Pb	118.	23.6	ppb	1.31	2000.	
232 Th	94.2	18.84	ppb	1.64	1000.	
238 U	11.205	2.241	ppb	2.46	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2850887.30	4.29	2658648.80	107.2	69.5 - 120	
45 Sc	2288630.50	3.12	2094536.40	109.3	69.5 - 120	
72 Ge	441246.47	2.72	441280.53	100.0	69.5 - 120	
159 Tb	3077215.30	0.60	3254384.00	94.6	69.5 - 120	
209 Bi	1426488.00	1.14	1622942.50	87.9	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000389

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\118SMPL.D\118SMPL.D#
Date Acquired: May 22 2018 09:23 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL4233-002
Misc Info:
Vial Number: 3201
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	5.49	1.098	ppb	0.73	100.	
11 B	58.95	11.79	ppb	3.78	1000.	
23 Na	1,090.	218.	ppb	0.55	200000.	
25 Mg	25,120.	5,024.	ppb	1.68	200000.	
27 Al	105,600.	21,120.	ppb	2.80	200000.	
28 Si	3,251.	650.2	ppb	1.09	#VALUE!	
29 Si	2,828.	565.6	ppb	6.90	10000.	
39 K	28,520.	5,704.	ppb	0.90	200000.	
43 Ca	19,810.	3,962.	ppb	1.72	#VALUE!	
44 Ca	19,895.	3,979.	ppb	1.00	200000.	
51 V	203.35	40.67	ppb	1.73	1000.	
52 Cr	107.8	21.56	ppb	2.21	2000.	
53 Cr	149.8	29.96	ppb	3.71	#VALUE!	
55 Mn	3,336.5	667.3	ppb	1.07	2000.	
56 Fe	94,700.	18,940.	ppb	1.30	#VALUE!	
57 Fe	92,200.	18,440.	ppb	1.90	100000.	
59 Co	59.2	11.84	ppb	2.50	1000.	
60 Ni	79.8	15.96	ppb	1.83	1000.	
63 Cu	84.35	16.87	ppb	1.43	#VALUE!	
65 Cu	84.35	16.87	ppb	2.41	2000.	
66 Zn	322.9	64.58	ppb	1.68	2000.	
68 Zn	364.55	72.91	ppb	1.33	#VALUE!	
75 As	21.985	4.397	ppb	0.92	1000.	
82 Se	5.615	1.123	ppb	12.93	1000.	
88 Sr	267.95	53.59	ppb	1.15	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	13.02	2.604	ppb	4.05	1000.	
107 Ag	0.5095	0.1019	ppb	6.19	100.	
109 Ag	0.4189	0.0838	ppb	11.79	#VALUE!	
111 Cd	2.4395	0.4879	ppb	7.73	#VALUE!	
114 Cd	1.141	0.2282	ppb	3.24	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	50.8	10.16	ppb	1.98	1000.	
120 Sn	50.65	10.13	ppb	1.54	#VALUE!	
121 Sb	1.16	0.232	ppb	7.58	#VALUE!	
123 Sb	1.1975	0.2395	ppb	10.66	1000.	
135 Ba	1,335.5	267.1	ppb	1.00	2000.	
137 Ba	1,346.	269.2	ppb	1.76	#VALUE!	
182 W	0.993	0.1986	ppb	10.86	1000.	
203 Tl	2.178	0.4356	ppb	6.01	1000.	
205 Tl	1.9885	0.3977	ppb	1.30	#VALUE!	
208 Pb	152.	30.4	ppb	1.10	2000.	
232 Th	65.75	13.15	ppb	1.90	1000.	
238 U	12.73	2.546	ppb	0.66	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2902067.00	2.67	2658648.80	109.2	69.5 - 120	
45 Sc	2330882.80	2.24	2094536.40	111.3	69.5 - 120	
72 Ge	450196.28	2.40	441280.53	102.0	69.5 - 120	
159 Tb	3102885.00	1.01	3254384.00	95.3	69.5 - 120	
209 Bi	1465060.60	1.39	1622942.50	90.3	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000390

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\119SMPL.D\119SMPL.D#
Date Acquired: May 22 2018 09:27 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL4233-003
Misc Info:
Vial Number: 3202
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	5.215	1.043	ppb	1.67	100.	
11 B	77.95	15.59	ppb	4.02	1000.	
23 Na	5,795.	1,159.	ppb	1.82	200000.	
25 Mg	64,600.	12,920.	ppb	2.16	200000.	
27 Al	114,150.	22,830.	ppb	0.75	200000.	
28 Si	2,368.5	473.7	ppb	6.71	#VALUE!	
29 Si	2,296.5	459.3	ppb	1.36	10000.	
39 K	28,205.	5,641.	ppb	0.70	200000.	
43 Ca	1,523,500.	304,700.	ppb	0.96	#VALUE!	
44 Ca	1,488,000.	297,600.	ppb	0.29	200000.	>LDR
51 V	224.25	44.85	ppb	0.53	1000.	
52 Cr	109.65	21.93	ppb	0.60	2000.	
53 Cr	134.6	26.92	ppb	2.75	#VALUE!	
55 Mn	1,846.	369.2	ppb	0.50	2000.	
56 Fe	94,450.	18,890.	ppb	0.80	#VALUE!	
57 Fe	94,450.	18,890.	ppb	1.35	100000.	
59 Co	44.505	8.901	ppb	1.73	1000.	
60 Ni	88.6	17.72	ppb	1.65	1000.	
63 Cu	94.6	18.92	ppb	0.53	#VALUE!	
65 Cu	96.25	19.25	ppb	2.17	2000.	
66 Zn	304.05	60.81	ppb	1.47	2000.	
68 Zn	529.5	105.9	ppb	1.07	#VALUE!	
75 As	29.27	5.854	ppb	4.80	1000.	
82 Se	6.985	1.397	ppb	8.74	1000.	
88 Sr	1,807.5	361.5	ppb	0.37	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	2.964	0.5928	ppb	6.19	1000.	
107 Ag	0.4479	0.0896	ppb	4.97	100.	
109 Ag	0.343	0.0686	ppb	8.94	#VALUE!	
111 Cd	6.54	1.308	ppb	1.86	#VALUE!	
114 Cd	4.6515	0.9303	ppb	2.01	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	45.825	9.165	ppb	0.37	1000.	
120 Sn	46.2	9.24	ppb	0.75	#VALUE!	
121 Sb	1.222	0.2444	ppb	0.43	#VALUE!	
123 Sb	1.3305	0.2661	ppb	9.80	1000.	
135 Ba	5,925.	1,185.	ppb	0.41	2000.	
137 Ba	5,915.	1,183.	ppb	0.64	#VALUE!	
182 W	0.565	0.113	ppb	6.91	1000.	
203 Tl	2.084	0.4168	ppb	0.26	1000.	
205 Tl	2.0095	0.4019	ppb	4.46	#VALUE!	
208 Pb	74.05	14.81	ppb	0.42	2000.	
232 Th	46.575	9.315	ppb	0.80	1000.	
238 U	31.99	6.398	ppb	1.00	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2912800.30	5.16	2658648.80	109.6	69.5 - 120	
45 Sc	2214917.00	2.88	2094536.40	105.7	69.5 - 120	
72 Ge	425353.84	1.61	441280.53	96.4	69.5 - 120	
159 Tb	3370644.30	1.71	3254384.00	103.6	69.5 - 120	
209 Bi	1542194.60	2.71	1622942.50	95.0	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Katahdin Analytical Services 4000391

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\120SMPL.D\120SMPL.D#
Date Acquired: May 22 2018 09:31 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL4233-003
Misc Info:
Vial Number: 3203
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Sample Type: Sample
Dilution Factor: 10.00
Autodil Factor: Undiluted
Final Dil Factor: 10.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	5.817	0.5817	ppb	6.21	100.	
11 B	85.89	8.589	ppb	1.66	1000.	
23 Na	6,183.	618.3	ppb	2.07	200000.	
25 Mg	69,760.	6,976.	ppb	3.14	200000.	
27 Al	119,700.	11,970.	ppb	3.17	200000.	
28 Si	2,132.	213.2	ppb	8.17	#VALUE!	
29 Si	2,099.	209.9	ppb	8.72	10000.	
39 K	30,190.	3,019.	ppb	2.14	200000.	
43 Ca	1,647,000.	164,700.	ppb	3.21	#VALUE!	
44 Ca	1,589,000.	158,900.	ppb	2.68	200000.	
51 V	232.6	23.26	ppb	0.67	1000.	
52 Cr	114.9	11.49	ppb	2.67	2000.	
53 Cr	121.4	12.14	ppb	3.09	#VALUE!	
55 Mn	1,954.	195.4	ppb	1.70	2000.	
56 Fe	98,420.	9,842.	ppb	1.18	#VALUE!	
57 Fe	100,400.	10,040.	ppb	0.53	100000.	
59 Co	47.34	4.734	ppb	1.38	1000.	
60 Ni	93.22	9.322	ppb	0.14	1000.	
63 Cu	102.5	10.25	ppb	0.98	#VALUE!	
65 Cu	107.4	10.74	ppb	0.38	2000.	
66 Zn	328.5	32.85	ppb	0.60	2000.	
68 Zn	562.7	56.27	ppb	2.20	#VALUE!	
75 As	31.11	3.111	ppb	6.64	1000.	
82 Se	5.17	0.517	ppb	36.27	1000.	
88 Sr	1,929.	192.9	ppb	0.86	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	3.238	0.3238	ppb	7.38	1000.	
107 Ag	0.5204	0.052	ppb	12.91	100.	
109 Ag	0.3774	0.0377	ppb	23.86	#VALUE!	
111 Cd	6.923	0.6923	ppb	4.85	#VALUE!	
114 Cd	4.863	0.4863	ppb	2.18	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	49.36	4.936	ppb	2.38	1000.	
120 Sn	48.81	4.881	ppb	1.05	#VALUE!	
121 Sb	1.321	0.1321	ppb	4.92	#VALUE!	
123 Sb	1.389	0.1389	ppb	8.35	1000.	
135 Ba	6,288.	628.8	ppb	2.55	2000.	
137 Ba	6,326.	632.6	ppb	2.08	#VALUE!	
182 W	0.6682	0.0668	ppb	3.24	1000.	
203 Tl	2.191	0.2191	ppb	17.96	1000.	
205 Tl	2.188	0.2188	ppb	10.72	#VALUE!	
208 Pb	76.43	7.643	ppb	0.45	2000.	
232 Th	46.87	4.687	ppb	0.54	1000.	
238 U	32.59	3.259	ppb	0.51	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2863118.00	1.92	2658648.80	107.7	69.5 - 120	
45 Sc	2260128.50	2.24	2094536.40	107.9	69.5 - 120	
72 Ge	441991.19	2.41	441280.53	100.2	69.5 - 120	
159 Tb	3408822.30	1.12	3254384.00	104.7	69.5 - 120	
209 Bi	1625660.90	1.30	1622942.50	100.2	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000392

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\121SMPL.D\121SMPL.D#
Date Acquired: May 22 2018 09:36 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL4233-004
Misc Info:
Vial Number: 3204
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	7.27	1.454	ppb	3.00	100.	
11 B	120.	24.	ppb	4.57	1000.	
23 Na	1,218.	243.6	ppb	3.42	200000.	
25 Mg	45,835.	9,167.	ppb	3.39	200000.	
27 Al	167,000.	33,400.	ppb	2.07	200000.	
28 Si	3,619.	723.8	ppb	6.34	#VALUE!	
29 Si	3,376.	675.2	ppb	3.17	10000.	
39 K	51,100.	10,220.	ppb	2.00	200000.	
43 Ca	55,850.	11,170.	ppb	1.51	#VALUE!	
44 Ca	56,200.	11,240.	ppb	0.58	200000.	
51 V	298.7	59.74	ppb	0.78	1000.	
52 Cr	146.2	29.24	ppb	0.47	2000.	
53 Cr	179.2	35.84	ppb	1.07	#VALUE!	
55 Mn	2,766.	553.2	ppb	0.85	2000.	
56 Fe	138,450.	27,690.	ppb	0.38	#VALUE!	
57 Fe	133,800.	26,760.	ppb	0.90	100000.	
59 Co	58.45	11.69	ppb	0.16	1000.	
60 Ni	119.45	23.89	ppb	0.66	1000.	
63 Cu	105.55	21.11	ppb	1.01	#VALUE!	
65 Cu	106.75	21.35	ppb	0.78	2000.	
66 Zn	411.6	82.32	ppb	0.34	2000.	
68 Zn	483.3	96.66	ppb	0.46	#VALUE!	
75 As	41.84	8.368	ppb	0.47	1000.	
82 Se	5.055	1.011	ppb	5.64	1000.	
88 Sr	469.	93.8	ppb	1.23	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	9.76	1.952	ppb	3.48	1000.	
107 Ag	0.6885	0.1377	ppb	2.88	100.	
109 Ag	0.5895	0.1179	ppb	1.96	#VALUE!	
111 Cd	3.5585	0.7117	ppb	10.07	#VALUE!	
114 Cd	0.625	0.125	ppb	31.45	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	52.25	10.45	ppb	1.59	1000.	
120 Sn	52.05	10.41	ppb	0.24	#VALUE!	
121 Sb	1.7905	0.3581	ppb	2.35	#VALUE!	
123 Sb	1.8145	0.3629	ppb	7.78	1000.	
135 Ba	2,061.	412.2	ppb	1.21	2000.	
137 Ba	2,057.5	411.5	ppb	0.70	#VALUE!	
182 W	0.893	0.1786	ppb	6.79	1000.	
203 Tl	2.42	0.484	ppb	7.02	1000.	
205 Tl	2.4605	0.4921	ppb	3.97	#VALUE!	
208 Pb	125.9	25.18	ppb	0.06	2000.	
232 Th	73.3	14.66	ppb	0.57	1000.	
238 U	10.505	2.101	ppb	2.33	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2887835.00	4.97	2658648.80	108.6	69.5 - 120	
45 Sc	2223837.80	2.49	2094536.40	106.2	69.5 - 120	
72 Ge	436308.91	2.34	441280.53	98.9	69.5 - 120	
159 Tb	3463366.80	1.11	3254384.00	106.4	69.5 - 120	
209 Bi	1649271.80	0.53	1622942.50	101.6	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000393

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\122SMPL.D\122SMPL.D#
Date Acquired: May 22 2018 09:40 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL4233-005
Misc Info:
Vial Number: 3205
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	9.065	1.813	ppb	1.98	100.	
11 B	136.8	27.36	ppb	4.91	1000.	
23 Na	1,377.	275.4	ppb	2.11	200000.	
25 Mg	52,600.	10,520.	ppb	3.73	200000.	
27 Al	192,900.	38,580.	ppb	1.79	200000.	
28 Si	3,518.5	703.7	ppb	4.61	#VALUE!	
29 Si	3,227.5	645.5	ppb	2.23	10000.	
39 K	60,750.	12,150.	ppb	2.32	200000.	
43 Ca	55,200.	11,040.	ppb	2.26	#VALUE!	
44 Ca	55,100.	11,020.	ppb	1.11	200000.	
51 V	348.3	69.66	ppb	0.95	1000.	
52 Cr	173.95	34.79	ppb	0.83	2000.	
53 Cr	210.95	42.19	ppb	2.36	#VALUE!	
55 Mn	3,655.	731.	ppb	0.58	2000.	
56 Fe	167,850.	33,570.	ppb	0.45	#VALUE!	
57 Fe	162,300.	32,460.	ppb	0.64	100000.	
59 Co	71.2	14.24	ppb	1.72	1000.	
60 Ni	146.75	29.35	ppb	0.84	1000.	
63 Cu	128.9	25.78	ppb	0.50	#VALUE!	
65 Cu	130.8	26.16	ppb	0.67	2000.	
66 Zn	505.	101.	ppb	0.70	2000.	
68 Zn	574.5	114.9	ppb	0.67	#VALUE!	
75 As	52.85	10.57	ppb	1.89	1000.	
82 Se	6.88	1.376	ppb	15.14	1000.	
88 Sr	556.5	111.3	ppb	0.50	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	13.23	2.646	ppb	0.78	1000.	
107 Ag	0.853	0.1706	ppb	2.02	100.	
109 Ag	0.7735	0.1547	ppb	2.86	#VALUE!	
111 Cd	3.903	0.7806	ppb	9.98	#VALUE!	
114 Cd	1.1685	0.2337	ppb	7.03	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	56.4	11.28	ppb	0.88	1000.	
120 Sn	56.65	11.33	ppb	0.78	#VALUE!	
121 Sb	4.98	0.996	ppb	1.28	#VALUE!	
123 Sb	5.13	1.026	ppb	6.81	1000.	
135 Ba	2,126.	425.2	ppb	1.71	2000.	
137 Ba	2,137.	427.4	ppb	2.49	#VALUE!	
182 W	1.0715	0.2143	ppb	9.32	1000.	
203 Tl	3.097	0.6194	ppb	3.07	1000.	
205 Tl	3.056	0.6112	ppb	1.53	#VALUE!	
208 Pb	666.	133.2	ppb	0.71	2000.	
232 Th	94.7	18.94	ppb	0.69	1000.	
238 U	13.21	2.642	ppb	1.56	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2844177.00	3.84	2658648.80	107.0	69.5 - 120	
45 Sc	2284750.30	1.96	2094536.40	109.1	69.5 - 120	
72 Ge	442044.56	1.79	441280.53	100.2	69.5 - 120	
159 Tb	3341432.80	1.02	3254384.00	102.7	69.5 - 120	
209 Bi	1580044.10	0.53	1622942.50	97.4	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000394

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\123SMPL.D\123SMPL.D#
Date Acquired: May 22 2018 09:44 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL4233-006
Misc Info:
Vial Number: 3206
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	7.185	1.437	ppb	0.80	100.	
11 B	143.1	28.62	ppb	3.20	1000.	
23 Na	16,780.	3,356.	ppb	1.25	200000.	
25 Mg	58,850.	11,770.	ppb	1.31	200000.	
27 Al	163,000.	32,600.	ppb	1.09	200000.	
28 Si	3,237.5	647.5	ppb	12.32	#VALUE!	
29 Si	2,714.	542.8	ppb	1.73	10000.	
39 K	49,625.	9,925.	ppb	1.28	200000.	
43 Ca	77,150.	15,430.	ppb	1.63	#VALUE!	
44 Ca	76,400.	15,280.	ppb	0.56	200000.	
51 V	300.7	60.14	ppb	0.79	1000.	
52 Cr	144.05	28.81	ppb	0.33	2000.	
53 Cr	189.55	37.91	ppb	1.96	#VALUE!	
55 Mn	2,680.5	536.1	ppb	0.84	2000.	
56 Fe	143,300.	28,660.	ppb	1.03	#VALUE!	
57 Fe	138,750.	27,750.	ppb	0.47	100000.	
59 Co	59.6	11.92	ppb	0.71	1000.	
60 Ni	128.4	25.68	ppb	0.67	1000.	
63 Cu	108.75	21.75	ppb	1.16	#VALUE!	
65 Cu	108.9	21.78	ppb	1.14	2000.	
66 Zn	413.9	82.78	ppb	0.93	2000.	
68 Zn	498.8	99.76	ppb	0.86	#VALUE!	
75 As	52.9	10.58	ppb	1.19	1000.	
82 Se	5.74	1.148	ppb	7.64	1000.	
88 Sr	618.	123.6	ppb	0.79	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	16.305	3.261	ppb	0.33	1000.	
107 Ag	0.8255	0.1651	ppb	5.87	100.	
109 Ag	0.638	0.1276	ppb	9.26	#VALUE!	
111 Cd	2.81	0.562	ppb	7.21	#VALUE!	
114 Cd	0.7725	0.1545	ppb	5.90	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	50.75	10.15	ppb	1.71	1000.	
120 Sn	50.95	10.19	ppb	1.26	#VALUE!	
121 Sb	3.1355	0.6271	ppb	4.81	#VALUE!	
123 Sb	3.1015	0.6203	ppb	9.66	1000.	
135 Ba	2,400.	480.	ppb	1.03	2000.	
137 Ba	2,384.5	476.9	ppb	1.24	#VALUE!	
182 W	0.9065	0.1813	ppb	9.43	1000.	
203 Tl	2.672	0.5344	ppb	4.06	1000.	
205 Tl	2.577	0.5154	ppb	6.12	#VALUE!	
208 Pb	192.65	38.53	ppb	0.75	2000.	
232 Th	68.15	13.63	ppb	1.01	1000.	
238 U	12.435	2.487	ppb	2.83	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2910899.00	3.11	2658648.80	109.5	69.5 - 120	
45 Sc	2252039.30	1.80	2094536.40	107.5	69.5 - 120	
72 Ge	444278.47	2.18	441280.53	100.7	69.5 - 120	
159 Tb	3316778.00	0.80	3254384.00	101.9	69.5 - 120	
209 Bi	1549488.40	1.02	1622942.50	95.5	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000395

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\124SMPL.D\124SMPL.D#
Date Acquired: May 22 2018 09:48 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: SL4233-007
Misc Info:
Vial Number: 3207
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	10.86	2.172	ppb	1.57	100.	
11 B	163.05	32.61	ppb	4.79	1000.	
23 Na	2,494.5	498.9	ppb	2.58	200000.	
25 Mg	81,850.	16,370.	ppb	1.54	200000.	
27 Al	239,200.	47,840.	ppb	1.96	200000.	
28 Si	2,886.5	577.3	ppb	8.42	#VALUE!	
29 Si	2,562.5	512.5	ppb	4.07	10000.	
39 K	73,000.	14,600.	ppb	1.12	200000.	
43 Ca	63,650.	12,730.	ppb	2.02	#VALUE!	
44 Ca	62,700.	12,540.	ppb	1.39	200000.	
51 V	399.95	79.99	ppb	0.72	1000.	
52 Cr	200.15	40.03	ppb	0.85	2000.	
53 Cr	247.45	49.49	ppb	1.03	#VALUE!	
55 Mn	2,918.	583.6	ppb	0.21	2000.	
56 Fe	213,250.	42,650.	ppb	0.22	#VALUE!	
57 Fe	205,900.	41,180.	ppb	1.05	100000.	
59 Co	78.2	15.64	ppb	0.82	1000.	
60 Ni	205.2	41.04	ppb	0.44	1000.	
63 Cu	156.05	31.21	ppb	0.78	#VALUE!	
65 Cu	157.4	31.48	ppb	0.79	2000.	
66 Zn	590.5	118.1	ppb	0.63	2000.	
68 Zn	691.5	138.3	ppb	0.46	#VALUE!	
75 As	78.15	15.63	ppb	2.23	1000.	
82 Se	6.725	1.345	ppb	10.13	1000.	
88 Sr	599.5	119.9	ppb	0.55	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	16.82	3.364	ppb	1.90	1000.	
107 Ag	1.2305	0.2461	ppb	3.51	100.	
109 Ag	1.118	0.2236	ppb	4.74	#VALUE!	
111 Cd	3.4215	0.6843	ppb	10.23	#VALUE!	
114 Cd	1.1515	0.2303	ppb	18.87	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	53.9	10.78	ppb	1.45	1000.	
120 Sn	54.3	10.86	ppb	0.52	#VALUE!	
121 Sb	3.176	0.6352	ppb	2.61	#VALUE!	
123 Sb	3.3815	0.6763	ppb	4.14	1000.	
135 Ba	3,099.	619.8	ppb	1.02	2000.	
137 Ba	3,157.	631.4	ppb	2.44	#VALUE!	
182 W	0.7265	0.1453	ppb	13.92	1000.	
203 Tl	3.4245	0.6849	ppb	0.97	1000.	
205 Tl	3.5105	0.7021	ppb	2.22	#VALUE!	
208 Pb	137.55	27.51	ppb	0.69	2000.	
232 Th	90.15	18.03	ppb	1.90	1000.	
238 U	10.515	2.103	ppb	1.30	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2927276.80	5.85	2658648.80	110.1	69.5 - 120	
45 Sc	2306491.30	3.44	2094536.40	110.1	69.5 - 120	
72 Ge	445564.75	2.55	441280.53	101.0	69.5 - 120	
159 Tb	3221274.50	0.65	3254384.00	99.0	69.5 - 120	
209 Bi	1484682.40	0.64	1622942.50	91.5	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000396

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\125SMPL.D\125SMPL.D#
Date Acquired: May 22 2018 09:53 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: RINSE
Misc Info:
Vial Number: 3208
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	-0.0014	-0.0014	ppb	204.29	100.	
11 B	0.5296	0.5296	ppb	18.12	1000.	
23 Na	0.1677	0.1677	ppb	77.88	200000.	
25 Mg	0.3562	0.3562	ppb	3.48	200000.	
27 Al	1.437	1.437	ppb	18.15	200000.	
28 Si	49.	49.	ppb	53.76	#VALUE!	
29 Si	-49.77	-49.77	ppb	34.66	10000.	
39 K	-1.538	-1.538	ppb	188.17	200000.	
43 Ca	0.3587	0.3587	ppb	1454.70	#VALUE!	
44 Ca	0.4966	0.4966	ppb	237.82	200000.	
51 V	0.074	0.074	ppb	146.26	1000.	
52 Cr	0.0505	0.0505	ppb	31.42	2000.	
53 Cr	-0.9837	-0.9837	ppb	40.80	#VALUE!	
55 Mn	0.0079	0.0079	ppb	90.13	2000.	
56 Fe	13.99	13.99	ppb	27.81	#VALUE!	
57 Fe	7.742	7.742	ppb	60.57	100000.	
59 Co	-0.0003	-0.0003	ppb	943.03	1000.	
60 Ni	0.01	0.01	ppb	160.84	1000.	
63 Cu	0.0989	0.0989	ppb	7.12	#VALUE!	
65 Cu	0.0991	0.0991	ppb	2.29	2000.	
66 Zn	0.1009	0.1009	ppb	23.20	2000.	
68 Zn	0.0737	0.0737	ppb	173.99	#VALUE!	
75 As	-0.09	-0.09	ppb	157.71	1000.	
82 Se	-0.0759	-0.0759	ppb	252.17	1000.	
88 Sr	0.002	0.002	ppb	68.47	2000.	
89 Y	----	--------	--- ---		#VALUE!	
98 Mo	0.003	0.003	ppb	159.50	1000.	
107 Ag	-0.002	-0.002	ppb	63.40	100.	
109 Ag	-0.0006	-0.0006	ppb	212.03	#VALUE!	
111 Cd	-0.0719	-0.0719	ppb	13.93	#VALUE!	
114 Cd	-0.0056	-0.0056	ppb	67.69	1000.	
115 In	----	--------	--- ---		#VALUE!	
118 Sn	-0.0046	-0.0046	ppb	214.44	1000.	
120 Sn	0.0176	0.0176	ppb	201.59	#VALUE!	
121 Sb	-0.0122	-0.0122	ppb	49.98	#VALUE!	
123 Sb	0.0006	0.0006	ppb	408.95	1000.	
135 Ba	0.0107	0.0107	ppb	195.06	2000.	
137 Ba	0.0124	0.0124	ppb	136.97	#VALUE!	
182 W	0.0052	0.0052	ppb	68.04	1000.	
203 Tl	0.0015	0.0015	ppb	165.06	1000.	
205 Tl	0.0002	0.0002	ppb	846.72	#VALUE!	
208 Pb	0.0089	0.0089	ppb	80.42	2000.	
232 Th	0.0257	0.0257	ppb	36.35	1000.	
238 U	-0.0009	-0.0009	ppb	150.70	1000.	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2731058.00	3.40	2658648.80	102.7	69.5 - 120	
45 Sc	2128872.00	2.63	2094536.40	101.6	69.5 - 120	
72 Ge	423390.53	1.68	441280.53	95.9	69.5 - 120	
159 Tb	2889335.80	1.02	3254384.00	88.8	69.5 - 120	
209 Bi	1401794.60	1.08	1622942.50	86.4	69.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Katahdin Analytical Services 4000397

CCV QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\126_CCV.D\126_CCV.D#
Date Acquired: May 22 2018 09:57 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: CCV
Misc Info:
Vial Number: 1306
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Dilution Factor: 1.00
QC Range (%): 89.5 - 110.5

QC Elements

Element	Conc.		RSD(%)	Expected	Rec (%)	Flag
9 Be	24.36	ppb	6.76	25	97.44	
11 B	24.11	ppb	6.18	25	96.44	
23 Na	5,239.	ppb	3.91	5,000	104.78	
25 Mg	5,283.	ppb	5.62	5,000	105.66	
27 Al	513.9	ppb	4.02	500	102.78	
28 Si	504.7	ppb	7.86	500	100.94	
29 Si	433.8	ppb	8.51	500	86.76	Fail
39 K	4,965.	ppb	3.65	5,000	99.3	
43 Ca	4,996.	ppb	4.05	5,000	99.92	
44 Ca	5,067.	ppb	3.27	5,000	101.34	
51 V	26.16	ppb	2.52	25	104.64	
52 Cr	25.68	ppb	3.11	25	102.72	
53 Cr	25.45	ppb	7.26	25	101.8	
55 Mn	25.8	ppb	2.00	25	103.2	
56 Fe	5,055.	ppb	0.85	5,000	101.1	
57 Fe	5,128.	ppb	2.18	5,000	102.56	
59 Co	25.6	ppb	2.43	25	102.4	
60 Ni	25.66	ppb	4.81	25	102.64	
63 Cu	25.42	ppb	2.45	25	101.68	
65 Cu	25.38	ppb	1.34	25	101.52	
66 Zn	25.02	ppb	2.12	25	100.08	
68 Zn	25.07	ppb	1.12	25	100.28	
75 As	25.38	ppb	2.23	25	101.52	
82 Se	25.25	ppb	3.59	25	101	
88 Sr	24.46	ppb	3.04	25	97.84	
89 Y	--------	---	--------	---	#VALUE!	
98 Mo	24.45	ppb	1.42	25	97.8	
107 Ag	23.93	ppb	1.96	25	95.72	
109 Ag	24.01	ppb	2.19	25	96.04	
111 Cd	23.89	ppb	2.04	25	95.56	
114 Cd	23.93	ppb	1.81	25	95.72	
115 In	--------	---	--------	---	#VALUE!	
118 Sn	25.37	ppb	4.16	25	101.48	
120 Sn	25.44	ppb	3.80	25	101.76	
121 Sb	25.64	ppb	4.00	25	102.56	
123 Sb	25.63	ppb	4.69	25	102.52	
135 Ba	25.95	ppb	4.98	25	103.8	
137 Ba	25.91	ppb	5.56	25	103.64	
182 W	23.64	ppb	3.80	25	94.56	
203 Tl	24.82	ppb	2.18	25	99.28	
205 Tl	24.7	ppb	2.90	25	98.8	
208 Pb	24.79	ppb	2.92	25	99.16	
232 Th	24.03	ppb	1.98	25	96.12	
238 U	22.98	ppb	2.85	25	91.92	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2923569.00	5.25	2658648.80	110.0	80 - 120.4	
45 Sc	2238208.80	2.61	2094536.40	106.9	80 - 120.4	
72 Ge	439481.78	0.99	441280.53	99.6	80 - 120.4	
159 Tb	3096273.50	2.73	3254384.00	95.1	80 - 120.4	
209 Bi	1474829.50	0.88	1622942.50	90.9	80 - 120.4	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\JLE22A.B\127_CCB.D\127_CCB.D#
Date Acquired: May 22 2018 10:01 pm
Acq. Method: 1PTCALGe.M
Operator: JS
Sample Name: CCB
Misc Info:
Vial Number: 1307
Current Method: C:\ICPCHEM\1\METHODS\1PTCALGe.M
Calibration File: C:\ICPCHEM\1\CALIB\1PTCALGe.C
Last Cal. Update: May 22 2018 02:42 pm
Sample Type: 6-CCB
Dilution Factor: 1.00

QC Elements

Element	Conc.		RSD(%)	High Limit	Flag
9 Be	0.0045	ppb	46.64	1.00	
11 B	0.468	ppb	15.31	1.00	
23 Na	0.2021	ppb	71.20	1.00	
25 Mg	0.11	ppb	104.09	1.00	
27 Al	-0.0058	ppb	779.28	1.00	
28 Si	43.8	ppb	83.15	1.00	
29 Si	-33.54	ppb	75.37	1.00	
39 K	-0.985	ppb	386.29	1.00	
43 Ca	-2.761	ppb	90.80	1.00	
44 Ca	-0.8323	ppb	237.77	1.00	
51 V	0.0626	ppb	79.23	1.00	
52 Cr	0.029	ppb	96.10	1.00	
53 Cr	-0.9616	ppb	34.09	1.00	
55 Mn	0.0054	ppb	269.71	1.00	
56 Fe	10.05	ppb	45.77	1.00	
57 Fe	4.888	ppb	25.02	1.00	
59 Co	0.003	ppb	138.96	1.00	
60 Ni	0.0716	ppb	11.92	1.00	
63 Cu	0.0511	ppb	29.21	1.00	
65 Cu	0.0491	ppb	132.18	1.00	
66 Zn	0.0827	ppb	27.68	1.00	
68 Zn	0.0181	ppb	470.03	1.00	
75 As	0.0243	ppb	697.49	1.00	
82 Se	0.0336	ppb	545.08	1.00	
88 Sr	-0.0013	ppb	146.04	1.00	
89 Y	--------	---	--------	---	
98 Mo	0.0229	ppb	36.07	1.00	
107 Ag	0.0032	ppb	127.22	1.00	
109 Ag	0.0007	ppb	276.46	1.00	
111 Cd	-0.0893	ppb	16.45	1.00	
114 Cd	-0.0036	ppb	107.43	1.00	
115 In	--------	---	--------	---	
118 Sn	0.0378	ppb	54.73	1.00	
120 Sn	0.0278	ppb	56.48	1.00	
121 Sb	-0.0031	ppb	93.32	1.00	
123 Sb	0.0091	ppb	71.10	1.00	
135 Ba	0.0091	ppb	129.34	1.00	
137 Ba	0.0078	ppb	53.37	1.00	
182 W	0.0476	ppb	33.99	1.00	
203 Tl	0.0044	ppb	99.66	1.00	
205 Tl	0.	ppb	106230.00	1.00	
208 Pb	0.0044	ppb	25.47	1.00	
232 Th	0.0497	ppb	17.47	1.00	
238 U	0.0017	ppb	21.34	1.00	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2731996.50	1.03	2658648.80	102.8	79.5 - 120	
45 Sc	2127880.80	1.89	2094536.40	101.6	79.5 - 120	
72 Ge	423557.03	1.67	441280.53	96.0	79.5 - 120	
159 Tb	2907497.80	1.39	3254384.00	89.3	79.5 - 120	
209 Bi	1430914.90	2.29	1622942.50	88.2	79.5 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\JLE22A.B\017CALB.D\017CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Logbooks and Supporting Documents

Katahdin Analytical Services, Inc. **Metals Preparation Benchsheet**

Reagent Information: **Method:** 7470

HNO3: MSR101 H2SO4: MSR243

KMNO4: MR2003 K2S2O8: MR1963 NH2OH-HCl: MR2011

REVIEWED
JSS 17.18
KATAHDIN ANALYTICAL
METALS SECTION

Standards/Spiking Information:

1ppm A : MW17721

Pipet 1ppm B : MW17722

M11 LCSW = 125uL of 1ppm A to 25mL

M11 Spike(S/P) = 25uL of 1ppm A to 25mL

M15 ICV = 600uL of 1ppm B to 100 mL

M15 S10.0 = 1000uL of 1ppm A to 100 mL

Heat Source ID : C

Start Time: 0950 /Temp. 91 °C

End Time: 1150 /Temp. 95 °C

Thermometer ID/Pos: Dig81 / 5.6

Sample ID	Batch ID	Initial Wt/Vol	Initial Units	Final Vol	Final Units	MX	Meth	Anal.	Date	Bottle
LCSWLE17HGW2	LE17HGW2	0.025	L	0.025	L	AQ	HG	AMJ	05/17/2018	
PBT1454A	LE17HGW2		L		L	AQ	HG	AMJ	05/17/2018	A
PBWLE17HGW2	LE17HGW2		L		L	AQ	HG	AMJ	05/17/2018	B AMJ 5/17/18
SL4180-029	LE17HGW2		L		L	AQ	HG	AMJ	05/17/2018	D
SL4201-001	LE17HGW2		L		L	AQ	HG	AMJ	05/17/2018	A
SL4202-001	LE17HGW2		L		L	AQ	HG	AMJ	05/17/2018	A
SL4202-001P *	LE17HGW2		L		L	AQ	HG	AMJ	05/17/2018	A
SL4202-001S *	LE17HGW2		L		L	AQ	HG	AMJ	05/17/2018	A
SL4203-001	LE17HGW2		L		L	AQ	HG	AMJ	05/17/2018	B
SL4206-002	LE17HGW2		L		L	AQ	HG	AMJ	05/17/2018	H
SL4206-003	LE17HGW2		L		L	AQ	HG	AMJ	05/17/2018	H
SL4206-004	LE17HGW2		L		L	AQ	HG	AMJ	05/17/2018	H
SL4206-005	LE17HGW2		L		L	AQ	HG	AMJ	05/17/2018	H
SL4206-006	LE17HGW2		L		L	AQ	HG	AMJ	05/17/2018	H
SL4206-007	LE17HGW2		L		L	AQ	HG	AMJ	05/17/2018	H
SL4206-008	LE17HGW2		L		L	AQ	HG	AMJ	05/17/2018	H
SL4206-009	LE17HGW2		L		L	AQ	HG	AMJ	05/17/2018	H
SL4233-054	LE17HGW2		L		L	AQ	HG	AMJ	05/17/2018	D

* Matrix Spike information please look at QAAA185 pg 62.

JSS 17.18

QA-066-Revision 3 - 06/01/2017 Digestion performed by: AMJ On: 5/17/18 Page: LE103 Revision: 00

Katahdin Analytical Services, Inc. **Metals Preparation Benchsheet**

Reagent Information:

Aqua Regia: MR2022 Boiling Stones: MSR90 Method: 7471

KMNO4: MR2003 NH2OH-HCl: MR1463 5/21/18 2011

Standards/Spiking Information:

1ppm A : MW17721 Heat Source ID : B

Pipet 1ppm B : MW17722 Start Time: 0913 /Temp. 91 °C

M15 LCSO = 500uL of 1ppm A to 100mL End Time: 0943 /Temp. 94 °C

M11 Spike(S/P) = 100uL of 1ppm A to 100mL Thermometer ID/Pos: AIC25 16.5

M15 ICV = 600uL of 1ppm B to 100 mL

M15 S10.0 = 1000uL of 1ppm A to 100 mL

Balance ID: Bal15 LCSS: NA

REVIEWED
JSS.22.18
KATAHDIN ANALYTICAL
METALS SECTION

Sample ID	Batch ID	Initial Wt/Vol	Initial Units	Final Vol	Final Units	MX	Meth	Anal.	Date	Bottle
LCSOLE21HGS1	LE21HGS1	0.6	g	0.1	L	SL	HG	AMJ	05/21/2018	
PBSLE21HGS1	LE21HGS1	0.6	g		L	SL	HG	AMJ	05/21/2018	
SL4180-001	LE21HGS1	0.79	g		L	SL	HG	AMJ	05/21/2018	E
SL4180-002	LE21HGS1	0.70	g		L	SL	HG	AMJ	05/21/2018	
SL4180-003	LE21HGS1	0.72	g		L	SL	HG	AMJ	05/21/2018	
SL4180-004	LE21HGS1	0.101	g		L	SL	HG	AMJ	05/21/2018	
SL4180-005	LE21HGS1	0.73	g		L	SL	HG	AMJ	05/21/2018	
SL4180-006	LE21HGS1	0.85	g		L	SL	HG	AMJ	05/21/2018	
SL4180-007	LE21HGS1	0.107	g		L	SL	HG	AMJ	05/21/2018	
SL4180-008	LE21HGS1	0.74	g		L	SL	HG	AMJ	05/21/2018	O
SL4180-008P	LE21HGS1	0.75	g		L	SL	HG	AMJ	05/21/2018	O
SL4180-008S	LE21HGS1	0.76	g		L	SL	HG	AMJ	05/21/2018	O
SL4180-009	LE21HGS1	0.87	g		L	SL	HG	AMJ	05/21/2018	E
SL4180-010	LE21HGS1	0.79	g		L	SL	HG	AMJ	05/21/2018	
SL4180-011	LE21HGS1	0.90	g		L	SL	HG	AMJ	05/21/2018	
SL4180-012	LE21HGS1	0.102	g		L	SL	HG	AMJ	05/21/2018	
SL4180-013	LE21HGS1	0.106	g		L	SL	HG	AMJ	05/21/2018	
SL4180-014	LE21HGS1	0.81	g		L	SL	HG	AMJ	05/21/2018	
SL4180-015	LE21HGS1	0.104	g		L	SL	HG	AMJ	05/21/2018	
SL4180-016	LE21HGS1	0.81	g		L	SL	HG	AMJ	05/21/2018	
SL4180-017	LE21HGS1	0.84	g		L	SL	HG	AMJ	05/21/2018	
SL4180-019	LE21HGS1	0.89	g		L	SL	HG	AMJ	05/21/2018	
SL4180-020	LE21HGS1	0.77	g		L	SL	HG	AMJ	05/21/2018	
SL4180-021	LE21HGS1	0.72	g		L	SL	HG	AMJ	05/21/2018	

JSS.22.18

Katahdin Analytical Services, Inc. **Metals Preparation Benchsheet**

Reagent Information:

Aqua Regia: ML2022 Boiling Stones: MSR90 **Method:** 7471

KMNO4: MR2003 NH2OH-HCl: MR2011

REVIEWED
JS 5.22.18
KATAHDIN ANALYTICAL METALS SECTION

Standards/Spiking Information:

1ppm A : MW17721

Pipet 1ppm B : MW17722 5/21/18

M15 LCSO = 500uL of 1ppm A to 100mL

M11 Spike(S/P) = 100uL of 1ppm A to 100mL

M15 ICV = 600uL of 1ppm B to 100 mL

M15 S10.0 = 1000uL of 1ppm A to 100 mL

Balance ID: Bal15 LCSS: NA

Heat Source ID : B

Start Time: 0913 /Temp. 91 °C

End Time: 0943 /Temp. 94 °C

Thermometer ID/Pos: A1C25 16.5

Sample ID	Batch ID	Initial Wt/Vol	Initial Units	Final Vol	Final Units	MX	Meth	Anal.	Date	Bottle
LCSOLE21HGS2	LE21HGS2	0.6	g	0.1	L	SL	HG	AMJ	05/21/2018	
PBSLE21HGS2	LE21HGS2	0.6	g		L	SL	HG	AMJ	05/21/2018	
SL4180-018	LE21HGS2	0.85	g		L	SL	HG	AMJ	05/21/2018	N
SL4180-018P	LE21HGS2	0.87	g		L	SL	HG	AMJ	05/21/2018	N
SL4180-018S	LE21HGS2	0.85	g		L	SL	HG	AMJ	05/21/2018	N
SL4180-022	LE21HGS2	0.87	g		L	SL	HG	AMJ	05/21/2018	E
SL4180-023	LE21HGS2	0.80	g		L	SL	HG	AMJ	05/21/2018	
SL4180-024	LE21HGS2	0.82	g		L	SL	HG	AMJ	05/21/2018	
SL4180-025	LE21HGS2	0.63	g		L	SL	HG	AMJ	05/21/2018	
SL4180-026	LE21HGS2	0.83	g		L	SL	HG	AMJ	05/21/2018	
SL4180-027	LE21HGS2	0.81	g		L	SL	HG	AMJ	05/21/2018	
SL4233-002	LE21HGS2	0.83	g		L	SL	HG	AMJ	05/21/2018	
SL4233-003	LE21HGS2	0.75	g		L	SL	HG	AMJ	05/21/2018	
SL4233-004	LE21HGS2	0.79	g		L	SL	HG	AMJ	05/21/2018	
SL4233-005	LE21HGS2	0.61	g		L	SL	HG	AMJ	05/21/2018	
SL4233-006	LE21HGS2	0.87	g		L	SL	HG	AMJ	05/21/2018	
SL4233-007	LE21HGS2	0.68	g		L	SL	HG	AMJ	05/21/2018	
SL4233-008	LE21HGS2	0.88	g		L	SL	HG	AMJ	05/21/2018	
SL4233-009	LE21HGS2	0.90	g		L	SL	HG	AMJ	05/21/2018	
SL4233-010	LE21HGS2	0.77	g		L	SL	HG	AMJ	05/21/2018	
SL4233-011	LE21HGS2	0.74	g		L	SL	HG	AMJ	05/21/2018	
SL4233-012	LE21HGS2	0.80	g		L	SL	HG	AMJ	05/21/2018	
SL4233-013	LE21HGS2	0.63	g		L	SL	HG	AMJ	05/21/2018	

JS 5.22.18

Katahdin Analytical Services, Inc. **Metals Preparation Benchsheet** **Method:** 3050H-MS

Reagent Information:

HNO3: MSR101 **HCL:** MSR96 **H2O2:** MSR85 **Filter Paper:** 142300058

Boiling Stones: MSR90

Pipet	LCS / Spike	LCS/Spiking Information:
M11	☒ ☒	CLPP-SPK-1 (ID/Vol): MS2124 / ~~0.05~~ 0.1 mL AMJ 5/21/18
M15	☒ ☒	CLPP-SPK-INT1 (ID/Vol): MW17723 / ~~0.5~~ 1.0 mL
M15	☒ ☒	CLPP-SPK-INT2 (ID/Vol): MW17724 / ~~0.5~~ 1.0 mL
____	☐ ☐	____ Spike (ID/Vol): NA / ____ mL

LCSS: NA **Balance ID:** Bal15

Heat Source ID : D

Start Time: 0653 **/Temp.** 93 °C

End Time: 1404 **/Temp.** 95 °C

Thermometer ID/Pos: AIC11 / 6.1

REVIEWED
JSS 5.21.18
KATAHDIN ANALYTICAL
METALS SECTION

Sample ID	Batch ID	Initial Wt/Vol	Initial Units	Final Vol	Final Units	MX	Meth	Anal.	Date	Bottle
LCSOLE21IMS1	LE21IMS1	1.0	g	0.1	L	SL	IM	AMJ	05/21/2018	____
PBSLE21IMS1	LE21IMS1	1.0	g	↓	L	SL	IM	AMJ	05/21/2018	____
SL4067-001	LE21IMS1	1.64 ~~1.74~~	g	↓	L	SL	IM	AMJ	05/21/2018	A
SL4180-001	LE21IMS1	1.74 ~~1.44~~	g	↓	L	SL	IM	AMJ	05/21/2018	E
SL4180-002	LE21IMS1	1.44 ~~1.89~~	g	↓	L	SL	IM	AMJ	05/21/2018	↓
SL4180-003	LE21IMS1	1.89 ~~1.39~~	g	↓	L	SL	IM	AMJ	05/21/2018	↓
SL4180-004	LE21IMS1	1.39 ~~1.92~~	g	↓	L	SL	IM	AMJ	05/21/2018	↓
SL4180-005	LE21IMS1	1.92	g	↓	L	SL	IM	AMJ	05/21/2018	↓
SL4180-006	LE21IMS1	1.19	g	↓	L	SL	IM	AMJ	05/21/2018	↓
SL4180-007	LE21IMS1	1.27	g	↓	L	SL	IM	AMJ	05/21/2018	↓
SL4180-008	LE21IMS1	1.10	g	↓	L	SL	IM	AMJ	05/21/2018	O
SL4180-008P	LE21IMS1	1.10	g	↓	L	SL	IM	AMJ	05/21/2018	O
SL4180-008S	LE21IMS1	1.14	g	↓	L	SL	IM	AMJ	05/21/2018	O
SL4180-009	LE21IMS1	1.14	g	↓	L	SL	IM	AMJ	05/21/2018	E
SL4180-010	LE21IMS1	1.57	g	↓	L	SL	IM	AMJ	05/21/2018	↓
SL4180-011	LE21IMS1	1.50	g	↓	L	SL	IM	AMJ	05/21/2018	↓
SL4180-012	LE21IMS1	1.27	g	↓	L	SL	IM	AMJ	05/21/2018	↓
SL4180-013	LE21IMS1	1.23	g	↓	L	SL	IM	AMJ	05/21/2018	↓
SL4180-014	LE21IMS1	1.11	g	↓	L	SL	IM	AMJ	05/21/2018	↓
SL4180-015	LE21IMS1	1.94	g	↓	L	SL	IM	AMJ	05/21/2018	↓
SL4180-016	LE21IMS1	1.56	g	↓	L	SL	IM	AMJ	05/21/2018	↓
SL4180-017	LE21IMS1	1.26	g	↓	L	SL	IM	AMJ	05/21/2018	↓

JSS for AMJ 5.21.18

JSS 5.21.18

Digestion performed by: AMJ **On:** 5/21/18

Katahdin Analytical Services 4000404

Katahdin Analytical Services, Inc. **Metals Preparation Benchsheet** **Method:** 3050H-MS

Reagent Information:

HNO3: MSR101 HCL: MSR96 H2O2: MSR85 Filter Paper: 142300058

Boiling Stones: MSR90

Pipet	LCS / Spike
M11	☑ ☒
M15	☒ ☒
M15	☒ ☒
____	☐ ☐

LCS/Spiking Information:

CLPP-SPK-1 (ID/Vol): MS2124 / 0.1 mL

CLPP-SPK-INT1 (ID/Vol): MWI7723 / 1.0 mL

CLPP-SPK-INT2 (ID/Vol): MWI7724 / 1.0 mL

____ Spike (ID/Vol): NA / ____ mL

LCSS: NA Balance ID: Bal15

Heat Source ID : D

Start Time: 0853 /Temp. 93 °C

End Time: 1404 /Temp. 95 °C

Thermometer ID/Pos: ALC11 / 6.1

REVIEWED

5.21.18

KATAHDIN ANALYTICAL

METALS SECTION

Sample ID	Batch ID	Initial Wt/Vol	Initial Units	Final Vol	Final Units	MX	Meth	Anal.	Date	Bottle
LCSOLE21IMS2	LE21IMS2	1.0	g	6.1	L	SL	IM	AMJ	05/21/2018	
PBSLE21IMS2	LE21IMS2	1.0	g		L	SL	IM	AMJ	05/21/2018	
SL4180-018	LE21IMS2	1.21	g		L	SL	IM	AMJ	05/21/2018	N
SL4180-018P	LE21IMS2	1.21	g		L	SL	IM	AMJ	05/21/2018	N
SL4180-018S	LE21IMS2	1.21	g		L	SL	IM	AMJ	05/21/2018	N
SL4180-019	LE21IMS2	1.16	g		L	SL	IM	AMJ	05/21/2018	E
SL4180-020	LE21IMS2	1.03	g		L	SL	IM	AMJ	05/21/2018	
SL4180-021	LE21IMS2	1.28	g		L	SL	IM	AMJ	05/21/2018	
SL4180-022	LE21IMS2	1.02	g		L	SL	IM	AMJ	05/21/2018	
SL4180-023	LE21IMS2	1.32	g		L	SL	IM	AMJ	05/21/2018	
SL4180-024	LE21IMS2	1.55	g		L	SL	IM	AMJ	05/21/2018	
SL4180-025	LE21IMS2	1.48	g		L	SL	IM	AMJ	05/21/2018	
SL4180-026	LE21IMS2	1.26	g		L	SL	IM	AMJ	05/21/2018	
SL4180-027	LE21IMS2	1.35	g		L	SL	IM	AMJ	05/21/2018	
SL4233-002	LE21IMS2	1.01	g		L	SL	IM	AMJ	05/21/2018	
SL4233-003	LE21IMS2	1.05	g		L	SL	IM	AMJ	05/21/2018	
SL4233-004	LE21IMS2	1.16	g		L	SL	IM	AMJ	05/21/2018	
SL4233-005	LE21IMS2	1.37	g		L	SL	IM	AMJ	05/21/2018	
SL4233-006	LE21IMS2	1.03	g		L	SL	IM	AMJ	05/21/2018	
SL4233-007	LE21IMS2	1.35	g		L	SL	IM	AMJ	05/21/2018	
SL4233-008	LE21IMS2	1.37	g		L	SL	IM	AMJ	05/21/2018	
SL4233-009	LE21IMS2	2.03	g		L	SL	IM	AMJ	05/21/2018	
SL4233-010	LE21IMS2	1.12	g		L	SL	IM	AMJ	05/21/2018	

Digestion performed by: AMJ On: 5/21/18

 Revision: 00

JS 5.21.18

Katahdin Analytical Services 4000405

Katahdin Analytical Services, Inc.

Metals Preparation Benchsheet

Reagent Information:

HNO3: MSR101 **HCL:** MSR96

Method: 3010-MS REVIEWED

JSS 5.21.18

KATAHDIN ANALYTICAL METALS SECTION

Pipet	LCS/Spiking Information:
M11	CLPP-SPK-1 (ID/Vol): MS2124 / 0.05 mL
M15	CLPP-SPK-INT1 (ID/Vol): MWLT723 / 0.5 mL
M15	CLPP-SPK-INT2 (ID/Vol): MWLT724 / 0.5 mL
	Spike (ID/Vol): NA / mL

Heat Source ID : E

Start Time: 0642 **/Temp.** 92 **°C**

End Time: 1428 **/Temp.** 90 **°C**

Thermometer ID/Pos: ALC24 / 1.2

Sample ID	Batch ID	Initial Wt/Vol	Initial Units	Final Vol	Final Units	MX	Meth	Anal.	Date	Bottle
LCSWLE21IMW2	LE21IMW2	0.05	L	0.05	L	AQ	IM	AMJ	05/21/2018	
PBWLE21IMW2	LE21IMW2		L		L	AQ	IM	AMJ	05/21/2018	
~~SL3804-007~~	~~LE21IMW2~~		~~L~~		~~L~~	~~AQ~~	~~IM~~	~~AMJ~~	~~05/21/2018~~	~~A~~ JSS 5.21.18
SL4180-029	LE21IMW2		L		L	AQ	IM	AMJ	05/21/2018	D
SL4290-014	LE21IMW2		L		L	AQ	IM	AMJ	05/21/2018	D

JSS 5.21.18

QA-064-Revision 3 - 06/15/2017 **Digestion performed by:** amj **On:** 5/21/18 **Page:** LE110 **Revision:** 00

CONVENTIONAL AND PHYSICAL ANALYTICAL DATA

QC Summary Section

Quality Control Report

Blank Sample Summary Report

Chromium, Hexavalent

Samp Type	QC Batch	Anal. Method	Anal. Date	Prep. Date	Result	PQL	LOD
MBLANK	WG228768	SW846 7196A	18-MAY-18	17-MAY-18	J 0.32 mg/Kgdrywt	0.48 mg/Kgdrywt	0.29
MBLANK	WG229295	SW846 7196A	24-MAY-18	23-MAY-18	J 0.26 mg/Kgdrywt	0.48 mg/Kgdrywt	0.29

Total Solids

Samp Type	QC Batch	Anal. Method	Anal. Date	Prep. Date	Result	PQL	LOD
MBLANK	WG228357	SW3540C	16-MAY-18	15-MAY-18	100 %	1 %	N/A
MBLANK	WG228359	SW3540C	16-MAY-18	15-MAY-18	100 %	1 %	N/A

Quality Control Report

Laboratory Control Sample Summary Report

Chromium, Hexavalent

Lab Sample Id	Samp Type	QC Batch	Analysis Date	Prep Date	Units	Spike Amt.	Result	Recovery	Acceptance Range	RPD
WG228768-2	LCS	WG228768	18-MAY-18	17-MAY-18	mg/Kgdrywt	40	38.	94	80-120	
WG229295-2	LCS	WG229295	24-MAY-18	23-MAY-18	mg/Kgdrywt	40	35.	88	80-120	
WG229295-3	LCSD	WG229295	24-MAY-18	23-MAY-18	mg/Kgdrywt	40	38.	94	80-120	7

Total Solids

Lab Sample Id	Samp Type	QC Batch	Analysis Date	Prep Date	Units	Spike Amt.	Result	Recovery	Acceptance Range	RPD
WG228357-2	LCS	WG228357	16-MAY-18	15-MAY-18	%	90	90.	100	90-110	
WG228359-2	LCS	WG228359	16-MAY-18	15-MAY-18	%	90	90.	100	90-110	

Quality Control Report

Duplicate Sample Summary Report

Total Solids

Duplicate Sample ID	Original Sample ID	QC Batch	Analysis Date	Result Units	Sample Result	Duplicate Result	RPD(%)	RPD Limit
WG228359-3	SL4180-8	WG228359	16-MAY-18	%	81.	82.	0	20
WG228359-4	SL4180-18	WG228359	16-MAY-18	%	80.	81.	1	20

Katahdin
ANALYTICAL SERVICES

Cert No E87604

Quality Control Report

Matrix Spike Sample Summary Report

Chromium, Hexavalent

Matrix Spike Sample ID	Sample Type	Original Sample ID	QC Batch	Analysis Date	Result Units	Spike Amount	Sample Result	MS Result	Recovery (%)	Recovery Limit
WG228768-5	MS	SL4180-18	WG228768	18-MAY-18	mg/Kgdrywt	1376.43	J 0.47	1200	87	75 - 125
WG228768-6	MS	SL4180-18	WG228768	18-MAY-18	mg/Kgdrywt	50.81	J 0.47	48.	93	75 - 125

Sample Data Section

KATAHDIN ANALYTICAL SERVICES – INORGANIC DATA QUALIFIERS

The sampled date indicated on the attached Report(s) of Analysis (ROA) is the date for which a grab sample was collected or the date for which a composite sample was completed. Beginning and start times for composite samples can be found on the Chain-of-Custody.

U Indicates the compound was analyzed for but not detected above the specified level. This level may be the Practical Quantitation Level (PQL) (also called Limit of Quantitation (LOQ)), the Limit of Detection (LOD) or Method Detection Limit (MDL) as required by the client.

Note: All results reported as "U" MDL have a 50% rate for false negatives compared to those results reported as "U" PQL "U" LOQ or "U" LOD, where the rate of false negatives is <1%.

E Estimated value. This flag identifies compounds whose concentrations exceed the upper level of the calibration range of the instrument for that specific analysis.

J Estimated value. The analyte was detected in the sample at a concentration less than the laboratory Practical Quantitation Level (PQL) (also called Limit of Quantitation (LOQ)), but above the Method Detection Limit (MDL).

I-7 The laboratory's Practical Quantitation Level (PQL) or LOQ could not be achieved for this parameter due to sample composition, matrix effects, sample volume, or quantity used for analysis.

A-4 Please refer to cover letter or narrative for further information.

H_ Please note that the regulatory holding time for _____ is "analyze immediately". Ideally, this analysis must be performed in the field at the time of sample collection. _____ for this sample was not performed at the time of sample collection. The analysis was performed as soon as possible after receipt by the laboratory.

H1 - pH H2 - DO H3 - sulfite H4 - residual chlorine

T1 The client did not provide the full volume of at least one liter for analysis of TSS. Therefore, the PQL of 2.5 mg/L could not be achieved.

T2 The client provided the required volume of at least one liter for analysis of TSS, but the laboratory could not filter the full one liter volume due to the sample matrix. Therefore, the PQL of 2.5 mg/L could not be achieved.

M1 The matrix spike and/or matrix spike duplicate recovery performed on this sample was outside of the laboratory acceptance criteria. Sample matrix is suspected. The laboratory criteria was met for the Laboratory Control Sample (LCS) analyzed concurrently with this sample.

M2 The matrix spike and/or matrix spike duplicate recovery was outside of the laboratory acceptance criteria. The native sample concentration is greater than four times the spike added concentration so the spike added could not be distinguished from the native sample concentration.

R1 The relative percent difference (RPD) between the duplicate analyses performed on this sample was outside of the laboratory acceptance criteria (when both values are greater than ten times the PQL).

MCL	Maximum Contaminant Level	NL	No limit
NFL	No Free Liquid Present	FLP	Free Liquid Present
NOD	No Odor Detected	TON	Threshold Odor Number

D-1 As required by Method 5210B, APHA Standard Methods for the Examination of Water and Wastewater (21st edition), the BOD value reported for this sample is 'qualified' because the check standard run concurrently with the sample analysis did not meet the criteria specified in the method (198 +/- 30.5 mg/L). These results may not be reportable for compliance purposes.

D-2 The measured final dissolved oxygen concentrations of all dilutions were less than the method-specified limit of 1 mg/L. The reported BOD result was calculated assuming a final oxygen concentration equal to 1 mg/L. The reported value should be considered a minimum value.

D-3 The dilution water used to prepare this sample did not meet the method and/or regulatory criteria of less than 0.2 or 0.4 mg/L dissolved oxygen (DO) uptake over the five day period of incubation. These results may not be reportable for compliance purposes.

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: David Nelson
ATI, Inc.
9220 Rumsey Road
Columbia,MD 21045

Lab Sample ID: SL4180-1
Report Date: 04-JUN-18
Client PO: PN:16-027
Project: Cornhusker Army Ammu
SDG: SL4180

Sample Description	Matrix	Date Sampled	Date Received
CHAAP-21B-DS-SS02	SL	14-MAY-18 15:00:00	15-MAY-18

Parameter	Result	Adj LOQ	Adj MDL	Adj LOD	Anal. Method	QC.Batch	Anal. Date	Prep. Method	Prep. Date	Footnotes
Chromium, Hexavalent	J0.16 mg/Kgdrywt	0.54	0.16	0.33	SW846 7196A	WG228768	18-MAY-18 17:44:00	SW846 3060A	17-MAY-18	
Total Solids	85. %	1		N/A	SW3540C	WG228359	16-MAY-18 08:01:29	SW3540C	15-MAY-18	

Katahdin Analytical Services 5000009

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: David Nelson
ATI, Inc.
9220 Rumsey Road
Columbia,MD 21045

Lab Sample ID: SL4180-2
Report Date: 04-JUN-18
Client PO: PN:16-027
Project: Cornhusker Army Ammu
SDG: SL4180

Sample Description	Matrix	Date Sampled	Date Received
CHAAP-21B-DS-SS102	SL	14-MAY-18 12:00:00	15-MAY-18

Parameter	Result	Adj LOQ	Adj MDL	Adj LOD	Anal. Method	QC.Batch	Anal. Date	Prep. Method	Prep. Date	Footnotes
Chromium, Hexavalent	J0.25 mg/Kgdrywt	0.58	0.17	0.35	SW846 7196A	WG228768	18-MAY-18 17:44:00	SW846 3060A	17-MAY-18	
Total Solids	83. %	1		N/A	SW3540C	WG228359	16-MAY-18 08:01:39	SW3540C	15-MAY-18	

Katahdin Analytical Services 5000010

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: David Nelson
ATI, Inc.
9220 Rumsey Road
Columbia,MD 21045

Lab Sample ID: SL4180-3
Report Date: 04-JUN-18
Client PO: PN:16-027
Project: Cornhusker Army Ammu
SDG: SL4180

Sample Description	Matrix	Date Sampled	Date Received
CHAAP-21B-DS-SB02-5	SL	14-MAY-18 15:05:00	15-MAY-18

Parameter	Result	Adj LOQ	Adj MDL	Adj LOD	Anal. Method	QC.Batch	Anal. Date	Prep. Method	Prep. Date	Footnotes
Chromium, Hexavalent	J0.40 mg/Kgdrywt	0.59	0.18	0.35	SW846 7196A	WG228768	18-MAY-18 17:44:00	SW846 3060A	17-MAY-18	
Total Solids	82. %	1		N/A	SW3540C	WG228359	16-MAY-18 08:01:49	SW3540C	15-MAY-18	

Katahdin Analytical Services 500001

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: David Nelson
ATI, Inc.
9220 Rumsey Road
Columbia,MD 21045

Lab Sample ID: SL4180-4
Report Date: 04-JUN-18
Client PO: PN:16-027
Project: Cornhusker Army Ammu
SDG: SL4180

Sample Description	Matrix	Date Sampled	Date Received
CHAAP-21B-DS-SB02-10	SL	14-MAY-18 15:10:00	15-MAY-18

Parameter	Result	Adj LOQ	Adj MDL	Adj LOD	Anal. Method	QC.Batch	Anal. Date	Prep. Method	Prep. Date	Footnotes
Total Solids	77. %	1		N/A	SW3540C	WG228359	16-MAY-18 08:01:59	SW3540C	15-MAY-18	

Katahdin Analytical Services 5000012

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: David Nelson
ATI, Inc.
9220 Rumsey Road
Columbia,MD 21045

Lab Sample ID: SL4180-5
Report Date: 04-JUN-18
Client PO: PN:16-027
Project: Cornhusker Army Ammu
SDG: SL4180

Sample Description	Matrix	Date Sampled	Date Received
CHAAP-21B-DS-SS06	SL	14-MAY-18 14:30:00	15-MAY-18

Parameter	Result	Adj LOQ	Adj MDL	Adj LOD	Anal. Method	QC.Batch	Anal. Date	Prep. Method	Prep. Date	Footnotes
Total Solids	83. %	1		N/A	SW3540C	WG228359	16-MAY-18 08:02:07	SW3540C	15-MAY-18	

Katahdin Analytical Services 5000013

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: David Nelson
ATI, Inc.
9220 Rumsey Road
Columbia,MD 21045

Lab Sample ID: SL4180-6
Report Date: 04-JUN-18
Client PO: PN:16-027
Project: Cornhusker Army Ammu
SDG: SL4180

Sample Description	Matrix	Date Sampled	Date Received
CHAAP-21B-DS-SB06-5	SL	14-MAY-18 14:35:00	15-MAY-18

Parameter	Result	Adj LOQ	Adj MDL	Adj LOD	Anal. Method	QC.Batch	Anal. Date	Prep. Method	Prep. Date	Footnotes
Total Solids	76. %	1		N/A	SW3540C	WG228359	16-MAY-18 08:02:15	SW3540C	15-MAY-18	

Katahdin Analytical Services 5000014

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: David Nelson
ATI, Inc.
9220 Rumsey Road
Columbia,MD 21045

Lab Sample ID: SL4180-7
Report Date: 04-JUN-18
Client PO: PN:16-027
Project: Cornhusker Army Ammu
SDG: SL4180

Sample Description	Matrix	Date Sampled	Date Received
CHAAP-21B-DS-SB06-10	SL	14-MAY-18 14:40:00	15-MAY-18

Parameter	Result	Adj LOQ	Adj MDL	Adj LOD	Anal. Method	QC.Batch	Anal. Date	Prep. Method	Prep. Date	Footnotes
Total Solids	80. %	1		N/A	SW3540C	WG228359	16-MAY-18 08:02:24	SW3540C	15-MAY-18	

Katahdin Analytical Services 5000015

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: David Nelson
ATI, Inc.
9220 Rumsey Road
Columbia,MD 21045

Lab Sample ID: SL4180-8
Report Date: 04-JUN-18
Client PO: PN:16-027
Project: Cornhusker Army Ammu
SDG: SL4180

Sample Description	Matrix	Date Sampled	Date Received
CHAAP-21B-DS-SS07	SL	14-MAY-18 14:00:00	15-MAY-18

Parameter	Result	Adj LOQ	Adj MDL	Adj LOD	Anal. Method	QC.Batch	Anal. Date	Prep. Method	Prep. Date	Footnotes
Total Solids	81. %	1		N/A	SW3540C	WG228359	16-MAY-18 08:02:33	SW3540C	15-MAY-18	

Katahdin Analytical Services 5000016

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: David Nelson
ATI, Inc.
9220 Rumsey Road
Columbia,MD 21045

Lab Sample ID: SL4180-9
Report Date: 04-JUN-18
Client PO: PN:16-027
Project: Cornhusker Army Ammu
SDG: SL4180

Sample Description	Matrix	Date Sampled	Date Received
CHAAP-21B-DS-SB07-5	SL	14-MAY-18 14:03:00	15-MAY-18

Parameter	Result	Adj LOQ	Adj MDL	Adj LOD	Anal. Method	QC.Batch	Anal. Date	Prep. Method	Prep. Date	Footnotes
Total Solids	81. %	1		N/A	SW3540C	WG228359	16-MAY-18 08:02:43	SW3540C	15-MAY-18	

Katahdin Analytical Services 500017

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: David Nelson
ATI, Inc.
9220 Rumsey Road
Columbia,MD 21045

Lab Sample ID: SL4180-10
Report Date: 04-JUN-18
Client PO: PN:16-027
Project: Cornhusker Army Ammu
SDG: SL4180

Sample Description	Matrix	Date Sampled	Date Received
CHAAP-21B-DS-SB107-5	SL	14-MAY-18 12:00:00	15-MAY-18

Parameter	Result	Adj LOQ	Adj MDL	Adj LOD	Anal. Method	QC.Batch	Anal. Date	Prep. Method	Prep. Date	Footnotes
Total Solids	81. %	1		N/A	SW3540C	WG228359	16-MAY-18 08:02:51	SW3540C	15-MAY-18	

Katahdin Analytical Services 5000018

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: David Nelson
ATI, Inc.
9220 Rumsey Road
Columbia,MD 21045

Lab Sample ID: SL4180-11
Report Date: 04-JUN-18
Client PO: PN:16-027
Project: Cornhusker Army Ammu
SDG: SL4180

Sample Description	Matrix	Date Sampled	Date Received
CHAAP-21B-DS-SB07-10	SL	14-MAY-18 14:05:00	15-MAY-18

Parameter	Result	Adj LOQ	Adj MDL	Adj LOD	Anal. Method	QC.Batch	Anal. Date	Prep. Method	Prep. Date	Footnotes
Total Solids	76. %	1		N/A	SW3540C	WG228359	16-MAY-18 08:03:01	SW3540C	15-MAY-18	

Katahdin Analytical Services 5000019

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: David Nelson
ATI, Inc.
9220 Rumsey Road
Columbia,MD 21045

Lab Sample ID: SL4180-12
Report Date: 04-JUN-18
Client PO: PN:16-027
Project: Cornhusker Army Ammu
SDG: SL4180

Sample Description	Matrix	Date Sampled	Date Received
CHAAP-21B-DS-SS08	SL	14-MAY-18 13:35:00	15-MAY-18

Parameter	Result	Adj LOQ	Adj MDL	Adj LOD	Anal. Method	QC.Batch	Anal. Date	Prep. Method	Prep. Date	Footnotes
Total Solids	87. %	1		N/A	SW3540C	WG228359	16-MAY-18 08:03:09	SW3540C	15-MAY-18	

Katahdin Analytical Services 5000020

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: David Nelson
ATI, Inc.
9220 Rumsey Road
Columbia,MD 21045

Lab Sample ID: SL4180-13
Report Date: 04-JUN-18
Client PO: PN:16-027
Project: Cornhusker Army Ammu
SDG: SL4180

Sample Description	Matrix	Date Sampled	Date Received
CHAAP-21B-DS-SB08-5	SL	14-MAY-18 13:40:00	15-MAY-18

Parameter	Result	Adj LOQ	Adj MDL	Adj LOD	Anal. Method	QC.Batch	Anal. Date	Prep. Method	Prep. Date	Footnotes
Total Solids	80. %	1		N/A	SW3540C	WG228359	16-MAY-18 08:03:19	SW3540C	15-MAY-18	

Katahdin Analytical Services 5000021

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: David Nelson
ATI, Inc.
9220 Rumsey Road
Columbia,MD 21045

Lab Sample ID: SL4180-14
Report Date: 04-JUN-18
Client PO: PN:16-027
Project: Cornhusker Army Ammu
SDG: SL4180

Sample Description	Matrix	Date Sampled	Date Received
CHAAP-21B-DS-SS09	SL	14-MAY-18 13:15:00	15-MAY-18

Parameter	Result	Adj LOQ	Adj MDL	Adj LOD	Anal. Method	QC.Batch	Anal. Date	Prep. Method	Prep. Date	Footnotes
Total Solids	83. %	1		N/A	SW3540C	WG228359	16-MAY-18 08:03:28	SW3540C	15-MAY-18	

Katahdin Analytical Services 5000022

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: David Nelson
ATI, Inc.
9220 Rumsey Road
Columbia,MD 21045

Lab Sample ID: SL4180-15
Report Date: 04-JUN-18
Client PO: PN:16-027
Project: Cornhusker Army Ammu
SDG: SL4180

Sample Description	Matrix	Date Sampled	Date Received
CHAAP-21B-DS-SB09-5	SL	14-MAY-18 13:20:00	15-MAY-18

Parameter	Result	Adj LOQ	Adj MDL	Adj LOD	Anal. Method	QC.Batch	Anal. Date	Prep. Method	Prep. Date	Footnotes
Total Solids	80. %	1		N/A	SW3540C	WG228359	16-MAY-18 08:03:38	SW3540C	15-MAY-18	

Katahdin Analytical Services 5000023

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: David Nelson
ATI, Inc.
9220 Rumsey Road
Columbia,MD 21045

Lab Sample ID: SL4180-16
Report Date: 04-JUN-18
Client PO: PN:16-027
Project: Cornhusker Army Ammu
SDG: SL4180

Sample Description	Matrix	Date Sampled	Date Received
CHAAP-21B-DS-SS11	SL	14-MAY-18 12:50:00	15-MAY-18

Parameter	Result	Adj LOQ	Adj MDL	Adj LOD	Anal. Method	QC.Batch	Anal. Date	Prep. Method	Prep. Date	Footnotes
Chromium, Hexavalent	J0.25 mg/Kgdrywt	0.59	0.18	0.35	SW846 7196A	WG228768	18-MAY-18 17:44:00	SW846 3060A	17-MAY-18	
Total Solids	82. %	1		N/A	SW3540C	WG228359	16-MAY-18 08:03:47	SW3540C	15-MAY-18	

Katahdin Analytical Services 5000024

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: David Nelson
ATI, Inc.
9220 Rumsey Road
Columbia,MD 21045

Lab Sample ID: SL4180-17
Report Date: 04-JUN-18
Client PO: PN:16-027
Project: Cornhusker Army Ammu
SDG: SL4180

Sample Description	Matrix	Date Sampled	Date Received
CHAAP-21B-DS-SS111	SL	14-MAY-18 12:00:00	15-MAY-18

Parameter	Result	Adj LOQ	Adj MDL	Adj LOD	Anal. Method	QC.Batch	Anal. Date	Prep. Method	Prep. Date	Footnotes
Chromium, Hexavalent	U0.35 mg/Kgdrywt	0.58	0.17	0.35	SW846 7196A	WG229295	24-MAY-18 16:15:00	SW846 3060A	23-MAY-18	
Total Solids	80. %	1		N/A	SW3540C	WG228359	16-MAY-18 08:03:56	SW3540C	15-MAY-18	

Katahdin Analytical Services 500025

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: David Nelson
ATI, Inc.
9220 Rumsey Road
Columbia,MD 21045

Lab Sample ID: SL4180-18
Report Date: 04-JUN-18
Client PO: PN:16-027
Project: Cornhusker Army Ammu
SDG: SL4180

Sample Description	Matrix	Date Sampled	Date Received
CHAAP-21B-DS-SB11-5	SL	14-MAY-18 13:00:00	15-MAY-18

Parameter	Result	Adj LOQ	Adj MDL	Adj LOD	Anal. Method	QC.Batch	Anal. Date	Prep. Method	Prep. Date	Footnotes
Chromium, Hexavalent	J0.47 mg/Kgdrywt	0.59	0.18	0.36	SW846 7196A	WG228768	18-MAY-18 17:44:00	SW846 3060A	17-MAY-18	
Total Solids	80. %	1		N/A	SW3540C	WG228359	16-MAY-18 08:04:04	SW3540C	15-MAY-18	

Katahdin Analytical Services 5000026

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: David Nelson
ATI, Inc.
9220 Rumsey Road
Columbia,MD 21045

Lab Sample ID: SL4180-19
Report Date: 04-JUN-18
Client PO: PN:16-027
Project: Cornhusker Army Ammu
SDG: SL4180

Sample Description	Matrix	Date Sampled	Date Received
CHAAP-21B-DS-SS10	SL	14-MAY-18 12:30:00	15-MAY-18

Parameter	Result	Adj LOQ	Adj MDL	Adj LOD	Anal. Method	QC.Batch	Anal. Date	Prep. Method	Prep. Date	Footnotes
Total Solids	69. %	1		N/A	SW3540C	WG228359	16-MAY-18 08:04:13	SW3540C	15-MAY-18	

Katahdin Analytical Services 500027

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: David Nelson
ATI, Inc.
9220 Rumsey Road
Columbia,MD 21045

Lab Sample ID: SL4180-20
Report Date: 04-JUN-18
Client PO: PN:16-027
Project: Cornhusker Army Ammu
SDG: SL4180

Sample Description	Matrix	Date Sampled	Date Received
CHAAP-21B-DS-SB10-5	SL	14-MAY-18 12:35:00	15-MAY-18

Parameter	Result	Adj LOQ	Adj MDL	Adj LOD	Anal. Method	QC.Batch	Anal. Date	Prep. Method	Prep. Date	Footnotes
Total Solids	82. %	1		N/A	SW3540C	WG228359	16-MAY-18 08:04:23	SW3540C	15-MAY-18	

Katahdin Analytical Services 5000028

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: David Nelson
ATI, Inc.
9220 Rumsey Road
Columbia,MD 21045

Lab Sample ID: SL4180-21
Report Date: 04-JUN-18
Client PO: PN:16-027
Project: Cornhusker Army Ammu
SDG: SL4180

Sample Description	Matrix	Date Sampled	Date Received
CHAAP-21B-DS-SS04	SL	14-MAY-18 12:10:00	15-MAY-18

Parameter	Result	Adj LOQ	Adj MDL	Adj LOD	Anal. Method	QC.Batch	Anal. Date	Prep. Method	Prep. Date	Footnotes
Chromium, Hexavalent	J0.44 mg/Kgdrywt	0.65	0.20	0.39	SW846 7196A	WG228768	18-MAY-18 17:44:00	SW846 3060A	17-MAY-18	
Total Solids	74. %	1		N/A	SW3540C	WG228357	16-MAY-18 07:53:53	SW3540C	15-MAY-18	

Katahdin Analytical Services 5000029

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: David Nelson
ATI, Inc.
9220 Rumsey Road
Columbia,MD 21045

Lab Sample ID: SL4180-22
Report Date: 04-JUN-18
Client PO: PN:16-027
Project: Cornhusker Army Ammu
SDG: SL4180

Sample Description	Matrix	Date Sampled	Date Received
CHAAP-21B-DS-SB04-5	SL	14-MAY-18 12:15:00	15-MAY-18

Parameter	Result	Adj LOQ	Adj MDL	Adj LOD	Anal. Method	QC.Batch	Anal. Date	Prep. Method	Prep. Date	Footnotes
Chromium, Hexavalent	J0.53 mg/Kgdrywt	0.66	0.20	0.40	SW846 7196A	WG228768	18-MAY-18 17:44:00	SW846 3060A	17-MAY-18	
Total Solids	74. %	1		N/A	SW3540C	WG228357	16-MAY-18 07:54:01	SW3540C	15-MAY-18	

Katahdin Analytical Services 5000030

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: David Nelson
ATI, Inc.
9220 Rumsey Road
Columbia,MD 21045

Lab Sample ID: SL4180-23
Report Date: 04-JUN-18
Client PO: PN:16-027
Project: Cornhusker Army Ammu
SDG: SL4180

Sample Description	Matrix	Date Sampled	Date Received
CHAAP-21B-DS-SB04-10	SL	14-MAY-18 12:20:00	15-MAY-18

Parameter	Result	Adj LOQ	Adj MDL	Adj LOD	Anal. Method	QC.Batch	Anal. Date	Prep. Method	Prep. Date	Footnotes
Total Solids	78. %	1		N/A	SW3540C	WG228357	16-MAY-18 07:54:10	SW3540C	15-MAY-18	

Katahdin Analytical Services 5000031

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: David Nelson
ATI, Inc.
9220 Rumsey Road
Columbia,MD 21045

Lab Sample ID: SL4180-24
Report Date: 04-JUN-18
Client PO: PN:16-027
Project: Cornhusker Army Ammu
SDG: SL4180

Sample Description	Matrix	Date Sampled	Date Received
CHAAP-21B-DS-SS03	SL	14-MAY-18 11:15:00	15-MAY-18

Parameter	Result	Adj LOQ	Adj MDL	Adj LOD	Anal. Method	QC.Batch	Anal. Date	Prep. Method	Prep. Date	Footnotes
Chromium, Hexavalent	J0.25 mg/Kgdrywt	0.58	0.17	0.35	SW846 7196A	WG228768	18-MAY-18 17:44:00	SW846 3060A	17-MAY-18	
Total Solids	81. %	1		N/A	SW3540C	WG228357	16-MAY-18 07:54:20	SW3540C	15-MAY-18	

Katahdin Analytical Services 5000032

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: David Nelson
ATI, Inc.
9220 Rumsey Road
Columbia,MD 21045

Lab Sample ID: SL4180-25
Report Date: 04-JUN-18
Client PO: PN:16-027
Project: Cornhusker Army Ammu
SDG: SL4180

Sample Description	Matrix	Date Sampled	Date Received
CHAAP-21B-DS-SS103	SL	14-MAY-18 12:00:00	15-MAY-18

Parameter	Result	Adj LOQ	Adj MDL	Adj LOD	Anal. Method	QC.Batch	Anal. Date	Prep. Method	Prep. Date	Footnotes
Chromium, Hexavalent	J0.17 mg/Kgdrywt	0.57	0.17	0.34	SW846 7196A	WG228768	18-MAY-18 17:44:00	SW846 3060A	17-MAY-18	
Total Solids	81. %	1		N/A	SW3540C	WG228357	16-MAY-18 07:54:28	SW3540C	15-MAY-18	

Katahdin Analytical Services 5000033

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: David Nelson
ATI, Inc.
9220 Rumsey Road
Columbia,MD 21045

Lab Sample ID: SL4180-26
Report Date: 04-JUN-18
Client PO: PN:16-027
Project: Cornhusker Army Ammu
SDG: SL4180

Sample Description	Matrix	Date Sampled	Date Received
CHAAP-21B-DS-SB03-5	SL	14-MAY-18 11:30:00	15-MAY-18

Parameter	Result	Adj LOQ	Adj MDL	Adj LOD	Anal. Method	QC.Batch	Anal. Date	Prep. Method	Prep. Date	Footnotes
Chromium, Hexavalent	J0.41 mg/Kgdrywt	0.60	0.18	0.36	SW846 7196A	WG228768	18-MAY-18 17:44:00	SW846 3060A	17-MAY-18	
Total Solids	78. %	1		N/A	SW3540C	WG228357	16-MAY-18 07:54:36	SW3540C	15-MAY-18	

Katahdin Analytical Services 5000034

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: David Nelson
ATI, Inc.
9220 Rumsey Road
Columbia,MD 21045

Lab Sample ID: SL4180-27
Report Date: 04-JUN-18
Client PO: PN:16-027
Project: Cornhusker Army Ammu
SDG: SL4180

Sample Description	Matrix	Date Sampled	Date Received
CHAAP-21B-DS-SB03-10	SL	14-MAY-18 11:45:00	15-MAY-18

Parameter	Result	Adj LOQ	Adj MDL	Adj LOD	Anal. Method	QC.Batch	Anal. Date	Prep. Method	Prep. Date	Footnotes
Total Solids	73. %	1		N/A	SW3540C	WG228357	16-MAY-18 07:54:44	SW3540C	15-MAY-18	

Katahdin Analytical Services 5000035

Raw Data Section

WET CHEMISTRY BATCH REPORT
May 30 2018, 11:18 am
Batch: WG228768

Parameter: Chromium, Hexavalent

Prep Date: 17-MAY-18

Date Analyzed: 18-MAY-18

Prep Method: SW846 3060A

Analyst Initials: AP

Prep Chemist: AP

Sample	Samp Type	Method	Initial Amt.	Final Amt.	Rpt. DF	Result	Rpt Result	TS(%)	PQL	MDL	Adj PQL	RPD	%Rec
SL3995-14	SAMP	SW846 7196A	20.000mL	25.000mL	1.2	.057	J0.57 mg/Kgdrywt	78.	.4	0.18	0.62		
SL3995-5	SAMP	SW846 7196A	20.000mL	25.000mL	1.2	.1	U0.33 mg/Kgdrywt	83.	.4	0.17	0.56		
SL4180-1	SAMP	SW846 7196A	20.000mL	25.000mL	1.2	.16	J0.16 mg/Kgdrywt	85.	.4	0.16	0.54		
SL4180-16	SAMP	SW846 7196A	20.000mL	25.000mL	1.2	.25	J0.25 mg/Kgdrywt	82.	.4	0.18	0.59		
SL4180-18	SAMP	SW846 7196A	20.000mL	25.000mL	1.2	.47	J0.47 mg/Kgdrywt	80.	.4	0.18	0.59		
SL4180-2	SAMP	SW846 7196A	20.000mL	25.000mL	1.2	.25	J0.25 mg/Kgdrywt	83.	.4	0.17	0.58		
SL4180-21	SAMP	SW846 7196A	20.000mL	25.000mL	1.2	.44	J0.44 mg/Kgdrywt	74.	.4	0.20	0.65		
SL4180-22	SAMP	SW846 7196A	20.000mL	25.000mL	1.2	.53	J0.53 mg/Kgdrywt	74.	.4	0.20	0.66		
SL4180-24	SAMP	SW846 7196A	20.000mL	25.000mL	1.2	.25	J0.25 mg/Kgdrywt	81.	.4	0.17	0.58		
SL4180-25	SAMP	SW846 7196A	20.000mL	25.000mL	1.2	.17	J0.17 mg/Kgdrywt	81.	.4	0.17	0.57		
SL4180-26	SAMP	SW846 7196A	20.000mL	25.000mL	1.2	.41	J0.41 mg/Kgdrywt	78.	.4	0.18	0.60		
SL4180-3	SAMP	SW846 7196A	20.000mL	25.000mL	1.2	.4	J0.40 mg/Kgdrywt	82.	.4	0.18	0.59		
SL4233-10	SAMP	SW846 7196A	20.000mL	25.000mL	1.2	.49	J0.49 mg/Kgdrywt	87.	.4	0.16	0.53		
SL4233-11	SAMP	SW846 7196A	20.000mL	25.000mL	1.2	.4	J0.40 mg/Kgdrywt	81.	.4	0.18	0.59		
SL4233-12	SAMP	SW846 7196A	20.000mL	25.000mL	1.2	.33	J0.33 mg/Kgdrywt	83.	.4	0.18	0.60		
SL4233-4	SAMP	SW846 7196A	20.000mL	25.000mL	1.2	.43	J0.43 mg/Kgdrywt	73.	.4	0.19	0.63		
SL4233-5	SAMP	SW846 7196A	20.000mL	25.000mL	1.2	.41	J0.41 mg/Kgdrywt	79.	.4	0.18	0.60		
SL4233-6	SAMP	SW846 7196A	20.000mL	25.000mL	1.2	.24	J0.24 mg/Kgdrywt	85.	.4	0.17	0.56		
SL4233-9	SAMP	SW846 7196A	20.000mL	25.000mL	1.2	.43	J0.43 mg/Kgdrywt	74.	.4	0.19	0.64		
WG228768-1	MBLANK	SW846 7196A	20.000mL	25.000mL	1.2	.32	J0.32 mg/Kgdrywt	NA	.4	0.14	0.48		
WG228768-2	LCS	SW846 7196A	20.000mL	25.000mL	1.2	37.59	38. mg/Kgdrywt	NA	.4	0.14	0.48		94
WG228768-3	MS	SW846 7196A	1.0000mL	25.000mL	25	987.4	990 mg/Kgdrywt	NA	.4	3.8	12.		68
WG228768-4	MS	SW846 7196A	20.000mL	25.000mL	1.2	21.12	21. mg/Kgdrywt	NA	.4	0.18	0.60		42
WG228768-5	MS	SW846 7196A	1.0000mL	25.000mL	25	1194.61	1200 mg/Kgdrywt	NA	.4	3.8	12.		87
WG228768-6	MS	SW846 7196A	20.000mL	25.000mL	1.2	47.75	48. mg/Kgdrywt	NA	.4	0.18	0.61		93

Comments:

SL3995-5	MS/MSD
SL4180-18	MS/MSD
WG228768-1	SL3995-5
WG228768-2	SL3995-5
WG228768-3	SL3995-5
WG228768-4	SL3995-5
WG228768-5	SL4180-18
WG228768-6	SL4180-18

Entered by: HP Date: 5/30/18 Accepted by: [signature] Date: 6/2/18

Katahdin Analytical Services 5000037

HEXAVALENT CHROMIUM IN SOILS

Preparation Method: 3060A (Alkaline Digestion) Analysis Method: 7196A (Colorimetric)

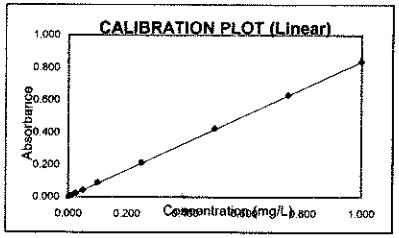
CALIBRATION INFORMATION

Calibration Analysis Date:	3/22/2018
Calibration Analyst:	AP

KCrO4 Stock Standard ID:	W16042
KCrO4 Stock Standard Conc (mg/L):	25

Standard Name	Vol. Of Stock Std. Added (ml)	Final Volume (mL)	Std. Conc. (mg/L)	Meas. Abs.	Response Factor
Calib. Blank	0.000	25	0.000	0.000	
Std. 1	0.010	25	0.010	0.009	1.111
Std. 2	0.025	25	0.025	0.023	1.087
Std. 3	0.050	25	0.050	0.044	1.136
Std. 4	0.100	25	0.100	0.088	1.136
Std. 5	0.250	25	0.250	0.215	1.163
Std. 6	0.500	25	0.500	0.427	1.171
Std. 7	0.750	25	0.750	0.633	1.185
Std. 8	1.000	25	1.000	0.839	1.192

No. of data points:	9
Corr. Coeff. (R):	0.999966371
Slope (m):	0.839828612
Intercept (b):	0.002562242



SAMPLE ANALYSIS

CCV Source Standard ID:	W16504	**Spreadsheet File Name:**	051818.XLS
CCV Source Std. Conc. (mg/L):	25	**Sample Anal. Date:**	5/18/2018
		Sample Analyst:	AP

	ANALYSIS INFORMATION								DIGESTION INFORMATION				CALCULATIONS		
Katahdin Sample No.	Initial Volume, IV (mL)	Final Volume, FV (mL)	Dil. Fctr.	Sample Absorbance	Matrix Blk. Absorbance	Corrected Absorbance	Calc. Cr+6 in FV (mg/L)	Calc. Cr+6 in IV (mg/L)	Digested Wet Wt. (g)	Digestate Final Vol. (L)	Total Solids (%)	Cr+6 Spike Added (mg)	Calc. Cr+6 in Sample (mg/kgdrywt)	Calc. Cr+6 Spike Added (mg/kgdrywt)	CCV / Spike Recovery
ICV	25.0	25.0	1.000	0.409		0.409	0.484	0.484							96.8%
CCV	25.0	25.0	1.000	0.398		0.398	0.471	0.471							94.2%
CCB	25.0	25.0	1.000	0.000		0.000	-0.003	-0.003							
METHOD BLANK A	20.0	25.0	1.250	0.008		0.008	0.006	0.008	2.5000	0.100	100.000%		0.32		
LCS A	20.0	25.0	1.250	0.634		0.634	0.752	0.940	2.5000	0.100	100.000%	0.100	37.59	40.00	94.0%
SL3995-5	20.0	25.0	1.250	0.040	0.036	0.004	0.002	0.002	2.5886	0.100	83.168%		0.10		
SL3995-5 Post-Dig MS	20.0	25.0	1.250	0.394		0.394	0.466								93.2%
SL3995-5 Serial Dilution	4.0	25.0	6.250	0.010	0.009	0.001	-0.002	-0.012	2.5886	0.100	83.168%		-0.54		
SL3995-5 Insoluble MS	1.0	25.0	25.000	0.674	0.009	0.665	0.789	19.719	2.4013	0.100	83.168%	2.880	987.40	1442.03	68.5%
SL3995-5 Soluble MS	20.0	25.0	1.250	0.339	0.052	0.287	0.339	0.423	2.4100	0.100	83.168%	0.100	21.12	49.89	42.1%
SL3995-14	20.0	25.0	1.250	0.011	0.001	0.010	0.009	0.011	2.4674	0.100	78.494%		0.57		
SL4180-1	20.0	25.0	1.250	0.186	0.181	0.005	0.003	0.004	2.5931	0.100	85.018%		0.16		
SL4180-2	20.0	25.0	1.250	0.311	0.305	0.006	0.004	0.005	2.4959	0.100	83.137%		0.25		
CCV	25.0	25.0	1.000	0.398		0.398	0.471	0.471							94.2%
CCB	25.0	25.0	1.000	0.001		0.001	-0.002	-0.002							
SL4180-3	20.0	25.0	1.250	0.010	0.002	0.008	0.006	0.008	2.4951	0.100	81.589%		0.40		
SL4180-16	20.0	25.0	1.250	0.217	0.211	0.006	0.004	0.005	2.4584	0.100	82.524%		0.25		
SL4180-18	20.0	25.0	1.250	0.010	0.001	0.009	0.008	0.010	2.5214	0.100	80.180%		0.47		
SL4180-18 Post-Dig MS	20.0	25.0	1.250	0.409		0.409	0.484								96.8%
SL4180-18 Serial Dilution	4.0	25.0	6.250	0.002	0.001	0.001	-0.002	-0.012	2.5214	0.100	80.180%		-0.58		
SL4180-18 Insoluble MS	1.0	25.0	25.000	0.800		0.800	0.950	23.738	2.4783	0.100	80.180%	2.735	1194.61	1376.43	86.8%
SL4180-18 Soluble MS	20.0	25.0	1.250	0.636	0.002	0.634	0.752	0.940	2.4546	0.100	80.180%	0.100	47.75	50.81	93.1%
SL4180-21	20.0	25.0	1.250	0.022	0.014	0.008	0.006	0.008	2.4931	0.100	73.564%		0.44		
SL4180-22	20.0	25.0	1.250	0.010	0.001	0.009	0.008	0.010	2.4587	0.100	73.584%		0.53		
SL4180-24	20.0	25.0	1.250	0.012	0.006	0.006	0.004	0.005	2.5598	0.100	80.734%		0.25		
CCV	25.0	25.0	1.000	0.393		0.393	0.465	0.465							93.0%
CCB	25.0	25.0	1.000	0.001		0.001	-0.002	-0.002							
SL4180-25	20.0	25.0	1.250	0.042	0.037	0.005	0.003	0.004	2.5788	0.100	81.483%		0.17		
SL4180-26	20.0	25.0	1.250	0.009	0.001	0.008	0.006	0.008	2.5576	0.100	77.938%		0.41		
SL4233-4	20.0	25.0	1.250	0.054	0.046	0.008	0.006	0.008	2.5818	0.100	73.468%		0.43		
SL4233-5	20.0	25.0	1.250	0.133	0.125	0.008	0.006	0.008	2.5053	0.100	79.151%		0.41		
SL4233-6	20.0	25.0	1.250	0.117	0.111	0.006	0.004	0.005	2.5045	0.100	85.008%		0.24		
SL4233-9	20.0	25.0	1.250	0.083	0.075	0.008	0.006	0.008	2.5290	0.100	73.719%		0.43		
SL4233-10	20.0	25.0	1.250	0.117	0.107	0.010	0.009	0.011	2.5768	0.100	87.404%		0.49		
SL4233-11	20.0	25.0	1.250	0.057	0.049	0.008	0.006	0.008	2.5123	0.100	81.219%		0.40		
SL4233-12	20.0	25.0	1.250	0.125	0.118	0.007	0.005	0.007	2.4111	0.100	82.836%		0.33		
CCV	25.0	25.0	1.000	0.395		0.395	0.467	0.467							93.5%
CCB	25.0	25.0	1.000	0.001		0.001	-0.002	-0.002							

Katahdin Analytical Services 5000038

WG228768 R474618

KATAHDIN ANALYTICAL SERVICES

METHOD SW846 7196A

MATRIX: SOIL / SEDIMENT / SOLID **PQL: 0.5mg/Kg (assumes 2.5g dry weight to 100 mL)**

AP 5/19/18

Calibration / Quality Control Checks:			
Cal Std. Source ID (K2Cr2O7): W16504 (845 AP)	25 ug/mL	**CCV ID:** W16504	25 ug/mL
LCS Stock ID: SL-4101	1000 ug/mL	**ICV ID:** W16503	25 ug/mL
Reagents:		**Phosphate Buffer ID:** W14990	
Diphenylcarbazide Solution ID:		**10% H2SO4 ID:**	
Alkaline Digestion Reagent ID: W16483		**Alkaline Digestion Reagent pH:** 12.87	
SW 3060A Leachate Generation Date: 5/17/18		**Filtration End Time:** 1800	

Sample ID	Analysis Time	Dilution	pH adj'd 7.5 +/- 0.5	pH adj'd 2.0 +/- 0.5	Sample to Color Vol. (mL)	Final Color Vol. (mL)	Sample Color/Turb Abs @ 540 nm	Developed Sample Abs @ 540 nm
ICV	1700		✓	✓	25	25		0.409
CCV					1			0.398
CCB					1			0.000
Blank					20			0.008
LCS					1			0.644
SL3995-5					1		0.036	0.040
-5PDS					1			0.394
-5S.D					4.0		0.009	0.010
-5Insolns					1.00		0.009	0.674
-5Solns					20		0.052	0.339
-14					1		0.001	0.011
SL4180-1					1		0.181	0.186
1 -2					1		0.305	0.311
CCV					25			0.398
CCB					1			0.001
SL4180-3					20		0.002	0.010
-16					1		0.211	0.217
-18					1		0.001	0.010
-18PDS					1			0.409
-18S.D.					4.0		0.001	0.002
-18 Insolns			↓	↓	1.00	↓		0.800

Notes: SL-4180-17 needs reprep due to loss of volume post pH adjustment.

Analyst: AP		**Date:** 5/18/18	
Checked By:		**Date:** 05/24/18	

KATAHDIN ANALYTICAL SERVICES

METHOD SW846 7196A

MATRIX: SOIL / SEDIMENT / SOLID **PQL: 0.5mg/Kg (assumes 2.5g dry weight to 100 mL)**

Calibration / Quality Control Checks:	
Cal Std. Source ID (K2Cr2O7): P15 **ug/mL**	**CCV ID:** P15 **ug/mL**
LCS Stock ID: **ug/mL**	**ICV ID:** **ug/mL**
Reagents:	**Phosphate Buffer ID:**
Diphenylcarbazide Solution ID:	**10% H2SO4 ID:**
Alkaline Digestion Reagent ID:	**Alkaline Digestion Reagent pH:**
SW 3060A Leachate Generation Date:	**Filtration End Time:**

Sample ID	Analysis Time	Dilution	pH adj'd 7.5 +/- 0.5	pH adj'd 2.0 +/- 0.5	Sample to Color Vol. (mL)	Final Color Vol. (mL)	Sample Color/Turb Abs @ 540 nm	Developed Sample Abs @ 540 nm	
SL4180-18Solns			✓	✓	20	25	0.002	0.636	
-21							0.014	0.022	
-22							0.001	0.010	
-24							0.006	0.012	
CCV					25			0.393	
CCB					1			0.001	
SL4180-25					20		0.037	0.042	
-26							0.001	0.009	AP 5/18
SL 4233-4							0.046	~~0.00~~ 0.005	4
-5							0.125	0.133	AP 5/18/18
-6							0.111	0.117	
-9							0.075	0.083	
-10							0.107	0.117	
-11							0.049	0.057	
-12							0.118	0.125	
CCV					25			0.395	
CCB	1744				1			0.001	
				5/21/18					
			AT						

Notes:

Analyst: AT	**Date:** 5/18/18
Checked By:	**Date:** 05/24/18

Katahdin Analytical Services, Inc. **Metals Preparation Benchsheet**

Reagent Information:

HNO3:_____ HCL:_____ H2O2:_____ **Method:** 3060

LCS / Spike **LCS/Spiking Information:**

- ☐ ☐ CLPP-SPK-1 (ID/Vol):_____/_____mL
- ☐ ☐ CLPP-SPK-INT1 (ID/Vol):_____/_____mL
- ☐ ☐ CLPP-SPK-INT2 (ID/Vol):_____/_____mL
- ☐ ☐ _____ Spike (ID/Vol):_____/_____mL
- ☐ ☐ CLPP-SPK-4 (ID/Vol):_____/_____mL

LCSS :_____ Balance ID:_____

Hot Plate/Block ID : O

Start Time/Temp.: 1325 / 90 °C

End Time/Temp. : 1425 / 92.5 °C

Thermometer ID/Pos.:_____/_____

Filter Paper:_____

Sample ID	Batch ID	Initial Wt/Vol	Initial Units	Final Vol	Final Units	MX	Meth	Anal.	Date	Initial Color	Initial Texture	Final Color	Final Clarity	Artifacts	Bottle
BLANK	LE17CRS1	2.5000	g	0.1	L	SL	CR	AP	05/17/2018	N/A	N/A	N/A	N/A		
LCS	LE17CRS1	2.5000	g	0.1	L	SL	CR	AP	05/17/2018	N/A	N/A	N/A	N/A		
SL3995-14	LE17CRS1	2.4674	g	0.1	L	SL	CR	AP	05/17/2018						
SL3995-5	LE17CRS1	2.5886	g	0.1	L	SL	CR	AP	05/17/2018						
SL3995-5 INSOL MS	LE17CRS1	2.4013	g	0.1	L	SL	CR	AP	05/17/2018						
SL3995-5 SOL MS	LE17CRS1	2.4100	g	0.1	L	SL	CR	AP	05/17/2018						
SL4180-1	LE17CRS1	2.5931	g	0.1	L	SL	CR	AP	05/17/2018						
SL4180-16	LE17CRS1	2.4584	g	0.1	L	SL	CR	AP	05/17/2018						
SL4180-17	LE17CRS1	2.5731	g	0.1	L	SL	CR	AP	05/17/2018						
SL4180-18	LE17CRS1	2.5214	g	0.1	L	SL	CR	AP	05/17/2018						
SL4180-18 INSOL MS	LE17CRS1	2.4783	g	0.1	L	SL	CR	AP	05/17/2018						
SL4180-18 SOL MS	LE17CRS1	2.4546	g	0.1	L	SL	CR	AP	05/17/2018						
SL4180-2	LE17CRS1	2.4959	g	0.1	L	SL	CR	AP	05/17/2018						
SL4180-21	LE17CRS1	2.4931	g	0.1	L	SL	CR	AP	05/17/2018						
SL4180-22	LE17CRS1	2.4587	g	0.1	L	SL	CR	AP	05/17/2018						
SL4180-24	LE17CRS1	2.5598	g	0.1	L	SL	CR	AP	05/17/2018						
SL4180-25	LE17CRS1	2.5788	g	0.1	L	SL	CR	AP	05/17/2018						
SL4180-26	LE17CRS1	2.5576	g	0.1	L	SL	CR	AP	05/17/2018						
SL4180-3	LE17CRS1	2.4951	g	0.1	L	SL	CR	AP	05/17/2018						
SL4233-10	LE17CRS1	2.5768	g	0.1	L	SL	CR	AP	05/17/2018						
SL4233-11	LE17CRS1	2.5123	g	0.1	L	SL	CR	AP	05/17/2018						
SL4233-12	LE17CRS1	2.4111	g	0.1	L	SL	CR	AP	05/17/2018						
SL4233-4	LE17CRS1	2.5818	g	0.1	L	SL	CR	AP	05/17/2018						
SL4233-5	LE17CRS1	2.5053	g	0.1	L	SL	CR	AP	05/17/2018						
SL4233-6	LE17CRS1	2.5015	g	0.1	L	SL	CR	AP	05/17/2018						
SL4233-9	LE17CRS1	2.5290	g	0.1	L	SL	CR	AP	05/17/2018						

Insoluble MS for SL3995-1 spiked w/ 0.0179g $PbCrO_4$ (SWL3761)
" " "SL4180-18" " 0.0170g " "
LCS & Soluble MS's spiked w/ 0.10 mL 1000 mg/L Cr^{+6} Std (SWL4101)

Digestion performed by: for AP On: 05/17/18

Katahdin Analytical Services 5000041

Samplenum	Measuredate	Parameter	Result	Moisture
SL3995-1	14-MAY-18	TOTAL SOLIDS	85.108%	14.892%
SL3995-2	14-MAY-18	TOTAL SOLIDS	83.698%	16.302%
SL3995-3	14-MAY-18	TOTAL SOLIDS	83.071%	16.929%
SL3995-4	14-MAY-18	TOTAL SOLIDS	83.459%	16.541%
SL3995-5	14-MAY-18	TOTAL SOLIDS	83.168%	16.832%
SL3995-6	14-MAY-18	TOTAL SOLIDS	78.808%	21.192%
SL3995-7	14-MAY-18	TOTAL SOLIDS	79.411%	20.589%
SL3995-8	14-MAY-18	TOTAL SOLIDS	81.012%	18.988%
SL3995-9	14-MAY-18	TOTAL SOLIDS	81.31%	18.69%
SL3995-10	14-MAY-18	TOTAL SOLIDS	80.441%	19.559%
SL3995-11	14-MAY-18	TOTAL SOLIDS	81.007%	18.993%
SL3995-12	14-MAY-18	TOTAL SOLIDS	81.892%	18.108%
SL3995-13	14-MAY-18	TOTAL SOLIDS	79.7%	20.3%
SL3995-14	14-MAY-18	TOTAL SOLIDS	78.494%	21.506%

Samplenum	Measuredate	Parameter	Result	Moisture
SL4180-21	16-MAY-18	TOTAL SOLIDS	73.564%	26.436%
SL4180-22	16-MAY-18	TOTAL SOLIDS	73.584%	26.416%
SL4180-23	16-MAY-18	TOTAL SOLIDS	77.765%	22.235%
SL4180-24	16-MAY-18	TOTAL SOLIDS	80.734%	19.266%
SL4180-25	16-MAY-18	TOTAL SOLIDS	81.483%	18.517%
SL4180-26	16-MAY-18	TOTAL SOLIDS	77.938%	22.062%
SL4180-27	16-MAY-18	TOTAL SOLIDS	72.878%	27.122%
SL4180-1	16-MAY-18	TOTAL SOLIDS	85.018%	14.982%
SL4180-2	16-MAY-18	TOTAL SOLIDS	83.137%	16.863%
SL4180-3	16-MAY-18	TOTAL SOLIDS	81.589%	18.411%
SL4180-4	16-MAY-18	TOTAL SOLIDS	76.859%	23.141%
SL4180-5	16-MAY-18	TOTAL SOLIDS	83.109%	16.891%
SL4180-6	16-MAY-18	TOTAL SOLIDS	76.038%	23.962%
SL4180-7	16-MAY-18	TOTAL SOLIDS	79.863%	20.137%
SL4180-8	16-MAY-18	TOTAL SOLIDS	81.152%	18.848%
SL4180-9	16-MAY-18	TOTAL SOLIDS	81.19%	18.81%
SL4180-10	16-MAY-18	TOTAL SOLIDS	80.832%	19.168%
SL4180-11	16-MAY-18	TOTAL SOLIDS	76.564%	23.436%
SL4180-12	16-MAY-18	TOTAL SOLIDS	87.078%	12.922%
SL4180-13	16-MAY-18	TOTAL SOLIDS	80.387%	19.613%
SL4180-14	16-MAY-18	TOTAL SOLIDS	82.876%	17.124%
SL4180-15	16-MAY-18	TOTAL SOLIDS	80.191%	19.809%
SL4180-16	16-MAY-18	TOTAL SOLIDS	82.524%	17.476%
SL4180-17	16-MAY-18	TOTAL SOLIDS	80.402%	19.598%
SL4180-18	16-MAY-18	TOTAL SOLIDS	80.18%	19.82%
SL4180-19	16-MAY-18	TOTAL SOLIDS	69.468%	30.532%
SL4180-20	16-MAY-18	TOTAL SOLIDS	81.566%	18.434%

Samplenum	Measuredate	Parameter	Result	Moisture
SL4233-53	18-MAY-18	TOTAL SOLIDS	74.456%	25.544%
SL4233-2	18-MAY-18	TOTAL SOLIDS	81.816%	18.184%
SL4233-3	18-MAY-18	TOTAL SOLIDS	80.79%	19.21%
SL4233-4	18-MAY-18	TOTAL SOLIDS	73.468%	26.532%
SL4233-5	18-MAY-18	TOTAL SOLIDS	79.151%	20.849%
SL4233-6	18-MAY-18	TOTAL SOLIDS	85.008%	14.992%
SL4233-7	18-MAY-18	TOTAL SOLIDS	76.973%	23.027%
SL4233-8	18-MAY-18	TOTAL SOLIDS	76.768%	23.232%
SL4233-9	18-MAY-18	TOTAL SOLIDS	73.719%	26.281%
SL4233-10	18-MAY-18	TOTAL SOLIDS	87.404%	12.596%
SL4233-11	18-MAY-18	TOTAL SOLIDS	81.219%	18.781%
SL4233-12	18-MAY-18	TOTAL SOLIDS	82.836%	17.164%
SL4233-13	18-MAY-18	TOTAL SOLIDS	80.324%	19.676%
SL4233-14	18-MAY-18	TOTAL SOLIDS	79.401%	20.599%
SL4233-15	18-MAY-18	TOTAL SOLIDS	72.708%	27.292%
SL4233-17	18-MAY-18	TOTAL SOLIDS	75.333%	24.667%
SL4233-19	18-MAY-18	TOTAL SOLIDS	73.688%	26.312%
SL4233-21	18-MAY-18	TOTAL SOLIDS	82.894%	17.106%
SL4233-22	18-MAY-18	TOTAL SOLIDS	80.066%	19.934%
SL4233-23	18-MAY-18	TOTAL SOLIDS	81.153%	18.847%
SL4233-24	18-MAY-18	TOTAL SOLIDS	80.122%	19.878%
SL4233-25	18-MAY-18	TOTAL SOLIDS	79.228%	20.772%
SL4233-26	18-MAY-18	TOTAL SOLIDS	77.405%	22.595%
SL4233-27	18-MAY-18	TOTAL SOLIDS	78.206%	21.794%
SL4233-28	18-MAY-18	TOTAL SOLIDS	80.083%	19.917%
SL4233-29	18-MAY-18	TOTAL SOLIDS	79.729%	20.271%
SL4233-30	18-MAY-18	TOTAL SOLIDS	80.052%	19.948%
SL4233-31	18-MAY-18	TOTAL SOLIDS	76.429%	23.571%
SL4233-32	18-MAY-18	TOTAL SOLIDS	79.392%	20.608%
SL4233-33	18-MAY-18	TOTAL SOLIDS	80.487%	19.513%
SL4233-34	18-MAY-18	TOTAL SOLIDS	76.445%	23.555%
SL4233-35	18-MAY-18	TOTAL SOLIDS	76.12%	23.88%
SL4233-36	18-MAY-18	TOTAL SOLIDS	80.105%	19.895%
SL4233-37	18-MAY-18	TOTAL SOLIDS	77.665%	22.335%
SL4233-38	18-MAY-18	TOTAL SOLIDS	80.4%	19.6%
SL4233-39	18-MAY-18	TOTAL SOLIDS	84.928%	15.072%
SL4233-40	18-MAY-18	TOTAL SOLIDS	81.997%	18.003%
SL4233-41	18-MAY-18	TOTAL SOLIDS	77.708%	22.292%
SL4233-42	18-MAY-18	TOTAL SOLIDS	74.195%	25.805%
SL4233-43	18-MAY-18	TOTAL SOLIDS	82.672%	17.328%
SL4233-44	18-MAY-18	TOTAL SOLIDS	75.464%	24.536%
SL4233-45	18-MAY-18	TOTAL SOLIDS	76.81%	23.19%
SL4233-46	18-MAY-18	TOTAL SOLIDS	77.884%	22.116%

WET CHEMISTRY BATCH REPORT
May 30 2018, 11:16 am
Batch: WG229295

Parameter: Chromium, Hexavalent

Prep Date: 23-MAY-18

Date Analyzed: 24-MAY-18

Prep Method: SW846 3060A

Analyst Initials: AP

Prep Chemist: AP

Sample	Samp Type	Method	Initial Amt.	Final Amt.	Rpt. DF	Result	Rpt Result	TS(%)	PQL	MDL	Adj PQL	RPD	%Rec
SL4180-17	SAMP	SW846 7196A	20.000mL	25.000mL	1.2	.1	U0.35 mg/Kgdrywt	80.	.4	0.17	0.58		
SL4233-13	SAMP	SW846 7196A	20.000mL	25.000mL	1.2	.33	J0.33 mg/Kgdrywt	80.	.4	0.18	0.60		
SL4233-17	SAMP	SW846 7196A	20.000mL	25.000mL	1.2	.34	J0.34 mg/Kgdrywt	75.	.4	0.18	0.62		
SL4233-19	SAMP	SW846 7196A	20.000mL	25.000mL	1.2	.2	J0.20 mg/Kgdrywt	74.	.4	0.19	0.65		
SL4233-21	SAMP	SW846 7196A	20.000mL	25.000mL	1.2	-.04	U0.35 mg/Kgdrywt	83.	.4	0.17	0.58		
SL4233-22	SAMP	SW846 7196A	20.000mL	25.000mL	1.2	-.12	U0.37 mg/Kgdrywt	80.	.4	0.18	0.61		
SL4233-28	SAMP	SW846 7196A	20.000mL	25.000mL	1.2	-1.19	U0.35 mg/Kgdrywt	80.	.4	0.17	0.58		
SL4233-29	SAMP	SW846 7196A	20.000mL	25.000mL	1.2	.33	J0.33 mg/Kgdrywt	80.	.4	0.18	0.60		
SL4233-30	SAMP	SW846 7196A	20.000mL	25.000mL	1.2	.47	J0.47 mg/Kgdrywt	80.	.4	0.18	0.59		
SL4233-35	SAMP	SW846 7196A	20.000mL	25.000mL	1.2	.49	J0.49 mg/Kgdrywt	76.	.4	0.18	0.62		
SL4233-36	SAMP	SW846 7196A	20.000mL	25.000mL	1.2	.4	J0.40 mg/Kgdrywt	80.	.4	0.18	0.59		
SL4233-42	SAMP	SW846 7196A	20.000mL	25.000mL	1.2	.36	J0.36 mg/Kgdrywt	74.	.4	0.19	0.65		
SL4233-43	SAMP	SW846 7196A	20.000mL	25.000mL	1.2	.41	J0.41 mg/Kgdrywt	83.	.4	0.18	0.60		
SL4233-48	SAMP	SW846 7196A	20.000mL	25.000mL	1.2	-.05	U0.39 mg/Kgdrywt	72.	.4	0.20	0.65		
SL4233-49	SAMP	SW846 7196A	20.000mL	25.000mL	1.2	.5	J0.50 mg/Kgdrywt	79.	.4	0.19	0.62		
WG229295-1	MBLANK	SW846 7196A	20.000mL	25.000mL	1.2	.26	J0.26 mg/Kgdrywt	NA	.4	0.14	0.48		
WG229295-2	LCS	SW846 7196A	20.000mL	25.000mL	1.2	35.21	35. mg/Kgdrywt	NA	.4	0.14	0.48		88
WG229295-3	LCSD	SW846 7196A	20.000mL	25.000mL	1.2	37.65	38. mg/Kgdrywt	NA	.4	0.14	0.48	7	94
WG229295-4	MS	SW846 7196A	1.0000mL	25.000mL	25	1192.71	1200 mg/Kgdrywt	NA	.4	3.8	13.		88
WG229295-5	MS	SW846 7196A	20.000mL	25.000mL	1.2	43.12	43. mg/Kgdrywt	NA	.4	0.18	0.61		84

Comments:

SL4233-36	MS/MSD
WG229295-1	SL4233-36
WG229295-2	SL4233-36
WG229295-3	SL4233-36
WG229295-4	SL4233-36
WG229295-5	SL4233-36

Entered by: AP Date: 5/30/18 Accepted by: RD Date: 6/2/18

Katahdin Analytical Services 5000045

HEXAVALENT CHROMIUM IN SOILS

Preparation Method: 3060A (Alkaline Digestion) Analysis Method: 7196A (Colorimetric)

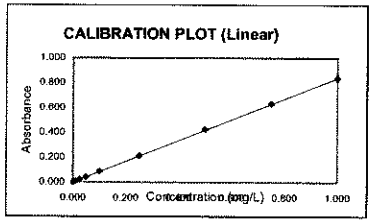
CALIBRATION INFORMATION

Calibration Analysis Date:	3/22/2018
Calibration Analyst:	AP

KCrO4 Stock Standard ID:	W16042
KCrO4 Stock Standard Conc (mg/L):	25

Standard Name	Vol. Of Stock Std. Added (ml)	Final Volume (mL)	Std. Conc. (mg/L)	Meas. Abs.	Response Factor
Calib. Blank	0.000	25	0.000	0.000	
Std. 1	0.010	25	0.010	0.009	1.111
Std. 2	0.025	25	0.025	0.023	1.087
Std. 3	0.050	25	0.050	0.044	1.136
Std. 4	0.100	25	0.100	0.088	1.136
Std. 5	0.250	25	0.250	0.215	1.163
Std. 6	0.500	25	0.500	0.427	1.171
Std. 7	0.750	25	0.750	0.633	1.185
Std. 8	1.000	25	1.000	0.839	1.192

No. of data points:	9
Corr. Coeff. (R):	0.999966371
Slope (m):	0.839828612
Intercept (b):	0.002562242



SAMPLE ANALYSIS

CCV Source Standard ID:	W16504
CCV Source Std. Conc. (mg/L):	25

Spreadsheet File Name:	052418.XLS
Sample Anal. Date:	5/24/2018
Sample Analyst:	AP

	ANALYSIS INFORMATION								DIGESTION INFORMATION				CALCULATIONS			
Katahdin Sample No.	Initial Volume, IV (mL)	Final Volume, FV (mL)	Dil Fctr.	Sample Absorbance	Matrix Blk. Absorbance	Corrected Absorbance	Calc. Cr+6 in FV (mg/L)	Calc. Cr+6 in IV (mg/L)	Digested Wet Wt. (g)	Digestate Final Vol. (L)	Total Solids (%)	Cr+6 Spike Added (mg)	Calc. Cr+6 in Sample (mg/kgdrywt)	Calc. Cr+6 Spike Added (mg/kgdrywt)	CCV / Spike Recovery	
ICV	25.0	25.0	1.000	0.422		0.422	0.499	0.499							99.9%	
CCV	25.0	25.0	1.000	0.419		0.419	0.496	0.496							99.2%	
CCB	25.0	25.0	1.000	-0.001		-0.001	-0.004	-0.004								
METHOD BLANK A	20.0	25.0	1.250	0.007		0.007	0.005	0.007	2.5000	0.100	100.000%		0.26			
LCS A	20.0	25.0	1.250	0.594		0.594	0.704	0.880	2.5000	0.100	100.000%	0.100	35.21	40.00	88.0%	
LCSD	20.0	25.0	1.250	0.635		0.635	0.753	0.941	2.5000	0.100	100.000%	0.100	37.65	40.00	94.1%	
SL3995-5	20.0	25.0	1.250	0.148	0.180	-0.032	-0.041	-0.051	2.5032	0.100	83.168%		-2.47			
SL3995-5 Post-Dig MS	20.0	25.0	1.250	0.512		0.512	0.607	0.758	2.5032	0.100	83.168%		36.42			
SL3995-5 Serial Dilution	4.0	25.0	6.250	0.038	0.036	0.002	-0.001	-0.004	2.5032	0.100	83.168%		-0.20			
SL3995-5 Insoluble MS	1.0	25.0	25.000	0.603	0.011	0.592	0.702	17.546	2.5773	0.100	83.168%	2.655	818.59	1238.48	66.3%	
SL3995-5 Soluble MS	20.0	25.0	1.250	0.426	0.268	0.158	0.185	0.231	2.5272	0.100	83.168%	0.100	11.01	47.58	28.3%	
SL4180-17	20.0	25.0	1.250	0.090	0.086	0.004	0.002	0.002	2.5668	0.100	80.402%		0.10			
SL4233-13	20.0	25.0	1.250	0.162	0.155	0.007	0.005	0.007	2.5064	0.100	80.324%		0.33			
CCV	25.0	25.0	1.000	0.419		0.419	0.496	0.496							99.2%	
CCB	25.0	25.0	1.000	-0.001		-0.001	-0.004	-0.004								
SL4233-15 Soluble MS	20.0	25.0	1.250	0.587	0.001	0.586	0.695	0.868	2.5059	0.100	72.708%	0.100	47.66	54.89	86.8%	Extimated Value, No Sample for Comparison
SL4233-15 Insoluble MS	1.0	25.0	25.000	0.808		0.808	0.959	23.976	2.4968	0.100	72.708%	2.590	1320.73	1426.87	92.6%	Extimated Value, No Sample for Comparison
SL4233-17	20.0	25.0	1.250	0.034	0.027	0.007	0.005	0.007	2.5861	0.100	75.333%		0.34			
SL4233-19	20.0	25.0	1.250	0.086	0.081	0.005	0.003	0.004	2.5111	0.100	73.688%		0.20			
SL4233-21	20.0	25.0	1.250	0.311	0.309	0.002	-0.001	-0.001	2.4997	0.100	82.994%		-0.04			
SL4233-22	20.0	25.0	1.250	0.003	0.002	0.001	-0.002	-0.002	2.4543	0.100	80.066%		-0.12			
SL4233-28	20.0	25.0	1.250	0.136	0.150	-0.014	-0.020	-0.025	2.5778	0.100	80.083%		-1.19			
SL4233-29	20.0	25.0	1.250	0.007	0.000	0.007	0.005	0.007	2.4893	0.100	79.729%		0.33			
SL4233-30	20.0	25.0	1.250	0.010	0.001	0.009	0.008	0.010	2.5490	0.100	80.052%		0.47			
SL4233-35	20.0	25.0	1.250	0.053	0.044	0.009	0.008	0.010	2.5529	0.100	76.120%		0.49			
CCV	25.0	25.0	1.000	0.419		0.419	0.496	0.496							99.2%	
CCB	25.0	25.0	1.000	-0.001		-0.001	-0.004	-0.004								
SL4233-36	20.0	25.0	1.250	0.008	0.000	0.008	0.006	0.008	2.5395	0.100	80.105%		0.40			
SL4233-36 Post Dig MS	20.0	25.0	1.250	0.382		0.382	0.452	0.565	2.5395	0.100	80.105%		27.76			
SL4233-36 Serial Dilution	4.0	25.0	6.250	0.001	-0.001	0.002	-0.001	-0.004	2.5395	0.100	80.105%		-0.21			
SL4233-36 Insoluble MS	1.0	25.0	25.000	0.795		0.795	0.944	23.589	2.4690	0.100	80.105%	2.671	1192.71	1350.37	88.3%	
SL4233-36 Soluble MS	20.0	25.0	1.250	0.569	0.000	0.569	0.674	0.843	2.4408	0.100	80.105%	0.100	43.12	51.15	83.5%	
SL4233-42	20.0	25.0	1.250	0.027	0.020	0.007	0.005	0.007	2.4973	0.100	74.195%		0.36			
SL4233-43	20.0	25.0	1.250	0.009	0.001	0.008	0.006	0.008	2.4099	0.100	82.672%		0.41			
SL4233-48	20.0	25.0	1.250	0.098	0.096	0.002	-0.001	-0.001	2.5537	0.100	71.949%		-0.05			
SL4233-49	20.0	25.0	1.250	0.009	0.000	0.009	0.008	0.010	2.4523	0.100	78.816%		0.50			
CCV	25.0	25.0	1.000	0.415		0.415	0.491	0.491							98.2%	
CCB	25.0	25.0	1.000	-0.001		-0.001	-0.004	-0.004								

Katahdin Analytical Services 5000046

WG229295 R475963

KATAHDIN ANALYTICAL SERVICES

METHOD SW846 7196A

MATRIX: SOIL / SEDIMENT / SOLID **PQL: 0.5mg/Kg (assumes 2.5g dry weight to 100 mL)**

Calibration / Quality Control Checks:	
Cal Std. Source ID (K2Cr2O7): W16042 25 ug/mL	**CCV ID:** W16504 25 ug/mL
LCS Stock ID: SWL4101 1000 ug/mL	**ICV ID:** W16503 25 ug/mL
Reagents:	**Phosphate Buffer ID:** W14990
Diphenylcarbazide Solution ID: W16537	**10% H2SO4 ID:** Rcpday of: 20mL H2SO4, SWL4212 → 200mL DI
Alkaline Digestion Reagent ID: W16483/W16536	**Alkaline Digestion Reagent pH:** 12.93
SW 3060A Leachate Generation Date: 052318	**Filtration End Time:** 1730

Sample ID	Analysis Time	Dilution	pH adj'd 7.5 +/- 0.5	pH adj'd 2.0 +/- 0.5	Sample to Color Vol. (mL)	Final Color Vol. (mL)	Sample Color/Turb Abs @ 540 nm	Developed Sample Abs @ 540 nm
ICV	1505		✓		25	25		0.422
CCV								0.419
CCB								-0.001
Blank					20			0.007
LCS								0.594
LCSD								0.635
SL3995-5							0.180	0.148
-5 P.D.S.								0.512
-5 S.D.					4.00		0.036	0.038
-5 Insol MS					1.000		0.011	0.603
-5 Sol MS					20		0.268	0.426
SL4180-17							0.086	0.090
SL4233-13							0.155	0.162
CCV					~~20~~ 25			0.419
CCB					25			-.001
SL4233-~~14~~ 15 Sol MS					20		0.001	0.587
-15 Insol MS					1.000			0.808
-17 ~~-15 Sol MS~~					20		0.027	0.034
-19							0.081	0.086
-21							0.309	0.311
-22							0.002	0.003

AP 5/24/18

Notes: W4, W5

Analyst: JP/ZF/AP	**Date:** 5/24/18
Checked By: R	**Date:** 6/2/18

KATAHDIN ANALYTICAL SERVICES

METHOD SW846 7196A

MATRIX: SOIL / SEDIMENT / SOLID **PQL: 0.5mg/Kg (assumes 2.5g dry weight to 100 mL)**

Calibration / Quality Control Checks:	
Cal Std. Source ID (K2Cr2O7): P K7 ug/mL	**CCV ID:** P17 ug/mL
LCS Stock ID: ug/mL	**ICV ID:** ug/mL
Reagents:	**Phosphate Buffer ID:**
Diphenylcarbazide Solution ID:	**10% H2SO4 ID:**
Alkaline Digestion Reagent ID:	**Alkaline Digestion Reagent pH:**
SW 3060A Leachate Generation Date:	**Filtration End Time:**

Sample ID	Analysis Time	Dilution	pH adj'd 7.5 +/- 0.5	pH adj'd 2.0 +/- 0.5	Sample to Color Vol. (mL)	Final Color Vol. (mL)	Sample Color/Turb Abs @ 540 nm	Developed Sample Abs @ 540 nm
SL4233-28			✓		20	25	0.150	0.136
-29							0.000	0.007
-30							0.001	0.010
-35							0.044	0.053
CCV					25			0.419
CCB					1			-0.001
SL4233-36					20		0.000	0.008
-36 P.D.S					1			0.382
-36 S.D.					4.00		-0.001	0.001 * SP MA 5/24/18
-36 lmslms					1.000			0.795
-36 SLMS					20		0.000	0.569
-42							0.020	0.027
-43							0.001	0.009
-48							0.096	0.098
-49							0.000	0.009
CCV					25			0.415
CCB	16:15				1			-0.001
				17	5/30/18			

Notes:

Analyst: AP/JP/ZF	**Date:** 5/24/18
Checked By: PD	**Date:** 6/2/18

Katahdin Analytical Services, Inc.

Metals Preparation Benchsheet

Reagent Information:

HNO3:_____ HCL:_____ H2O2:_____ **Method:** 3060

LCS / Spike **LCS/Spiking Information:**

- ☐ ☐ CLPP-SPK-1 (ID/Vol):_____/_____mL
- ☐ ☐ CLPP-SPK-INT1 (ID/Vol):_____/_____mL
- ☐ ☐ CLPP-SPK-INT2 (ID/Vol):_____/_____mL
- ☐ ☐ _____ Spike (ID/Vol):_____/_____mL
- ☐ ☐ CLPP-SPK-4 (ID/Vol):_____/_____mL

LCSS:_____ Balance ID: 1124016031

Hot Plate/Block ID: O

Start Time/Temp.: 1345 / 90 °C

End Time/Temp.: 1445 / 92.5 °C

Thermometer ID/Pos.:_____/_____

Filter Paper:_____

Sample ID	Batch ID	Initial Wt/Vol	Initial Units	Final Vol	Final Units	MX	Meth	Anal.	Date	Initial Color	Initial Texture	Final Color	Final Clarity	Artifacts	Bottle
BLANK	LE23CRS1	2.5	g	0.1	L	SL	CR	AP/ZF/JP	05/23/2018	N/A	N/A	N/A	N/A		
LCS	LE23CRS1	2.5	g	0.1	L	SL	CR	AP/ZF/JP	05/23/2018	N/A	N/A	N/A	N/A		
LCSD	LE23CRS1	2.5	g	0.1	L	SL	CR	AP/ZF/JP	05/23/2018						
SL3995-5	LE23CRS1	~~2.5032~~ ~~0.2500~~	g	0.1	L	SL	CR	AP/ZF/JP	05/23/2018						
SL3995-5 INSOL MS	LE23CRS1	~~2.5773~~ ~~0.2462~~	g	0.1	L	SL	CR	AP/ZF/JP	05/23/2018						
SL3995-5 SOL MS	LE23CRS1	~~2.5272~~ ~~0.2481~~	g	0.1	L	SL	CR	AP/ZF/JP	05/23/2018						
SL4180-17	LE23CRS1	~~2.6668~~ ~~0.2522~~	g	0.1	L	SL	CR	AP/ZF/JP	05/23/2018						
SL4233-13	LE23CRS1	~~2.5064~~ ~~0.2420~~	g	0.1	L	SL	CR	AP/ZF/JP	05/23/2018						
SL4233-14	LE23CRS1	~~2.4769~~ ~~0.2482~~	g	redigest	L	SL	CR	AP/ZF/JP	05/23/2018						
SL4233-15	LE23CRS1	~~2.5720.2497~~	g		L	SL	CR	AP/ZF/JP	05/23/2018						
SL4233-15 INSOL MS	LE23CRS1	~~2.4965 0.2456~~	g		L	SL	CR	AP/ZF/JP	05/23/2018						
SL4233-15 SOL MS	LE23CRS1	~~2.5059 0.2477~~	g		L	SL	CR	AP/ZF/JP	05/23/2018						
SL4233-17	LE23CRS1	~~2.5861 0.2456~~	g	0.1	L	SL	CR	AP/ZF/JP	05/23/2018						
SL4233-19	LE23CRS1	~~2.5111 0.2461~~	g	0.1	L	SL	CR	AP/ZF/JP	05/23/2018						
SL4233-21	LE23CRS1	~~2.4997 0.2446~~	g	0.1	L	SL	CR	AP/ZF/JP	05/23/2018						
SL4233-22	LE23CRS1	~~2.4543 0.2420~~	g	0.1	L	SL	CR	AP/ZF/JP	05/23/2018						
SL4233-28	LE23CRS1	~~2.5776 0.2517~~	g	0.1	L	SL	CR	AP/ZF/JP	05/23/2018						
SL4233-29	LE23CRS1	~~2.4893 0.2466~~	g	0.1	L	SL	CR	AP/ZF/JP	05/23/2018						
SL4233-30	LE23CRS1	~~2.5490 0.2496~~	g	0.1	L	SL	CR	AP/ZF/JP	05/23/2018						
SL4233-35	LE23CRS1	~~2.5529 0.2491~~	g	0.1	L	SL	CR	AP/ZF/JP	05/23/2018						
SL4233-36	LE23CRS1	~~2.5395 0.2427~~	g	0.1	L	SL	CR	AP/ZF/JP	05/23/2018						
SL4233-36 INSOL MS	LE23CRS1	~~2.4690 0.2469~~	g	0.1	L	SL	CR	AP/ZF/JP	05/23/2018						
SL4233-36 SOL MS	LE23CRS1	~~2.4408 0.2498~~	g	0.1	L	SL	CR	AP/ZF/JP	05/23/2018						
SL4233-42	LE23CRS1	~~2.4973 0.2567~~	g	0.1	L	SL	CR	AP/ZF/JP	05/23/2018						
SL4233-43	LE23CRS1	~~2.4098 0.2573~~	g	0.1	L	SL	CR	AP/ZF/JP	05/23/2018						
SL4233-48	LE23CRS1	~~2.6537 0.2544~~	g	0.1	L	SL	CR	AP/ZF/JP	05/23/2018						
SL4233-49	LE23CRS1	~~2.4523 0.2429~~	g	0.1	L	SL	CR	AP/ZF/JP	05/23/2018						

SL3995-5 Insol spike: 0.0165g

SL4233-15 spike: 0.0161g

SL4233-36 spike: 0.0166g

Insoluble MS spiked w/ PbCrO6 (SWL)

Soluble MS & LCS spiked w/ 0.1 mL Cr+6 std 1000 µg/mL SWL4101

Digestion performed by: AP/ZF/JP On: 5/23/18

Katahdin Analytical Services 5000049

TOTAL SOLIDS BATCH REPORT
May 16 2018, 08:08 am
Batch: WG228357

Sample	Matrix	Type	Prep Date	Tare	Initial	Final1	Final	by	Date	Raw TS	Rep TS	Recovery	RPD
SL4180-21	SL	SAMP	15-MAY-18	1.3 g	17.0153 g	12.8608 g	12.8608 g	WAS	16-MAY-18	73.5640	74. %		
SL4180-22	SL	SAMP	15-MAY-18	1.3 g	15.4287 g	11.6964 g	11.6964 g	WAS	16-MAY-18	73.5840	74. %		
SL4180-23	SL	SAMP	15-MAY-18	1.3 g	17.4218 g	13.8371 g	13.8371 g	WAS	16-MAY-18	77.7650	78. %		
SL4180-24	SL	SAMP	15-MAY-18	1.3 g	18.0948 g	14.8591 g	14.8591 g	WAS	16-MAY-18	80.7340	81. %		
SL4180-25	SL	SAMP	15-MAY-18	1.3 g	14.499 g	12.0549 g	12.0549 g	WAS	16-MAY-18	81.4830	81. %		
SL4180-26	SL	SAMP	15-MAY-18	1.3 g	16.6911 g	13.2955 g	13.2955 g	WAS	16-MAY-18	77.9380	78. %		
SL4180-27	SL	SAMP	15-MAY-18	1.3 g	13.6775 g	10.3205 g	10.3205 g	WAS	16-MAY-18	72.8780	73. %		
SL4182-33	SL	SAMP	15-MAY-18	1.3 g	19.5249 g	18.3884 g	18.3884 g	WAS	16-MAY-18	93.7640	94. %		
SL4182-34	SL	SAMP	15-MAY-18	1.3 g	21.8994 g	20.2623 g	20.2623 g	WAS	16-MAY-18	92.0530	92. %		
WG228357-1	SL	MBLANK	15-MAY-18	1.3 g	5.851 g	5.8483 g	5.8483 g	WAS	16-MAY-18	99.9410	100 %		
WG228357-2	SL	LCS	15-MAY-18	1.3 g	6.3066 g	5.7995 g	5.7995 g	WAS	16-MAY-18	89.8710	90. %	100	
WG228357-3	SL	DUP	15-MAY-18	1.3 g	20.3578 g	18.6042 g	18.6042 g	WAS	16-MAY-18	90.7980	91. %		1

Comments:

SL4182-33	Rec. off hold
SL4182-34	MS/MSD, Rec. off hold
WG228357-1	SL4182-34
WG228357-2	SL4182-34
WG228357-3	SL4182-34

Entered by: _____ Date: 5-16-18 Accepted by: _____ Date: 05/16/18

Katahdin Analytical Services 5000050

Katahdin
ANALYTICAL SERVICES

Katahdin Analytical Services

R473689

Work Group Report (wk02)

15-MAY-18 11:10 AM

Work Group: WG228357
Department: 100 Wetlab Prep

Operator:

Created: 15-MAY-18
Due:

Tin	Sample	Account Name	Product	Matrix	Status	UA	Workdate	PR Location
4	SL4180-21	[redacted]	TS	Solid	WIP	U	27-MAY-18	
5	SL4180-22	[redacted]	TS	Solid	WIP	U	27-MAY-18	
6	SL4180-23	[redacted]	TS	Solid	WIP	U	27-MAY-18	
7	SL4180-24	[redacted]	TS	Solid	WIP	U	27-MAY-18	
8	SL4180-25	[redacted]	TS	Solid	WIP	U	27-MAY-18	
9	SL4180-26	[redacted]	TS	Solid	WIP	U	27-MAY-18	
10	SL4180-27	[redacted]	TS	Solid	WIP	U	27-MAY-18	
11	SL4182-33	[redacted]	TS	Solid	WIP	U	27-MAY-18	
12	SL4182-34	[redacted]	TS	Solid	WIP	U	27-MAY-18	
WG 5-16-18 22	WG228357-1	MBLANK	TS	Solid	WIP	U	15-MAY-18	
23	WG228357-2	LCS	TS	Solid	WIP	U	15-MAY-18	
13	WG228357-3	DUP	TS	Solid	WIP	U	15-MAY-18	

Comments:

SL4182-34	MS/MSD
WG228357-1	SL4182-34
WG228357-2	SL4182-34
WG228357-3	SL4182-34

Start: 15 14:30

Total Solids: SM2540 G / ASTM D2216			PQL: 0.10%	Oven ID: 107N0042		Balance Calibrated?
TS	In 1	In 2	TS	Out 1	Out 2	Y / N
ANALYST IN:	JMS		ANALYST OUT:	WB		In:
DATE IN:	5/15/18		DATE OUT:	5-16-18		Out (TS):
TIME IN:	16:07		TIME OUT:	630		Balance ID:
TEMP IN:	104		TEMP OUT:	104		S/N 1124016031

TOTAL SOLIDS BATCH REPORT
May 16 2018, 08:06 am
Batch: WG228359

Sample	Matrix	Type	Prep Date	Tare	Initial	Final1	Final	by	Date	Raw TS	Rep TS	Recovery	RPD
SL4180-1	SL	SAMP	15-MAY-18	1.3 g	14.1826 g	12.2525 g	12.2525 g	WAS	16-MAY-18	85.0180	85. %		
SL4180-10	SL	SAMP	15-MAY-18	1.3 g	21.3138 g	17.4775 g	17.4775 g	WAS	16-MAY-18	80.8320	81. %		
SL4180-11	SL	SAMP	15-MAY-18	1.3 g	18.8681 g	14.7509 g	14.7509 g	WAS	16-MAY-18	76.5640	76. %		
SL4180-12	SL	SAMP	15-MAY-18	1.3 g	16.6776 g	14.6905 g	14.6905 g	WAS	16-MAY-18	87.0780	87. %		
SL4180-13	SL	SAMP	15-MAY-18	1.3 g	18.0171 g	14.7384 g	14.7384 g	WAS	16-MAY-18	80.3870	80. %		
SL4180-14	SL	SAMP	15-MAY-18	1.3 g	17.512 g	14.7358 g	14.7358 g	WAS	16-MAY-18	82.8760	83. %		
SL4180-15	SL	SAMP	15-MAY-18	1.3 g	19.6278 g	15.9972 g	15.9972 g	WAS	16-MAY-18	80.1910	80. %		
SL4180-16	SL	SAMP	15-MAY-18	1.3 g	15.4944 g	13.0138 g	13.0138 g	WAS	16-MAY-18	82.5240	82. %		
SL4180-17	SL	SAMP	15-MAY-18	1.3 g	19.2072 g	15.6978 g	15.6978 g	WAS	16-MAY-18	80.4020	80. %		
SL4180-18	SL	SAMP	15-MAY-18	1.3 g	20.2206 g	16.4706 g	16.4706 g	WAS	16-MAY-18	80.1800	80. %		
SL4180-19	SL	SAMP	15-MAY-18	1.3 g	18.5772 g	13.3022 g	13.3022 g	WAS	16-MAY-18	69.4680	69. %		
SL4180-2	SL	SAMP	15-MAY-18	1.3 g	18.081 g	15.2513 g	15.2513 g	WAS	16-MAY-18	83.1370	83. %		
SL4180-20	SL	SAMP	15-MAY-18	1.3 g	20.6283 g	17.0654 g	17.0654 g	WAS	16-MAY-18	81.5660	82. %		
SL4180-3	SL	SAMP	15-MAY-18	1.3 g	16.8736 g	14.0064 g	14.0064 g	WAS	16-MAY-18	81.5890	82. %		
SL4180-4	SL	SAMP	15-MAY-18	1.3 g	16.301 g	12.8296 g	12.8296 g	WAS	16-MAY-18	76.8590	77. %		
SL4180-5	SL	SAMP	15-MAY-18	1.3 g	18.2886 g	15.419 g	15.419 g	WAS	16-MAY-18	83.1090	83. %		
SL4180-6	SL	SAMP	15-MAY-18	1.3 g	19.3226 g	15.004 g	15.004 g	WAS	16-MAY-18	76.0380	76. %		
SL4180-7	SL	SAMP	15-MAY-18	1.3 g	18.561 g	15.0851 g	15.0851 g	WAS	16-MAY-18	79.8630	80. %		
SL4180-8	SL	SAMP	15-MAY-18	1.3 g	19.9098 g	16.4023 g	16.4023 g	WAS	16-MAY-18	81.1520	81. %		
SL4180-9	SL	SAMP	15-MAY-18	1.3 g	21.011 g	17.3034 g	17.3034 g	WAS	16-MAY-18	81.1900	81. %		
WG228359-1	SL	MBLANK	15-MAY-18	1.3 g	5.8516 g	5.8487 g	5.8487 g	WAS	16-MAY-18	99.9360	100 %		
WG228359-2	SL	LCS	15-MAY-18	1.3 g	6.3024 g	5.7963 g	5.7963 g	WAS	16-MAY-18	89.8830	90. %	100	
WG228359-3	SL	DUP	15-MAY-18	1.3 g	19.0012 g	15.7313 g	15.7313 g	WAS	16-MAY-18	81.5270	82. %		0
WG228359-4	SL	DUP	15-MAY-18	1.3 g	19.8659 g	16.3905 g	16.3905 g	WAS	16-MAY-18	81.2810	81. %		1

Comments:

SL4180-18	MS/MSD
SL4180-8	MS/MSD
WG228359-1	SL4180-8
WG228359-2	SL4180-8
WG228359-3	SL4180-8
WG228359-4	SL4180-18

Entered by: _____ Date: 5-16-18

Accepted by: _____ Date: 05/16/18 ~~05/15/18~~

Katahdin Analytical Services 5000052

Katahdin
ANALYTICAL SERVICES

Katahdin Analytical Services

R473690

Work Group Report (wk02)

15-MAY-18 11:08 AM

Work Group: WG228359 **Created:** 15-MAY-18
Department: 100 Wetlab Prep **Operator:** **Due:**

Tin	Sample	Account Name	Product	Matrix	Status	UA	Workdate	PR Location
38	SL4180-1	ATI, Inc.	TS	Solid	WIP	U	27-MAY-18	
39	SL4180-2	ATI, Inc.	TS	Solid	WIP	U	27-MAY-18	
40	SL4180-3	ATI, Inc.	TS	Solid	WIP	U	27-MAY-18	
41	SL4180-4	ATI, Inc.	TS	Solid	WIP	U	27-MAY-18	
42	SL4180-5	ATI, Inc.	TS	Solid	WIP	U	27-MAY-18	
43	SL4180-6	ATI, Inc.	TS	Solid	WIP	U	27-MAY-18	
44	SL4180-7	ATI, Inc.	TS	Solid	WIP	U	27-MAY-18	
45	SL4180-8	ATI, Inc.	TS	Solid	WIP	U	27-MAY-18	
46	SL4180-9	ATI, Inc.	TS	Solid	WIP	U	27-MAY-18	
47	SL4180-10	ATI, Inc.	TS	Solid	WIP	U	27-MAY-18	
48	SL4180-11	ATI, Inc.	TS	Solid	WIP	U	27-MAY-18	
49	SL4180-12	ATI, Inc.	TS	Solid	WIP	U	27-MAY-18	
50	SL4180-13	ATI, Inc.	TS	Solid	WIP	U	27-MAY-18	
51	SL4180-14	ATI, Inc.	TS	Solid	WIP	U	27-MAY-18	
52	SL4180-15	ATI, Inc.	TS	Solid	WIP	U	27-MAY-18	
53	SL4180-16	ATI, Inc.	TS	Solid	WIP	U	27-MAY-18	
54	SL4180-17	ATI, Inc.	TS	Solid	WIP	U	27-MAY-18	
55	SL4180-18	ATI, Inc.	TS	Solid	WIP	U	27-MAY-18	
56	SL4180-19	ATI, Inc.	TS	Solid	WIP	U	27-MAY-18	
57	SL4180-20	ATI, Inc.	TS	Solid	WIP	U	27-MAY-18	
58	WG228359-1	MBLANK	TS	Solid	WIP	U	15-MAY-18	
59	WG228359-2	LCS	TS	Solid	WIP	U	15-MAY-18	
60	WG228359-3	DUP	TS	Solid	WIP	U	15-MAY-18	
61	WG228359-4	DUP	TS	Solid	WIP	U	15-MAY-18	

Comments:

SL4180-18	MS/MSD
SL4180-8	MS/MSD
WG228359-1	SL4180-8
WG228359-2	SL4180-8
WG228359-3	SL4180-8
WG228359-4	SL4180-18

Start: 15:30

Total Solids: SM2540 G / ASTM D2216			PQL: 0.10%	Oven ID: 107N0042		Balance Calibrated?
TS	In 1	In 2	TS	Out 1	Out 2	Y / N
ANALYST IN:	TMS		ANALYST OUT:	WMS		In:
DATE IN:	5/15/18		DATE OUT:	5/16/18		Out (TS):
TIME IN:	16:07		TIME OUT:	630		Balance ID:
TEMP IN:	104		TEMP OUT:	104		S/N 1124016031

ATI, INC.
CORNHUSKER
ARMY AMMUNITION PLANT
SL4233

KATAHDIN ANALYTICAL SERVICES
600 TECHNOLOGY WAY
SCARBOROUGH, ME 04074

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SAMPLE DATA PACKAGE

Katahdin
ANALYTICAL SERVICES

Lab. ID. 2001(non-air)
Lab. ID. 11121 (air only)

NARRATIVE
KATAHDIN ANALYTICAL SERVICES
ATI, INC.
CORNHUSKER ARMY AMMUNITION PLANT
SL4233

Sample Receipt

The following samples were received on May 16, 2018 and were logged in under Katahdin Analytical Services work order number SL4233 for a hardcopy due date of May 28, 2018.

KATAHDIN Sample No.	ATI Sample Identification
SL4233-2	CHAAP-21B-DS-SS01
SL4233-3	CHAAP-21B-DS-SB01-5
SL4233-4	CHAAP-21B-BB-SS01
SL4233-5	CHAAP-21B-BB-SS101
SL4233-6	CHAAP-21B-BB-SB01
SL4233-7	CHAAP-21B-BB-SS02
SL4233-8	CHAAP-21B-BB-SB02
SL4233-9	CHAAP-21B-BB-SS05
SL4233-10	CHAAP-21B-BB-SB05
SL4233-11	CHAAP-21B-BB-SS04
SL4233-12	CHAAP-21B-BB-SB04
SL4233-13	CHAAP-21B-BB-SS03
SL4233-14	CHAAP-21B-BB-SB03
SL4233-15	CHAAP-21B-BB-SB06
SL4233-17	CHAAP-21B-BB-SS06
SL4233-19	CHAAP-21B-BB-SS106
SL4233-21	CHAAP-21B-BPA-SS10
SL4233-22	CHAAP-21B-BPA-SS10-5
SL4233-23	CHAAP-21B-BPA-SS09
SL4233-24	CHAAP-21B-BPA-SS09-5
SL4233-25	CHAAP-21B-BPA-SS21
SL4233-26	CHAAP-21B-BPA-SS21-3
SL4233-27	CHAAP-21B-BPA-SS21-6
SL4233-28	CHAAP-21B-BPA-SS01
SL4233-29	CHAAP-21B-BPA-SB01-4
SL4233-30	CHAAP-21B-BPA-SB101-4
SL4233-31	CHAAP-21B-BPA-SB01-8
SL4233-32	CHAAP-21B-BPA-SS02
SL4233-33	CHAAP-21B-BPA-SB02-4
SL4233-34	CHAAP-21B-BPA-SB02-8
SL4233-35	CHAAP-21B-BPA-SS03
SL4233-36	CHAAP-21B-BPA-SB03-4
SL4233-37	CHAAP-21B-BPA-SB03-8
SL4233-38	CHAAP-21B-BPA-SS04
SL4233-39	CHAAP-21B-BPA-SS104
SL4233-40	CHAAP-21B-BPA-SB04-4

KATAHDIN Sample No.	ATI Sample Identification
SL4233-41	CHAAP-21B-BPA-SB04-8
SL4233-42	CHAAP-21B-BPA-SS05
SL4233-43	CHAAP-21B-BPA-SB05-4
SL4233-44	CHAAP-21B-BPA-SB05-8
SL4233-45	CHAAP-21B-BPA-SS06
SL4233-46	CHAAP-21B-BPA-SB06-4
SL4233-47	CHAAP-21B-BPA-SB06-8
SL4233-48	CHAAP-21B-BPA-SS08
SL4233-49	CHAAP-21B-BPA-SB08-4
SL4233-50	CHAAP-21B-BPA-SB08-8
SL4233-51	CHAAP-21B-BPA-SS07
SL4233-52	CHAAP-21B-BPA-SB07-4
SL4233-53	CHAAP-21B-BPA-SB07-8
SL4233-54	CHAAP-EB-051518

The samples were logged in for the analyses specified on the chain of custody form. All problems encountered and resolved during sample receipt have been documented on the applicable chain of custody forms.

We certify that the test results provided in this report meet all the requirements of the NELAP standards unless otherwise noted in this narrative or in the Report of Analysis.

We certify that the test results provided in this report are accredited under the laboratory's ISO/IEC 17025:2005 and DoD-ELAP accreditation issued by the ANSI-ASQ National Accreditation Board. Refer to certificate and scope of accreditation L2223.

Analytes which are reported but not listed on our ANAB scope of accreditation will be "^" flagged and the following language will be included in the case narrative for all DoD compliant work: "^" Indicates this analyte is not included on Katahdin Analytical Services DoD-ELAP Scope of Accreditation.

Sample analyses have been performed by the methods as noted herein.

Should you have any questions or comments concerning this Report of Analysis, please do not hesitate to contact your Katahdin Analytical Services Project Manager, **Ms. Heather Manz**. This narrative is an integral part of the Report of Analysis.

Organics Analysis

The samples of Work Order # SL4233 were analyzed in accordance with "Test Methods for Evaluating Solid Wastes: Physical/Chemical Methods." SW-846, 2nd edition, 1982 (revised 1984), 3rd edition, 1986, and Updates I, II, IIA, III, IIIA, and IIIB 1996, 1998 & 2004, Office of Solid Waste and Emergency Response, U.S. EPA, and/or for the specific methods listed below or on the Report of Analysis.

Samples SL4233-15, 31, and 36 were used for the matrix spikes (MS) and matrix spike duplicates (MSD) as requested by the client.

8330B Analysis

Samples SL4233-2, 32, 33, 36, 38, and 39 were manually integrated for the target analytes HMX and/or RDX on the primary and/or confirmation columns. The specific reasons for the manual integrations are indicated on the raw data by the manual integration codes (M1-M11). These codes are further explained in the attachment following this narrative.

All samples were initially analyzed on the primary Phenomenex column. If a sample has a peak that is within the retention time window of a target analyte and the concentration is above the PQL, the sample is reanalyzed for confirmation on the confirmation Acclaim E2 column. An analyte is considered confirmed if the mentioned criteria are achieved with both columns. Samples SL4233-2, 14, 23, 24, 32 through 41, 51, and 54 were reanalyzed for confirmation on the confirmation Acclaim E2 column, and all of these samples confirmed for one or more target analytes except SL4233-23, 24, 35, 51, and 54. All of the supporting data for the confirmation analysis is included in the report. The results from the primary column are reported.

The independent check standard (file HKH10016), associated with the initial confirmation calibration analyzed on 08/01/17, had high concentrations for the target analytes tetryl, 4-amino-2,6-dinitrotoluene, and 3-nitrotoluene that exceeded the DoD QSM acceptance limit of ±20% of the expected value from the ICAL. Since this was associated with the confirmation calibration, no further action was taken.

There were no other protocol deviations or observations noted by the organics laboratory staff.

Metals Analysis

The samples of Katahdin Work Order SL4233 were prepared and analyzed for metals in accordance with the "Test Methods for Evaluating Solid Wastes: Physical/Chemical Methods." SW-846. 2nd edition, 1982 (revised 1984), 3rd edition, 1986, and Updates I, II, IIA, III, IIIA and IIIB 1996, 1998 & 2004, Office of Solid Waste and Emergency Response, U.S. EPA.

Inductively-Coupled Plasma Mass Spectrometric Analysis (ICP-MS)

Solid-matrix Katahdin Sample Numbers SL4233-(2-10) were digested for ICP-MS analysis on 05/21/18 (QC Batch LE21IMS2) in accordance with USEPA Method 3050B.

Solid-matrix Katahdin Sample Numbers SL4233-(11-15, 17, 19, 21-30, 32, 33, 34) were digested for ICP-MS analysis on 05/22/18 (QC Batch LE22IMS1) in accordance with USEPA Method 3050B. Katahdin Sample Number SL4233-15 was prepared with duplicate matrix-spiked aliquots, per client request. The measured calcium and copper concentrations in the preparation blank (PBSLE22IMS1) associated with this batch are outside the project acceptance criteria; however all samples from Katahdin Work Order SL4233 in this batch have calcium and copper concentrations greater than ten times that of the blank value and calcium and copper results were reported without corrective action.

Solid-matrix Katahdin Sample Numbers SL4233-(31, 35, 37-46) were digested for ICP-MS analysis on 05/22/18 (QC Batch LE22IMS2) in accordance with USEPA Method 3050B. Katahdin Sample Number SL4233-31 was prepared with duplicate matrix-spiked aliquots, per client request. The measured copper concentration in the preparation blank (PBSLE22IMS2) associated with this batch is outside the project acceptance criteria; however all samples from Katahdin Work Order SL4233 in this batch have copper

concentrations greater than ten times that of the blank value and copper results were reported without corrective action.

Aqueous-matrix Katahdin Sample Number SL4233-54 was digested for ICP-MS analysis on 05/22/18 (QC Batch LE22IMW1) in accordance with USEPA Method 3010A.

Solid-matrix Katahdin Sample Numbers SL4233-(36, 47-53) were digested for ICP-MS analysis on 05/23/18 (QC Batch LE23IMS1) in accordance with USEPA Method 3050B. Katahdin Sample Number SL4233-36 was prepared with duplicate matrix-spiked aliquots, per client request.

The calcium, barium and manganese concentrations for Katahdin Sample Numbers SL4233-(3, 22 and 49, respectively) required ten-fold dilutions to bring the analyte concentrations within the linear range of the instrument.

Due to high concentration of interfering elements in Katahdin Sample Numbers SL4233-(35, 36, 39, 43, 44, 46-53), appropriate dilutions were applied to these samples to reduce the elemental interference. Likely the high concentration of lithium or matrix interference in these samples required a ten-fold dilution to accurately report results of beryllium. This dilution is reflected in the "DF" column on Form Is. Accordingly, the "Adjusted" column reflects the change in the adjusted LOQ, MDL and LOD caused by the dilution factor.

All sample digestates for method 6020A were diluted by a factor of 5 during analysis to reduce mass interferences from chlorine, which is present in the digestates from the hydrochloric acid used in digesting the samples. Per client request, samples which required an additional dilution have been identified using a "D" flag in the qualifier column on all Form 1s.

ICP-MS analyses of Katahdin Work Order SL4233 sample digestates were performed using an Agilent 7500 ICP-MS spectrometer in accordance with USEPA Method 6020A. Results for all standards and samples are reported using the mean of 3 replicate measurements. All samples were analyzed within holding times and all analytical run QC criteria were met, except for the following:

The measured arsenic concentration in the Practical Quantitative Limit (PQL) analyzed at 17:21 in analytical run JLE23C is outside the project acceptance criteria. Arsenic concentrations for samples from Katahdin Work Order SL4233 analyzed in this run that were greater than ten times that of the PQL true value for arsenic were reported without corrective action.

Internal standard recoveries for ICP-MS analyses can be found in the raw data section of the accompanying data package. The following table indicates which analytes are associated with each internal standard element.

Internal Standard Element	Associated Analytes
Lithium	Beryllium, Boron
Scandium	Sodium, Magnesium, Aluminum, Potassium, Calcium
Germanium or Yttrium	Vanadium, Chromium, Manganese, Iron, Cobalt, Nickel, Copper, Zinc, Arsenic, Selenium, Silver, Cadmium, Strontium, Molybdenum
Terbium	Antimony, Barium, Tin, Tungsten
Bismuth	Lead, Thallium, Thorium, Uranium

Instrument tuning information can also be found in the raw data section in the reports labeled "6020 QC Tune Report". For Method 6020A, the relative standard deviation was determined from 4 replicate measurements and the peak width was measured at 10% of the peak height.

Analysis of Mercury by Cold Vapor Atomic Absorption (CVAA)

Aqueous-matrix Katahdin Sample Number SL4233-54 was digested for mercury analysis on 05/17/18 (QC Batch LE17HGW2) in accordance with USEPA Method 7470A.

Solid-matrix Katahdin Sample Numbers SL4233-(2-13) were digested for mercury analysis on 05/21/18 (QC Batch LE21HGS2) in accordance with USEPA Method 7471A.

Solid-matrix Katahdin Sample Numbers SL4233-(14, 15, 17, 19, 21-35) were digested for mercury analysis on 05/21/18 (QC Batch LE21HGS3) in accordance with USEPA Method 7471A. Katahdin Sample Number SL4233-31 was prepared with duplicate matrix-spiked aliquots, per client request.

Solid-matrix Katahdin Sample Numbers SL4233-(36, 37-53) were digested for mercury analysis on 05/22/18 (QC Batch LE22HGS1) in accordance with USEPA Method 7471A. Katahdin Sample Number SL4233-36 was prepared with duplicate matrix-spiked aliquots, per client request.

Mercury analysis of the Katahdin Work Order SL4233 sample digestates were performed using a Cetac M6100 automated mercury analyzer in accordance with USEPA Methods 7470A and 7471B. All samples were analyzed within holding times. All analytical run QC criteria were met.

Matrix QC Summary

The measured recoveries of aluminum, antimony, arsenic, barium, calcium, iron, magnesium, manganese, potassium and vanadium in one or both of the matrix-spiked aliquots of Katahdin Sample Numbers SL4233-(15, 31) are outside the project acceptance criteria. For aluminum, calcium, iron, magnesium, manganese, and potassium, this may be attributable to the native concentration being significantly greater than the spike added.

The measured recoveries of aluminum, antimony, barium, calcium, iron, lead, magnesium, manganese and potassium in one or both of the matrix-spiked aliquots of Katahdin Sample Number SL4233-36 are outside the project acceptance criteria. For aluminum, calcium, iron, magnesium, manganese, and potassium, this may be attributable to the native concentration being significantly greater than the spike added.

The matrix-spike duplicate analysis of Katahdin Sample Number SL4233-15 is outside the project's acceptance criteria (<20% relative difference between duplicate matrix-spiked aliquots) for arsenic, barium and manganese.

The matrix-spike duplicate analysis of Katahdin Sample Number SL4233-31 is outside the project's acceptance criteria (<20% relative difference between duplicate matrix-spiked aliquots) for arsenic, barium, iron and manganese.

The matrix-spike duplicate analysis of Katahdin Sample Number SL4233-31 is outside the project's acceptance criteria (<20% relative difference between duplicate matrix-spiked aliquots) for calcium.

The measured recoveries of aluminum, calcium, iron, lead, and manganese in the post-digestion spiked aliquot of Katahdin Sample Number SL4233-15 are outside the project's acceptance criteria (80%-120% recovery of the added element). This may be attributable to the native concentration being significantly greater than the spike added.

The measured recoveries of aluminum, barium, calcium, iron, lead, magnesium and manganese in the post-digestion spiked aliquot of Katahdin Sample Number SL4233-31 are outside the project's acceptance criteria (80%-120% recovery of the added element). This may be attributable to the native concentration being significantly greater than the spike added.

The measured recoveries of aluminum, barium, calcium, iron, lead, magnesium, manganese, nickel and vanadium in the post-digestion spiked aliquot of Katahdin Sample Number SL4233-36 are outside the project's acceptance criteria (80%-120% recovery of the added element). This may be attributable to the native concentration being significantly greater than the spike added.

The serial dilution analyses of Katahdin Sample Numbers SL4233-(15 and 36) are within the project's acceptance criteria (<10% relative percent difference, if the concentration in the original sample is greater than 50 times the LOD) for magnesium.

The serial dilution analysis of Katahdin Sample Number SL4233-31 is outside the project's acceptance criteria (<10% relative percent difference, if the concentration in the original sample is greater than 50 times the LOD) for copper and nickel.

Reporting of Metals Results

Per client request, analytical results for client samples on Form I and preparation blanks on Form IIIP have been reported using the laboratory's limits of detection (LOD). All results were evaluated down to the laboratory's method detection limits (MDLs). Results that fall between the MDL and the LOQ are flagged with "J" in the C-qualifier column, and the measured concentration appears in the concentration column. Results that are less than the MDL are flagged with "U" in the C-qualifier column, and the LOD is listed in the concentration column. These LOQs, MDLs and LODs have been adjusted for each sample based on the sample amounts used in preparation and analysis.

Analytical results on Forms VA, VD, VII, and IX for client samples, matrix QC samples (duplicates and matrix spikes), and laboratory control samples have been reported down to the laboratory's method detection limits (MDLs). Analytical results that are below the MDLs are flagged with "U" in the C-qualifier column, and the measured concentration is listed in the concentration column.

Analytical results for instrument run QC samples (ICVs, ICBs, etc.) have been reported down to the laboratory's instrument detection limits (IDLs).

IDLs, LODs, MDLs, and LOQs are listed on Form 10 of the accompanying data package.

Wet Chemistry Analysis

The samples of Work Order SL4233 were analyzed in accordance with the specific methods listed on the Report of Analysis.

Katahdin
ANALYTICAL SERVICES

Lab. ID. 2001(non-air)
Lab. ID. 11121 (air only)

Analyses for hexavalent chromium and total solids were performed according to "Test Methods for Evaluating Solid Wastes: Physical/Chemical Methods." SW-846 2nd edition, 1982 (revised 1984), 3rd edition, 1986, and Updates I, II, IIA,III, IIIA and IIIB 1996, 1998 & 2004, Office of Solid Waste and Emergency Response, U.S. EPA.

Katahdin Sample Nos. SL4233-(14, 15) were originally digested for hexavalent chromium analysis on 05/23/18. Katahdin Sample No. SL4233-15 was digested with soluble and insoluble hexavalent chromium matrix spikes in this batch. However, both of these sample digestates were accidentally spilled prior to analysis. For this reason, Katahdin Sample Nos. SL4233-(14, 15) were redigested for hexavalent chromium analysis on 05/30/18, and SL4233-15 was again digested with soluble and insoluble hexavalent chromium matrix spikes. However, the insoluble matrix spike of Katahdin Sample No. SL4233-15 was mis-spiked in this digestion batch. Therefore, the hexavalent chromium results that were obtained from the digestion of 05/30/18 have been reported for Katahdin Sample Nos. SL4233-(14, 15), and the results that were obtained from the digestion of 05/23/18 have been reported for the matrix spikes of Katahdin Sample No. SL4233-15.

All Wet Chemistry results were evaluated to Katahdin Analytical Services' Method Detection Limits (MDL). Measured concentrations that fall between the MDL and Katahdin's Limit of Quantitation (LOQ) are flagged "J". Measured concentrations that are below the MDL are flagged "U" and reported as "U LOD", where "LOD" is the numerical value of the Limit of Detection.

All analyses were performed within analytical holding times. All quality control criteria were met.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the Quality Assurance Officer, or their designee, as verified by the following signature.

Leslie Dimond
06.08.18

Leslie Dimond
Quality Assurance Officer

Katahdin Analytical Services, Inc.

Manual Integration Codes For GC/MS, GC, HPLC and/or IC

M1	Peak splitting.
M2	Well defined peaks on the shoulders of the other peaks.
M3	There is additional area due to a coeluting interferant.
M4	There are negative spikes in the baseline.
M5	There are rising or falling baselines.
M6	The software has failed to detect a peak or misidentified a peak.
M7	Excessive peak tailing.
M8	Analysis such as GRO, DRO and TPH require a baseline hold.
M9	Peak was not completely integrated as in GC/MS.
M10	Primary ion was correctly integrated, but secondary or tertiary ion needed manual integration as in GC/MS.
M11	For GC analysis, when a sample is diluted by 1:10 or more, the surrogate is set to undetected and then the area under the surrogate is manually integrated.
M12	Manual integration saved in method due to TurboChrom floating point error.

Katahdin Analytical Services, LLC.

Sample Receipt Condition Report

Client: ATI INC	KAS PM: HM	Sampled By: Client
Project:	KIMS Entry By: GV	Delivered By: FedEx
KAS Work Order#: SL4233	KIMS Review By: HM	Received By: JK
SDG #:	Cooler: 1 of 3	Date/Time Rec.: 5-16-18 8:45

Receipt Criteria	Y	N	EX*	NA	Comments and/or Resolution
1. Custody seals present / intact?	✓				
2. Chain of Custody present in cooler?	✓				
3. Chain of Custody signed by client?	✓				
4. Chain of Custody matches samples?	✓				
5. Temperature Blanks present? If not, take temperature of any sample w/ IR gun.	✓				Temp (°C): 0.1
Samples received at <6 °C w/o freezing?	✓				Note: Not required for metals (except Hg soil) analysis.
Ice packs or ice present?	✓				The lack of ice or ice packs (i.e. no attempt to begin cooling process) or insufficient ice may not meet certain regulatory requirements and may invalidate certain data.
If yes, was there sufficient ice to meet temperature requirements?	✓				
If temp. out, has the cooling process begun (i.e. ice or packs present) and sample collection times <6hrs., but samples are not yet cool?				✓	Note: No cooling process required for metals (except Hg soil) analysis.
6. Volatiles: **Aqueous:** No bubble larger than a pea?				✓	
Soil/Sediment: Received in airtight container?				✓	
Received in methanol?				✓	
Methanol covering soil?				✓	
D.I. Water - Received within 48 hour HT?				✓	
Air: Refer to KAS COC for canister/flow controller requirements.	√ if air included				
7. Trip Blank present in cooler?				✓	
8. Proper sample containers and volume?	✓				
9. Samples within hold time upon receipt?	✓				
10. Aqueous samples properly preserved? Metals, COD, NH3, TKN, O/G, phenol, TPO4, N+N, TOC, DRO, TPH – pH <2	✓				
Sulfide - >9				✓	
Cyanide – pH >12				✓	

* Log-In Notes to Exceptions: document any problems with samples or discrepancies or pH adjustments.

SL 4233-31, 29 both labelled w/ sample date 5/14/18

Katahdin Analytical Services, LLC. **Sample Receipt Condition Report**

Client: ATI	KAS PM: HMM	Sampled By: Client
Project:	KIMS Entry By: GN	Delivered By: Fedex
KAS Work Order#: SL4233	KIMS Review By: HMM	Received By: JK
SDG #:	Cooler: 2 of 3	Date/Time Rec.: 5-16-18 8:45

Receipt Criteria	Y	N	EX*	NA	Comments and/or Resolution
1. Custody seals present / intact?	✓				
2. Chain of Custody present in cooler?	✓				
3. Chain of Custody signed by client?	✓				
4. Chain of Custody matches samples?					
5. Temperature Blanks present? If not, take temperature of any sample w/ IR gun.					Temp (°C): 5.5
Samples received at <6 °C w/o freezing?	✓				Note: Not required for metals (except Hg soil) analysis.
Ice packs or ice present?	✓				The lack of ice or ice packs (i.e. no attempt to begin cooling process) or insufficient ice may not meet certain regulatory requirements and may invalidate certain data.
If yes, was there sufficient ice to meet temperature requirements?	✓				
If temp. out, has the cooling process begun (i.e. ice or packs present) and sample collection times <6hrs., but samples are not yet cool?				✓	Note: No cooling process required for metals (except Hg soil) analysis.
6. Volatiles:					
Aqueous: No bubble larger than a pea?				✓	
Soil/Sediment:					
Received in airtight container?				✓	
Received in methanol?				✓	
Methanol covering soil?				✓	
D.I. Water - Received within 48 hour HT?				✓	
Air: Refer to KAS COC for canister/flow controller requirements.	√ if air included				
7. Trip Blank present in cooler?				✓	
8. Proper sample containers and volume?	✓				
9. Samples within hold time upon receipt?	✓				
10. Aqueous samples properly preserved? Metals, COD, NH3, TKN, O/G, phenol, TPO4, N+N, TOC, DRO, TPH – pH <2	✓				
Sulfide - >9				✓	
Cyanide – pH >12				✓	

* Log-In Notes to Exceptions: document any problems with samples or discrepancies or pH adjustments.

Katahdin Analytical Services, LLC. — Sample Receipt Condition Report

Client: ATI	KAS PM: HHM	Sampled By: Client
Project:	KIMS Entry By: GV	Delivered By: Fedex
KAS Work Order#: SL4233	KIMS Review By: HHM	Received By: JK
SDG #:	Cooler: 3 of 3	Date/Time Rec.: 5-16-18 8:45

Receipt Criteria	Y	N	EX*	NA	Comments and/or Resolution
1. Custody seals present / intact?	✓				
2. Chain of Custody present in cooler?	✓				
3. Chain of Custody signed by client?	✓				
4. Chain of Custody matches samples?	✓				
5. Temperature Blanks present? If not, take temperature of any sample w/ IR gun.	✓				Temp (°C): 5.5
Samples received at <6 °C w/o freezing?	✓				Note: Not required for metals (except Hg soil) analysis.
Ice packs or ice present?	✓				The lack of ice or ice packs (i.e. no attempt to begin cooling process) or insufficient ice may not meet certain regulatory requirements and may invalidate certain data.
If yes, was there sufficient ice to meet temperature requirements?	✓				
If temp. out, has the cooling process begun (i.e. ice or packs present) and sample collection times <6hrs., but samples are not yet cool?				✓	Note: No cooling process required for metals (except Hg soil) analysis.
6. Volatiles:					
Aqueous: No bubble larger than a pea?				✓	
Soil/Sediment:					
Received in airtight container?				✓	
Received in methanol?				✓	
Methanol covering soil?				✓	
D.I. Water - Received within 48 hour HT?				✓	
Air: Refer to KAS COC for canister/flow controller requirements.	√ if air included				
7. Trip Blank present in cooler?				✓	
8. Proper sample containers and volume?	✓				
9. Samples within hold time upon receipt?	✓				
10. Aqueous samples properly preserved? Metals, COD, NH3, TKN, O/G, phenol, TPO4, N+N, TOC, DRO, TPH – pH <2				✓	
Sulfide - >9				✓	
Cyanide – pH >12				✓	

* Log-In Notes to Exceptions: document any problems with samples or discrepancies or pH adjustments.

Katahdin ANALYTICAL SERVICES
600 Technology Way
P.O. Box 540
Scarborough, ME 04070
Tel: (207) 874-2400
Fax: (207) 775-4029

SL 4233

Chain of Custody

Client:	Contact:	Phone #:	Fax #:
ATI INC.	**David Nelson**	410-992-3424	( )
Address: 9220 Rumsey Road, Suite 100	City: Columbia	State: MD	Zip Code: 21045
Purchase Order #:	Proj. Name/No.:		Katahdin Quote #:
Bill (if different than above):		Address:	
Sampler (Print/Sign): Alex Hedgepath - HGL			Copies To: Ryan Sullivan / Jennifer Spies

LAB USE ONLY | Work Order #: Katahdin Project Number

Remarks:

Shipping Info: FEDEX UPS CLIENT
Airbill No:
Temp C Temp Blank Intact Not Intact

	Sample Description	Date/Time Collected	Matrix	No. of Containers	Analysis and Container Type Preservatives: VOCs (8260) Filt. N	Explosives (8330B) Filt. N	Metals (6020) Filt. N	Metals (6020) Field Filtered Filt. Y	PAHs (8270C-SIM) Filt. N	CrVI (7196A) Filt. N	SPLP Metals (1312) Filt. N			Page 1 of 3 Filt. N
1	CHAAP-TB-051518	800 - 051518	W	2	X									
2	CHAAP-21B-DS-SS01	835- 051518	S	5	X	X	X							
3	CHAAP-21B-DS-SB01-5	840- 051518	S	5	X	X	X							
4	CHAAP-21B-BB-SS01	855- 051518	S	1		X	X			X				
5	CHAAP-21B-BB-SS101	1200- 051518	S	1		X	X			X				
6	CHAAP-21B-BB-SB01	900- 051518	S	1		X	X			X				
7	CHAAP-21B-BB-SS02	910- 051518	S	1		X	X							
8	CHAAP-21B-BB-SB02	915- 051518	S	1		X	X							
9	CHAAP-21B-BB-SS05	920- 051518	S	1		X	X			X				
10	CHAAP-21B-BB-SB05	925- 051518	S	1		X	X			X				
11	CHAAP-21B-BB-SS04	925- 051518	S	1		X	X			X				
12	CHAAP-21B-BB-SB04	930- 051518	S	1		X	X			X				
13	CHAAP-21B-BB-SS03	935- 051518	S	1		X	X			X				
14	CHAAP-21B-BB-SB03	940- 051518	S	1		X	X			X				
15	CHAAP-21B-BB-SB06(-MS/MSD)	955- 051518	S	6		X	X			X	X			
16	CHAAP-21B-BB-SS06	950- 051518	S	2		X	X			X	X			
17	CHAAP-21B-BB-SS106	1200- 051518	S	2		X	X			X	X			
	-END OF SAMPLES													

COMMENTS:

5-16-18/08:45

Relinquished By:	Date/Time	Received By:	Relinquished By:	Date/Time	Received By:
Alex Hedgepath HGL	05/15/18 - 1700				
Relinquished By:	Date/Time	Received By:	Relinquished By:	Date/Time	Received By:

All laboratory and field work shall be governed by KATAHDIN's Standard Terms and Conditions, except where a Purchase Order or Contract supersede.

Katahdin ANALYTICAL SERVICES
600 Technology Way
P.O. Box 540
Scarborough, ME 04070
Tel: (207) 874-2400
Fax: (207) 775-4029

SL4233

Chain of Custody

Client:	Contact:	Phone #:	Fax #:
ATI INC.	**David Nelson**	410-992-3424	( )
Address: 9220 Rumsey Road, Suite 100	City: Columbia	State: MD	Zip Code: 21045
Purchase Order #:	Proj. Name/No.:		Katahdin Quote #:
Bill (if different than above):		Address:	
Sampler (Print/Sign): Alex Hedgepath - HGL			Copies To: Ryan Sullivan / Jennifer Spies

LAB USE ONLY Work Order #:
Katahdin Project Number
Remarks:

Shipping Info: FEDEX UPS CLIENT
Airbill No:
Temp C Temp Blank Intact Not Intact

	Sample Description	Date/Time Collected	Matrix	No. of Containers	VOCs (8260) Filt. N	Explosives (8330B) Filt. N	Metals (6020) Filt. N	Metals (6020) Field Filtered Filt. Y	PAHs (8270C-SIM) Filt. N	CrVI (7196A) Filt. N	SPLP Metals (1312) Filt. N			Page 2 of 3 Filt. N
1	CHAAP-21B-BPA-SS10	1030 - 051518	S	1		X	X			X				
2	CHAAP-21B-BPA-SB10-5	1035- 051518	S	1		X	X			X				
3	CHAAP-21B-BPA-SS09	1040- 051518	S	1		X	X							
4	CHAAP-21B-BPA-SB09-5	1045- 051518	S	1		X	X							
5	CHAAP-21B-BPA-SS21	1055- 051518	S	1		X	X							
6	CHAAP-21B-BPA-SB21-3	1100- 051518	S	1		X	X							
7	CHAAP-21B-BPA-SB21-6	1105- 051518	S	1		X	X							
8	CHAAP-21B-BPA-SS01	1120- 051518	S	1		X	X			X				
9	CHAAP-21B-BPA-SB01-4	1125- 051518	S	1		X	X			X				
10	CHAAP-21B-BPA-SB101-4	1200- 051518	S	1		X	X			X				
11	CHAAP-21B-BPA-SB01-8(-MS/MSD)	1130- 051518	S	3		X	X							
12	CHAAP-21B-BPA-SS02	1135- 051518	S	1		X	X							
13	CHAAP-21B-BPA-SB02-4	1140- 051518	S	1		X	X							
14	CHAAP-21B-BPA-SB02-8	1145- 051518	S	1		X	X							
15	CHAAP-21B-BPA-SS03	1200- 051518	S	1		X	X			X				
16	CHAAP-21B-BPA-SB03-4(-MS/MSD)	1205- 051518	S	3		X	X			X				
17	CHAAP-21B-BPA-SB03-8	1210- 051518	S	1		X	X							
18	CHAAP-21B-BPA-SS04	1230- 051518	S	1		X	X							
19	CHAAP-21B-BPA-SS104	1200- 051518	S	1		X	X							
20	CHAAP-21B-BPA-SB04-4	1235- 051518	S	1		X	X							
21	CHAAP-21B-BPA-SB04-8	1240- 051518	S	1		X	X							
	-END OF SAMPLES													

COMMENTS:

5-16-18 / 0845

Relinquished By:	Date/Time	Received By:	Relinquished By:	Date/Time	Received By:
Alex Hedgepath HGL	05/15/18 - 1700				
Relinquished By:	Date/Time	Received By:	Relinquished By:	Date/Time	Received By:

All laboratory and field work shall be governed by KATAHDIN's Standard Terms and Conditions, except where a Purchase Order or Contract supersede.

Katahdin ANALYTICAL SERVICES
600 Technology Way
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SL4233

Chain of Custody

Client:	Contact:	Phone #:	Fax #:
ATI INC.	**David Nelson**	410-992-3424	( )
Address: 9220 Rumsey Road, Suite 100	City: Columbia	State: MD	Zip Code: 21045
Purchase Order #:	Proj. Name/No.:		Katahdin Quote #:
Bill (if different than above):		Address:	
Sampler (Print/Sign): Alex Hedgepath - HGL			Copies To: Ryan Sullivan / Jennifer Spies

LAB USE ONLY

Work Order #:
Katahdin Project Number
Remarks:

Shipping Info: FEDEX UPS CLIENT
Airbill No:
Temp C Temp Blank Intact Not Intact

	Sample Description	Date/Time Collected	Matrix	No. of Containers	VOCs (8260) Filt. N	Explosives (8330B) Filt. N	Metals (6020) Filt. N	Metals (6020) Field Filtered Filt. Y	PAHs (8270C-SIM) Filt. N	CrVI (7196A) Filt. N	SPLP Metals (1312) Filt. N			Page 3 of 3 Filt. N
1	CHAAP-21B-BPA-SS05	1300 - 051518	S	1		X	X			X				
2	CHAAP-21B-BPA-SB05-4	1305 - 051518	S	1		X	X			X				
3	CHAAP-21B-BPA-SB05-8	1310 - 051518	S	1		X	X							
4	CHAAP-21B-BPA-SS06	1310 - 051518	S	1		X	X							
5	CHAAP-21B-BPA-SB06-4	1315 - 051518	S	1		X	X							
6	CHAAP-21B-BPA-SB06-8	1320 - 051518	S	1		X	X							
7	CHAAP-21B-BPA-SS08	1335 - 051518	S	1		X	X			X				
8	CHAAP-21B-BPA-SB08-4	1338 - 051518	S	1		X	X			X				
9	CHAAP-21B-BPA-SB08-8	1340 - 051518	S	1		X	X							
10	CHAAP-21B-BPA-SS07	1325 - 051518	S	1		X	X							
11	CHAAP-21B-BPA-SB07-4	1328 - 051518	S	1		X	X							
12	CHAAP-21B-BPA-SB07-8	1330 - 051518	S	1		X	X							
13	CHAAP-EB-051518	1350 - 051518	W	3		X	X							
	-END OF SAMPLES													

COMMENTS:

5-16-18/0815

Relinquished By:	Date/Time	Received By:	Relinquished By:	Date/Time	Received By:
Alex Hedgepath HGL	05/15/18 - 1700				
Relinquished By:	Date/Time	Received By:	Relinquished By:	Date/Time	Received By:

All laboratory and field work shall be governed by KATAHDIN's Standard Terms and Conditions, except where a Purchase Order or Contract supersede.

Katahdin ANALYTICAL SERVICES

Katahdin Analytical Services

Login Chain of Custody Report (lno1)

May. 23, 2018
10:57 AM

Login Number: SL4233

Account: ATI001 Web
ATI, Inc.

Project: ATI-CORN-AAP
Cornhusker Army Ammunition Plant

Primary Report Address:
David Nelson
ATI, Inc.
9220 Rumsey Road
Suite 100
Columbia,MD 21045
david.nelson@atiinc.com

Primary Invoice Address:
David Nelson
ATI, Inc.
9220 Rumsey Road
Suite 100
Columbia,MD 21045

Report CC Addresses:
Invoice CC Addresses:

Quote/Incoming: ATI-CORN-AAP

Login Information:

ANALYSIS INSTRUCTIONS	:	FDS, DOD 5.0, ND to LOD w/ J flags. Report all valid runs. Summary needs all forms. GC/MS IS eval window +/- 10s. Metals ICSA - 2 sigfigs. Flag dilutions w/ "D" qualifier. Include any excedences in the case narrative. Limits in KIMS match QAPP. Hold extracts for 60 days. 8260B, 8270DSIM, 8330B, 6020A/7471A/7471B. No explo soil prep needed (8330B Mod). Reprep failing hex cr matrix QC & parent samples, include info in narrative.
CHECK NO.	:	
CLIENT PO#	:	PN:16-027
CLIENT PROJECT MANAGE	:	
CONTRACT	:	W9182F-16-D-0014
COOLER TEMPERATURE	:	0.1, 3.5, 5.5
DELIVERY SERVICES	:	Fedex
EDD FORMAT	:	ATI-(ERIS)
LOGIN INITIALS	:	GN
PM	:	HHM
PROJECT NAME	:	Cornhusker Army Ammunition Plant
QC LEVEL	:	IV
REPORT INSTRUCTIONS	:	SDS needs all forms. Check EDD, if errors, fix them or contact client (Jeff Martin703-736-4533 jmartin@hgl.com). Upload PDF & EDD to SDS. Email david.nelson@atiinc.com, seichelberger@hgl.com, rsullivan@hgl.com, Teresa.offner@atiinc.com, jspies@hgl.com to tell them report is uploaded. Email invoice to jspies@hgl.com, david.nelson@atiinc.com and seichelberger@hgl.com.
SDG ID	:	
SDG STATUS	:	
VERBAL TAT	:	5

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	Verbal PR	Verbal Date	Due Date	Mailed
SL4233-1	CHAAP-TB-051518	15-MAY-18 08:00	16-MAY-18			28-MAY-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
						VOA cancelled on 05/23/18 due to DI vials not frozen upon receipt.

SL4233-2	CHAAP-21B-DS-SS01	15-MAY-18 08:35	16-MAY-18			28-MAY-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Solid	S	SW8330-S	29-MAY-18			**VOA cancelled on 05/23/18 due to DI vials not frozen upon receipt.**
Solid	P	TAL-MET-SW846-ICPMS				

SW3050MS-PREP	SW6020-ALUMINUM	SW6020-ANTIMONY
SW6020-ARSENIC	SW6020-BARIUM	SW6020-BERYLLIUM
SW6020-CADMIUM	SW6020-CALCIUM	SW6020-CHROMIUM
SW6020-COBALT	SW6020-COPPER	SW6020-IRON
SW6020-LEAD	SW6020-MAGNESIUM	SW6020-MANGANESE
SW6020-NICKEL	SW6020-POTASSIUM	SW6020-SELENIUM
SW6020-SILVER	SW6020-SODIUM	SW6020-THALLIUM
SW6020-VANADIUM	SW6020-ZINC	SW7471-MERCURY

Solid	S	TS	29-MAY-18			

SL4233-3	CHAAP-21B-DS-SB01-5	15-MAY-18 08:40	16-MAY-18			28-MAY-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Solid	S	SW8330-S	29-MAY-18			**VOA cancelled on 05/23/18 due to DI vials not frozen upon receipt.**
Solid	P	TAL-MET-SW846-ICPMS				

SW3050MS-PREP	SW6020-ALUMINUM	SW6020-ANTIMONY
SW6020-ARSENIC	SW6020-BARIUM	SW6020-BERYLLIUM
SW6020-CADMIUM	SW6020-CALCIUM	SW6020-CHROMIUM
SW6020-COBALT	SW6020-COPPER	SW6020-IRON
SW6020-LEAD	SW6020-MAGNESIUM	SW6020-MANGANESE
SW6020-NICKEL	SW6020-POTASSIUM	SW6020-SELENIUM
SW6020-SILVER	SW6020-SODIUM	SW6020-THALLIUM
SW6020-VANADIUM	SW6020-ZINC	SW7471-MERCURY

Solid	S	TS	29-MAY-18			

5-23-18

Login Number: SL4233

Quote/Incoming: ATI-CORN-AAP

Account: ATI001 Web
ATI, Inc.

Project: ATI-CORN-AAP
Cornhusker Army Ammunition Plant

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
SL4233-4	CHAAP-21B-BB-SS01	15-MAY-18 08:55	16-MAY-18			28-MAY-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Solid	S	SW7196A-CRVI	12-JUN-18	50g Glass		
Solid	S	SW8330-S	29-MAY-18			
Solid	P	TAL-MET-SW846-ICPMS				

SW3050MS-PREP	SW6020-ALUMINUM	SW6020-ANTIMONY
SW6020-ARSENIC	SW6020-BARIUM	SW6020-BERYLLIUM
SW6020-CADMIUM	SW6020-CALCIUM	SW6020-CHROMIUM
SW6020-COBALT	SW6020-COPPER	SW6020-IRON
SW6020-LEAD	SW6020-MAGNESIUM	SW6020-MANGANESE
SW6020-NICKEL	SW6020-POTASSIUM	SW6020-SELENIUM
SW6020-SILVER	SW6020-SODIUM	SW6020-THALLIUM
SW6020-VANADIUM	SW6020-ZINC	SW7471-MERCURY

Solid	S	TS	29-MAY-18

SL4233-5	CHAAP-21B-BB-SS101		15-MAY-18 12:00	16-MAY-18		28-MAY-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Solid	S	SW7196A-CRVI	12-JUN-18	50g Glass		
Solid	S	SW8330-S	29-MAY-18			
Solid	P	TAL-MET-SW846-ICPMS				

SW3050MS-PREP	SW6020-ALUMINUM	SW6020-ANTIMONY
SW6020-ARSENIC	SW6020-BARIUM	SW6020-BERYLLIUM
SW6020-CADMIUM	SW6020-CALCIUM	SW6020-CHROMIUM
SW6020-COBALT	SW6020-COPPER	SW6020-IRON
SW6020-LEAD	SW6020-MAGNESIUM	SW6020-MANGANESE
SW6020-NICKEL	SW6020-POTASSIUM	SW6020-SELENIUM
SW6020-SILVER	SW6020-SODIUM	SW6020-THALLIUM
SW6020-VANADIUM	SW6020-ZINC	SW7471-MERCURY

Solid	S	TS	29-MAY-18

SL4233-6	CHAAP-21B-BB-SB01		15-MAY-18 09:00	16-MAY-18		28-MAY-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Solid	S	SW7196A-CRVI	12-JUN-18	50g Glass		
Solid	S	SW8330-S	29-MAY-18			
Solid	P	TAL-MET-SW846-ICPMS				

SW3050MS-PREP	SW6020-ALUMINUM	SW6020-ANTIMONY
SW6020-ARSENIC	SW6020-BARIUM	SW6020-BERYLLIUM
SW6020-CADMIUM	SW6020-CALCIUM	SW6020-CHROMIUM
SW6020-COBALT	SW6020-COPPER	SW6020-IRON
SW6020-LEAD	SW6020-MAGNESIUM	SW6020-MANGANESE
SW6020-NICKEL	SW6020-POTASSIUM	SW6020-SELENIUM
SW6020-SILVER	SW6020-SODIUM	SW6020-THALLIUM
SW6020-VANADIUM	SW6020-ZINC	SW7471-MERCURY

Solid	S	TS	29-MAY-18

SL4233-7	CHAAP-21B-BB-SS02		15-MAY-18 09:10	16-MAY-18		28-MAY-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Solid	S	SW8330-S	29-MAY-18			
Solid	P	TAL-MET-SW846-ICPMS				

SW3050MS-PREP	SW6020-ALUMINUM	SW6020-ANTIMONY
SW6020-ARSENIC	SW6020-BARIUM	SW6020-BERYLLIUM
SW6020-CADMIUM	SW6020-CALCIUM	SW6020-CHROMIUM
SW6020-COBALT	SW6020-COPPER	SW6020-IRON
SW6020-LEAD	SW6020-MAGNESIUM	SW6020-MANGANESE
SW6020-NICKEL	SW6020-POTASSIUM	SW6020-SELENIUM
SW6020-SILVER	SW6020-SODIUM	SW6020-THALLIUM
SW6020-VANADIUM	SW6020-ZINC	SW7471-MERCURY

Solid	S	TS	29-MAY-18

5-23-8

Login Number: SL4233

Quote/Incoming: ATI-CORN-AAP

Account: ATI001 Web
ATI, Inc.

Project: ATI-CORN-AAP
Cornhusker Army Ammunition Plant

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
SL4233-8	CHAAP-21B-BB-SB02	15-MAY-18 09:15	16-MAY-18			28-MAY-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Solid	S	SW8330-S	29-MAY-18			
Solid	P	TAL-MET-SW846-ICPMS				

SW3050MS-PREP	SW6020-ALUMINUM	SW6020-ANTIMONY
SW6020-ARSENIC	SW6020-BARIUM	SW6020-BERYLLIUM
SW6020-CADMIUM	SW6020-CALCIUM	SW6020-CHROMIUM
SW6020-COBALT	SW6020-COPPER	SW6020-IRON
SW6020-LEAD	SW6020-MAGNESIUM	SW6020-MANGANESE
SW6020-NICKEL	SW6020-POTASSIUM	SW6020-SELENIUM
SW6020-SILVER	SW6020-SODIUM	SW6020-THALLIUM
SW6020-VANADIUM	SW6020-ZINC	SW7471-MERCURY

Solid	S	TS	29-MAY-18			

SL4233-9	CHAAP-21B-BB-SS05		15-MAY-18 09:20	16-MAY-18		28-MAY-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Solid	S	SW7196A-CRVI	12-JUN-18	50g Glass		
Solid	S	SW8330-S	29-MAY-18			
Solid	P	TAL-MET-SW846-ICPMS				

SW3050MS-PREP	SW6020-ALUMINUM	SW6020-ANTIMONY
SW6020-ARSENIC	SW6020-BARIUM	SW6020-BERYLLIUM
SW6020-CADMIUM	SW6020-CALCIUM	SW6020-CHROMIUM
SW6020-COBALT	SW6020-COPPER	SW6020-IRON
SW6020-LEAD	SW6020-MAGNESIUM	SW6020-MANGANESE
SW6020-NICKEL	SW6020-POTASSIUM	SW6020-SELENIUM
SW6020-SILVER	SW6020-SODIUM	SW6020-THALLIUM
SW6020-VANADIUM	SW6020-ZINC	SW7471-MERCURY

Solid	S	TS	29-MAY-18			

SL4233-10	CHAAP-21B-BB-SB05		15-MAY-18 09:25	16-MAY-18		28-MAY-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Solid	S	SW7196A-CRVI	12-JUN-18	50g Glass		
Solid	S	SW8330-S	29-MAY-18			
Solid	P	TAL-MET-SW846-ICPMS				

SW3050MS-PREP	SW6020-ALUMINUM	SW6020-ANTIMONY
SW6020-ARSENIC	SW6020-BARIUM	SW6020-BERYLLIUM
SW6020-CADMIUM	SW6020-CALCIUM	SW6020-CHROMIUM
SW6020-COBALT	SW6020-COPPER	SW6020-IRON
SW6020-LEAD	SW6020-MAGNESIUM	SW6020-MANGANESE
SW6020-NICKEL	SW6020-POTASSIUM	SW6020-SELENIUM
SW6020-SILVER	SW6020-SODIUM	SW6020-THALLIUM
SW6020-VANADIUM	SW6020-ZINC	SW7471-MERCURY

Solid	S	TS	29-MAY-18			

SL4233-11	CHAAP-21B-BB-SS04		15-MAY-18 09:25	16-MAY-18		28-MAY-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Solid	S	SW7196A-CRVI	12-JUN-18	50g Glass		
Solid	S	SW8330-S	29-MAY-18			
Solid	P	TAL-MET-SW846-ICPMS				

SW3050MS-PREP	SW6020-ALUMINUM	SW6020-ANTIMONY
SW6020-ARSENIC	SW6020-BARIUM	SW6020-BERYLLIUM
SW6020-CADMIUM	SW6020-CALCIUM	SW6020-CHROMIUM
SW6020-COBALT	SW6020-COPPER	SW6020-IRON
SW6020-LEAD	SW6020-MAGNESIUM	SW6020-MANGANESE
SW6020-NICKEL	SW6020-POTASSIUM	SW6020-SELENIUM
SW6020-SILVER	SW6020-SODIUM	SW6020-THALLIUM
SW6020-VANADIUM	SW6020-ZINC	SW7471-MERCURY

Solid	S	TS	29-MAY-18			

HHM
5-23-18

Login Number: SL4233

Quote/Incoming: ATI-CORN-AAP

Account: ATI001 Web

ATI, Inc.

Project: ATI-CORN-AAP

Cornhusker Army Ammunition Plant

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
SL4233-12	CHAAP-21B-BB-SB04	15-MAY-18 09:30	16-MAY-18			28-MAY-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Solid	S	SW7196A-CRVI	12-JUN-18	50g Glass		
Solid	S	SW8330-S	29-MAY-18			
Solid	P	TAL-MET-SW846-ICPMS				

SW3050MS-PREP	SW6020-ALUMINUM	SW6020-ANTIMONY
SW6020-ARSENIC	SW6020-BARIUM	SW6020-BERYLLIUM
SW6020-CADMIUM	SW6020-CALCIUM	SW6020-CHROMIUM
SW6020-COBALT	SW6020-COPPER	SW6020-IRON
SW6020-LEAD	SW6020-MAGNESIUM	SW6020-MANGANESE
SW6020-NICKEL	SW6020-POTASSIUM	SW6020-SELENIUM
SW6020-SILVER	SW6020-SODIUM	SW6020-THALLIUM
SW6020-VANADIUM	SW6020-ZINC	SW7471-MERCURY

Solid	S	TS	29-MAY-18			

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
SL4233-13	CHAAP-21B-BB-SS03	15-MAY-18 09:35	16-MAY-18			28-MAY-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Solid	S	SW7196A-CRVI	12-JUN-18	50g Glass		
Solid	S	SW8330-S	29-MAY-18			
Solid	P	TAL-MET-SW846-ICPMS				

SW3050MS-PREP	SW6020-ALUMINUM	SW6020-ANTIMONY
SW6020-ARSENIC	SW6020-BARIUM	SW6020-BERYLLIUM
SW6020-CADMIUM	SW6020-CALCIUM	SW6020-CHROMIUM
SW6020-COBALT	SW6020-COPPER	SW6020-IRON
SW6020-LEAD	SW6020-MAGNESIUM	SW6020-MANGANESE
SW6020-NICKEL	SW6020-POTASSIUM	SW6020-SELENIUM
SW6020-SILVER	SW6020-SODIUM	SW6020-THALLIUM
SW6020-VANADIUM	SW6020-ZINC	SW7471-MERCURY

Solid	S	TS	29-MAY-18			

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
SL4233-14	CHAAP-21B-BB-SB03	15-MAY-18 09:40	16-MAY-18			28-MAY-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Solid	S	SW7196A-CRVI	12-JUN-18	50g Glass		
Solid	S	SW8330-S	29-MAY-18			
Solid	P	TAL-MET-SW846-ICPMS				

SW3050MS-PREP	SW6020-ALUMINUM	SW6020-ANTIMONY
SW6020-ARSENIC	SW6020-BARIUM	SW6020-BERYLLIUM
SW6020-CADMIUM	SW6020-CALCIUM	SW6020-CHROMIUM
SW6020-COBALT	SW6020-COPPER	SW6020-IRON
SW6020-LEAD	SW6020-MAGNESIUM	SW6020-MANGANESE
SW6020-NICKEL	SW6020-POTASSIUM	SW6020-SELENIUM
SW6020-SILVER	SW6020-SODIUM	SW6020-THALLIUM
SW6020-VANADIUM	SW6020-ZINC	SW7471-MERCURY

Solid	S	TS	29-MAY-18			

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
SL4233-15	CHAAP-21B-BB-SB06	15-MAY-18 09:55	16-MAY-18			28-MAY-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Solid	S	SW7196A-CRVI	12-JUN-18	50g Glass		**MS/MSD**
Solid	S	SW8330-S	29-MAY-18			
Solid	P	TAL-MET-SW846-ICPMS				

SW3050MS-PREP	SW6020-ALUMINUM	SW6020-ANTIMONY
SW6020-ARSENIC	SW6020-BARIUM	SW6020-BERYLLIUM
SW6020-CADMIUM	SW6020-CALCIUM	SW6020-CHROMIUM
SW6020-COBALT	SW6020-COPPER	SW6020-IRON
SW6020-LEAD	SW6020-MAGNESIUM	SW6020-MANGANESE
SW6020-NICKEL	SW6020-POTASSIUM	SW6020-SELENIUM
SW6020-SILVER	SW6020-SODIUM	SW6020-THALLIUM
SW6020-VANADIUM	SW6020-ZINC	SW7471-MERCURY

Solid	S	TS	29-MAY-18			

HDM 5-23-18

Login Number: SL4233 **Quote/Incoming:** ATI-CORN-AAP

Account: ATI001 Web

ATI, Inc.

Project: ATI-CORN-AAP

Cornhusker Army Ammunition Plant

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
SL4233-16	CHAAP-21B-BB-SB06	15-MAY-18 09:55	16-MAY-18			28-MAY-18	

Matrix	Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
					Moved to SL4332-1

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
SL4233-17	CHAAP-21B-BB-SS06	15-MAY-18 09:50	16-MAY-18			28-MAY-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Solid	S	SW7196A-CRVI	12-JUN-18	50g Glass		
Solid	S	SW8330-S	29-MAY-18			
Solid	P	TAL-MET-SW846-ICPMS				

SW3050MS-PREP	SW6020-ALUMINUM	SW6020-ANTIMONY
SW6020-ARSENIC	SW6020-BARIUM	SW6020-BERYLLIUM
SW6020-CADMIUM	SW6020-CALCIUM	SW6020-CHROMIUM
SW6020-COBALT	SW6020-COPPER	SW6020-IRON
SW6020-LEAD	SW6020-MAGNESIUM	SW6020-MANGANESE
SW6020-NICKEL	SW6020-POTASSIUM	SW6020-SELENIUM
SW6020-SILVER	SW6020-SODIUM	SW6020-THALLIUM
SW6020-VANADIUM	SW6020-ZINC	SW7471-MERCURY

Solid	S	TS	29-MAY-18

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
SL4233-18	CHAAP-21B-BB-SS06	15-MAY-18 09:50	16-MAY-18			28-MAY-18	

Matrix	Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
					Moved to SL4332-2

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
SL4233-19	CHAAP-21B-BB-SS106	15-MAY-18 12:00	16-MAY-18			28-MAY-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Solid	S	SW7196A-CRVI	12-JUN-18	50g Glass		
Solid	S	SW8330-S	29-MAY-18			
Solid	P	TAL-MET-SW846-ICPMS				

SW3050MS-PREP	SW6020-ALUMINUM	SW6020-ANTIMONY
SW6020-ARSENIC	SW6020-BARIUM	SW6020-BERYLLIUM
SW6020-CADMIUM	SW6020-CALCIUM	SW6020-CHROMIUM
SW6020-COBALT	SW6020-COPPER	SW6020-IRON
SW6020-LEAD	SW6020-MAGNESIUM	SW6020-MANGANESE
SW6020-NICKEL	SW6020-POTASSIUM	SW6020-SELENIUM
SW6020-SILVER	SW6020-SODIUM	SW6020-THALLIUM
SW6020-VANADIUM	SW6020-ZINC	SW7471-MERCURY

Solid	S	TS	29-MAY-18

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
SL4233-20	CHAAP-21B-BB-SS106	15-MAY-18 12:00	16-MAY-18			28-MAY-18	

Matrix	Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
					Moved to SL4332-3

HHM 5-23-18

Login Number: SL4233

Quote/Incoming: ATI-CORN-AAP

Account: ATI001 Web

ATI, Inc.

Project: ATI-CORN-AAP

Cornhusker Army Ammunition Plant

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
SL4233-21	CHAAP-21B-BPA-SS10	15-MAY-18 10:30	16-MAY-18			28-MAY-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Solid	S	SW7196A-CRVI	12-JUN-18	50g Glass		
Solid	S	SW8330-S	29-MAY-18			
Solid	P	TAL-MET-SW846-ICPMS				

SW3050MS-PREP	SW6020-ALUMINUM	SW6020-ANTIMONY
SW6020-ARSENIC	SW6020-BARIUM	SW6020-BERYLLIUM
SW6020-CADMIUM	SW6020-CALCIUM	SW6020-CHROMIUM
SW6020-COBALT	SW6020-COPPER	SW6020-IRON
SW6020-LEAD	SW6020-MAGNESIUM	SW6020-MANGANESE
SW6020-NICKEL	SW6020-POTASSIUM	SW6020-SELENIUM
SW6020-SILVER	SW6020-SODIUM	SW6020-THALLIUM
SW6020-VANADIUM	SW6020-ZINC	SW7471-MERCURY

Solid	S	TS	29-MAY-18			

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
SL4233-22	CHAAP-21B-BPA-SS10-5	15-MAY-18 10:35	16-MAY-18			28-MAY-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Solid	S	SW7196A-CRVI	12-JUN-18	50g Glass		
Solid	S	SW8330-S	29-MAY-18			
Solid	P	TAL-MET-SW846-ICPMS				

SW3050MS-PREP	SW6020-ALUMINUM	SW6020-ANTIMONY
SW6020-ARSENIC	SW6020-BARIUM	SW6020-BERYLLIUM
SW6020-CADMIUM	SW6020-CALCIUM	SW6020-CHROMIUM
SW6020-COBALT	SW6020-COPPER	SW6020-IRON
SW6020-LEAD	SW6020-MAGNESIUM	SW6020-MANGANESE
SW6020-NICKEL	SW6020-POTASSIUM	SW6020-SELENIUM
SW6020-SILVER	SW6020-SODIUM	SW6020-THALLIUM
SW6020-VANADIUM	SW6020-ZINC	SW7471-MERCURY

Solid	S	TS	29-MAY-18			

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
SL4233-23	CHAAP-21B-BPA-SS09	15-MAY-18 10:40	16-MAY-18			28-MAY-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Solid	S	SW8330-S	29-MAY-18			
Solid	P	TAL-MET-SW846-ICPMS				

SW3050MS-PREP	SW6020-ALUMINUM	SW6020-ANTIMONY
SW6020-ARSENIC	SW6020-BARIUM	SW6020-BERYLLIUM
SW6020-CADMIUM	SW6020-CALCIUM	SW6020-CHROMIUM
SW6020-COBALT	SW6020-COPPER	SW6020-IRON
SW6020-LEAD	SW6020-MAGNESIUM	SW6020-MANGANESE
SW6020-NICKEL	SW6020-POTASSIUM	SW6020-SELENIUM
SW6020-SILVER	SW6020-SODIUM	SW6020-THALLIUM
SW6020-VANADIUM	SW6020-ZINC	SW7471-MERCURY

Solid	S	TS	29-MAY-18			

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
SL4233-24	CHAAP-21B-BPA-SS09-5	15-MAY-18 10:45	16-MAY-18			28-MAY-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Solid	S	SW8330-S	29-MAY-18			
Solid	P	TAL-MET-SW846-ICPMS				

SW3050MS-PREP	SW6020-ALUMINUM	SW6020-ANTIMONY
SW6020-ARSENIC	SW6020-BARIUM	SW6020-BERYLLIUM
SW6020-CADMIUM	SW6020-CALCIUM	SW6020-CHROMIUM
SW6020-COBALT	SW6020-COPPER	SW6020-IRON
SW6020-LEAD	SW6020-MAGNESIUM	SW6020-MANGANESE
SW6020-NICKEL	SW6020-POTASSIUM	SW6020-SELENIUM
SW6020-SILVER	SW6020-SODIUM	SW6020-THALLIUM
SW6020-VANADIUM	SW6020-ZINC	SW7471-MERCURY

Solid	S	TS	29-MAY-18			

HHM 5-23-18

Login Number: SL4233

Quote/Incoming: ATI-CORN-AAP

Account: ATI001 Web

ATI, Inc.

Project: ATI-CORN-AAP

Cornhusker Army Ammunition Plant

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
SL4233-25	CHAAP-21B-BPA-SS21	15-MAY-18 10:55	16-MAY-18			28-MAY-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Solid	S	SW8330-S	29-MAY-18			
Solid	P	TAL-MET-SW846-ICPMS				

SW3050MS-PREP	SW6020-ALUMINUM	SW6020-ANTIMONY
SW6020-ARSENIC	SW6020-BARIUM	SW6020-BERYLLIUM
SW6020-CADMIUM	SW6020-CALCIUM	SW6020-CHROMIUM
SW6020-COBALT	SW6020-COPPER	SW6020-IRON
SW6020-LEAD	SW6020-MAGNESIUM	SW6020-MANGANESE
SW6020-NICKEL	SW6020-POTASSIUM	SW6020-SELENIUM
SW6020-SILVER	SW6020-SODIUM	SW6020-THALLIUM
SW6020-VANADIUM	SW6020-ZINC	SW7471-MERCURY

Solid	S	TS	29-MAY-18			

SL4233-26	CHAAP-21B-BPA-SS21-3		15-MAY-18 11:00	16-MAY-18		28-MAY-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Solid	S	SW8330-S	29-MAY-18			
Solid	P	TAL-MET-SW846-ICPMS				

SW3050MS-PREP	SW6020-ALUMINUM	SW6020-ANTIMONY
SW6020-ARSENIC	SW6020-BARIUM	SW6020-BERYLLIUM
SW6020-CADMIUM	SW6020-CALCIUM	SW6020-CHROMIUM
SW6020-COBALT	SW6020-COPPER	SW6020-IRON
SW6020-LEAD	SW6020-MAGNESIUM	SW6020-MANGANESE
SW6020-NICKEL	SW6020-POTASSIUM	SW6020-SELENIUM
SW6020-SILVER	SW6020-SODIUM	SW6020-THALLIUM
SW6020-VANADIUM	SW6020-ZINC	SW7471-MERCURY

Solid	S	TS	29-MAY-18			

SL4233-27	CHAAP-21B-BPA-SS21-6		15-MAY-18 11:05	16-MAY-18		28-MAY-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Solid	S	SW8330-S	29-MAY-18			
Solid	P	TAL-MET-SW846-ICPMS				

SW3050MS-PREP	SW6020-ALUMINUM	SW6020-ANTIMONY
SW6020-ARSENIC	SW6020-BARIUM	SW6020-BERYLLIUM
SW6020-CADMIUM	SW6020-CALCIUM	SW6020-CHROMIUM
SW6020-COBALT	SW6020-COPPER	SW6020-IRON
SW6020-LEAD	SW6020-MAGNESIUM	SW6020-MANGANESE
SW6020-NICKEL	SW6020-POTASSIUM	SW6020-SELENIUM
SW6020-SILVER	SW6020-SODIUM	SW6020-THALLIUM
SW6020-VANADIUM	SW6020-ZINC	SW7471-MERCURY

Solid	S	TS	29-MAY-18			

SL4233-28	CHAAP-21B-BPA-SS01		15-MAY-18 11:20	16-MAY-18		28-MAY-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Solid	S	SW7196A-CRVI	12-JUN-18	50g Glass		
Solid	S	SW8330-S	29-MAY-18			
Solid	P	TAL-MET-SW846-ICPMS				

SW3050MS-PREP	SW6020-ALUMINUM	SW6020-ANTIMONY
SW6020-ARSENIC	SW6020-BARIUM	SW6020-BERYLLIUM
SW6020-CADMIUM	SW6020-CALCIUM	SW6020-CHROMIUM
SW6020-COBALT	SW6020-COPPER	SW6020-IRON
SW6020-LEAD	SW6020-MAGNESIUM	SW6020-MANGANESE
SW6020-NICKEL	SW6020-POTASSIUM	SW6020-SELENIUM
SW6020-SILVER	SW6020-SODIUM	SW6020-THALLIUM
SW6020-VANADIUM	SW6020-ZINC	SW7471-MERCURY

Solid	S	TS	29-MAY-18			

5-23-18

Login Number: SL4233

Quote/Incoming: ATI-CORN-AAP

Account: ATI001 Web

ATI, Inc.

Project: ATI-CORN-AAP

Cornhusker Army Ammunition Plant

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
SL4233-29	CHAAP-21B-BPA-SB01-4	15-MAY-18 11:25	16-MAY-18			28-MAY-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Solid	S	SW7196A-CRVI	12-JUN-18	50g Glass		
Solid	S	SW8330-S	29-MAY-18			
Solid	P	TAL-MET-SW846-ICPMS				

SW3050MS-PREP	SW6020-ALUMINUM	SW6020-ANTIMONY
SW6020-ARSENIC	SW6020-BARIUM	SW6020-BERYLLIUM
SW6020-CADMIUM	SW6020-CALCIUM	SW6020-CHROMIUM
SW6020-COBALT	SW6020-COPPER	SW6020-IRON
SW6020-LEAD	SW6020-MAGNESIUM	SW6020-MANGANESE
SW6020-NICKEL	SW6020-POTASSIUM	SW6020-SELENIUM
SW6020-SILVER	SW6020-SODIUM	SW6020-THALLIUM
SW6020-VANADIUM	SW6020-ZINC	SW7471-MERCURY

Solid	S	TS	29-MAY-18			

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
SL4233-30	CHAAP-21B-BPA-SB101-4	15-MAY-18 12:00	16-MAY-18			28-MAY-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Solid	S	SW7196A-CRVI	12-JUN-18	50g Glass		
Solid	S	SW8330-S	29-MAY-18			
Solid	P	TAL-MET-SW846-ICPMS				

SW3050MS-PREP	SW6020-ALUMINUM	SW6020-ANTIMONY
SW6020-ARSENIC	SW6020-BARIUM	SW6020-BERYLLIUM
SW6020-CADMIUM	SW6020-CALCIUM	SW6020-CHROMIUM
SW6020-COBALT	SW6020-COPPER	SW6020-IRON
SW6020-LEAD	SW6020-MAGNESIUM	SW6020-MANGANESE
SW6020-NICKEL	SW6020-POTASSIUM	SW6020-SELENIUM
SW6020-SILVER	SW6020-SODIUM	SW6020-THALLIUM
SW6020-VANADIUM	SW6020-ZINC	SW7471-MERCURY

Solid	S	TS	29-MAY-18			

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
SL4233-31	CHAAP-21B-BPA-SB01-8	15-MAY-18 11:30	16-MAY-18			28-MAY-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Solid	S	SW8330-S	29-MAY-18			**MS/MSD**
Solid	P	TAL-MET-SW846-ICPMS				

SW3050MS-PREP	SW6020-ALUMINUM	SW6020-ANTIMONY
SW6020-ARSENIC	SW6020-BARIUM	SW6020-BERYLLIUM
SW6020-CADMIUM	SW6020-CALCIUM	SW6020-CHROMIUM
SW6020-COBALT	SW6020-COPPER	SW6020-IRON
SW6020-LEAD	SW6020-MAGNESIUM	SW6020-MANGANESE
SW6020-NICKEL	SW6020-POTASSIUM	SW6020-SELENIUM
SW6020-SILVER	SW6020-SODIUM	SW6020-THALLIUM
SW6020-VANADIUM	SW6020-ZINC	SW7471-MERCURY

Solid	S	TS	29-MAY-18			

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
SL4233-32	CHAAP-21B-BPA-SS02	15-MAY-18 11:35	16-MAY-18			28-MAY-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Solid	S	SW8330-S	29-MAY-18			
Solid	P	TAL-MET-SW846-ICPMS				

SW3050MS-PREP	SW6020-ALUMINUM	SW6020-ANTIMONY
SW6020-ARSENIC	SW6020-BARIUM	SW6020-BERYLLIUM
SW6020-CADMIUM	SW6020-CALCIUM	SW6020-CHROMIUM
SW6020-COBALT	SW6020-COPPER	SW6020-IRON
SW6020-LEAD	SW6020-MAGNESIUM	SW6020-MANGANESE
SW6020-NICKEL	SW6020-POTASSIUM	SW6020-SELENIUM
SW6020-SILVER	SW6020-SODIUM	SW6020-THALLIUM
SW6020-VANADIUM	SW6020-ZINC	SW7471-MERCURY

Solid	S	TS	29-MAY-18			

Attn
5-23-18

Login Number: SL4233 **Quote/Incoming:** ATI-CORN-AAP

Account: ATI001 Web

ATI, Inc.

Project: ATI-CORN-AAP

Cornhusker Army Ammunition Plant

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
SL4233-33	CHAAP-21B-BPA-SB02-4	15-MAY-18 11:40	16-MAY-18			28-MAY-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Solid	S	SW8330-S	29-MAY-18			
Solid	P	TAL-MET-SW846-ICPMS				

SW3050MS-PREP	SW6020-ALUMINUM	SW6020-ANTIMONY
SW6020-ARSENIC	SW6020-BARIUM	SW6020-BERYLLIUM
SW6020-CADMIUM	SW6020-CALCIUM	SW6020-CHROMIUM
SW6020-COBALT	SW6020-COPPER	SW6020-IRON
SW6020-LEAD	SW6020-MAGNESIUM	SW6020-MANGANESE
SW6020-NICKEL	SW6020-POTASSIUM	SW6020-SELENIUM
SW6020-SILVER	SW6020-SODIUM	SW6020-THALLIUM
SW6020-VANADIUM	SW6020-ZINC	SW7471-MERCURY

Solid	S	TS	29-MAY-18			

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
SL4233-34	CHAAP-21B-BPA-SB02-8	15-MAY-18 11:45	16-MAY-18			28-MAY-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Solid	S	SW8330-S	29-MAY-18			
Solid	P	TAL-MET-SW846-ICPMS				

SW3050MS-PREP	SW6020-ALUMINUM	SW6020-ANTIMONY
SW6020-ARSENIC	SW6020-BARIUM	SW6020-BERYLLIUM
SW6020-CADMIUM	SW6020-CALCIUM	SW6020-CHROMIUM
SW6020-COBALT	SW6020-COPPER	SW6020-IRON
SW6020-LEAD	SW6020-MAGNESIUM	SW6020-MANGANESE
SW6020-NICKEL	SW6020-POTASSIUM	SW6020-SELENIUM
SW6020-SILVER	SW6020-SODIUM	SW6020-THALLIUM
SW6020-VANADIUM	SW6020-ZINC	SW7471-MERCURY

Solid	S	TS	29-MAY-18			

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
SL4233-35	CHAAP-21B-BPA-SS03	15-MAY-18 12:00	16-MAY-18			28-MAY-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Solid	S	SW7196A-CRVI	12-JUN-18	50g Glass		
Solid	S	SW8330-S	29-MAY-18			
Solid	P	TAL-MET-SW846-ICPMS				

SW3050MS-PREP	SW6020-ALUMINUM	SW6020-ANTIMONY
SW6020-ARSENIC	SW6020-BARIUM	SW6020-BERYLLIUM
SW6020-CADMIUM	SW6020-CALCIUM	SW6020-CHROMIUM
SW6020-COBALT	SW6020-COPPER	SW6020-IRON
SW6020-LEAD	SW6020-MAGNESIUM	SW6020-MANGANESE
SW6020-NICKEL	SW6020-POTASSIUM	SW6020-SELENIUM
SW6020-SILVER	SW6020-SODIUM	SW6020-THALLIUM
SW6020-VANADIUM	SW6020-ZINC	SW7471-MERCURY

Solid	S	TS	29-MAY-18			

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
SL4233-36	CHAAP-21B-BPA-SB03-4	15-MAY-18 12:05	16-MAY-18			28-MAY-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Solid	S	SW7196A-CRVI	12-JUN-18	50g Glass		**MS/MSD**
Solid	S	SW8330-S	29-MAY-18			
Solid	P	TAL-MET-SW846-ICPMS				

SW3050MS-PREP	SW6020-ALUMINUM	SW6020-ANTIMONY
SW6020-ARSENIC	SW6020-BARIUM	SW6020-BERYLLIUM
SW6020-CADMIUM	SW6020-CALCIUM	SW6020-CHROMIUM
SW6020-COBALT	SW6020-COPPER	SW6020-IRON
SW6020-LEAD	SW6020-MAGNESIUM	SW6020-MANGANESE
SW6020-NICKEL	SW6020-POTASSIUM	SW6020-SELENIUM
SW6020-SILVER	SW6020-SODIUM	SW6020-THALLIUM
SW6020-VANADIUM	SW6020-ZINC	SW7471-MERCURY

Solid	S	TS	29-MAY-18			

Hdm 5-23-18

Login Number: SL4233

Quote/Incoming: ATI-CORN-AAP

Account: ATI001 Web
ATI, Inc.

Project: ATI-CORN-AAP
Cornhusker Army Ammunition Plant

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
SL4233-37	CHAAP-21B-BPA-SB03-8	15-MAY-18 12:10	16-MAY-18			28-MAY-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Solid	S	SW8330-S	29-MAY-18			
Solid	P	TAL-MET-SW846-ICPMS				

SW3050MS-PREP	SW6020-ALUMINUM	SW6020-ANTIMONY
SW6020-ARSENIC	SW6020-BARIUM	SW6020-BERYLLIUM
SW6020-CADMIUM	SW6020-CALCIUM	SW6020-CHROMIUM
SW6020-COBALT	SW6020-COPPER	SW6020-IRON
SW6020-LEAD	SW6020-MAGNESIUM	SW6020-MANGANESE
SW6020-NICKEL	SW6020-POTASSIUM	SW6020-SELENIUM
SW6020-SILVER	SW6020-SODIUM	SW6020-THALLIUM
SW6020-VANADIUM	SW6020-ZINC	SW7471-MERCURY

Solid	S	TS	29-MAY-18			

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
SL4233-38	CHAAP-21B-BPA-SS04	15-MAY-18 12:30	16-MAY-18			28-MAY-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Solid	S	SW8330-S	29-MAY-18			
Solid	P	TAL-MET-SW846-ICPMS				

SW3050MS-PREP	SW6020-ALUMINUM	SW6020-ANTIMONY
SW6020-ARSENIC	SW6020-BARIUM	SW6020-BERYLLIUM
SW6020-CADMIUM	SW6020-CALCIUM	SW6020-CHROMIUM
SW6020-COBALT	SW6020-COPPER	SW6020-IRON
SW6020-LEAD	SW6020-MAGNESIUM	SW6020-MANGANESE
SW6020-NICKEL	SW6020-POTASSIUM	SW6020-SELENIUM
SW6020-SILVER	SW6020-SODIUM	SW6020-THALLIUM
SW6020-VANADIUM	SW6020-ZINC	SW7471-MERCURY

Solid	S	TS	29-MAY-18			

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
SL4233-39	CHAAP-21B-BPA-SS104	15-MAY-18 12:00	16-MAY-18			28-MAY-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Solid	S	SW8330-S	29-MAY-18			
Solid	P	TAL-MET-SW846-ICPMS				

SW3050MS-PREP	SW6020-ALUMINUM	SW6020-ANTIMONY
SW6020-ARSENIC	SW6020-BARIUM	SW6020-BERYLLIUM
SW6020-CADMIUM	SW6020-CALCIUM	SW6020-CHROMIUM
SW6020-COBALT	SW6020-COPPER	SW6020-IRON
SW6020-LEAD	SW6020-MAGNESIUM	SW6020-MANGANESE
SW6020-NICKEL	SW6020-POTASSIUM	SW6020-SELENIUM
SW6020-SILVER	SW6020-SODIUM	SW6020-THALLIUM
SW6020-VANADIUM	SW6020-ZINC	SW7471-MERCURY

Solid	S	TS	29-MAY-18			

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
SL4233-40	CHAAP-21B-BPA-SB04-4	15-MAY-18 12:35	16-MAY-18			28-MAY-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Solid	S	SW8330-S	29-MAY-18			
Solid	P	TAL-MET-SW846-ICPMS				

SW3050MS-PREP	SW6020-ALUMINUM	SW6020-ANTIMONY
SW6020-ARSENIC	SW6020-BARIUM	SW6020-BERYLLIUM
SW6020-CADMIUM	SW6020-CALCIUM	SW6020-CHROMIUM
SW6020-COBALT	SW6020-COPPER	SW6020-IRON
SW6020-LEAD	SW6020-MAGNESIUM	SW6020-MANGANESE
SW6020-NICKEL	SW6020-POTASSIUM	SW6020-SELENIUM
SW6020-SILVER	SW6020-SODIUM	SW6020-THALLIUM
SW6020-VANADIUM	SW6020-ZINC	SW7471-MERCURY

Solid	S	TS	29-MAY-18			

HHUM
5-23-18

Login Number: SL4233

Quote/Incoming: ATI-CORN-AAP

Account: ATI001 Web

ATI, Inc.

Project: ATI-CORN-AAP

Cornhusker Army Ammunition Plant

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
SL4233-41	CHAAP-21B-BPA-SB04-8	15-MAY-18 12:40	16-MAY-18			28-MAY-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Solid	S	SW8330-S	29-MAY-18			
Solid	P	TAL-MET-SW846-ICPMS				

SW3050MS-PREP	SW6020-ALUMINUM	SW6020-ANTIMONY
SW6020-ARSENIC	SW6020-BARIUM	SW6020-BERYLLIUM
SW6020-CADMIUM	SW6020-CALCIUM	SW6020-CHROMIUM
SW6020-COBALT	SW6020-COPPER	SW6020-IRON
SW6020-LEAD	SW6020-MAGNESIUM	SW6020-MANGANESE
SW6020-NICKEL	SW6020-POTASSIUM	SW6020-SELENIUM
SW6020-SILVER	SW6020-SODIUM	SW6020-THALLIUM
SW6020-VANADIUM	SW6020-ZINC	SW7471-MERCURY

Solid	S	TS	29-MAY-18			

SL4233-42	CHAAP-21B-BPA-SS05		15-MAY-18 13:00	16-MAY-18		28-MAY-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Solid	S	SW7196A-CRVI	12-JUN-18	50g Glass		
Solid	S	SW8330-S	29-MAY-18			
Solid	P	TAL-MET-SW846-ICPMS				

SW3050MS-PREP	SW6020-ALUMINUM	SW6020-ANTIMONY
SW6020-ARSENIC	SW6020-BARIUM	SW6020-BERYLLIUM
SW6020-CADMIUM	SW6020-CALCIUM	SW6020-CHROMIUM
SW6020-COBALT	SW6020-COPPER	SW6020-IRON
SW6020-LEAD	SW6020-MAGNESIUM	SW6020-MANGANESE
SW6020-NICKEL	SW6020-POTASSIUM	SW6020-SELENIUM
SW6020-SILVER	SW6020-SODIUM	SW6020-THALLIUM
SW6020-VANADIUM	SW6020-ZINC	SW7471-MERCURY

Solid	S	TS	29-MAY-18			

SL4233-43	CHAAP-21B-BPA-SB05-4		15-MAY-18 13:05	16-MAY-18		28-MAY-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Solid	S	SW7196A-CRVI	12-JUN-18	50g Glass		
Solid	S	SW8330-S	29-MAY-18			
Solid	P	TAL-MET-SW846-ICPMS				

SW3050MS-PREP	SW6020-ALUMINUM	SW6020-ANTIMONY
SW6020-ARSENIC	SW6020-BARIUM	SW6020-BERYLLIUM
SW6020-CADMIUM	SW6020-CALCIUM	SW6020-CHROMIUM
SW6020-COBALT	SW6020-COPPER	SW6020-IRON
SW6020-LEAD	SW6020-MAGNESIUM	SW6020-MANGANESE
SW6020-NICKEL	SW6020-POTASSIUM	SW6020-SELENIUM
SW6020-SILVER	SW6020-SODIUM	SW6020-THALLIUM
SW6020-VANADIUM	SW6020-ZINC	SW7471-MERCURY

Solid	S	TS	29-MAY-18			

SL4233-44	CHAAP-21B-BPA-SB05-8		15-MAY-18 13:10	16-MAY-18		28-MAY-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Solid	S	SW8330-S	29-MAY-18			
Solid	P	TAL-MET-SW846-ICPMS				

SW3050MS-PREP	SW6020-ALUMINUM	SW6020-ANTIMONY
SW6020-ARSENIC	SW6020-BARIUM	SW6020-BERYLLIUM
SW6020-CADMIUM	SW6020-CALCIUM	SW6020-CHROMIUM
SW6020-COBALT	SW6020-COPPER	SW6020-IRON
SW6020-LEAD	SW6020-MAGNESIUM	SW6020-MANGANESE
SW6020-NICKEL	SW6020-POTASSIUM	SW6020-SELENIUM
SW6020-SILVER	SW6020-SODIUM	SW6020-THALLIUM
SW6020-VANADIUM	SW6020-ZINC	SW7471-MERCURY

Solid	S	TS	29-MAY-18			

HHM
5-23-18

Login Number: SL4233

Quote/Incoming: ATI-CORN-AAP

Account: ATI001 Web

ATI, Inc.

Project: ATI-CORN-AAP

Cornhusker Army Ammunition Plant

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
SL4233-45	CHAAP-21B-BPA-SS06	15-MAY-18 13:10	16-MAY-18			28-MAY-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Solid	S	SW8330-S	29-MAY-18			
Solid	P	TAL-MET-SW846-ICPMS				

SW3050MS-PREP	SW6020-ALUMINUM	SW6020-ANTIMONY
SW6020-ARSENIC	SW6020-BARIUM	SW6020-BERYLLIUM
SW6020-CADMIUM	SW6020-CALCIUM	SW6020-CHROMIUM
SW6020-COBALT	SW6020-COPPER	SW6020-IRON
SW6020-LEAD	SW6020-MAGNESIUM	SW6020-MANGANESE
SW6020-NICKEL	SW6020-POTASSIUM	SW6020-SELENIUM
SW6020-SILVER	SW6020-SODIUM	SW6020-THALLIUM
SW6020-VANADIUM	SW6020-ZINC	SW7471-MERCURY

Solid	S	TS	29-MAY-18			

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
SL4233-46	CHAAP-21B-BPA-SB06-4	15-MAY-18 13:15	16-MAY-18			28-MAY-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Solid	S	SW8330-S	29-MAY-18			
Solid	P	TAL-MET-SW846-ICPMS				

SW3050MS-PREP	SW6020-ALUMINUM	SW6020-ANTIMONY
SW6020-ARSENIC	SW6020-BARIUM	SW6020-BERYLLIUM
SW6020-CADMIUM	SW6020-CALCIUM	SW6020-CHROMIUM
SW6020-COBALT	SW6020-COPPER	SW6020-IRON
SW6020-LEAD	SW6020-MAGNESIUM	SW6020-MANGANESE
SW6020-NICKEL	SW6020-POTASSIUM	SW6020-SELENIUM
SW6020-SILVER	SW6020-SODIUM	SW6020-THALLIUM
SW6020-VANADIUM	SW6020-ZINC	SW7471-MERCURY

Solid	S	TS	29-MAY-18			

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
SL4233-47	CHAAP-21B-BPA-SB06-8	15-MAY-18 13:20	16-MAY-18			28-MAY-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Solid	S	SW8330-S	29-MAY-18			
Solid	P	TAL-MET-SW846-ICPMS				

SW3050MS-PREP	SW6020-ALUMINUM	SW6020-ANTIMONY
SW6020-ARSENIC	SW6020-BARIUM	SW6020-BERYLLIUM
SW6020-CADMIUM	SW6020-CALCIUM	SW6020-CHROMIUM
SW6020-COBALT	SW6020-COPPER	SW6020-IRON
SW6020-LEAD	SW6020-MAGNESIUM	SW6020-MANGANESE
SW6020-NICKEL	SW6020-POTASSIUM	SW6020-SELENIUM
SW6020-SILVER	SW6020-SODIUM	SW6020-THALLIUM
SW6020-VANADIUM	SW6020-ZINC	SW7471-MERCURY

Solid	S	TS	29-MAY-18			

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
SL4233-48	CHAAP-21B-BPA-SS08	15-MAY-18 13:35	16-MAY-18			28-MAY-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Solid	S	SW7196A-CRVI	12-JUN-18	50g Glass		
Solid	S	SW8330-S	29-MAY-18			
Solid	P	TAL-MET-SW846-ICPMS				

SW3050MS-PREP	SW6020-ALUMINUM	SW6020-ANTIMONY
SW6020-ARSENIC	SW6020-BARIUM	SW6020-BERYLLIUM
SW6020-CADMIUM	SW6020-CALCIUM	SW6020-CHROMIUM
SW6020-COBALT	SW6020-COPPER	SW6020-IRON
SW6020-LEAD	SW6020-MAGNESIUM	SW6020-MANGANESE
SW6020-NICKEL	SW6020-POTASSIUM	SW6020-SELENIUM
SW6020-SILVER	SW6020-SODIUM	SW6020-THALLIUM
SW6020-VANADIUM	SW6020-ZINC	SW7471-MERCURY

Solid	S	TS	29-MAY-18			

HBlm
5-23-18

Login Number: SL4233

Quote/Incoming: ATI-CORN-AAP

Account: ATI001 Web

ATI, Inc.

Project: ATI-CORN-AAP

Cornhusker Army Ammunition Plant

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
SL4233-49	CHAAP-21B-BPA-SB08-4	15-MAY-18 13:38	16-MAY-18			28-MAY-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Solid	S	SW7196A-CRVI	12-JUN-18	50g Glass		
Solid	S	SW8330-S	29-MAY-18			
Solid	P	TAL-MET-SW846-ICPMS				

SW3050MS-PREP	SW6020-ALUMINUM	SW6020-ANTIMONY
SW6020-ARSENIC	SW6020-BARIUM	SW6020-BERYLLIUM
SW6020-CADMIUM	SW6020-CALCIUM	SW6020-CHROMIUM
SW6020-COBALT	SW6020-COPPER	SW6020-IRON
SW6020-LEAD	SW6020-MAGNESIUM	SW6020-MANGANESE
SW6020-NICKEL	SW6020-POTASSIUM	SW6020-SELENIUM
SW6020-SILVER	SW6020-SODIUM	SW6020-THALLIUM
SW6020-VANADIUM	SW6020-ZINC	SW7471-MERCURY

Solid	S	TS	29-MAY-18

SL4233-50	CHAAP-21B-BPA-SB08-8	15-MAY-18 13:40	16-MAY-18			28-MAY-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Solid	S	SW8330-S	29-MAY-18			
Solid	P	TAL-MET-SW846-ICPMS				

SW3050MS-PREP	SW6020-ALUMINUM	SW6020-ANTIMONY
SW6020-ARSENIC	SW6020-BARIUM	SW6020-BERYLLIUM
SW6020-CADMIUM	SW6020-CALCIUM	SW6020-CHROMIUM
SW6020-COBALT	SW6020-COPPER	SW6020-IRON
SW6020-LEAD	SW6020-MAGNESIUM	SW6020-MANGANESE
SW6020-NICKEL	SW6020-POTASSIUM	SW6020-SELENIUM
SW6020-SILVER	SW6020-SODIUM	SW6020-THALLIUM
SW6020-VANADIUM	SW6020-ZINC	SW7471-MERCURY

Solid	S	TS	29-MAY-18

SL4233-51	CHAAP-21B-BPA-SS07	15-MAY-18 13:25	16-MAY-18			28-MAY-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Solid	S	SW8330-S	29-MAY-18			
Solid	P	TAL-MET-SW846-ICPMS				

SW3050MS-PREP	SW6020-ALUMINUM	SW6020-ANTIMONY
SW6020-ARSENIC	SW6020-BARIUM	SW6020-BERYLLIUM
SW6020-CADMIUM	SW6020-CALCIUM	SW6020-CHROMIUM
SW6020-COBALT	SW6020-COPPER	SW6020-IRON
SW6020-LEAD	SW6020-MAGNESIUM	SW6020-MANGANESE
SW6020-NICKEL	SW6020-POTASSIUM	SW6020-SELENIUM
SW6020-SILVER	SW6020-SODIUM	SW6020-THALLIUM
SW6020-VANADIUM	SW6020-ZINC	SW7471-MERCURY

Solid	S	TS	29-MAY-18

SL4233-52	CHAAP-21B-BPA-SB07-4	15-MAY-18 13:28	16-MAY-18			28-MAY-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Solid	S	SW8330-S	29-MAY-18			
Solid	P	TAL-MET-SW846-ICPMS				

SW3050MS-PREP	SW6020-ALUMINUM	SW6020-ANTIMONY
SW6020-ARSENIC	SW6020-BARIUM	SW6020-BERYLLIUM
SW6020-CADMIUM	SW6020-CALCIUM	SW6020-CHROMIUM
SW6020-COBALT	SW6020-COPPER	SW6020-IRON
SW6020-LEAD	SW6020-MAGNESIUM	SW6020-MANGANESE
SW6020-NICKEL	SW6020-POTASSIUM	SW6020-SELENIUM
SW6020-SILVER	SW6020-SODIUM	SW6020-THALLIUM
SW6020-VANADIUM	SW6020-ZINC	SW7471-MERCURY

Solid	S	TS	29-MAY-18

HHW 5-23-18

Login Number: SL4233 **Quote/Incoming:** ATI-CORN-AAP

Account: ATI001 Web
ATI, Inc.

Project: ATI-CORN-AAP
Cornhusker Army Ammunition Plant

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
SL4233-53	CHAAP-21B-BPA-SB07-8	15-MAY-18 13:30	16-MAY-18			28-MAY-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Solid	S	SW8330-S	29-MAY-18			
Solid	P	TAL-MET-SW846-ICPMS				

SW3050MS-PREP	SW6020-ALUMINUM	SW6020-ANTIMONY
SW6020-ARSENIC	SW6020-BARIUM	SW6020-BERYLLIUM
SW6020-CADMIUM	SW6020-CALCIUM	SW6020-CHROMIUM
SW6020-COBALT	SW6020-COPPER	SW6020-IRON
SW6020-LEAD	SW6020-MAGNESIUM	SW6020-MANGANESE
SW6020-NICKEL	SW6020-POTASSIUM	SW6020-SELENIUM
SW6020-SILVER	SW6020-SODIUM	SW6020-THALLIUM
SW6020-VANADIUM	SW6020-ZINC	SW7471-MERCURY

Solid	S	TS	29-MAY-18			

SL4233-54		CHAAP-EB-051518	15-MAY-18 13:50	16-MAY-18		28-MAY-18

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	SW8330-S	22-MAY-18	1L N-Amber Glass		
Aqueous	P	TAL-MET-SW846-ICPMS				

SW3010MS-PREP	SW6020-ALUMINUM	SW6020-ANTIMONY
SW6020-ARSENIC	SW6020-BARIUM	SW6020-BERYLLIUM
SW6020-CADMIUM	SW6020-CALCIUM	SW6020-CHROMIUM
SW6020-COBALT	SW6020-COPPER	SW6020-IRON
SW6020-LEAD	SW6020-MAGNESIUM	SW6020-MANGANESE
SW6020-NICKEL	SW6020-POTASSIUM	SW6020-SELENIUM
SW6020-SILVER	SW6020-SODIUM	SW6020-THALLIUM
SW6020-VANADIUM	SW6020-ZINC	SW7470-MERCURY

Total Samples: 50 ***Total Analyses: 172***

HHLM
5-23-18

EXPLOSIVES DATA

QC Summary Section

Form 2
System Monitoring Compound Recovery

Lab Name: Katahdin Analytical Services **Project:** Cornhusker Army Ammunition Plant **Matrix:** AQ
Lab Code: KAS **SDG:** SL4233

Client Sample ID	Lab Sample ID	Col. ID	DNB	#
CHAAP-EB-051518	SL4233-54	B	86.2	
Method Blank Sample	WG228769-1	B	86.6	
Laboratory Control S	WG228769-2	B	89.6	

		QC Limits
DNB	1,2-DINITROBENZENE	83-120

= Column to be used to flag recovery limits.
* = Values outside of contract required QC limits.
D= System Monitoring Compound diluted out.

600 Technology Way
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Form 2
System Monitoring Compound Recovery

Lab Name: Katahdin Analytical Services **Project:** Cornhusker Army Ammunition Plant **Matrix:** SL
Lab Code: KAS **SDG:** SL4233

Client Sample ID	Lab Sample ID	Col. ID	DNB #
CHAAP-21B-BB-SB05	SL4233-10	B	96.4
CHAAP-21B-BB-SS04	SL4233-11	B	91.4
CHAAP-21B-BB-SB04	SL4233-12	B	91.9
CHAAP-21B-BB-SS03	SL4233-13	B	91.8
CHAAP-21B-BB-SB03	SL4233-14	B	94.0
CHAAP-21B-BB-SB06	SL4233-15	B	94.7
CHAAP-21B-BB-SS06	SL4233-17	B	92.5
CHAAP-21B-BB-SS106	SL4233-19	B	91.4
CHAAP-21B-DS-SS01	SL4233-2	B	98.9
CHAAP-21B-BPA-SS10	SL4233-21	B	91.2
CHAAP-21B-BPA-SS10-5	SL4233-22	B	94.9
CHAAP-21B-BPA-SS09	SL4233-23	B	96.4
CHAAP-21B-BPA-SS09-5	SL4233-24	B	92.8
CHAAP-21B-BPA-SS21	SL4233-25	B	96.1
CHAAP-21B-BPA-SS21-3	SL4233-26	B	98.3
CHAAP-21B-BPA-SS21-6	SL4233-27	B	96.7
CHAAP-21B-BPA-SS01	SL4233-28	B	94.3
CHAAP-21B-BPA-SB01-4	SL4233-29	B	94.6
CHAAP-21B-DS-SB01-5	SL4233-3	B	94.5
CHAAP-21B-BPA-SB101-	SL4233-30	B	95.6
CHAAP-21B-BPA-SB01-8	SL4233-31	B	95.4
CHAAP-21B-BPA-SS02	SL4233-32	B	95.1
CHAAP-21B-BPA-SB02-4	SL4233-33	B	95.8
CHAAP-21B-BPA-SB02-8	SL4233-34	B	98.4
CHAAP-21B-BPA-SS03	SL4233-35	B	96.4
CHAAP-21B-BPA-SB03-4	SL4233-36	B	98.1
CHAAP-21B-BPA-SB03-8	SL4233-37	B	98.5
CHAAP-21B-BPA-SS04	SL4233-38	B	96.9
CHAAP-21B-BPA-SS104	SL4233-39	B	95.9
CHAAP-21B-BB-SS01	SL4233-4	B	94.4
CHAAP-21B-BPA-SB04-4	SL4233-40	B	96.1
CHAAP-21B-BPA-SB04-4	SL4233-40DL	B	100.
CHAAP-21B-BPA-SB04-8	SL4233-41	B	96.4
CHAAP-21B-BPA-SS05	SL4233-42	B	94.6
CHAAP-21B-BPA-SB05-4	SL4233-43	B	94.0
CHAAP-21B-BPA-SB05-8	SL4233-44	B	95.4

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Form 2
System Monitoring Compound Recovery

Lab Name: Katahdin Analytical Services **Project:** Cornhusker Army Ammunition Plant **Matrix:** SL
Lab Code: KAS **SDG:** SL4233

Client Sample ID	Lab Sample ID	Col. ID	DNB	#
CHAAP-21B-BPA-SS06	SL4233-45	B	91.4	
CHAAP-21B-BPA-SB06-4	SL4233-46	B	91.8	
CHAAP-21B-BPA-SB06-8	SL4233-47	B	89.8	
CHAAP-21B-BPA-SS08	SL4233-48	B	93.6	
CHAAP-21B-BPA-SB08-4	SL4233-49	B	93.1	
CHAAP-21B-BB-SS101	SL4233-5	B	94.0	
CHAAP-21B-BPA-SB08-8	SL4233-50	B	91.6	
CHAAP-21B-BPA-SS07	SL4233-51	B	89.4	
CHAAP-21B-BPA-SB07-4	SL4233-52	B	94.6	
CHAAP-21B-BPA-SB07-8	SL4233-53	B	93.8	
CHAAP-21B-BB-SB01	SL4233-6	B	92.8	
CHAAP-21B-BB-SS02	SL4233-7	B	93.7	
CHAAP-21B-BB-SB02	SL4233-8	B	96.2	
CHAAP-21B-BB-SS05	SL4233-9	B	95.4	
Method Blank Sample	WG228770-1	B	95.2	
Laboratory Control S	WG228770-2	B	106.	
Matrix Spike	WG228770-3	B	102.	
Matrix Spike Duplica	WG228770-4	B	107.	
Method Blank Sample	WG228856-1	B	96.6	
Laboratory Control S	WG228856-2	B	105.	
Matrix Spike	WG228856-3	B	107.	
Matrix Spike Duplica	WG228856-4	B	104.	
Matrix Spike	WG228856-5	B	104.	
Matrix Spike Duplica	WG228856-6	B	101.	
Method Blank Sample	WG228857-1	B	96.6	
Laboratory Control S	WG228857-2	B	97.8	

		QC Limits
DNB	1,2-DINITROBENZENE	78-125

= Column to be used to flag recovery limits.
* = Values outside of contract required QC limits.
D= System Monitoring Compound diluted out.

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Katahdin
ANALYTICAL SERVICES

Method Blank Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
Lab File ID : HLE10628.D
Instrument ID : HPLC02
Matrix : AQ

SDG : SL4233
Lab Sample ID : WG228769-1
Date Extracted : 21-MAY-18
Date Analyzed : 22-MAY-18
Time Analyzed : 10:07

This Method Blank applies to the following samples, LCS, MS and MSD:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
Laboratory Control S	WG228769-2	HLE10629.	05/22/18	10:38
CHAAP-EB-051518	SL4233-54	HLE10634.	05/22/18	13:13

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Katahdin
ANALYTICAL SERVICES

Method Blank Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
Lab File ID : HLE10653.D
Instrument ID : HPLC02
Matrix : SL

SDG : SL4233
Lab Sample ID : WG228770-1
Date Extracted : 21-MAY-18
Date Analyzed : 22-MAY-18
Time Analyzed : 23:01

This Method Blank applies to the following samples, LCS, MS and MSD:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
Laboratory Control S	WG228770-2	HLE10654.	05/22/18	23:32
Matrix Spike	WG228770-3	HLE10655.	05/23/18	00:03
Matrix Spike Duplica	WG228770-4	HLE10656.	05/23/18	00:34
CHAAP-21B-DS-SS01	SL4233-2	HLE10657.	05/23/18	01:05
CHAAP-21B-DS-SB01-5	SL4233-3	HLE10658.	05/23/18	01:36
CHAAP-21B-BB-SS01	SL4233-4	HLE10659.	05/23/18	02:07
CHAAP-21B-BB-SS101	SL4233-5	HLE10660.	05/23/18	02:38
CHAAP-21B-BB-SB01	SL4233-6	HLE10662.	05/23/18	03:40
CHAAP-21B-BB-SS02	SL4233-7	HLE10663.	05/23/18	04:11
CHAAP-21B-BB-SB02	SL4233-8	HLE10664.	05/23/18	04:42
CHAAP-21B-BB-SS05	SL4233-9	HLE10665.	05/23/18	05:13
CHAAP-21B-BB-SB05	SL4233-10	HLE10666.	05/23/18	05:44
CHAAP-21B-BB-SS04	SL4233-11	HLE10667.	05/23/18	06:15
CHAAP-21B-BB-SB04	SL4233-12	HLE10668.	05/23/18	06:46
CHAAP-21B-BB-SS03	SL4233-13	HLE10669.	05/23/18	07:17
CHAAP-21B-BB-SB03	SL4233-14	HLE10670.	05/23/18	07:48
CHAAP-21B-BB-SB06	SL4233-15	HLE10671.	05/23/18	08:19
CHAAP-21B-BB-SS06	SL4233-17	HLE10673.	05/23/18	09:21
CHAAP-21B-BB-SS106	SL4233-19	HLE10674.	05/23/18	09:52
CHAAP-21B-BPA-SS10	SL4233-21	HLE10675.	05/23/18	10:23
CHAAP-21B-BPA-SS10-5	SL4233-22	HLE10676.	05/23/18	10:54
CHAAP-21B-BPA-SS09	SL4233-23	HLE10677.	05/23/18	11:25
CHAAP-21B-BPA-SS09-5	SL4233-24	HLE10678.	05/23/18	11:56

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Method Blank Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
Lab File ID : HLE10680.D
Instrument ID : HPLC02
Matrix : SL

SDG : SL4233
Lab Sample ID : WG228856-1
Date Extracted : 22-MAY-18
Date Analyzed : 23-MAY-18
Time Analyzed : 14:15

This Method Blank applies to the following samples, LCS, MS and MSD:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
Laboratory Control S	WG228856-2	HLE10681.	05/23/18	14:46
Matrix Spike	WG228856-3	HLE10682.	05/23/18	15:17
Matrix Spike Duplica	WG228856-4	HLE10683.	05/23/18	15:48
Matrix Spike	WG228856-5	HLE10684.	05/23/18	16:19
Matrix Spike Duplica	WG228856-6	HLE10685.	05/23/18	16:50
CHAAP-21B-BPA-SS21	SL4233-25	HLE10689.	05/23/18	18:54
CHAAP-21B-BPA-SS21-3	SL4233-26	HLE10691.	05/23/18	19:56
CHAAP-21B-BPA-SS21-6	SL4233-27	HLE10692.	05/23/18	20:27
CHAAP-21B-BPA-SS01	SL4233-28	HLE10693.	05/23/18	20:58
CHAAP-21B-BPA-SB01-4	SL4233-29	HLE10694.	05/23/18	21:29
CHAAP-21B-BPA-SB101-4	SL4233-30	HLE10695.	05/23/18	22:00
CHAAP-21B-BPA-SB01-8	SL4233-31	HLE10696.	05/23/18	22:31
CHAAP-21B-BPA-SS02	SL4233-32	HLE10697.	05/23/18	23:02
CHAAP-21B-BPA-SB02-4	SL4233-33	HLE10698.	05/23/18	23:33
CHAAP-21B-BPA-SB02-8	SL4233-34	HLE10699.	05/24/18	00:04
CHAAP-21B-BPA-SS03	SL4233-35	HLE10700.	05/24/18	00:35
CHAAP-21B-BPA-SB03-4	SL4233-36	HLE10702.	05/24/18	01:37
CHAAP-21B-BPA-SB03-8	SL4233-37	HLE10703.	05/24/18	02:08
CHAAP-21B-BPA-SS04	SL4233-38	HLE10704.	05/24/18	02:39
CHAAP-21B-BPA-SS104	SL4233-39	HLE10705.	05/24/18	03:10
CHAAP-21B-BPA-SB04-4	SL4233-40	HLE10706.	05/24/18	03:41
CHAAP-21B-BPA-SB04-8	SL4233-41	HLE10707.	05/24/18	04:12
CHAAP-21B-BPA-SS05	SL4233-42	HLE10708.	05/24/18	04:43
CHAAP-21B-BPA-SB05-4	SL4233-43	HLE10709.	05/24/18	05:14
CHAAP-21B-BPA-SB05-8	SL4233-44	HLE10710.	05/24/18	05:45
CHAAP-21B-BPA-SB04-4	SL4233-40DL	HLE10727.	05/24/18	14:32

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Method Blank Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
Lab File ID : HLE10686.D
Instrument ID : HPLC02
Matrix : SL

SDG : SL4233
Lab Sample ID : WG228857-1
Date Extracted : 22-MAY-18
Date Analyzed : 23-MAY-18
Time Analyzed : 17:21

This Method Blank applies to the following samples, LCS, MS and MSD:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
Laboratory Control S	WG228857-2	HLE10687.	05/23/18	17:52
CHAAP-21B-BPA-SS06	SL4233-45	HLE10711.	05/24/18	06:16
CHAAP-21B-BPA-SB06-4	SL4233-46	HLE10713.	05/24/18	07:18
CHAAP-21B-BPA-SB06-8	SL4233-47	HLE10714.	05/24/18	07:49
CHAAP-21B-BPA-SS08	SL4233-48	HLE10715.	05/24/18	08:20
CHAAP-21B-BPA-SB08-4	SL4233-49	HLE10716.	05/24/18	08:51
CHAAP-21B-BPA-SB08-8	SL4233-50	HLE10717.	05/24/18	09:22
CHAAP-21B-BPA-SS07	SL4233-51	HLE10718.	05/24/18	09:53
CHAAP-21B-BPA-SB07-8	SL4233-53	HLE10719.	05/24/18	10:24
CHAAP-21B-BPA-SB07-4	SL4233-52	HLE10771.	05/25/18	14:12

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Method Blank Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
Lab File ID : HLE10807.D
Instrument ID : HPLC02
Matrix : SL

SDG : SL4233
Lab Sample ID : WG228770-1C
Date Extracted : 21-MAY-18
Date Analyzed : 26-MAY-18
Time Analyzed : 20:46

This Method Blank applies to the following samples, LCS, MS and MSD:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
CHAAP-21B-DS-SS01	SL4233-2C	HLE10808.	05/26/18	21:35
CHAAP-21B-BB-SB03	SL4233-14C	HLE10809.	05/26/18	22:24
CHAAP-21B-BPA-SS09	SL4233-23C	HLE10810.	05/26/18	23:13
CHAAP-21B-BPA-SS09-5	SL4233-24C	HLE10811.	05/27/18	00:02

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Method Blank Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
Lab File ID : HLE10812.D
Instrument ID : HPLC02
Matrix : SL

SDG : SL4233
Lab Sample ID : WG228856-1C
Date Extracted : 22-MAY-18
Date Analyzed : 27-MAY-18
Time Analyzed : 00:52

This Method Blank applies to the following samples, LCS, MS and MSD:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
CHAAP-21B-BPA-SS02	SL4233-32C	HLE10813.	05/27/18	01:41
CHAAP-21B-BPA-SB02-4	SL4233-33C	HLE10814.	05/27/18	02:30
CHAAP-21B-BPA-SB02-8	SL4233-34C	HLE10815.	05/27/18	03:19
CHAAP-21B-BPA-SS03	SL4233-35C	HLE10816.	05/27/18	04:08
CHAAP-21B-BPA-SB03-4	SL4233-36C	HLE10818.	05/27/18	05:47
CHAAP-21B-BPA-SB03-8	SL4233-37C	HLE10819.	05/27/18	06:36
CHAAP-21B-BPA-SS04	SL4233-38C	HLE10820.	05/27/18	07:25
CHAAP-21B-BPA-SS104	SL4233-39C	HLE10821.	05/27/18	08:14
CHAAP-21B-BPA-SB04-4	SL4233-40C	HLE10822.	05/27/18	09:03
CHAAP-21B-BPA-SB04-8	SL4233-41C	HLE10823.	05/27/18	09:52

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Method Blank Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
Lab File ID : HLE10824.D
Instrument ID : HPLC02
Matrix : SL

SDG : SL4233
Lab Sample ID : WG228857-1C
Date Extracted : 22-MAY-18
Date Analyzed : 27-MAY-18
Time Analyzed : 10:41

This Method Blank applies to the following samples, LCS, MS and MSD:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
CHAAP-21B-BPA-SS07	SL4233-51C	HLE10825.	05/27/18	11:31

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Method Blank Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
Lab File ID : HLE10830.D
Instrument ID : HPLC02
Matrix : AQ

SDG : SL4233
Lab Sample ID : WG228769-1C
Date Extracted : 21-MAY-18
Date Analyzed : 29-MAY-18
Time Analyzed : 17:54

This Method Blank applies to the following samples, LCS, MS and MSD:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
CHAAP-EB-051518	SL4233-54C	HLE10831.	05/29/18	18:43

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Form 8
GC Analytical Sequence

Lab Name : Katahdin Analytical Services **SDG :** SL4233
Project : Cornhusker Army Ammunition Plant **Column ID :** B
Instrument ID : HPLC02

Client Sample ID	Lab Sample ID	Date Analyzed	Time Analyzed	DNB	DNB
Initial Calibration	WG225143-7	03/20/18	14:54	8.575	
Initial Calibration	WG225143-6	03/20/18	15:26	8.57	
Initial Calibration	WG225143-5	03/20/18	15:58	8.57	
Initial Calibration	WG225143-4	03/20/18	16:30	8.57	
Initial Calibration	WG225143-3	03/20/18	17:01	8.57	
Initial Calibration	WG225143-2	03/20/18	17:33	8.574	
Initial Calibration	WG225143-1	03/20/18	18:05	8.587	
Independent Source	WG225143-8	03/20/18	18:37		
Continuing Calibrati	WG228942-1	05/22/18	08:56	8.581	
Method Blank Sample	WG228769-1	05/22/18	10:07	8.605	
Laboratory Control S	WG228769-2	05/22/18	10:38	8.601	
CHAAP-EB-051518	SL4233-54	05/22/18	13:13	8.597	
Continuing Calibrati	WG228942-2	05/22/18	15:47	8.592	
Continuing Calibrati	WG228942-3	05/22/18	21:28	8.563	
Method Blank Sample	WG228770-1	05/22/18	23:01	8.6	
Laboratory Control S	WG228770-2	05/22/18	23:32	8.567	
Matrix Spike	WG228770-3	05/23/18	00:03	8.609	
Matrix Spike Duplica	WG228770-4	05/23/18	00:34	8.583	
CHAAP-21B-DS-SS01	SL4233-2	05/23/18	01:05	8.6	
CHAAP-21B-DS-SB01-5	SL4233-3	05/23/18	01:36	8.585	
CHAAP-21B-BB-SS01	SL4233-4	05/23/18	02:07	8.614	
CHAAP-21B-BB-SS101	SL4233-5	05/23/18	02:38	8.585	
Continuing Calibrati	WG228942-4	05/23/18	03:09	8.587	
CHAAP-21B-BB-SB01	SL4233-6	05/23/18	03:40	8.584	
CHAAP-21B-BB-SS02	SL4233-7	05/23/18	04:11	8.612	
CHAAP-21B-BB-SB02	SL4233-8	05/23/18	04:42	8.586	
CHAAP-21B-BB-SS05	SL4233-9	05/23/18	05:13	8.618	
CHAAP-21B-BB-SB05	SL4233-10	05/23/18	05:44	8.588	
CHAAP-21B-BB-SS04	SL4233-11	05/23/18	06:15	8.611	
CHAAP-21B-BB-SB04	SL4233-12	05/23/18	06:46	8.601	
CHAAP-21B-BB-SS03	SL4233-13	05/23/18	07:17	8.624	
CHAAP-21B-BB-SB03	SL4233-14	05/23/18	07:48	8.599	
CHAAP-21B-BB-SB06	SL4233-15	05/23/18	08:19	8.632	
Continuing Calibrati	WG228942-5	05/23/18	08:50	8.584	
CHAAP-21B-BB-SS06	SL4233-17	05/23/18	09:21	8.634	
CHAAP-21B-BB-SS106	SL4233-19	05/23/18	09:52	8.613	

Form 8
GC Analytical Sequence

Lab Name : Katahdin Analytical Services
SDG : SL4233
Project : Cornhusker Army Ammunition Plant
Column ID : B
Instrument ID : HPLC02

CHAAP-21B-BPA-SS10	SL4233-21	05/23/18	10:23	8.636	
CHAAP-21B-BPA-SS10-5	SL4233-22	05/23/18	10:54	8.606	
CHAAP-21B-BPA-SS09	SL4233-23	05/23/18	11:25	8.62	
CHAAP-21B-BPA-SS09-5	SL4233-24	05/23/18	11:56	8.605	
Continuing Calibrati	WG228942-6	05/23/18	13:44	8.573	
Method Blank Sample	WG228856-1	05/23/18	14:15	8.565	
Laboratory Control S	WG228856-2	05/23/18	14:46	8.578	
Matrix Spike	WG228856-3	05/23/18	15:17	8.566	
Matrix Spike Duplica	WG228856-4	05/23/18	15:48	8.579	
Matrix Spike	WG228856-5	05/23/18	16:19	8.559	
Matrix Spike Duplica	WG228856-6	05/23/18	16:50	8.594	
Method Blank Sample	WG228857-1	05/23/18	17:21	8.561	
Laboratory Control S	WG228857-2	05/23/18	17:52	8.586	
CHAAP-21B-BPA-SS21	SL4233-25	05/23/18	18:54	8.603	
Continuing Calibrati	WG228942-7	05/23/18	19:25	8.553	
CHAAP-21B-BPA-SS21-3	SL4233-26	05/23/18	19:56	8.593	
CHAAP-21B-BPA-SS21-6	SL4233-27	05/23/18	20:27	8.578	
CHAAP-21B-BPA-SS01	SL4233-28	05/23/18	20:58	8.602	
CHAAP-21B-BPA-SB01-4	SL4233-29	05/23/18	21:29	8.584	
CHAAP-21B-BPA-SB101-	SL4233-30	05/23/18	22:00	8.602	
CHAAP-21B-BPA-SB01-8	SL4233-31	05/23/18	22:31	8.577	
CHAAP-21B-BPA-SS02	SL4233-32	05/23/18	23:02	8.592	
CHAAP-21B-BPA-SB02-4	SL4233-33	05/23/18	23:33	8.579	
CHAAP-21B-BPA-SB02-8	SL4233-34	05/24/18	00:04	8.599	
CHAAP-21B-BPA-SS03	SL4233-35	05/24/18	00:35	8.57	
Continuing Calibrati	WG228942-8	05/24/18	01:06	8.576	
CHAAP-21B-BPA-SB03-4	SL4233-36	05/24/18	01:37	8.579	
CHAAP-21B-BPA-SB03-8	SL4233-37	05/24/18	02:08	8.598	
CHAAP-21B-BPA-SS04	SL4233-38	05/24/18	02:39	8.571	
CHAAP-21B-BPA-SS104	SL4233-39	05/24/18	03:10	8.596	
CHAAP-21B-BPA-SB04-4	SL4233-40	05/24/18	03:41	8.572	
CHAAP-21B-BPA-SB04-8	SL4233-41	05/24/18	04:12	8.602	
CHAAP-21B-BPA-SS05	SL4233-42	05/24/18	04:43	8.576	
CHAAP-21B-BPA-SB05-4	SL4233-43	05/24/18	05:14	8.6	
CHAAP-21B-BPA-SB05-8	SL4233-44	05/24/18	05:45	8.583	
CHAAP-21B-BPA-SS06	SL4233-45	05/24/18	06:16	8.607	

Form 8
GC Analytical Sequence

Lab Name : Katahdin Analytical Services
SDG : SL4233
Project : Cornhusker Army Ammunition Plant
Column ID : B
Instrument ID : HPLC02

Continuing Calibrati	WG228942-9	05/24/18	06:47	8.573	
CHAAP-21B-BPA-SB06-4	SL4233-46	05/24/18	07:18	8.626	
CHAAP-21B-BPA-SB06-8	SL4233-47	05/24/18	07:49	8.613	
CHAAP-21B-BPA-SS08	SL4233-48	05/24/18	08:20	8.625	
CHAAP-21B-BPA-SB08-4	SL4233-49	05/24/18	08:51	8.605	
CHAAP-21B-BPA-SB08-8	SL4233-50	05/24/18	09:22	8.618	
CHAAP-21B-BPA-SS07	SL4233-51	05/24/18	09:53	8.592	
CHAAP-21B-BPA-SB07-8	SL4233-53	05/24/18	10:24	8.627	
Continuing Calibrati	WG228942-10	05/24/18	10:55	8.574	
CHAAP-21B-BPA-SB04-4	SL4233-40DL	05/24/18	14:32	8.622	
Continuing Calibrati	WG228942-11	05/24/18	15:59	8.543	
Continuing Calibrati	WG228942-14	05/25/18	09:02	8.528	
CHAAP-21B-BPA-SB07-4	SL4233-52	05/25/18	14:12	8.537	
Continuing Calibrati	WG228942-15	05/25/18	14:43	8.539	

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Form 8
GC Analytical Sequence

Lab Name : Katahdin Analytical Services **SDG :** SL4233
Project : Cornhusker Army Ammunition Plant **Column ID :** B
Instrument ID : HPLC02

Client Sample ID	Lab Sample ID	Date Analyzed	Time Analyzed	DNB	DNB
Initial Calibration	WG210620-15	08/01/17	09:37	13.49	
Initial Calibration	WG210620-14	08/01/17	10:27	13.48	
Initial Calibration	WG210620-13	08/01/17	11:16	13.48	
Initial Calibration	WG210620-12	08/01/17	12:05	13.47	
Initial Calibration	WG210620-11	08/01/17	12:54	13.47	
Initial Calibration	WG210620-10	08/01/17	13:44	13.47	
Initial Calibration	WG210620-9	08/01/17	14:33	13.46	
Independent Source	WG210620-16	08/01/17	17:01		
Continuing Calibrati	WG228942-17	05/26/18	19:57	13.19	
Method Blank Sample	WG228770-1C	05/26/18	20:46	13.20	
CHAAP-21B-DS-SS01	SL4233-2C	05/26/18	21:35	13.21	
CHAAP-21B-BB-SB03	SL4233-14C	05/26/18	22:24	13.22	
CHAAP-21B-BPA-SS09	SL4233-23C	05/26/18	23:13	13.21	
CHAAP-21B-BPA-SS09-5	SL4233-24C	05/27/18	00:02	13.24	
Method Blank Sample	WG228856-1C	05/27/18	00:52	13.23	
CHAAP-21B-BPA-SS02	SL4233-32C	05/27/18	01:41	13.25	
CHAAP-21B-BPA-SB02-4	SL4233-33C	05/27/18	02:30	13.26	
CHAAP-21B-BPA-SB02-8	SL4233-34C	05/27/18	03:19	13.25	
CHAAP-21B-BPA-SS03	SL4233-35C	05/27/18	04:08	13.25	
Continuing Calibrati	WG228942-18	05/27/18	04:57	13.24	
CHAAP-21B-BPA-SB03-4	SL4233-36C	05/27/18	05:47	13.26	
CHAAP-21B-BPA-SB03-8	SL4233-37C	05/27/18	06:36	13.26	
CHAAP-21B-BPA-SS04	SL4233-38C	05/27/18	07:25	13.26	
CHAAP-21B-BPA-SS104	SL4233-39C	05/27/18	08:14	13.26	
CHAAP-21B-BPA-SB04-4	SL4233-40C	05/27/18	09:03	13.27	
CHAAP-21B-BPA-SB04-8	SL4233-41C	05/27/18	09:52	13.29	
Method Blank Sample	WG228857-1C	05/27/18	10:41	13.26	
CHAAP-21B-BPA-SS07	SL4233-51C	05/27/18	11:31	13.28	
Continuing Calibrati	WG228942-19	05/27/18	13:09	13.26	
Continuing Calibrati	WG228942-20	05/29/18	17:05	13.29	
Method Blank Sample	WG228769-1C	05/29/18	17:54	13.31	
CHAAP-EB-051518	SL4233-54C	05/29/18	18:43	13.31	
Continuing Calibrati	WG228942-21	05/29/18	22:49	13.32	

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Sample Data Section

KATAHDIN ANALYTICAL SERVICES - ORGANIC DATA QUALIFIERS

The sampled date indicated on the attached Report(s) of Analysis (ROA) is the date for which a grab sample was collected or the date for which a composite sample was completed. Beginning and start times for composite samples can be found on the Chain-of-Custody.

U Indicates the compound was analyzed for but not detected above the specified level. This level may be the Limit of Quantitation (LOQ)(previously called Practical Quantitation Level (PQL)), the Limit of Detection (LOD) or Method Detection Limit (MDL) as required by the client.

Note: All results reported as "U" MDL have a 50% rate for false negatives compared to those results reported as "U" PQL/LOQ or "U" LOD, where the rate of false negatives is <1%.

* Compound recovery or percent RPD (relative percent difference) was outside of quality control limits.

D Indicates the result was obtained from analysis of a diluted sample. Surrogate recoveries may not be calculable.

E Estimated value. This flag identifies compounds whose concentrations exceed the upper level of the calibration range of the instrument for that specific analysis.

J Estimated value. The analyte was detected in the sample at a concentration less than the laboratory Limit of Quantitation (LOQ)(previously called Practical Quantitation Limit (PQL)), but above the Method Detection Limit (MDL).

or

J Used for Pesticides, PCBs, Herbicides, Formaldehyde, Explosives and Method 504.1 analytes when there is a greater than 40% difference for detected concentrations between the two GC columns.

B Indicates the analyte was detected in the laboratory method blank analyzed concurrently with the sample.

C Indicates that the flagged compound did not meet DoD criteria in the corresponding daily calibration verification (CV).

L Indicates that the flagged compound did not meet DoD criteria in the corresponding Laboratory Control Sample (LCS) and/or Laboratory Control Sample Duplicate (LCSD) prepared and/or analyzed concurrently with the sample.

M Indicates that the flagged compound did not meet DoD criteria in the Matrix Spike and/or Matrix Spike Duplicate prepared and/or analyzed concurrently with the native sample.

N Presumptive evidence of a compound based on a mass spectral library search.

A Indicates that a tentatively identified compound is a suspected aldol-condensation product.

P Used for Pesticide/Aroclor analyte when there is a greater than 25% difference for detected concentrations between the two GC columns. (for CLP methods only).

Katahdin Analytical Services, Inc.

Manual Integration Codes For GC/MS, GC, HPLC and/or IC

M1	Peak splitting.
M2	Well defined peaks on the shoulders of the other peaks.
M3	There is additional area due to a coeluting interferant.
M4	There are negative spikes in the baseline.
M5	There are rising or falling baselines.
M6	The software has failed to detect a peak or misidentified a peak.
M7	Excessive peak tailing.
M8	Analysis such as GRO, DRO and TPH require a baseline hold.
M9	Peak was not completely integrated as in GC/MS.
M10	Primary ion was correctly integrated, but secondary or tertiary ion needed manual integration as in GC/MS.
M11	For GC analysis, when a sample is diluted by 1:10 or more, the surrogate is set to undetected and then the area under the surrogate is manually integrated.
M12	Manual integration saved in method due to TurboChrom floating point error.

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Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4233-2
Client ID: CHAAP-21B-DS-SS01
Project: Cornhusker Army Ammunition Plant
SDG: SL4233
Lab File ID: HLE10657.D

Sample Date: 15-MAY-18
Received Date: 16-MAY-18
Extract Date: 21-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228770

Analysis Date: 23-MAY-18
Analyst: AC
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 82.
Report Date: 31-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	J	70	ug/Kgdrywt	1	100	110	9.4	54.
RDX	U	54	ug/Kgdrywt	1	100	110	7.4	54.
1,3,5-Trinitrobenzene	U	54	ug/Kgdrywt	1	100	110	7.3	54.
1,3-Dinitrobenzene	U	54	ug/Kgdrywt	1	100	110	6.8	54.
Tetryl	U	54	ug/Kgdrywt	1	100	110	5.9	54.
Nitrobenzene	U	54	ug/Kgdrywt	1	100	110	24.	54.
2,4,6-Trinitrotoluene	U	54	ug/Kgdrywt	1	100	110	7.3	54.
2-Am-DNT	U	54	ug/Kgdrywt	1	100	110	23.	54.
4-Am-DNT	U	54	ug/Kgdrywt	1	100	110	18.	54.
2,6-Dinitrotoluene	U	54	ug/Kgdrywt	1	100	110	29.	54.
2,4-Dinitrotoluene	U	54	ug/Kgdrywt	1	100	110	16.	54.
2-Nitrotoluene	U	54	ug/Kgdrywt	1	100	110	13.	54.
3-Nitrotoluene	U	54	ug/Kgdrywt	1	100	110	8.6	54.
4-Nitrotoluene	U	54	ug/Kgdrywt	1	100	110	29.	54.
Nitroglycerin	U	440	ug/Kgdrywt	1	800	870	140	440
PETN	U	440	ug/Kgdrywt	1	800	870	120	440
1,2-Dinitrobenzene		98.9	%					

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Form 10
Explosives Identification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant

SDG : SL4233
Lab Sample ID : SL4233-2
Client Sample ID : CHAAP-21B-DS-SS01

Column A
Instrument ID : HPLC02
Date Analyzed : 05/23/18
Time Analyzed : 01:05

Column B
Instrument ID : HPLC02
Date Analyzed : 05/26/18
Time Analyzed : 21:35

Analyte	Column	RT	Concentration	RPD
HMX	A	4.55	70.4	
	B	6.59	68.6	2.6

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http://katahdinlab.com
sales@katahdinlab.com

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10657.D
Report Date: 31-May-2018 04:43

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10657.D
Lab Smp Id: SL4233-2 Client Smp ID: CHAAP-21B-DS-SS01
Inj Date : 23-MAY-2018 01:05
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-2
Misc Info : WG228942,WG228770,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\EXPB05A.m
Meth Date : 23-May-2018 13:50 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 76
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01120	Weight of Sample (Kg)
M	18.184	% Moisture
Cpnd Variable		Local Compound Variable

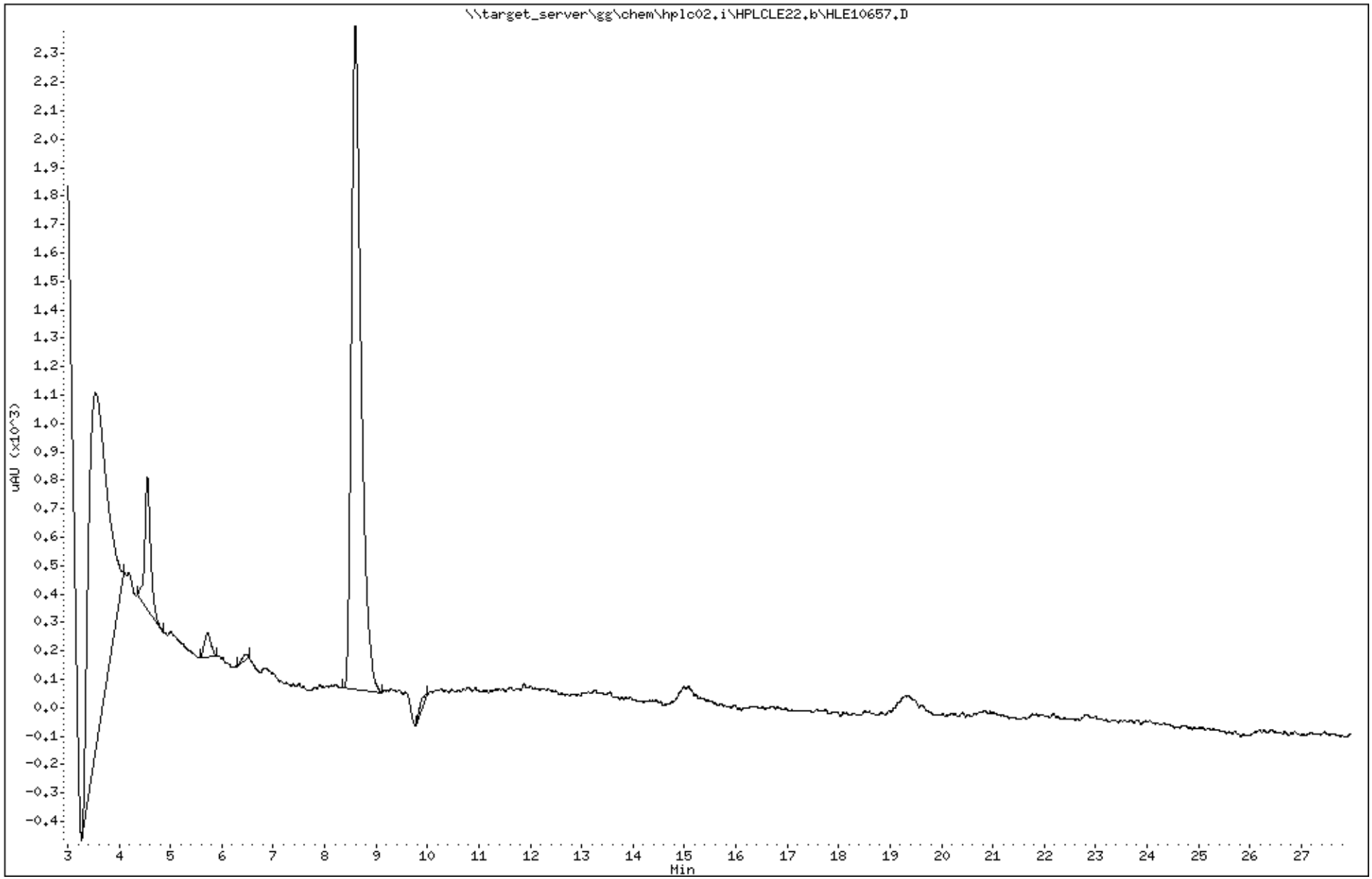
Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10657.D
Date : 23-MAY-2018 01:05
Client ID: CHAAP-21B-DS-SS01
Sample Info: SL4233-2

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 1000024

Data File: HLE10657.D
Report Date: 31-May-2018 04:50

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HPLCLE22.b\HLE10657.D
Lab Smp Id: SL4233-2 Client Smp ID: CHAAP-21B-DS-SS01
Inj Date : 23-MAY-2018 01:05
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-2
Misc Info : WG228942,WG228770,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\EXPB05A.m\EXPB05A.m
Meth Date : 23-May-2018 13:40 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 76
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01120	Weight of Sample (Kg)
M	18.184	% Moisture
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	REVIEW CODE
	1 HMX	4.553	4.547	0.006	174	0.03228	70.4(aM)	M2
$	2 1,2-dinitrobenzene	8.600	8.581	0.019	1145	0.24744	540	

QC Flag Legend

a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.

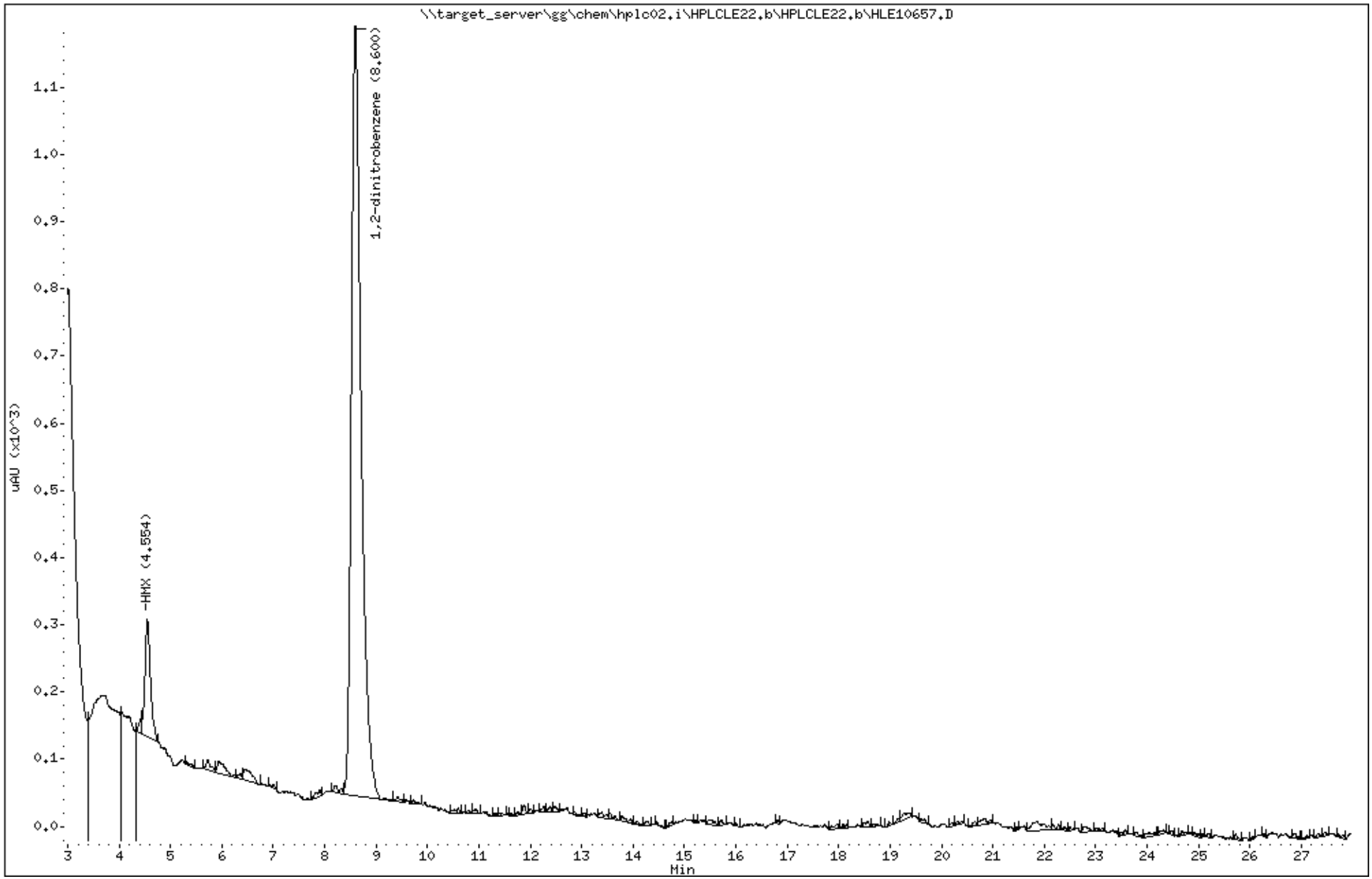
7:18 am, May 31, 2018

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HPLCLE22.b\HLE10657.D
Date : 23-MAY-2018 01:05
Client ID: CHAAP-21B-DS-SS01
Sample Info: SL4233-2

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 1000026

Data File: HLE10808.D
Report Date: 31-May-2018 05:46

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE25.b\HPLCLE25.b\HLE10808.D
Lab Smp Id: SL4233-2C Client Smp ID: CHAAP-21B-DS-SS01
Inj Date : 26-MAY-2018 21:35
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-2C
Misc Info : WG228942,WG228770,WG210620-13
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE25.b\E2016A.m\E2016A.m
Meth Date : 29-May-2018 16:32 abullentin Quant Type: ESTD
Cal Date : 01-AUG-2017 14:33 Cal File: HKH10014.D
Als bottle: 27
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01120	Weight of Sample (Kg)
M	18.184	% Moisture
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	REVIEW CODE
1	HMX	6.593	6.588	0.005	149	0.03141	68.6(aM)	M9
$ 2	1,2-dinitrobenzene	13.213	13.228	-0.015	1214	0.22738	496	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.

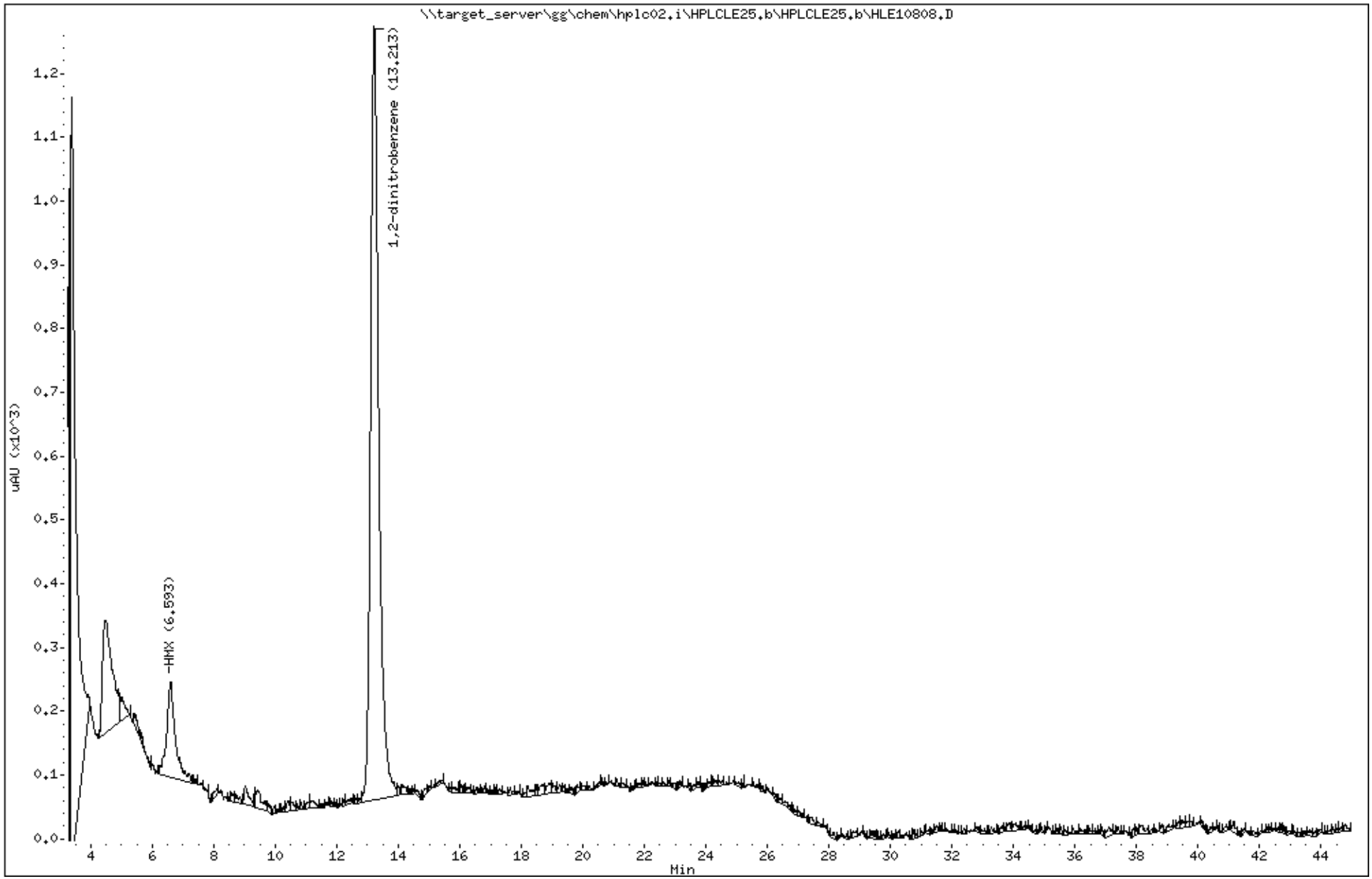
7:19 am, May 31, 2018

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE25.b\HPLCLE25.b\HLE10808.D
Date : 26-MAY-2018 21:35
Client ID: CHAAP-21B-DS-SS01
Sample Info: SL4233-2C

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60

Column phase: Acclaim Exp E2



Katahdin Analytical Services 1000028

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4233-3
Client ID: CHAAP-21B-DS-SB01-5
Project: Cornhusker Army Ammunition Plant
SDG: SL4233
Lab File ID: HLE10658.D

Sample Date: 15-MAY-18
Received Date: 16-MAY-18
Extract Date: 21-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228770

Analysis Date: 23-MAY-18
Analyst: AC
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 81.
Report Date: 31-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	54	ug/Kgdrywt	1	100	110	9.3	54.
RDX	U	54	ug/Kgdrywt	1	100	110	7.4	54.
1,3,5-Trinitrobenzene	U	54	ug/Kgdrywt	1	100	110	7.3	54.
1,3-Dinitrobenzene	U	54	ug/Kgdrywt	1	100	110	6.7	54.
Tetryl	U	54	ug/Kgdrywt	1	100	110	5.9	54.
Nitrobenzene	U	54	ug/Kgdrywt	1	100	110	24.	54.
2,4,6-Trinitrotoluene	U	54	ug/Kgdrywt	1	100	110	7.3	54.
2-Am-DNT	U	54	ug/Kgdrywt	1	100	110	23.	54.
4-Am-DNT	U	54	ug/Kgdrywt	1	100	110	18.	54.
2,6-Dinitrotoluene	U	54	ug/Kgdrywt	1	100	110	29.	54.
2,4-Dinitrotoluene	U	54	ug/Kgdrywt	1	100	110	16.	54.
2-Nitrotoluene	U	54	ug/Kgdrywt	1	100	110	13.	54.
3-Nitrotoluene	U	54	ug/Kgdrywt	1	100	110	8.6	54.
4-Nitrotoluene	U	54	ug/Kgdrywt	1	100	110	29.	54.
Nitroglycerin	U	430	ug/Kgdrywt	1	800	870	130	430
PETN	U	430	ug/Kgdrywt	1	800	870	120	430
1,2-Dinitrobenzene		94.5	%					

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10658.D
Report Date: 31-May-2018 04:43

Katahdin Analytical Services

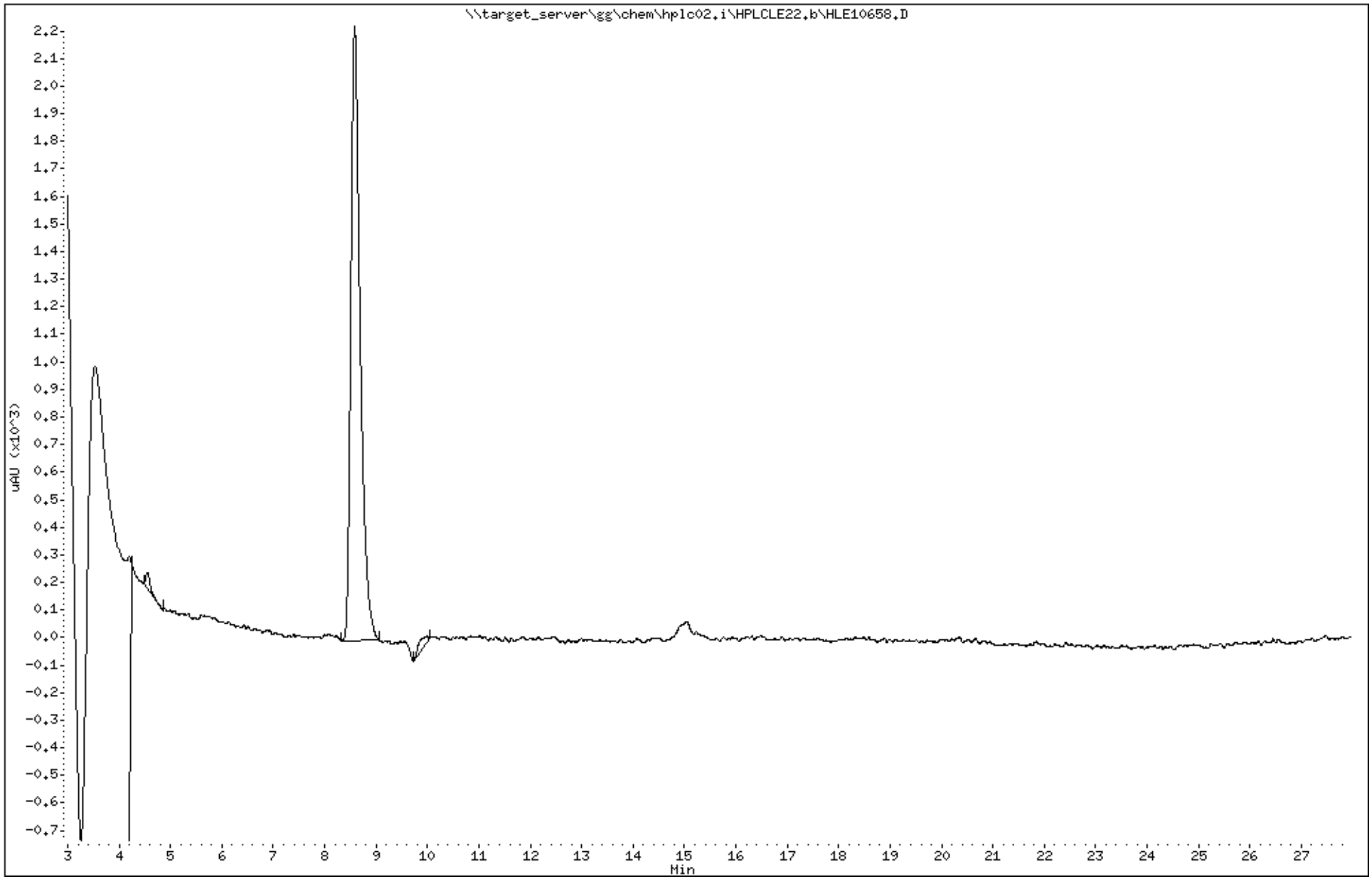
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10658.D
Lab Smp Id: SL4233-3 Client Smp ID: CHAAP-21B-DS-SB01-5
Inj Date : 23-MAY-2018 01:36
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-3
Misc Info : WG228942,WG228770,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\EXPB05A.m
Meth Date : 23-May-2018 13:50 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 77
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01140	Weight of Sample (Kg)
M	19.210	% Moisture
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10658.D
Date : 23-MAY-2018 01:36
Client ID: CHAAP-21B-DS-SB01-5
Instrument: hplc02.i
Sample Info: SL4233-3
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 1000031

Data File: HLE10658.D
Report Date: 31-May-2018 04:50

Katahdin Analytical Services

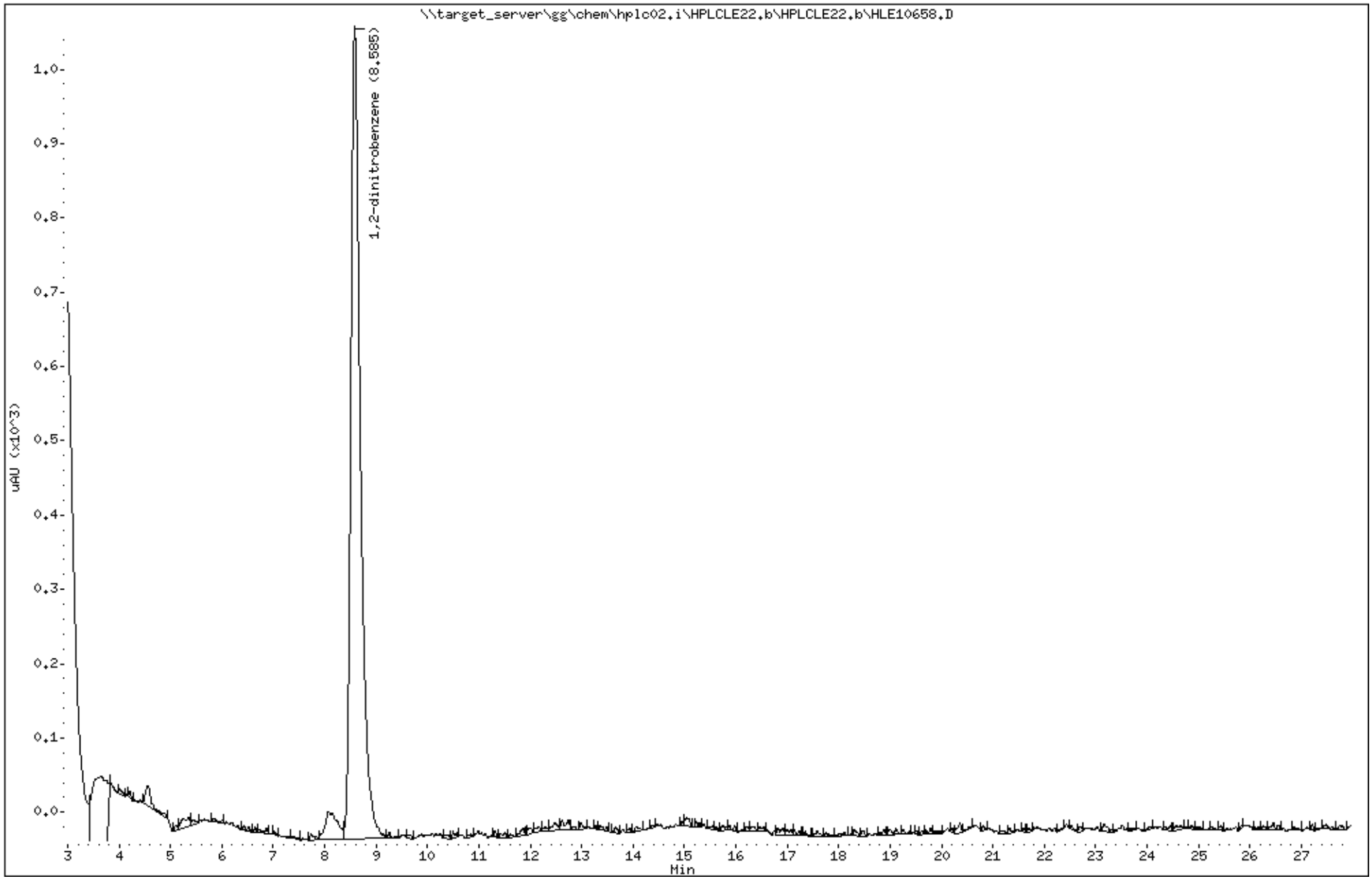
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HPLCLE22.b\HLE10658.D
Lab Smp Id: SL4233-3 Client Smp ID: CHAAP-21B-DS-SB01-5
Inj Date : 23-MAY-2018 01:36
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-3
Misc Info : WG228942,WG228770,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\EXPB05A.m\EXPB05A.m
Meth Date : 23-May-2018 13:40 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 77
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01140	Weight of Sample (Kg)
M	19.210	% Moisture
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	REVIEW CODE
$ 2 1,2-dinitrobenzene	8.585	8.581	0.004	1093	0.23620	513	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HPLCLE22.b\HLE10658.D
Date : 23-MAY-2018 01:36
Client ID: CHAAP-21B-DS-SB01-5
Instrument: hplc02.i
Sample Info: SL4233-3
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 1000033

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4233-4
Client ID: CHAAP-21B-BB-SS01
Project: Cornhusker Army Ammunition Plant
SDG: SL4233
Lab File ID: HLE10659.D

Sample Date: 15-MAY-18
Received Date: 16-MAY-18
Extract Date: 21-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228770

Analysis Date: 23-MAY-18
Analyst: AC
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 73.
Report Date: 31-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	59	ug/Kgdrywt	1	100	120	10.	59.
RDX	U	59	ug/Kgdrywt	1	100	120	8.0	59.
1,3,5-Trinitrobenzene	U	59	ug/Kgdrywt	1	100	120	7.9	59.
1,3-Dinitrobenzene	U	59	ug/Kgdrywt	1	100	120	7.3	59.
Tetryl	U	59	ug/Kgdrywt	1	100	120	6.3	59.
Nitrobenzene	U	59	ug/Kgdrywt	1	100	120	26.	59.
2,4,6-Trinitrotoluene	U	59	ug/Kgdrywt	1	100	120	7.9	59.
2-Am-DNT	U	59	ug/Kgdrywt	1	100	120	25.	59.
4-Am-DNT	U	59	ug/Kgdrywt	1	100	120	20.	59.
2,6-Dinitrotoluene	U	59	ug/Kgdrywt	1	100	120	32.	59.
2,4-Dinitrotoluene	U	59	ug/Kgdrywt	1	100	120	18.	59.
2-Nitrotoluene	U	59	ug/Kgdrywt	1	100	120	14.	59.
3-Nitrotoluene	U	59	ug/Kgdrywt	1	100	120	9.3	59.
4-Nitrotoluene	U	59	ug/Kgdrywt	1	100	120	32.	59.
Nitroglycerin	U	470	ug/Kgdrywt	1	800	940	140	470
PETN	U	470	ug/Kgdrywt	1	800	940	130	470
1,2-Dinitrobenzene		94.4	%					

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10659.D
Report Date: 31-May-2018 04:43

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10659.D
Lab Smp Id: SL4233-4 Client Smp ID: CHAAP-21B-BB-SS01
Inj Date : 23-MAY-2018 02:07
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-4
Misc Info : WG228942,WG228770,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\EXPB05A.m
Meth Date : 23-May-2018 13:50 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 78
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01160	Weight of Sample (Kg)
M	26.532	% Moisture
Cpnd Variable		Local Compound Variable

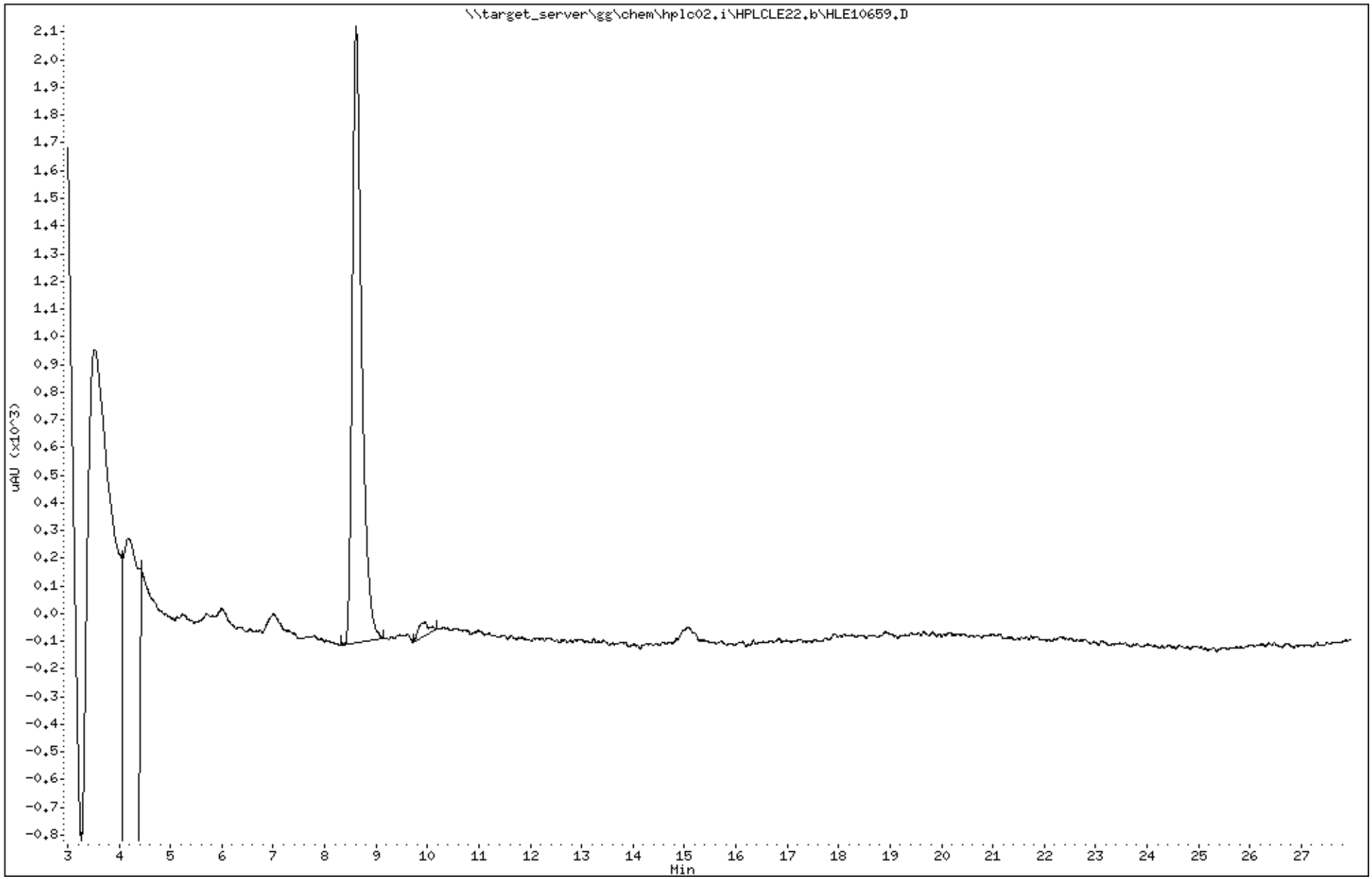
Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10659.D
Date : 23-MAY-2018 02:07
Client ID: CHAAP-21B-BB-SS01
Sample Info: SL4233-4

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 1000036

Data File: HLE10659.D
Report Date: 31-May-2018 04:50

Katahdin Analytical Services

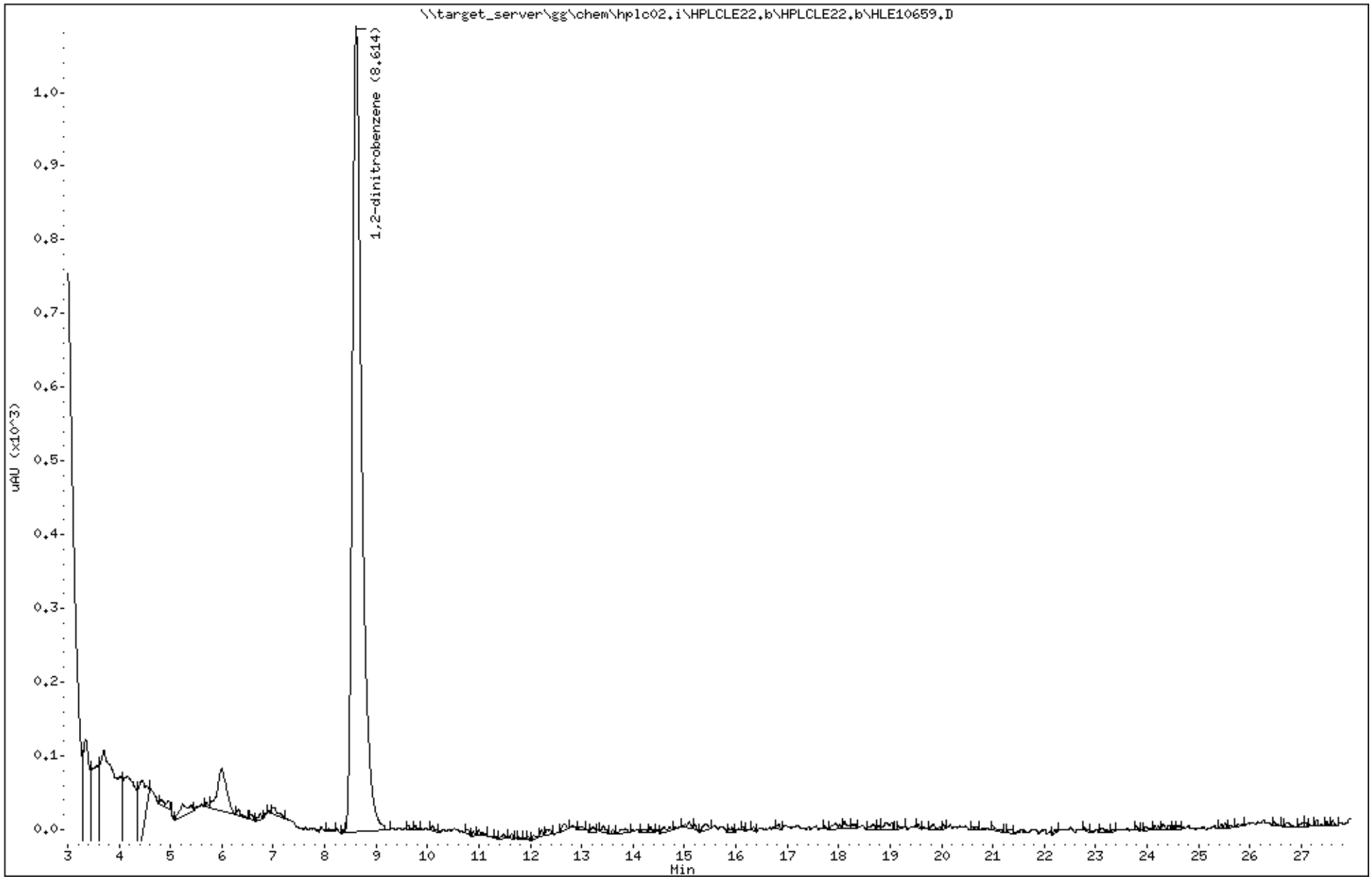
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HPLCLE22.b\HLE10659.D
Lab Smp Id: SL4233-4 Client Smp ID: CHAAP-21B-BB-SS01
Inj Date : 23-MAY-2018 02:07
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-4
Misc Info : WG228942,WG228770,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\EXPB05A.m\EXPB05A.m
Meth Date : 23-May-2018 13:40 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 78
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01160	Weight of Sample (Kg)
M	26.532	% Moisture
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	REVIEW CODE
$ 2 1,2-dinitrobenzene	8.614	8.581	0.033	1093	0.23620	554	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HPLCLE22.b\HLE10659.D
Date : 23-MAY-2018 02:07
Client ID: CHAAP-21B-BB-SS01
Instrument: hplc02.i
Sample Info: SL4233-4
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 1000038

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4233-5
Client ID: CHAAP-21B-BB-SS101
Project: Cornhusker Army Ammunition Plant
SDG: SL4233
Lab File ID: HLE10660.D

Sample Date: 15-MAY-18
Received Date: 16-MAY-18
Extract Date: 21-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228770

Analysis Date: 23-MAY-18
Analyst: AC
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 79.
Report Date: 31-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	58	ug/Kgdrywt	1	100	120	10.	58.
RDX	U	58	ug/Kgdrywt	1	100	120	8.0	58.
1,3,5-Trinitrobenzene	U	58	ug/Kgdrywt	1	100	120	7.8	58.
1,3-Dinitrobenzene	U	58	ug/Kgdrywt	1	100	120	7.2	58.
Tetryl	U	58	ug/Kgdrywt	1	100	120	6.3	58.
Nitrobenzene	U	58	ug/Kgdrywt	1	100	120	26.	58.
2,4,6-Trinitrotoluene	U	58	ug/Kgdrywt	1	100	120	7.8	58.
2-Am-DNT	U	58	ug/Kgdrywt	1	100	120	24.	58.
4-Am-DNT	U	58	ug/Kgdrywt	1	100	120	20.	58.
2,6-Dinitrotoluene	U	58	ug/Kgdrywt	1	100	120	32.	58.
2,4-Dinitrotoluene	U	58	ug/Kgdrywt	1	100	120	18.	58.
2-Nitrotoluene	U	58	ug/Kgdrywt	1	100	120	14.	58.
3-Nitrotoluene	U	58	ug/Kgdrywt	1	100	120	9.2	58.
4-Nitrotoluene	U	58	ug/Kgdrywt	1	100	120	32.	58.
Nitroglycerin	U	470	ug/Kgdrywt	1	800	940	140	470
PETN	U	470	ug/Kgdrywt	1	800	940	130	470
1,2-Dinitrobenzene		94.0	%					

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10660.D
Report Date: 31-May-2018 04:43

Katahdin Analytical Services

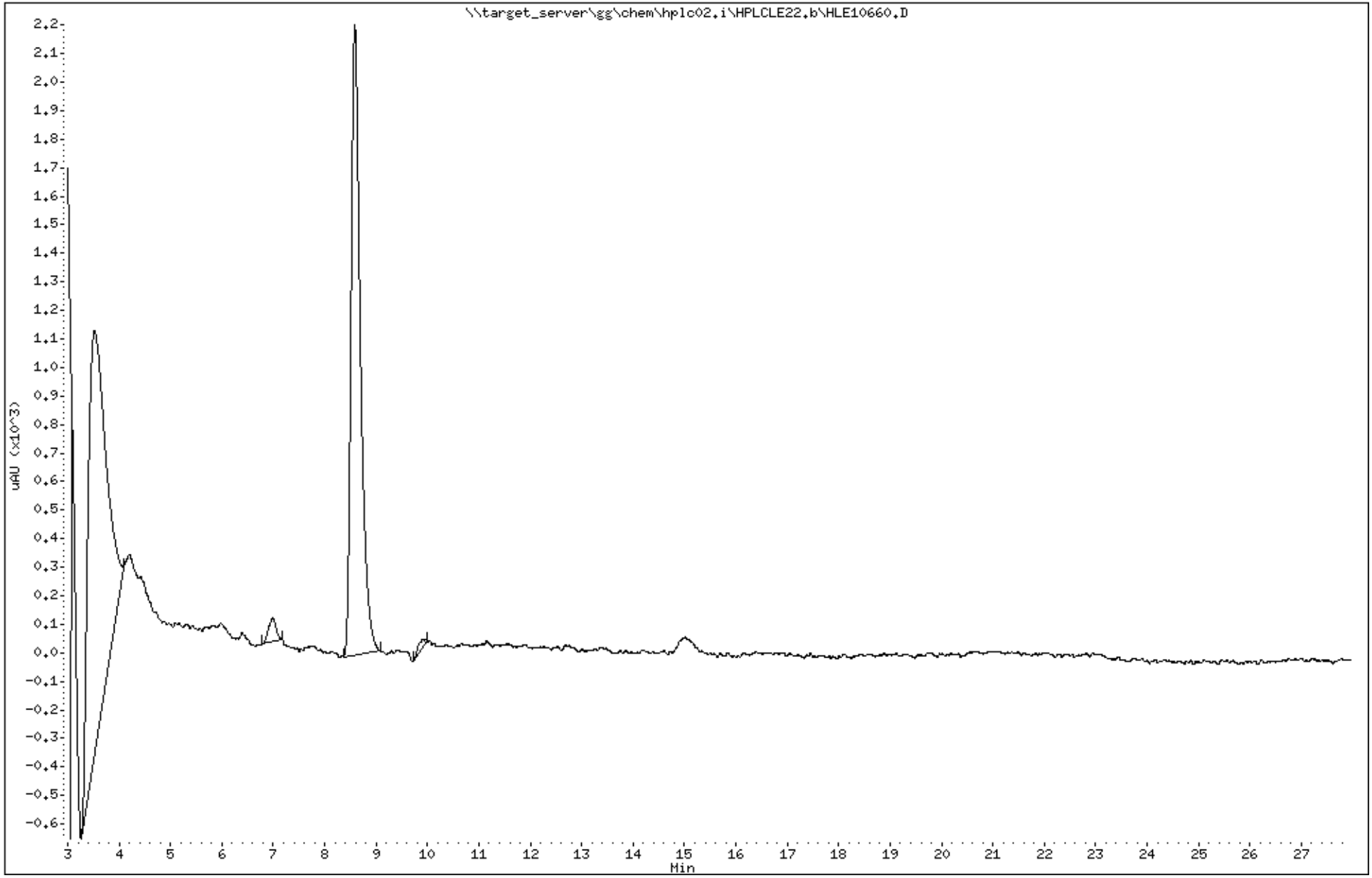
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10660.D
Lab Smp Id: SL4233-5 Client Smp ID: CHAAP-21B-BB-SS101
Inj Date : 23-MAY-2018 02:38
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-5
Misc Info : WG228942,WG228770,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\EXPB05A.m
Meth Date : 23-May-2018 13:50 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 79
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01080	Weight of Sample (Kg)
M	20.849	% Moisture
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10660.D
Date : 23-MAY-2018 02:38
Client ID: CHAAP-21B-BB-SS101
Instrument: hplc02.i
Sample Info: SL4233-5
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 1000041

Data File: HLE10660.D
Report Date: 31-May-2018 04:50

Katahdin Analytical Services

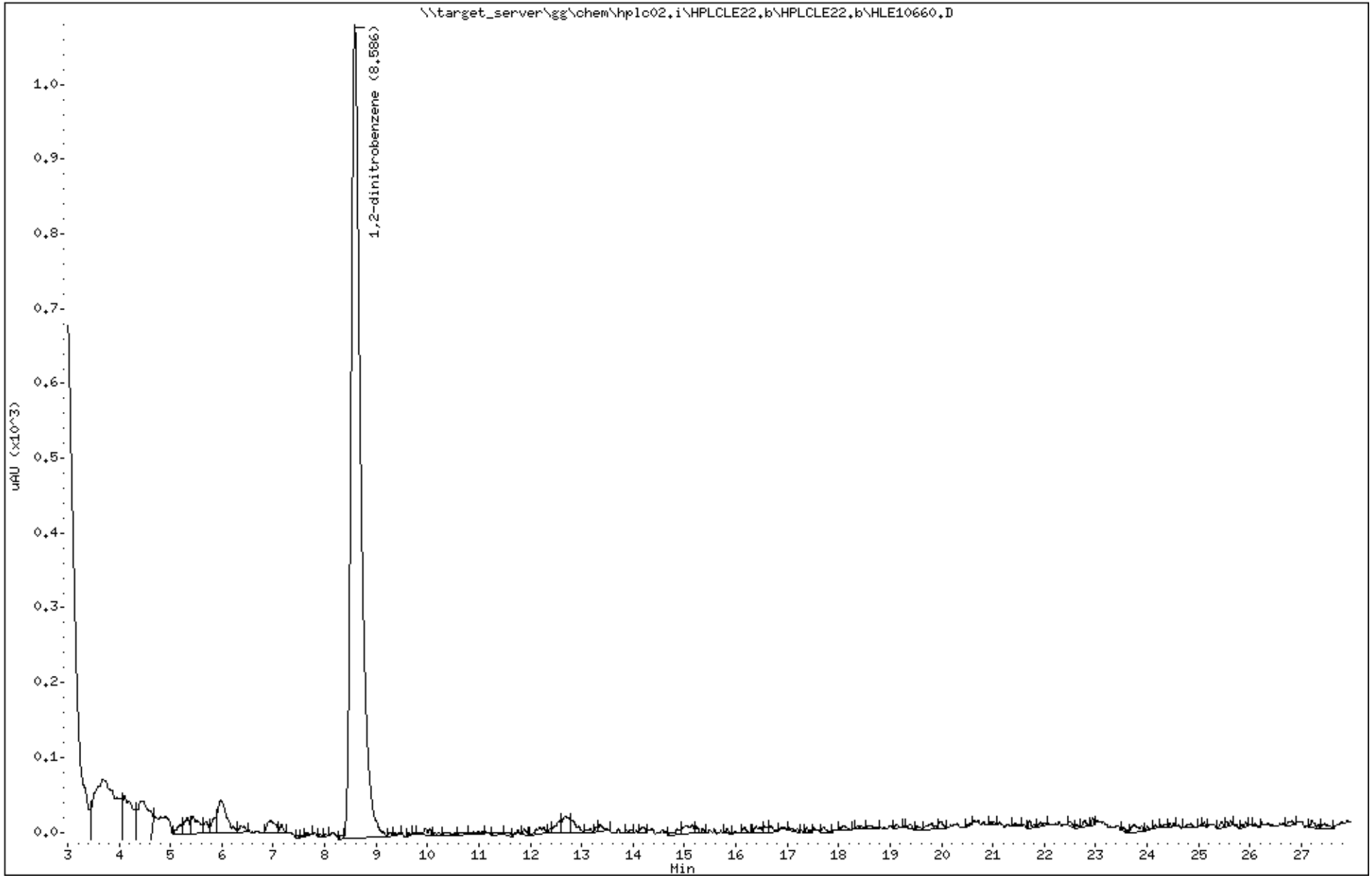
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HPLCLE22.b\HLE10660.D
Lab Smp Id: SL4233-5 Client Smp ID: CHAAP-21B-BB-SS101
Inj Date : 23-MAY-2018 02:38
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-5
Misc Info : WG228942,WG228770,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\EXPB05A.m\EXPB05A.m
Meth Date : 23-May-2018 13:40 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 79
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01080	Weight of Sample (Kg)
M	20.849	% Moisture
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	REVIEW CODE
$ 2 1,2-dinitrobenzene	8.585	8.581	0.004	1088	0.23512	550	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HPLCLE22.b\HLE10660.D
Date : 23-MAY-2018 02:38
Client ID: CHAAP-21B-BB-SS101
Instrument: hplc02.i
Sample Info: SL4233-5
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 1000043

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4233-6
Client ID: CHAAP-21B-BB-SB01
Project: Cornhusker Army Ammunition Plant
SDG: SL4233
Lab File ID: HLE10662.D

Sample Date: 15-MAY-18
Received Date: 16-MAY-18
Extract Date: 21-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228770

Analysis Date: 23-MAY-18
Analyst: AC
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 85.
Report Date: 31-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	54	ug/Kgdrywt	1	100	110	9.4	54.
RDX	U	54	ug/Kgdrywt	1	100	110	7.4	54.
1,3,5-Trinitrobenzene	U	54	ug/Kgdrywt	1	100	110	7.3	54.
1,3-Dinitrobenzene	U	54	ug/Kgdrywt	1	100	110	6.8	54.
Tetryl	U	54	ug/Kgdrywt	1	100	110	5.9	54.
Nitrobenzene	U	54	ug/Kgdrywt	1	100	110	24.	54.
2,4,6-Trinitrotoluene	U	54	ug/Kgdrywt	1	100	110	7.3	54.
2-Am-DNT	U	54	ug/Kgdrywt	1	100	110	23.	54.
4-Am-DNT	U	54	ug/Kgdrywt	1	100	110	18.	54.
2,6-Dinitrotoluene	U	54	ug/Kgdrywt	1	100	110	29.	54.
2,4-Dinitrotoluene	U	54	ug/Kgdrywt	1	100	110	16.	54.
2-Nitrotoluene	U	54	ug/Kgdrywt	1	100	110	13.	54.
3-Nitrotoluene	U	54	ug/Kgdrywt	1	100	110	8.6	54.
4-Nitrotoluene	U	54	ug/Kgdrywt	1	100	110	29.	54.
Nitroglycerin	U	440	ug/Kgdrywt	1	800	870	140	440
PETN	U	440	ug/Kgdrywt	1	800	870	120	440
1,2-Dinitrobenzene		92.8	%					

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10662.D
Report Date: 31-May-2018 04:43

Katahdin Analytical Services

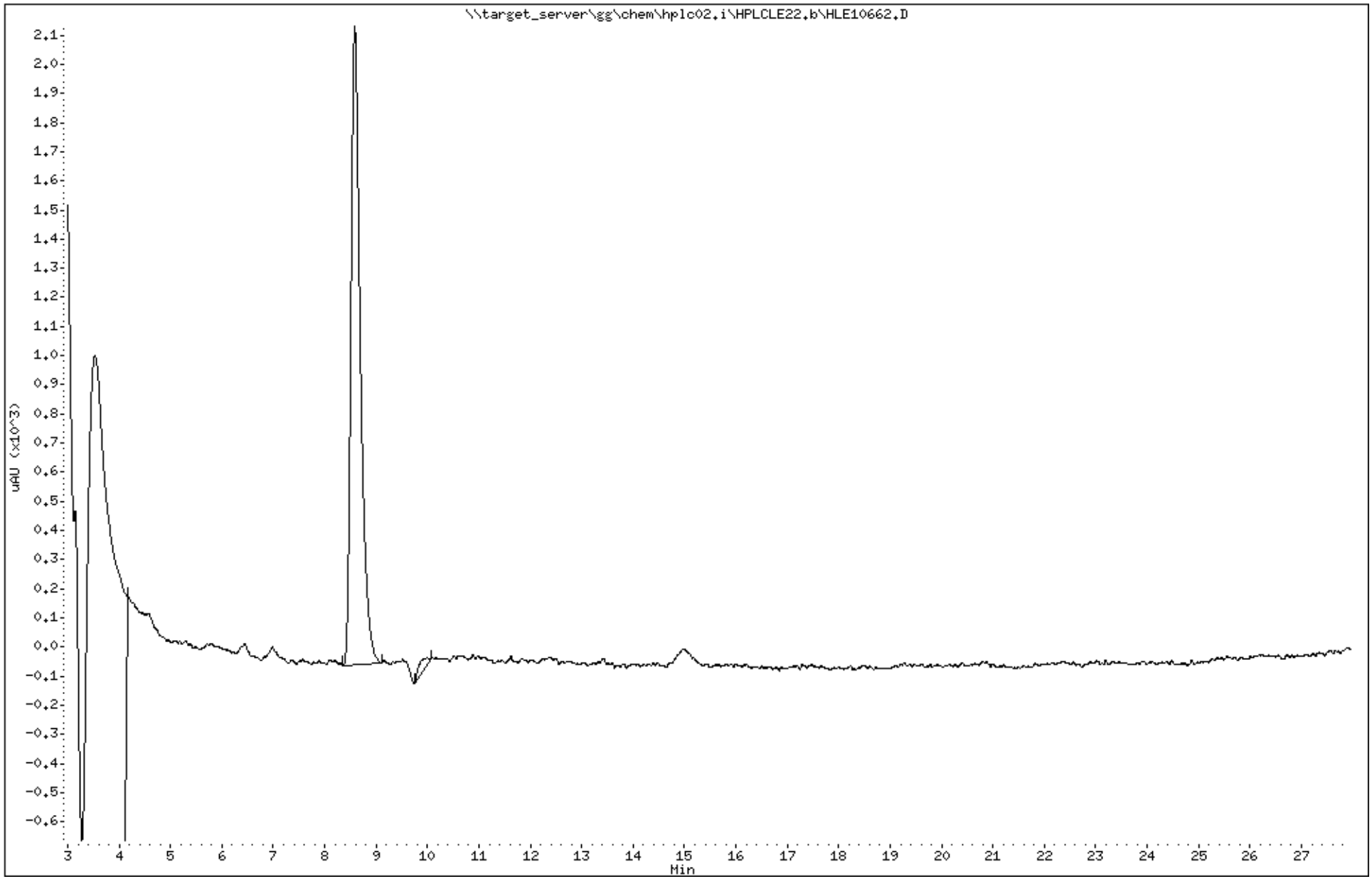
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10662.D
Lab Smp Id: SL4233-6 Client Smp ID: CHAAP-21B-BB-SB01
Inj Date : 23-MAY-2018 03:40
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-6
Misc Info : WG228942,WG228770,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\EXPB05A.m
Meth Date : 23-May-2018 13:50 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 81
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01080	Weight of Sample (Kg)
M	14.992	% Moisture
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10662.D
Date : 23-MAY-2018 03:40
Client ID: CHAAP-21B-BB-SB01
Instrument: hplc02.i
Sample Info: SL4233-6
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 1000046

Data File: HLE10662.D
Report Date: 31-May-2018 04:51

Katahdin Analytical Services

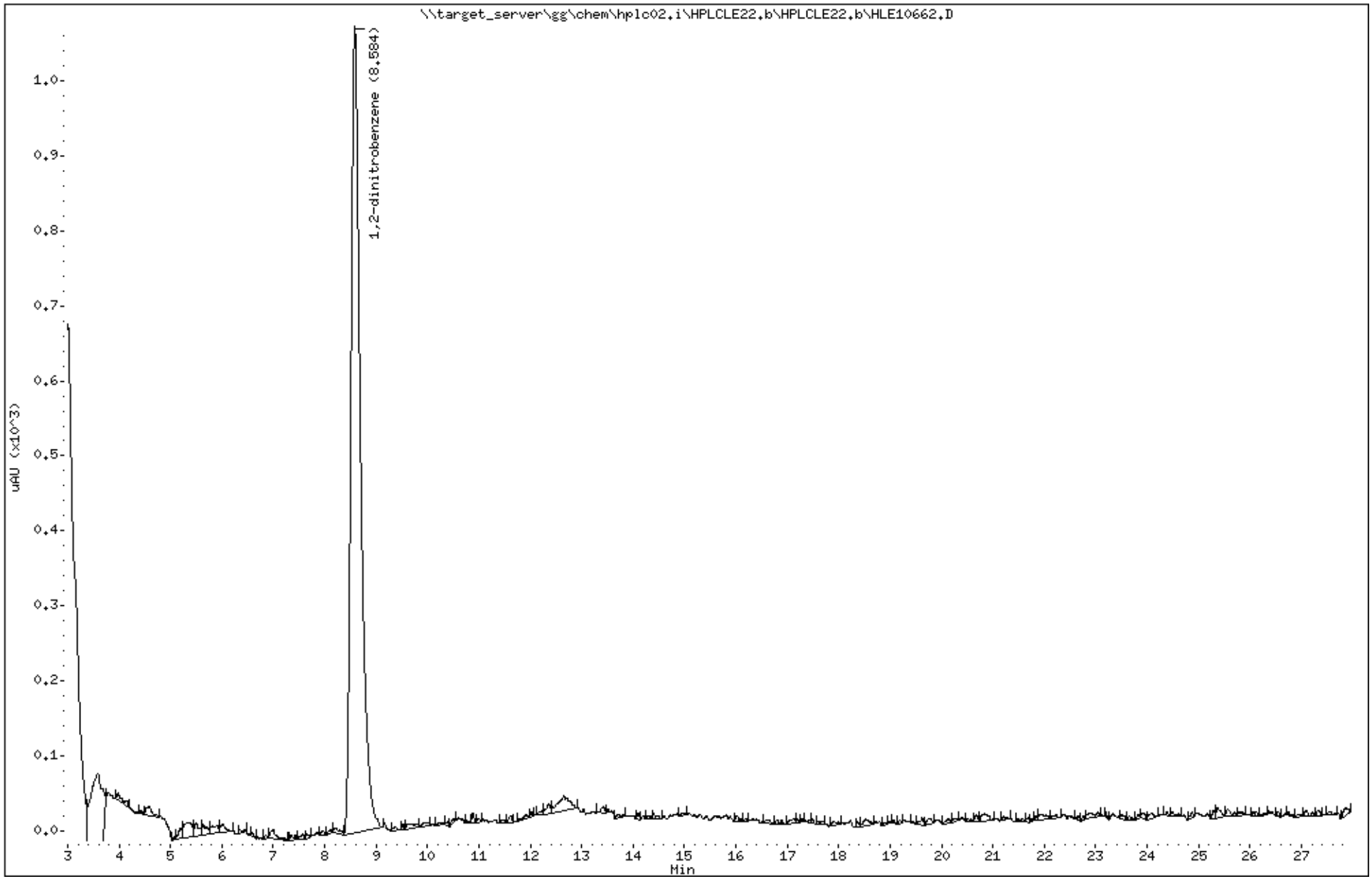
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HPLCLE22.b\HLE10662.D
Lab Smp Id: SL4233-6 Client Smp ID: CHAAP-21B-BB-SB01
Inj Date : 23-MAY-2018 03:40
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-6
Misc Info : WG228942,WG228770,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\EXPB05A.m\EXPB05A.m
Meth Date : 23-May-2018 13:40 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 81
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01080	Weight of Sample (Kg)
M	14.992	% Moisture
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	REVIEW CODE
$ 2 1,2-dinitrobenzene	8.584	8.581	0.003	1075	0.23231	506	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HPLCLE22.b\HLE10662.D
Date : 23-MAY-2018 03:40
Client ID: CHAAP-21B-BB-SB01
Instrument: hplc02.i
Sample Info: SL4233-6
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 1000048

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4233-7
Client ID: CHAAP-21B-BB-SS02
Project: Cornhusker Army Ammunition Plant
SDG: SL4233
Lab File ID: HLE10663.D

Sample Date: 15-MAY-18
Received Date: 16-MAY-18
Extract Date: 21-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228770

Analysis Date: 23-MAY-18
Analyst: AC
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 77.
Report Date: 31-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	57	ug/Kgdrywt	1	100	110	9.8	57.
RDX	U	57	ug/Kgdrywt	1	100	110	7.7	57.
1,3,5-Trinitrobenzene	U	57	ug/Kgdrywt	1	100	110	7.6	57.
1,3-Dinitrobenzene	U	57	ug/Kgdrywt	1	100	110	7.1	57.
Tetryl	U	57	ug/Kgdrywt	1	100	110	6.2	57.
Nitrobenzene	U	57	ug/Kgdrywt	1	100	110	25.	57.
2,4,6-Trinitrotoluene	U	57	ug/Kgdrywt	1	100	110	7.6	57.
2-Am-DNT	U	57	ug/Kgdrywt	1	100	110	24.	57.
4-Am-DNT	U	57	ug/Kgdrywt	1	100	110	19.	57.
2,6-Dinitrotoluene	U	57	ug/Kgdrywt	1	100	110	31.	57.
2,4-Dinitrotoluene	U	57	ug/Kgdrywt	1	100	110	17.	57.
2-Nitrotoluene	U	57	ug/Kgdrywt	1	100	110	14.	57.
3-Nitrotoluene	U	57	ug/Kgdrywt	1	100	110	9.0	57.
4-Nitrotoluene	U	57	ug/Kgdrywt	1	100	110	31.	57.
Nitroglycerin	U	460	ug/Kgdrywt	1	800	910	140	460
PETN	U	460	ug/Kgdrywt	1	800	910	120	460
1,2-Dinitrobenzene		93.7	%					

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10663.D
Report Date: 31-May-2018 04:43

Katahdin Analytical Services

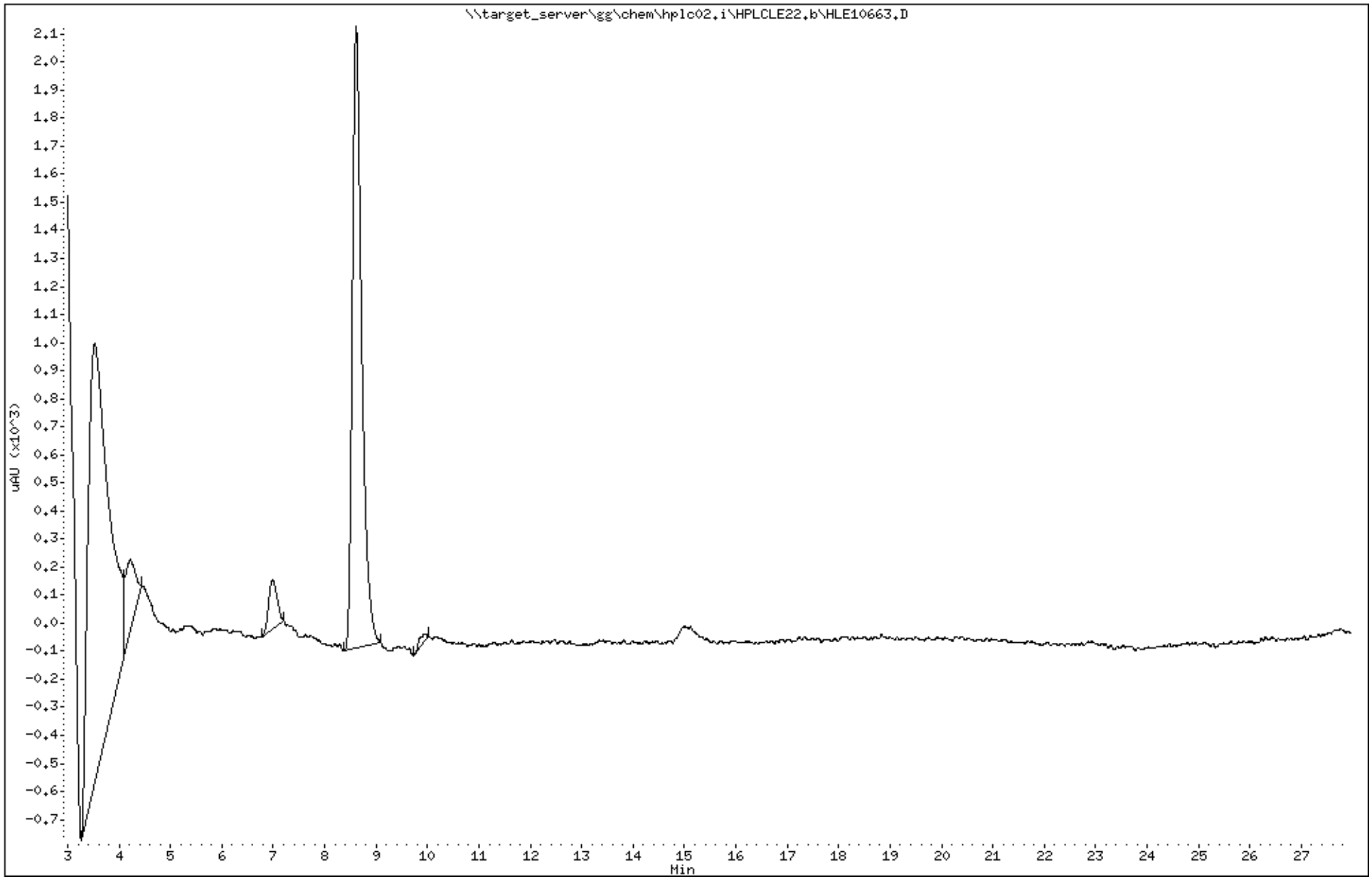
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10663.D
Lab Smp Id: SL4233-7 Client Smp ID: CHAAP-21B-BB-SS02
Inj Date : 23-MAY-2018 04:11
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-7
Misc Info : WG228942,WG228770,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\EXPB05A.m
Meth Date : 23-May-2018 13:50 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 82
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01140	Weight of Sample (Kg)
M	23.027	% Moisture
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10663.D
Date : 23-MAY-2018 04:11
Client ID: CHAAP-21B-BB-SS02
Instrument: hplc02.i
Sample Info: SL4233-7
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 1000051

Data File: HLE10663.D
Report Date: 31-May-2018 04:51

Katahdin Analytical Services

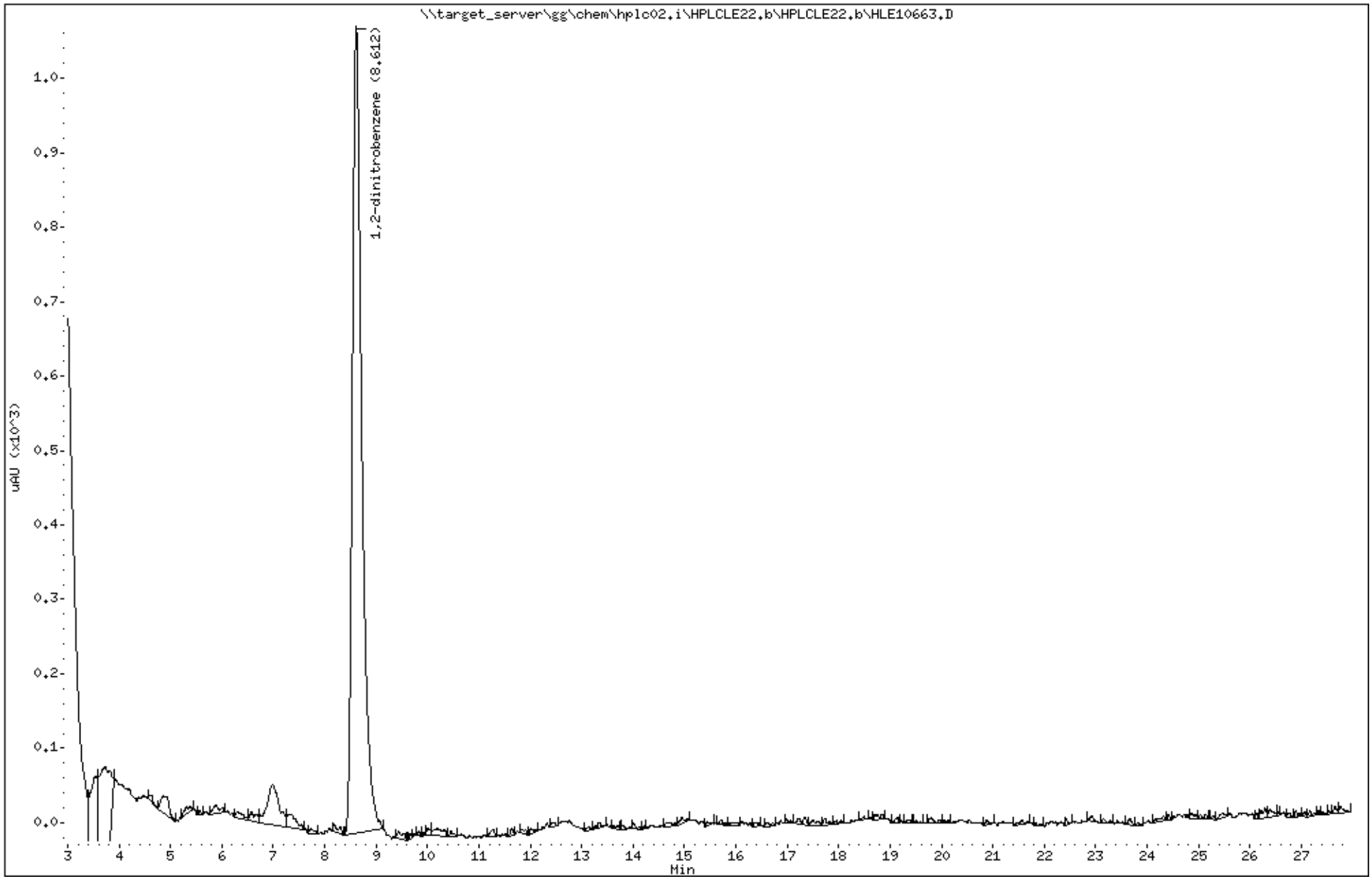
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HPLCLE22.b\HLE10663.D
Lab Smp Id: SL4233-7 Client Smp ID: CHAAP-21B-BB-SS02
Inj Date : 23-MAY-2018 04:11
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-7
Misc Info : WG228942,WG228770,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\EXPB05A.m\EXPB05A.m
Meth Date : 23-May-2018 13:40 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 82
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01140	Weight of Sample (Kg)
M	23.027	% Moisture
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	REVIEW CODE
$ 2 1,2-dinitrobenzene	8.612	8.581	0.031	1084	0.23426	534	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HPLCLE22.b\HLE10663.D
Date : 23-MAY-2018 04:11
Client ID: CHAAP-21B-BB-SS02
Instrument: hplc02.i
Sample Info: SL4233-7
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 1000053

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4233-8
Client ID: CHAAP-21B-BB-SB02
Project: Cornhusker Army Ammunition Plant
SDG: SL4233
Lab File ID: HLE10664.D

Sample Date: 15-MAY-18
Received Date: 16-MAY-18
Extract Date: 21-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228770

Analysis Date: 23-MAY-18
Analyst: AC
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 77.
Report Date: 31-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	60	ug/Kgdrywt	1	100	120	10.	60.
RDX	U	60	ug/Kgdrywt	1	100	120	8.2	60.
1,3,5-Trinitrobenzene	U	60	ug/Kgdrywt	1	100	120	8.1	60.
1,3-Dinitrobenzene	U	60	ug/Kgdrywt	1	100	120	7.5	60.
Tetryl	U	60	ug/Kgdrywt	1	100	120	6.5	60.
Nitrobenzene	U	60	ug/Kgdrywt	1	100	120	26.	60.
2,4,6-Trinitrotoluene	U	60	ug/Kgdrywt	1	100	120	8.1	60.
2-Am-DNT	U	60	ug/Kgdrywt	1	100	120	25.	60.
4-Am-DNT	U	60	ug/Kgdrywt	1	100	120	20.	60.
2,6-Dinitrotoluene	U	60	ug/Kgdrywt	1	100	120	32.	60.
2,4-Dinitrotoluene	U	60	ug/Kgdrywt	1	100	120	18.	60.
2-Nitrotoluene	U	60	ug/Kgdrywt	1	100	120	14.	60.
3-Nitrotoluene	U	60	ug/Kgdrywt	1	100	120	9.5	60.
4-Nitrotoluene	U	60	ug/Kgdrywt	1	100	120	32.	60.
Nitroglycerin	U	480	ug/Kgdrywt	1	800	960	150	480
PETN	U	480	ug/Kgdrywt	1	800	960	130	480
1,2-Dinitrobenzene		96.2	%					

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10664.D
Report Date: 31-May-2018 04:43

Katahdin Analytical Services

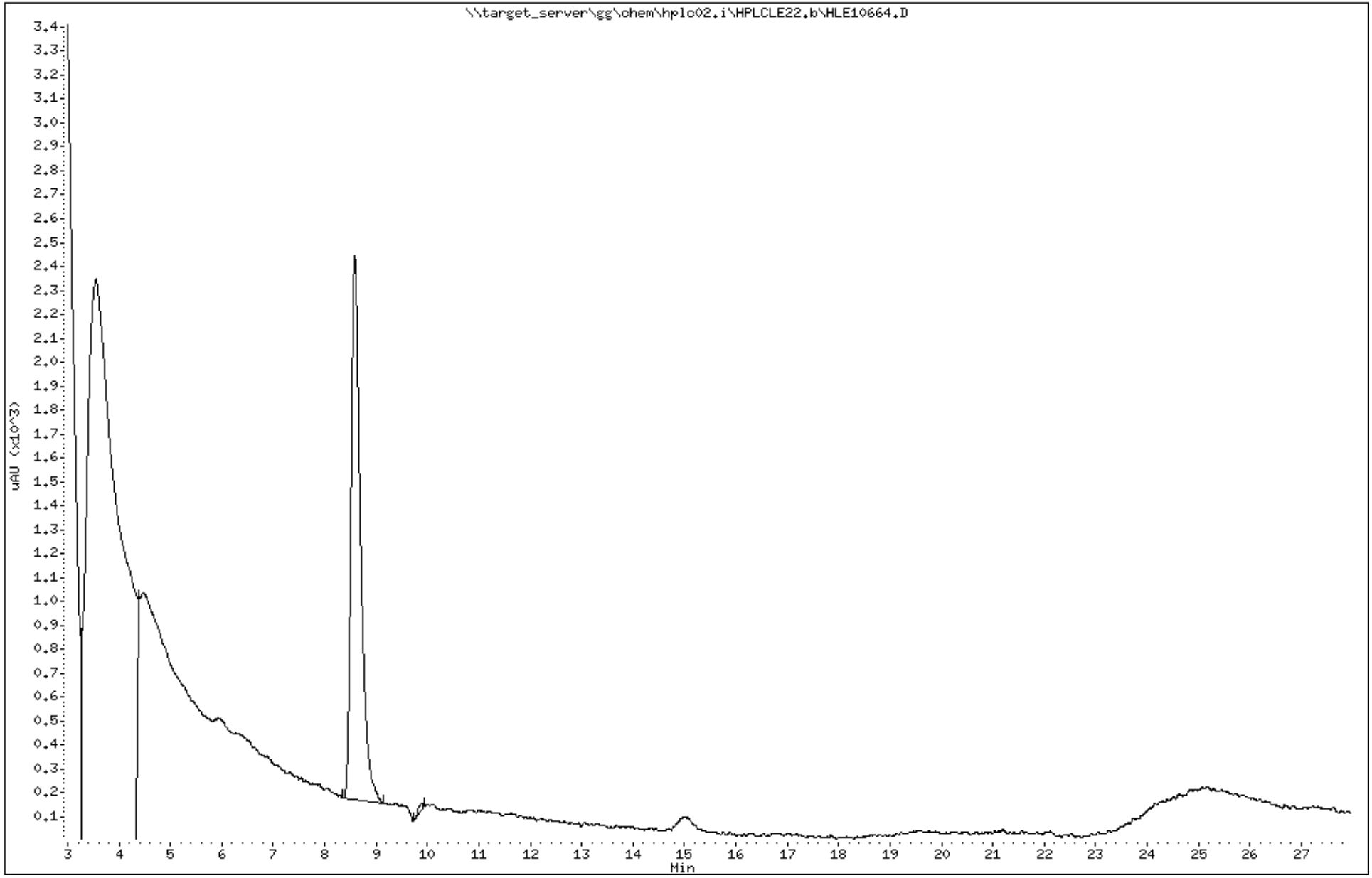
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10664.D
Lab Smp Id: SL4233-8 Client Smp ID: CHAAP-21B-BB-SB02
Inj Date : 23-MAY-2018 04:42
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-8
Misc Info : WG228942,WG228770,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\EXPB05A.m
Meth Date : 23-May-2018 13:50 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 83
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01080	Weight of Sample (Kg)
M	23.232	% Moisture
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10664.D
Date : 23-MAY-2018 04:42
Client ID: CHAAP-21B-BB-SB02
Instrument: hplc02.i
Sample Info: SL4233-8
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 1000056

Data File: HLE10664.D
Report Date: 31-May-2018 04:51

Katahdin Analytical Services

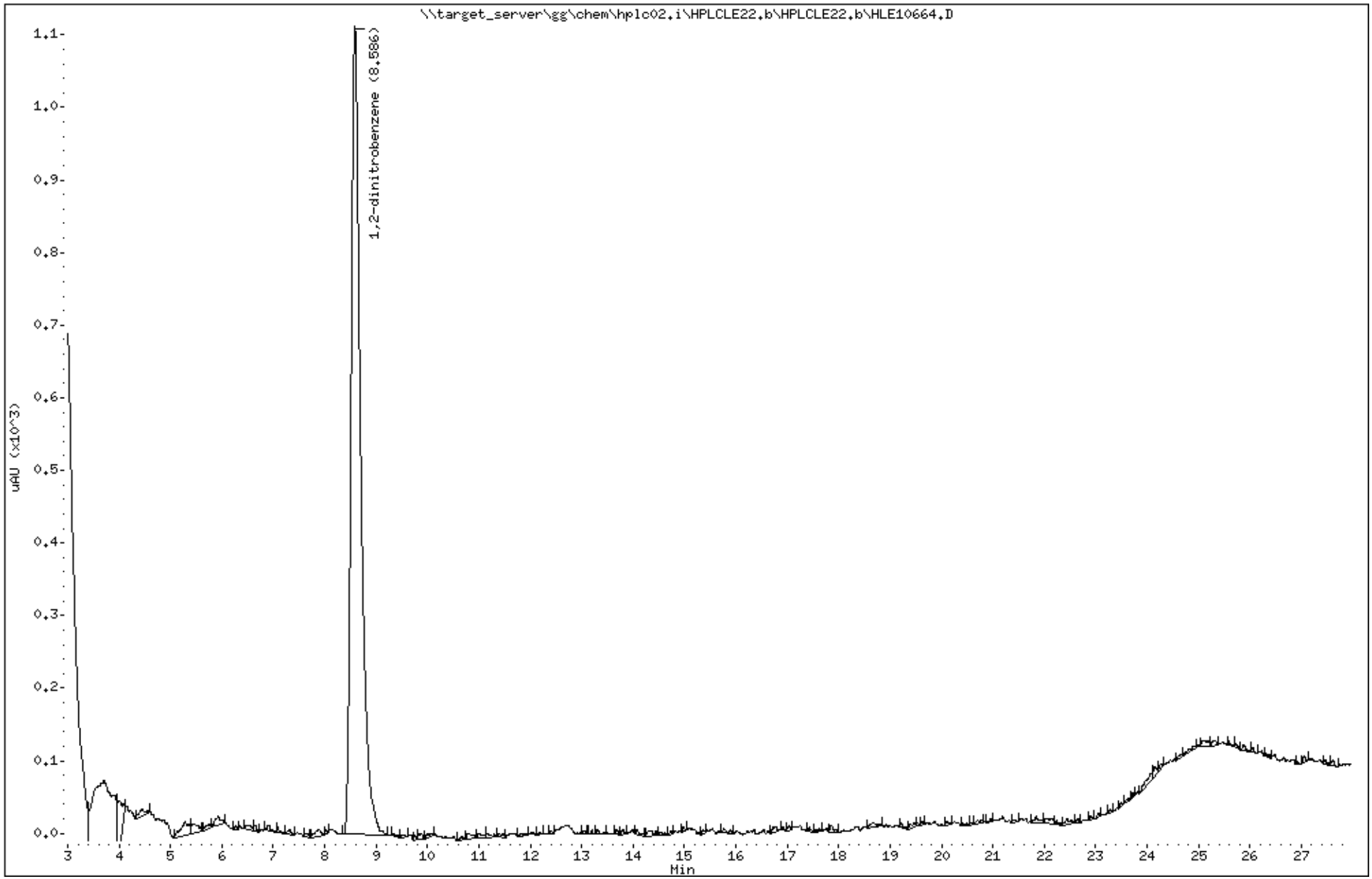
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HPLCLE22.b\HLE10664.D
Lab Smp Id: SL4233-8 Client Smp ID: CHAAP-21B-BB-SB02
Inj Date : 23-MAY-2018 04:42
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-8
Misc Info : WG228942,WG228770,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\EXPB05A.m\EXPB05A.m
Meth Date : 23-May-2018 13:40 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 83
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01080	Weight of Sample (Kg)
M	23.232	% Moisture
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	REVIEW CODE
$ 2 1,2-dinitrobenzene	8.586	8.581	0.005	1113	0.24052	580	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HPLCLE22.b\HLE10664.D
Date : 23-MAY-2018 04:42
Client ID: CHAAP-21B-BB-SB02
Instrument: hplc02.i
Sample Info: SL4233-8
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 1000058

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4233-9
Client ID: CHAAP-21B-BB-SS05
Project: Cornhusker Army Ammunition Plant
SDG: SL4233
Lab File ID: HLE10665.D

Sample Date: 15-MAY-18
Received Date: 16-MAY-18
Extract Date: 21-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228770

Analysis Date: 23-MAY-18
Analyst: AC
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 74.
Report Date: 31-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	59	ug/Kgdrywt	1	100	120	10.	59.
RDX	U	59	ug/Kgdrywt	1	100	120	8.0	59.
1,3,5-Trinitrobenzene	U	59	ug/Kgdrywt	1	100	120	7.9	59.
1,3-Dinitrobenzene	U	59	ug/Kgdrywt	1	100	120	7.3	59.
Tetryl	U	59	ug/Kgdrywt	1	100	120	6.4	59.
Nitrobenzene	U	59	ug/Kgdrywt	1	100	120	26.	59.
2,4,6-Trinitrotoluene	U	59	ug/Kgdrywt	1	100	120	7.9	59.
2-Am-DNT	U	59	ug/Kgdrywt	1	100	120	25.	59.
4-Am-DNT	U	59	ug/Kgdrywt	1	100	120	20.	59.
2,6-Dinitrotoluene	U	59	ug/Kgdrywt	1	100	120	32.	59.
2,4-Dinitrotoluene	U	59	ug/Kgdrywt	1	100	120	18.	59.
2-Nitrotoluene	U	59	ug/Kgdrywt	1	100	120	14.	59.
3-Nitrotoluene	U	59	ug/Kgdrywt	1	100	120	9.3	59.
4-Nitrotoluene	U	59	ug/Kgdrywt	1	100	120	32.	59.
Nitroglycerin	U	470	ug/Kgdrywt	1	800	940	150	470
PETN	U	470	ug/Kgdrywt	1	800	940	130	470
1,2-Dinitrobenzene		95.4	%					

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10665.D
Report Date: 31-May-2018 04:44

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10665.D
Lab Smp Id: SL4233-9 Client Smp ID: CHAAP-21B-BB-SS05
Inj Date : 23-MAY-2018 05:13
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-9
Misc Info : WG228942,WG228770,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\EXPB05A.m
Meth Date : 23-May-2018 13:50 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 84
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01150	Weight of Sample (Kg)
M	26.281	% Moisture
Cpnd Variable		Local Compound Variable

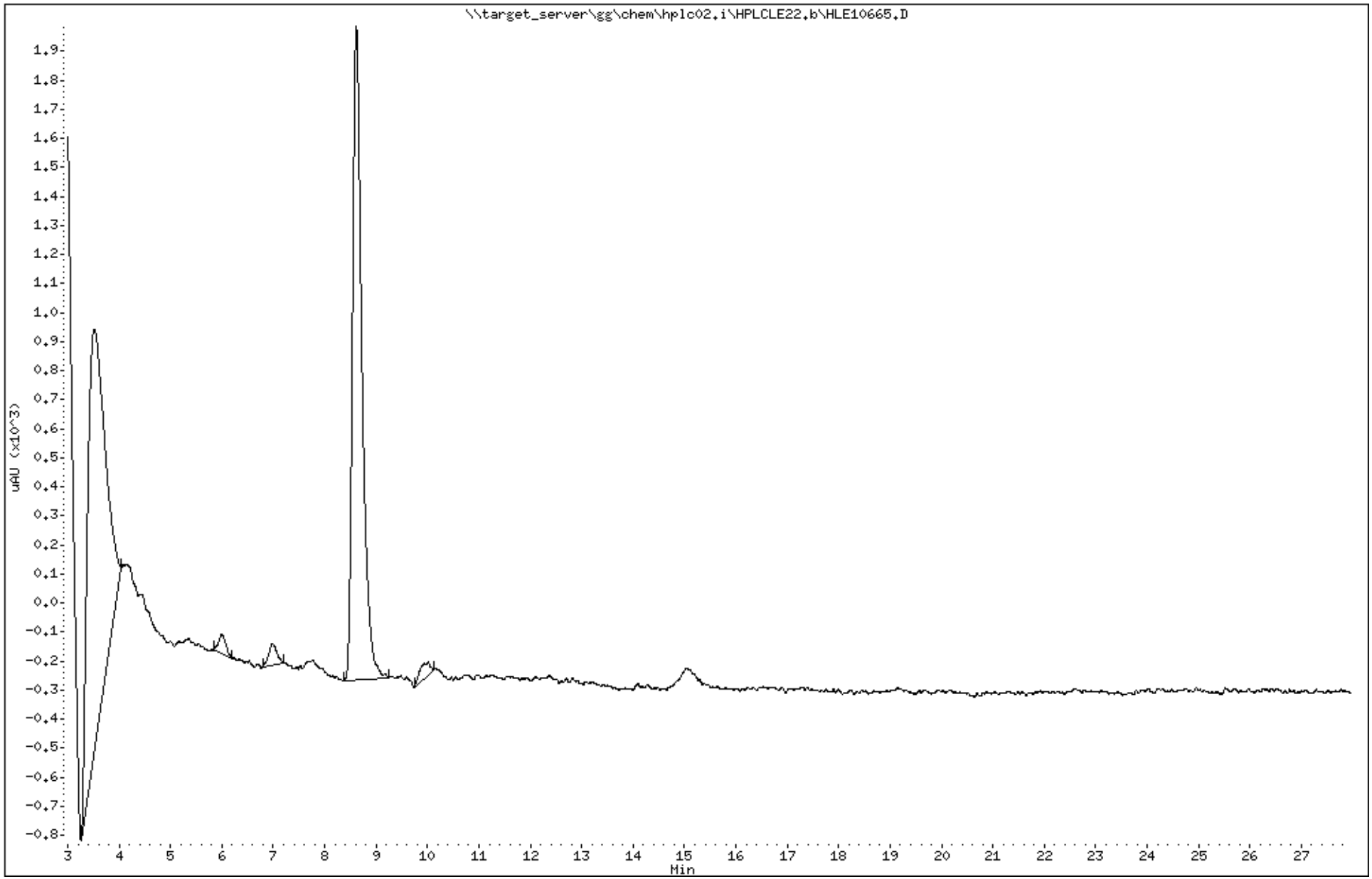
Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10665.D
Date : 23-MAY-2018 05:13
Client ID: CHAAP-21B-BB-SS05
Sample Info: SL4233-9

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 1000061

Data File: HLE10665.D
Report Date: 31-May-2018 04:51

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HPLCLE22.b\HLE10665.D
Lab Smp Id: SL4233-9 Client Smp ID: CHAAP-21B-BB-SS05
Inj Date : 23-MAY-2018 05:13
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-9
Misc Info : WG228942,WG228770,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\EXPB05A.m\EXPB05A.m
Meth Date : 23-May-2018 13:40 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 84
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01150	Weight of Sample (Kg)
M	26.281	% Moisture
Cpnd Variable		Local Compound Variable

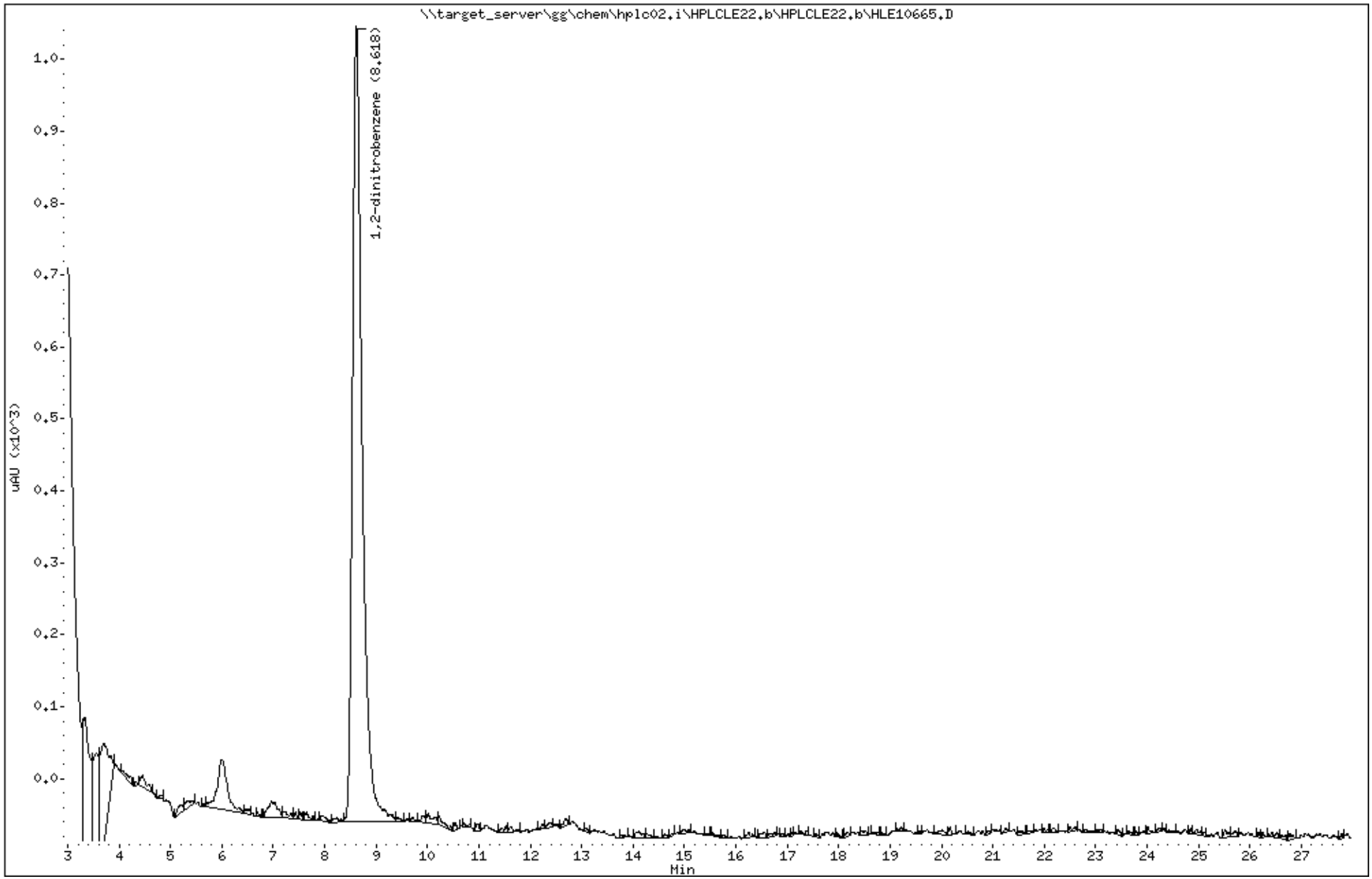
					CONCENTRATIONS		
					ON-COLUMN	FINAL	
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/mL)	(ug/Kgdrywt)	REVIEW CODE
$ 2 1,2-dinitrobenzene	8.618	8.581	0.037	1105	0.23879	563	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HPLCLE22.b\HLE10665.D
Date : 23-MAY-2018 05:13
Client ID: CHAAP-21B-BB-SS05
Sample Info: SL4233-9

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 1000063

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4233-10
Client ID: CHAAP-21B-BB-SB05
Project: Cornhusker Army Ammunition Plant
SDG: SL4233
Lab File ID: HLE10666.D

Sample Date: 15-MAY-18
Received Date: 16-MAY-18
Extract Date: 21-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228770

Analysis Date: 23-MAY-18
Analyst: AC
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 87.
Report Date: 31-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	56	ug/Kgdrywt	1	100	110	9.6	56.
RDX	U	56	ug/Kgdrywt	1	100	110	7.6	56.
1,3,5-Trinitrobenzene	U	56	ug/Kgdrywt	1	100	110	7.4	56.
1,3-Dinitrobenzene	U	56	ug/Kgdrywt	1	100	110	6.9	56.
Tetryl	U	56	ug/Kgdrywt	1	100	110	6.0	56.
Nitrobenzene	U	56	ug/Kgdrywt	1	100	110	24.	56.
2,4,6-Trinitrotoluene	U	56	ug/Kgdrywt	1	100	110	7.4	56.
2-Am-DNT	U	56	ug/Kgdrywt	1	100	110	23.	56.
4-Am-DNT	U	56	ug/Kgdrywt	1	100	110	19.	56.
2,6-Dinitrotoluene	U	56	ug/Kgdrywt	1	100	110	30.	56.
2,4-Dinitrotoluene	U	56	ug/Kgdrywt	1	100	110	17.	56.
2-Nitrotoluene	U	56	ug/Kgdrywt	1	100	110	13.	56.
3-Nitrotoluene	U	56	ug/Kgdrywt	1	100	110	8.8	56.
4-Nitrotoluene	U	56	ug/Kgdrywt	1	100	110	30.	56.
Nitroglycerin	U	440	ug/Kgdrywt	1	800	890	140	440
PETN	U	440	ug/Kgdrywt	1	800	890	120	440
1,2-Dinitrobenzene		96.4	%					

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10666.D
Report Date: 31-May-2018 04:44

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10666.D
Lab Smp Id: SL4233-10 Client Smp ID: CHAAP-21B-BB-SB05
Inj Date : 23-MAY-2018 05:44
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-10
Misc Info : WG228942,WG228770,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\EXPB05A.m
Meth Date : 23-May-2018 13:50 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 85
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01030	Weight of Sample (Kg)
M	12.596	% Moisture
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)

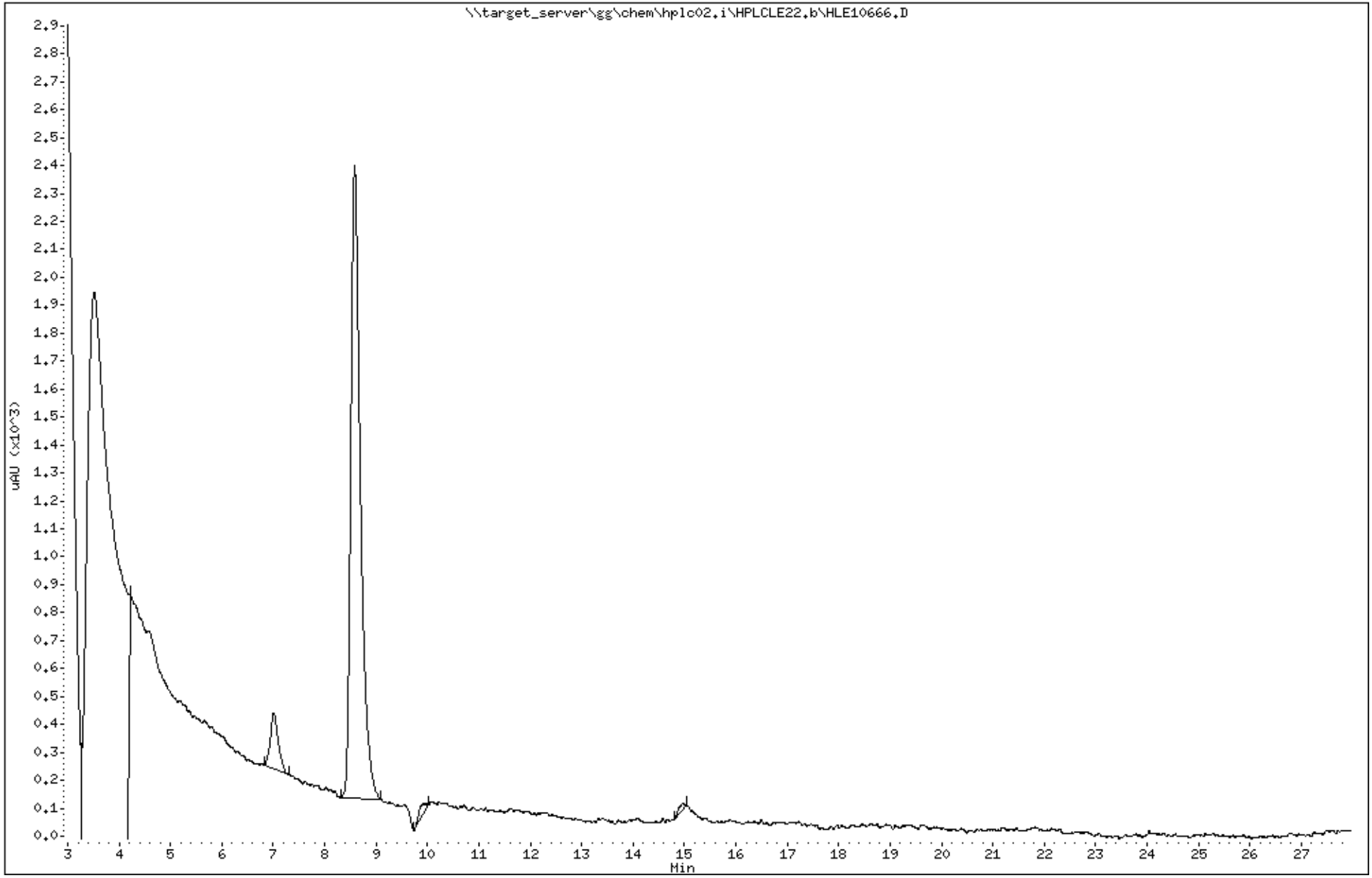
Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10666.D
Date : 23-MAY-2018 05:44
Client ID: CHAAP-21B-BB-SB05
Sample Info: SL4233-10

Instrument: hplc02.i

Operator: AC

Column phase: Acclaim Exp E1

Column diameter: 4.60



Katahdin Analytical Services 1000066

Data File: HLE10666.D
Report Date: 31-May-2018 04:51

Katahdin Analytical Services

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Lab Smp Id: SL4233-10 Client Smp ID: CHAAP-21B-BB-SB05
Inj Date : 23-MAY-2018 05:44
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-10
Misc Info : WG228942,WG228770,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\EXPB05A.m\EXPB05A.m
Meth Date : 23-May-2018 13:40 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 85
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01030	Weight of Sample (Kg)
M	12.596	% Moisture
Cpnd Variable		Local Compound Variable

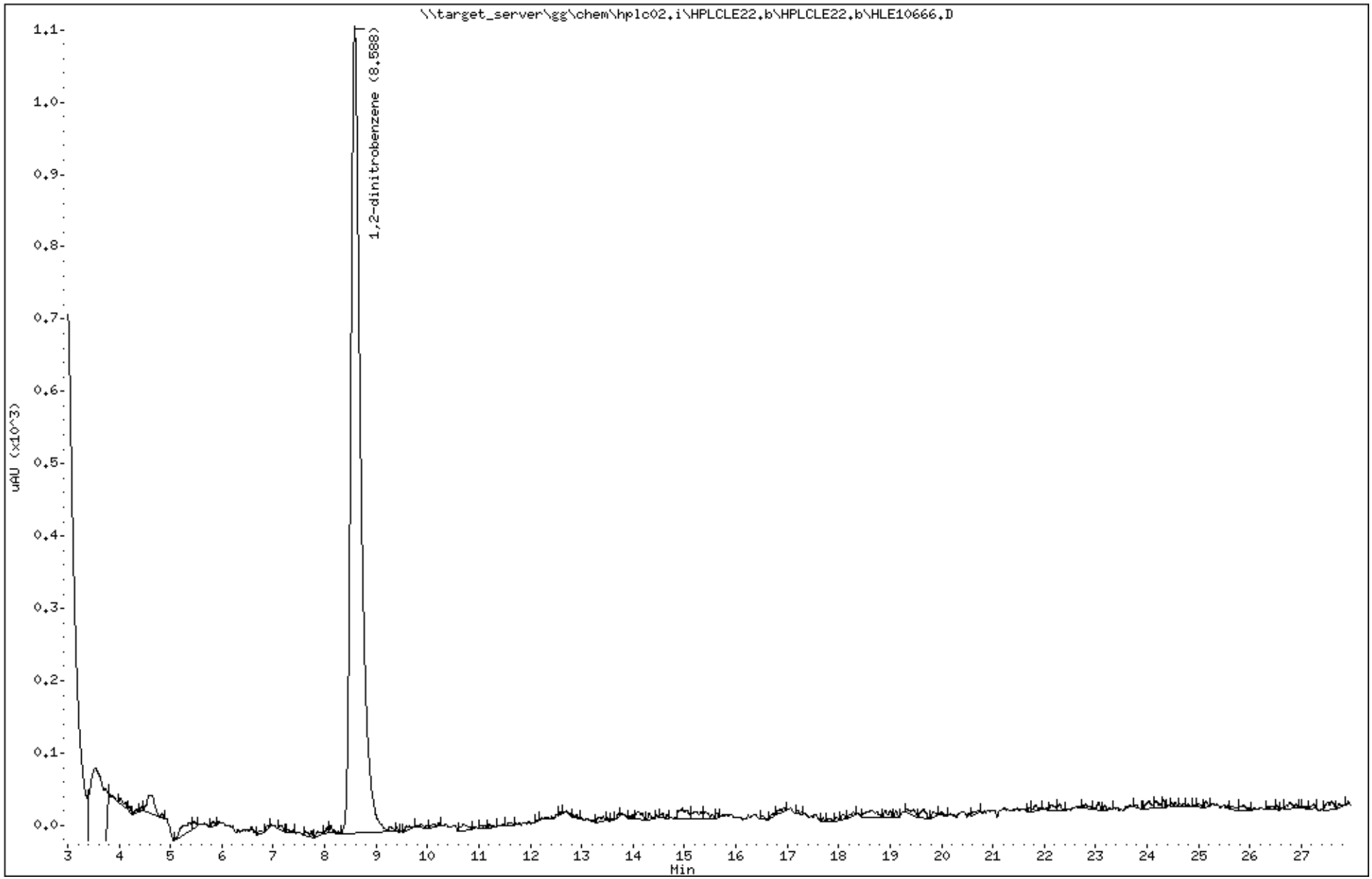
Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	REVIEW CODE
$ 2 1,2-dinitrobenzene	8.588	8.581	0.007	1115	0.24095	535	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HPLCLE22.b\HLE10666.D
Date : 23-MAY-2018 05:44
Client ID: CHAAP-21B-BB-SB05
Sample Info: SL4233-10

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 1000068

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4233-11
Client ID: CHAAP-21B-BB-SS04
Project: Cornhusker Army Ammunition Plant
SDG: SL4233
Lab File ID: HLE10667.D

Sample Date: 15-MAY-18
Received Date: 16-MAY-18
Extract Date: 21-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228770

Analysis Date: 23-MAY-18
Analyst: AC
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 81.
Report Date: 31-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	57	ug/Kgdrywt	1	100	110	9.8	57.
RDX	U	57	ug/Kgdrywt	1	100	110	7.8	57.
1,3,5-Trinitrobenzene	U	57	ug/Kgdrywt	1	100	110	7.6	57.
1,3-Dinitrobenzene	U	57	ug/Kgdrywt	1	100	110	7.1	57.
Tetryl	U	57	ug/Kgdrywt	1	100	110	6.2	57.
Nitrobenzene	U	57	ug/Kgdrywt	1	100	110	25.	57.
2,4,6-Trinitrotoluene	U	57	ug/Kgdrywt	1	100	110	7.6	57.
2-Am-DNT	U	57	ug/Kgdrywt	1	100	110	24.	57.
4-Am-DNT	U	57	ug/Kgdrywt	1	100	110	19.	57.
2,6-Dinitrotoluene	U	57	ug/Kgdrywt	1	100	110	31.	57.
2,4-Dinitrotoluene	U	57	ug/Kgdrywt	1	100	110	17.	57.
2-Nitrotoluene	U	57	ug/Kgdrywt	1	100	110	14.	57.
3-Nitrotoluene	U	57	ug/Kgdrywt	1	100	110	9.0	57.
4-Nitrotoluene	U	57	ug/Kgdrywt	1	100	110	31.	57.
Nitroglycerin	U	460	ug/Kgdrywt	1	800	910	140	460
PETN	U	460	ug/Kgdrywt	1	800	910	120	460
1,2-Dinitrobenzene		91.4	%					

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10667.D
Report Date: 31-May-2018 04:44

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10667.D
Lab Smp Id: SL4233-11 Client Smp ID: CHAAP-21B-BB-SS04
Inj Date : 23-MAY-2018 06:15
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-11
Misc Info : WG228942,WG228770,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\EXPB05A.m
Meth Date : 23-May-2018 13:50 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 86
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

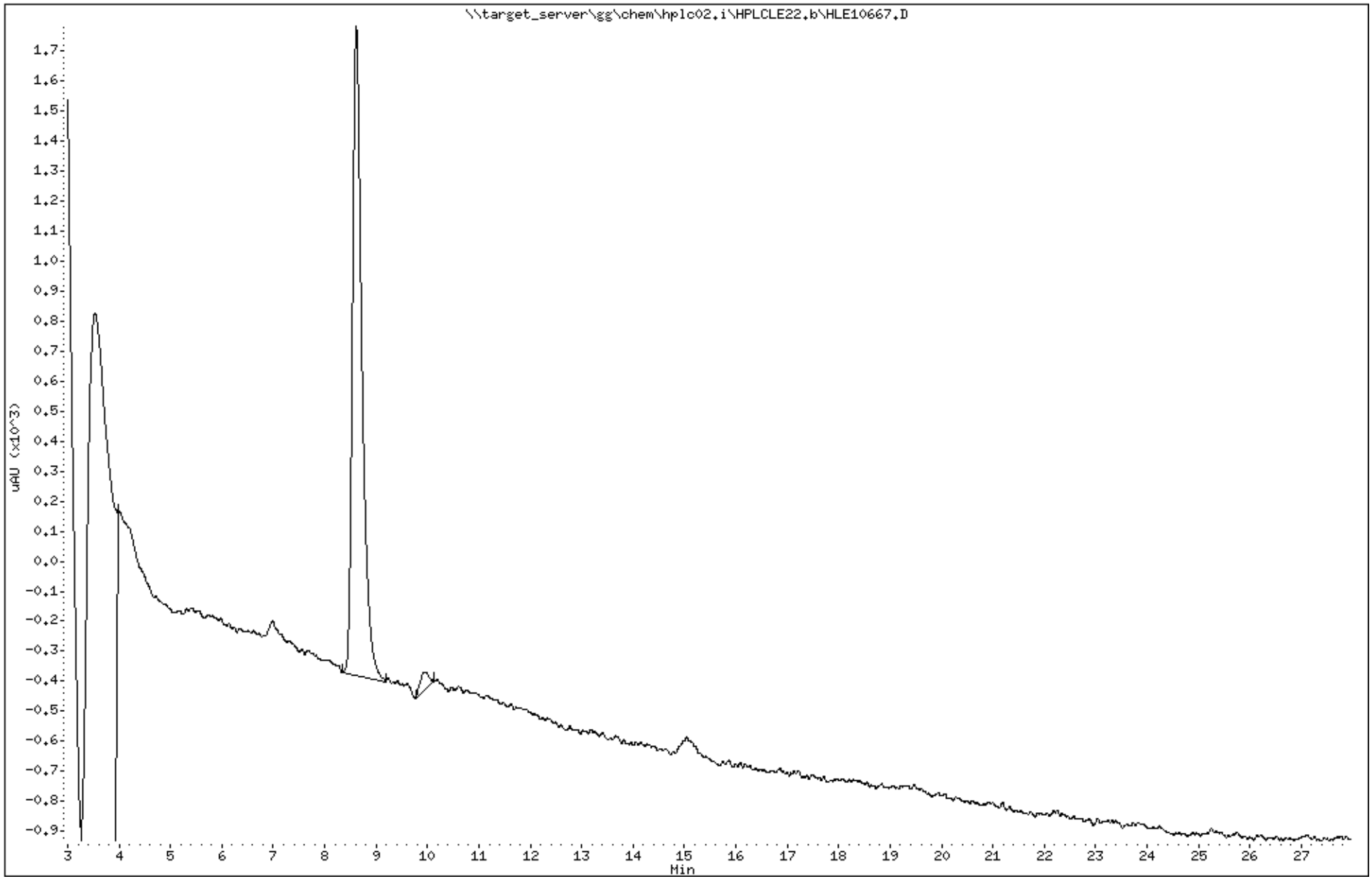
Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01080	Weight of Sample (Kg)
M	18.781	% Moisture
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10667.D
Date : 23-MAY-2018 06:15
Client ID: CHAAP-21B-BB-SS04
Sample Info: SL4233-11

Instrument: hplc02.i

Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 1000071

Data File: HLE10667.D
Report Date: 31-May-2018 04:51

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HPLCLE22.b\HLE10667.D
Lab Smp Id: SL4233-11 Client Smp ID: CHAAP-21B-BB-SS04
Inj Date : 23-MAY-2018 06:15
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-11
Misc Info : WG228942,WG228770,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\EXPB05A.m\EXPB05A.m
Meth Date : 23-May-2018 13:40 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 86
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

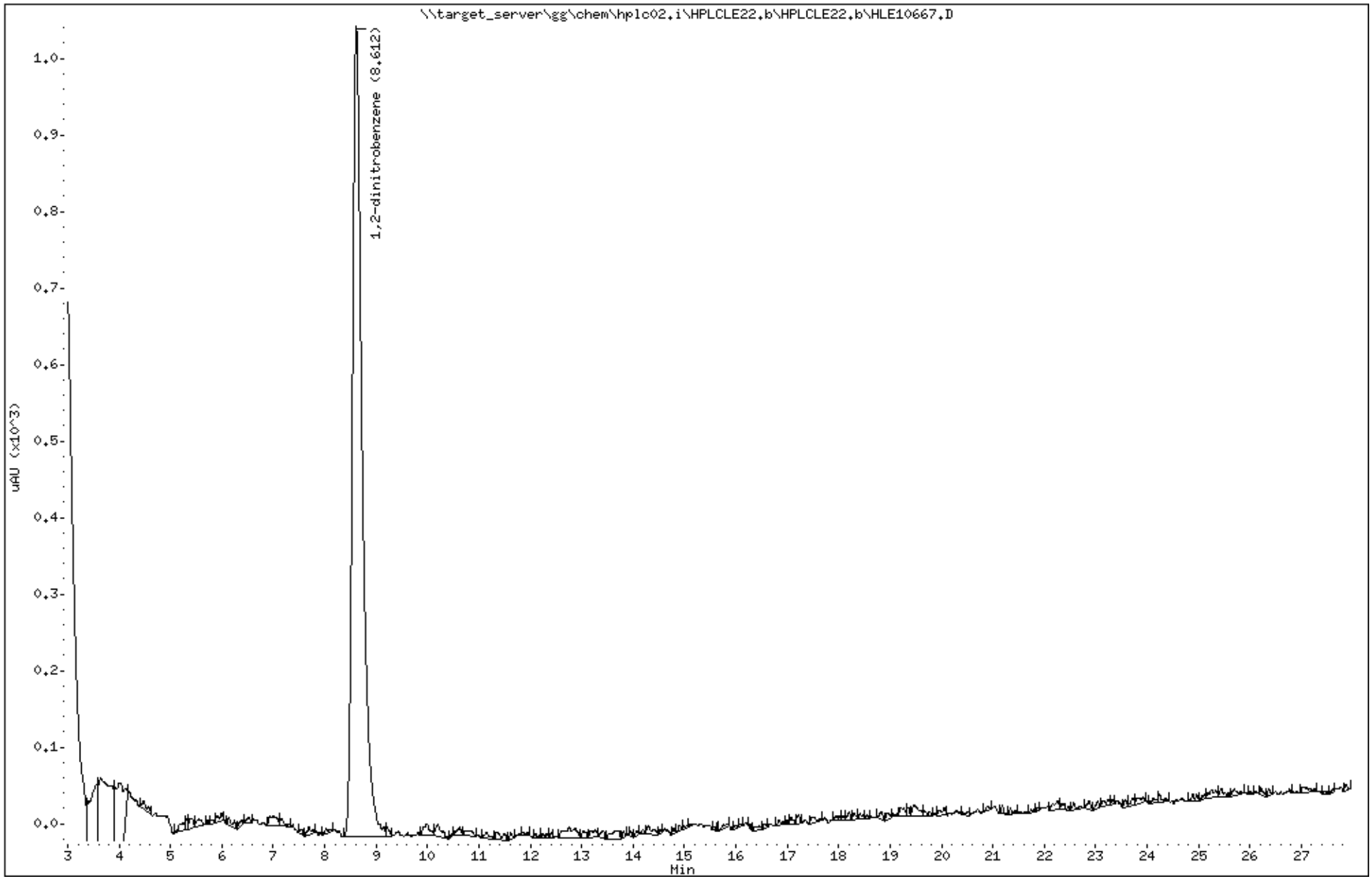
Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01080	Weight of Sample (Kg)
M	18.781	% Moisture
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	REVIEW CODE
$ 2 1,2-dinitrobenzene	8.611	8.581	0.030	1058	0.22864	521	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HPLCLE22.b\HLE10667.D
Date : 23-MAY-2018 06:15
Client ID: CHAAP-21B-BB-SS04
Sample Info: SL4233-11

Instrument: hplc02.i

Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 1000073

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4233-12
Client ID: CHAAP-21B-BB-SB04
Project: Cornhusker Army Ammunition Plant
SDG: SL4233
Lab File ID: HLE10668.D

Sample Date: 15-MAY-18
Received Date: 16-MAY-18
Extract Date: 21-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228770

Analysis Date: 23-MAY-18
Analyst: AC
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 83.
Report Date: 31-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	52	ug/Kgdrywt	1	100	100	8.9	52.
RDX	U	52	ug/Kgdrywt	1	100	100	7.0	52.
1,3,5-Trinitrobenzene	U	52	ug/Kgdrywt	1	100	100	6.9	52.
1,3-Dinitrobenzene	U	52	ug/Kgdrywt	1	100	100	6.4	52.
Tetryl	U	52	ug/Kgdrywt	1	100	100	5.6	52.
Nitrobenzene	U	52	ug/Kgdrywt	1	100	100	23.	52.
2,4,6-Trinitrotoluene	U	52	ug/Kgdrywt	1	100	100	6.9	52.
2-Am-DNT	U	52	ug/Kgdrywt	1	100	100	22.	52.
4-Am-DNT	U	52	ug/Kgdrywt	1	100	100	18.	52.
2,6-Dinitrotoluene	U	52	ug/Kgdrywt	1	100	100	28.	52.
2,4-Dinitrotoluene	U	52	ug/Kgdrywt	1	100	100	15.	52.
2-Nitrotoluene	U	52	ug/Kgdrywt	1	100	100	12.	52.
3-Nitrotoluene	U	52	ug/Kgdrywt	1	100	100	8.2	52.
4-Nitrotoluene	U	52	ug/Kgdrywt	1	100	100	28.	52.
Nitroglycerin	U	410	ug/Kgdrywt	1	800	820	130	410
PETN	U	410	ug/Kgdrywt	1	800	820	110	410
1,2-Dinitrobenzene		91.9	%					

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10668.D
Report Date: 31-May-2018 04:44

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10668.D
Lab Smp Id: SL4233-12 Client Smp ID: CHAAP-21B-BB-SB04
Inj Date : 23-MAY-2018 06:46
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-12
Misc Info : WG228942,WG228770,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\EXPB05A.m
Meth Date : 23-May-2018 13:50 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 87
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01170	Weight of Sample (Kg)
M	17.164	% Moisture
Cpnd Variable		Local Compound Variable

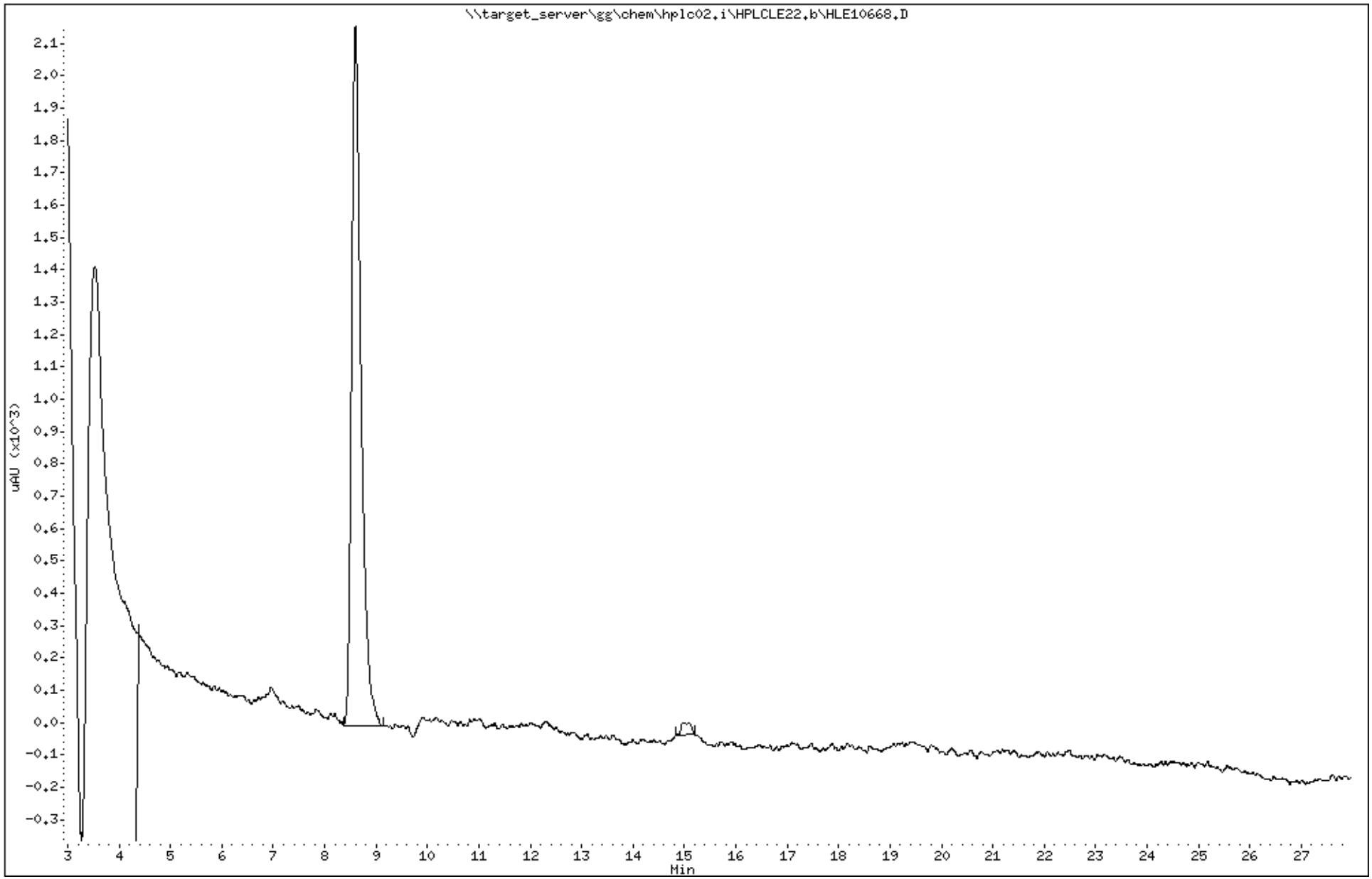
Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10668.D
Date : 23-MAY-2018 06:46
Client ID: CHAAP-21B-BB-SB04
Sample Info: SL4233-12

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 1000076

Data File: HLE10668.D
Report Date: 31-May-2018 04:51

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HPLCLE22.b\HLE10668.D
Lab Smp Id: SL4233-12 Client Smp ID: CHAAP-21B-BB-SB04
Inj Date : 23-MAY-2018 06:46
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-12
Misc Info : WG228942,WG228770,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\EXPB05A.m\EXPB05A.m
Meth Date : 23-May-2018 13:40 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 87
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01170	Weight of Sample (Kg)
M	17.164	% Moisture
Cpnd Variable		Local Compound Variable

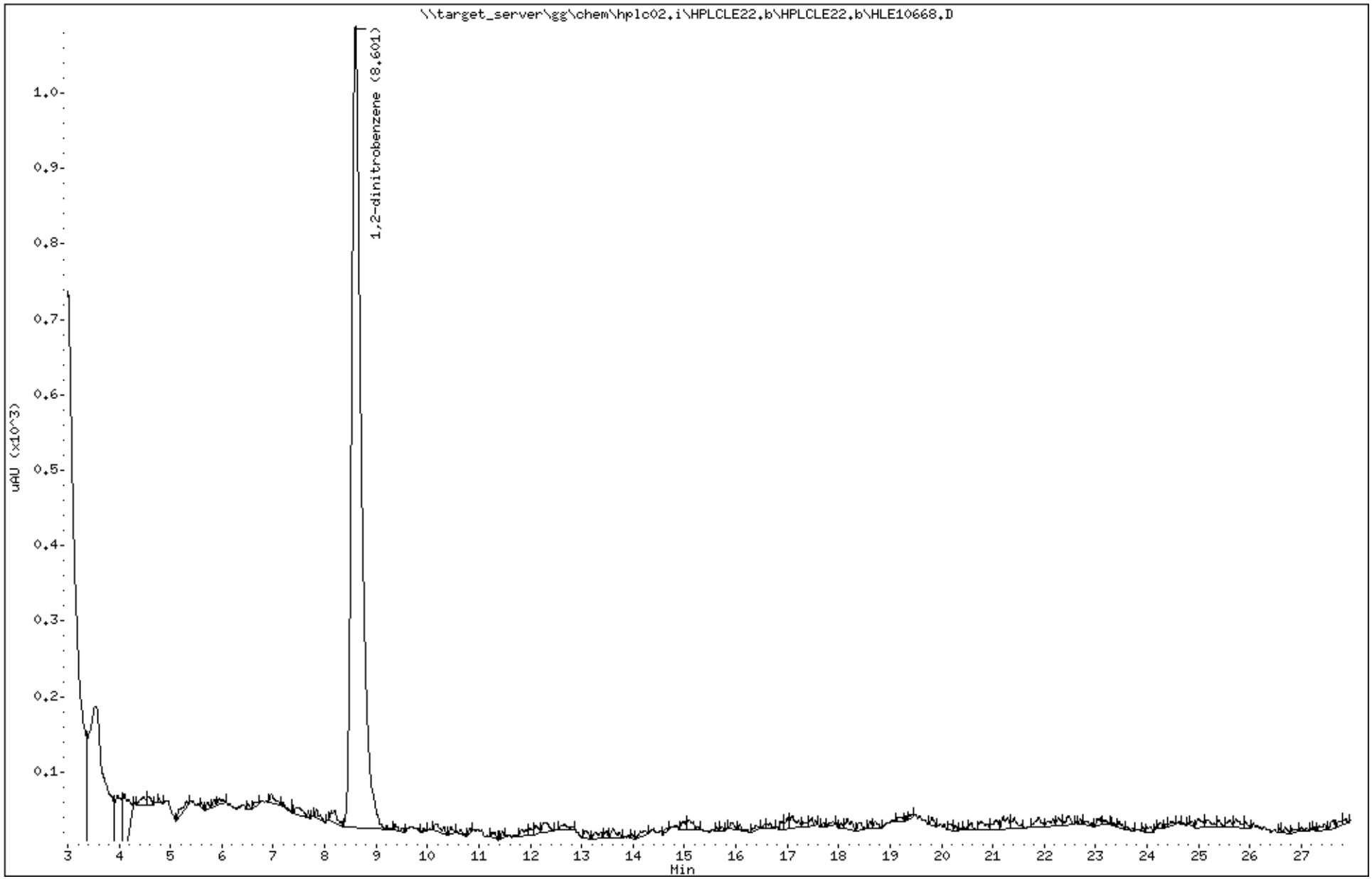
Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	REVIEW CODE
$ 2 1,2-dinitrobenzene	8.601	8.581	0.020	1063	0.22972	474	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HPLCLE22.b\HLE10668.D
Date : 23-MAY-2018 06:46
Client ID: CHAAP-21B-BB-SB04
Sample Info: SL4233-12

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 1000078

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4233-13
Client ID: CHAAP-21B-BB-SS03
Project: Cornhusker Army Ammunition Plant
SDG: SL4233
Lab File ID: HLE10669.D

Sample Date: 15-MAY-18
Received Date: 16-MAY-18
Extract Date: 21-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228770

Analysis Date: 23-MAY-18
Analyst: AC
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 80.
Report Date: 31-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	57	ug/Kgdrywt	1	100	110	9.8	57.
RDX	U	57	ug/Kgdrywt	1	100	110	7.8	57.
1,3,5-Trinitrobenzene	U	57	ug/Kgdrywt	1	100	110	7.6	57.
1,3-Dinitrobenzene	U	57	ug/Kgdrywt	1	100	110	7.1	57.
Tetryl	U	57	ug/Kgdrywt	1	100	110	6.2	57.
Nitrobenzene	U	57	ug/Kgdrywt	1	100	110	25.	57.
2,4,6-Trinitrotoluene	U	57	ug/Kgdrywt	1	100	110	7.6	57.
2-Am-DNT	U	57	ug/Kgdrywt	1	100	110	24.	57.
4-Am-DNT	U	57	ug/Kgdrywt	1	100	110	19.	57.
2,6-Dinitrotoluene	U	57	ug/Kgdrywt	1	100	110	31.	57.
2,4-Dinitrotoluene	U	57	ug/Kgdrywt	1	100	110	17.	57.
2-Nitrotoluene	U	57	ug/Kgdrywt	1	100	110	14.	57.
3-Nitrotoluene	U	57	ug/Kgdrywt	1	100	110	9.0	57.
4-Nitrotoluene	U	57	ug/Kgdrywt	1	100	110	31.	57.
Nitroglycerin	U	460	ug/Kgdrywt	1	800	910	140	460
PETN	U	460	ug/Kgdrywt	1	800	910	120	460
1,2-Dinitrobenzene		91.8	%					

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10669.D
Report Date: 31-May-2018 04:44

Katahdin Analytical Services

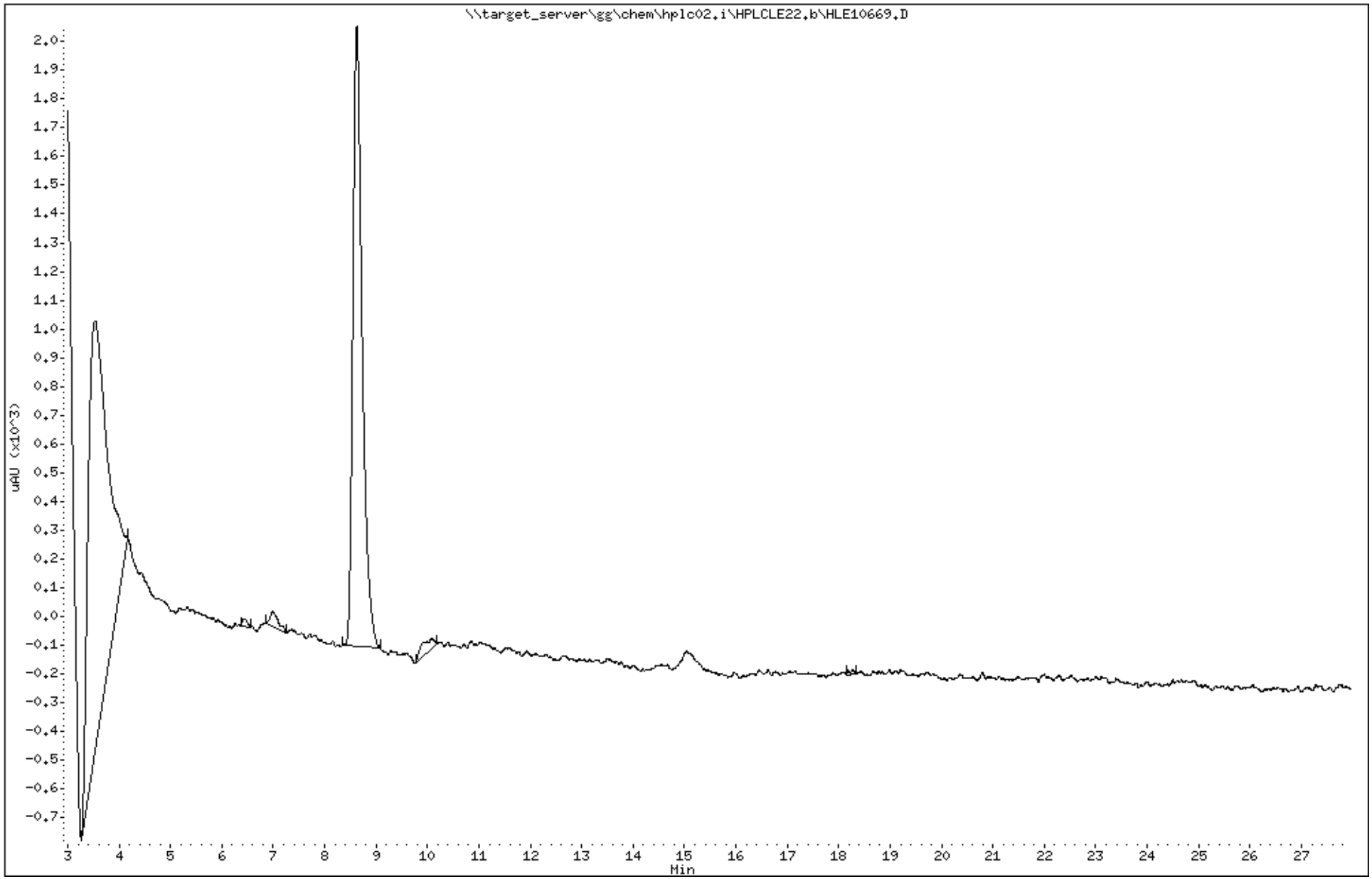
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10669.D
Lab Smp Id: SL4233-13 Client Smp ID: CHAAP-21B-BB-SS03
Inj Date : 23-MAY-2018 07:17
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-13
Misc Info : WG228942,WG228770,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\EXPB05A.m
Meth Date : 23-May-2018 13:50 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 88
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01090	Weight of Sample (Kg)
M	19.676	% Moisture
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10669.D
Date : 23-MAY-2018 07:17
Client ID: CHAAP-21B-BB-SS03
Instrument: hplc02.i
Sample Info: SL4233-13
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 1000081

Data File: HLE10669.D
Report Date: 31-May-2018 04:51

Katahdin Analytical Services

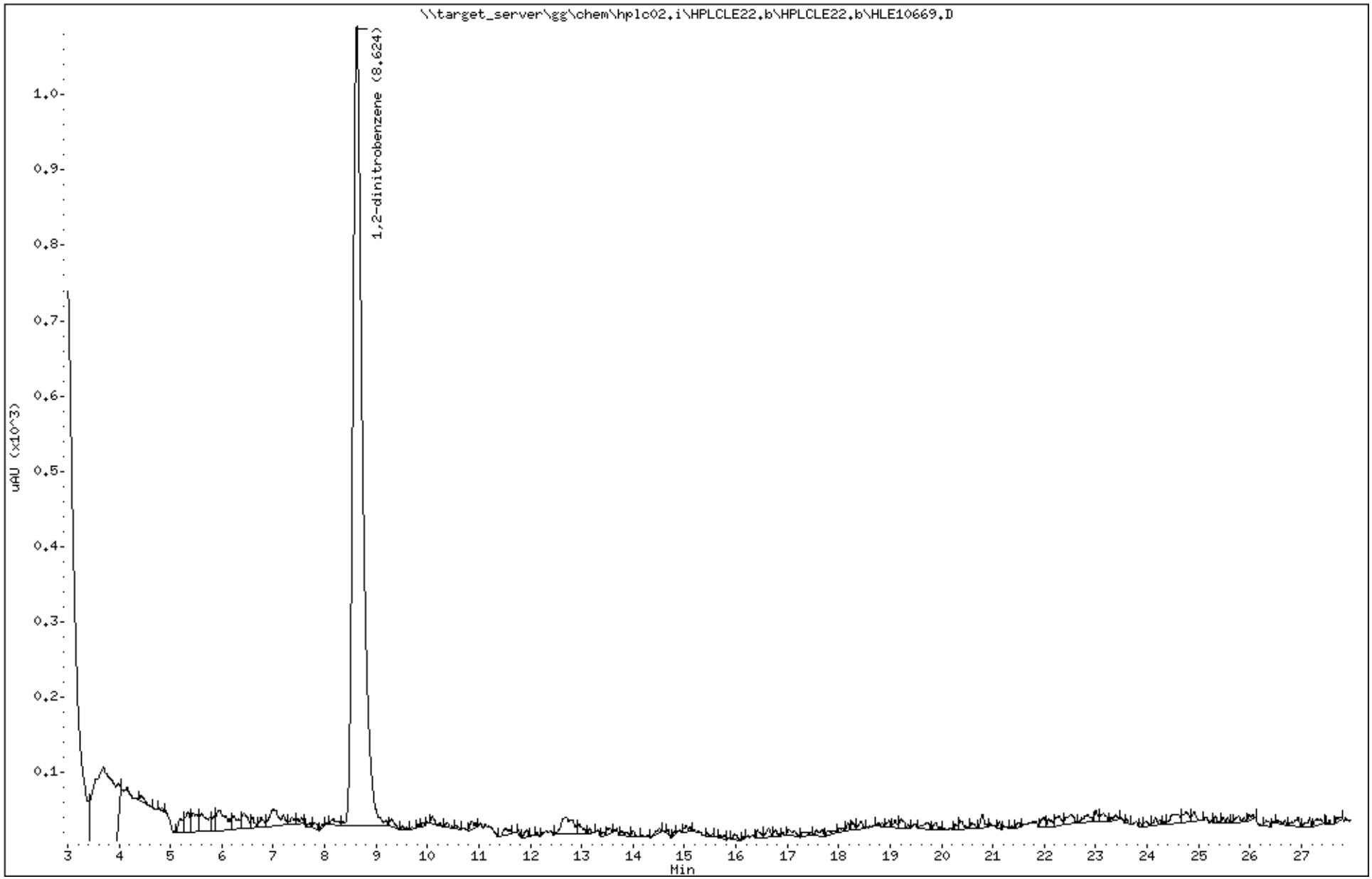
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HPLCLE22.b\HLE10669.D
Lab Smp Id: SL4233-13 Client Smp ID: CHAAP-21B-BB-SS03
Inj Date : 23-MAY-2018 07:17
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-13
Misc Info : WG228942,WG228770,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\EXPB05A.m\EXPB05A.m
Meth Date : 23-May-2018 13:40 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 88
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01090	Weight of Sample (Kg)
M	19.676	% Moisture
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	REVIEW CODE
$ 2 1,2-dinitrobenzene	8.624	8.581	0.043	1061	0.22929	524	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HPLCLE22.b\HLE10669.D
Date : 23-MAY-2018 07:17
Client ID: CHAAP-21B-BB-SS03
Instrument: hplc02.i
Sample Info: SL4233-13
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 1000083

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4233-14
Client ID: CHAAP-21B-BB-SB03
Project: Cornhusker Army Ammunition Plant
SDG: SL4233
Lab File ID: HLE10670.D

Sample Date: 15-MAY-18
Received Date: 16-MAY-18
Extract Date: 21-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228770

Analysis Date: 23-MAY-18
Analyst: AC
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 79.
Report Date: 31-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	57	ug/Kgdrywt	1	100	110	9.8	57.
RDX	U	57	ug/Kgdrywt	1	100	110	7.8	57.
1,3,5-Trinitrobenzene	U	57	ug/Kgdrywt	1	100	110	7.7	57.
1,3-Dinitrobenzene	U	57	ug/Kgdrywt	1	100	110	7.1	57.
Tetryl	U	57	ug/Kgdrywt	1	100	110	6.2	57.
Nitrobenzene	U	57	ug/Kgdrywt	1	100	110	25.	57.
2,4,6-Trinitrotoluene	U	57	ug/Kgdrywt	1	100	110	7.7	57.
2-Am-DNT	U	57	ug/Kgdrywt	1	100	110	24.	57.
4-Am-DNT	U	57	ug/Kgdrywt	1	100	110	19.	57.
2,6-Dinitrotoluene	U	57	ug/Kgdrywt	1	100	110	31.	57.
2,4-Dinitrotoluene	U	57	ug/Kgdrywt	1	100	110	17.	57.
2-Nitrotoluene	U	57	ug/Kgdrywt	1	100	110	14.	57.
3-Nitrotoluene	U	57	ug/Kgdrywt	1	100	110	9.0	57.
4-Nitrotoluene	U	57	ug/Kgdrywt	1	100	110	31.	57.
Nitroglycerin	J	290	ug/Kgdrywt	1	800	920	140	460
PETN	U	460	ug/Kgdrywt	1	800	920	120	460
1,2-Dinitrobenzene		94.0	%					

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Katahdin
ANALYTICAL SERVICES

Form 10
Explosives Identification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant

SDG : SL4233
Lab Sample ID : SL4233-14
Client Sample ID : CHAAP-21B-BB-SB03

Column A
Instrument ID : HPLC02
Date Analyzed : 05/23/18
Time Analyzed : 07:48

Column B
Instrument ID : HPLC02
Date Analyzed : 05/26/18
Time Analyzed : 22:24

Analyte	Column	RT	Concentration	RPD
Nitroglycerin	A	7.02	288	
	A	19.2	209	31.8

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sales@katahdinlab.com

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10670.D
Report Date: 31-May-2018 04:44

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10670.D
Lab Smp Id: SL4233-14 Client Smp ID: CHAAP-21B-BB-SB03
Inj Date : 23-MAY-2018 07:48
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-14
Misc Info : WG228942,WG228770,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\EXPB05A.m
Meth Date : 23-May-2018 13:50 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 89
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

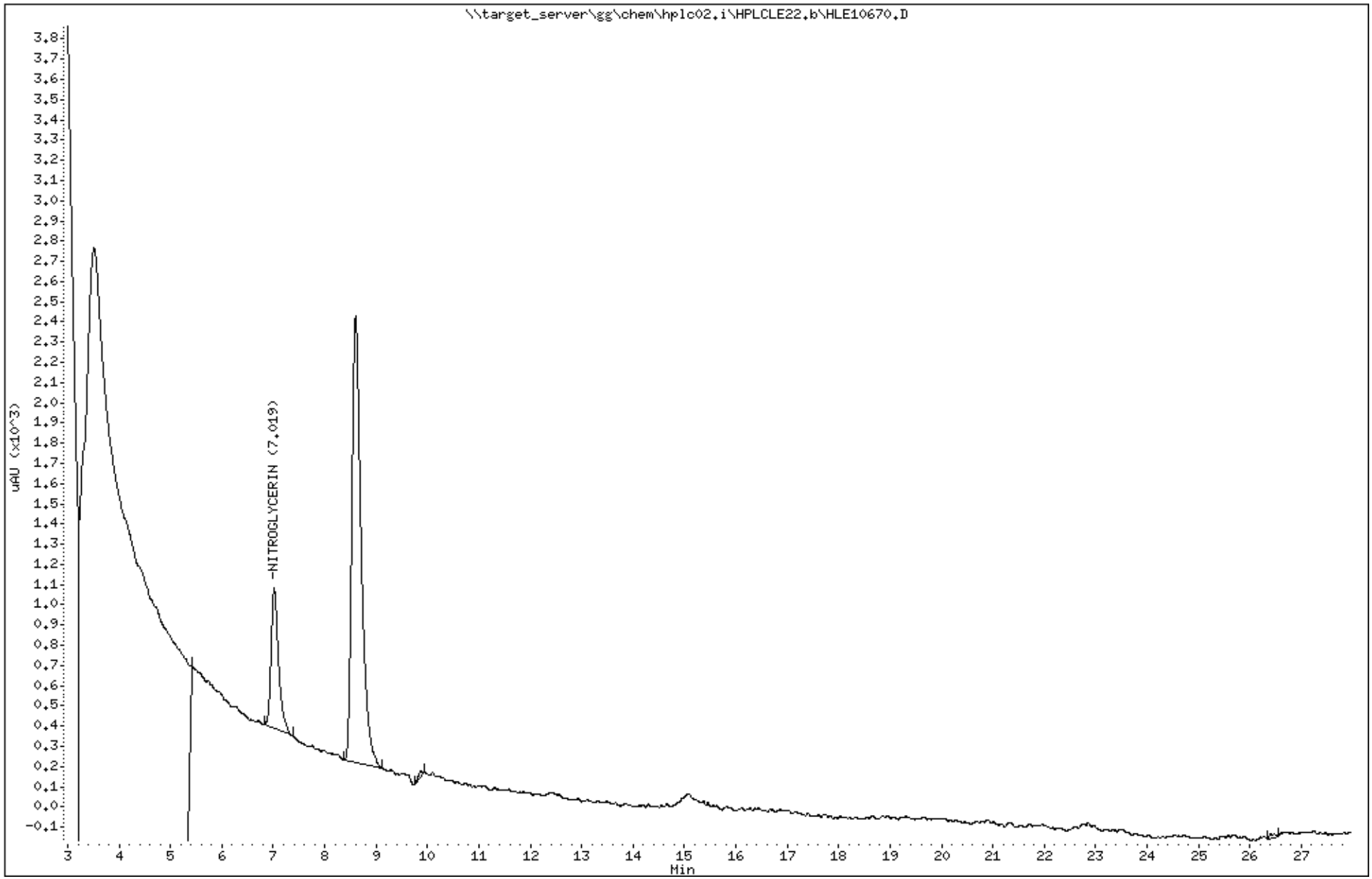
Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01100	Weight of Sample (Kg)
M	20.599	% Moisture
Cpnd Variable		Local Compound Variable

					CONCENTRATIONS	
					ON-COLUMN	FINAL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/mL)	(ug/Kgdrywt)
8 NITROGLYCERIN	7.019	7.001	0.018	694	0.12588	288(a)

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10670.D
Date : 23-MAY-2018 07:48
Client ID: CHAAP-21B-BB-SB03
Instrument: hplc02.i
Sample Info: SL4233-14
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 1000087

Data File: HLE10670.D
Report Date: 31-May-2018 04:51

Katahdin Analytical Services

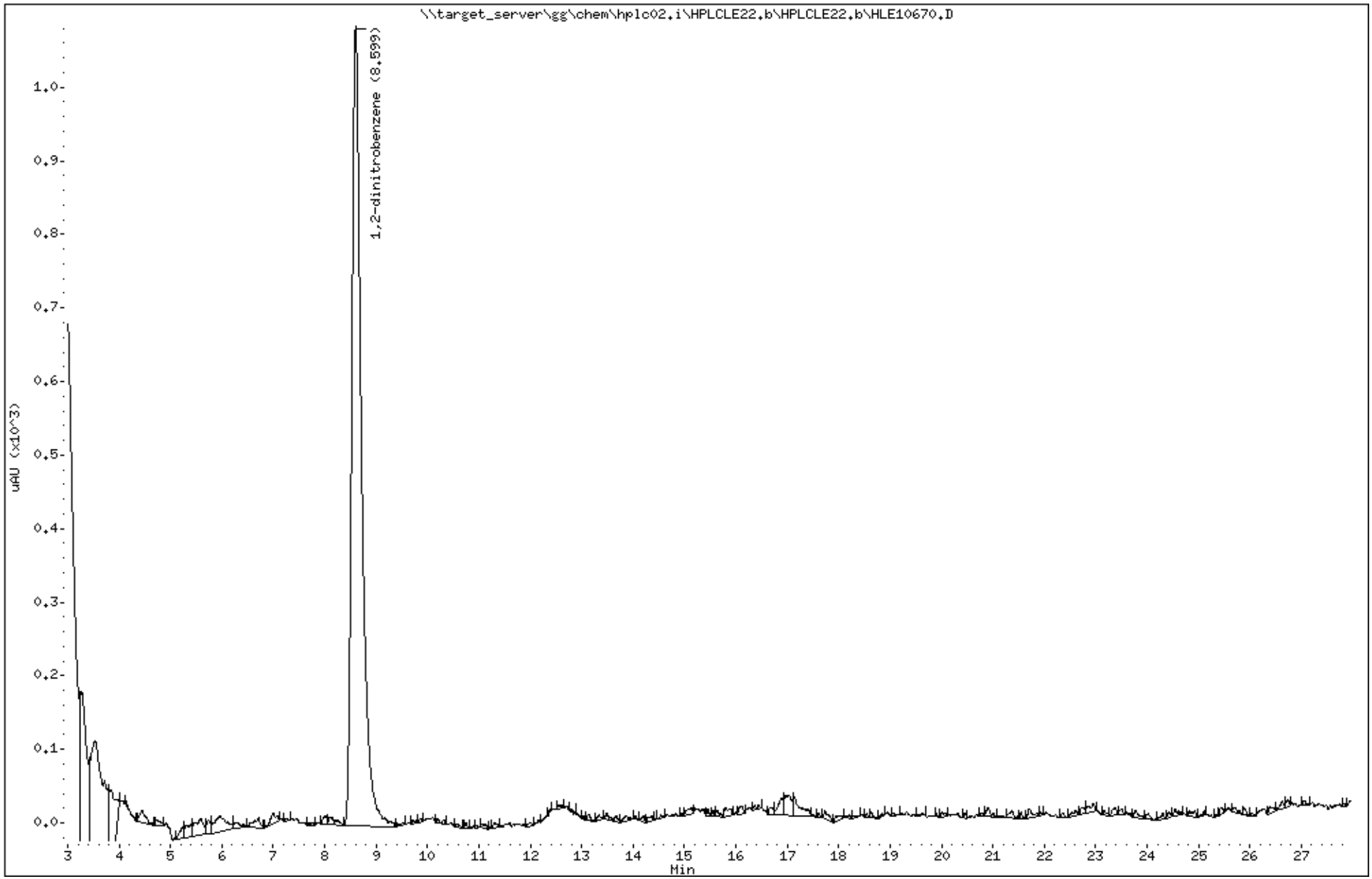
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HPLCLE22.b\HLE10670.D
Lab Smp Id: SL4233-14 Client Smp ID: CHAAP-21B-BB-SB03
Inj Date : 23-MAY-2018 07:48
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-14
Misc Info : WG228942,WG228770,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\EXPB05A.m\EXPB05A.m
Meth Date : 23-May-2018 13:40 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 89
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01100	Weight of Sample (Kg)
M	20.599	% Moisture
Cpnd Variable		Local Compound Variable

						CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	
Compounds	RT	EXP RT	DLT RT	RESPONSE				REVIEW CODE
$ 2 1,2-dinitrobenzene	8.599	8.581	0.018	1087		0.23490	538	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HPLCLE22.b\HLE10670.D
Date : 23-MAY-2018 07:48
Client ID: CHAAP-21B-BB-SB03
Instrument: hplc02.i
Sample Info: SL4233-14
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 1000089

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE25.b\HLE10809.D
Report Date: 31-May-2018 05:40

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE25.b\HLE10809.D
Lab Smp Id: SL4233-14C Client Smp ID: CHAAP-21B-BB-SB03
Inj Date : 26-MAY-2018 22:24
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-14C
Misc Info : WG228942,WG228770,WG210620-13
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE25.b\E2016A.m
Meth Date : 29-May-2018 16:33 abullentin Quant Type: ESTD
Cal Date : 01-AUG-2017 14:33 Cal File: HKH10014.D
Als bottle: 28
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: NGPETN.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

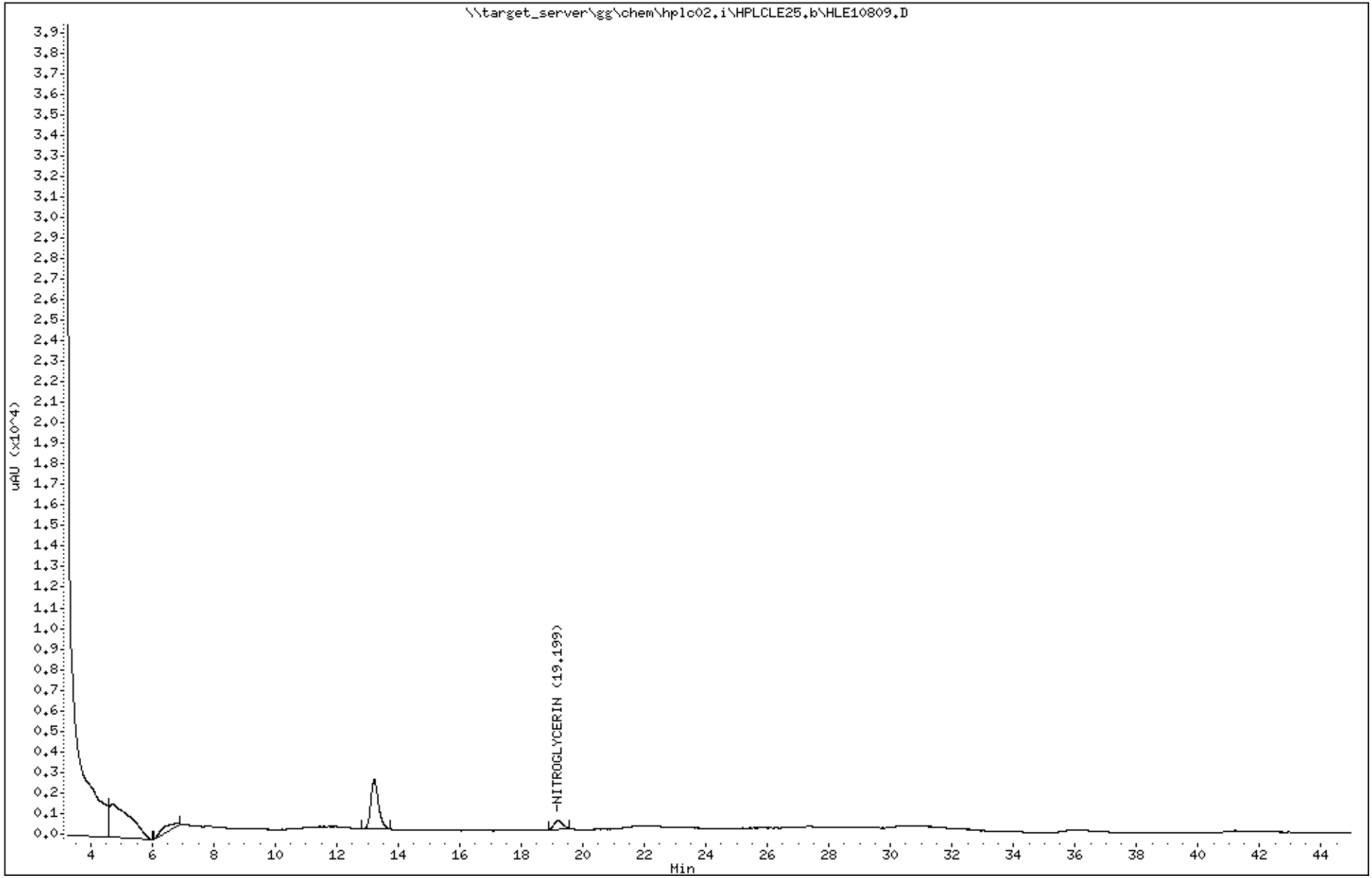
Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01100	Weight of Sample (Kg)
M	20.599	% Moisture
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	REVIEW CODE
8 NITROGLYCERIN	19.199	19.181	0.018	407	0.09130	209(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE25.b\HLE10809.D
Date : 26-MAY-2018 22:24
Client ID: CHAAP-21B-BB-SB03
Instrument: hplc02.i
Sample Info: SL4233-14C
Operator: AC
Column phase: Acclaim Exp E2
Column diameter: 4.60



Katahdin Analytical Services 1000091

Data File: HLE10809.D
Report Date: 31-May-2018 05:46

Katahdin Analytical Services

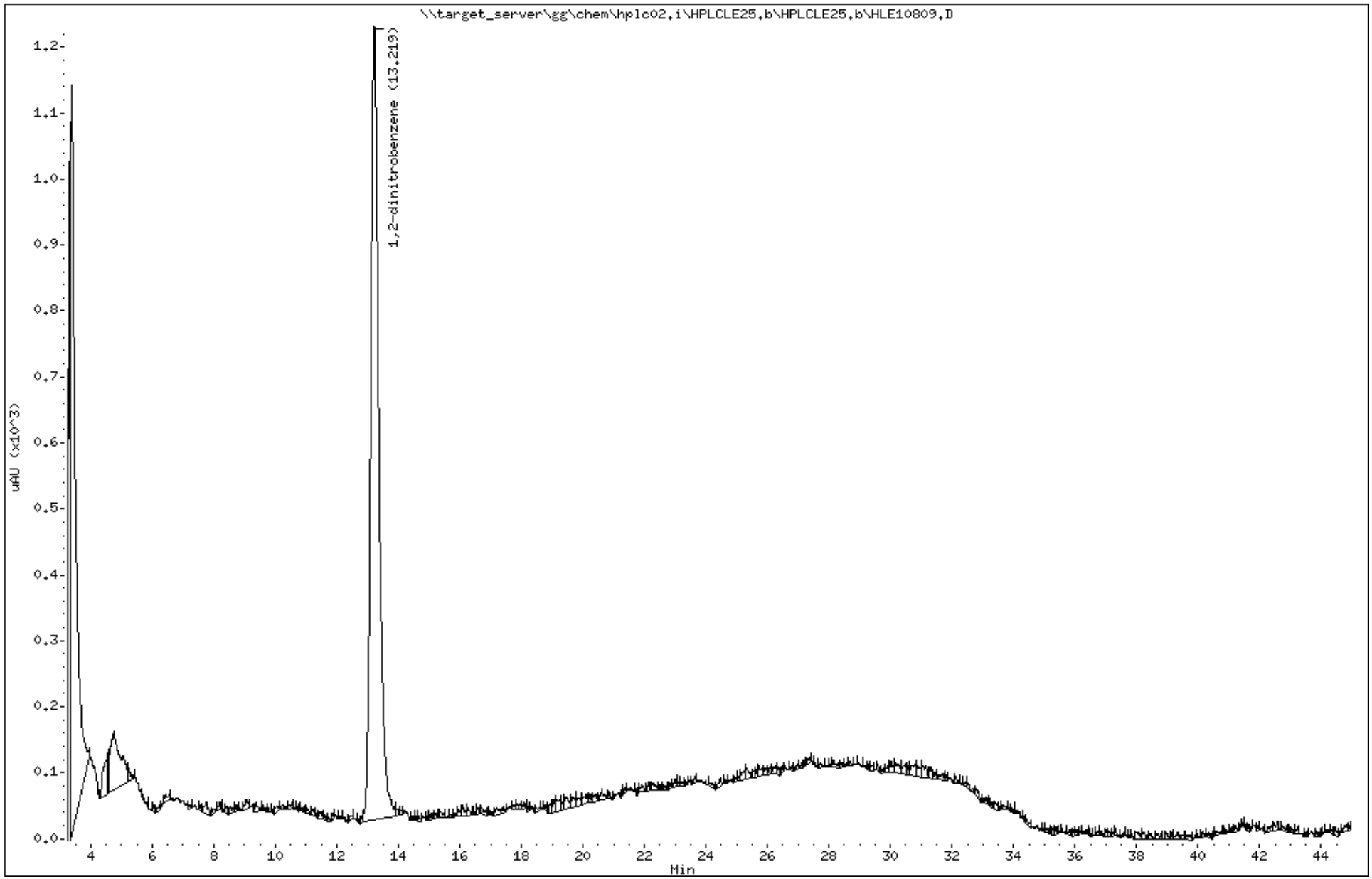
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE25.b\HPLCLE25.b\HLE10809.D
Lab Smp Id: SL4233-14C Client Smp ID: CHAAP-21B-BB-SB03
Inj Date : 26-MAY-2018 22:24
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-14C
Misc Info : WG228942,WG228770,WG210620-13
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE25.b\E2016A.m\E2016A.m
Meth Date : 29-May-2018 16:32 abullentin Quant Type: ESTD
Cal Date : 01-AUG-2017 14:33 Cal File: HKH10014.D
Als bottle: 28
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01100	Weight of Sample (Kg)
M	20.599	% Moisture
Cpnd Variable		Local Compound Variable

						CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	
Compounds	RT	EXP RT	DLT RT	RESPONSE				REVIEW CODE
$ 2 1,2-dinitrobenzene	13.219	13.228	-0.009	1203		0.22530	516	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE25.b\HPLCLE25.b\HLE10809.D
Date : 26-MAY-2018 22:24
Client ID: CHAAP-21B-BB-SB03
Instrument: hplc02.i
Sample Info: SL4233-14C
Operator: AC
Column phase: Acclaim Exp E2
Column diameter: 4.60



Katahdin Analytical Services 1000093

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4233-15
Client ID: CHAAP-21B-BB-SB06
Project: Cornhusker Army Ammunition Plant
SDG: SL4233
Lab File ID: HLE10671.D

Sample Date: 15-MAY-18
Received Date: 16-MAY-18
Extract Date: 21-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228770

Analysis Date: 23-MAY-18
Analyst: AC
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 73.
Report Date: 31-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	56	ug/Kgdrywt	1	100	110	9.7	56.
RDX	U	56	ug/Kgdrywt	1	100	110	7.7	56.
1,3,5-Trinitrobenzene	U	56	ug/Kgdrywt	1	100	110	7.6	56.
1,3-Dinitrobenzene	U	56	ug/Kgdrywt	1	100	110	7.0	56.
Tetryl	U	56	ug/Kgdrywt	1	100	110	6.1	56.
Nitrobenzene	U	56	ug/Kgdrywt	1	100	110	25.	56.
2,4,6-Trinitrotoluene	U	56	ug/Kgdrywt	1	100	110	7.6	56.
2-Am-DNT	U	56	ug/Kgdrywt	1	100	110	24.	56.
4-Am-DNT	U	56	ug/Kgdrywt	1	100	110	19.	56.
2,6-Dinitrotoluene	U	56	ug/Kgdrywt	1	100	110	30.	56.
2,4-Dinitrotoluene	U	56	ug/Kgdrywt	1	100	110	17.	56.
2-Nitrotoluene	U	56	ug/Kgdrywt	1	100	110	14.	56.
3-Nitrotoluene	U	56	ug/Kgdrywt	1	100	110	8.9	56.
4-Nitrotoluene	U	56	ug/Kgdrywt	1	100	110	30.	56.
Nitroglycerin	U	450	ug/Kgdrywt	1	800	900	140	450
PETN	U	450	ug/Kgdrywt	1	800	900	120	450
1,2-Dinitrobenzene		94.7	%					

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10671.D
Report Date: 31-May-2018 04:44

Katahdin Analytical Services

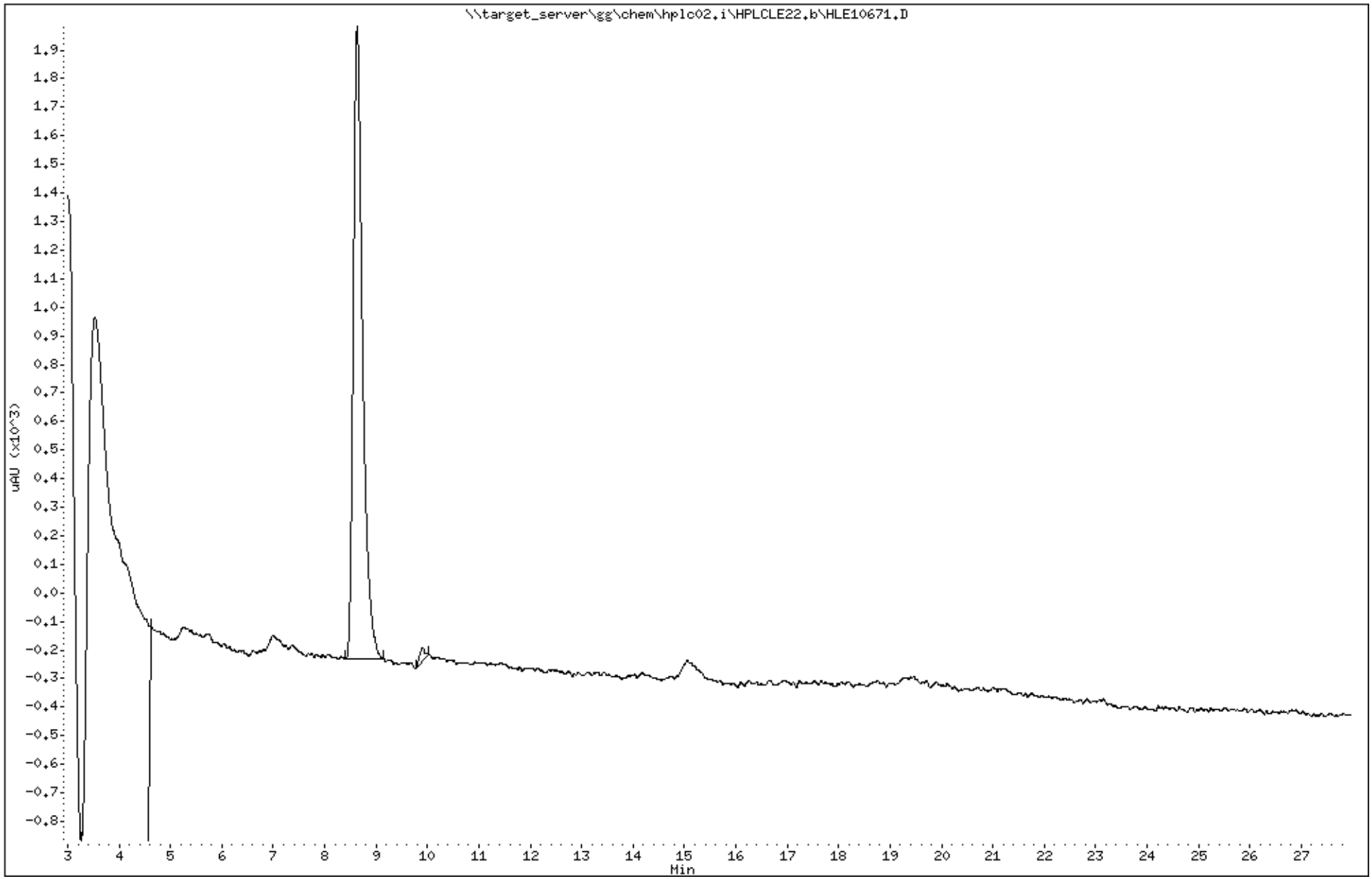
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10671.D
Lab Smp Id: SL4233-15 Client Smp ID: CHAAP-21B-BB-SB06
Inj Date : 23-MAY-2018 08:19
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-15
Misc Info : WG228942,WG228770,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\EXPB05A.m
Meth Date : 23-May-2018 13:50 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 90
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01220	Weight of Sample (Kg)
M	27.292	% Moisture
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10671.D
Date : 23-MAY-2018 08:19
Client ID: CHAAP-21B-BB-SB06
Instrument: hplc02.i
Sample Info: SL4233-15
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 1000096

Data File: HLE10671.D
Report Date: 31-May-2018 04:51

Katahdin Analytical Services

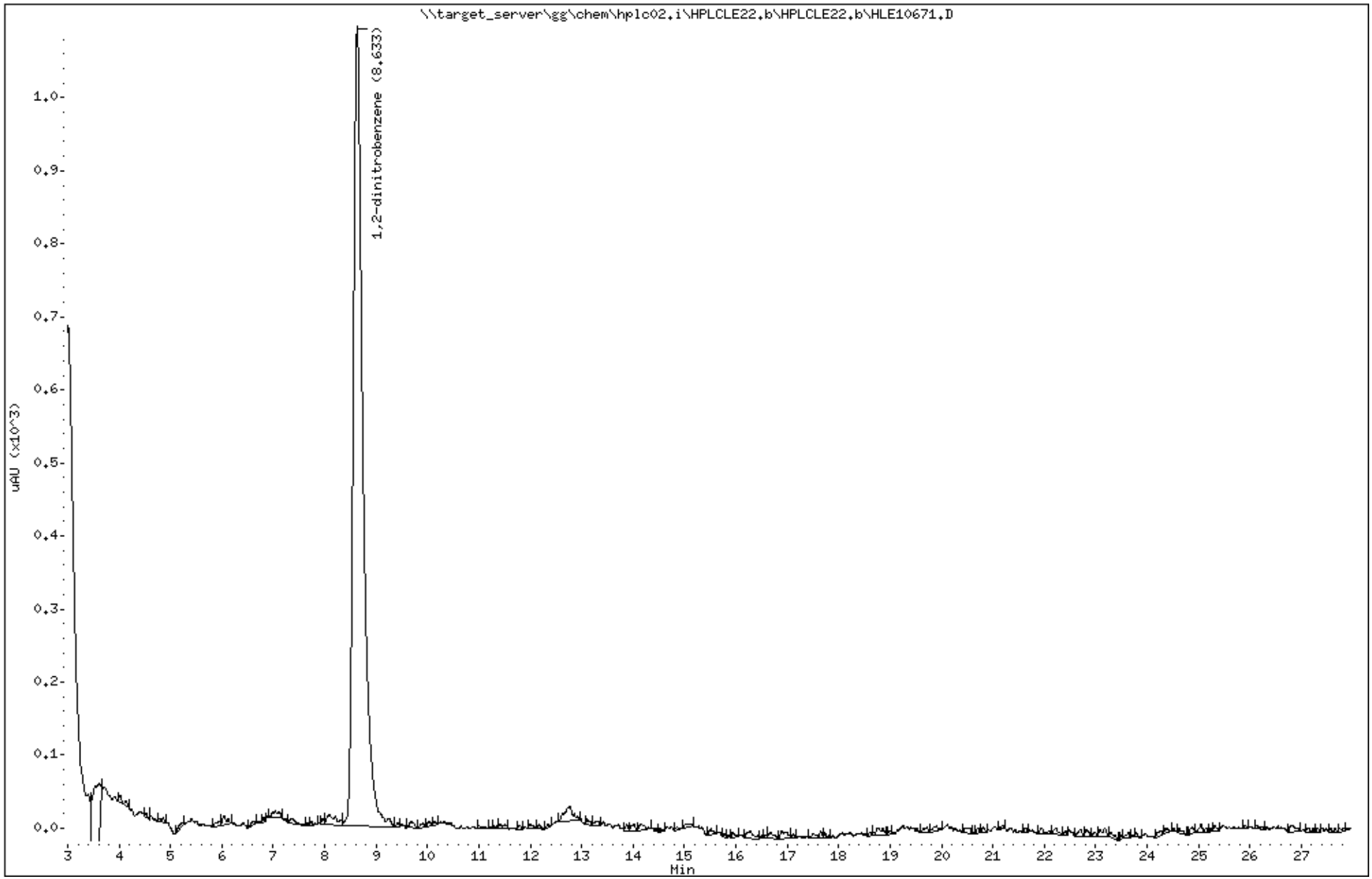
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HPLCLE22.b\HLE10671.D
Lab Smp Id: SL4233-15 Client Smp ID: CHAAP-21B-BB-SB06
Inj Date : 23-MAY-2018 08:19
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-15
Misc Info : WG228942,WG228770,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\EXPB05A.m\EXPB05A.m
Meth Date : 23-May-2018 13:40 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 90
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01220	Weight of Sample (Kg)
M	27.292	% Moisture
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	REVIEW CODE
$ 2 1,2-dinitrobenzene	8.632	8.581	0.051	1095	0.23663	534	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HPLCLE22.b\HLE10671.D
Date : 23-MAY-2018 08:19
Client ID: CHAAP-21B-BB-SB06
Instrument: hplc02.i
Sample Info: SL4233-15
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 1000098

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4233-17
Client ID: CHAAP-21B-BB-SS06
Project: Cornhusker Army Ammunition Plant
SDG: SL4233
Lab File ID: HLE10673.D

Sample Date: 15-MAY-18
Received Date: 16-MAY-18
Extract Date: 21-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228770

Analysis Date: 23-MAY-18
Analyst: AC
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 75.
Report Date: 31-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	64	ug/Kgdrywt	1	100	130	11.	64.
RDX	U	64	ug/Kgdrywt	1	100	130	8.8	64.
1,3,5-Trinitrobenzene	U	64	ug/Kgdrywt	1	100	130	8.6	64.
1,3-Dinitrobenzene	U	64	ug/Kgdrywt	1	100	130	8.0	64.
Tetryl	U	64	ug/Kgdrywt	1	100	130	7.0	64.
Nitrobenzene	U	64	ug/Kgdrywt	1	100	130	28.	64.
2,4,6-Trinitrotoluene	U	64	ug/Kgdrywt	1	100	130	8.6	64.
2-Am-DNT	U	64	ug/Kgdrywt	1	100	130	27.	64.
4-Am-DNT	U	64	ug/Kgdrywt	1	100	130	22.	64.
2,6-Dinitrotoluene	U	64	ug/Kgdrywt	1	100	130	35.	64.
2,4-Dinitrotoluene	U	64	ug/Kgdrywt	1	100	130	19.	64.
2-Nitrotoluene	U	64	ug/Kgdrywt	1	100	130	15.	64.
3-Nitrotoluene	U	64	ug/Kgdrywt	1	100	130	10.	64.
4-Nitrotoluene	U	64	ug/Kgdrywt	1	100	130	35.	64.
Nitroglycerin	U	520	ug/Kgdrywt	1	800	1000	160	520
PETN	U	520	ug/Kgdrywt	1	800	1000	140	520
1,2-Dinitrobenzene		92.5	%					

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10673.D
Report Date: 31-May-2018 04:44

Katahdin Analytical Services

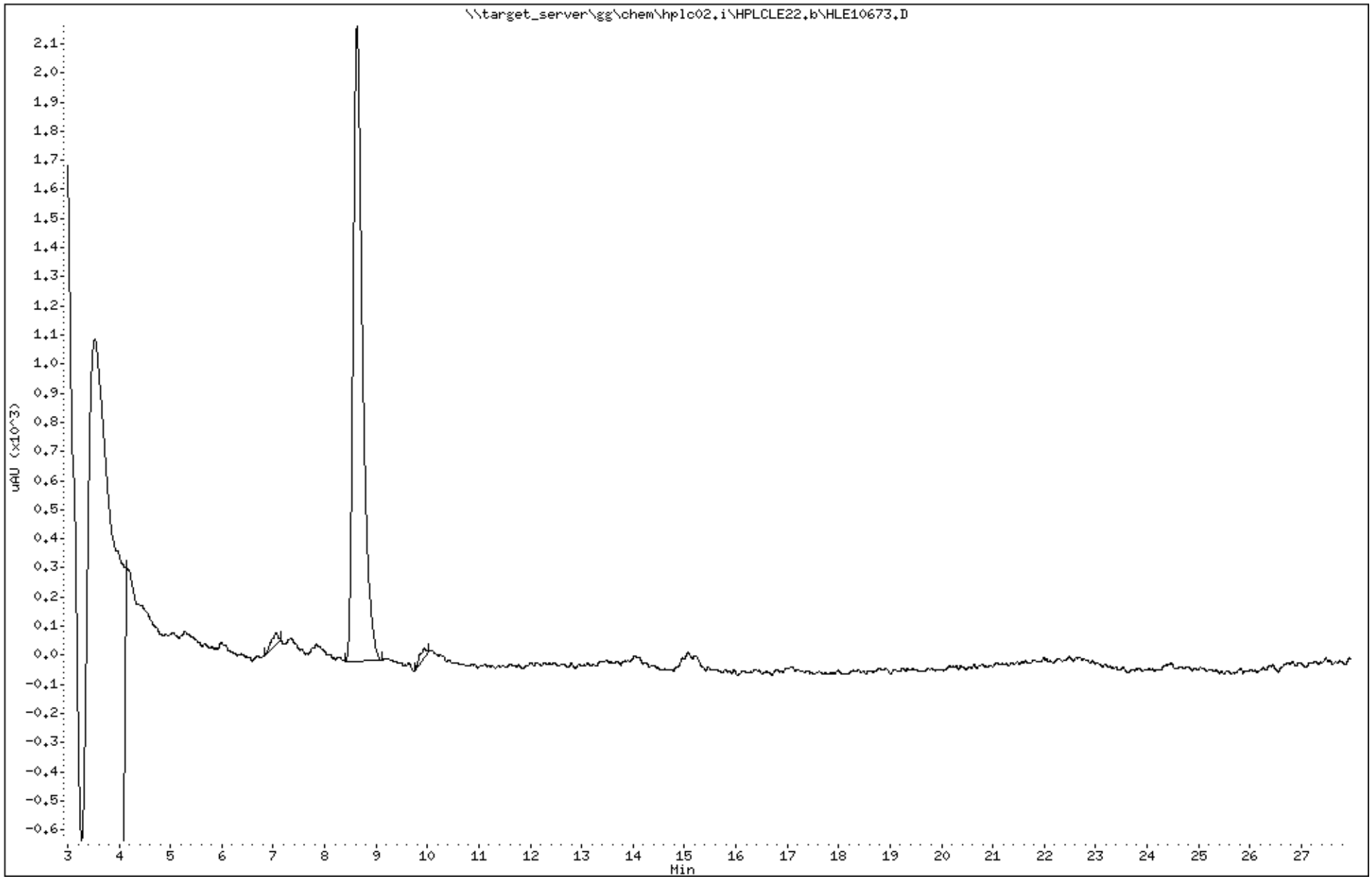
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10673.D
Lab Smp Id: SL4233-17 Client Smp ID: CHAAP-21B-BB-SS06
Inj Date : 23-MAY-2018 09:21
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-17
Misc Info : WG228942,WG228770,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\EXPB05A.m
Meth Date : 23-May-2018 13:50 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 92
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01030	Weight of Sample (Kg)
M	24.667	% Moisture
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10673.D
Date : 23-MAY-2018 09:21
Client ID: CHAAP-21B-BB-SS06
Instrument: hplc02.i
Sample Info: SL4233-17
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 1000101

Data File: HLE10673.D
Report Date: 31-May-2018 04:51

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HPLCLE22.b\HLE10673.D
Lab Smp Id: SL4233-17 Client Smp ID: CHAAP-21B-BB-SS06
Inj Date : 23-MAY-2018 09:21
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-17
Misc Info : WG228942,WG228770,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\EXPB05A.m\EXPB05A.m
Meth Date : 23-May-2018 13:40 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 92
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

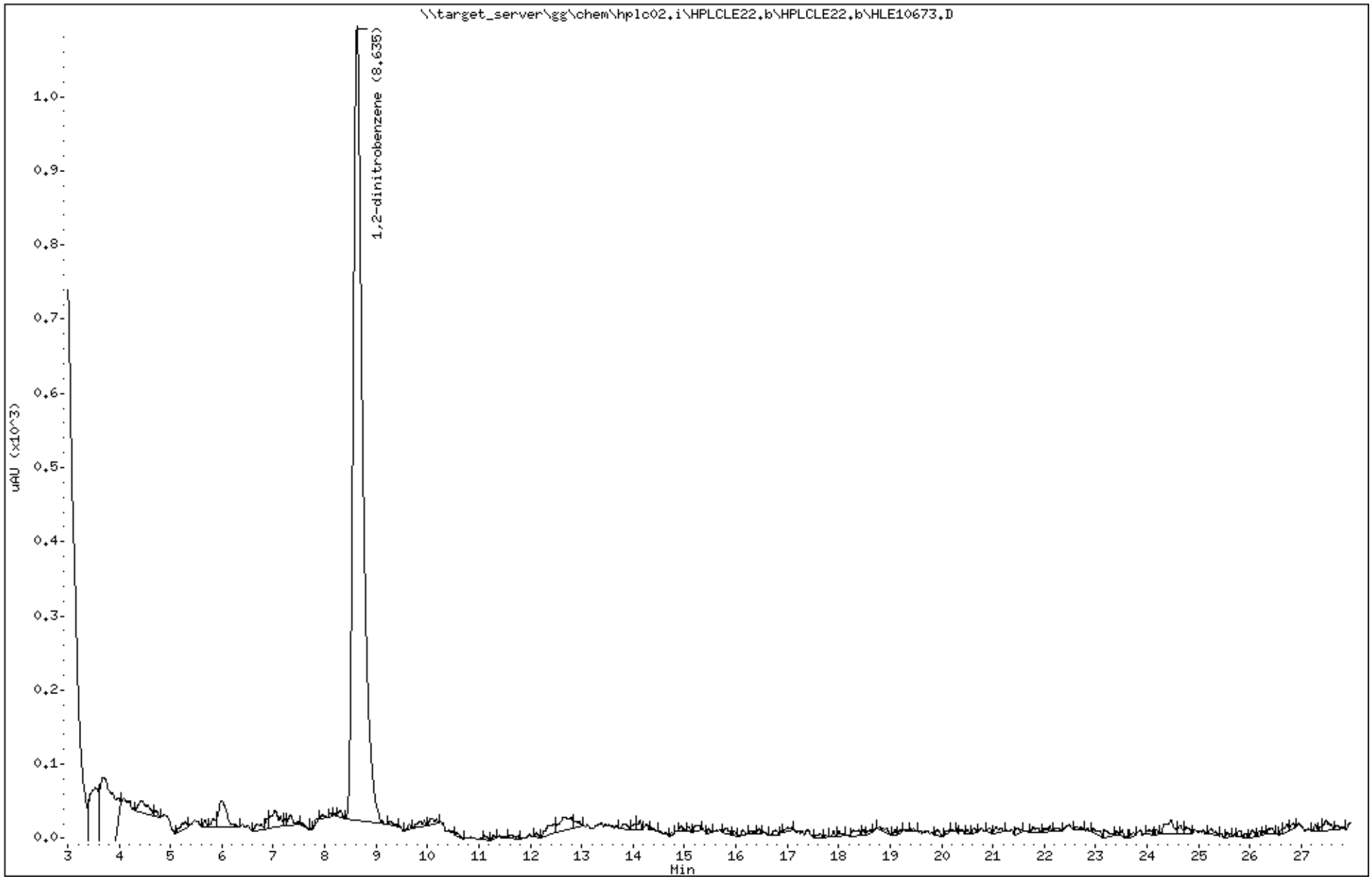
Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01030	Weight of Sample (Kg)
M	24.667	% Moisture
Cpnd Variable		Local Compound Variable

						CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	
Compounds	RT	EXP RT	DLT RT	RESPONSE				REVIEW CODE
$ 2 1,2-dinitrobenzene	8.634	8.581	0.053	1071		0.23145	596	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HPLCLE22.b\HLE10673.D
Date : 23-MAY-2018 09:21
Client ID: CHAAP-21B-BB-SS06
Sample Info: SL4233-17

Instrument: hplc02.i

Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 1000103

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4233-19
Client ID: CHAAP-21B-BB-SS106
Project: Cornhusker Army Ammunition Plant
SDG: SL4233
Lab File ID: HLE10674.D

Sample Date: 15-MAY-18
Received Date: 16-MAY-18
Extract Date: 21-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228770

Analysis Date: 23-MAY-18
Analyst: AC
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 74.
Report Date: 31-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	64	ug/Kgdrywt	1	100	130	11.	64.
RDX	U	64	ug/Kgdrywt	1	100	130	8.7	64.
1,3,5-Trinitrobenzene	U	64	ug/Kgdrywt	1	100	130	8.6	64.
1,3-Dinitrobenzene	U	64	ug/Kgdrywt	1	100	130	7.9	64.
Tetryl	U	64	ug/Kgdrywt	1	100	130	6.9	64.
Nitrobenzene	U	64	ug/Kgdrywt	1	100	130	28.	64.
2,4,6-Trinitrotoluene	U	64	ug/Kgdrywt	1	100	130	8.6	64.
2-Am-DNT	U	64	ug/Kgdrywt	1	100	130	27.	64.
4-Am-DNT	U	64	ug/Kgdrywt	1	100	130	22.	64.
2,6-Dinitrotoluene	U	64	ug/Kgdrywt	1	100	130	34.	64.
2,4-Dinitrotoluene	U	64	ug/Kgdrywt	1	100	130	19.	64.
2-Nitrotoluene	U	64	ug/Kgdrywt	1	100	130	15.	64.
3-Nitrotoluene	U	64	ug/Kgdrywt	1	100	130	10.	64.
4-Nitrotoluene	U	64	ug/Kgdrywt	1	100	130	34.	64.
Nitroglycerin	U	510	ug/Kgdrywt	1	800	1000	160	510
PETN	U	510	ug/Kgdrywt	1	800	1000	140	510
1,2-Dinitrobenzene		91.4	%					

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10674.D
Report Date: 31-May-2018 04:44

Katahdin Analytical Services

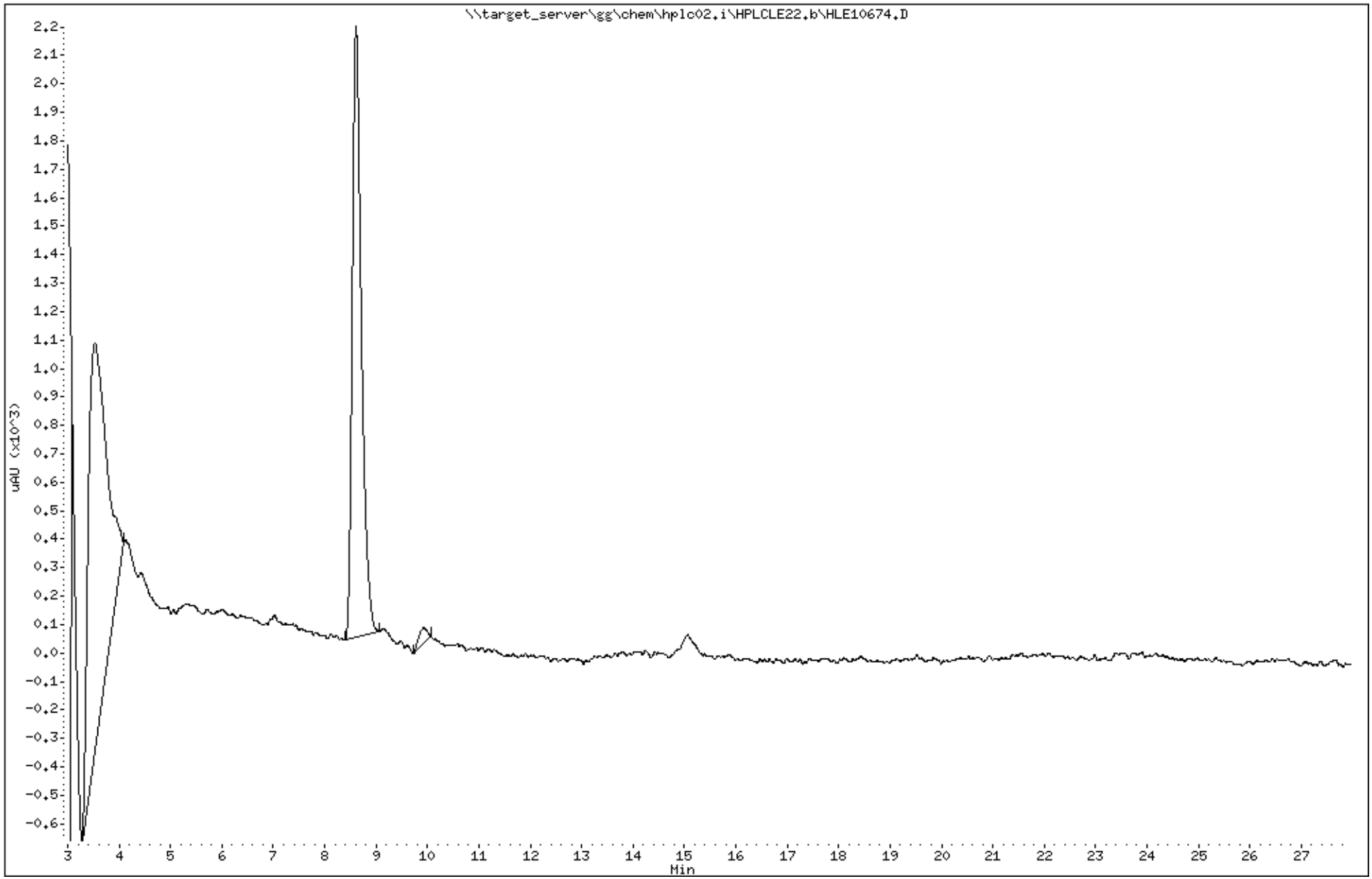
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10674.D
Lab Smp Id: SL4233-19 Client Smp ID: CHAAP-21B-BB-SS106
Inj Date : 23-MAY-2018 09:52
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-19
Misc Info : WG228942,WG228770,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\EXPB05A.m
Meth Date : 23-May-2018 13:50 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 93
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01060	Weight of Sample (Kg)
M	26.312	% Moisture
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10674.D
Date : 23-MAY-2018 09:52
Client ID: CHAAP-21B-BB-SS106
Instrument: hplc02.i
Sample Info: SL4233-19
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 1000106

Data File: HLE10674.D
Report Date: 31-May-2018 04:51

Katahdin Analytical Services

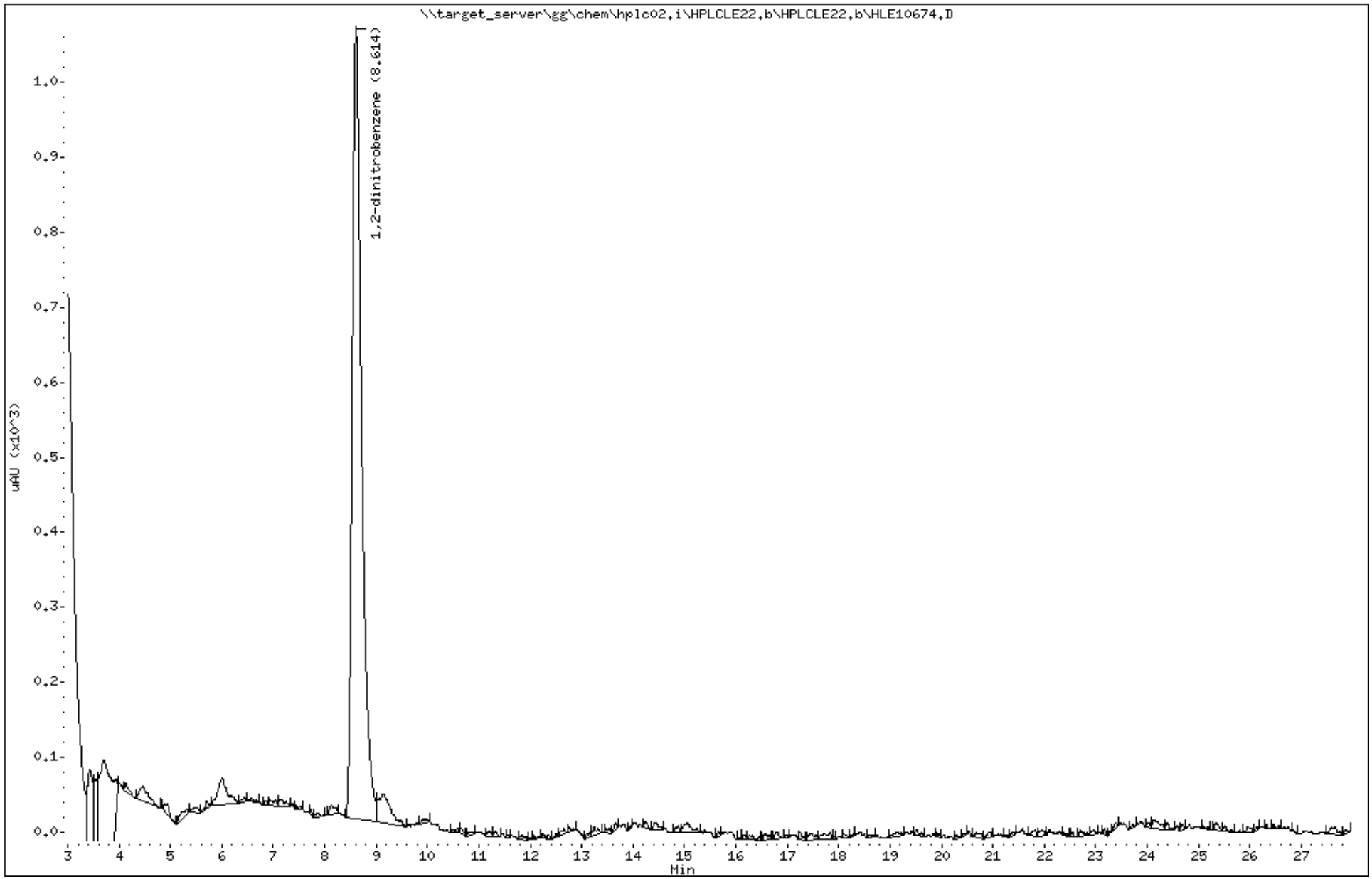
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HPLCLE22.b\HLE10674.D
Lab Smp Id: SL4233-19 Client Smp ID: CHAAP-21B-BB-SS106
Inj Date : 23-MAY-2018 09:52
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-19
Misc Info : WG228942,WG228770,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\EXPB05A.m\EXPB05A.m
Meth Date : 23-May-2018 13:40 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 93
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01060	Weight of Sample (Kg)
M	26.312	% Moisture
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	REVIEW CODE
$ 2 1,2-dinitrobenzene	8.613	8.581	0.032	1058	0.22864	585	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HPLCLE22.b\HLE10674.D
Date : 23-MAY-2018 09:52
Client ID: CHAAP-21B-BB-SS106
Sample Info: SL4233-19
Instrument: hplc02.i
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 1000108

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4233-21
Client ID: CHAAP-21B-BPA-SS10
Project: Cornhusker Army Ammunition Plant
SDG: SL4233
Lab File ID: HLE10675.D

Sample Date: 15-MAY-18
Received Date: 16-MAY-18
Extract Date: 21-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228770

Analysis Date: 23-MAY-18
Analyst: AC
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 83.
Report Date: 31-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	57	ug/Kgdrywt	1	100	110	9.8	57.
RDX	U	57	ug/Kgdrywt	1	100	110	7.7	57.
1,3,5-Trinitrobenzene	U	57	ug/Kgdrywt	1	100	110	7.6	57.
1,3-Dinitrobenzene	U	57	ug/Kgdrywt	1	100	110	7.0	57.
Tetryl	U	57	ug/Kgdrywt	1	100	110	6.1	57.
Nitrobenzene	U	57	ug/Kgdrywt	1	100	110	25.	57.
2,4,6-Trinitrotoluene	U	57	ug/Kgdrywt	1	100	110	7.6	57.
2-Am-DNT	U	57	ug/Kgdrywt	1	100	110	24.	57.
4-Am-DNT	U	57	ug/Kgdrywt	1	100	110	19.	57.
2,6-Dinitrotoluene	U	57	ug/Kgdrywt	1	100	110	31.	57.
2,4-Dinitrotoluene	U	57	ug/Kgdrywt	1	100	110	17.	57.
2-Nitrotoluene	U	57	ug/Kgdrywt	1	100	110	14.	57.
3-Nitrotoluene	U	57	ug/Kgdrywt	1	100	110	9.0	57.
4-Nitrotoluene	U	57	ug/Kgdrywt	1	100	110	31.	57.
Nitroglycerin	U	460	ug/Kgdrywt	1	800	910	140	460
PETN	U	460	ug/Kgdrywt	1	800	910	120	460
1,2-Dinitrobenzene		91.2	%					

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10675.D
Report Date: 31-May-2018 04:44

Katahdin Analytical Services

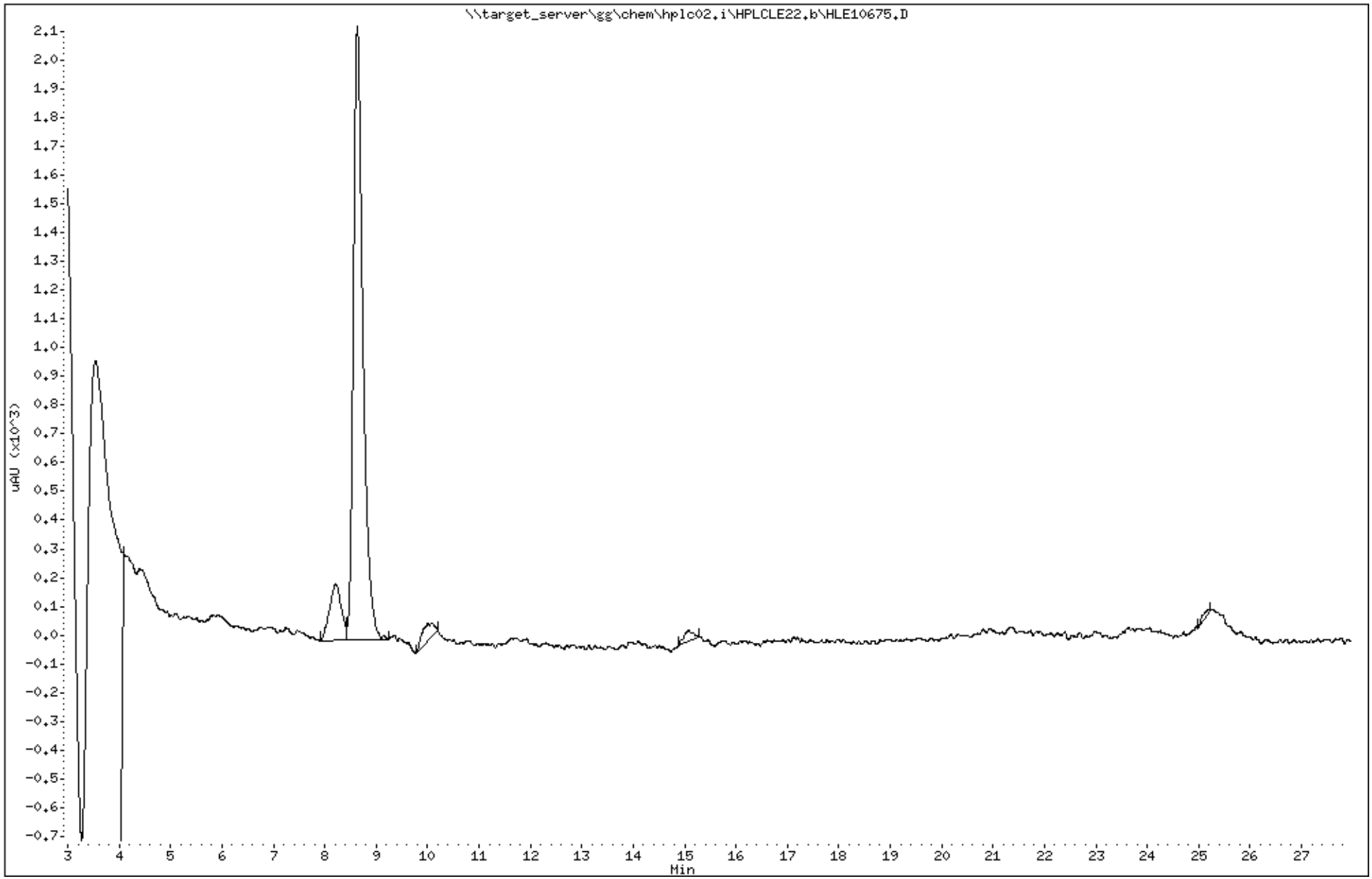
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10675.D
Lab Smp Id: SL4233-21 Client Smp ID: CHAAP-21B-BPA-SS10
Inj Date : 23-MAY-2018 10:23
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-21
Misc Info : WG228942,WG228770,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\EXPB05A.m
Meth Date : 23-May-2018 13:50 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 94
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01060	Weight of Sample (Kg)
M	17.106	% Moisture
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10675.D
Date : 23-MAY-2018 10:23
Client ID: CHAAP-21B-BPA-SS10
Instrument: hplc02.i
Sample Info: SL4233-21
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 1000111

Data File: HLE10675.D
Report Date: 31-May-2018 04:51

Katahdin Analytical Services

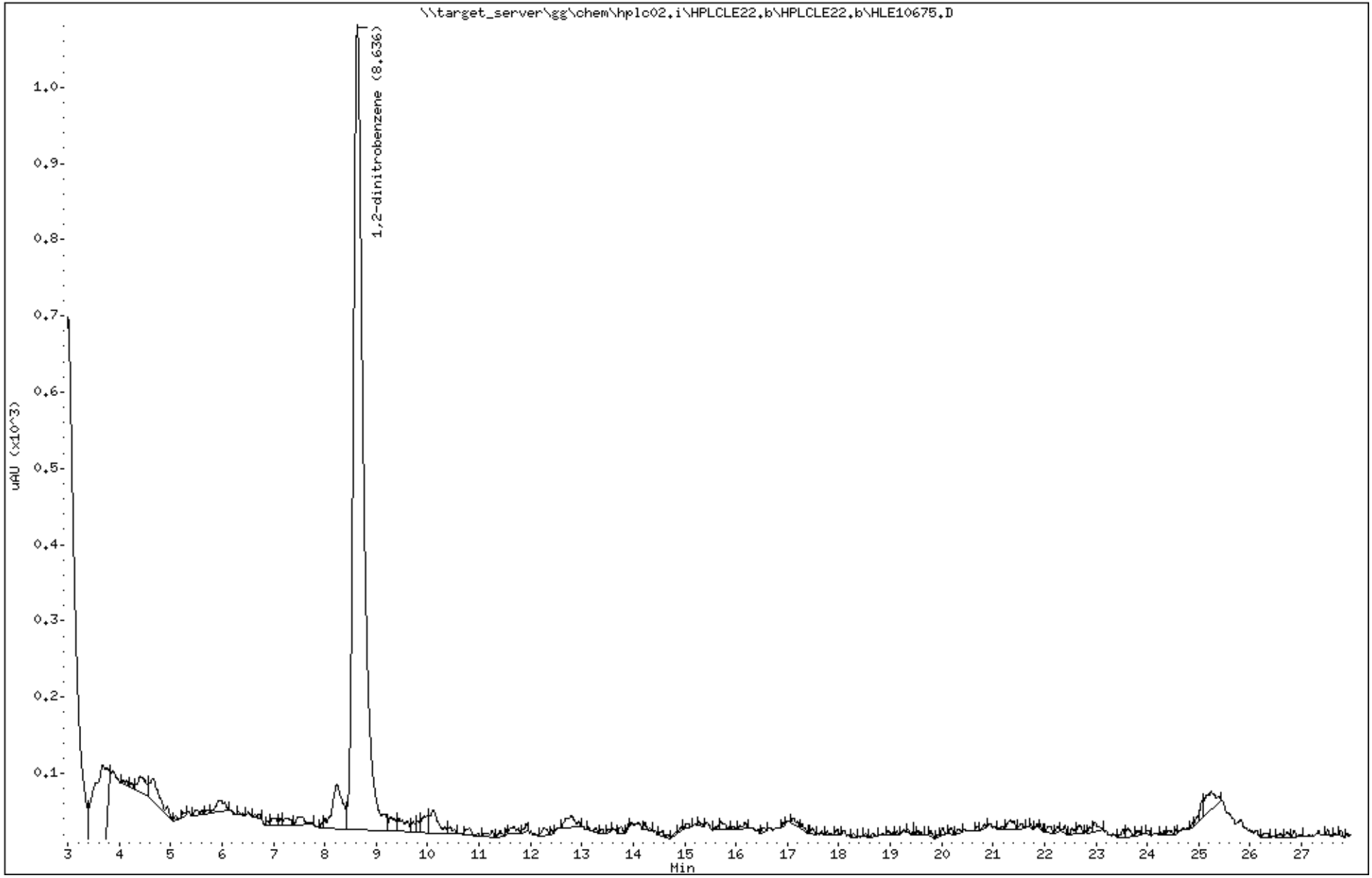
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HPLCLE22.b\HLE10675.D
Lab Smp Id: SL4233-21 Client Smp ID: CHAAP-21B-BPA-SS10
Inj Date : 23-MAY-2018 10:23
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-21
Misc Info : WG228942,WG228770,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\EXPB05A.m\EXPB05A.m
Meth Date : 23-May-2018 13:40 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 94
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01060	Weight of Sample (Kg)
M	17.106	% Moisture
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	REVIEW CODE
$ 2 1,2-dinitrobenzene	8.636	8.581	0.055	1056	0.22820	519	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HPLCLE22.b\HLE10675.D
Date : 23-MAY-2018 10:23
Client ID: CHAAP-21B-BPA-SS10
Instrument: hplc02.i
Sample Info: SL4233-21
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 1000113

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4233-22
Client ID: CHAAP-21B-BPA-SS10-5
Project: Cornhusker Army Ammunition Plant
SDG: SL4233
Lab File ID: HLE10676.D

Sample Date: 15-MAY-18
Received Date: 16-MAY-18
Extract Date: 21-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228770

Analysis Date: 23-MAY-18
Analyst: AC
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 80.
Report Date: 31-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	59	ug/Kgdrywt	1	100	120	10.	59.
RDX	U	59	ug/Kgdrywt	1	100	120	8.0	59.
1,3,5-Trinitrobenzene	U	59	ug/Kgdrywt	1	100	120	7.9	59.
1,3-Dinitrobenzene	U	59	ug/Kgdrywt	1	100	120	7.3	59.
Tetryl	U	59	ug/Kgdrywt	1	100	120	6.4	59.
Nitrobenzene	U	59	ug/Kgdrywt	1	100	120	26.	59.
2,4,6-Trinitrotoluene	U	59	ug/Kgdrywt	1	100	120	7.9	59.
2-Am-DNT	U	59	ug/Kgdrywt	1	100	120	25.	59.
4-Am-DNT	U	59	ug/Kgdrywt	1	100	120	20.	59.
2,6-Dinitrotoluene	U	59	ug/Kgdrywt	1	100	120	32.	59.
2,4-Dinitrotoluene	U	59	ug/Kgdrywt	1	100	120	18.	59.
2-Nitrotoluene	U	59	ug/Kgdrywt	1	100	120	14.	59.
3-Nitrotoluene	U	59	ug/Kgdrywt	1	100	120	9.3	59.
4-Nitrotoluene	U	59	ug/Kgdrywt	1	100	120	32.	59.
Nitroglycerin	U	470	ug/Kgdrywt	1	800	940	150	470
PETN	U	470	ug/Kgdrywt	1	800	940	130	470
1,2-Dinitrobenzene		94.9	%					

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10676.D
Report Date: 31-May-2018 04:44

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10676.D
Lab Smp Id: SL4233-22 Client Smp ID: HAAP-21B-BPA-SS10-5
Inj Date : 23-MAY-2018 10:54
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-22
Misc Info : WG228942,WG228770,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\EXPB05A.m
Meth Date : 23-May-2018 13:50 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 95
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01060	Weight of Sample (Kg)
M	19.934	% Moisture
Cpnd Variable		Local Compound Variable

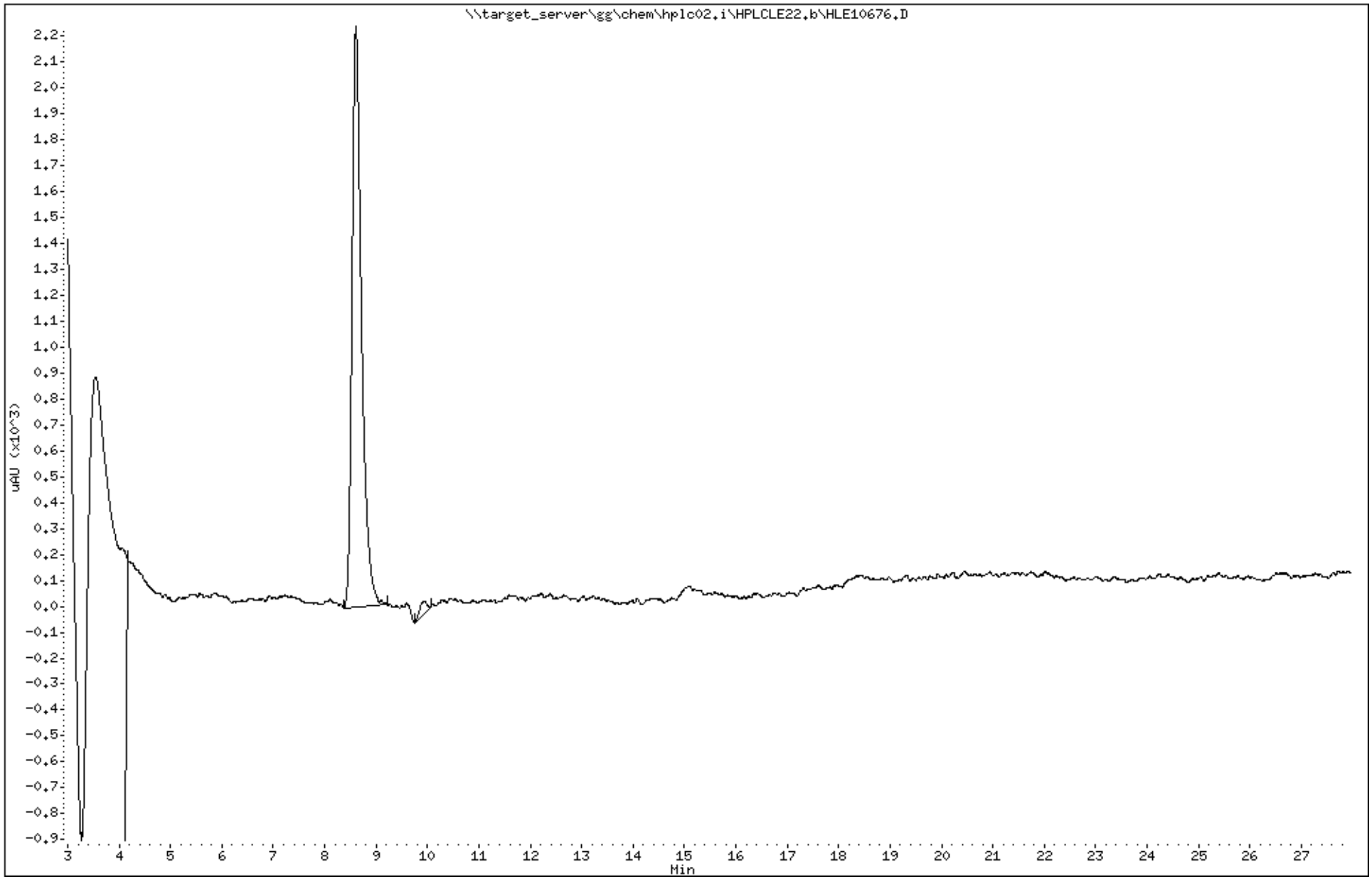
Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10676.D
Date : 23-MAY-2018 10:54
Client ID: HAAP-21B-BPA-SS10-5
Sample Info: SL4233-22

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 1000116

Data File: HLE10676.D
Report Date: 31-May-2018 04:51

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HPLCLE22.b\HLE10676.D
Lab Smp Id: SL4233-22 Client Smp ID: HAAP-21B-BPA-SS10-5
Inj Date : 23-MAY-2018 10:54
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-22
Misc Info : WG228942,WG228770,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\EXPB05A.m\EXPB05A.m
Meth Date : 23-May-2018 13:40 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 95
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01060	Weight of Sample (Kg)
M	19.934	% Moisture
Cpnd Variable		Local Compound Variable

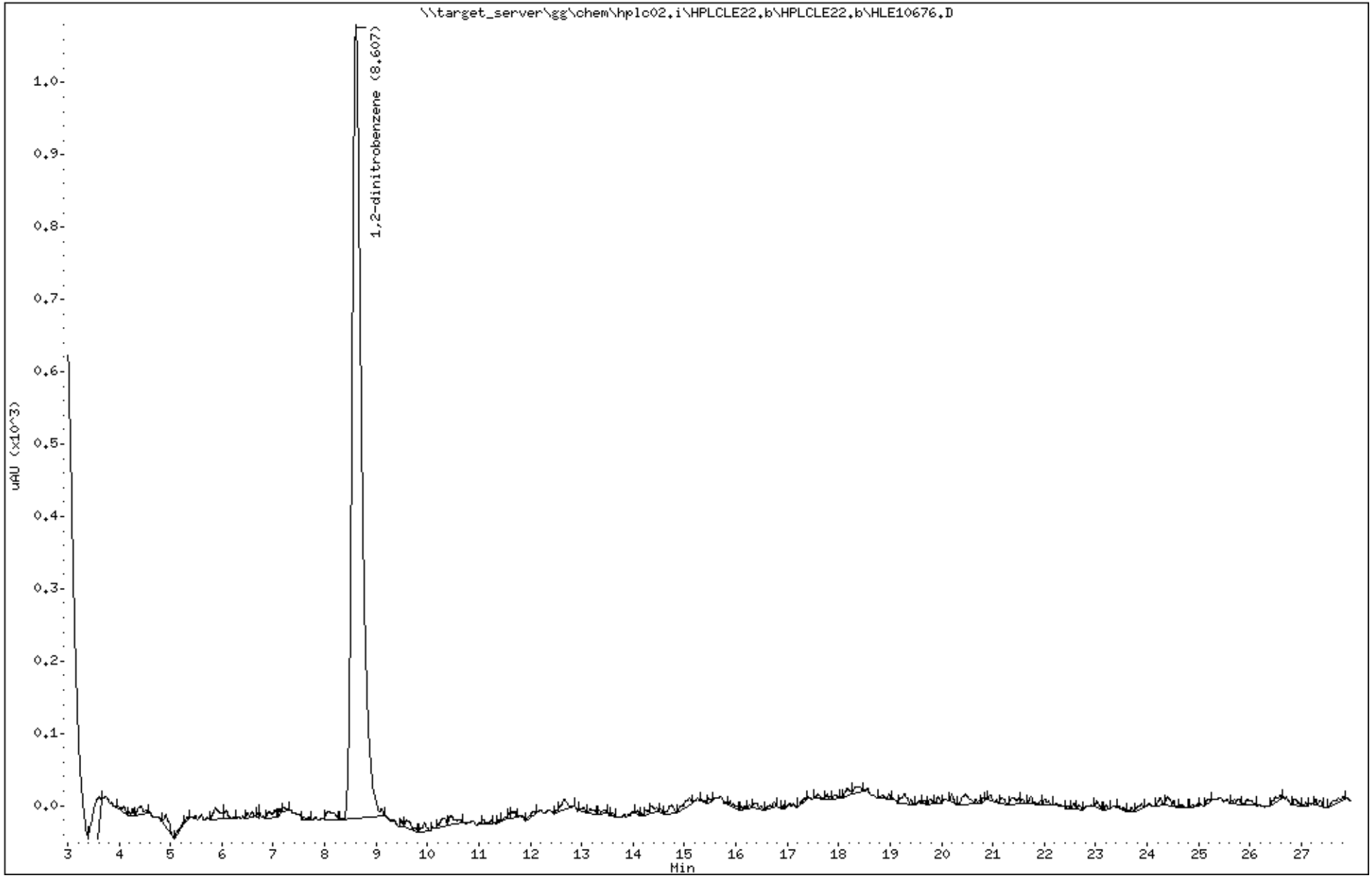
Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	REVIEW CODE
$ 2 1,2-dinitrobenzene	8.606	8.581	0.025	1097	0.23706	559	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HPLCLE22.b\HLE10676.D
Date : 23-MAY-2018 10:54
Client ID: HAAP-21B-BPA-SS10-5
Sample Info: SL4233-22

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 1000118

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4233-23
Client ID: CHAAP-21B-BPA-SS09
Project: Cornhusker Army Ammunition Plant
SDG: SL4233
Lab File ID: HLE10677.D

Sample Date: 15-MAY-18
Received Date: 16-MAY-18
Extract Date: 21-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228770

Analysis Date: 23-MAY-18
Analyst: AC
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 81.
Report Date: 31-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	56	ug/Kgdrywt	1	100	110	9.5	56.
RDX	U	56	ug/Kgdrywt	1	100	110	7.5	56.
1,3,5-Trinitrobenzene	U	56	ug/Kgdrywt	1	100	110	7.4	56.
1,3-Dinitrobenzene	U	56	ug/Kgdrywt	1	100	110	6.9	56.
Tetryl	U	56	ug/Kgdrywt	1	100	110	6.0	56.
Nitrobenzene	U	56	ug/Kgdrywt	1	100	110	24.	56.
2,4,6-Trinitrotoluene	U	56	ug/Kgdrywt	1	100	110	7.4	56.
2-Am-DNT	U	56	ug/Kgdrywt	1	100	110	23.	56.
4-Am-DNT	U	56	ug/Kgdrywt	1	100	110	19.	56.
2,6-Dinitrotoluene	U	56	ug/Kgdrywt	1	100	110	30.	56.
2,4-Dinitrotoluene	U	56	ug/Kgdrywt	1	100	110	17.	56.
2-Nitrotoluene	U	56	ug/Kgdrywt	1	100	110	13.	56.
3-Nitrotoluene	U	56	ug/Kgdrywt	1	100	110	8.8	56.
4-Nitrotoluene	U	56	ug/Kgdrywt	1	100	110	30.	56.
Nitroglycerin	U	440	ug/Kgdrywt	1	800	890	140	440
PETN	U	440	ug/Kgdrywt	1	800	890	120	440
1,2-Dinitrobenzene		96.4	%					

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10677.D
Report Date: 31-May-2018 04:44

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10677.D
Lab Smp Id: SL4233-23 Client Smp ID: CHAAP-21B-BPA-SS09
Inj Date : 23-MAY-2018 11:25
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-23
Misc Info : WG228942,WG228770,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\EXPB05A.m
Meth Date : 23-May-2018 13:50 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 96
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01110	Weight of Sample (Kg)
M	18.847	% Moisture
Cpnd Variable		Local Compound Variable

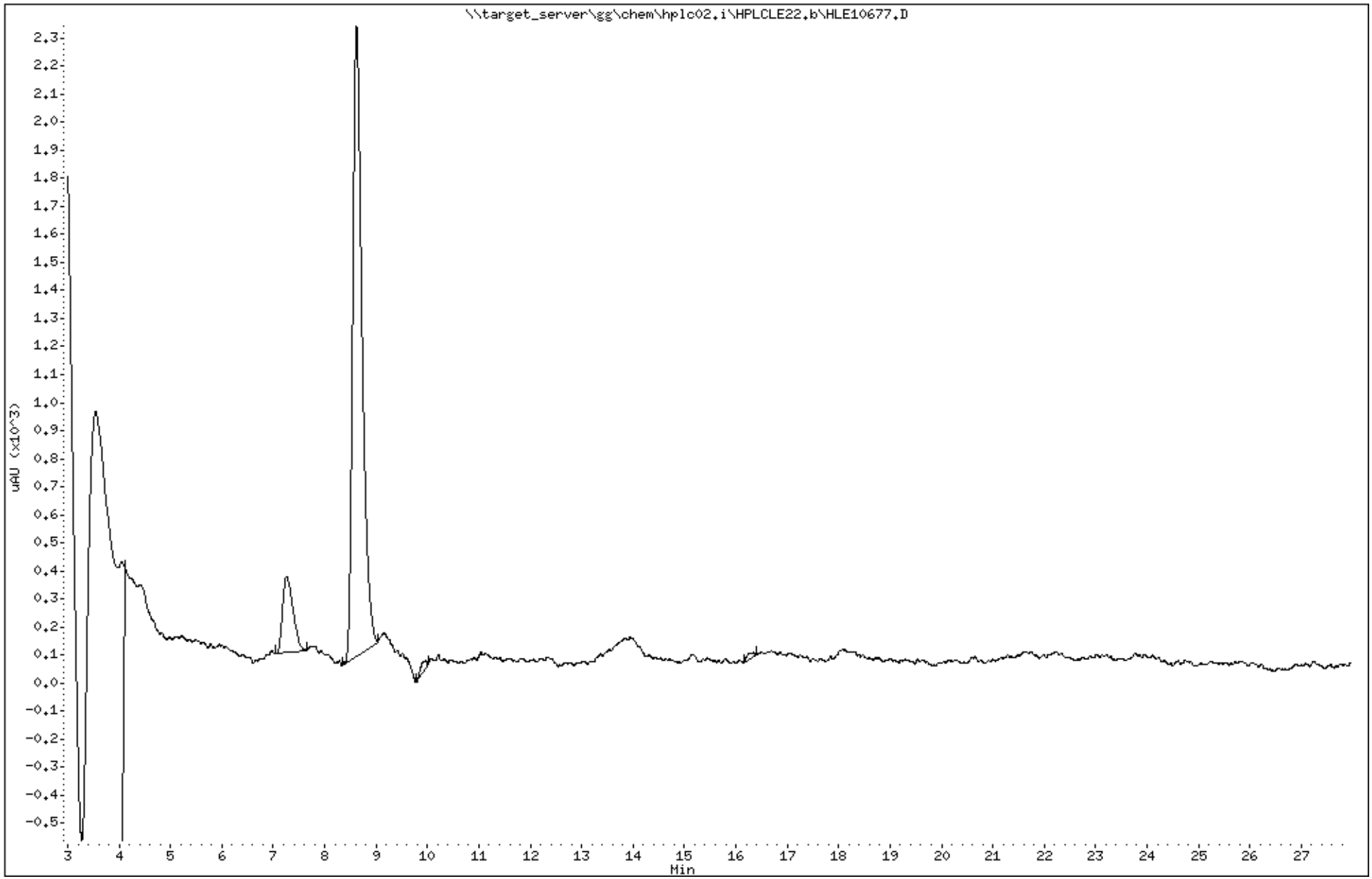
Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10677.D
Date : 23-MAY-2018 11:25
Client ID: CHAAP-21B-BPA-SS09
Sample Info: SL4233-23

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 1000121

Data File: HLE10677.D
Report Date: 31-May-2018 04:51

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HPLCLE22.b\HLE10677.D
Lab Smp Id: SL4233-23 Client Smp ID: CHAAP-21B-BPA-SS09
Inj Date : 23-MAY-2018 11:25
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-23
Misc Info : WG228942,WG228770,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\EXPB05A.m\EXPB05A.m
Meth Date : 23-May-2018 13:40 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 96
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01110	Weight of Sample (Kg)
M	18.847	% Moisture
Cpnd Variable		Local Compound Variable

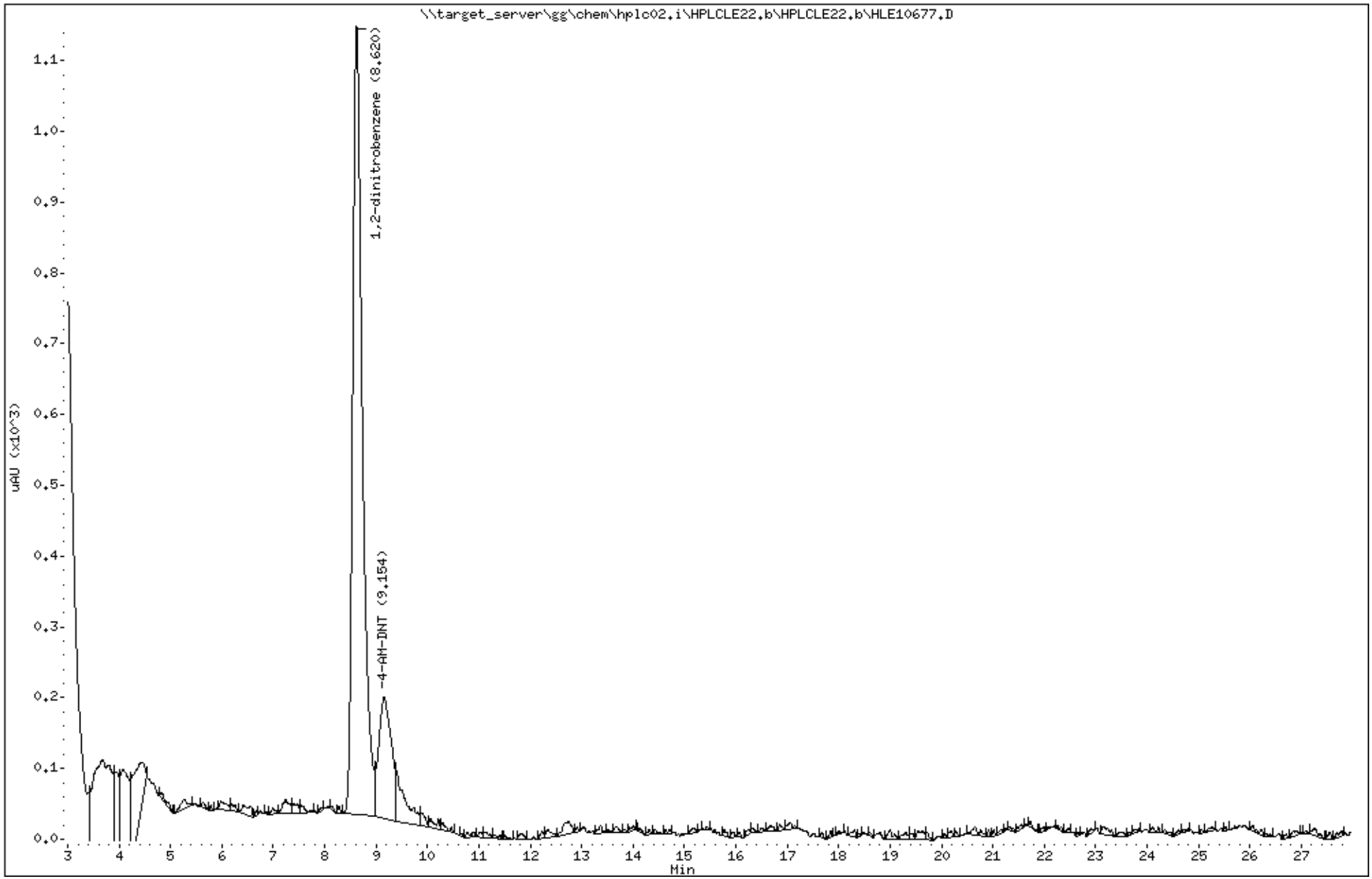
Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	REVIEW CODE	
$ 2 1,2-dinitrobenzene	8.620	8.581	0.039	1115	0.24095	535		
~~11 4-AM-DNT~~	~~9.153~~	~~9.154~~	~~-0.001~~	~~170~~	~~0.03951~~	~~87.7(aM)~~	~~M3~~	NC

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.

7:20 am, May 31, 2018

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HPLCLE22.b\HLE10677.D
Date : 23-MAY-2018 11:25
Client ID: CHAAP-21B-BPA-SS09
Instrument: hplc02.i
Sample Info: SL4233-23
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 1000123

Data File: HLE10810.D
Report Date: 31-May-2018 05:46

Katahdin Analytical Services

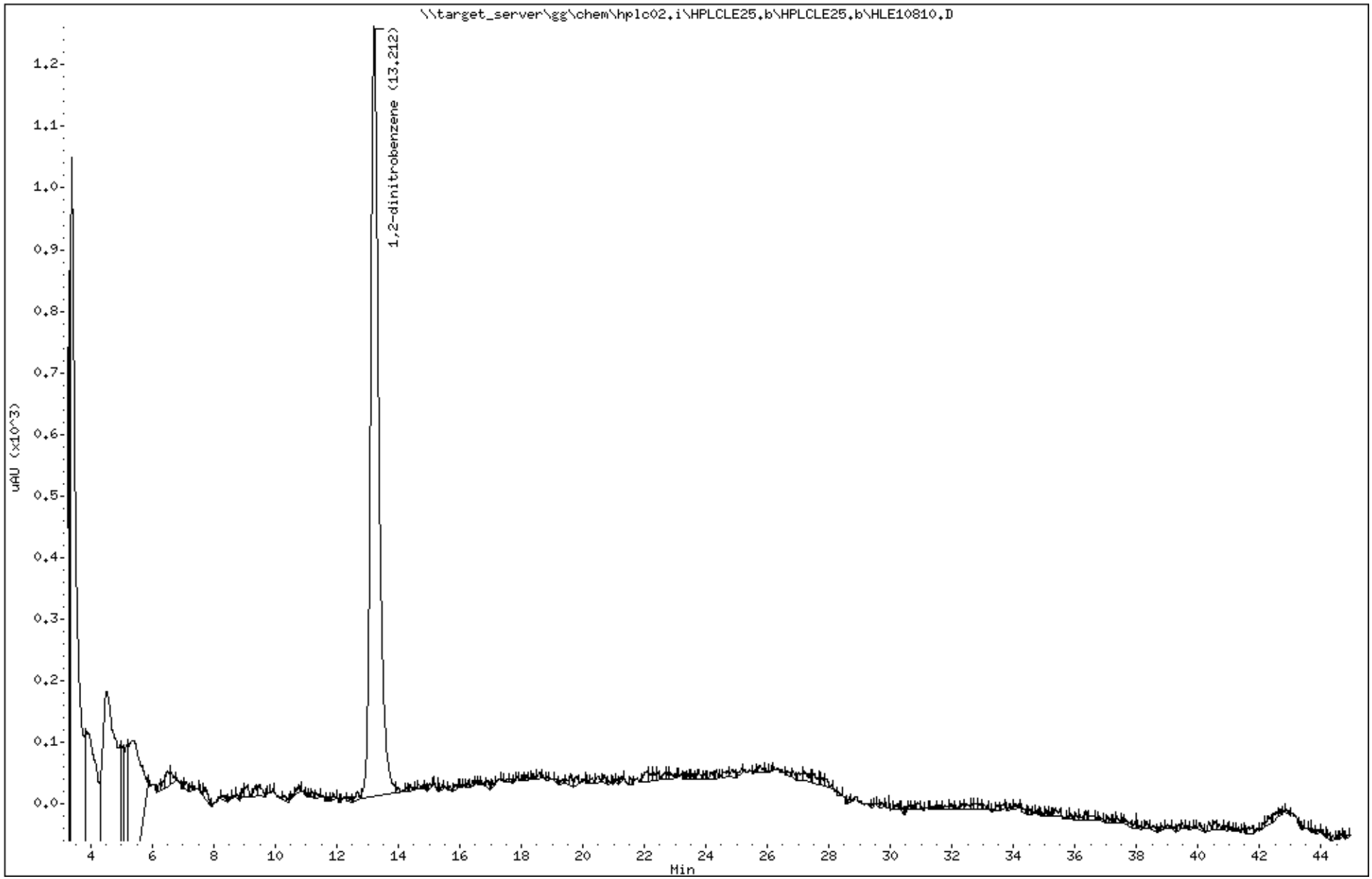
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE25.b\HPLCLE25.b\HLE10810.D
Lab Smp Id: SL4233-23C Client Smp ID: CHAAP-21B-BPA-SS09
Inj Date : 26-MAY-2018 23:13
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-23C
Misc Info : WG228942,WG228770,WG210620-13
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE25.b\E2016A.m\E2016A.m
Meth Date : 29-May-2018 16:32 abullentin Quant Type: ESTD
Cal Date : 01-AUG-2017 14:33 Cal File: HKH10014.D
Als bottle: 29
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01110	Weight of Sample (Kg)
M	18.847	% Moisture
Cpnd Variable		Local Compound Variable

					CONCENTRATIONS		
					ON-COLUMN	FINAL	
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/mL)	(ug/Kgdrywt)	REVIEW CODE
$ 2 1,2-dinitrobenzene	13.211	13.228	-0.017	1252	0.23457	521	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE25.b\HPLCLE25.b\HLE10810.D
Date : 26-MAY-2018 23:13
Client ID: CHAAP-21B-BPA-SS09
Instrument: hplc02.i
Sample Info: SL4233-23C
Operator: AC
Column phase: Acclaim Exp E2
Column diameter: 4.60



Katahdin Analytical Services 1000125

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4233-24
Client ID: CHAAP-21B-BPA-SS09-5
Project: Cornhusker Army Ammunition Plant
SDG: SL4233
Lab File ID: HLE10678.D

Sample Date: 15-MAY-18
Received Date: 16-MAY-18
Extract Date: 21-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228770

Analysis Date: 23-MAY-18
Analyst: AC
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 80.
Report Date: 31-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	60	ug/Kgdrywt	1	100	120	10.	60.
RDX	U	60	ug/Kgdrywt	1	100	120	8.2	60.
1,3,5-Trinitrobenzene	U	60	ug/Kgdrywt	1	100	120	8.0	60.
1,3-Dinitrobenzene	U	60	ug/Kgdrywt	1	100	120	7.4	60.
Tetryl	U	60	ug/Kgdrywt	1	100	120	6.5	60.
Nitrobenzene	U	60	ug/Kgdrywt	1	100	120	26.	60.
2,4,6-Trinitrotoluene	U	60	ug/Kgdrywt	1	100	120	8.0	60.
2-Am-DNT	U	60	ug/Kgdrywt	1	100	120	25.	60.
4-Am-DNT	U	60	ug/Kgdrywt	1	100	120	20.	60.
2,6-Dinitrotoluene	U	60	ug/Kgdrywt	1	100	120	32.	60.
2,4-Dinitrotoluene	U	60	ug/Kgdrywt	1	100	120	18.	60.
2-Nitrotoluene	U	60	ug/Kgdrywt	1	100	120	14.	60.
3-Nitrotoluene	U	60	ug/Kgdrywt	1	100	120	9.5	60.
4-Nitrotoluene	U	60	ug/Kgdrywt	1	100	120	32.	60.
Nitroglycerin	U	480	ug/Kgdrywt	1	800	960	150	480
PETN	U	480	ug/Kgdrywt	1	800	960	130	480
1,2-Dinitrobenzene		92.8	%					

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10678.D
Report Date: 31-May-2018 04:44

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10678.D
Lab Smp Id: SL4233-24 Client Smp ID: HAAP-21B-BPA-SS09-5
Inj Date : 23-MAY-2018 11:56
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-24
Misc Info : WG228942,WG228770,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\EXPB05A.m
Meth Date : 23-May-2018 13:50 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 97
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

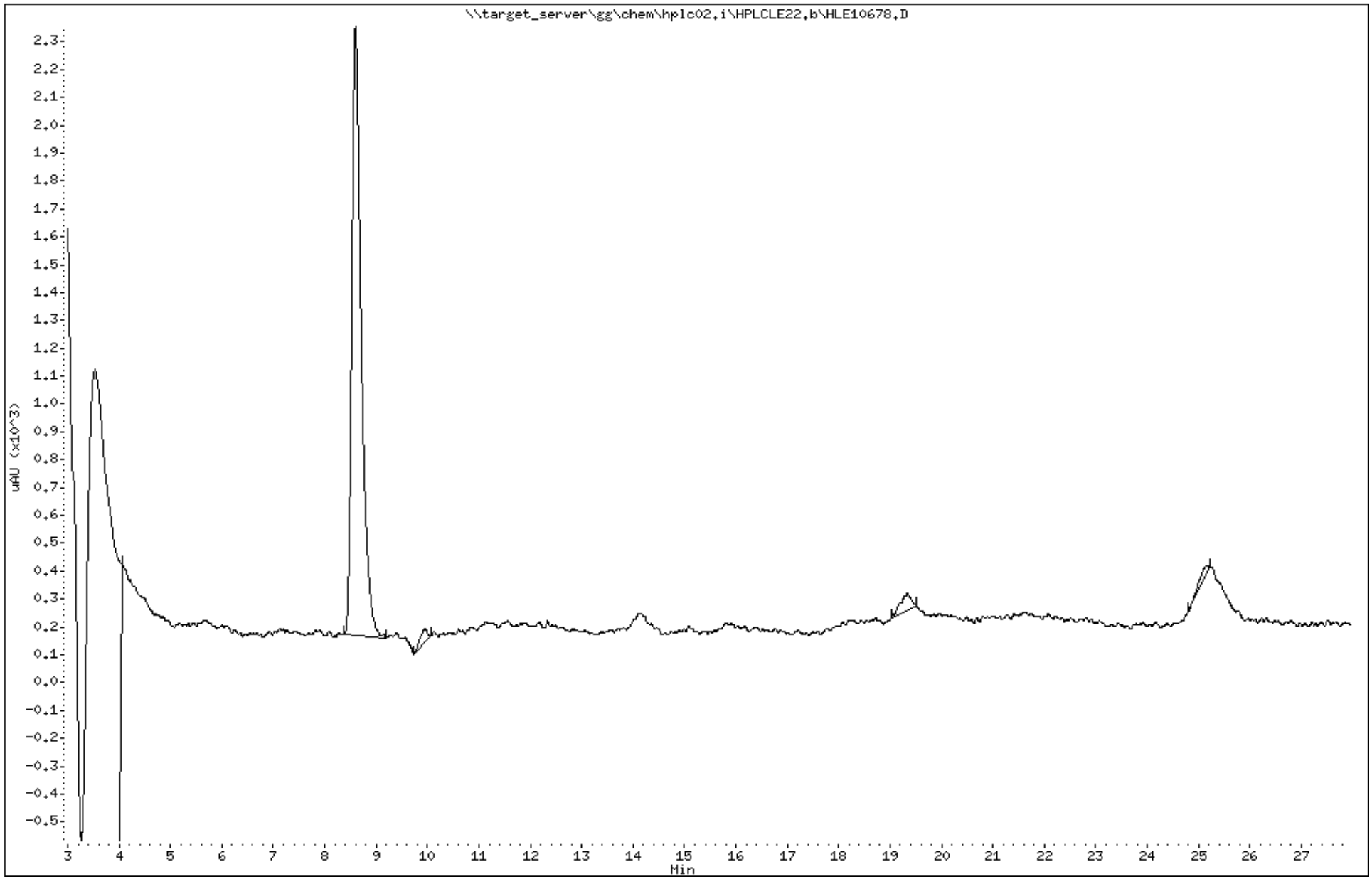
Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01040	Weight of Sample (Kg)
M	19.878	% Moisture
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10678.D
Date : 23-MAY-2018 11:56
Client ID: HAAP-21B-BPA-SS09-5
Sample Info: SL4233-24

Instrument: hplc02.i

Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 1000128

Data File: HLE10678.D
Report Date: 31-May-2018 04:51

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HPLCLE22.b\HLE10678.D
Lab Smp Id: SL4233-24 Client Smp ID: HAAP-21B-BPA-SS09-5
Inj Date : 23-MAY-2018 11:56
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-24
Misc Info : WG228942,WG228770,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\EXPB05A.m\EXPB05A.m
Meth Date : 23-May-2018 13:40 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 97
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01040	Weight of Sample (Kg)
M	19.878	% Moisture
Cpnd Variable		Local Compound Variable

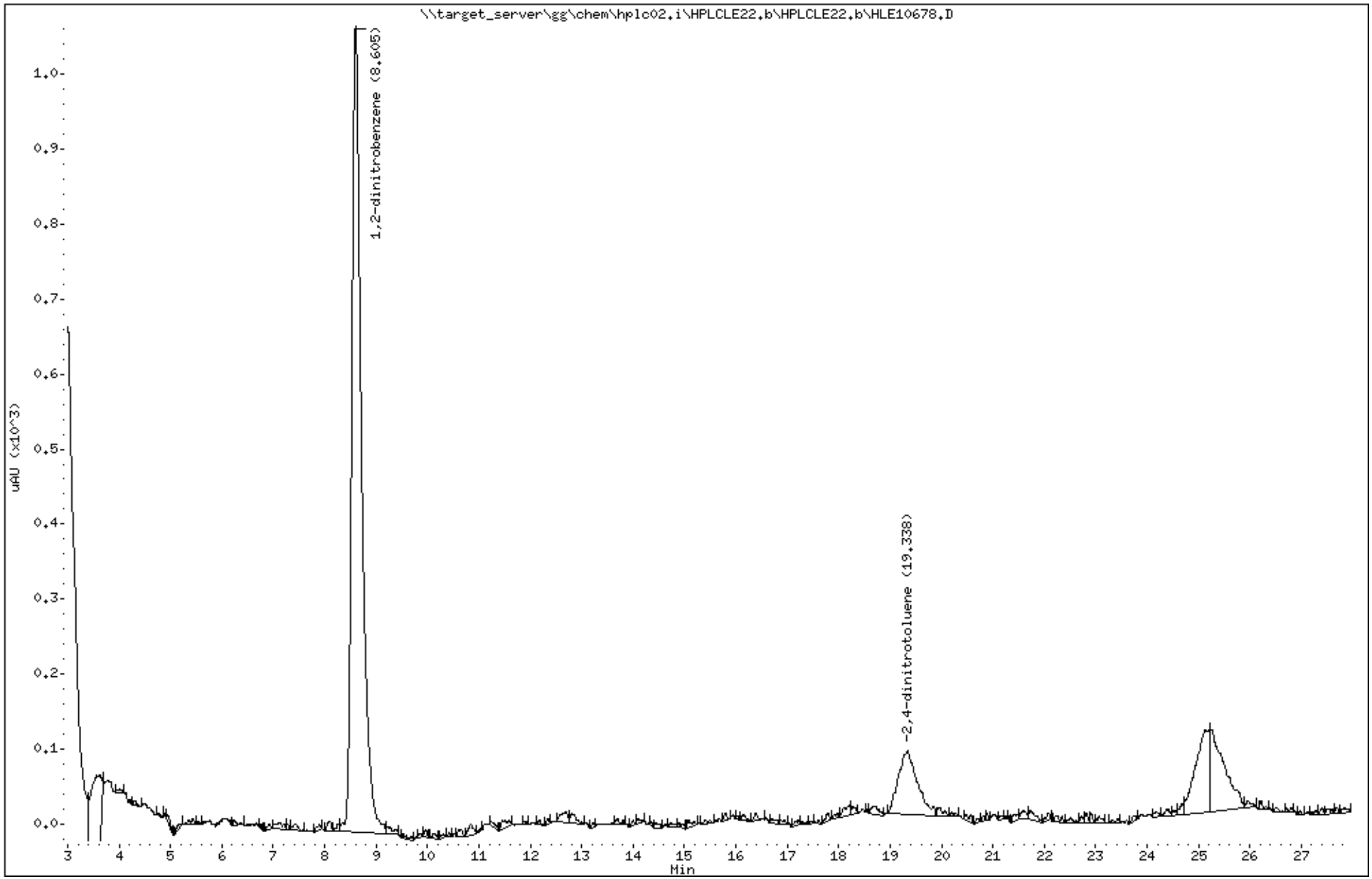
Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	REVIEW CODE
$ 2 1,2-dinitrobenzene	8.605	8.581	0.024	1074	0.23209	557	
~~14 2,4-dinitrotoluene~~	~~19.338~~	~~19.281~~	~~0.057~~	~~86~~	~~0.01862~~	~~44.7(a)~~	NC

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

7:20 am, May 31, 2018

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HPLCLE22.b\HLE10678.D
Date : 23-MAY-2018 11:56
Client ID: HAAP-21B-BPA-SS09-5
Instrument: hplc02.i
Sample Info: SL4233-24
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 1000130

Data File: HLE10811.D
Report Date: 31-May-2018 05:46

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE25.b\HPLCLE25.b\HLE10811.D
Lab Smp Id: SL4233-24C Client Smp ID: HAAP-21B-BPA-SS09-5
Inj Date : 27-MAY-2018 00:02
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-24C
Misc Info : WG228942,WG228770,WG210620-13
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE25.b\E2016A.m\E2016A.m
Meth Date : 29-May-2018 16:32 abullentin Quant Type: ESTD
Cal Date : 01-AUG-2017 14:33 Cal File: HKH10014.D
Als bottle: 30
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01040	Weight of Sample (Kg)
M	19.878	% Moisture
Cpnd Variable		Local Compound Variable

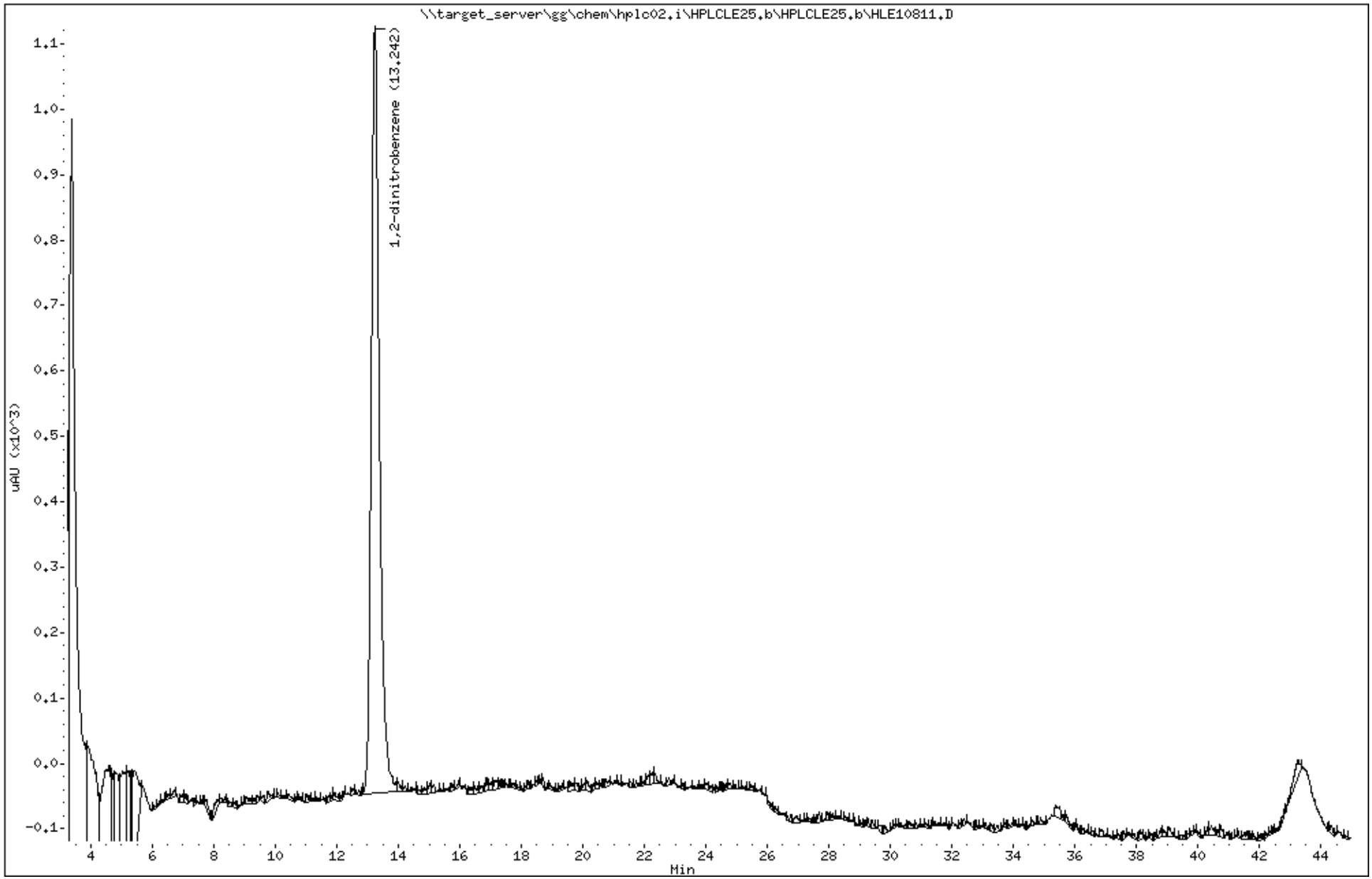
						CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	REVIEW CODE
Compounds	RT	EXP RT	DLT RT	RESPONSE				
$ 2 1,2-dinitrobenzene	13.242	13.228	0.014	1172		0.21943	527	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE25.b\HPLCLE25.b\HLE10811.D
Date : 27-MAY-2018 00:02
Client ID: HAAP-21B-BPA-SS09-5
Sample Info: SL4233-24C

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60

Column phase: Acclaim Exp E2



Katahdin Analytical Services 1000132

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4233-25
Client ID: CHAAP-21B-BPA-SS21
Project: Cornhusker Army Ammunition Plant
SDG: SL4233
Lab File ID: HLE10689.D

Sample Date: 15-MAY-18
Received Date: 16-MAY-18
Extract Date: 22-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228856

Analysis Date: 23-MAY-18
Analyst: AC
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 79.
Report Date: 31-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	56	ug/Kgdrywt	1	100	110	9.7	56.
RDX	U	56	ug/Kgdrywt	1	100	110	7.7	56.
1,3,5-Trinitrobenzene	U	56	ug/Kgdrywt	1	100	110	7.6	56.
1,3-Dinitrobenzene	U	56	ug/Kgdrywt	1	100	110	7.0	56.
Tetryl	U	56	ug/Kgdrywt	1	100	110	6.1	56.
Nitrobenzene	U	56	ug/Kgdrywt	1	100	110	25.	56.
2,4,6-Trinitrotoluene	U	56	ug/Kgdrywt	1	100	110	7.6	56.
2-Am-DNT	U	56	ug/Kgdrywt	1	100	110	24.	56.
4-Am-DNT	U	56	ug/Kgdrywt	1	100	110	19.	56.
2,6-Dinitrotoluene	U	56	ug/Kgdrywt	1	100	110	30.	56.
2,4-Dinitrotoluene	U	56	ug/Kgdrywt	1	100	110	17.	56.
2-Nitrotoluene	U	56	ug/Kgdrywt	1	100	110	14.	56.
3-Nitrotoluene	U	56	ug/Kgdrywt	1	100	110	8.9	56.
4-Nitrotoluene	U	56	ug/Kgdrywt	1	100	110	30.	56.
Nitroglycerin	U	450	ug/Kgdrywt	1	800	900	140	450
PETN	U	450	ug/Kgdrywt	1	800	900	120	450
1,2-Dinitrobenzene		96.1	%					

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10689.D
Report Date: 31-May-2018 04:59

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10689.D
Lab Smp Id: SL4233-25 Client Smp ID: CHAAP-21B-BPA-SS21
Inj Date : 23-MAY-2018 18:54
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-25
Misc Info : WG228942,WG228856,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\EXPB05A.m
Meth Date : 25-May-2018 03:43 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 8
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

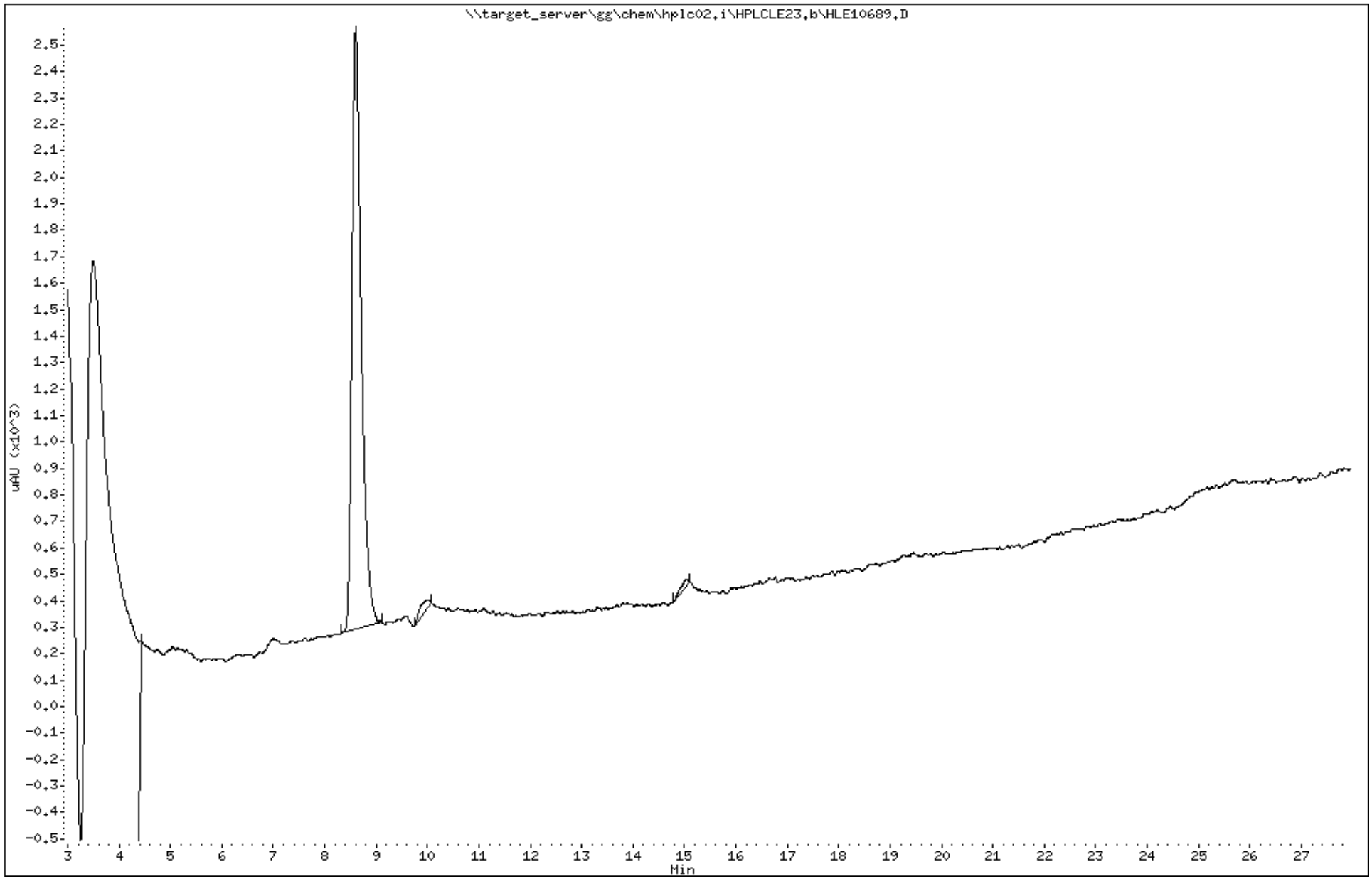
Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01120	Weight of Sample (Kg)
M	20.772	% Moisture
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10689.D
Date : 23-MAY-2018 18:54
Client ID: CHAAP-21B-BPA-SS21
Sample Info: SL4233-25

Instrument: hplc02.i

Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 1000135

Data File: HLE10689.D
Report Date: 31-May-2018 05:08

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HPLCLE23.b\HLE10689.D
Lab Smp Id: SL4233-25 Client Smp ID: CHAAP-21B-BPA-SS21
Inj Date : 23-MAY-2018 18:54
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-25
Misc Info : WG228942,WG228856,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\EXPB05A.m\EXPB05A.m
Meth Date : 25-May-2018 03:41 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 8
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01120	Weight of Sample (Kg)
M	20.772	% Moisture
Cpnd Variable		Local Compound Variable

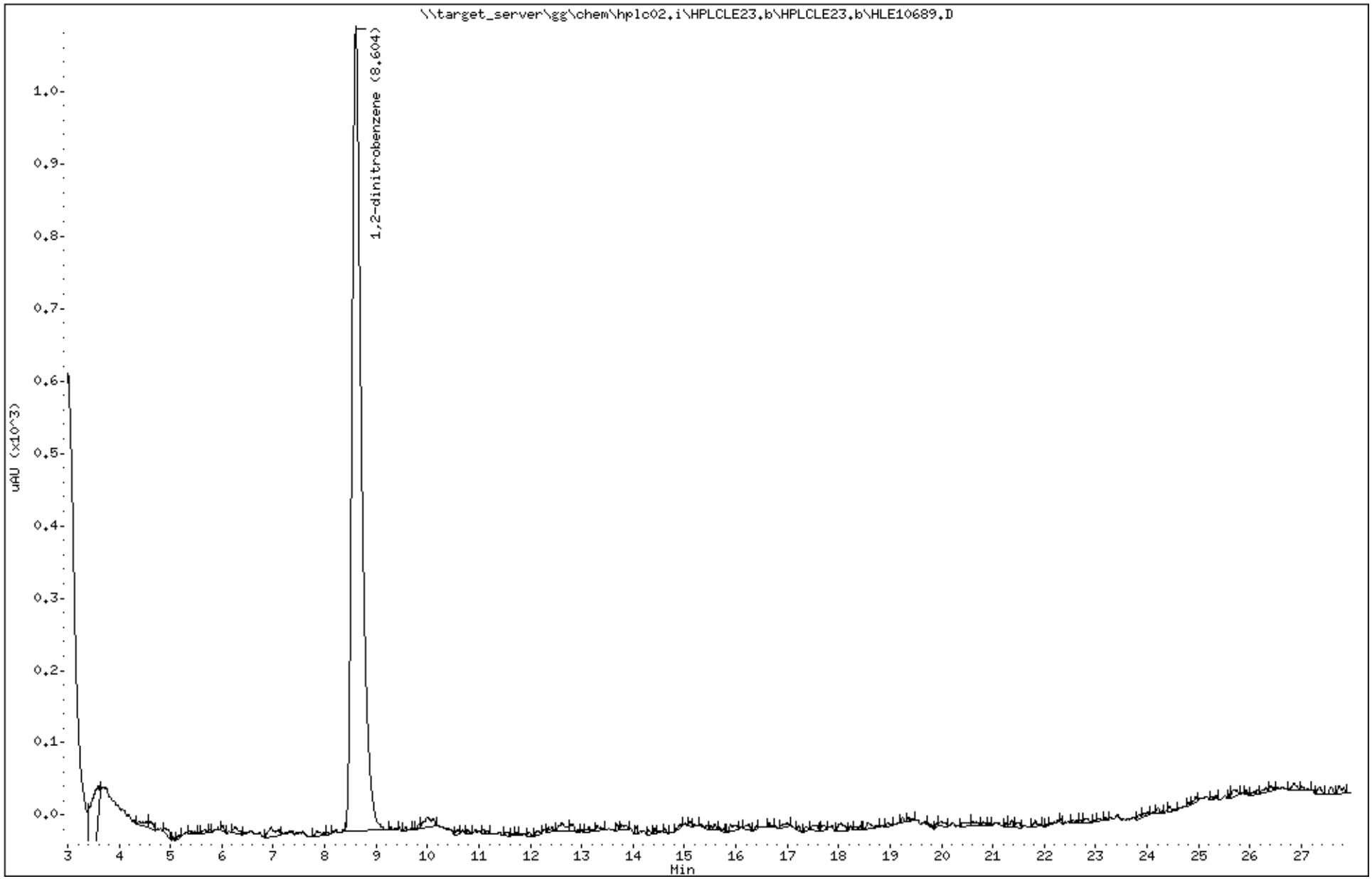
						CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	
Compounds	RT	EXP RT	DLT RT	RESPONSE				REVIEW CODE
$ 2 1,2-dinitrobenzene	8.603	8.573	0.030	1111		0.24009	541	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HPLCLE23.b\HLE10689.D
Date : 23-MAY-2018 18:54
Client ID: CHAAP-21B-BPA-SS21
Sample Info: SL4233-25

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 1000137

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4233-26
Client ID: CHAAP-21B-BPA-SS21-3
Project: Cornhusker Army Ammunition Plant
SDG: SL4233
Lab File ID: HLE10691.D

Sample Date: 15-MAY-18
Received Date: 16-MAY-18
Extract Date: 22-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228856

Analysis Date: 23-MAY-18
Analyst: AC
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 77.
Report Date: 31-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	58	ug/Kgdrywt	1	100	120	9.9	58.
RDX	U	58	ug/Kgdrywt	1	100	120	7.8	58.
1,3,5-Trinitrobenzene	U	58	ug/Kgdrywt	1	100	120	7.7	58.
1,3-Dinitrobenzene	U	58	ug/Kgdrywt	1	100	120	7.2	58.
Tetryl	U	58	ug/Kgdrywt	1	100	120	6.2	58.
Nitrobenzene	U	58	ug/Kgdrywt	1	100	120	25.	58.
2,4,6-Trinitrotoluene	U	58	ug/Kgdrywt	1	100	120	7.7	58.
2-Am-DNT	U	58	ug/Kgdrywt	1	100	120	24.	58.
4-Am-DNT	U	58	ug/Kgdrywt	1	100	120	20.	58.
2,6-Dinitrotoluene	U	58	ug/Kgdrywt	1	100	120	31.	58.
2,4-Dinitrotoluene	U	58	ug/Kgdrywt	1	100	120	17.	58.
2-Nitrotoluene	U	58	ug/Kgdrywt	1	100	120	14.	58.
3-Nitrotoluene	U	58	ug/Kgdrywt	1	100	120	9.1	58.
4-Nitrotoluene	U	58	ug/Kgdrywt	1	100	120	31.	58.
Nitroglycerin	U	460	ug/Kgdrywt	1	800	920	140	460
PETN	U	460	ug/Kgdrywt	1	800	920	120	460
1,2-Dinitrobenzene		98.3	%					

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10691.D
Report Date: 31-May-2018 04:59

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10691.D
Lab Smp Id: SL4233-26 Client Smp ID: HAAP-21B-BPA-SS21-3
Inj Date : 23-MAY-2018 19:56
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-26
Misc Info : WG228942,WG228856,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\EXPB05A.m
Meth Date : 25-May-2018 03:43 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 10
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01120	Weight of Sample (Kg)
M	22.595	% Moisture
Cpnd Variable		Local Compound Variable

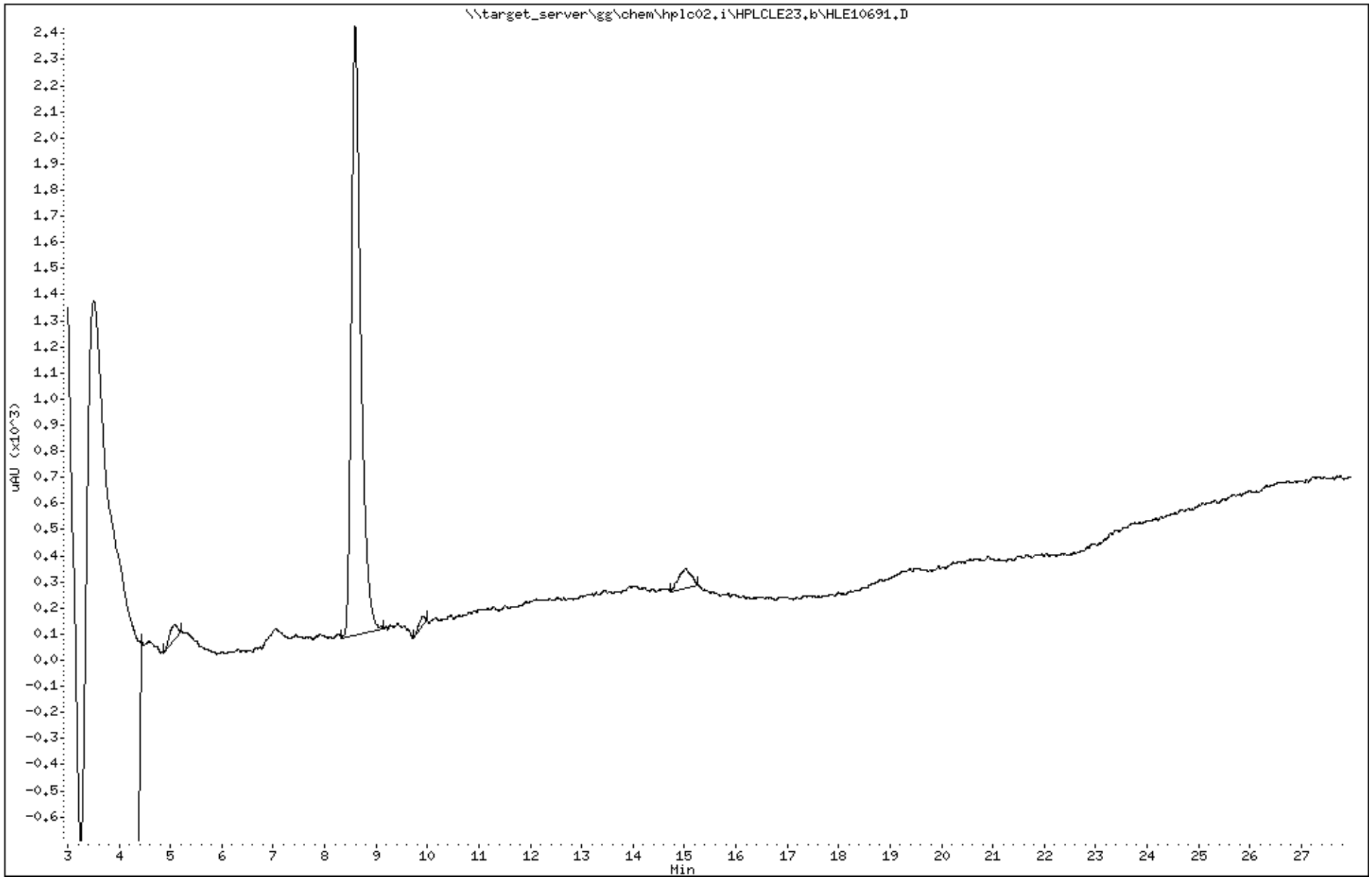
Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10691.D
Date : 23-MAY-2018 19:56
Client ID: HAAP-21B-BPA-SS21-3
Sample Info: SL4233-26

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 1000140

Data File: HLE10691.D
Report Date: 31-May-2018 05:08

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HPLCLE23.b\HLE10691.D
Lab Smp Id: SL4233-26 Client Smp ID: HAAP-21B-BPA-SS21-3
Inj Date : 23-MAY-2018 19:56
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-26
Misc Info : WG228942,WG228856,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\EXPB05A.m\EXPB05A.m
Meth Date : 25-May-2018 03:41 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 10
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

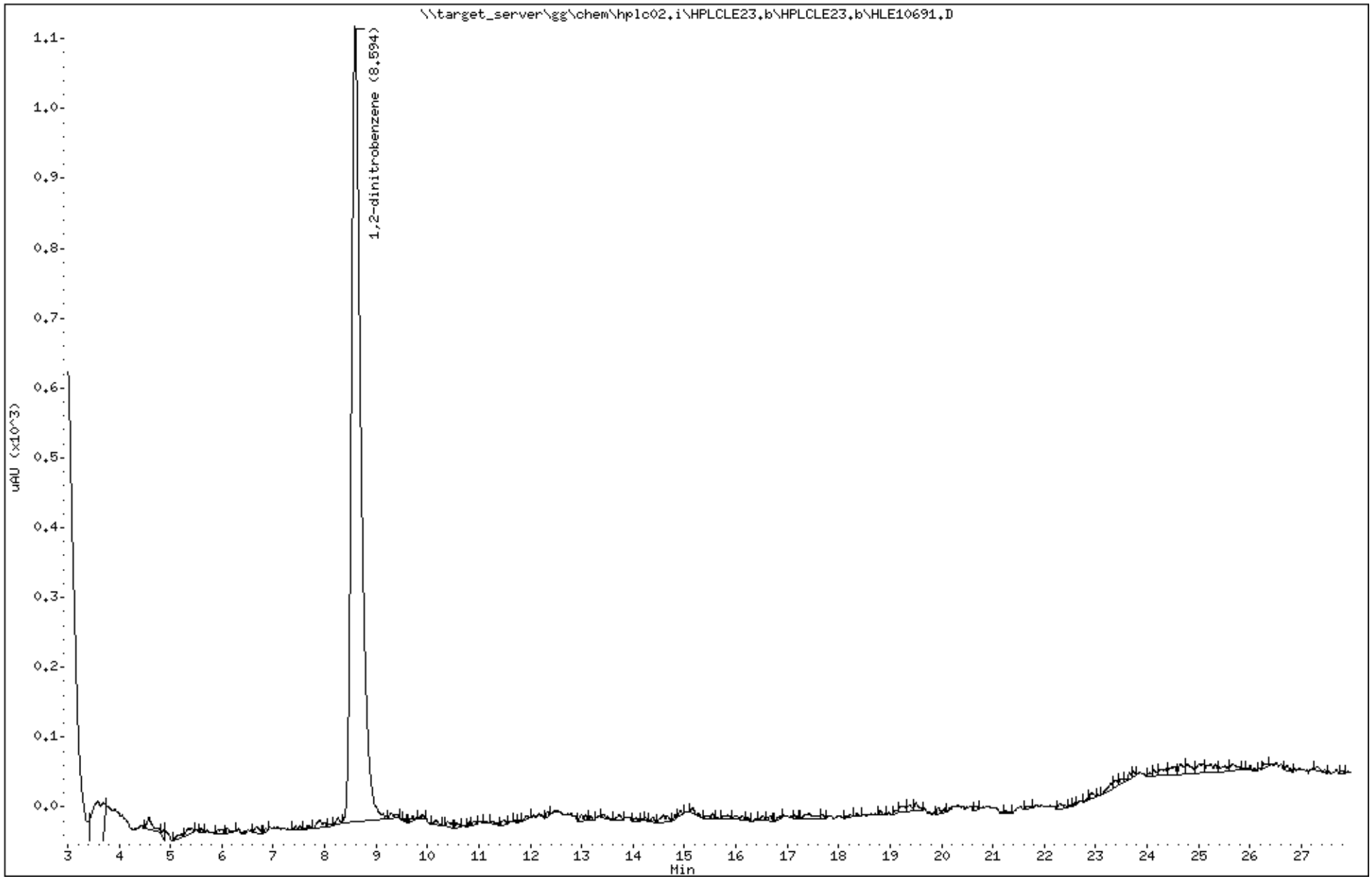
Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01120	Weight of Sample (Kg)
M	22.595	% Moisture
Cpnd Variable		Local Compound Variable

						CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	
Compounds	RT	EXP RT	DLT RT	RESPONSE				REVIEW CODE
$ 2 1,2-dinitrobenzene	8.593	8.573	0.020	1138		0.24592	567	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HPLCLE23.b\HLE10691.D
Date : 23-MAY-2018 19:56
Client ID: HAAP-21B-BPA-SS21-3
Sample Info: SL4233-26

Instrument: hplc02.i

Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 1000142

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4233-27
Client ID: CHAAP-21B-BPA-SS21-6
Project: Cornhusker Army Ammunition Plant
SDG: SL4233
Lab File ID: HLE10692.D

Sample Date: 15-MAY-18
Received Date: 16-MAY-18
Extract Date: 22-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228856

Analysis Date: 23-MAY-18
Analyst: AC
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 78.
Report Date: 31-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	58	ug/Kgdrywt	1	100	120	9.9	58.
RDX	U	58	ug/Kgdrywt	1	100	120	7.8	58.
1,3,5-Trinitrobenzene	U	58	ug/Kgdrywt	1	100	120	7.7	58.
1,3-Dinitrobenzene	U	58	ug/Kgdrywt	1	100	120	7.1	58.
Tetryl	U	58	ug/Kgdrywt	1	100	120	6.2	58.
Nitrobenzene	U	58	ug/Kgdrywt	1	100	120	25.	58.
2,4,6-Trinitrotoluene	U	58	ug/Kgdrywt	1	100	120	7.7	58.
2-Am-DNT	U	58	ug/Kgdrywt	1	100	120	24.	58.
4-Am-DNT	U	58	ug/Kgdrywt	1	100	120	20.	58.
2,6-Dinitrotoluene	U	58	ug/Kgdrywt	1	100	120	31.	58.
2,4-Dinitrotoluene	U	58	ug/Kgdrywt	1	100	120	17.	58.
2-Nitrotoluene	U	58	ug/Kgdrywt	1	100	120	14.	58.
3-Nitrotoluene	U	58	ug/Kgdrywt	1	100	120	9.1	58.
4-Nitrotoluene	U	58	ug/Kgdrywt	1	100	120	31.	58.
Nitroglycerin	U	460	ug/Kgdrywt	1	800	920	140	460
PETN	U	460	ug/Kgdrywt	1	800	920	120	460
1,2-Dinitrobenzene		96.7	%					

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http://www.katahdinlab.com

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10692.D
Report Date: 31-May-2018 04:59

Katahdin Analytical Services

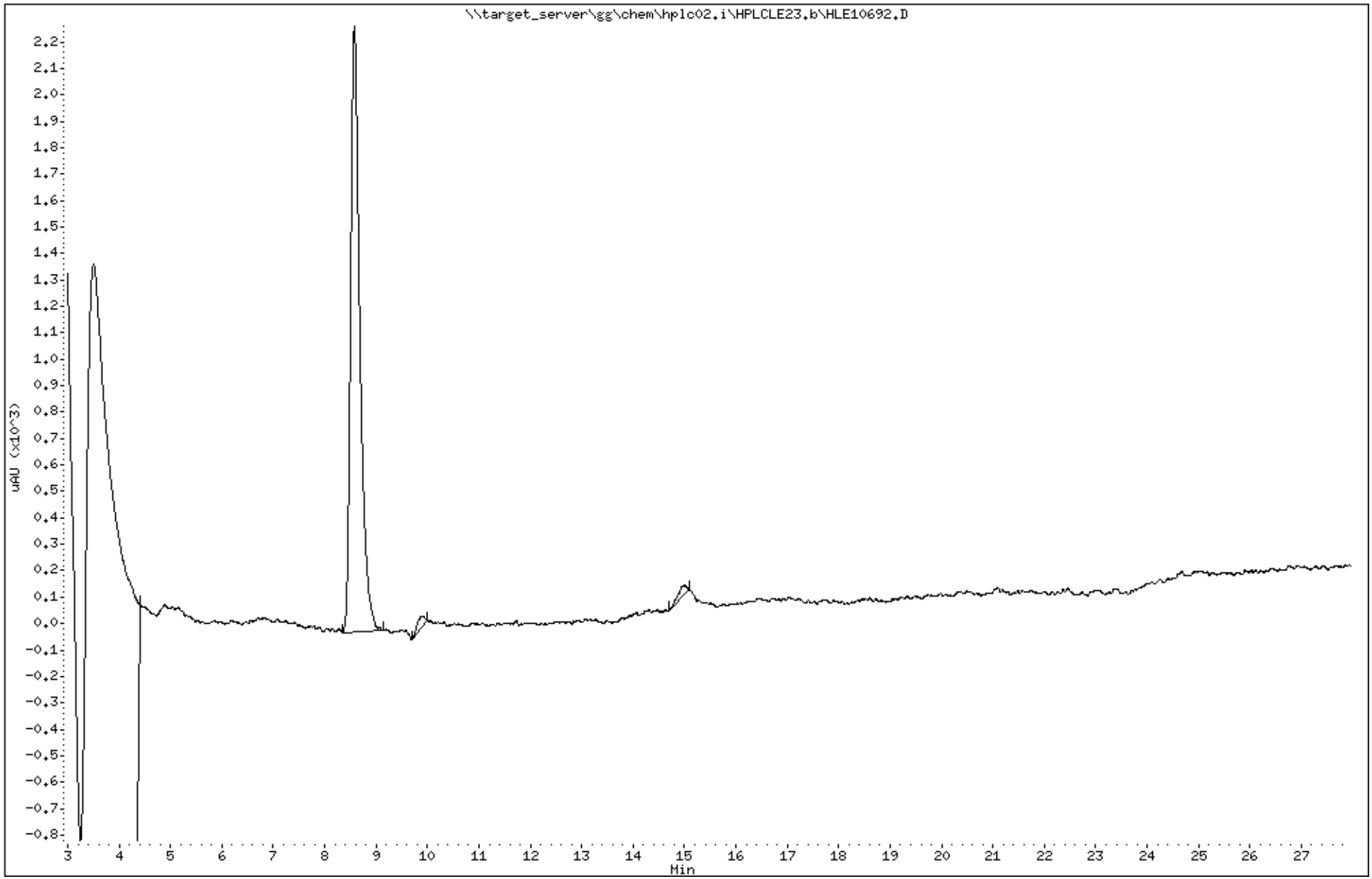
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10692.D
Lab Smp Id: SL4233-27 Client Smp ID: HAAP-21B-BPA-SS21-6
Inj Date : 23-MAY-2018 20:27
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-27
Misc Info : WG228942,WG228856,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\EXPB05A.m
Meth Date : 25-May-2018 03:43 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 11
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01110	Weight of Sample (Kg)
M	21.794	% Moisture
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10692.D
Date : 23-MAY-2018 20:27
Client ID: HAAP-21B-BPA-SS21-6
Instrument: hplc02.i
Sample Info: SL4233-27
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 1000145

Data File: HLE10692.D
Report Date: 31-May-2018 05:08

Katahdin Analytical Services

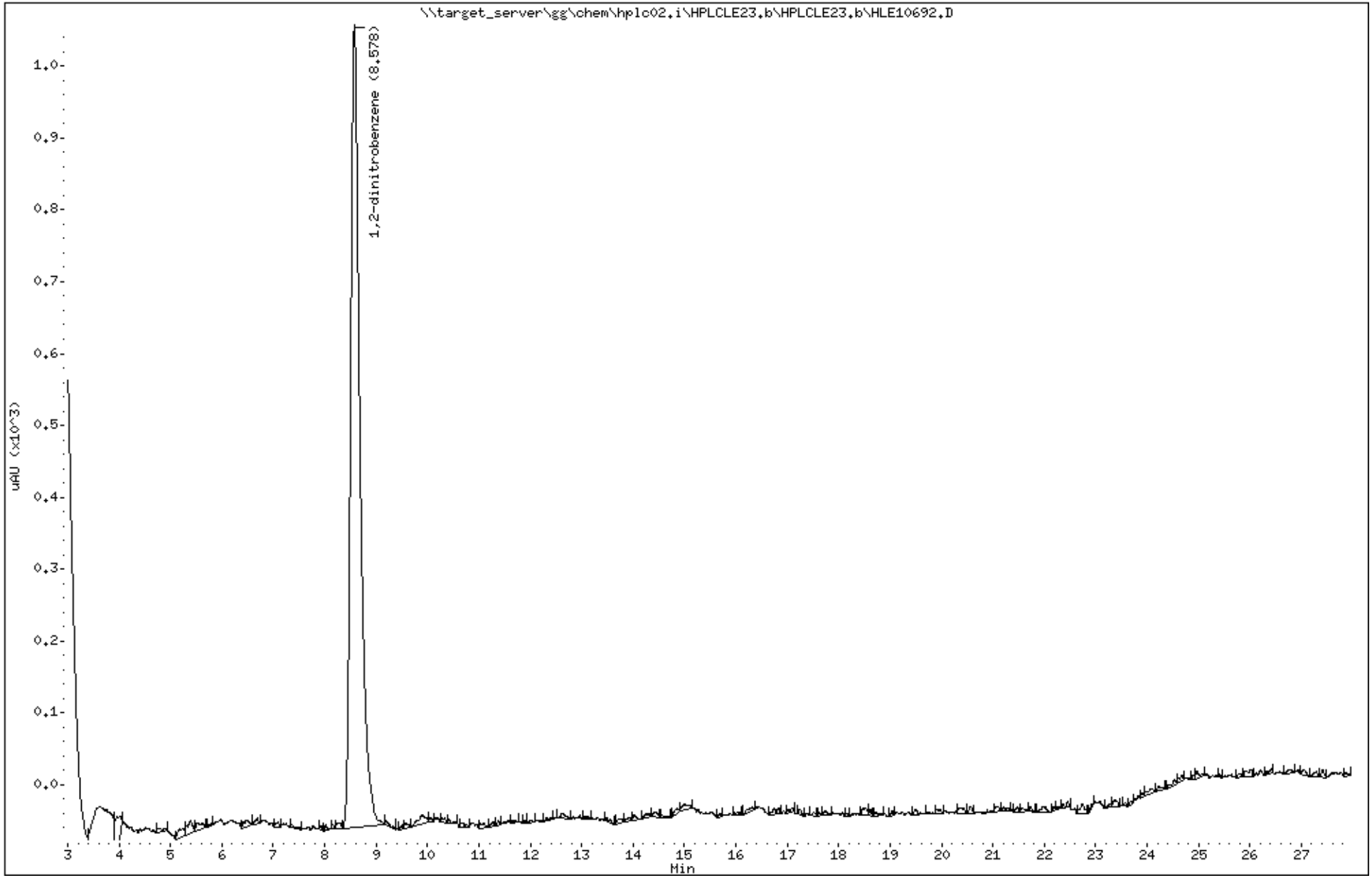
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HPLCLE23.b\HLE10692.D
Lab Smp Id: SL4233-27 Client Smp ID: HAAP-21B-BPA-SS21-6
Inj Date : 23-MAY-2018 20:27
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-27
Misc Info : WG228942,WG228856,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\EXPB05A.m\EXPB05A.m
Meth Date : 25-May-2018 03:41 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 11
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01110	Weight of Sample (Kg)
M	21.794	% Moisture
Cpnd Variable		Local Compound Variable

					CONCENTRATIONS		
					ON-COLUMN	FINAL	
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/mL)	(ug/Kgdrywt)	REVIEW CODE
$ 2 1,2-dinitrobenzene	8.578	8.573	0.005	1118	0.24160	557	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HPLCLE23.b\HLE10692.D
Date : 23-MAY-2018 20:27
Client ID: HAAP-21B-BPA-SS21-6
Instrument: hplc02.i
Sample Info: SL4233-27
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 1000147

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4233-28
Client ID: CHAAP-21B-BPA-SS01
Project: Cornhusker Army Ammunition Plant
SDG: SL4233
Lab File ID: HLE10693.D

Sample Date: 15-MAY-18
Received Date: 16-MAY-18
Extract Date: 22-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228856

Analysis Date: 23-MAY-18
Analyst: AC
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 80.
Report Date: 31-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	60	ug/Kgdrywt	1	100	120	10.	60.
RDX	U	60	ug/Kgdrywt	1	100	120	8.2	60.
1,3,5-Trinitrobenzene	U	60	ug/Kgdrywt	1	100	120	8.0	60.
1,3-Dinitrobenzene	U	60	ug/Kgdrywt	1	100	120	7.4	60.
Tetryl	U	60	ug/Kgdrywt	1	100	120	6.5	60.
Nitrobenzene	U	60	ug/Kgdrywt	1	100	120	26.	60.
2,4,6-Trinitrotoluene	U	60	ug/Kgdrywt	1	100	120	8.0	60.
2-Am-DNT	U	60	ug/Kgdrywt	1	100	120	25.	60.
4-Am-DNT	U	60	ug/Kgdrywt	1	100	120	20.	60.
2,6-Dinitrotoluene	U	60	ug/Kgdrywt	1	100	120	32.	60.
2,4-Dinitrotoluene	U	60	ug/Kgdrywt	1	100	120	18.	60.
2-Nitrotoluene	U	60	ug/Kgdrywt	1	100	120	14.	60.
3-Nitrotoluene	U	60	ug/Kgdrywt	1	100	120	9.5	60.
4-Nitrotoluene	U	60	ug/Kgdrywt	1	100	120	32.	60.
Nitroglycerin	U	480	ug/Kgdrywt	1	800	960	150	480
PETN	U	480	ug/Kgdrywt	1	800	960	130	480
1,2-Dinitrobenzene		94.3	%					

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10693.D
Report Date: 31-May-2018 04:59

Katahdin Analytical Services

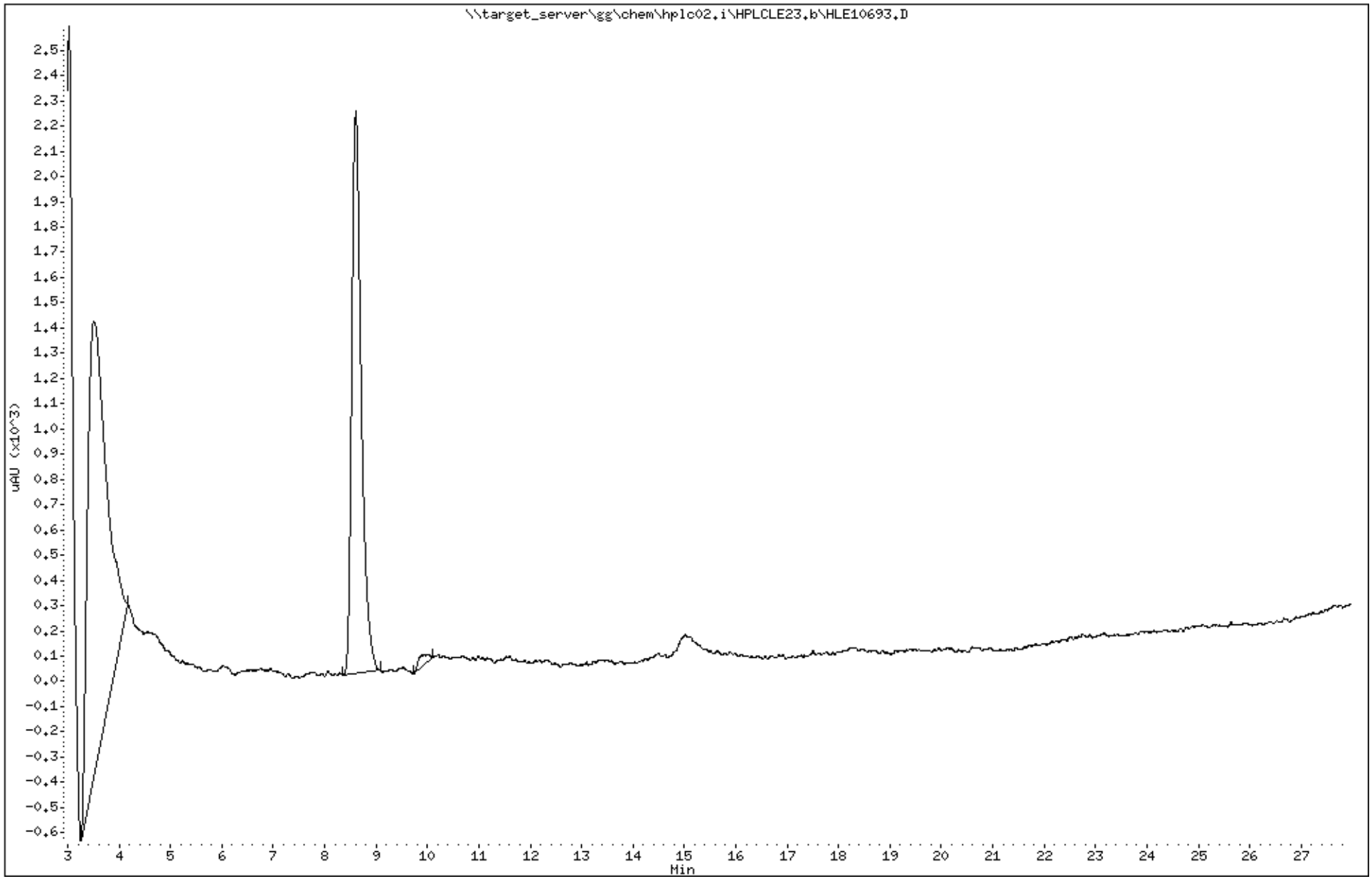
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10693.D
Lab Smp Id: SL4233-28 Client Smp ID: CHAAP-21B-BPA-SS01
Inj Date : 23-MAY-2018 20:58
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-28
Misc Info : WG228942,WG228856,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\EXPB05A.m
Meth Date : 25-May-2018 03:43 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 12
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01040	Weight of Sample (Kg)
M	19.917	% Moisture
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10693.D
Date : 23-MAY-2018 20:58
Client ID: CHAAP-21B-BPA-SS01
Instrument: hplc02.i
Sample Info: SL4233-28
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 1000150

Data File: HLE10693.D
Report Date: 31-May-2018 05:08

Katahdin Analytical Services

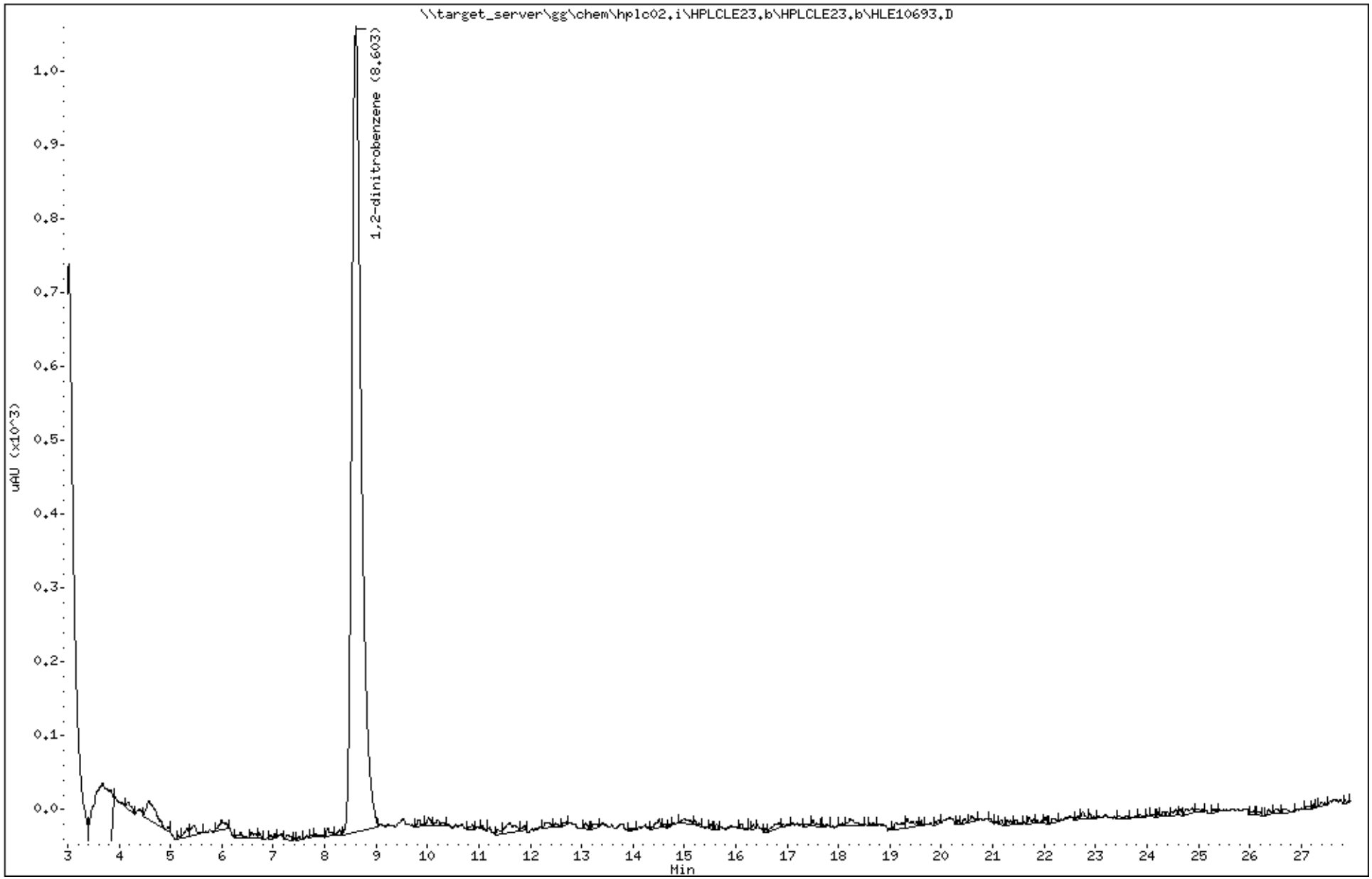
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HPLCLE23.b\HLE10693.D
Lab Smp Id: SL4233-28 Client Smp ID: CHAAP-21B-BPA-SS01
Inj Date : 23-MAY-2018 20:58
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-28
Misc Info : WG228942,WG228856,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\EXPB05A.m\EXPB05A.m
Meth Date : 25-May-2018 03:41 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 12
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01040	Weight of Sample (Kg)
M	19.917	% Moisture
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	REVIEW CODE
$ 2 1,2-dinitrobenzene	8.602	8.573	0.029	1091	0.23577	566	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HPLCLE23.b\HLE10693.D
Date : 23-MAY-2018 20:58
Client ID: CHAAP-21B-BPA-SS01
Instrument: hplc02.i
Sample Info: SL4233-28
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 1000152

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4233-29
Client ID: CHAAP-21B-BPA-SB01-4
Project: Cornhusker Army Ammunition Plant
SDG: SL4233
Lab File ID: HLE10694.D

Sample Date: 15-MAY-18
Received Date: 16-MAY-18
Extract Date: 22-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228856

Analysis Date: 23-MAY-18
Analyst: AC
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 80.
Report Date: 31-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	63	ug/Kgdrywt	1	100	120	11.	63.
RDX	U	63	ug/Kgdrywt	1	100	120	8.5	63.
1,3,5-Trinitrobenzene	U	63	ug/Kgdrywt	1	100	120	8.4	63.
1,3-Dinitrobenzene	U	63	ug/Kgdrywt	1	100	120	7.8	63.
Tetryl	U	63	ug/Kgdrywt	1	100	120	6.8	63.
Nitrobenzene	U	63	ug/Kgdrywt	1	100	120	28.	63.
2,4,6-Trinitrotoluene	U	63	ug/Kgdrywt	1	100	120	8.4	63.
2-Am-DNT	U	63	ug/Kgdrywt	1	100	120	26.	63.
4-Am-DNT	U	63	ug/Kgdrywt	1	100	120	21.	63.
2,6-Dinitrotoluene	U	63	ug/Kgdrywt	1	100	120	34.	63.
2,4-Dinitrotoluene	U	63	ug/Kgdrywt	1	100	120	19.	63.
2-Nitrotoluene	U	63	ug/Kgdrywt	1	100	120	15.	63.
3-Nitrotoluene	U	63	ug/Kgdrywt	1	100	120	9.9	63.
4-Nitrotoluene	U	63	ug/Kgdrywt	1	100	120	34.	63.
Nitroglycerin	U	500	ug/Kgdrywt	1	800	1000	160	500
PETN	U	500	ug/Kgdrywt	1	800	1000	140	500
1,2-Dinitrobenzene		94.6	%					

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10694.D
Report Date: 31-May-2018 05:00

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10694.D
Lab Smp Id: SL4233-29 Client Smp ID: HAAP-21B-BPA-SB01-4
Inj Date : 23-MAY-2018 21:29
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-29
Misc Info : WG228942,WG228856,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\EXPB05A.m
Meth Date : 25-May-2018 03:43 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 13
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01000	Weight of Sample (Kg)
M	20.271	% Moisture
Cpnd Variable		Local Compound Variable

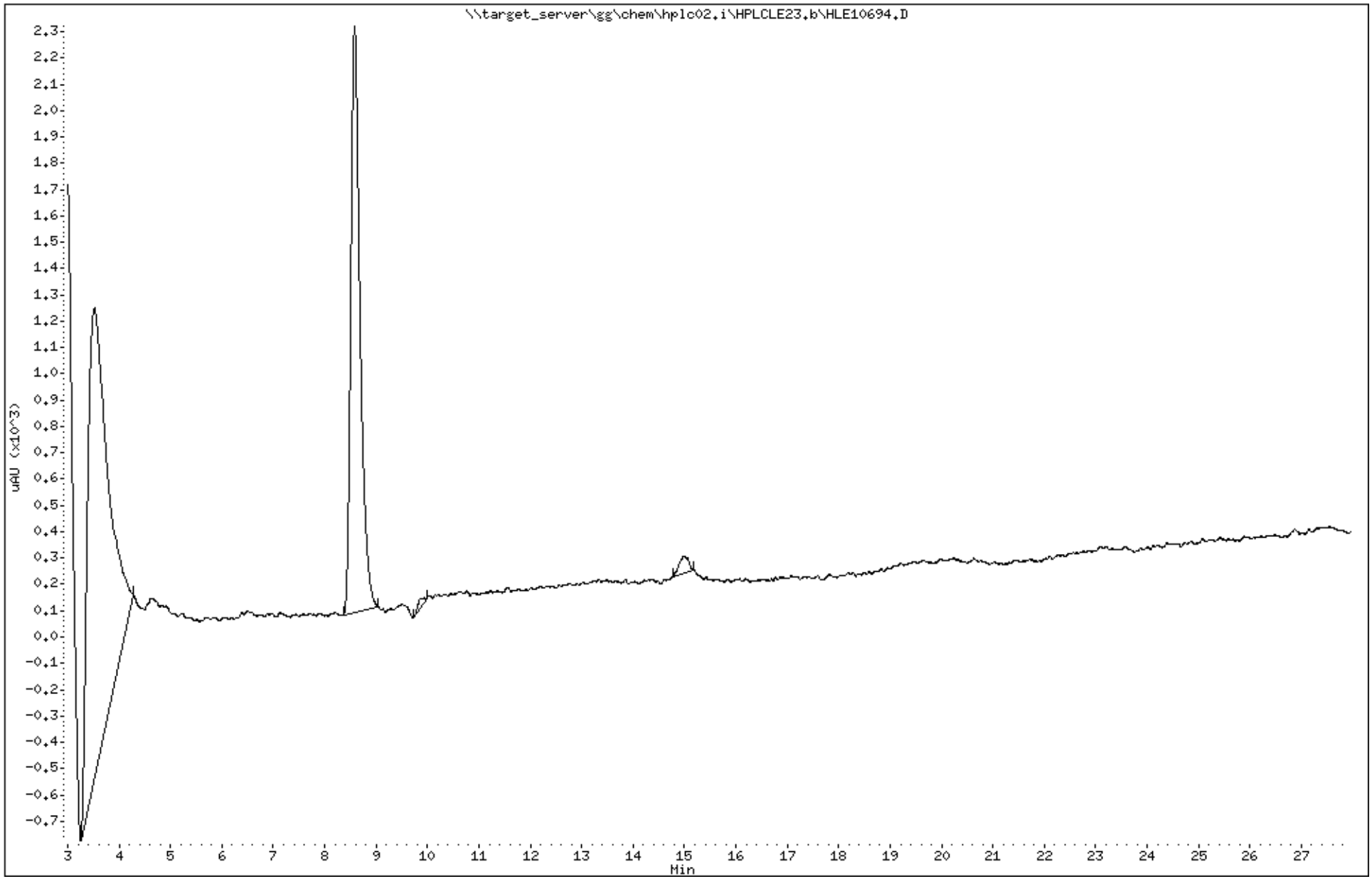
Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10694.D
Date : 23-MAY-2018 21:29
Client ID: HAAP-21B-BPA-SB01-4
Sample Info: SL4233-29

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 1000155

Data File: HLE10694.D
Report Date: 31-May-2018 05:09

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HPLCLE23.b\HLE10694.D
Lab Smp Id: SL4233-29 Client Smp ID: HAAP-21B-BPA-SB01-4
Inj Date : 23-MAY-2018 21:29
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-29
Misc Info : WG228942,WG228856,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\EXPB05A.m\EXPB05A.m
Meth Date : 25-May-2018 03:41 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 13
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01000	Weight of Sample (Kg)
M	20.271	% Moisture
Cpnd Variable		Local Compound Variable

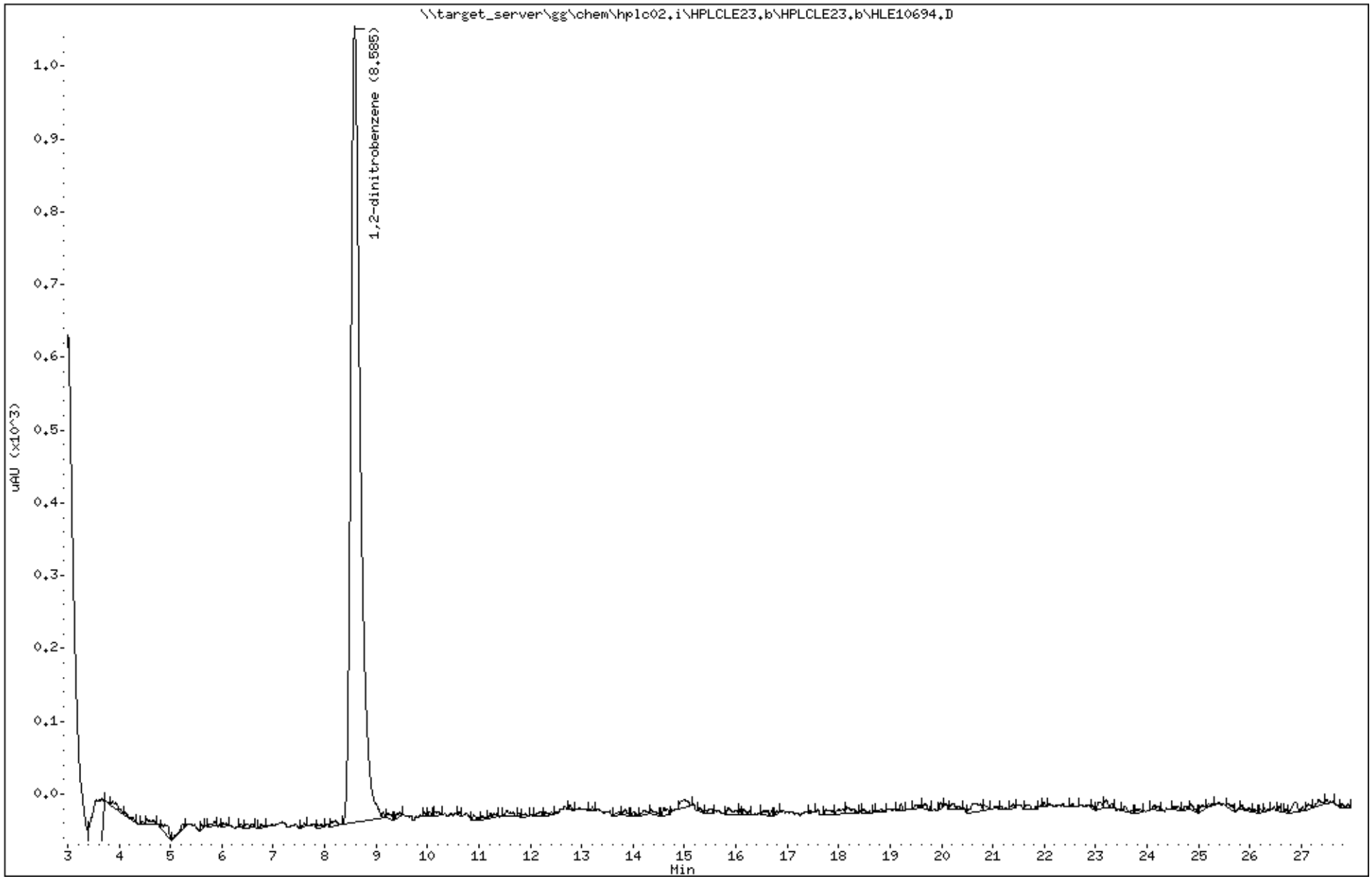
Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	REVIEW CODE
$ 2 1,2-dinitrobenzene	8.584	8.573	0.011	1094	0.23642	593	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HPLCLE23.b\HLE10694.D
Date : 23-MAY-2018 21:29
Client ID: HAAP-21B-BPA-SB01-4
Sample Info: SL4233-29

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 1000157

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4233-30
Client ID: CHAAP-21B-BPA-SB101-4
Project: Cornhusker Army Ammunition Plant
SDG: SL4233
Lab File ID: HLE10695.D

Sample Date: 15-MAY-18
Received Date: 16-MAY-18
Extract Date: 22-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228856

Analysis Date: 23-MAY-18
Analyst: AC
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 80.
Report Date: 31-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	62	ug/Kgdrywt	1	100	120	11.	62.
RDX	U	62	ug/Kgdrywt	1	100	120	8.4	62.
1,3,5-Trinitrobenzene	U	62	ug/Kgdrywt	1	100	120	8.3	62.
1,3-Dinitrobenzene	U	62	ug/Kgdrywt	1	100	120	7.7	62.
Tetryl	U	62	ug/Kgdrywt	1	100	120	6.7	62.
Nitrobenzene	U	62	ug/Kgdrywt	1	100	120	27.	62.
2,4,6-Trinitrotoluene	U	62	ug/Kgdrywt	1	100	120	8.3	62.
2-Am-DNT	U	62	ug/Kgdrywt	1	100	120	26.	62.
4-Am-DNT	U	62	ug/Kgdrywt	1	100	120	21.	62.
2,6-Dinitrotoluene	U	62	ug/Kgdrywt	1	100	120	33.	62.
2,4-Dinitrotoluene	U	62	ug/Kgdrywt	1	100	120	18.	62.
2-Nitrotoluene	U	62	ug/Kgdrywt	1	100	120	15.	62.
3-Nitrotoluene	U	62	ug/Kgdrywt	1	100	120	9.8	62.
4-Nitrotoluene	U	62	ug/Kgdrywt	1	100	120	33.	62.
Nitroglycerin	U	490	ug/Kgdrywt	1	800	990	150	490
PETN	U	490	ug/Kgdrywt	1	800	990	130	490
1,2-Dinitrobenzene		95.6	%					

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10695.D
Report Date: 31-May-2018 05:00

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10695.D
Lab Smp Id: SL4233-30 Client Smp ID: HAAP-21B-BPA-SB101-
Inj Date : 23-MAY-2018 22:00
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-30
Misc Info : WG228942,WG228856,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\EXPB05A.m
Meth Date : 25-May-2018 03:43 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 14
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01010	Weight of Sample (Kg)
M	19.948	% Moisture
Cpnd Variable		Local Compound Variable

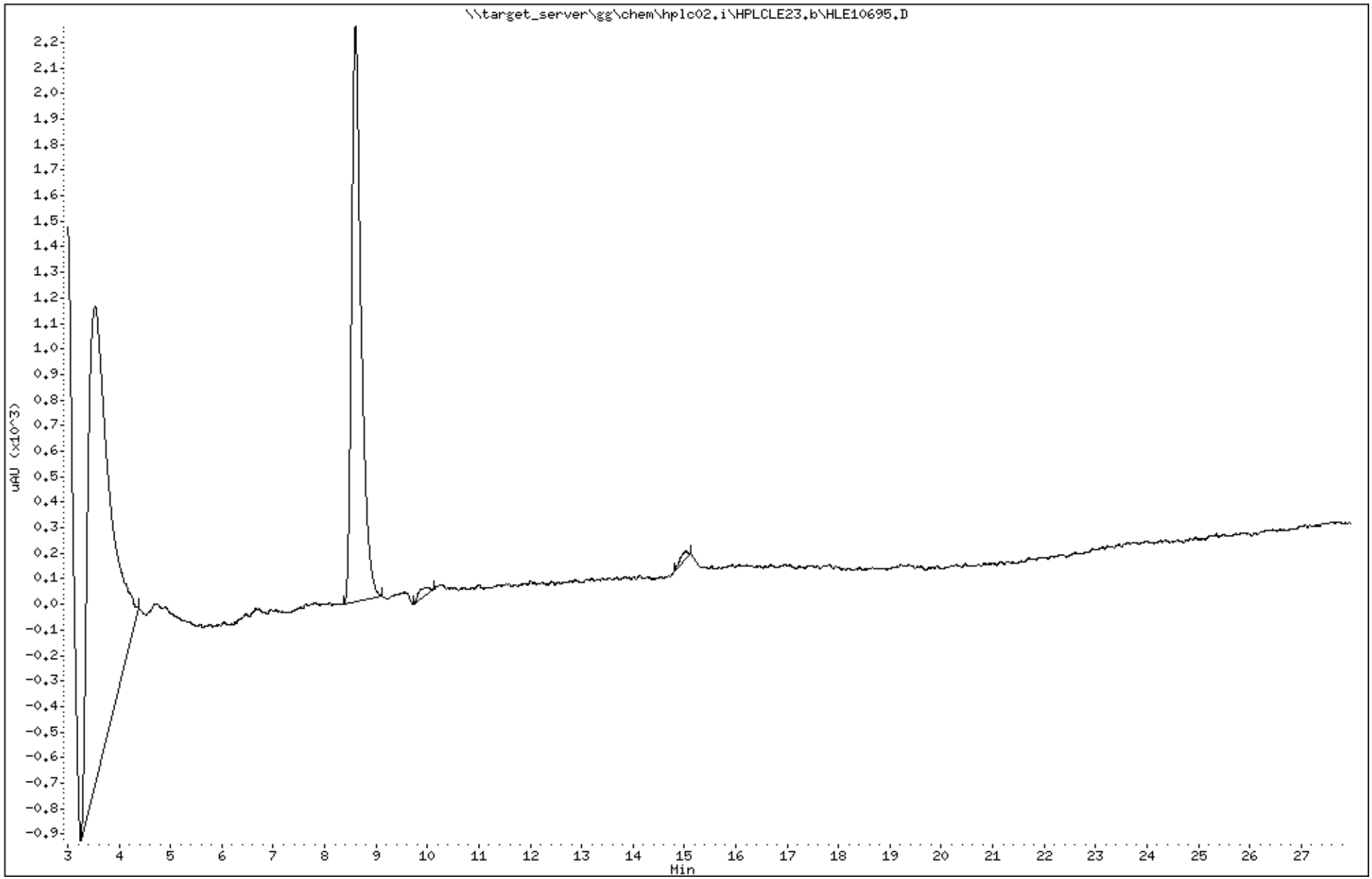
Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10695.D
Date : 23-MAY-2018 22:00
Client ID: HAAP-21B-BPA-SB101-
Sample Info: SL4233-30

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 1000160

Data File: HLE10695.D
Report Date: 31-May-2018 05:09

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HPLCLE23.b\HLE10695.D
Lab Smp Id: SL4233-30 Client Smp ID: HAAP-21B-BPA-SB101-
Inj Date : 23-MAY-2018 22:00
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-30
Misc Info : WG228942,WG228856,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\EXPB05A.m\EXPB05A.m
Meth Date : 25-May-2018 03:41 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 14
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01010	Weight of Sample (Kg)
M	19.948	% Moisture
Cpnd Variable		Local Compound Variable

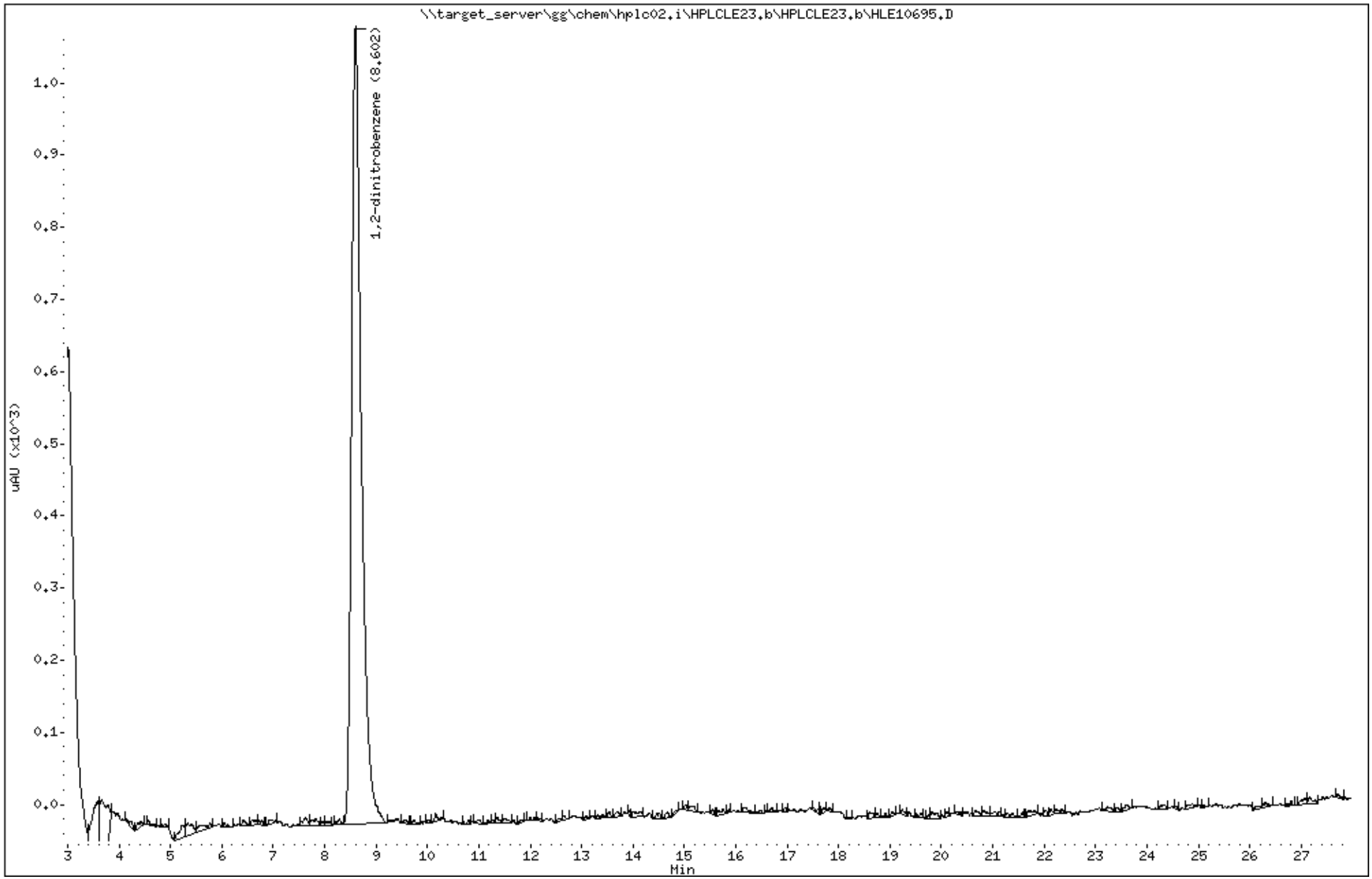
						CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	
Compounds	RT	EXP RT	DLT RT	RESPONSE				REVIEW CODE
$ 2 1,2-dinitrobenzene	8.602	8.573	0.029	1105		0.23879	591	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HPLCLE23.b\HLE10695.D
Date : 23-MAY-2018 22:00
Client ID: HAAP-21B-BPA-SB101-
Sample Info: SL4233-30

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 1000162

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4233-31
Client ID: CHAAP-21B-BPA-SB01-8
Project: Cornhusker Army Ammunition Plant
SDG: SL4233
Lab File ID: HLE10696.D

Sample Date: 15-MAY-18
Received Date: 16-MAY-18
Extract Date: 22-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228856

Analysis Date: 23-MAY-18
Analyst: AC
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 76.
Report Date: 31-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	59	ug/Kgdrywt	1	100	120	10.	59.
RDX	U	59	ug/Kgdrywt	1	100	120	8.0	59.
1,3,5-Trinitrobenzene	U	59	ug/Kgdrywt	1	100	120	7.9	59.
1,3-Dinitrobenzene	U	59	ug/Kgdrywt	1	100	120	7.3	59.
Tetryl	U	59	ug/Kgdrywt	1	100	120	6.4	59.
Nitrobenzene	U	59	ug/Kgdrywt	1	100	120	26.	59.
2,4,6-Trinitrotoluene	U	59	ug/Kgdrywt	1	100	120	7.9	59.
2-Am-DNT	U	59	ug/Kgdrywt	1	100	120	25.	59.
4-Am-DNT	U	59	ug/Kgdrywt	1	100	120	20.	59.
2,6-Dinitrotoluene	U	59	ug/Kgdrywt	1	100	120	32.	59.
2,4-Dinitrotoluene	U	59	ug/Kgdrywt	1	100	120	18.	59.
2-Nitrotoluene	U	59	ug/Kgdrywt	1	100	120	14.	59.
3-Nitrotoluene	U	59	ug/Kgdrywt	1	100	120	9.3	59.
4-Nitrotoluene	U	59	ug/Kgdrywt	1	100	120	32.	59.
Nitroglycerin	U	470	ug/Kgdrywt	1	800	940	150	470
PETN	U	470	ug/Kgdrywt	1	800	940	130	470
1,2-Dinitrobenzene		95.4	%					

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10696.D
Report Date: 31-May-2018 05:00

Katahdin Analytical Services

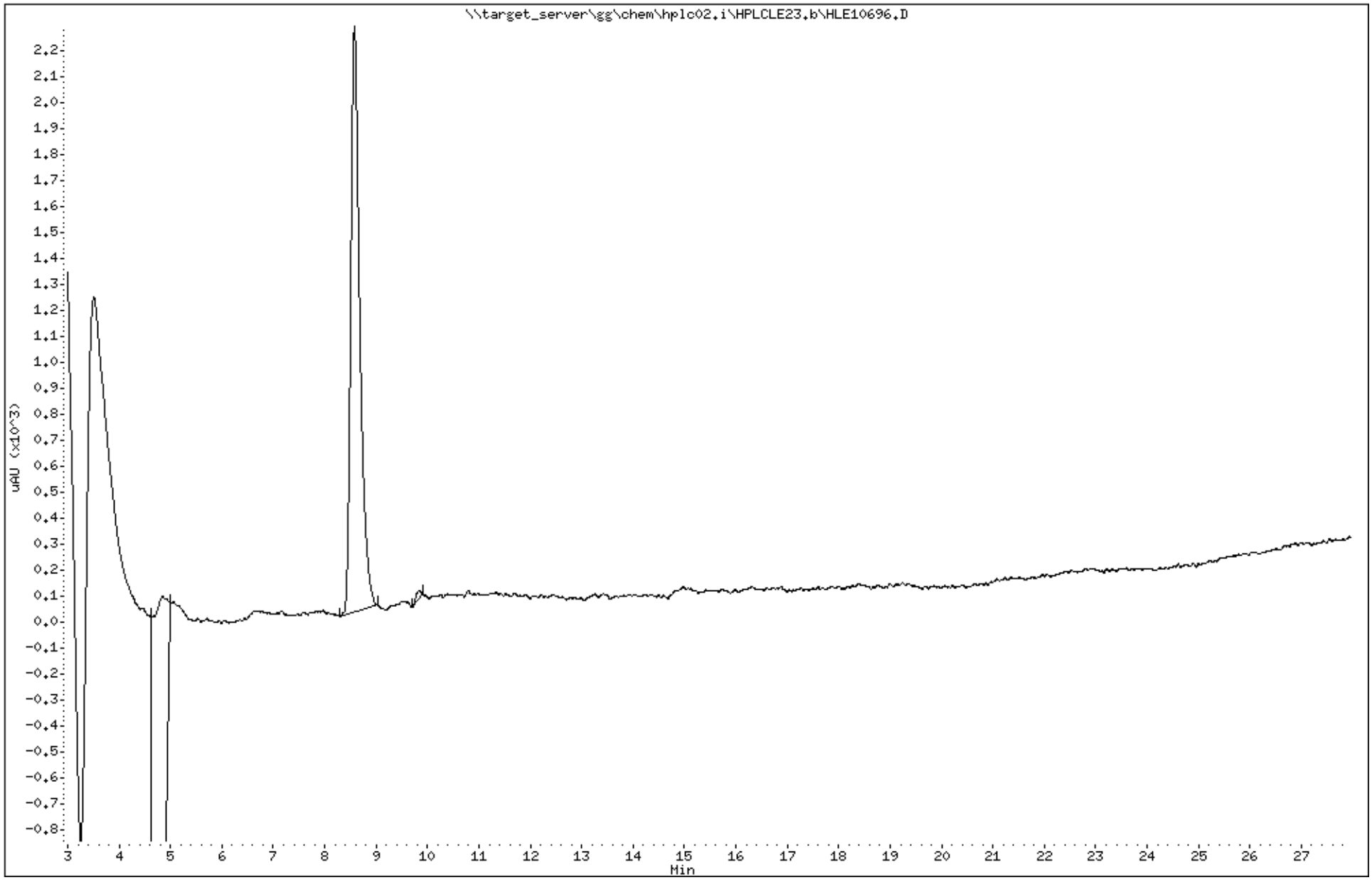
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10696.D
Lab Smp Id: SL4233-31 Client Smp ID: HAAP-21B-BPA-SB01-8
Inj Date : 23-MAY-2018 22:31
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-31
Misc Info : WG228942,WG228856,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\EXPB05A.m
Meth Date : 25-May-2018 03:43 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 15
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01110	Weight of Sample (Kg)
M	23.571	% Moisture
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10696.D
Date : 23-MAY-2018 22:31
Client ID: HAAP-21B-BPA-SB01-8
Instrument: hplc02.i
Sample Info: SL4233-31
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 1000165

Data File: HLE10696.D
Report Date: 31-May-2018 05:09

Katahdin Analytical Services

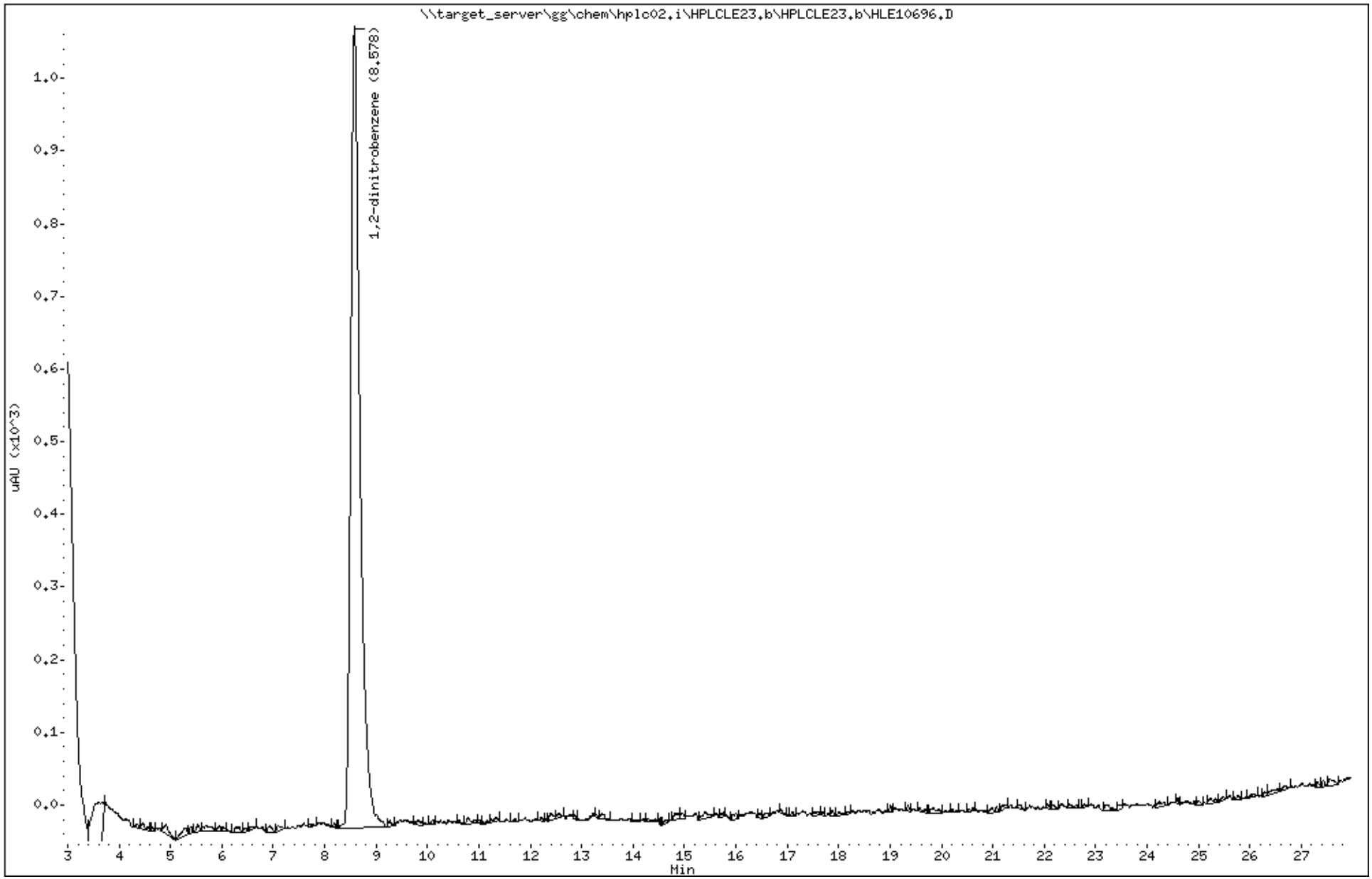
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HPLCLE23.b\HLE10696.D
Lab Smp Id: SL4233-31 Client Smp ID: HAAP-21B-BPA-SB01-8
Inj Date : 23-MAY-2018 22:31
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-31
Misc Info : WG228942,WG228856,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\EXPB05A.m\EXPB05A.m
Meth Date : 25-May-2018 03:41 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 15
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01110	Weight of Sample (Kg)
M	23.571	% Moisture
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	REVIEW CODE
$ 2 1,2-dinitrobenzene	8.577	8.573	0.004	1103	0.23836	562	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HPLCLE23.b\HLE10696.D
Date : 23-MAY-2018 22:31
Client ID: HAAP-21B-BPA-SB01-8
Instrument: hplc02.i
Sample Info: SL4233-31
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 1000167

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4233-32
Client ID: CHAAP-21B-BPA-SS02
Project: Cornhusker Army Ammunition Plant
SDG: SL4233
Lab File ID: HLE10697.D

Sample Date: 15-MAY-18
Received Date: 16-MAY-18
Extract Date: 22-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228856

Analysis Date: 23-MAY-18
Analyst: AC
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 79.
Report Date: 31-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX		420	ug/Kgdrywt	1	100	120	10.	59.
RDX		300	ug/Kgdrywt	1	100	120	8.0	59.
1,3,5-Trinitrobenzene	U	59	ug/Kgdrywt	1	100	120	7.9	59.
1,3-Dinitrobenzene	U	59	ug/Kgdrywt	1	100	120	7.3	59.
Tetryl	U	59	ug/Kgdrywt	1	100	120	6.4	59.
Nitrobenzene	U	59	ug/Kgdrywt	1	100	120	26.	59.
2,4,6-Trinitrotoluene	U	59	ug/Kgdrywt	1	100	120	7.9	59.
2-Am-DNT	U	59	ug/Kgdrywt	1	100	120	25.	59.
4-Am-DNT	U	59	ug/Kgdrywt	1	100	120	20.	59.
2,6-Dinitrotoluene	U	59	ug/Kgdrywt	1	100	120	32.	59.
2,4-Dinitrotoluene	U	59	ug/Kgdrywt	1	100	120	18.	59.
2-Nitrotoluene	U	59	ug/Kgdrywt	1	100	120	14.	59.
3-Nitrotoluene	U	59	ug/Kgdrywt	1	100	120	9.3	59.
4-Nitrotoluene	U	59	ug/Kgdrywt	1	100	120	32.	59.
Nitroglycerin	U	470	ug/Kgdrywt	1	800	940	140	470
PETN	U	470	ug/Kgdrywt	1	800	940	130	470
1,2-Dinitrobenzene		95.1	%					

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Form 10
Explosives Identification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant

SDG : SL4233
Lab Sample ID : SL4233-32
Client Sample ID : CHAAP-21B-BPA-SS02

Column A
Instrument ID : HPLC02
Date Analyzed : 05/23/18
Time Analyzed : 23:02

Column B
Instrument ID : HPLC02
Date Analyzed : 05/27/18
Time Analyzed : 01:41

Analyte	Column	RT	Concentration	RPD
HMX	A	4.55	421	
	B	6.61	386	8.7
RDX	A	5.01	299	
	B	10.56	301	.7

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10697.D
Report Date: 31-May-2018 05:00

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10697.D
Lab Smp Id: SL4233-32 Client Smp ID: CHAAP-21B-BPA-SS02
Inj Date : 23-MAY-2018 23:02
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-32
Misc Info : WG228942,WG228856,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\EXPB05A.m
Meth Date : 25-May-2018 03:43 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 16
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01070	Weight of Sample (Kg)
M	20.608	% Moisture
Cpnd Variable		Local Compound Variable

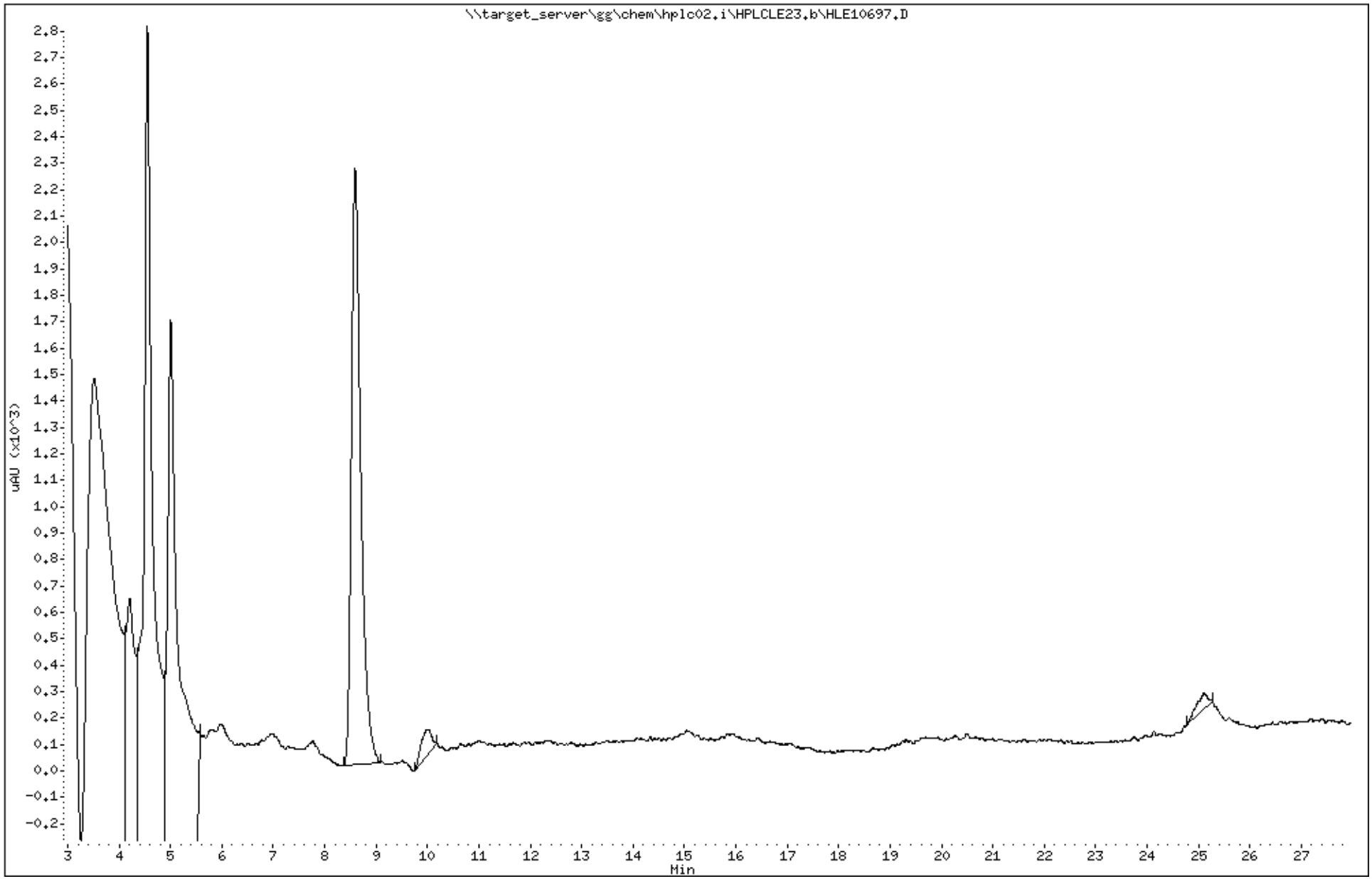
Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10697.D
Date : 23-MAY-2018 23:02
Client ID: CHAAP-21B-BPA-SS02
Sample Info: SL4233-32

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 1000171

Data File: HLE10697.D
Report Date: 31-May-2018 05:09

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HPLCLE23.b\HLE10697.D
Lab Smp Id: SL4233-32 Client Smp ID: CHAAP-21B-BPA-SS02
Inj Date : 23-MAY-2018 23:02
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-32
Misc Info : WG228942,WG228856,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\EXPB05A.m\EXPB05A.m
Meth Date : 25-May-2018 03:41 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 16
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01070	Weight of Sample (Kg)
M	20.608	% Moisture
Cpnd Variable		Local Compound Variable

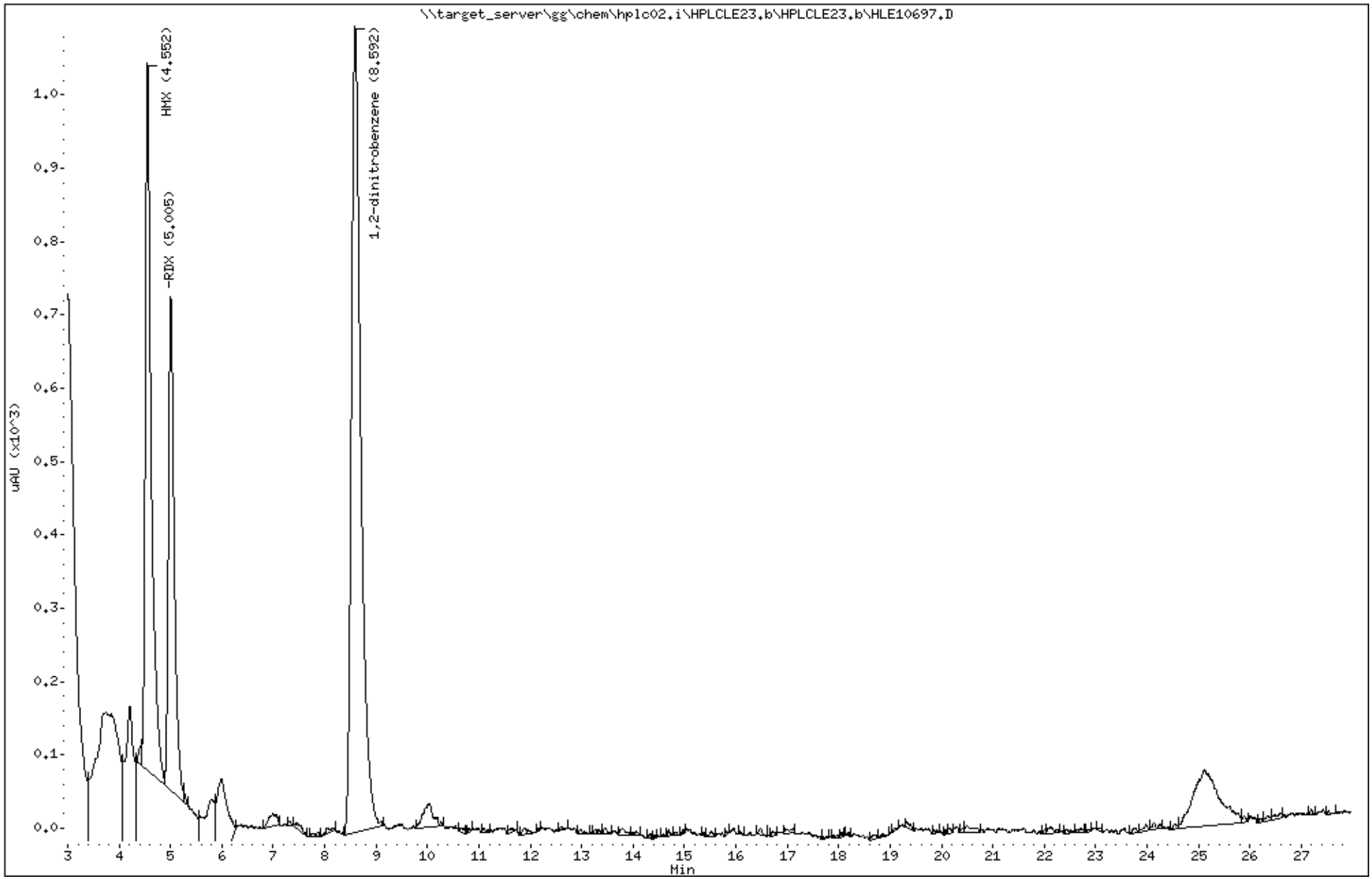
	Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	REVIEW CODE
1	HMX	4.552	4.547	0.005	964	0.17883	421(M)	M2
4	RDX	5.005	5.000	0.005	673	0.12709	299(M)	M2
$ 2	1,2-dinitrobenzene	8.592	8.573	0.019	1099	0.23750	559	

QC Flag Legend

M - Compound response manually integrated.

7:20 am, May 31, 2018

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HPLCLE23.b\HLE10697.D
Date : 23-MAY-2018 23:02
Client ID: CHAAP-21B-BPA-SS02
Instrument: hplc02.i
Sample Info: SL4233-32
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 1000173

Data File: HLE10813.D
Report Date: 31-May-2018 05:46

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE25.b\HPLCLE25.b\HLE10813.D
Lab Smp Id: SL4233-32C Client Smp ID: CHAAP-21B-BPA-SS02
Inj Date : 27-MAY-2018 01:41
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-32C
Misc Info : WG228942,WG228856,WG210620-13
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE25.b\E2016A.m\E2016A.m
Meth Date : 29-May-2018 16:32 abullentin Quant Type: ESTD
Cal Date : 01-AUG-2017 14:33 Cal File: HKH10014.D
Als bottle: 32
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01070	Weight of Sample (Kg)
M	20.608	% Moisture
Cpnd Variable		Local Compound Variable

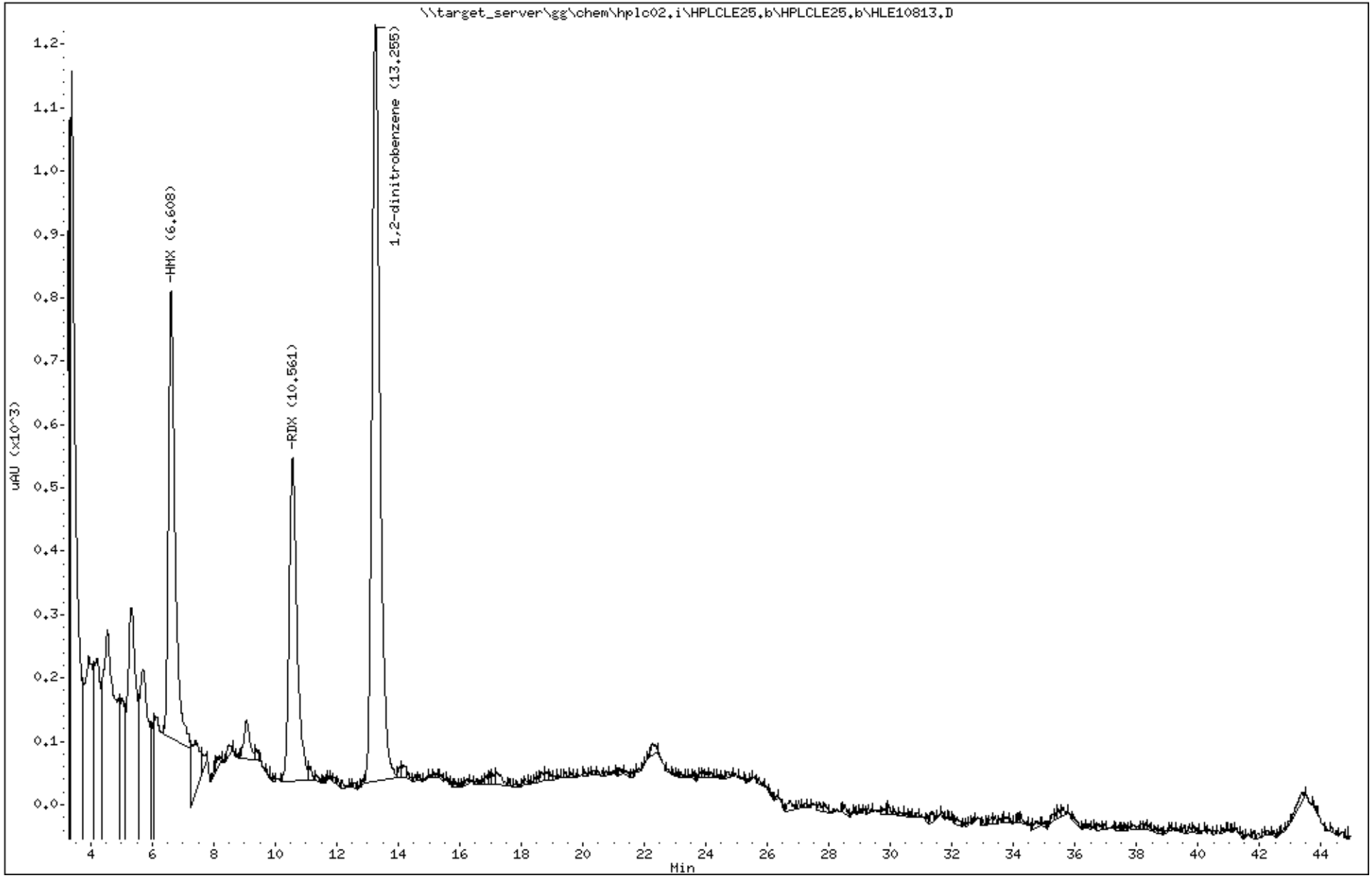
	Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	REVIEW CODE
1	HMX	6.608	6.588	0.020	705	0.16381	386(M)	M2
4	RDX	10.561	10.528	0.033	512	0.12792	301	
$ 2	1,2-dinitrobenzene	13.254	13.228	0.026	1194	0.22360	526	

QC Flag Legend

M - Compound response manually integrated.

7:21 am, May 31, 2018

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE25.b\HPLCLE25.b\HLE10813.D
Date : 27-MAY-2018 01:41
Client ID: CHAAP-21B-BPA-SS02
Instrument: hplc02.i
Sample Info: SL4233-32C
Operator: AC
Column phase: Acclaim Exp E2
Column diameter: 4.60



Katahdin Analytical Services 1000175

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4233-33
Client ID: CHAAP-21B-BPA-SB02-4
Project: Cornhusker Army Ammunition Plant
SDG: SL4233
Lab File ID: HLE10698.D

Sample Date: 15-MAY-18
Received Date: 16-MAY-18
Extract Date: 22-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228856

Analysis Date: 23-MAY-18
Analyst: AC
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 80.
Report Date: 31-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX		510	ug/Kgdrywt	1	100	120	10.	59.
RDX		3200	ug/Kgdrywt	1	100	120	8.0	59.
1,3,5-Trinitrobenzene	U	59	ug/Kgdrywt	1	100	120	7.9	59.
1,3-Dinitrobenzene	U	59	ug/Kgdrywt	1	100	120	7.3	59.
Tetryl	U	59	ug/Kgdrywt	1	100	120	6.4	59.
Nitrobenzene	U	59	ug/Kgdrywt	1	100	120	26.	59.
2,4,6-Trinitrotoluene	U	59	ug/Kgdrywt	1	100	120	7.9	59.
2-Am-DNT	U	59	ug/Kgdrywt	1	100	120	25.	59.
4-Am-DNT	U	59	ug/Kgdrywt	1	100	120	20.	59.
2,6-Dinitrotoluene	U	59	ug/Kgdrywt	1	100	120	32.	59.
2,4-Dinitrotoluene	U	59	ug/Kgdrywt	1	100	120	18.	59.
2-Nitrotoluene	U	59	ug/Kgdrywt	1	100	120	14.	59.
3-Nitrotoluene	U	59	ug/Kgdrywt	1	100	120	9.3	59.
4-Nitrotoluene	U	59	ug/Kgdrywt	1	100	120	32.	59.
Nitroglycerin	U	470	ug/Kgdrywt	1	800	950	150	470
PETN	U	470	ug/Kgdrywt	1	800	950	130	470
1,2-Dinitrobenzene		95.8	%					

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Katahdin
ANALYTICAL SERVICES

Form 10
Explosives Identification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant

SDG : SL4233
Lab Sample ID : SL4233-33
Client Sample ID : CHAAP-21B-BPA-SB02-4

Column A
Instrument ID : HPLC02
Date Analyzed : 05/23/18
Time Analyzed : 23:33

Column B
Instrument ID : HPLC02
Date Analyzed : 05/27/18
Time Analyzed : 02:30

Analyte	Column	RT	Concentration	RPD
HMX	A	4.55	514	
	B	6.62	414	21.6
RDX	A	5	3250	
	B	10.55	3340	2.7

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10698.D
Report Date: 31-May-2018 05:00

Katahdin Analytical Services

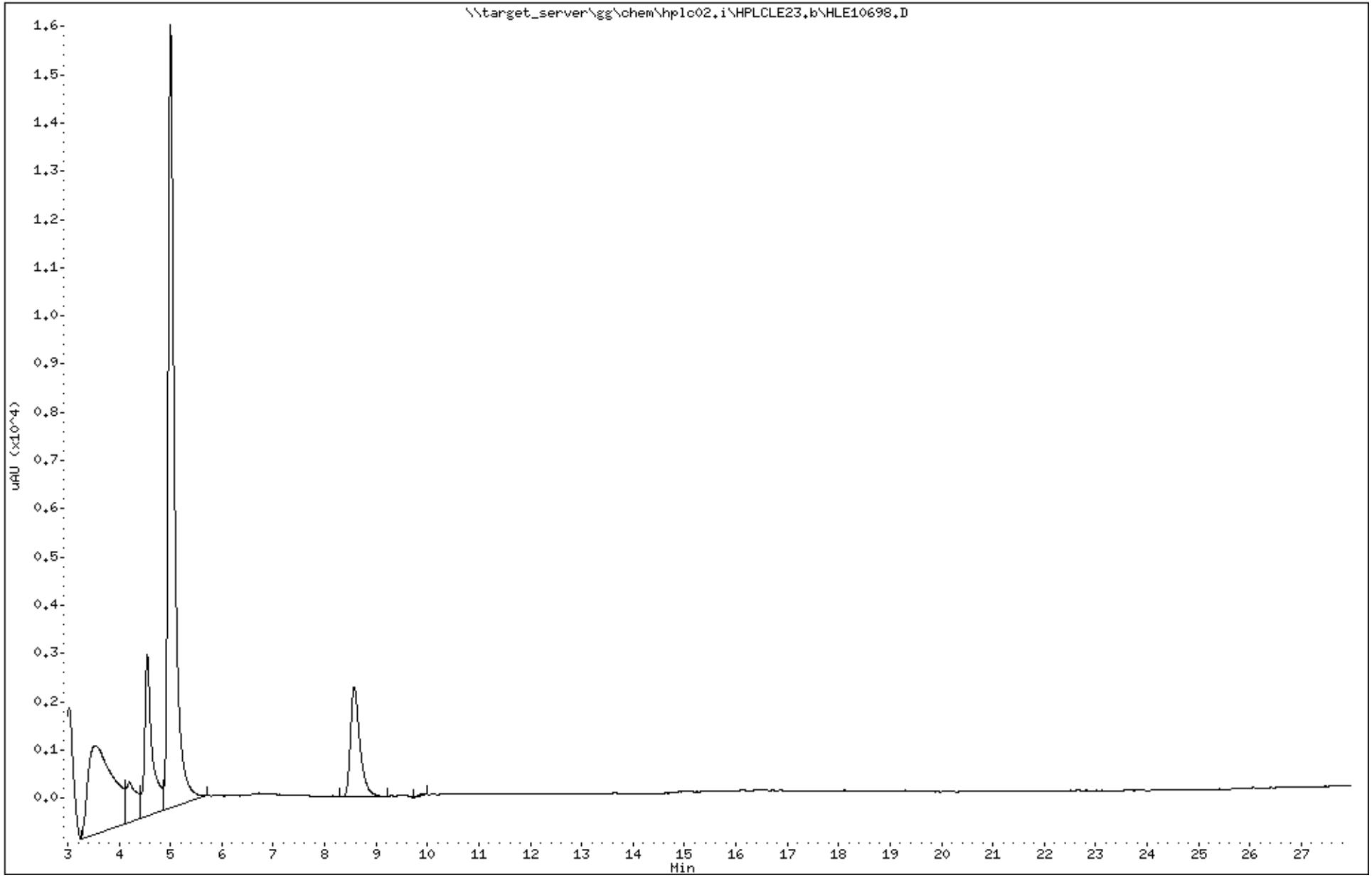
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10698.D
Lab Smp Id: SL4233-33 Client Smp ID: HAAP-21B-BPA-SB02-4
Inj Date : 23-MAY-2018 23:33
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-33
Misc Info : WG228942,WG228856,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\EXPB05A.m
Meth Date : 25-May-2018 03:43 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 17
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01050	Weight of Sample (Kg)
M	19.513	% Moisture
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10698.D
Date : 23-MAY-2018 23:33
Client ID: HAAP-21B-BPA-SB02-4
Instrument: hplc02.i
Sample Info: SL4233-33
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 1000179

Data File: HLE10698.D
Report Date: 31-May-2018 05:09

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HPLCLE23.b\HLE10698.D
Lab Smp Id: SL4233-33 Client Smp ID: HAAP-21B-BPA-SB02-4
Inj Date : 23-MAY-2018 23:33
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-33
Misc Info : WG228942,WG228856,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\EXPB05A.m\EXPB05A.m
Meth Date : 25-May-2018 03:41 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 17
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01050	Weight of Sample (Kg)
M	19.513	% Moisture
Cpnd Variable		Local Compound Variable

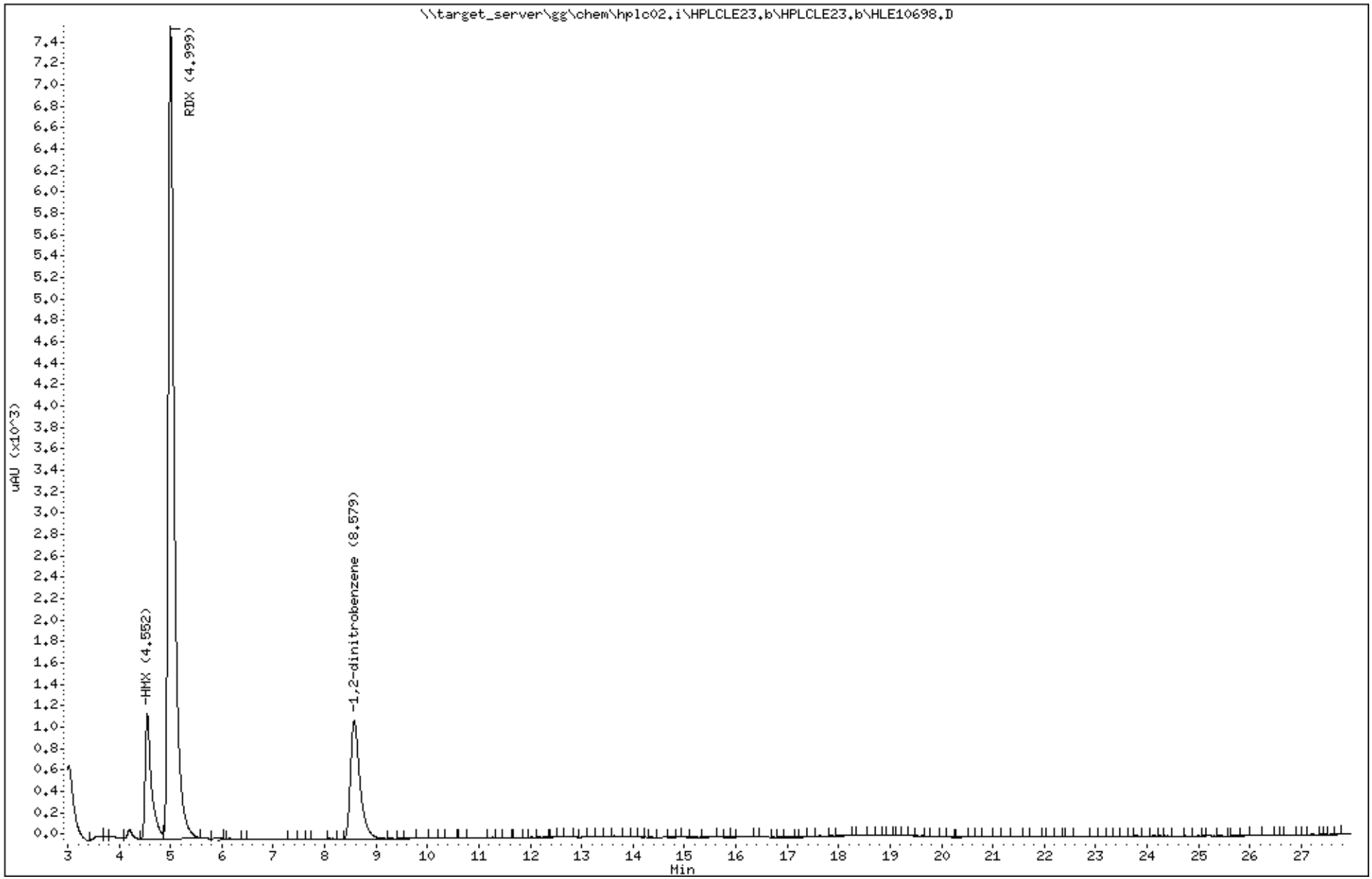
	Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	REVIEW CODE
1	HMX	4.552	4.547	0.005	1170	0.21704	514(M)	M2
4	RDX	4.999	5.000	-0.001	7592	1.37336	3250(M)	M2
$ 2	1,2-dinitrobenzene	8.579	8.573	0.006	1109	0.23966	567	

QC Flag Legend

M - Compound response manually integrated.

7:21 am, May 31, 2018

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HPLCLE23.b\HLE10698.D
Date : 23-MAY-2018 23:33
Client ID: HAAP-21B-BPA-SB02-4
Instrument: hplc02.i
Sample Info: SL4233-33
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 1000181

Data File: HLE10814.D
Report Date: 31-May-2018 05:46

Katahdin Analytical Services

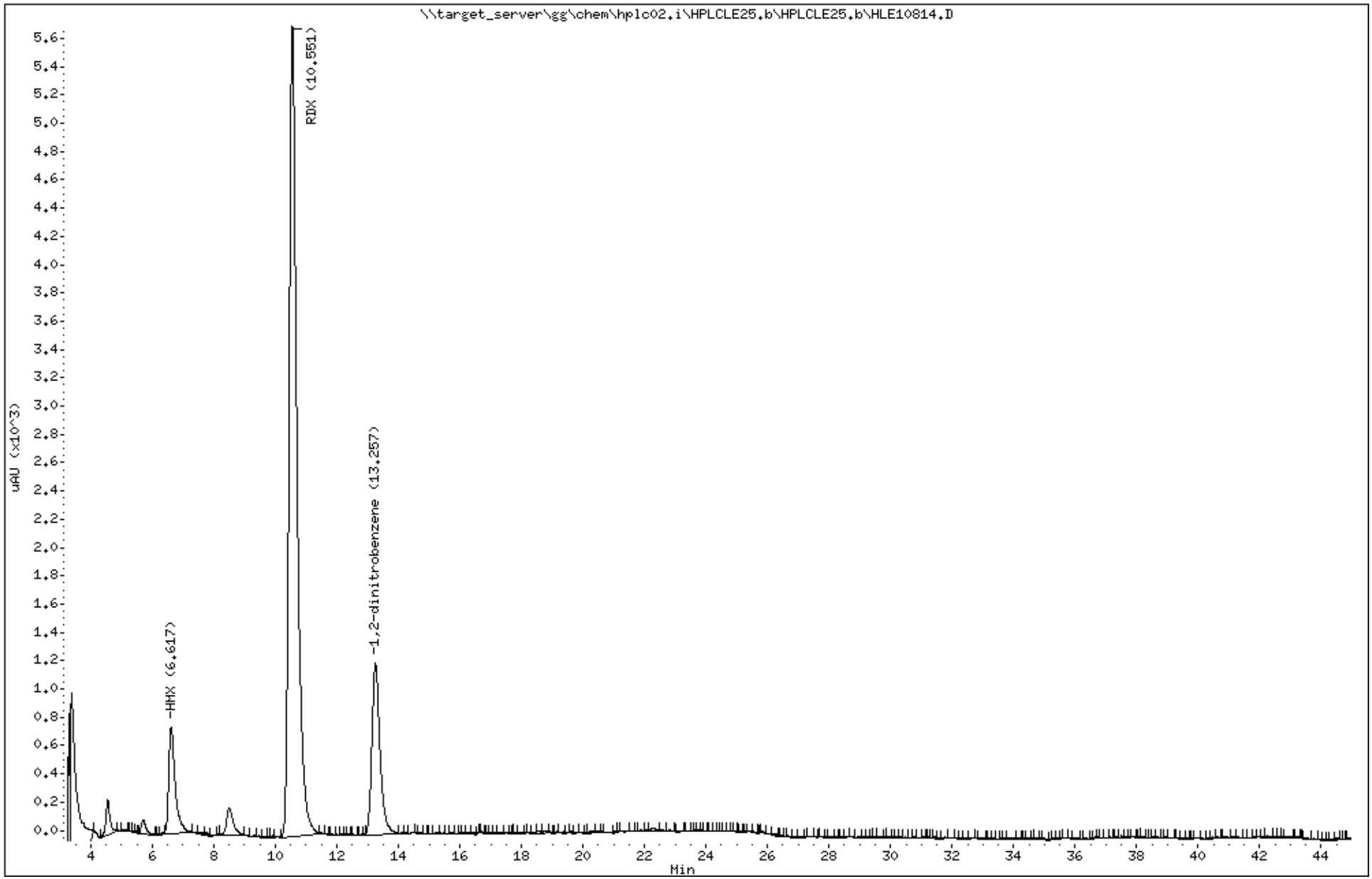
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE25.b\HPLCLE25.b\HLE10814.D
Lab Smp Id: SL4233-33C Client Smp ID: HAAP-21B-BPA-SB02-4
Inj Date : 27-MAY-2018 02:30
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-33C
Misc Info : WG228942,WG228856,WG210620-13
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE25.b\E2016A.m\E2016A.m
Meth Date : 29-May-2018 16:32 abullentin Quant Type: ESTD
Cal Date : 01-AUG-2017 14:33 Cal File: HKH10014.D
Als bottle: 33
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01050	Weight of Sample (Kg)
M	19.513	% Moisture
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	REVIEW CODE
1	HMX	6.617	6.588	0.029	751	0.17476	414	
4	RDX	10.550	10.528	0.022	5732	1.41021	3340	
$ 2	1,2-dinitrobenzene	13.257	13.228	0.029	1214	0.22738	538	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE25.b\HPLCLE25.b\HLE10814.D
Date : 27-MAY-2018 02:30
Client ID: HAAP-21B-BPA-SB02-4
Instrument: hplc02.i
Sample Info: SL4233-33C
Operator: AC
Column phase: Acclaim Exp E2
Column diameter: 4.60



Katahdin Analytical Services 1000183

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4233-34
Client ID: CHAAP-21B-BPA-SB02-8
Project: Cornhusker Army Ammunition Plant
SDG: SL4233
Lab File ID: HLE10699.D

Sample Date: 15-MAY-18
Received Date: 16-MAY-18
Extract Date: 22-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228856

Analysis Date: 24-MAY-18
Analyst: AC
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 76.
Report Date: 31-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	63	ug/Kgdrywt	1	100	120	11.	63.
RDX		130	ug/Kgdrywt	1	100	120	8.6	63.
1,3,5-Trinitrobenzene	U	63	ug/Kgdrywt	1	100	120	8.4	63.
1,3-Dinitrobenzene	U	63	ug/Kgdrywt	1	100	120	7.8	63.
Tetryl	U	63	ug/Kgdrywt	1	100	120	6.8	63.
Nitrobenzene	U	63	ug/Kgdrywt	1	100	120	28.	63.
2,4,6-Trinitrotoluene	U	63	ug/Kgdrywt	1	100	120	8.4	63.
2-Am-DNT	U	63	ug/Kgdrywt	1	100	120	26.	63.
4-Am-DNT	U	63	ug/Kgdrywt	1	100	120	21.	63.
2,6-Dinitrotoluene	U	63	ug/Kgdrywt	1	100	120	34.	63.
2,4-Dinitrotoluene	U	63	ug/Kgdrywt	1	100	120	19.	63.
2-Nitrotoluene	U	63	ug/Kgdrywt	1	100	120	15.	63.
3-Nitrotoluene	U	63	ug/Kgdrywt	1	100	120	9.9	63.
4-Nitrotoluene	U	63	ug/Kgdrywt	1	100	120	34.	63.
Nitroglycerin	U	500	ug/Kgdrywt	1	800	1000	160	500
PETN	U	500	ug/Kgdrywt	1	800	1000	140	500
1,2-Dinitrobenzene		98.4	%					

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Form 10
Explosives Identification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant

SDG : SL4233
Lab Sample ID : SL4233-34
Client Sample ID : CHAAP-21B-BPA-SB02-8

Column A
Instrument ID : HPLC02
Date Analyzed : 05/24/18
Time Analyzed : 00:04

Column B
Instrument ID : HPLC02
Date Analyzed : 05/27/18
Time Analyzed : 03:19

Analyte	Column	RT	Concentration	RPD
RDX	A	5.01	132	
	B	10.57	126	4.7

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029

http://katahdinlab.com
sales@katahdinlab.com

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10699.D
Report Date: 31-May-2018 05:00

Katahdin Analytical Services

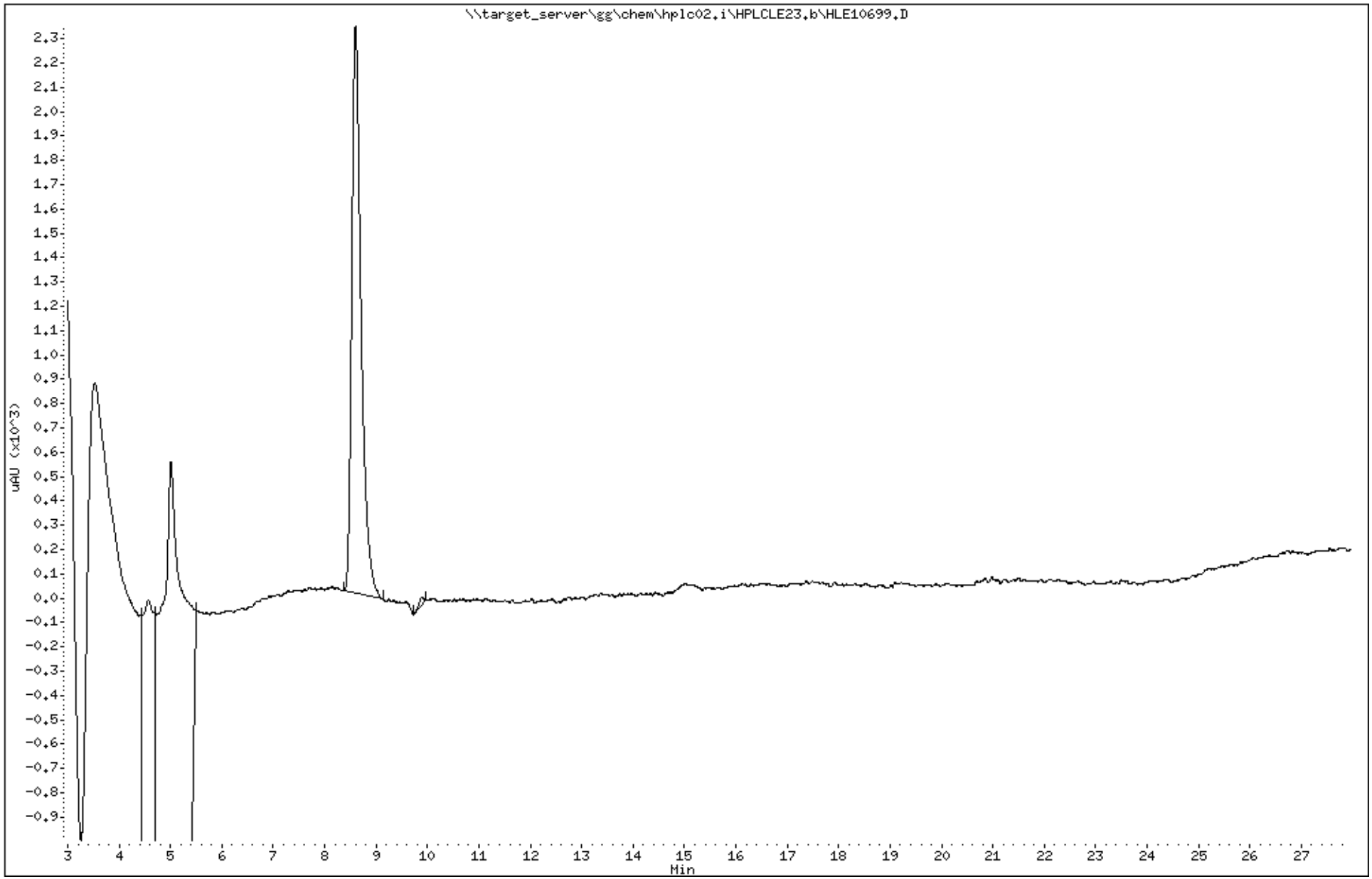
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10699.D
Lab Smp Id: SL4233-34 Client Smp ID: HAAP-21B-BPA-SB02-8
Inj Date : 24-MAY-2018 00:04
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-34
Misc Info : WG228942,WG228856,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\EXPB05A.m
Meth Date : 25-May-2018 03:43 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 18
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01040	Weight of Sample (Kg)
M	23.555	% Moisture
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10699.D
Date : 24-MAY-2018 00:04
Client ID: HAAP-21B-BPA-SB02-8
Instrument: hplc02.i
Sample Info: SL4233-34
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 1000187

Data File: HLE10699.D
Report Date: 31-May-2018 05:09

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HPLCLE23.b\HLE10699.D
Lab Smp Id: SL4233-34 Client Smp ID: HAAP-21B-BPA-SB02-8
Inj Date : 24-MAY-2018 00:04
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-34
Misc Info : WG228942,WG228856,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\EXPB05A.m\EXPB05A.m
Meth Date : 25-May-2018 03:41 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 18
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01040	Weight of Sample (Kg)
M	23.555	% Moisture
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	REVIEW CODE
	4 RDX	5.012	5.000	0.012	258	0.05234	132(a)	
$	2 1,2-dinitrobenzene	8.599	8.573	0.026	1139	0.24614	619	

QC Flag Legend

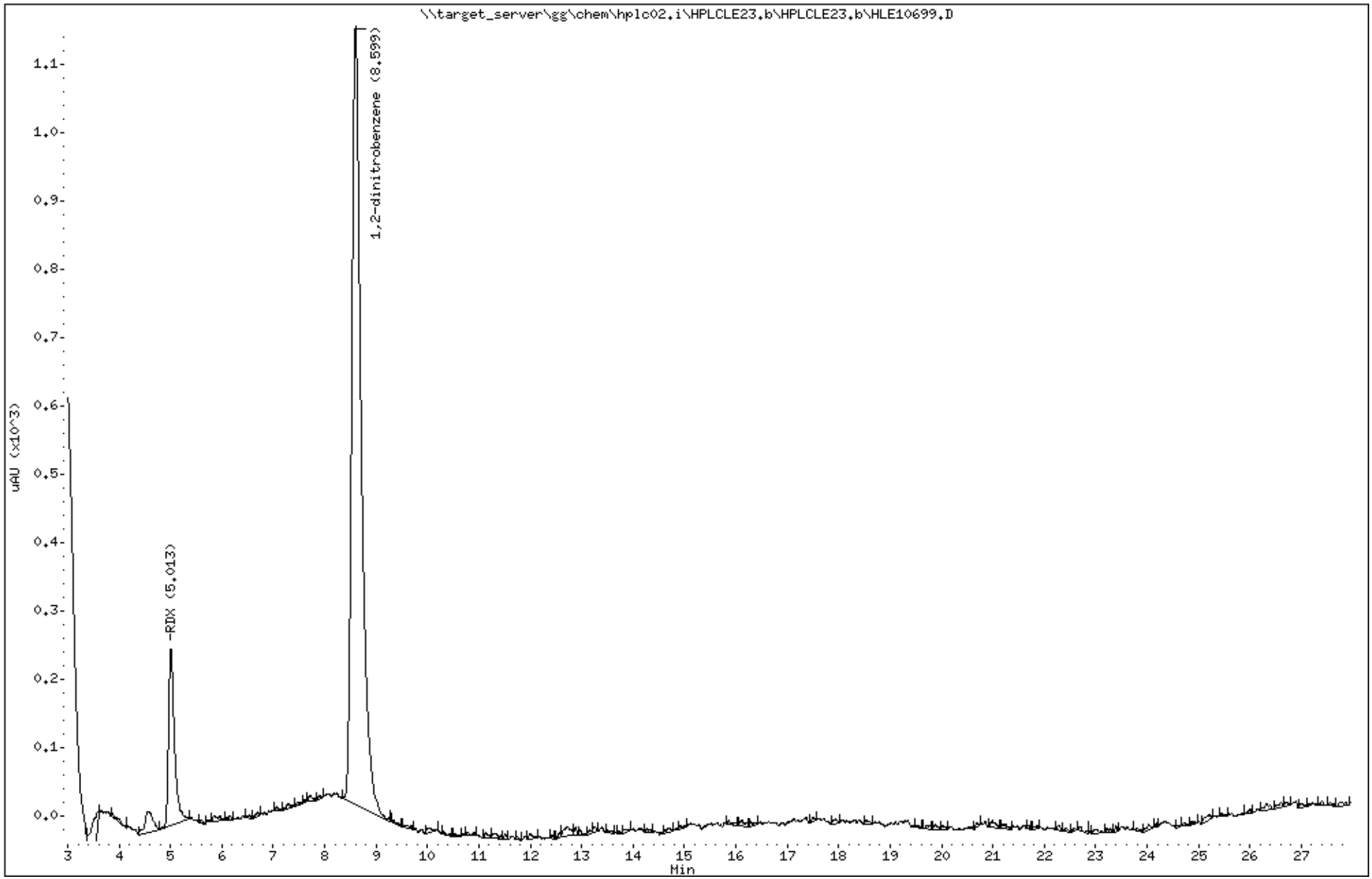
a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HPLCLE23.b\HLE10699.D
Date : 24-MAY-2018 00:04
Client ID: HAAP-21B-BPA-SB02-8
Sample Info: SL4233-34

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 1000189

Data File: HLE10815.D
Report Date: 31-May-2018 05:46

Katahdin Analytical Services

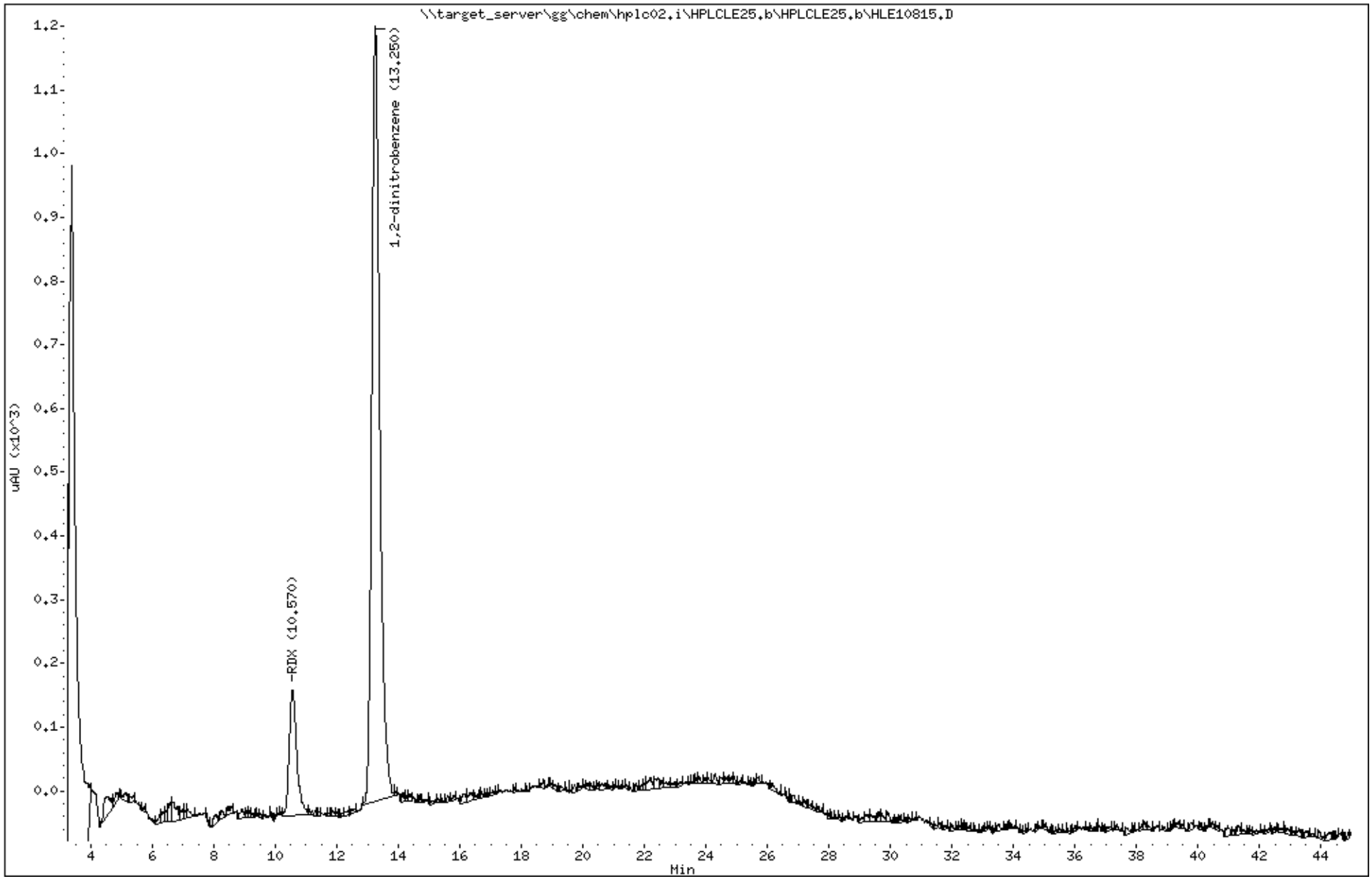
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE25.b\HPLCLE25.b\HLE10815.D
Lab Smp Id: SL4233-34C Client Smp ID: HAAP-21B-BPA-SB02-8
Inj Date : 27-MAY-2018 03:19
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-34C
Misc Info : WG228942,WG228856,WG210620-13
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE25.b\E2016A.m\E2016A.m
Meth Date : 29-May-2018 16:32 abullentin Quant Type: ESTD
Cal Date : 01-AUG-2017 14:33 Cal File: HKH10014.D
Als bottle: 34
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01040	Weight of Sample (Kg)
M	23.555	% Moisture
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	REVIEW CODE
	4 RDX	10.569	10.528	0.041	196	0.05030	126	
$	2 1,2-dinitrobenzene	13.249	13.228	0.021	1216	0.22776	573	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE25.b\HPLCLE25.b\HLE10815.D
Date : 27-MAY-2018 03:19
Client ID: HAAP-21B-BPA-SB02-8
Instrument: hplc02.i
Sample Info: SL4233-34C
Operator: AC
Column phase: Acclaim Exp E2
Column diameter: 4.60



Katahdin Analytical Services 1000191

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4233-35
Client ID: CHAAP-21B-BPA-SS03
Project: Cornhusker Army Ammunition Plant
SDG: SL4233
Lab File ID: HLE10700.D

Sample Date: 15-MAY-18
Received Date: 16-MAY-18
Extract Date: 22-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228856

Analysis Date: 24-MAY-18
Analyst: AC
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 76.
Report Date: 31-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	62	ug/Kgdrywt	1	100	120	11.	62.
RDX	U	62	ug/Kgdrywt	1	100	120	8.4	62.
1,3,5-Trinitrobenzene	U	62	ug/Kgdrywt	1	100	120	8.3	62.
1,3-Dinitrobenzene	U	62	ug/Kgdrywt	1	100	120	7.7	62.
Tetryl	U	62	ug/Kgdrywt	1	100	120	6.7	62.
Nitrobenzene	U	62	ug/Kgdrywt	1	100	120	27.	62.
2,4,6-Trinitrotoluene	U	62	ug/Kgdrywt	1	100	120	8.3	62.
2-Am-DNT	U	62	ug/Kgdrywt	1	100	120	26.	62.
4-Am-DNT	U	62	ug/Kgdrywt	1	100	120	21.	62.
2,6-Dinitrotoluene	U	62	ug/Kgdrywt	1	100	120	33.	62.
2,4-Dinitrotoluene	U	62	ug/Kgdrywt	1	100	120	18.	62.
2-Nitrotoluene	U	62	ug/Kgdrywt	1	100	120	15.	62.
3-Nitrotoluene	U	62	ug/Kgdrywt	1	100	120	9.8	62.
4-Nitrotoluene	U	62	ug/Kgdrywt	1	100	120	33.	62.
Nitroglycerin	U	500	ug/Kgdrywt	1	800	990	150	500
PETN	U	500	ug/Kgdrywt	1	800	990	130	500
1,2-Dinitrobenzene		96.4	%					

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10700.D
Report Date: 31-May-2018 05:00

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10700.D
Lab Smp Id: SL4233-35 Client Smp ID: CHAAP-21B-BPA-SS03
Inj Date : 24-MAY-2018 00:35
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-35
Misc Info : WG228942,WG228856,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\EXPB05A.m
Meth Date : 25-May-2018 03:43 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 19
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

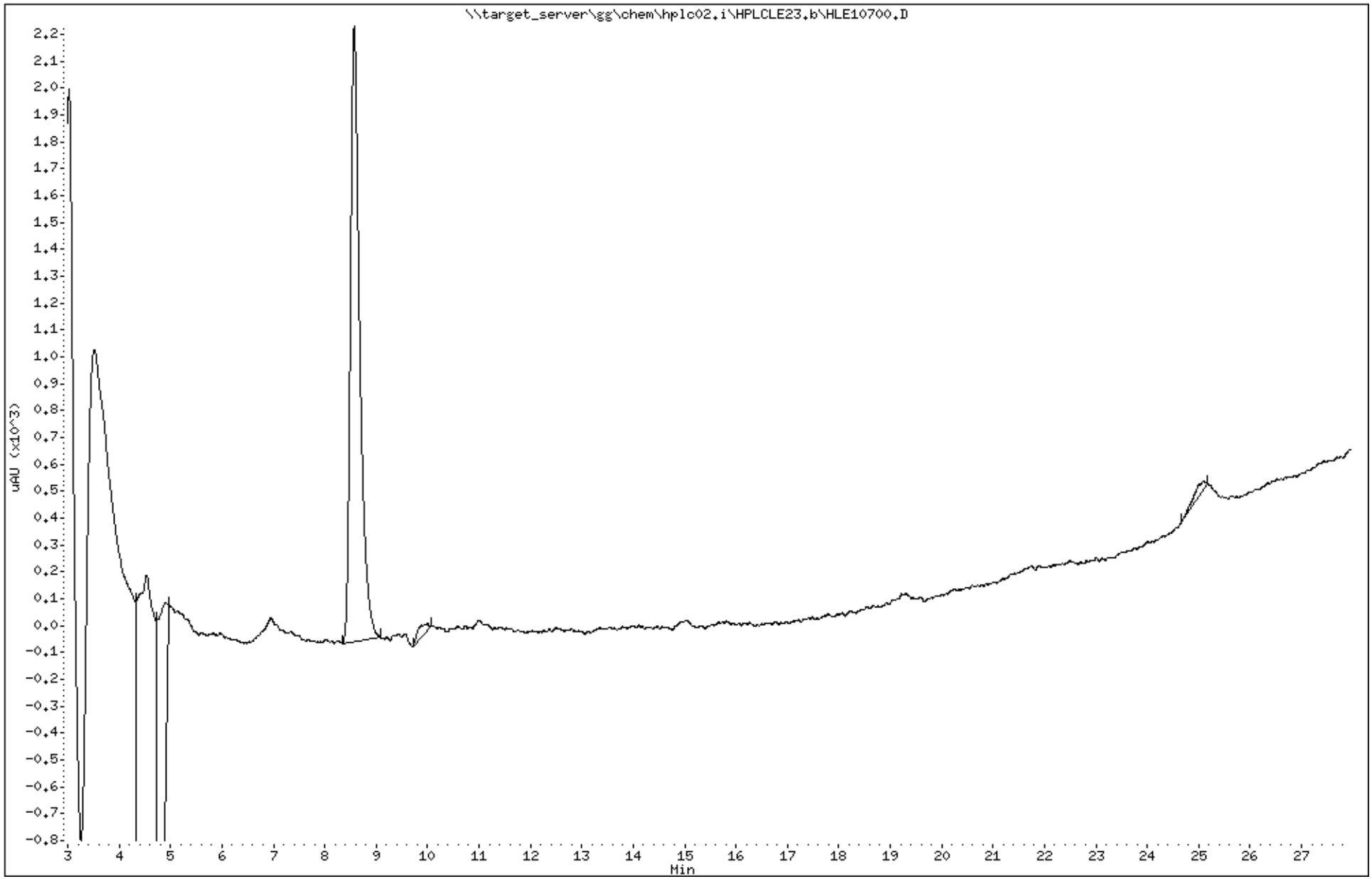
Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01060	Weight of Sample (Kg)
M	23.880	% Moisture
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10700.D
Date : 24-MAY-2018 00:35
Client ID: CHAAP-21B-BPA-SS03
Sample Info: SL4233-35

Instrument: hplc02.i

Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 1000194

Data File: HLE10700.D
Report Date: 31-May-2018 05:09

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HPLCLE23.b\HLE10700.D
Lab Smp Id: SL4233-35 Client Smp ID: CHAAP-21B-BPA-SS03
Inj Date : 24-MAY-2018 00:35
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-35
Misc Info : WG228942,WG228856,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\EXPB05A.m\EXPB05A.m
Meth Date : 25-May-2018 03:41 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 19
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01060	Weight of Sample (Kg)
M	23.880	% Moisture
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	REVIEW CODE
	~~1 HMX~~	~~4.543~~	~~4.547~~	~~-0.004~~	~~43~~	~~0.00798~~	~~19.8(aM)~~	~~M2~~
$	2 1,2-dinitrobenzene	8.570	8.573	-0.003	1116	0.24117	598	

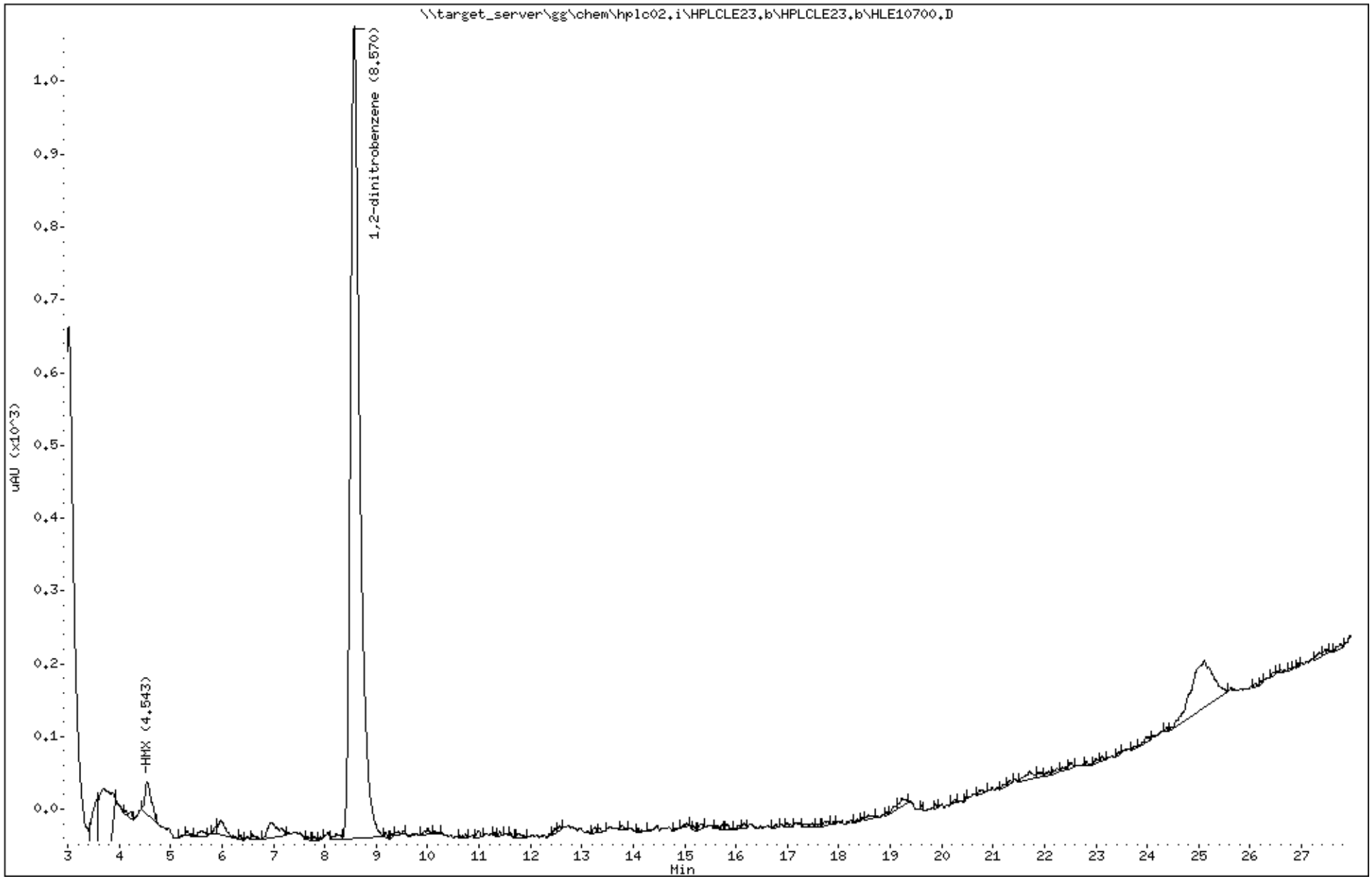
NC

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.

7:21 am, May 31, 2018

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HPLCLE23.b\HLE10700.D
Date : 24-MAY-2018 00:35
Client ID: CHAAP-21B-BPA-SS03
Instrument: hplc02.i
Sample Info: SL4233-35
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 1000196

Data File: HLE10816.D
Report Date: 31-May-2018 05:46

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE25.b\HPLCLE25.b\HLE10816.D
Lab Smp Id: SL4233-35C Client Smp ID: CHAAP-21B-BPA-SS03
Inj Date : 27-MAY-2018 04:08
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-35C
Misc Info : WG228942,WG228856,WG210620-13
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE25.b\E2016A.m\E2016A.m
Meth Date : 29-May-2018 16:32 abullentin Quant Type: ESTD
Cal Date : 01-AUG-2017 14:33 Cal File: HKH10014.D
Als bottle: 35
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

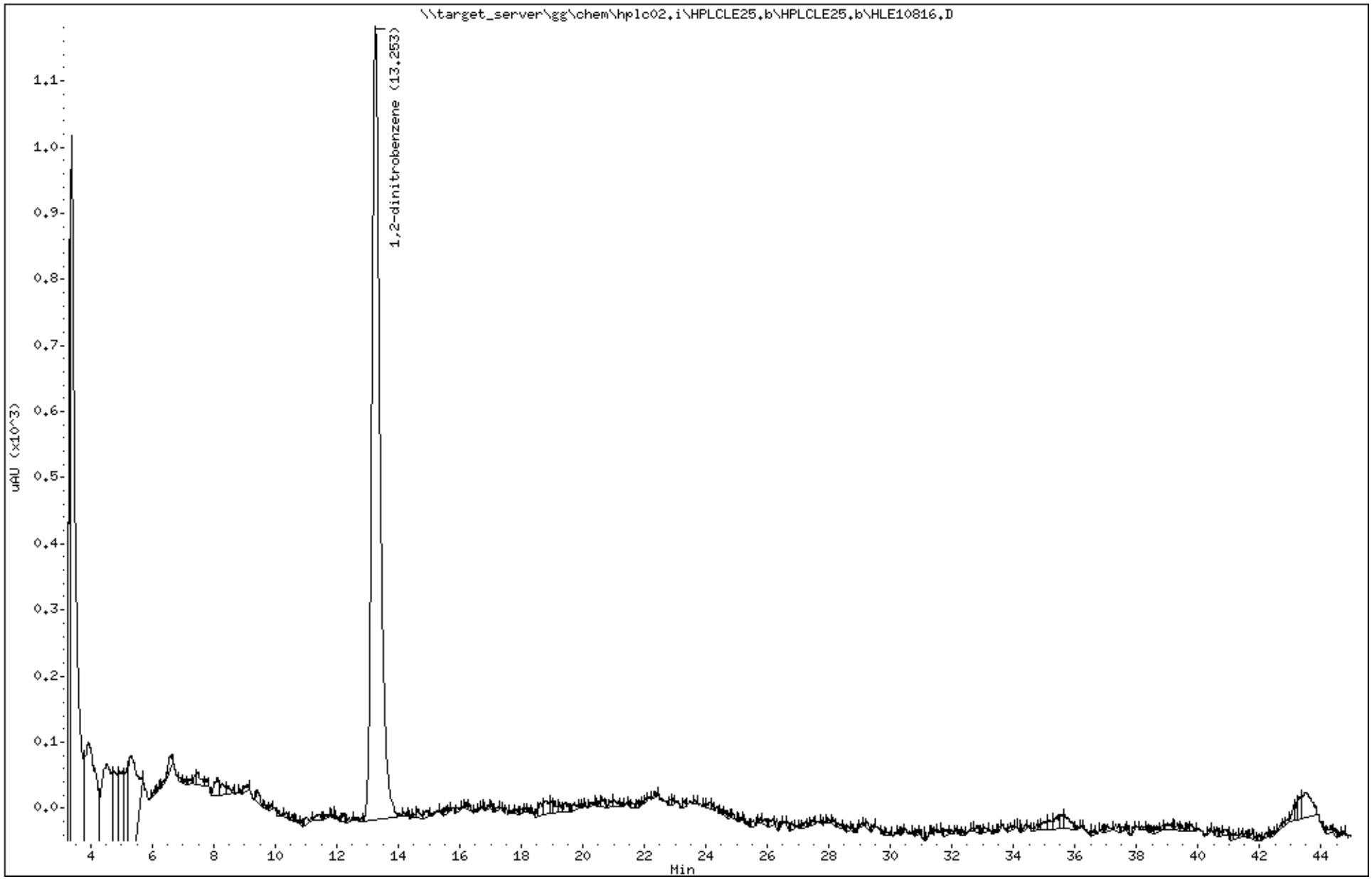
Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01060	Weight of Sample (Kg)
M	23.880	% Moisture
Cpnd Variable		Local Compound Variable

						CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	REVIEW CODE
$	2 1,2-dinitrobenzene	13.253	13.228	0.025	1200	0.22473	557	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE25.b\HPLCLE25.b\HLE10816.D
Date : 27-MAY-2018 04:08
Client ID: CHAAP-21B-BPA-SS03
Sample Info: SL4233-35C

Instrument: hplc02.i

Operator: AC
Column phase: Acclaim Exp E2
Column diameter: 4.60



Katahdin Analytical Services 1000198

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4233-36
Client ID: CHAAP-21B-BPA-SB03-4
Project: Cornhusker Army Ammunition Plant
SDG: SL4233
Lab File ID: HLE10702.D

Sample Date: 15-MAY-18
Received Date: 16-MAY-18
Extract Date: 22-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228856

Analysis Date: 24-MAY-18
Analyst: AC
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 80.
Report Date: 31-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	J	29	ug/Kgdrywt	1	100	120	10.	59.
RDX	J	87	ug/Kgdrywt	1	100	120	8.1	59.
1,3,5-Trinitrobenzene	U	59	ug/Kgdrywt	1	100	120	8.0	59.
1,3-Dinitrobenzene	U	59	ug/Kgdrywt	1	100	120	7.4	59.
Tetryl	U	59	ug/Kgdrywt	1	100	120	6.4	59.
Nitrobenzene	U	59	ug/Kgdrywt	1	100	120	26.	59.
2,4,6-Trinitrotoluene	U	59	ug/Kgdrywt	1	100	120	8.0	59.
2-Am-DNT	U	59	ug/Kgdrywt	1	100	120	25.	59.
4-Am-DNT	U	59	ug/Kgdrywt	1	100	120	20.	59.
2,6-Dinitrotoluene	U	59	ug/Kgdrywt	1	100	120	32.	59.
2,4-Dinitrotoluene	U	59	ug/Kgdrywt	1	100	120	18.	59.
2-Nitrotoluene	U	59	ug/Kgdrywt	1	100	120	14.	59.
3-Nitrotoluene	U	59	ug/Kgdrywt	1	100	120	9.4	59.
4-Nitrotoluene	U	59	ug/Kgdrywt	1	100	120	32.	59.
Nitroglycerin	U	480	ug/Kgdrywt	1	800	950	150	480
PETN	U	480	ug/Kgdrywt	1	800	950	130	480
1,2-Dinitrobenzene		98.1	%					

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Katahdin
ANALYTICAL SERVICES

Form 10
Explosives Identification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant

SDG : SL4233
Lab Sample ID : SL4233-36
Client Sample ID : CHAAP-21B-BPA-SB03-4

Column A
Instrument ID : HPLC02
Date Analyzed : 05/24/18
Time Analyzed : 01:37

Column B
Instrument ID : HPLC02
Date Analyzed : 05/27/18
Time Analyzed : 05:47

Analyte	Column	RT	Concentration	RPD
HMX	A	4.55	29.1	
	B	6.61	21.5	30
RDX	A	5.01	86.8	
	B	10.6	80.5	7.5

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10702.D
Report Date: 31-May-2018 05:00

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10702.D
Lab Smp Id: SL4233-36 Client Smp ID: HAAP-21B-BPA-SB03-4
Inj Date : 24-MAY-2018 01:37
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-36
Misc Info : WG228942,WG228856,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\EXPB05A.m
Meth Date : 25-May-2018 03:43 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 21
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01050	Weight of Sample (Kg)
M	19.895	% Moisture
Cpnd Variable		Local Compound Variable

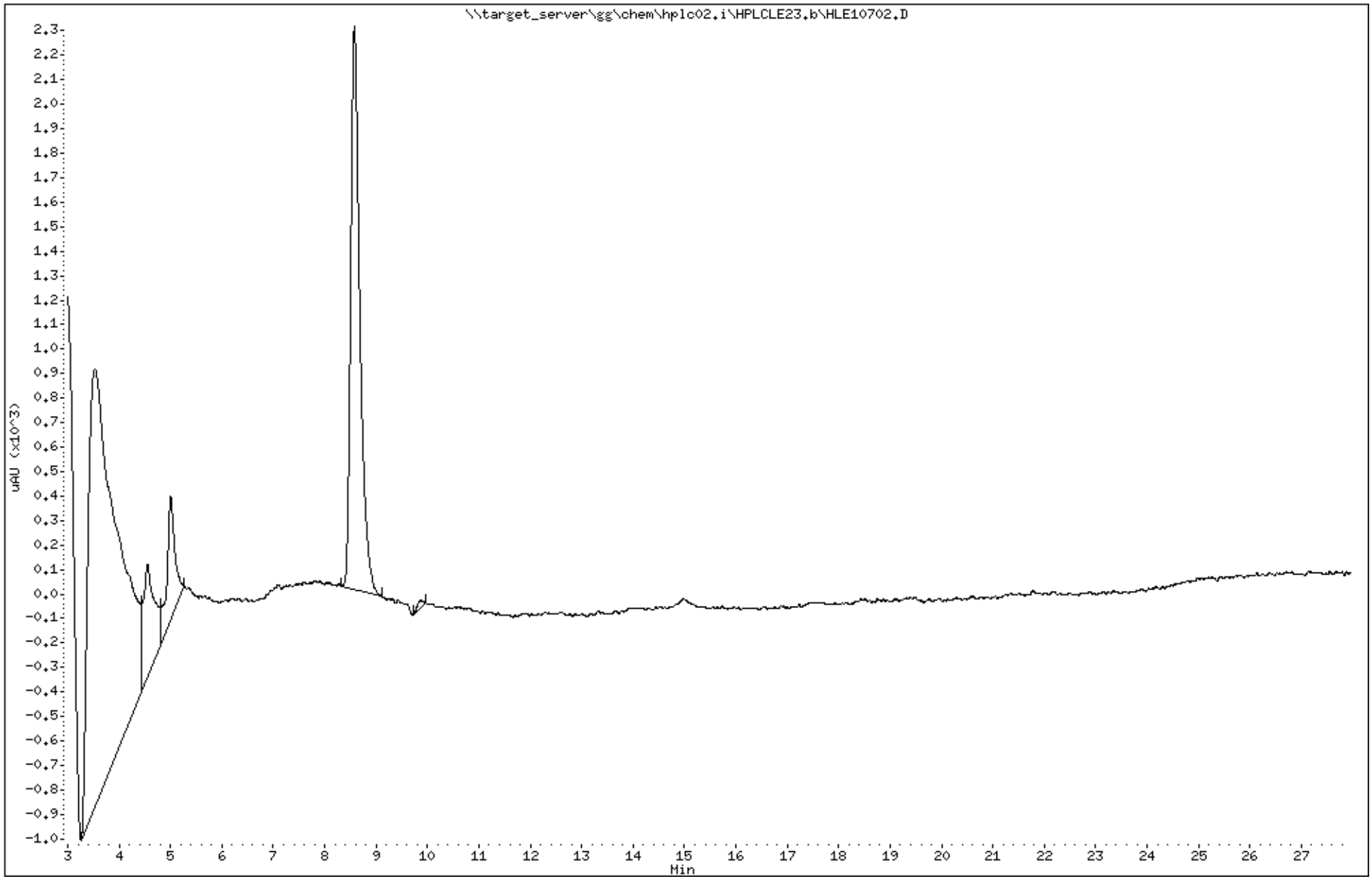
Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10702.D
Date : 24-MAY-2018 01:37
Client ID: HAAP-21B-BPA-SB03-4
Sample Info: SL4233-36

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 1000202

Data File: HLE10702.D
Report Date: 31-May-2018 05:09

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HPLCLE23.b\HLE10702.D
Lab Smp Id: SL4233-36 Client Smp ID: HAAP-21B-BPA-SB03-4
Inj Date : 24-MAY-2018 01:37
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-36
Misc Info : WG228942,WG228856,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\EXPB05A.m\EXPB05A.m
Meth Date : 25-May-2018 03:41 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 21
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01050	Weight of Sample (Kg)
M	19.895	% Moisture
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	REVIEW CODE
1	HMX	4.552	4.547	0.005	66	0.01224	29.1(aM)	M3
4	RDX	5.005	5.000	0.005	170	0.03649	86.8(a)	
$ 2	1,2-dinitrobenzene	8.579	8.573	0.006	1135	0.24528	583	

7:21 am, May 31, 2018

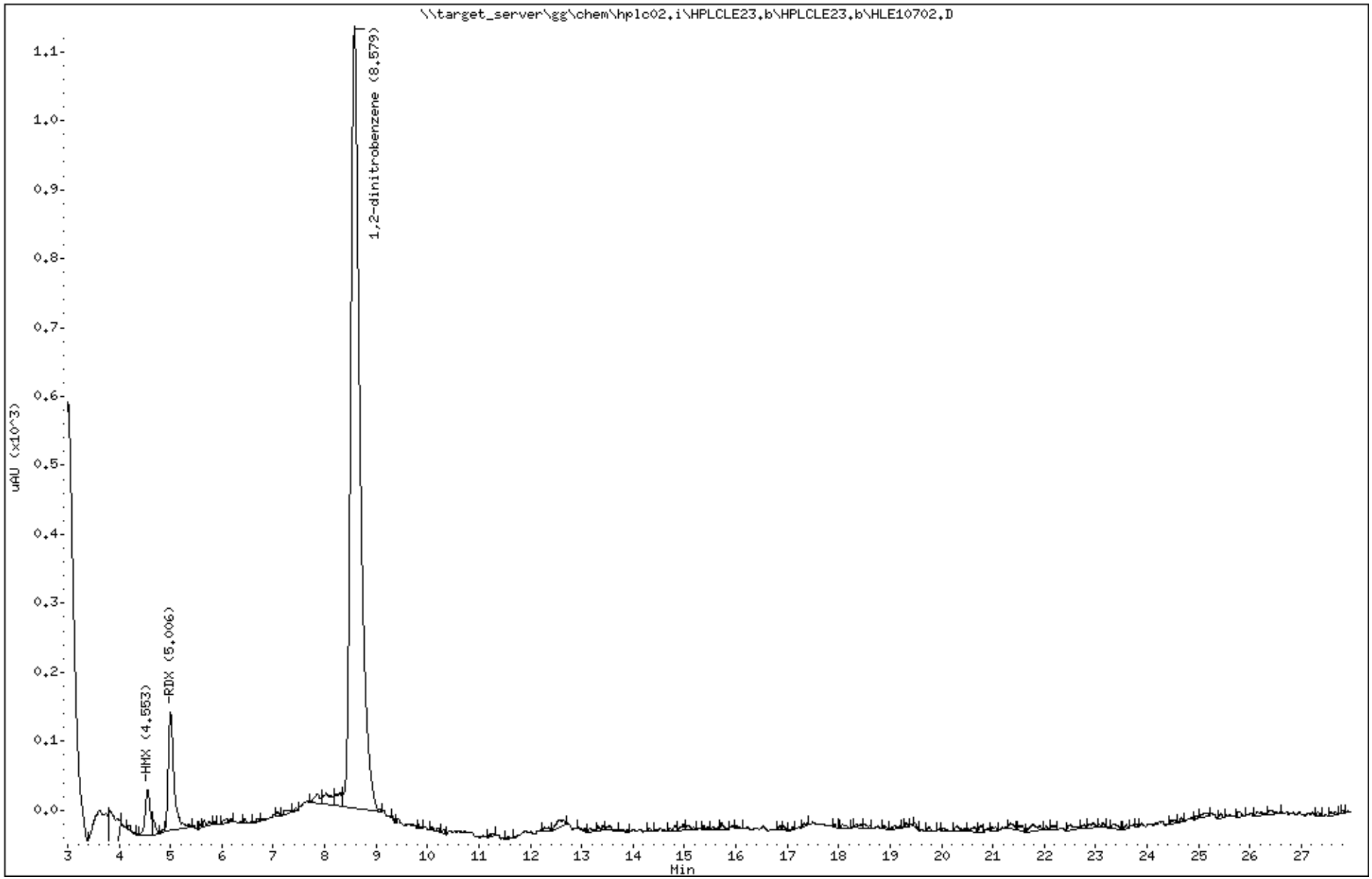
QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HPLCLE23.b\HLE10702.D
Date : 24-MAY-2018 01:37
Client ID: HAAP-21B-BPA-SB03-4
Sample Info: SL4233-36

Instrument: hplc02.i

Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 1000204

Data File: HLE10818.D
Report Date: 31-May-2018 05:46

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE25.b\HPLCLE25.b\HLE10818.D
Lab Smp Id: SL4233-36C Client Smp ID: HAAP-21B-BPA-SB03-4
Inj Date : 27-MAY-2018 05:47
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-36C
Misc Info : WG228942,WG228856,WG210620-13
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE25.b\E2016A.m\E2016A.m
Meth Date : 29-May-2018 16:32 abullentin Quant Type: ESTD
Cal Date : 01-AUG-2017 14:33 Cal File: HKH10014.D
Als bottle: 37
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

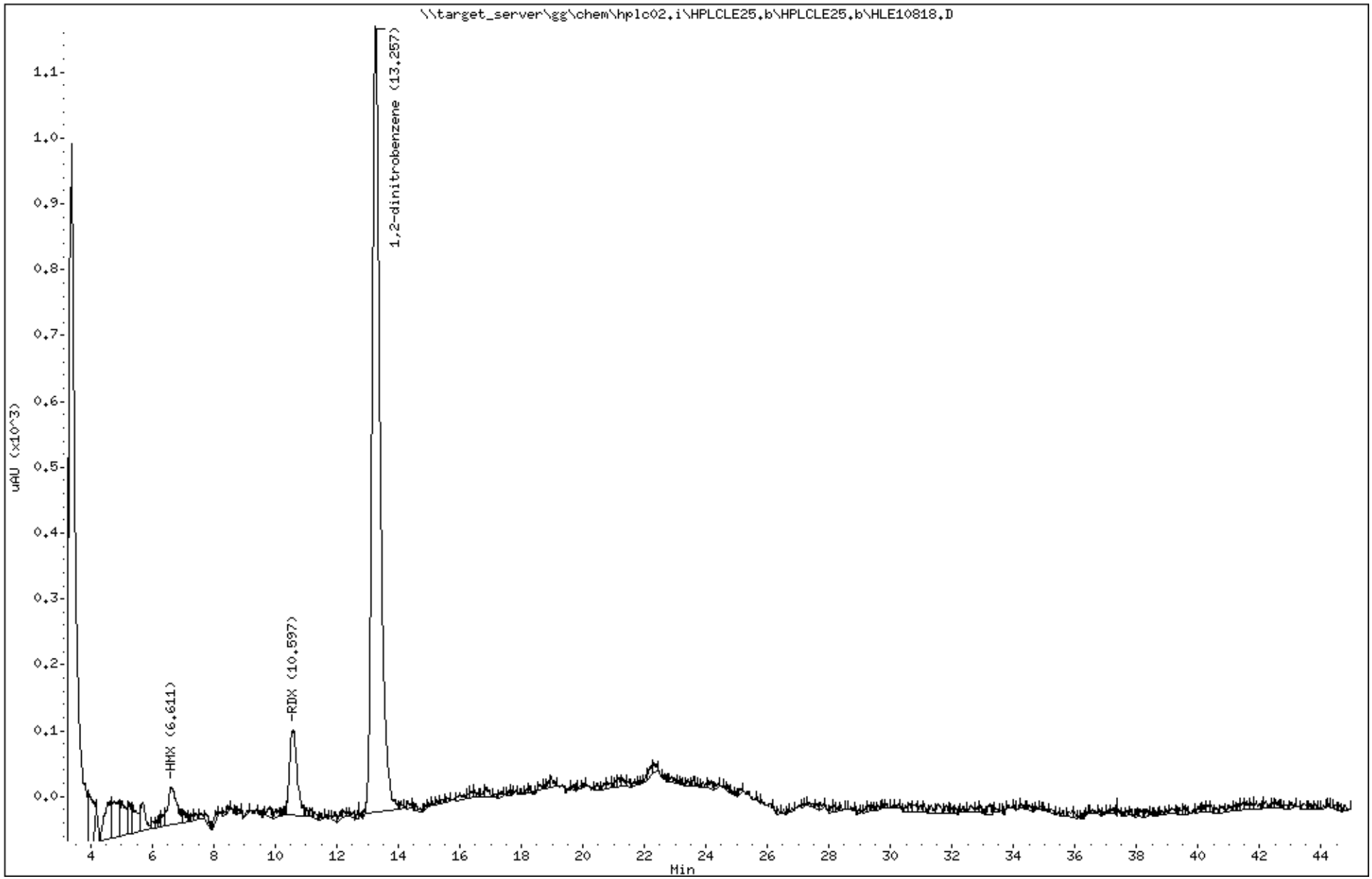
Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01050	Weight of Sample (Kg)
M	19.895	% Moisture
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	REVIEW CODE
1	HMX	6.610	6.588	0.022	55	0.00903	21.5(a)	
4	RDX	10.597	10.528	0.069	129	0.03384	80.5(a)	
$ 2	1,2-dinitrobenzene	13.257	13.228	0.029	1193	0.22341	531	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE25.b\HPLCLE25.b\HLE10818.D
Date : 27-MAY-2018 05:47
Client ID: HAAP-21B-BPA-SB03-4
Instrument: hplc02.i
Sample Info: SL4233-36C
Operator: AC
Column phase: Acclaim Exp E2
Column diameter: 4.60



Katahdin Analytical Services 1000206

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4233-37
Client ID: CHAAP-21B-BPA-SB03-8
Project: Cornhusker Army Ammunition Plant
SDG: SL4233
Lab File ID: HLE10703.D

Sample Date: 15-MAY-18
Received Date: 16-MAY-18
Extract Date: 22-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228856

Analysis Date: 24-MAY-18
Analyst: AC
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 78.
Report Date: 31-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	47	ug/Kgdrywt	1	100	93.	8.0	47.
RDX	J	37	ug/Kgdrywt	1	100	93.	6.3	47.
1,3,5-Trinitrobenzene	U	47	ug/Kgdrywt	1	100	93.	6.2	47.
1,3-Dinitrobenzene	U	47	ug/Kgdrywt	1	100	93.	5.8	47.
Tetryl	U	47	ug/Kgdrywt	1	100	93.	5.0	47.
Nitrobenzene	U	47	ug/Kgdrywt	1	100	93.	20.	47.
2,4,6-Trinitrotoluene	U	47	ug/Kgdrywt	1	100	93.	6.2	47.
2-Am-DNT	U	47	ug/Kgdrywt	1	100	93.	20.	47.
4-Am-DNT	U	47	ug/Kgdrywt	1	100	93.	16.	47.
2,6-Dinitrotoluene	U	47	ug/Kgdrywt	1	100	93.	25.	47.
2,4-Dinitrotoluene	U	47	ug/Kgdrywt	1	100	93.	14.	47.
2-Nitrotoluene	U	47	ug/Kgdrywt	1	100	93.	11.	47.
3-Nitrotoluene	U	47	ug/Kgdrywt	1	100	93.	7.4	47.
4-Nitrotoluene	U	47	ug/Kgdrywt	1	100	93.	25.	47.
Nitroglycerin	U	370	ug/Kgdrywt	1	800	750	120	370
PETN	U	370	ug/Kgdrywt	1	800	750	100	370
1,2-Dinitrobenzene		98.5	%					

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Katahdin
ANALYTICAL SERVICES

Form 10
Explosives Identification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant

SDG : SL4233
Lab Sample ID : SL4233-37
Client Sample ID : CHAAP-21B-BPA-SB03-8

Column A
Instrument ID : HPLC02
Date Analyzed : 05/24/18
Time Analyzed : 02:08

Column B
Instrument ID : HPLC02
Date Analyzed : 05/27/18
Time Analyzed : 06:36

Analyte	Column	RT	Concentration	RPD
RDX	A	5.01	36.8	
	B	10.58	32.4	12.7

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10703.D
Report Date: 31-May-2018 05:00

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10703.D
Lab Smp Id: SL4233-37 Client Smp ID: HAAP-21B-BPA-SB03-8
Inj Date : 24-MAY-2018 02:08
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-37
Misc Info : WG228942,WG228856,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\EXPB05A.m
Meth Date : 25-May-2018 03:43 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 22
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01380	Weight of Sample (Kg)
M	22.335	% Moisture
Cpnd Variable		Local Compound Variable

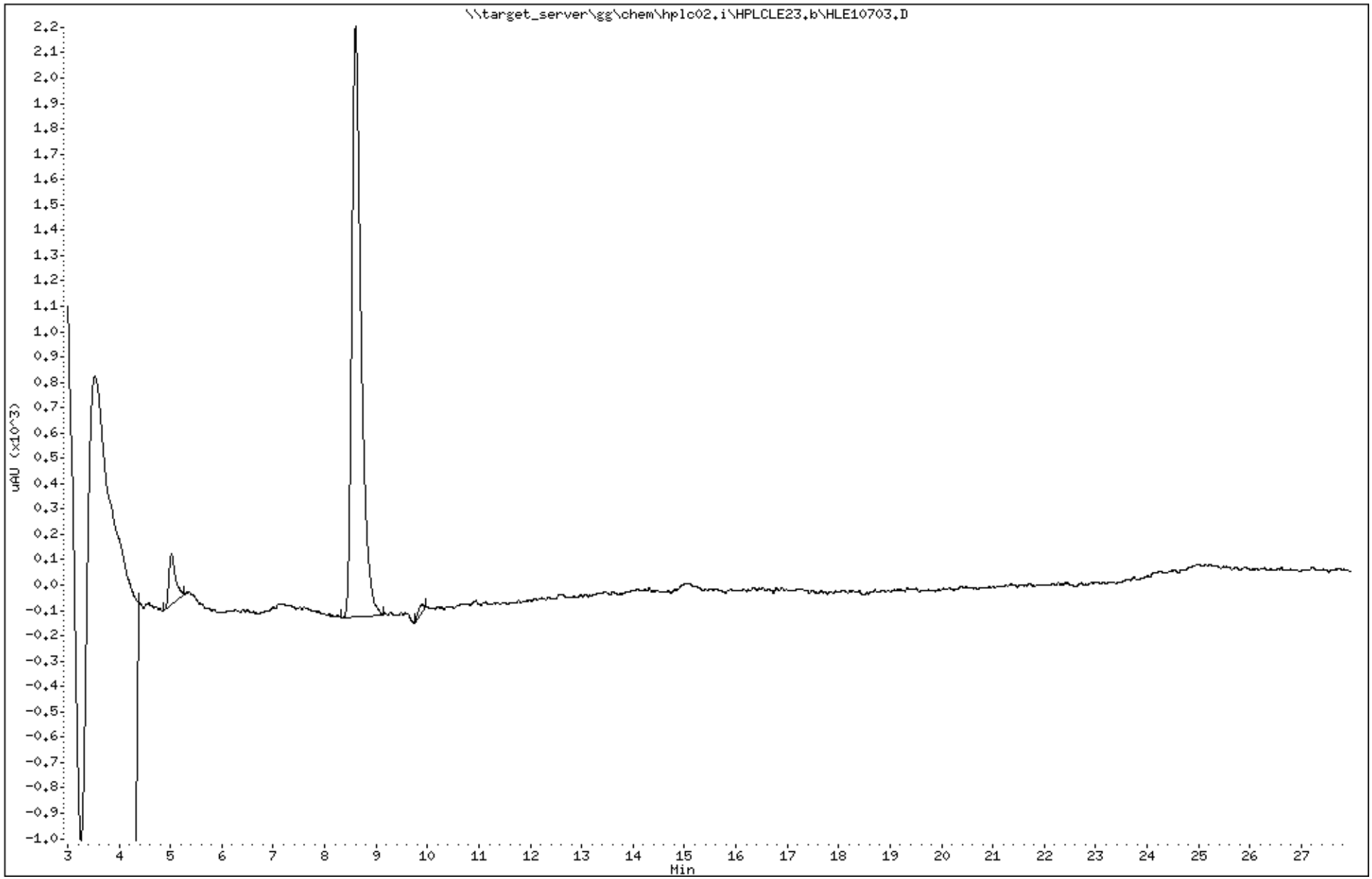
Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10703.D
Date : 24-MAY-2018 02:08
Client ID: HAAP-21B-BPA-SB03-8
Sample Info: SL4233-37

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 1000210

Data File: HLE10703.D
Report Date: 31-May-2018 05:09

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HPLCLE23.b\HLE10703.D
Lab Smp Id: SL4233-37 Client Smp ID: HAAP-21B-BPA-SB03-8
Inj Date : 24-MAY-2018 02:08
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-37
Misc Info : WG228942,WG228856,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\EXPB05A.m\EXPB05A.m
Meth Date : 25-May-2018 03:41 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 22
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01380	Weight of Sample (Kg)
M	22.335	% Moisture
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	REVIEW CODE
	4 RDX	5.011	5.000	0.011	77	0.01974	36.8(a)	
$	2 1,2-dinitrobenzene	8.598	8.573	0.025	1138	0.24592	459	

QC Flag Legend

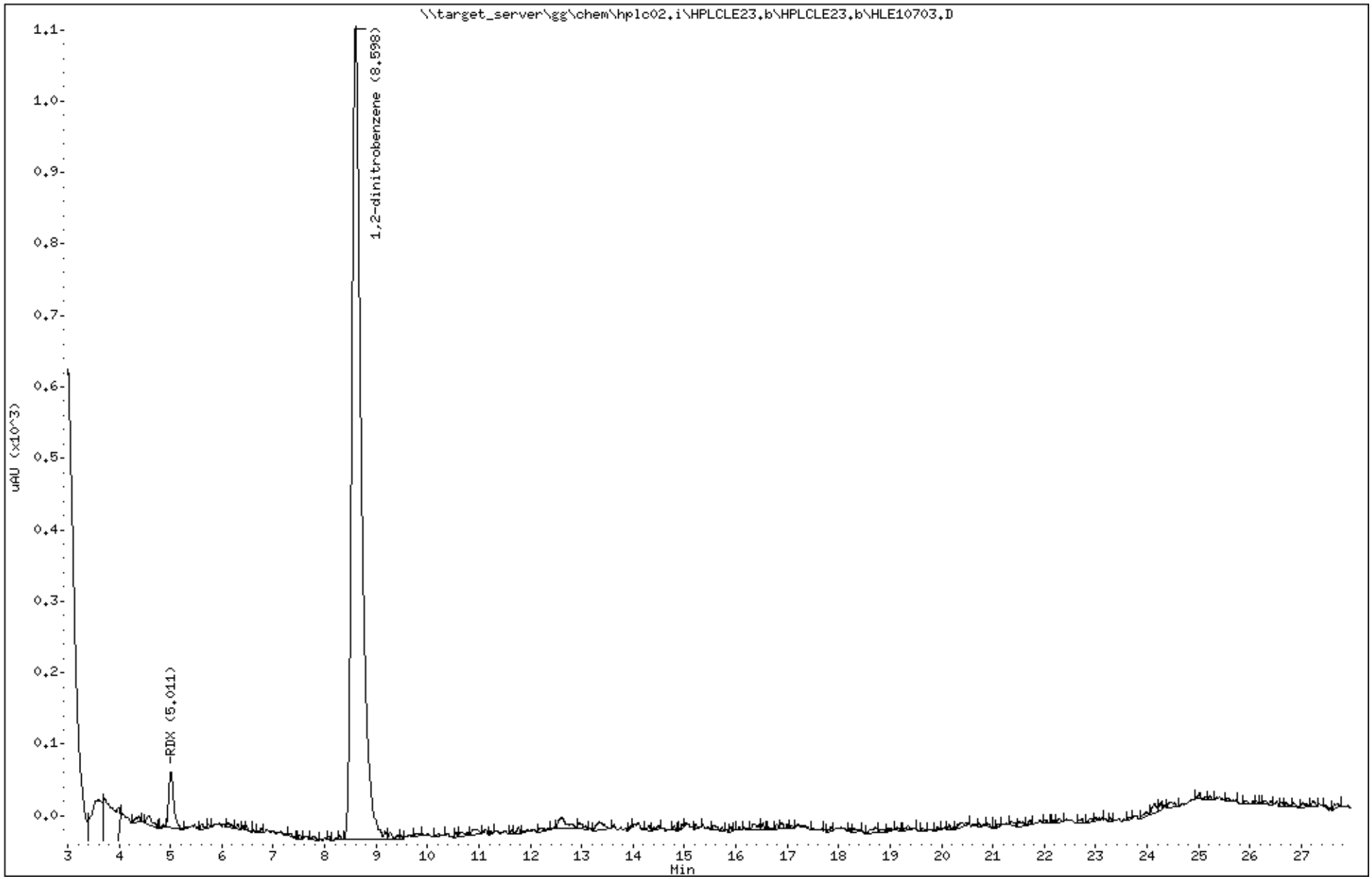
a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HPLCLE23.b\HLE10703.D
Date : 24-MAY-2018 02:08
Client ID: HAAP-21B-BPA-SB03-8
Sample Info: SL4233-37

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 1000212

Data File: HLE10819.D
Report Date: 31-May-2018 05:46

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE25.b\HPLCLE25.b\HLE10819.D
Lab Smp Id: SL4233-37C Client Smp ID: HAAP-21B-BPA-SB03-8
Inj Date : 27-MAY-2018 06:36
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-37C
Misc Info : WG228942,WG228856,WG210620-13
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE25.b\E2016A.m\E2016A.m
Meth Date : 29-May-2018 16:32 abullentin Quant Type: ESTD
Cal Date : 01-AUG-2017 14:33 Cal File: HKH10014.D
Als bottle: 38
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

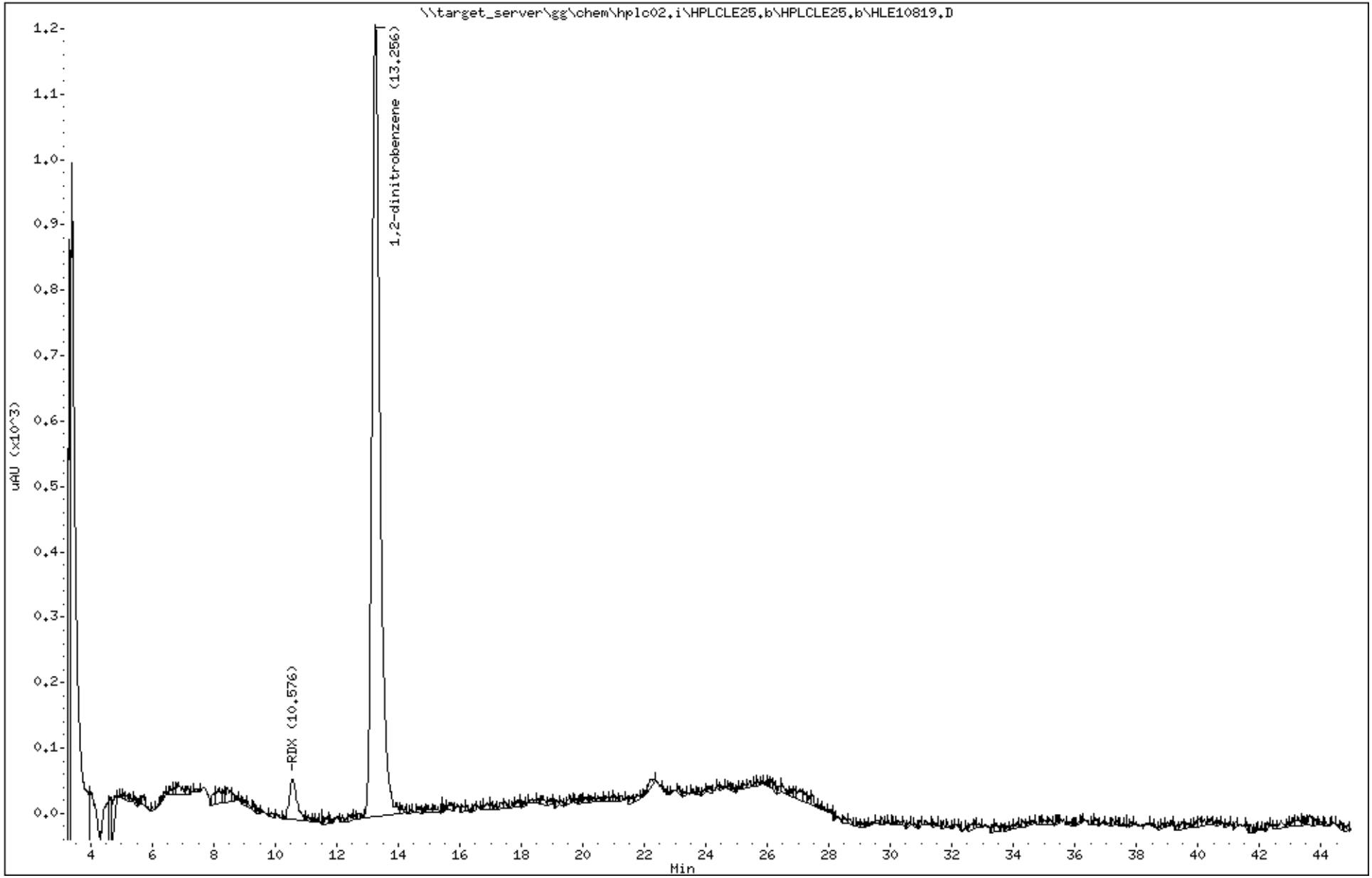
Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01380	Weight of Sample (Kg)
M	22.335	% Moisture
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	REVIEW CODE
	4 RDX	10.575	10.528	0.047	62	0.01738	32.4(a)	
$	2 1,2-dinitrobenzene	13.255	13.228	0.027	1210	0.22662	423	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE25.b\HPLCLE25.b\HLE10819.D
Date : 27-MAY-2018 06:36
Client ID: HAAP-21B-BPA-SB03-8
Instrument: hplc02.i
Sample Info: SL4233-37C
Operator: AC
Column phase: Acclaim Exp E2
Column diameter: 4.60



Katahdin Analytical Services 1000214

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4233-38
Client ID: CHAAP-21B-BPA-SS04
Project: Cornhusker Army Ammunition Plant
SDG: SL4233
Lab File ID: HLE10704.D

Sample Date: 15-MAY-18
Received Date: 16-MAY-18
Extract Date: 22-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228856

Analysis Date: 24-MAY-18
Analyst: AC
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 80.
Report Date: 31-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	J	110	ug/Kgdrywt	1	100	110	9.5	55.
RDX	J	62	ug/Kgdrywt	1	100	110	7.5	55.
1,3,5-Trinitrobenzene	U	55	ug/Kgdrywt	1	100	110	7.4	55.
1,3-Dinitrobenzene	U	55	ug/Kgdrywt	1	100	110	6.8	55.
Tetryl	U	55	ug/Kgdrywt	1	100	110	5.9	55.
Nitrobenzene	U	55	ug/Kgdrywt	1	100	110	24.	55.
2,4,6-Trinitrotoluene	U	55	ug/Kgdrywt	1	100	110	7.4	55.
2-Am-DNT	U	55	ug/Kgdrywt	1	100	110	23.	55.
4-Am-DNT	U	55	ug/Kgdrywt	1	100	110	19.	55.
2,6-Dinitrotoluene	U	55	ug/Kgdrywt	1	100	110	30.	55.
2,4-Dinitrotoluene	U	55	ug/Kgdrywt	1	100	110	16.	55.
2-Nitrotoluene	U	55	ug/Kgdrywt	1	100	110	13.	55.
3-Nitrotoluene	U	55	ug/Kgdrywt	1	100	110	8.7	55.
4-Nitrotoluene	U	55	ug/Kgdrywt	1	100	110	30.	55.
Nitroglycerin	U	440	ug/Kgdrywt	1	800	880	140	440
PETN	U	440	ug/Kgdrywt	1	800	880	120	440
1,2-Dinitrobenzene		96.9	%					

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Katahdin
ANALYTICAL SERVICES

Form 10
Explosives Identification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant

SDG : SL4233
Lab Sample ID : SL4233-38
Client Sample ID : CHAAP-21B-BPA-SS04

Column A
Instrument ID : HPLC02
Date Analyzed : 05/24/18
Time Analyzed : 02:39

Column B
Instrument ID : HPLC02
Date Analyzed : 05/27/18
Time Analyzed : 07:25

Analyte	Column	RT	Concentration	RPD
HMX	A	4.54	106	
	B	6.63	90.1	16.2
RDX	A	5	62.5	
	B	10.57	71.2	13

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10704.D
Report Date: 31-May-2018 05:00

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10704.D
Lab Smp Id: SL4233-38 Client Smp ID: CHAAP-21B-BPA-SS04
Inj Date : 24-MAY-2018 02:39
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-38
Misc Info : WG228942,WG228856,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\EXPB05A.m
Meth Date : 25-May-2018 03:43 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 23
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01130	Weight of Sample (Kg)
M	19.600	% Moisture
Cpnd Variable		Local Compound Variable

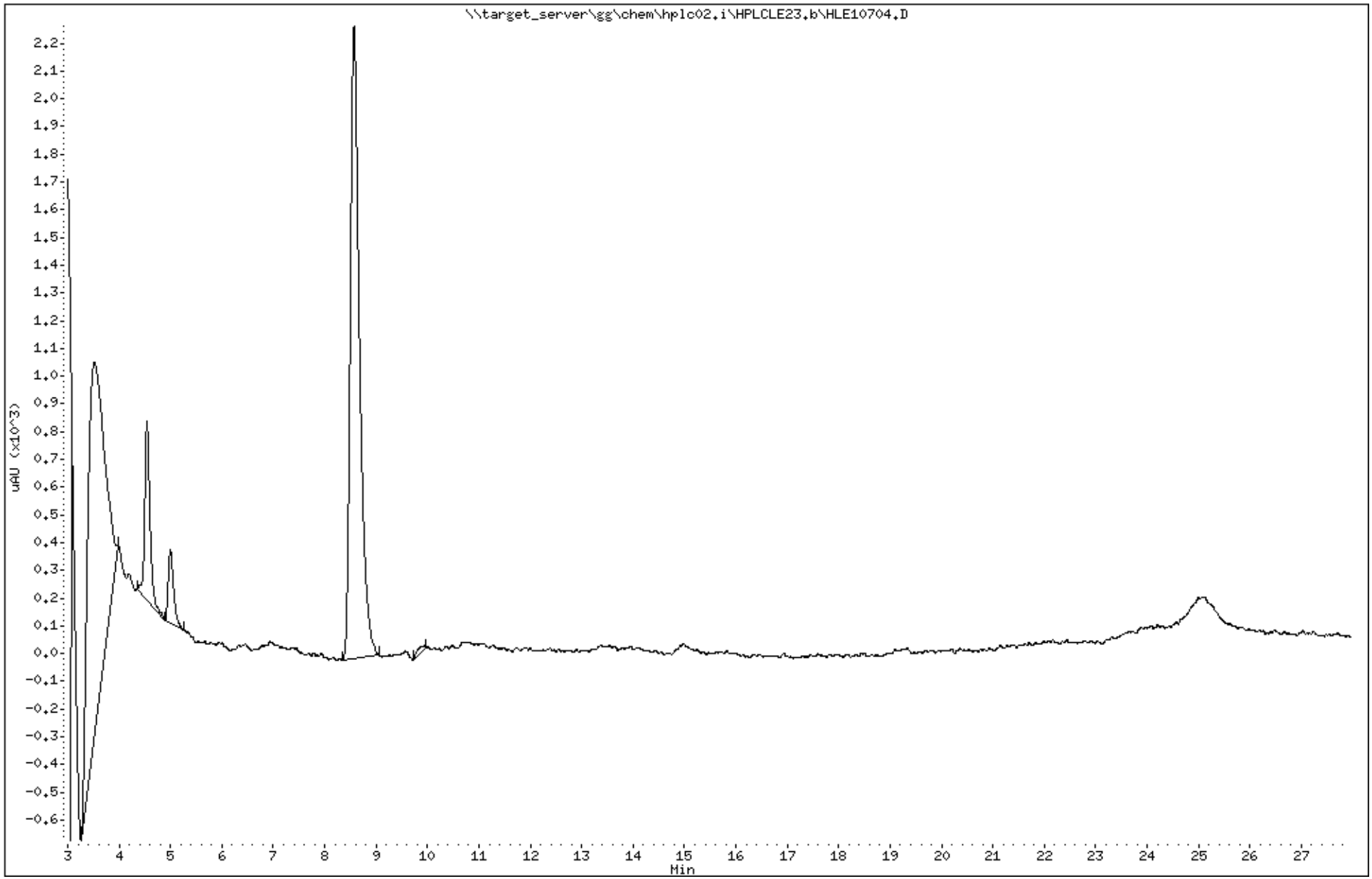
Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10704.D
Date : 24-MAY-2018 02:39
Client ID: CHAAP-21B-BPA-SS04
Sample Info: SL4233-38

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 1000218

Data File: HLE10704.D
Report Date: 31-May-2018 05:09

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HPLCLE23.b\HLE10704.D
Lab Smp Id: SL4233-38 Client Smp ID: CHAAP-21B-BPA-SS04
Inj Date : 24-MAY-2018 02:39
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-38
Misc Info : WG228942,WG228856,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\EXPB05A.m\EXPB05A.m
Meth Date : 25-May-2018 03:41 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 23
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01130	Weight of Sample (Kg)
M	19.600	% Moisture
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	REVIEW CODE
1	HMX	4.544	4.547	-0.003	261	0.04842	106(aM)	M2
4	RDX	4.998	5.000	-0.002	125	0.02839	62.5(aM)	M2
$ 2	1,2-dinitrobenzene	8.571	8.573	-0.002	1120	0.24204	533	

QC Flag Legend

a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.

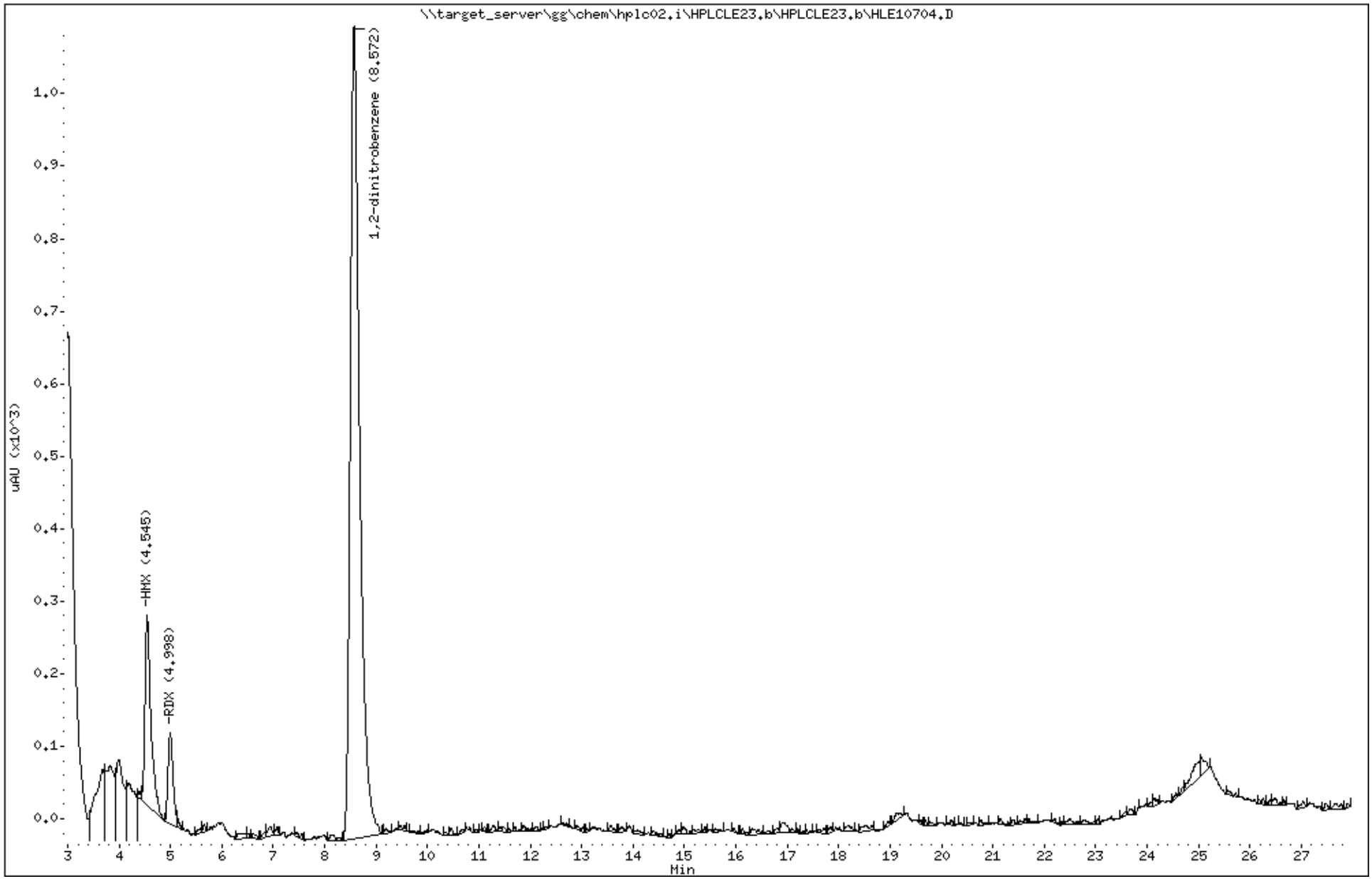
7:22 am, May 31, 2018

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HPLCLE23.b\HLE10704.D
Date : 24-MAY-2018 02:39
Client ID: CHAAP-21B-BPA-SS04
Sample Info: SL4233-38

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 1000220

Data File: HLE10820.D
Report Date: 31-May-2018 05:46

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE25.b\HPLCLE25.b\HLE10820.D
Lab Smp Id: SL4233-38C Client Smp ID: CHAAP-21B-BPA-SS04
Inj Date : 27-MAY-2018 07:25
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-38C
Misc Info : WG228942,WG228856,WG210620-13
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE25.b\E2016A.m\E2016A.m
Meth Date : 29-May-2018 16:32 abullentin Quant Type: ESTD
Cal Date : 01-AUG-2017 14:33 Cal File: HKH10014.D
Als bottle: 39
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

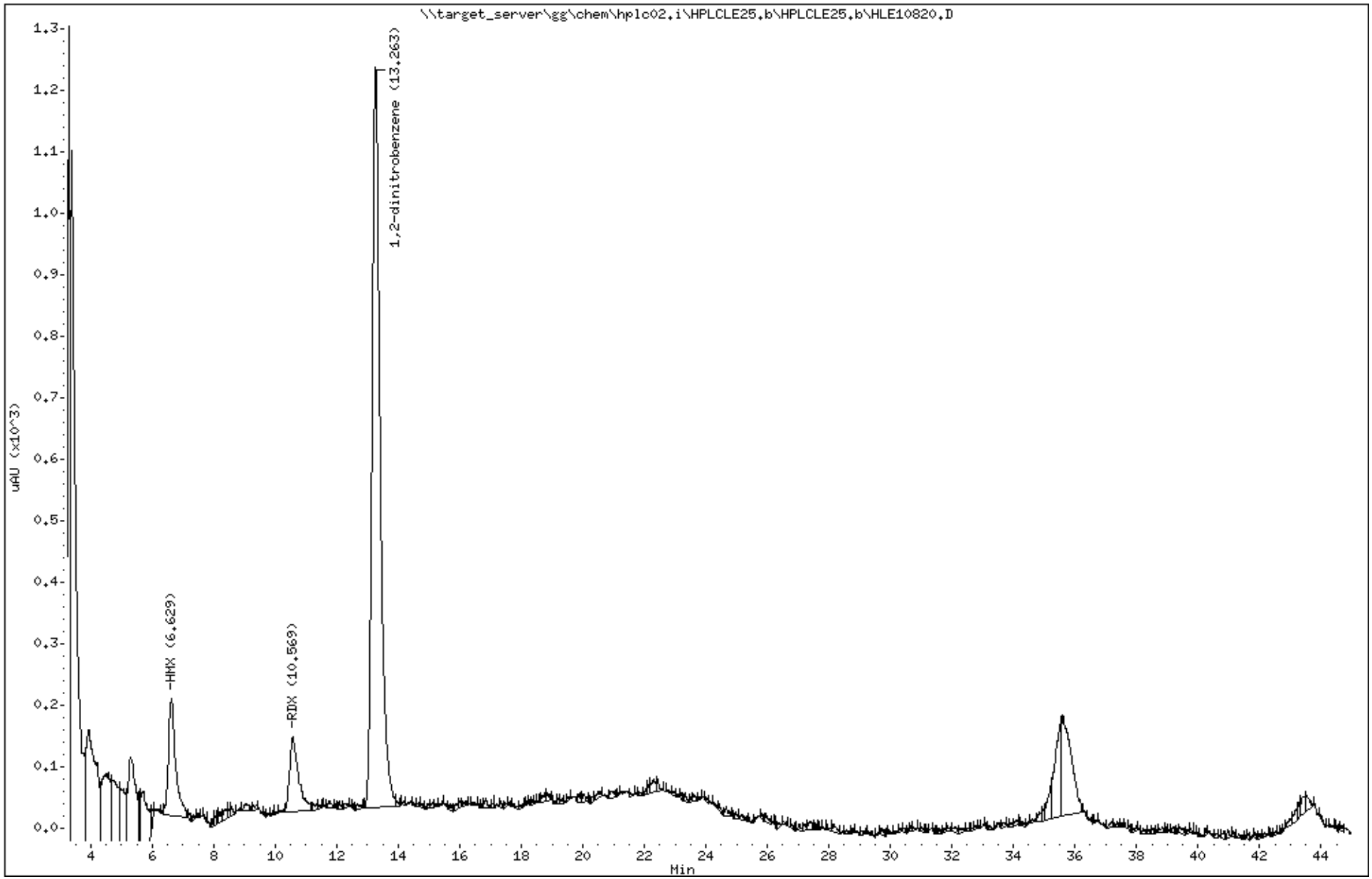
Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01130	Weight of Sample (Kg)
M	19.600	% Moisture
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	REVIEW CODE
1	HMX	6.629	6.588	0.041	189	0.04094	90.1(a)	
4	RDX	10.569	10.528	0.041	123	0.03237	71.2(a)	
$ 2	1,2-dinitrobenzene	13.262	13.228	0.034	1202	0.22511	496	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE25.b\HPLCLE25.b\HLE10820.D
Date : 27-MAY-2018 07:25
Client ID: CHAAP-21B-BPA-SS04
Instrument: hplc02.i
Sample Info: SL4233-38C
Operator: AC
Column phase: Acclaim Exp E2
Column diameter: 4.60



Katahdin Analytical Services 1000222

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4233-39
Client ID: CHAAP-21B-BPA-SS104
Project: Cornhusker Army Ammunition Plant
SDG: SL4233
Lab File ID: HLE10705.D

Sample Date: 15-MAY-18
Received Date: 16-MAY-18
Extract Date: 22-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228856

Analysis Date: 24-MAY-18
Analyst: AC
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 85.
Report Date: 31-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	J	89	ug/Kgdrywt	1	100	100	8.8	51.
RDX	J	44	ug/Kgdrywt	1	100	100	7.0	51.
1,3,5-Trinitrobenzene	U	51	ug/Kgdrywt	1	100	100	6.9	51.
1,3-Dinitrobenzene	U	51	ug/Kgdrywt	1	100	100	6.3	51.
Tetryl	U	51	ug/Kgdrywt	1	100	100	5.5	51.
Nitrobenzene	U	51	ug/Kgdrywt	1	100	100	22.	51.
2,4,6-Trinitrotoluene	U	51	ug/Kgdrywt	1	100	100	6.9	51.
2-Am-DNT	U	51	ug/Kgdrywt	1	100	100	22.	51.
4-Am-DNT	U	51	ug/Kgdrywt	1	100	100	17.	51.
2,6-Dinitrotoluene	U	51	ug/Kgdrywt	1	100	100	28.	51.
2,4-Dinitrotoluene	U	51	ug/Kgdrywt	1	100	100	15.	51.
2-Nitrotoluene	U	51	ug/Kgdrywt	1	100	100	12.	51.
3-Nitrotoluene	U	51	ug/Kgdrywt	1	100	100	8.1	51.
4-Nitrotoluene	U	51	ug/Kgdrywt	1	100	100	28.	51.
Nitroglycerin	U	410	ug/Kgdrywt	1	800	820	130	410
PETN	U	410	ug/Kgdrywt	1	800	820	110	410
1,2-Dinitrobenzene		95.9	%					

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Katahdin
ANALYTICAL SERVICES

Form 10
Explosives Identification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant

SDG : SL4233
Lab Sample ID : SL4233-39
Client Sample ID : CHAAP-21B-BPA-SS104

Column A
Instrument ID : HPLC02
Date Analyzed : 05/24/18
Time Analyzed : 03:10

Column B
Instrument ID : HPLC02
Date Analyzed : 05/27/18
Time Analyzed : 08:14

Analyte	Column	RT	Concentration	RPD
HMX	A	4.55	88.9	
	B	6.62	66.8	28.4
RDX	A	5	44.5	
	B	10.55	42.1	5.5

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10705.D
Report Date: 31-May-2018 05:00

Katahdin Analytical Services

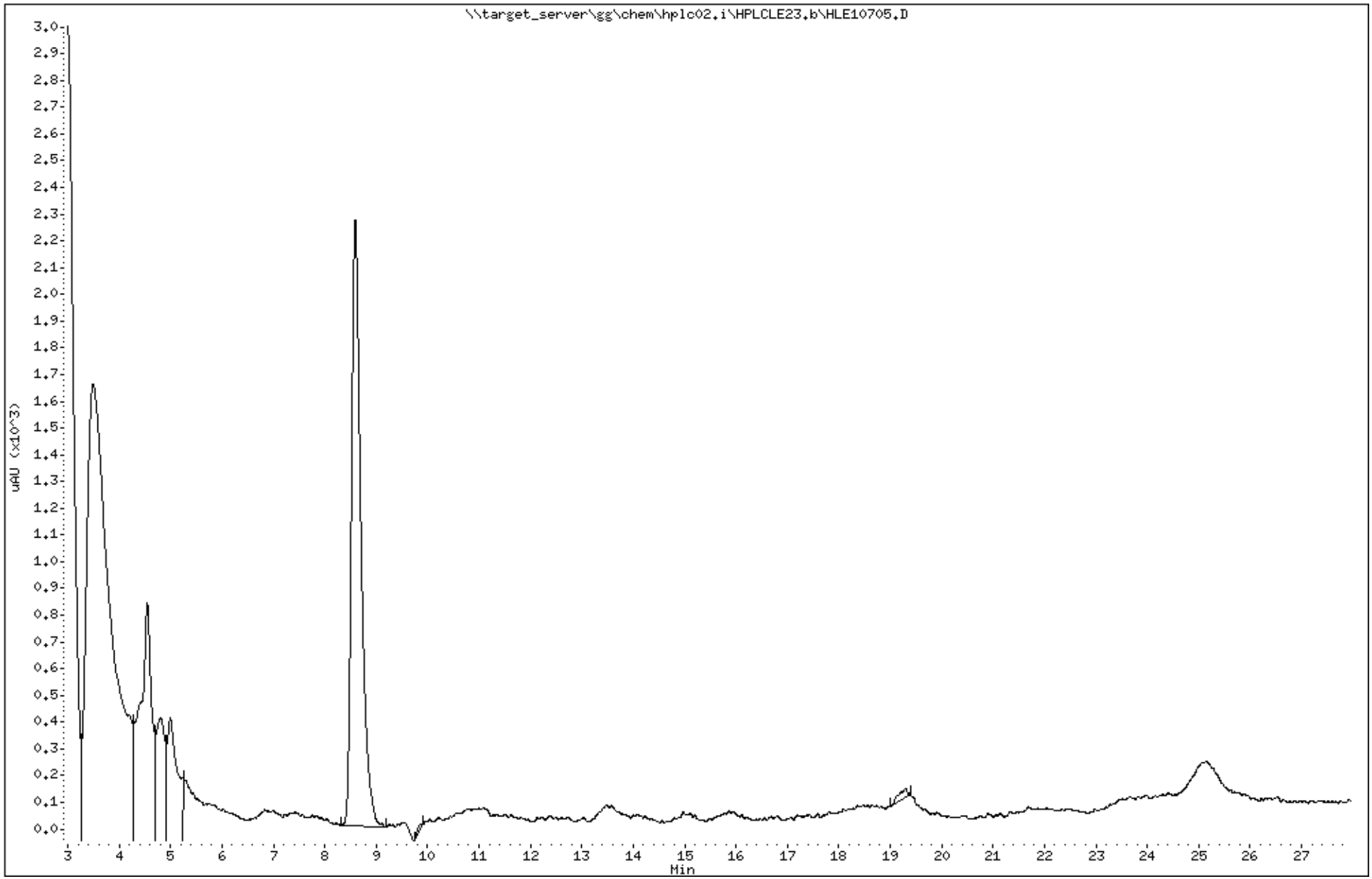
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10705.D
Lab Smp Id: SL4233-39 Client Smp ID: CHAAP-21B-BPA-SS104
Inj Date : 24-MAY-2018 03:10
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-39
Misc Info : WG228942,WG228856,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\EXPB05A.m
Meth Date : 25-May-2018 03:43 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 24
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01150	Weight of Sample (Kg)
M	15.072	% Moisture
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10705.D
Date : 24-MAY-2018 03:10
Client ID: CHAAP-21B-BPA-SS104
Instrument: hplc02.i
Sample Info: SL4233-39
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 1000226

Data File: HLE10705.D
Report Date: 31-May-2018 05:09

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HPLCLE23.b\HLE10705.D
Lab Smp Id: SL4233-39 Client Smp ID: CHAAP-21B-BPA-SS104
Inj Date : 24-MAY-2018 03:10
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-39
Misc Info : WG228942,WG228856,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\EXPB05A.m\EXPB05A.m
Meth Date : 25-May-2018 03:41 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 24
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01150	Weight of Sample (Kg)
M	15.072	% Moisture
Cpnd Variable		Local Compound Variable

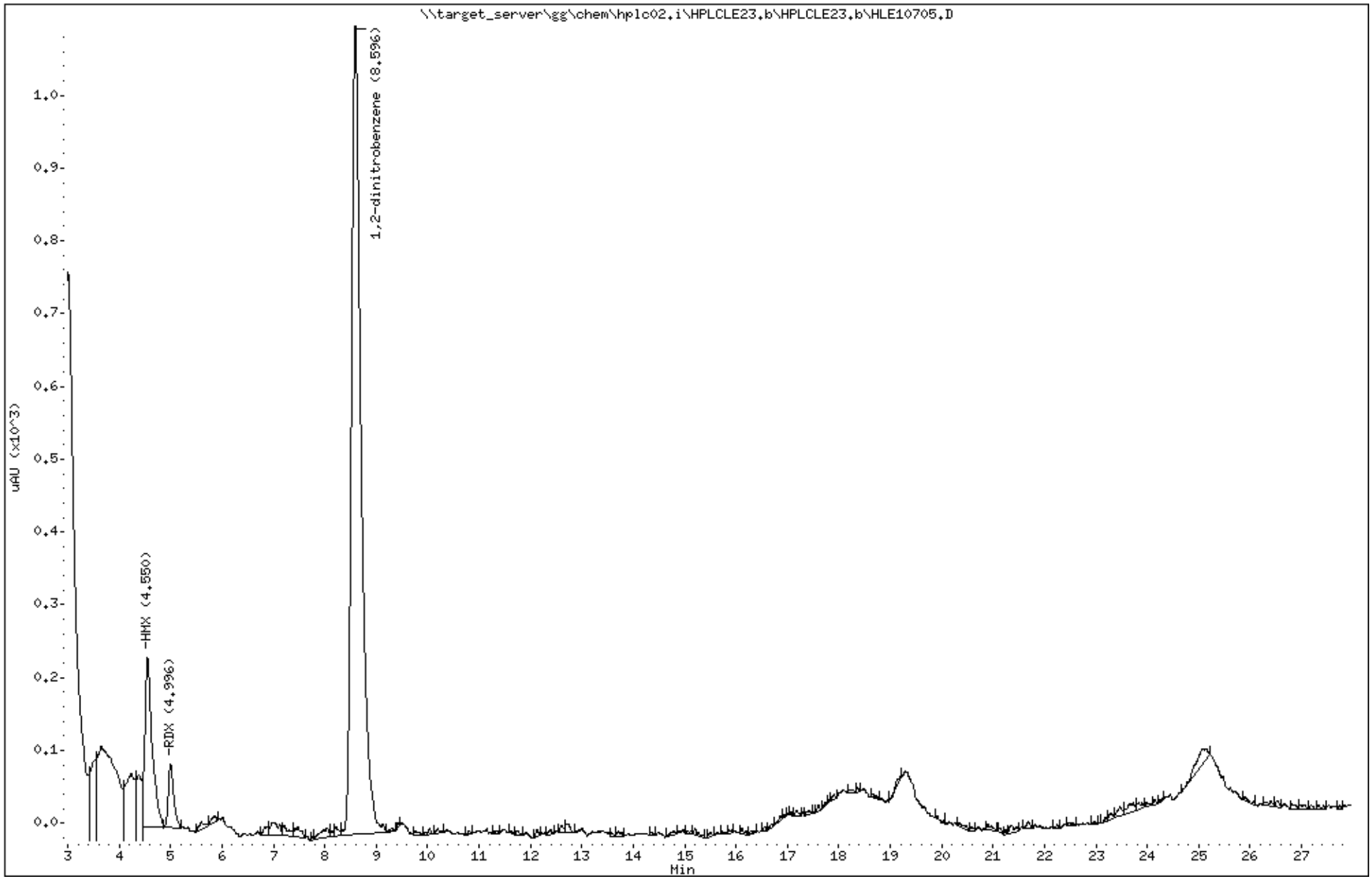
	Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	REVIEW CODE
1	HMX	4.549	4.547	0.002	234	0.04341	88.9(aM)	M2
4	RDX	4.996	5.000	-0.004	88	0.02172	44.5(aM)	M2
$ 2	1,2-dinitrobenzene	8.596	8.573	0.023	1109	0.23966	491	

QC Flag Legend

a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.

7:22 am, May 31, 2018

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HPLCLE23.b\HLE10705.D
Date : 24-MAY-2018 03:10
Client ID: CHAAP-21B-BPA-SS104
Instrument: hplc02.i
Sample Info: SL4233-39
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 1000228

Data File: HLE10821.D
Report Date: 31-May-2018 05:46

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE25.b\HPLCLE25.b\HLE10821.D
Lab Smp Id: SL4233-39C Client Smp ID: CHAAP-21B-BPA-SS104
Inj Date : 27-MAY-2018 08:14
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-39C
Misc Info : WG228942,WG228856,WG210620-13
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE25.b\E2016A.m\E2016A.m
Meth Date : 29-May-2018 16:32 abullentin Quant Type: ESTD
Cal Date : 01-AUG-2017 14:33 Cal File: HKH10014.D
Als bottle: 40
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01150	Weight of Sample (Kg)
M	15.072	% Moisture
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	REVIEW CODE
1	HMX	6.624	6.588	0.036	154	0.03261	66.8(a)	
4	RDX	10.551	10.528	0.023	75	0.02058	42.1(a)	
$ 2	1,2-dinitrobenzene	13.264	13.228	0.036	1215	0.22757	466	

QC Flag Legend

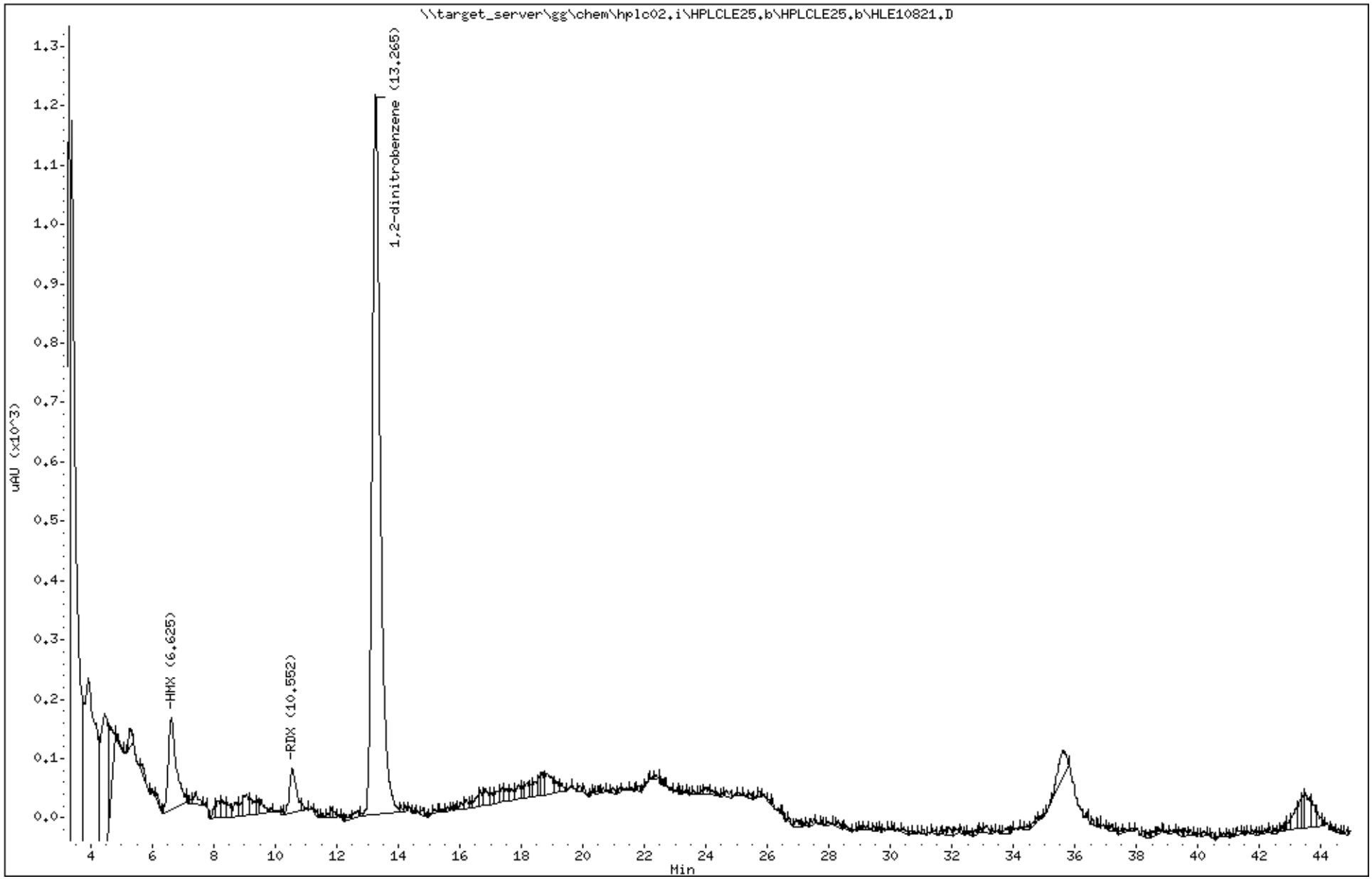
a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE25.b\HPLCLE25.b\HLE10821.D
Date : 27-MAY-2018 08:14
Client ID: CHAAP-21B-BPA-SS104
Sample Info: SL4233-39C

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60

Column phase: Acclaim Exp E2



Katahdin Analytical Services 1000230

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4233-40
Client ID: CHAAP-21B-BPA-SB04-4
Project: Cornhusker Army Ammunition Plant
SDG: SL4233
Lab File ID: HLE10706.D

Sample Date: 15-MAY-18
Received Date: 16-MAY-18
Extract Date: 22-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228856

Analysis Date: 24-MAY-18
Analyst: AC
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 82.
Report Date: 31-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX		1300	ug/Kgdrywt	1	100	100	8.9	52.
RDX	E	4600	ug/Kgdrywt	1	100	100	7.0	52.
1,3,5-Trinitrobenzene	U	52	ug/Kgdrywt	1	100	100	6.9	52.
1,3-Dinitrobenzene	U	52	ug/Kgdrywt	1	100	100	6.4	52.
Tetryl	U	52	ug/Kgdrywt	1	100	100	5.6	52.
Nitrobenzene	U	52	ug/Kgdrywt	1	100	100	23.	52.
2,4,6-Trinitrotoluene	U	52	ug/Kgdrywt	1	100	100	6.9	52.
2-Am-DNT	U	52	ug/Kgdrywt	1	100	100	22.	52.
4-Am-DNT	U	52	ug/Kgdrywt	1	100	100	18.	52.
2,6-Dinitrotoluene	U	52	ug/Kgdrywt	1	100	100	28.	52.
2,4-Dinitrotoluene	U	52	ug/Kgdrywt	1	100	100	16.	52.
2-Nitrotoluene	U	52	ug/Kgdrywt	1	100	100	12.	52.
3-Nitrotoluene	U	52	ug/Kgdrywt	1	100	100	8.2	52.
4-Nitrotoluene	U	52	ug/Kgdrywt	1	100	100	28.	52.
Nitroglycerin	U	410	ug/Kgdrywt	1	800	830	130	410
PETN	U	410	ug/Kgdrywt	1	800	830	110	410
1,2-Dinitrobenzene		96.1	%					

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Katahdin
ANALYTICAL SERVICES

Form 10
Explosives Identification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant

SDG : SL4233
Lab Sample ID : SL4233-40
Client Sample ID : CHAAP-21B-BPA-SB04-4

Column A
Instrument ID : HPLC02
Date Analyzed : 05/24/18
Time Analyzed : 03:41

Column B
Instrument ID : HPLC02
Date Analyzed : 05/27/18
Time Analyzed : 09:03

Analyte	Column	RT	Concentration	RPD
HMX	A	4.55	1300	
	B	6.61	1100	16.7
RDX	A	5	4590	
	B	10.55	4640	1.1

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10706.D
Report Date: 31-May-2018 05:00

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10706.D
Lab Smp Id: SL4233-40 Client Smp ID: HAAP-21B-BPA-SB04-4
Inj Date : 24-MAY-2018 03:41
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-40
Misc Info : WG228942,WG228856,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\EXPB05A.m
Meth Date : 25-May-2018 03:43 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 25
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01180	Weight of Sample (Kg)
M	18.003	% Moisture
Cpnd Variable		Local Compound Variable

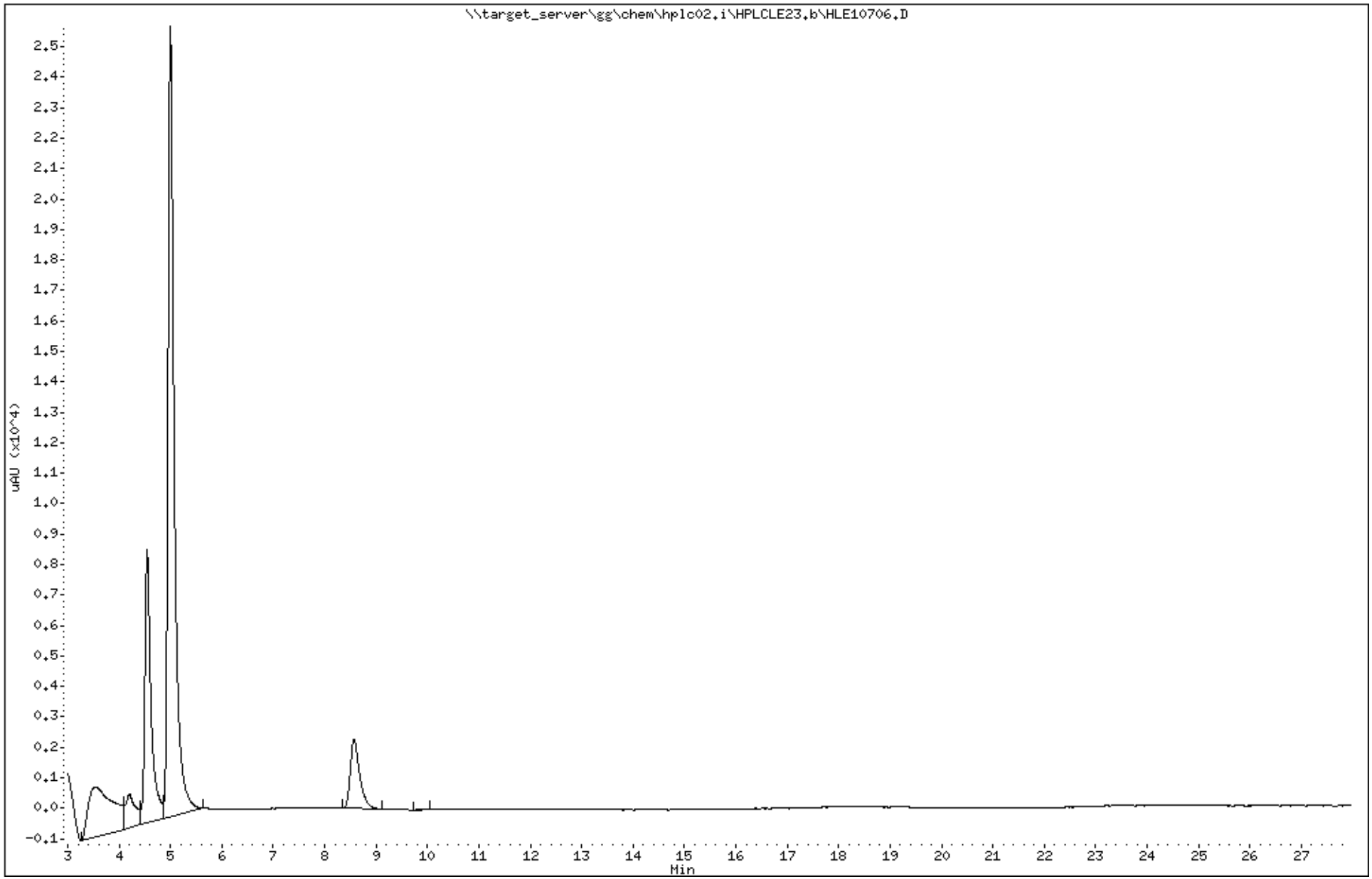
Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10706.D
Date : 24-MAY-2018 03:41
Client ID: HAAP-21B-BPA-SB04-4
Sample Info: SL4233-40

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 1000234

Data File: HLE10706.D
Report Date: 31-May-2018 05:09

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HPLCLE23.b\HLE10706.D
Lab Smp Id: SL4233-40 Client Smp ID: HAAP-21B-BPA-SB04-4
Inj Date : 24-MAY-2018 03:41
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-40
Misc Info : WG228942,WG228856,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\EXPB05A.m\EXPB05A.m
Meth Date : 25-May-2018 03:41 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 25
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01180	Weight of Sample (Kg)
M	18.003	% Moisture
Cpnd Variable		Local Compound Variable

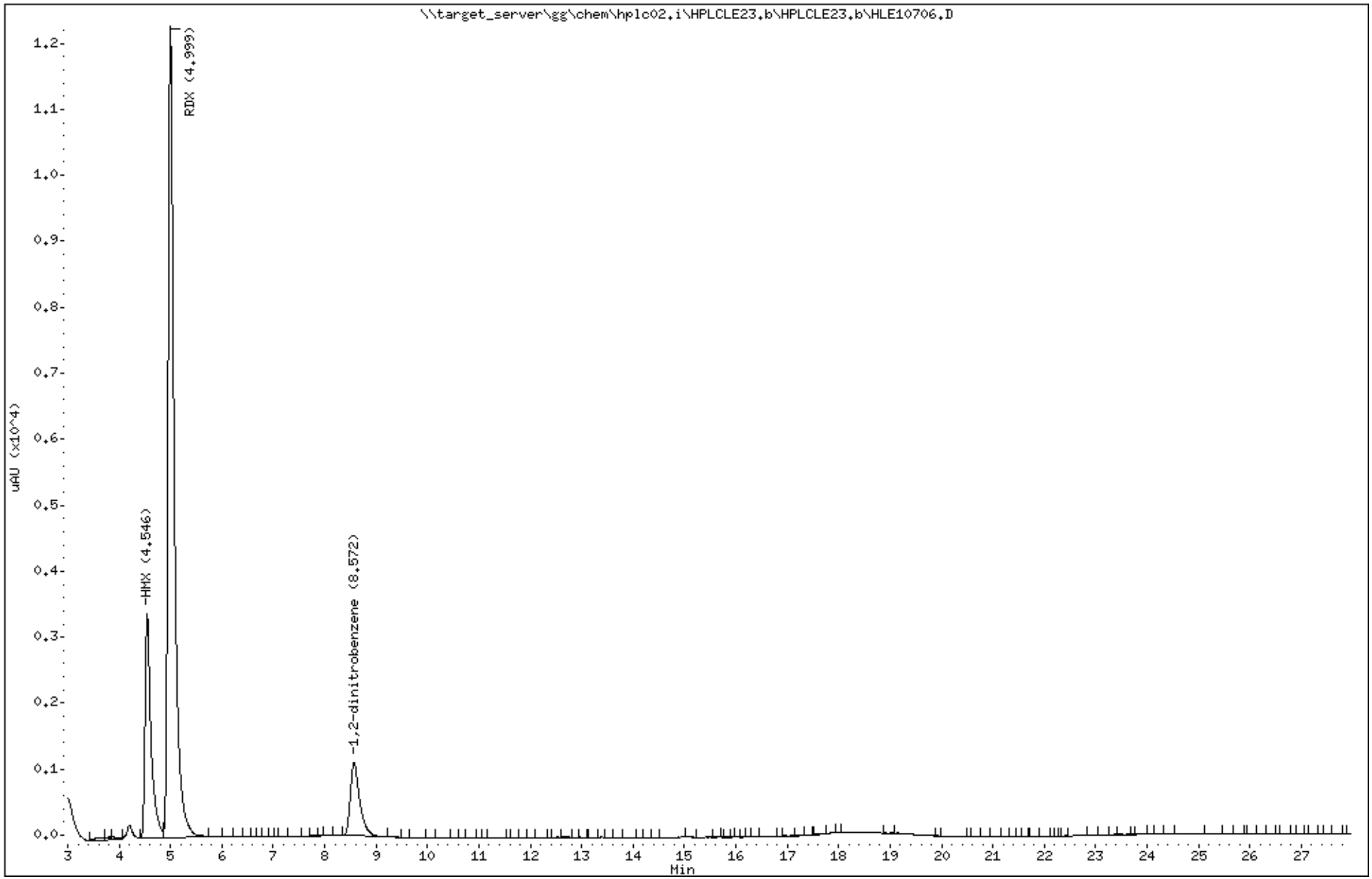
	Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	REVIEW CODE
1	HMX	4.545	4.547	-0.002	3398	0.63035	1300(M)	M2
4	RDX	4.999	5.000	-0.001	12291	2.21975	4590(AM)	M2
$ 2	1,2-dinitrobenzene	8.572	8.573	-0.001	1113	0.24052	497	

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.
M - Compound response manually integrated.

7:22 am, May 31, 2018

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HPLCLE23.b\HLE10706.D
Date : 24-MAY-2018 03:41
Client ID: HAAP-21B-BPA-SB04-4
Instrument: hplc02.i
Sample Info: SL4233-40
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 1000236

Data File: HLE10822.D
Report Date: 31-May-2018 05:46

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE25.b\HPLCLE25.b\HLE10822.D
Lab Smp Id: SL4233-40C Client Smp ID: HAAP-21B-BPA-SB04-4
Inj Date : 27-MAY-2018 09:03
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-40C
Misc Info : WG228942,WG228856,WG210620-13
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE25.b\E2016A.m\E2016A.m
Meth Date : 29-May-2018 16:32 abullentin Quant Type: ESTD
Cal Date : 01-AUG-2017 14:33 Cal File: HKH10014.D
Als bottle: 41
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

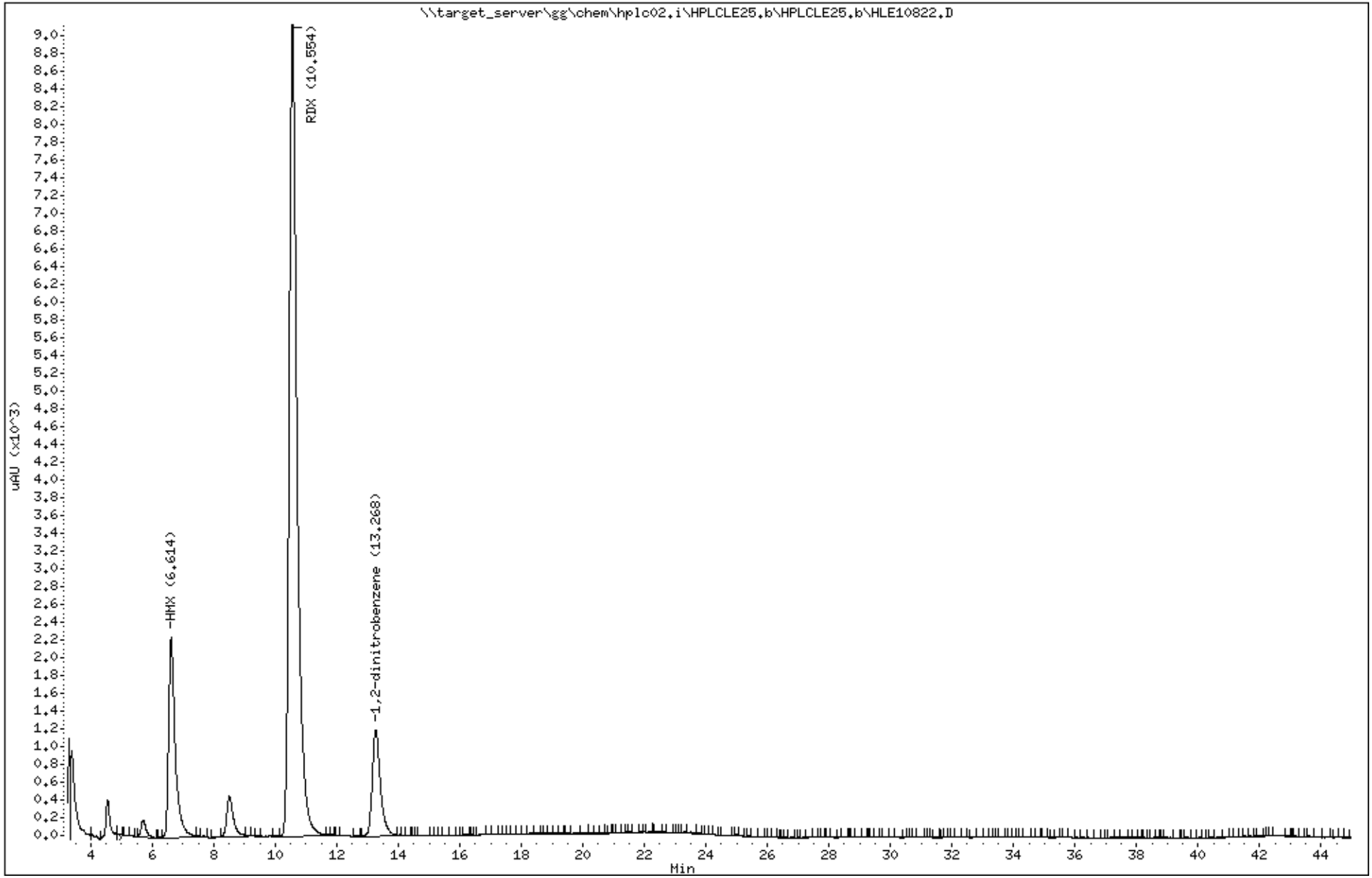
Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01180	Weight of Sample (Kg)
M	18.003	% Moisture
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	REVIEW CODE
1	HMX	6.614	6.588	0.026	2246	0.53075	1100	
4	RDX	10.554	10.528	0.026	9125	2.24370	4640(A)	
$ 2	1,2-dinitrobenzene	13.267	13.228	0.039	1201	0.22492	465	

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE25.b\HPLCLE25.b\HLE10822.D
Date : 27-MAY-2018 09:03
Client ID: HAAP-21B-BPA-SB04-4
Instrument: hplc02.i
Sample Info: SL4233-40C
Operator: AC
Column phase: Acclaim Exp E2
Column diameter: 4.60



Katahdin Analytical Services 1000238

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4233-40DL
Client ID: CHAAP-21B-BPA-SB04-4
Project: Cornhusker Army Ammunition Plant
SDG: SL4233
Lab File ID: HLE10727.D

Sample Date: 15-MAY-18
Received Date: 16-MAY-18
Extract Date: 22-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228856

Analysis Date: 24-MAY-18
Analyst: AC
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 82.
Report Date: 31-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX		1400	ug/Kgdrywt	2	100	210	18.	100
RDX		4900	ug/Kgdrywt	2	100	210	14.	100
1,3,5-Trinitrobenzene	U	100	ug/Kgdrywt	2	100	210	14.	100
1,3-Dinitrobenzene	U	100	ug/Kgdrywt	2	100	210	13.	100
Tetryl	U	100	ug/Kgdrywt	2	100	210	11.	100
Nitrobenzene	U	100	ug/Kgdrywt	2	100	210	45.	100
2,4,6-Trinitrotoluene	U	100	ug/Kgdrywt	2	100	210	14.	100
2-Am-DNT	U	100	ug/Kgdrywt	2	100	210	43.	100
4-Am-DNT	U	100	ug/Kgdrywt	2	100	210	35.	100
2,6-Dinitrotoluene	U	100	ug/Kgdrywt	2	100	210	56.	100
2,4-Dinitrotoluene	U	100	ug/Kgdrywt	2	100	210	31.	100
2-Nitrotoluene	U	100	ug/Kgdrywt	2	100	210	25.	100
3-Nitrotoluene	U	100	ug/Kgdrywt	2	100	210	16.	100
4-Nitrotoluene	U	100	ug/Kgdrywt	2	100	210	56.	100
Nitroglycerin	U	830	ug/Kgdrywt	2	800	1600	260	830
PETN	U	830	ug/Kgdrywt	2	800	1600	220	830
1,2-Dinitrobenzene		100.	%					

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10727.D
Report Date: 31-May-2018 05:00

Katahdin Analytical Services

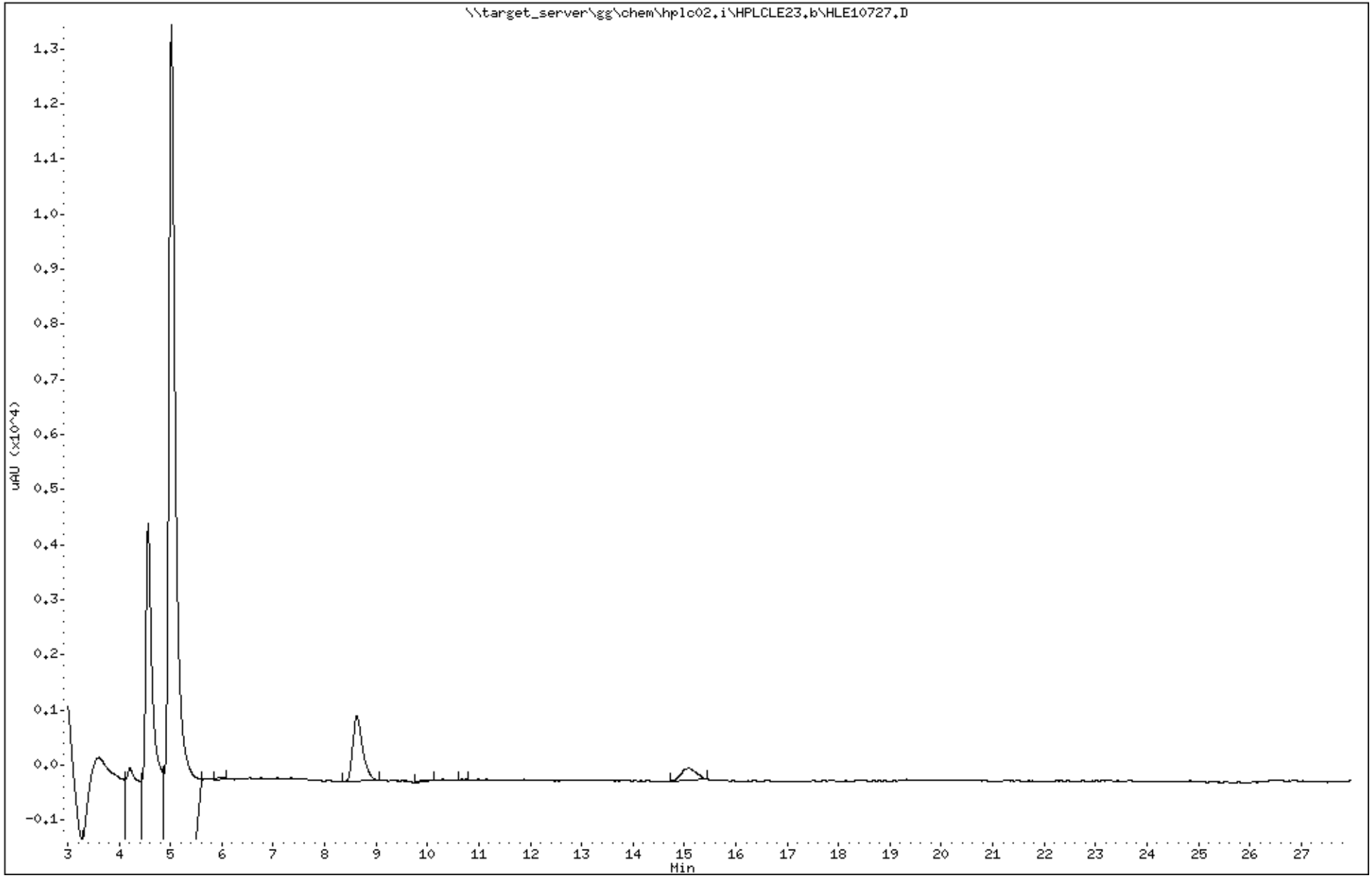
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10727.D
Lab Smp Id: SL4233-40DL Client Smp ID: HAAP-21B-BPA-SB04-4
Inj Date : 24-MAY-2018 14:32
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-40DL
Misc Info : WG228942,WG228856,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\EXPB05A.m
Meth Date : 25-May-2018 03:43 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 46
Dil Factor: 2.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	2.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01180	Weight of Sample (Kg)
M	18.003	% Moisture
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10727.D
Date : 24-MAY-2018 14:32
Client ID: HAAP-21B-BPA-SB04-4
Instrument: hplc02.i
Sample Info: SL4233-40DL
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 1000241

Data File: HLE10727.D
Report Date: 31-May-2018 05:09

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HPLCLE23.b\HLE10727.D
Lab Smp Id: SL4233-40DL Client Smp ID: HAAP-21B-BPA-SB04-4
Inj Date : 24-MAY-2018 14:32
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-40DL
Misc Info : WG228942,WG228856,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\EXPB05A.m\EXPB05A.m
Meth Date : 25-May-2018 03:41 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 46
Dil Factor: 2.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	2.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01180	Weight of Sample (Kg)
M	18.003	% Moisture
Cpnd Variable		Local Compound Variable

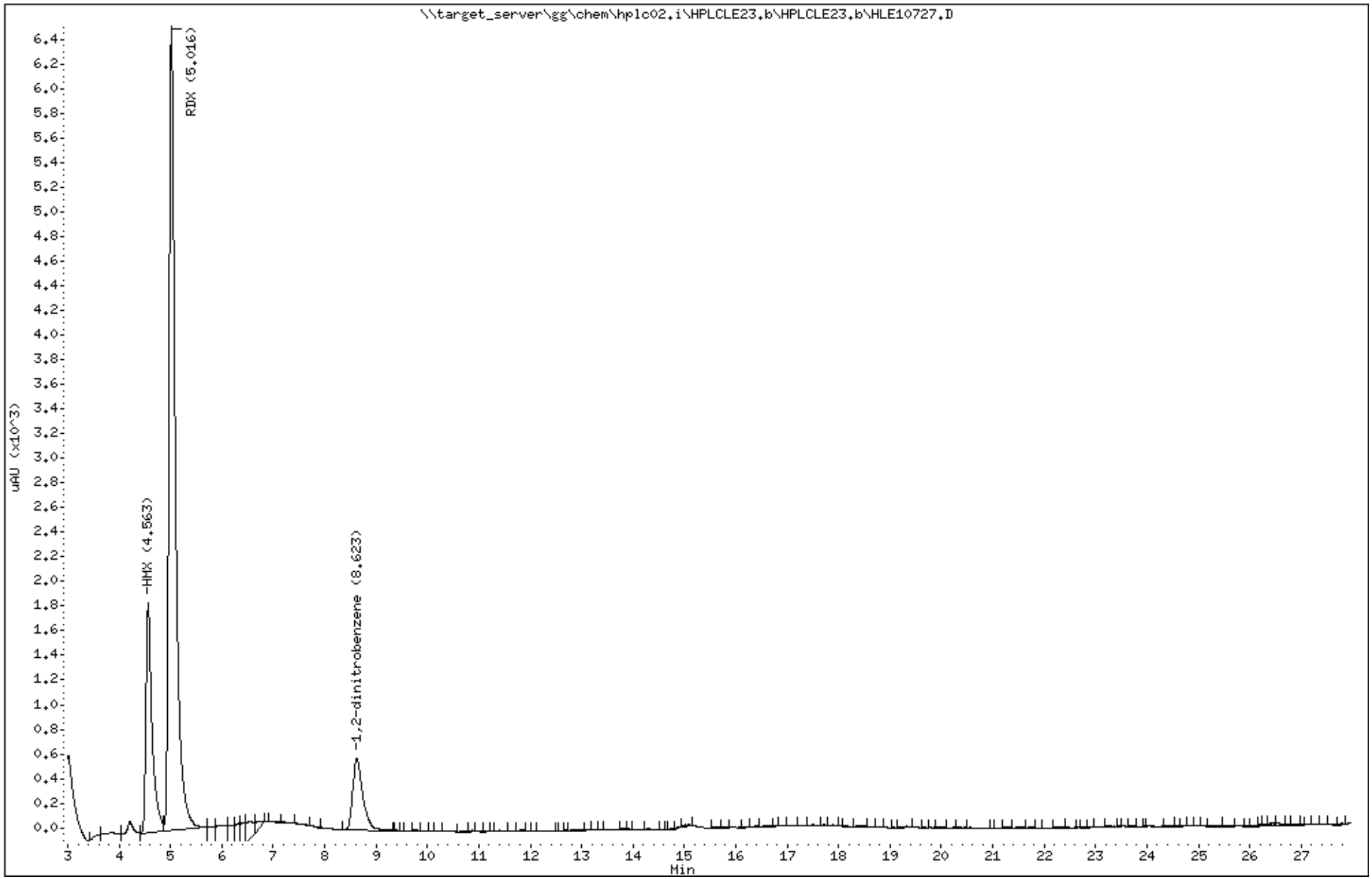
	Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	REVIEW CODE
1	HMX	4.562	4.547	0.015	1862	0.34541	1430(M)	M2
4	RDX	5.016	5.000	0.016	6531	1.18225	4890(M)	M2
$ 2	1,2-dinitrobenzene	8.622	8.573	0.049	580	0.12534	518	

QC Flag Legend

M - Compound response manually integrated.

7:22 am, May 31, 2018

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HPLCLE23.b\HLE10727.D
Date : 24-MAY-2018 14:32
Client ID: HAAP-21B-BPA-SB04-4
Instrument: hplc02.i
Sample Info: SL4233-40DL
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 1000243

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4233-41
Client ID: CHAAP-21B-BPA-SB04-8
Project: Cornhusker Army Ammunition Plant
SDG: SL4233
Lab File ID: HLE10707.D

Sample Date: 15-MAY-18
Received Date: 16-MAY-18
Extract Date: 22-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228856

Analysis Date: 24-MAY-18
Analyst: AC
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 78.
Report Date: 31-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	62	ug/Kgdrywt	1	100	120	11.	62.
RDX	J	64	ug/Kgdrywt	1	100	120	8.4	62.
1,3,5-Trinitrobenzene	U	62	ug/Kgdrywt	1	100	120	8.3	62.
1,3-Dinitrobenzene	U	62	ug/Kgdrywt	1	100	120	7.7	62.
Tetryl	U	62	ug/Kgdrywt	1	100	120	6.7	62.
Nitrobenzene	U	62	ug/Kgdrywt	1	100	120	27.	62.
2,4,6-Trinitrotoluene	U	62	ug/Kgdrywt	1	100	120	8.3	62.
2-Am-DNT	U	62	ug/Kgdrywt	1	100	120	26.	62.
4-Am-DNT	U	62	ug/Kgdrywt	1	100	120	21.	62.
2,6-Dinitrotoluene	U	62	ug/Kgdrywt	1	100	120	33.	62.
2,4-Dinitrotoluene	U	62	ug/Kgdrywt	1	100	120	18.	62.
2-Nitrotoluene	U	62	ug/Kgdrywt	1	100	120	15.	62.
3-Nitrotoluene	U	62	ug/Kgdrywt	1	100	120	9.8	62.
4-Nitrotoluene	U	62	ug/Kgdrywt	1	100	120	33.	62.
Nitroglycerin	U	490	ug/Kgdrywt	1	800	990	150	490
PETN	U	490	ug/Kgdrywt	1	800	990	130	490
1,2-Dinitrobenzene		96.4	%					

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Katahdin
ANALYTICAL SERVICES

Form 10
Explosives Identification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant

SDG : SL4233
Lab Sample ID : SL4233-41
Client Sample ID : CHAAP-21B-BPA-SB04-8

Column A
Instrument ID : HPLC02
Date Analyzed : 05/24/18
Time Analyzed : 04:12

Column B
Instrument ID : HPLC02
Date Analyzed : 05/27/18
Time Analyzed : 09:52

Analyte	Column	RT	Concentration	RPD
RDX	A	5.02	64	
	B	10.56	54	16.9

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sales@katahdinlab.com

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10707.D
Report Date: 31-May-2018 05:00

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10707.D
Lab Smp Id: SL4233-41 Client Smp ID: HAAP-21B-BPA-SB04-8
Inj Date : 24-MAY-2018 04:12
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-41
Misc Info : WG228942,WG228856,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\EXPB05A.m
Meth Date : 25-May-2018 03:43 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 26
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01040	Weight of Sample (Kg)
M	22.292	% Moisture
Cpnd Variable		Local Compound Variable

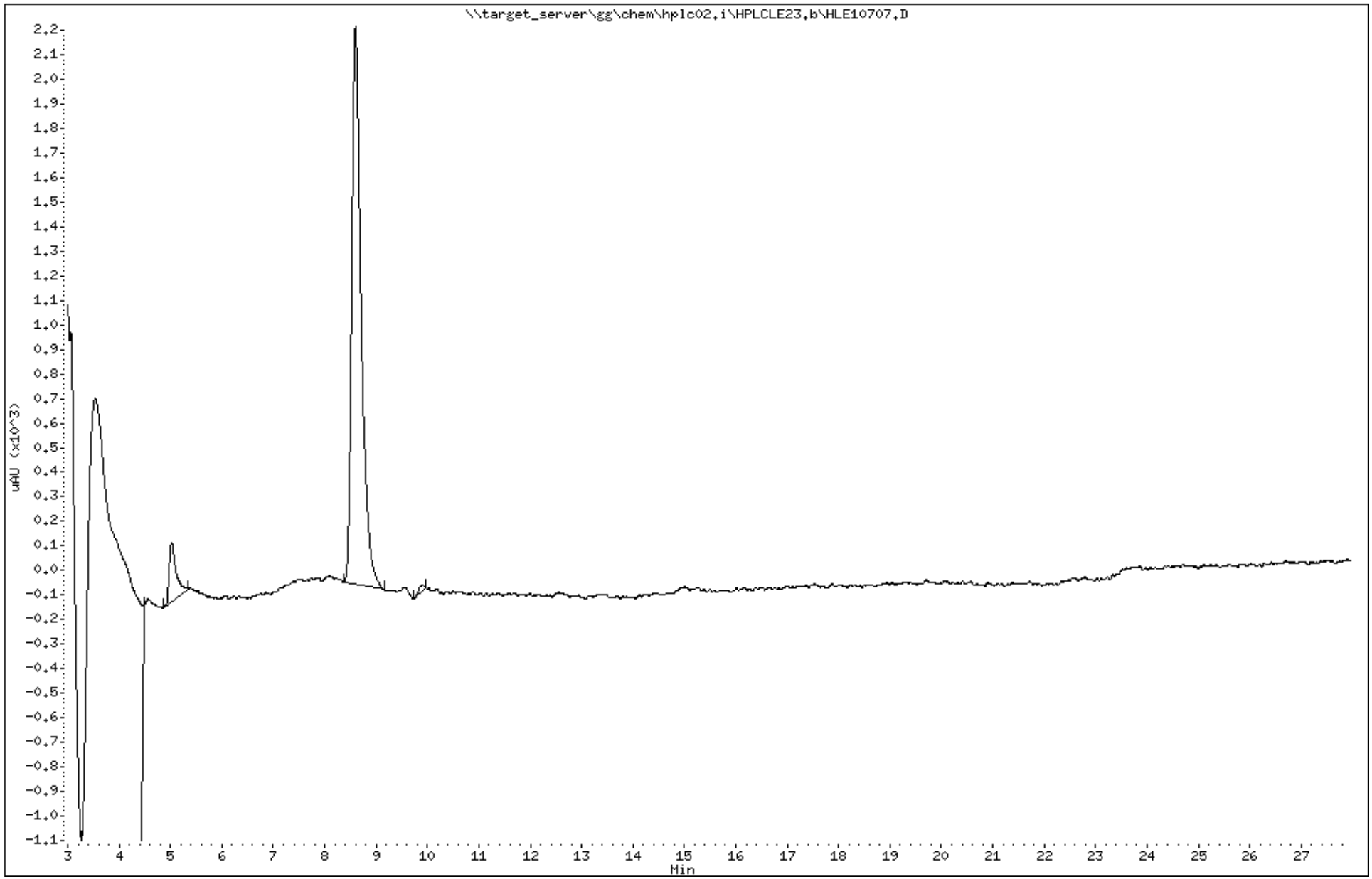
Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10707.D
Date : 24-MAY-2018 04:12
Client ID: HAAP-21B-BPA-SB04-8
Sample Info: SL4233-41

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 1000247

Data File: HLE10707.D
Report Date: 31-May-2018 05:09

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HPLCLE23.b\HLE10707.D
Lab Smp Id: SL4233-41 Client Smp ID: HAAP-21B-BPA-SB04-8
Inj Date : 24-MAY-2018 04:12
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-41
Misc Info : WG228942,WG228856,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\EXPB05A.m\EXPB05A.m
Meth Date : 25-May-2018 03:41 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 26
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01040	Weight of Sample (Kg)
M	22.292	% Moisture
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	REVIEW CODE
	4 RDX	5.015	5.000	0.015	111	0.02587	64.0(a)	
$	2 1,2-dinitrobenzene	8.602	8.573	0.029	1117	0.24139	597	

QC Flag Legend

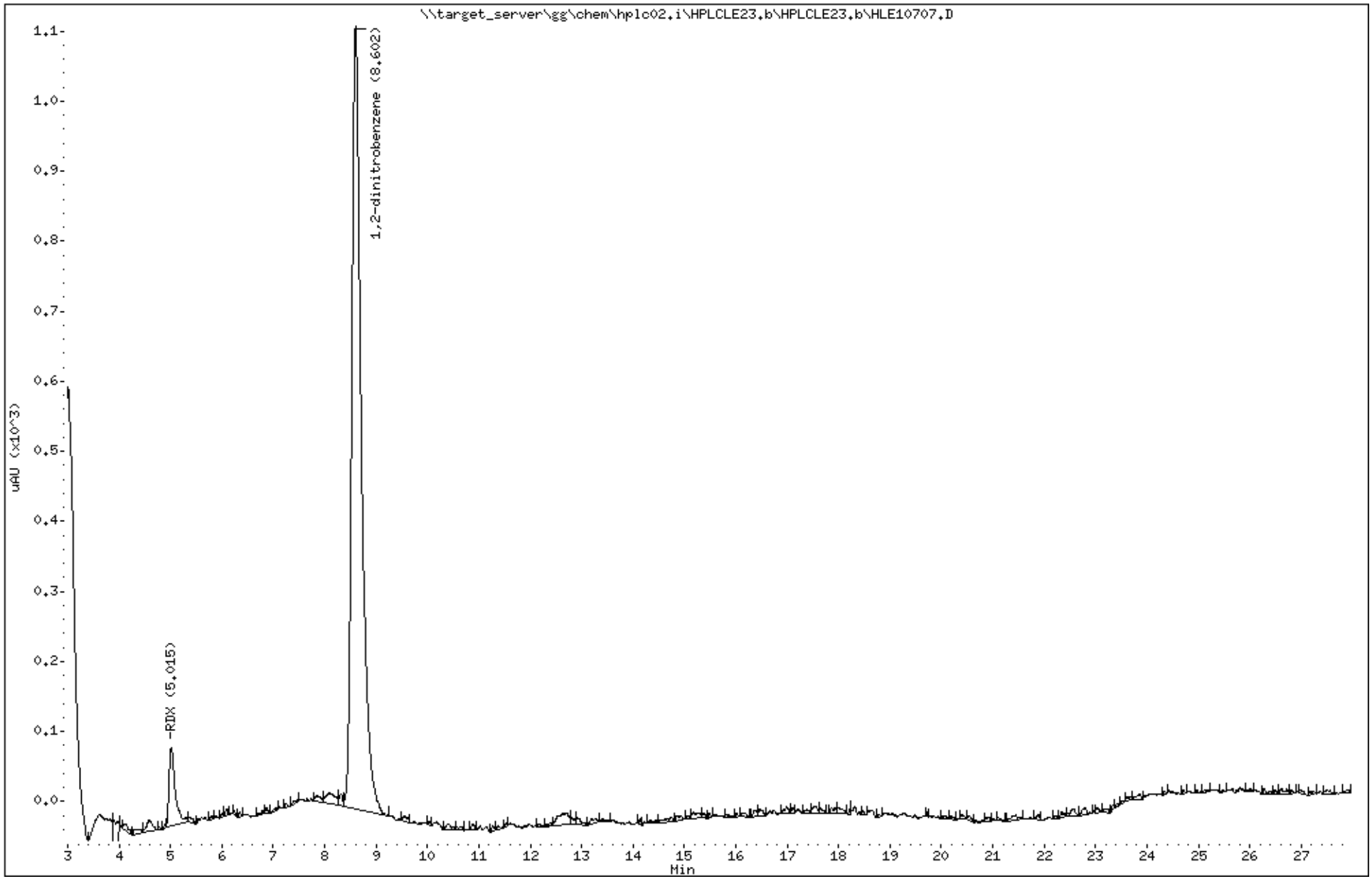
a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HPLCLE23.b\HLE10707.D
Date : 24-MAY-2018 04:12
Client ID: HAAP-21B-BPA-SB04-8
Sample Info: SL4233-41

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 1000249

Data File: HLE10823.D
Report Date: 31-May-2018 05:46

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE25.b\HPLCLE25.b\HLE10823.D
Lab Smp Id: SL4233-41C Client Smp ID: HAAP-21B-BPA-SB04-8
Inj Date : 27-MAY-2018 09:52
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-41C
Misc Info : WG228942,WG228856,WG210620-13
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE25.b\E2016A.m\E2016A.m
Meth Date : 29-May-2018 16:32 abullentin Quant Type: ESTD
Cal Date : 01-AUG-2017 14:33 Cal File: HKH10014.D
Als bottle: 42
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

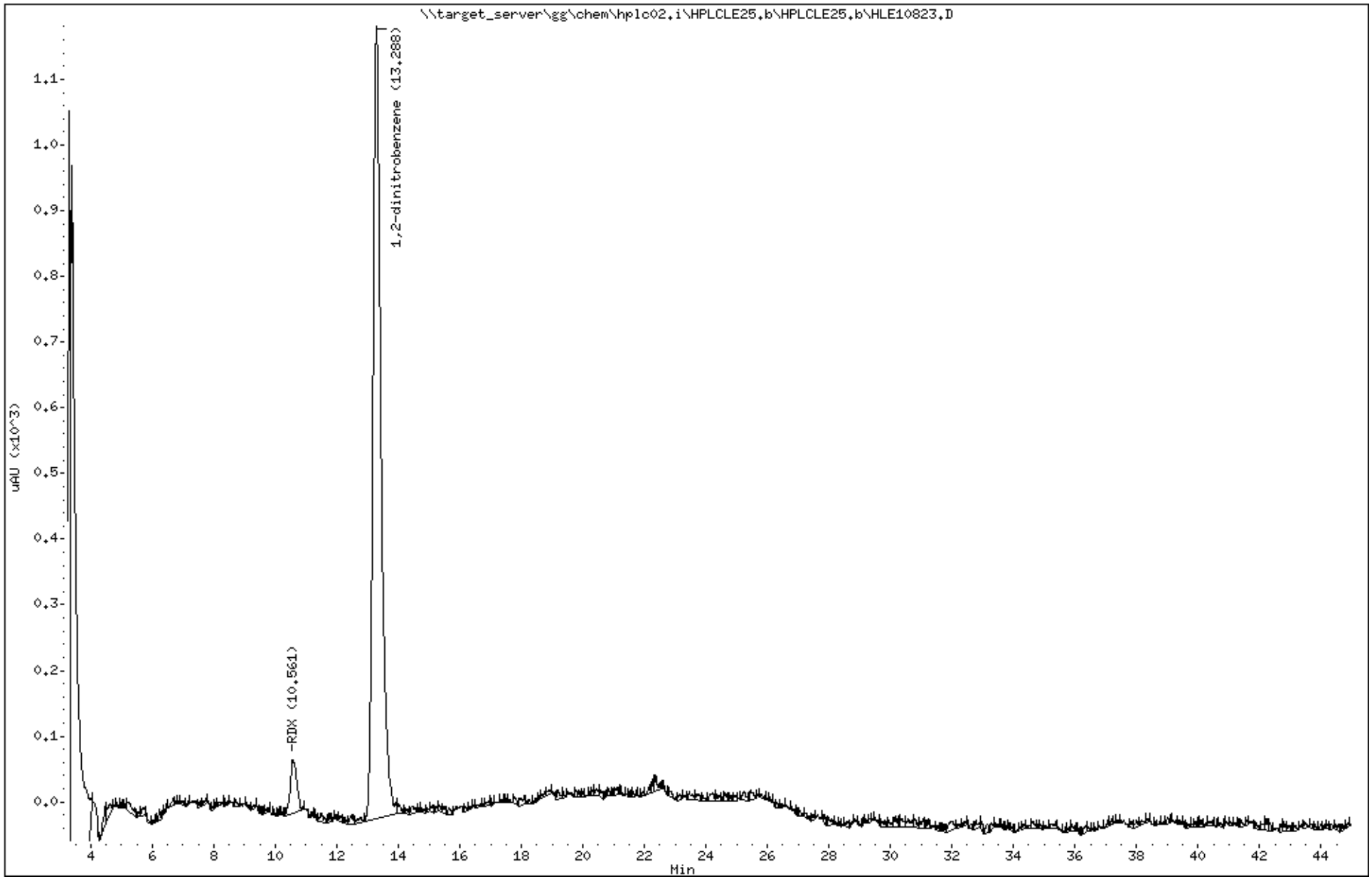
Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01040	Weight of Sample (Kg)
M	22.292	% Moisture
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	REVIEW CODE
	4 RDX	10.561	10.528	0.033	80	0.02180	54.0(a)	
$	2 1,2-dinitrobenzene	13.288	13.228	0.060	1205	0.22568	558	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE25.b\HPLCLE25.b\HLE10823.D
Date : 27-MAY-2018 09:52
Client ID: HAAP-21B-BPA-SB04-8
Instrument: hplc02.i
Sample Info: SL4233-41C
Operator: AC
Column phase: Acclaim Exp E2
Column diameter: 4.60



Katahdin Analytical Services 1000251

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4233-42
Client ID: CHAAP-21B-BPA-SS05
Project: Cornhusker Army Ammunition Plant
SDG: SL4233
Lab File ID: HLE10708.D

Sample Date: 15-MAY-18
Received Date: 16-MAY-18
Extract Date: 22-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228856

Analysis Date: 24-MAY-18
Analyst: AC
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 74.
Report Date: 31-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	57	ug/Kgdrywt	1	100	110	9.8	57.
RDX	U	57	ug/Kgdrywt	1	100	110	7.8	57.
1,3,5-Trinitrobenzene	U	57	ug/Kgdrywt	1	100	110	7.6	57.
1,3-Dinitrobenzene	U	57	ug/Kgdrywt	1	100	110	7.1	57.
Tetryl	U	57	ug/Kgdrywt	1	100	110	6.2	57.
Nitrobenzene	U	57	ug/Kgdrywt	1	100	110	25.	57.
2,4,6-Trinitrotoluene	U	57	ug/Kgdrywt	1	100	110	7.6	57.
2-Am-DNT	U	57	ug/Kgdrywt	1	100	110	24.	57.
4-Am-DNT	U	57	ug/Kgdrywt	1	100	110	19.	57.
2,6-Dinitrotoluene	U	57	ug/Kgdrywt	1	100	110	31.	57.
2,4-Dinitrotoluene	U	57	ug/Kgdrywt	1	100	110	17.	57.
2-Nitrotoluene	U	57	ug/Kgdrywt	1	100	110	14.	57.
3-Nitrotoluene	U	57	ug/Kgdrywt	1	100	110	9.0	57.
4-Nitrotoluene	U	57	ug/Kgdrywt	1	100	110	31.	57.
Nitroglycerin	U	460	ug/Kgdrywt	1	800	910	140	460
PETN	U	460	ug/Kgdrywt	1	800	910	120	460
1,2-Dinitrobenzene		94.6	%					

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10708.D
Report Date: 31-May-2018 05:00

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10708.D
Lab Smp Id: SL4233-42 Client Smp ID: CHAAP-21B-BPA-SS05
Inj Date : 24-MAY-2018 04:43
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-42
Misc Info : WG228942,WG228856,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\EXPB05A.m
Meth Date : 25-May-2018 03:43 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 27
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01180	Weight of Sample (Kg)
M	25.805	% Moisture
Cpnd Variable		Local Compound Variable

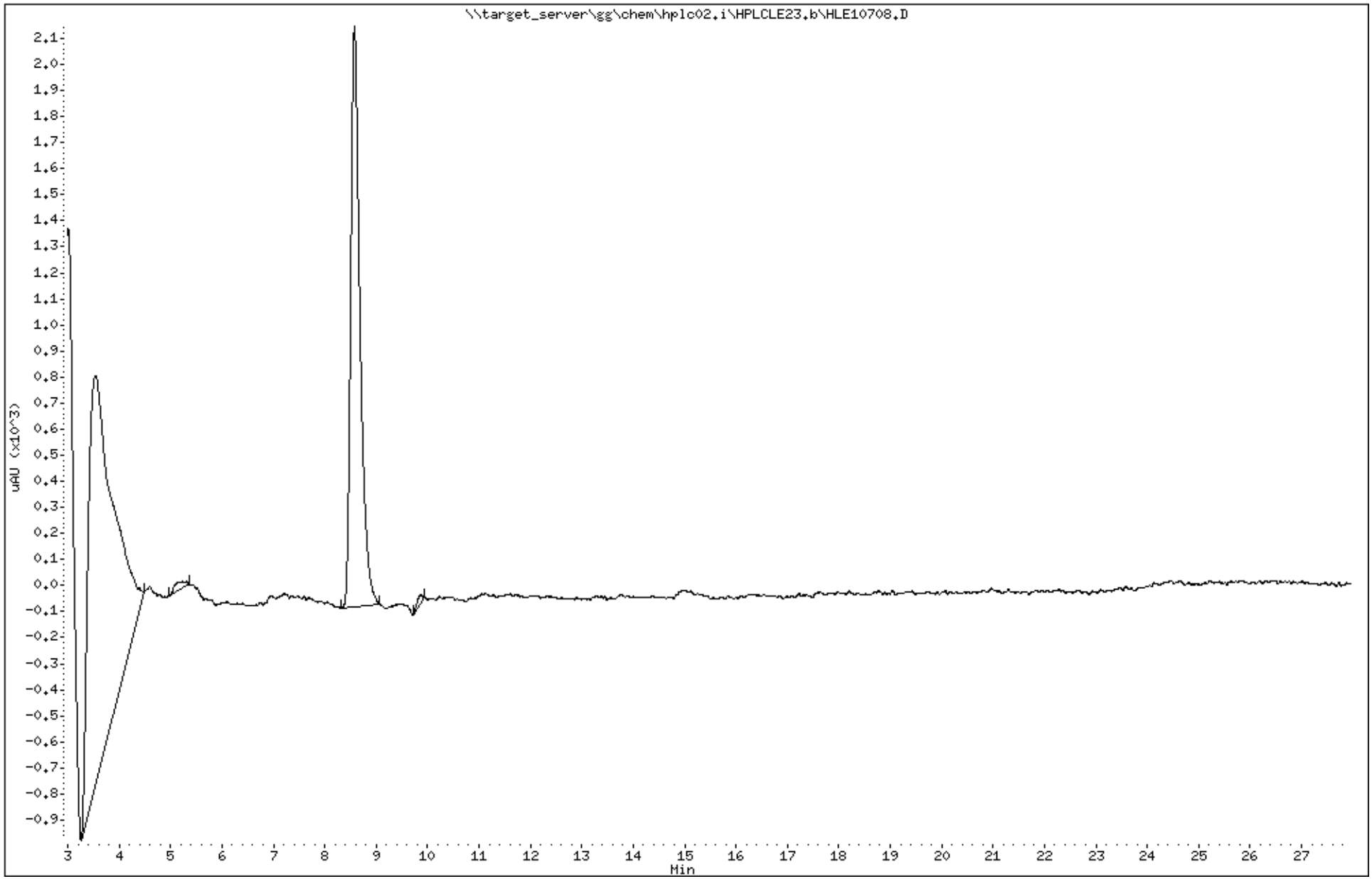
Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10708.D
Date : 24-MAY-2018 04:43
Client ID: CHAAP-21B-BPA-SS05
Sample Info: SL4233-42

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 1000254

Data File: HLE10708.D
Report Date: 31-May-2018 05:09

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HPLCLE23.b\HLE10708.D
Lab Smp Id: SL4233-42 Client Smp ID: CHAAP-21B-BPA-SS05
Inj Date : 24-MAY-2018 04:43
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-42
Misc Info : WG228942,WG228856,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\EXPB05A.m\EXPB05A.m
Meth Date : 25-May-2018 03:41 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 27
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

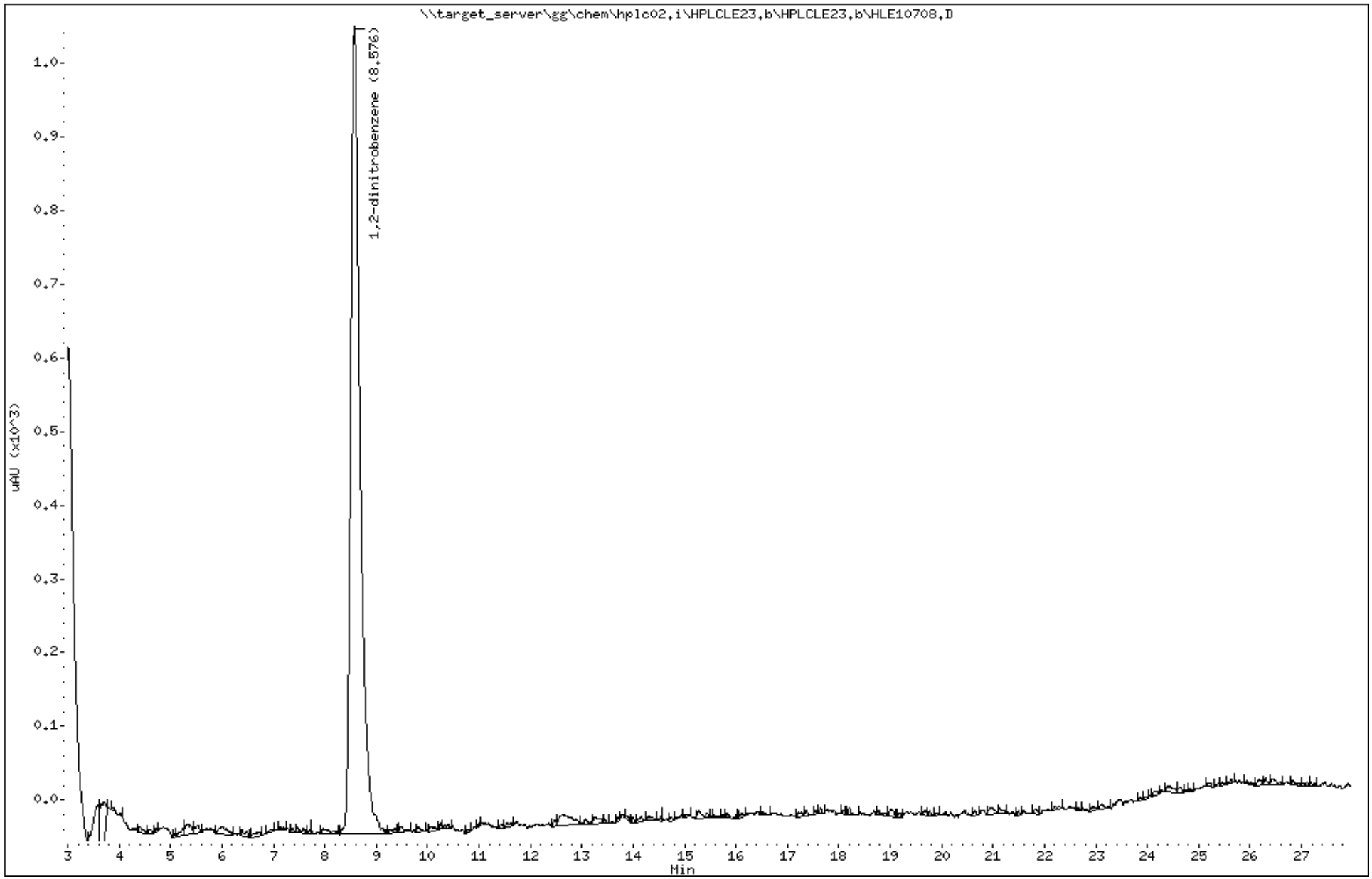
Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01180	Weight of Sample (Kg)
M	25.805	% Moisture
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	REVIEW CODE
$ 2 1,2-dinitrobenzene	8.576	8.573	0.003	1095	0.23663	540	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HPLCLE23.b\HLE10708.D
Date : 24-MAY-2018 04:43
Client ID: CHAAP-21B-BPA-SS05
Sample Info: SL4233-42

Instrument: hplc02.i

Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 1000256

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4233-43
Client ID: CHAAP-21B-BPA-SB05-4
Project: Cornhusker Army Ammunition Plant
SDG: SL4233
Lab File ID: HLE10709.D

Sample Date: 15-MAY-18
Received Date: 16-MAY-18
Extract Date: 22-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228856

Analysis Date: 24-MAY-18
Analyst: AC
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 83.
Report Date: 31-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	59	ug/Kgdrywt	1	100	120	10.	59.
RDX	U	59	ug/Kgdrywt	1	100	120	8.0	59.
1,3,5-Trinitrobenzene	U	59	ug/Kgdrywt	1	100	120	7.9	59.
1,3-Dinitrobenzene	U	59	ug/Kgdrywt	1	100	120	7.3	59.
Tetryl	U	59	ug/Kgdrywt	1	100	120	6.3	59.
Nitrobenzene	U	59	ug/Kgdrywt	1	100	120	26.	59.
2,4,6-Trinitrotoluene	U	59	ug/Kgdrywt	1	100	120	7.9	59.
2-Am-DNT	U	59	ug/Kgdrywt	1	100	120	25.	59.
4-Am-DNT	U	59	ug/Kgdrywt	1	100	120	20.	59.
2,6-Dinitrotoluene	U	59	ug/Kgdrywt	1	100	120	32.	59.
2,4-Dinitrotoluene	U	59	ug/Kgdrywt	1	100	120	18.	59.
2-Nitrotoluene	U	59	ug/Kgdrywt	1	100	120	14.	59.
3-Nitrotoluene	U	59	ug/Kgdrywt	1	100	120	9.3	59.
4-Nitrotoluene	U	59	ug/Kgdrywt	1	100	120	32.	59.
Nitroglycerin	U	470	ug/Kgdrywt	1	800	940	140	470
PETN	U	470	ug/Kgdrywt	1	800	940	130	470
1,2-Dinitrobenzene		94.0	%					

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10709.D
Report Date: 31-May-2018 05:00

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10709.D
Lab Smp Id: SL4233-43 Client Smp ID: HAAP-21B-BPA-SB05-4
Inj Date : 24-MAY-2018 05:14
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-43
Misc Info : WG228942,WG228856,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\EXPB05A.m
Meth Date : 25-May-2018 03:43 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 28
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01030	Weight of Sample (Kg)
M	17.328	% Moisture
Cpnd Variable		Local Compound Variable

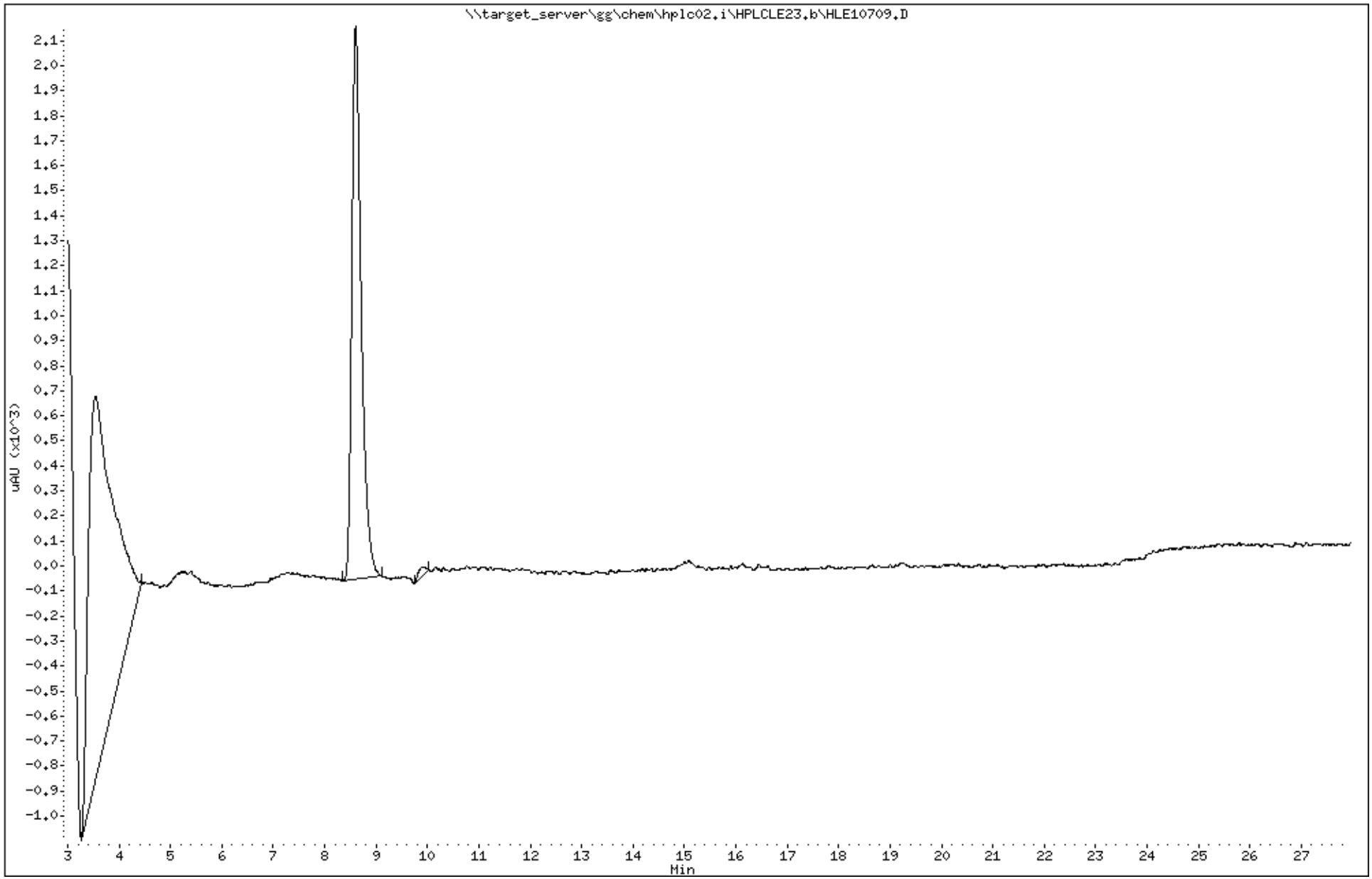
Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10709.D
Date : 24-MAY-2018 05:14
Client ID: HAAP-21B-BPA-SB05-4
Sample Info: SL4233-43

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 1000259

Data File: HLE10709.D
Report Date: 31-May-2018 05:09

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HPLCLE23.b\HLE10709.D
Lab Smp Id: SL4233-43 Client Smp ID: HAAP-21B-BPA-SB05-4
Inj Date : 24-MAY-2018 05:14
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-43
Misc Info : WG228942,WG228856,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\EXPB05A.m\EXPB05A.m
Meth Date : 25-May-2018 03:41 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 28
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01030	Weight of Sample (Kg)
M	17.328	% Moisture
Cpnd Variable		Local Compound Variable

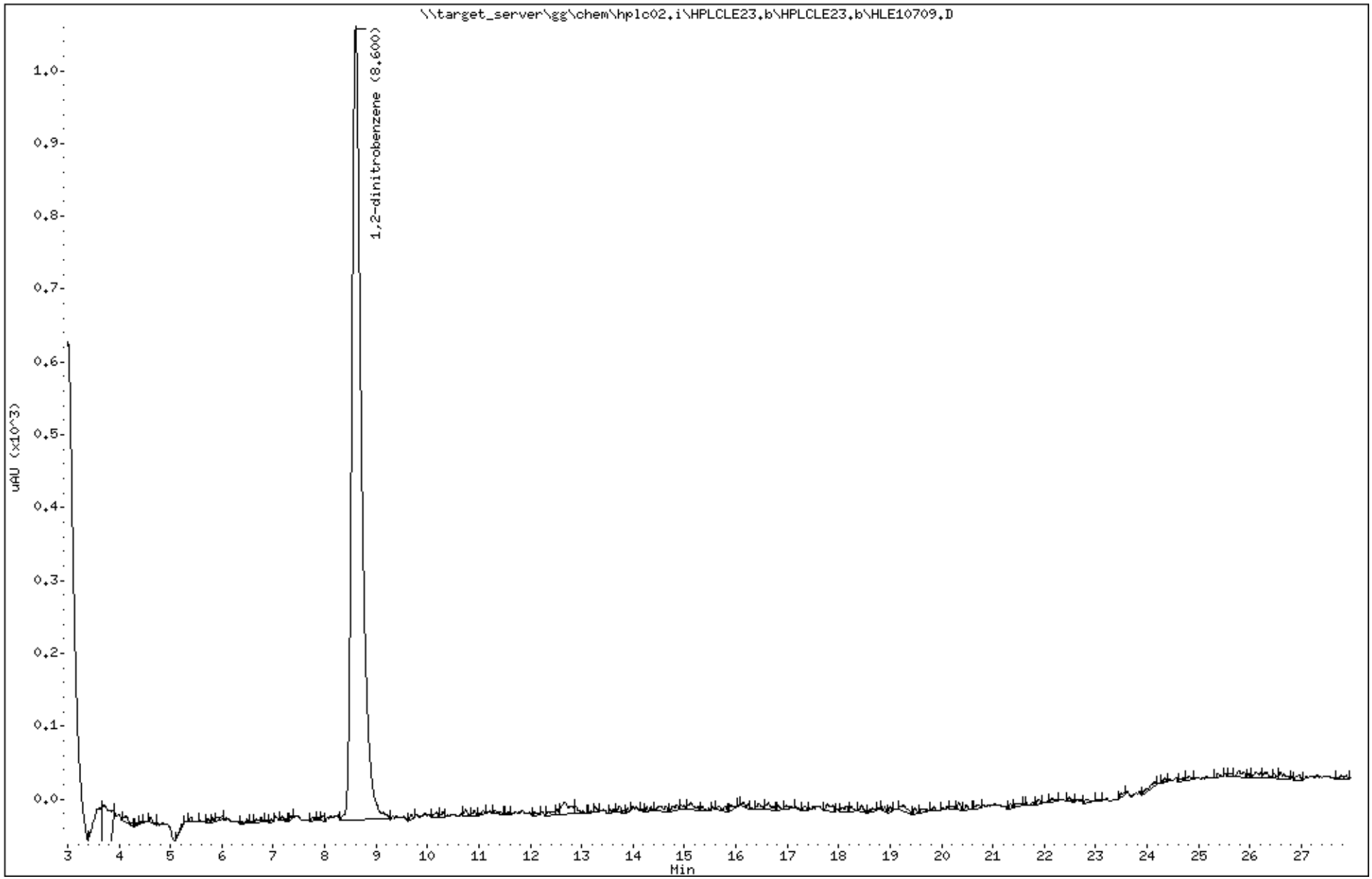
Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	REVIEW CODE
$ 2 1,2-dinitrobenzene	8.600	8.573	0.027	1088	0.23512	552	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HPLCLE23.b\HLE10709.D
Date : 24-MAY-2018 05:14
Client ID: HAAP-21B-BPA-SB05-4
Sample Info: SL4233-43

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 1000261

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4233-44
Client ID: CHAAP-21B-BPA-SB05-8
Project: Cornhusker Army Ammunition Plant
SDG: SL4233
Lab File ID: HLE10710.D

Sample Date: 15-MAY-18
Received Date: 16-MAY-18
Extract Date: 22-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228856

Analysis Date: 24-MAY-18
Analyst: AC
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 75.
Report Date: 31-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	52	ug/Kgdrywt	1	100	100	8.9	52.
RDX	U	52	ug/Kgdrywt	1	100	100	7.0	52.
1,3,5-Trinitrobenzene	U	52	ug/Kgdrywt	1	100	100	6.9	52.
1,3-Dinitrobenzene	U	52	ug/Kgdrywt	1	100	100	6.4	52.
Tetryl	U	52	ug/Kgdrywt	1	100	100	5.6	52.
Nitrobenzene	U	52	ug/Kgdrywt	1	100	100	23.	52.
2,4,6-Trinitrotoluene	U	52	ug/Kgdrywt	1	100	100	6.9	52.
2-Am-DNT	U	52	ug/Kgdrywt	1	100	100	22.	52.
4-Am-DNT	U	52	ug/Kgdrywt	1	100	100	18.	52.
2,6-Dinitrotoluene	U	52	ug/Kgdrywt	1	100	100	28.	52.
2,4-Dinitrotoluene	U	52	ug/Kgdrywt	1	100	100	16.	52.
2-Nitrotoluene	U	52	ug/Kgdrywt	1	100	100	12.	52.
3-Nitrotoluene	U	52	ug/Kgdrywt	1	100	100	8.2	52.
4-Nitrotoluene	U	52	ug/Kgdrywt	1	100	100	28.	52.
Nitroglycerin	U	410	ug/Kgdrywt	1	800	830	130	410
PETN	U	410	ug/Kgdrywt	1	800	830	110	410
1,2-Dinitrobenzene		95.4	%					

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10710.D
Report Date: 31-May-2018 05:00

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10710.D
Lab Smp Id: SL4233-44 Client Smp ID: HAAP-21B-BPA-SB05-8
Inj Date : 24-MAY-2018 05:45
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-44
Misc Info : WG228942,WG228856,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\EXPB05A.m
Meth Date : 25-May-2018 03:43 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 29
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01280	Weight of Sample (Kg)
M	24.536	% Moisture
Cpnd Variable		Local Compound Variable

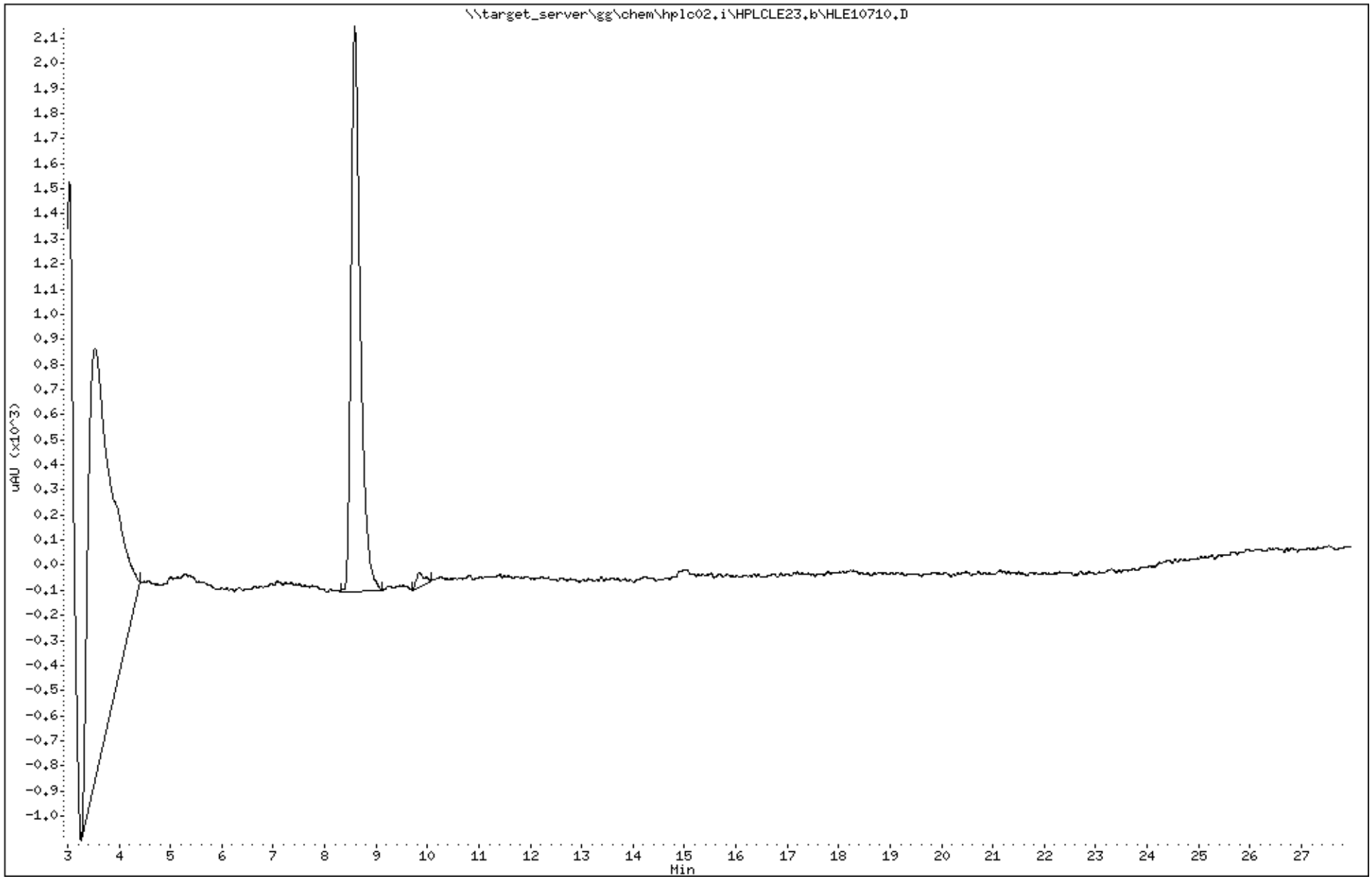
Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10710.D
Date : 24-MAY-2018 05:45
Client ID: HAAP-21B-BPA-SB05-8
Sample Info: SL4233-44

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 1000264

Data File: HLE10710.D
Report Date: 31-May-2018 05:09

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HPLCLE23.b\HLE10710.D
Lab Smp Id: SL4233-44 Client Smp ID: HAAP-21B-BPA-SB05-8
Inj Date : 24-MAY-2018 05:45
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-44
Misc Info : WG228942,WG228856,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\EXPB05A.m\EXPB05A.m
Meth Date : 25-May-2018 03:41 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 29
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

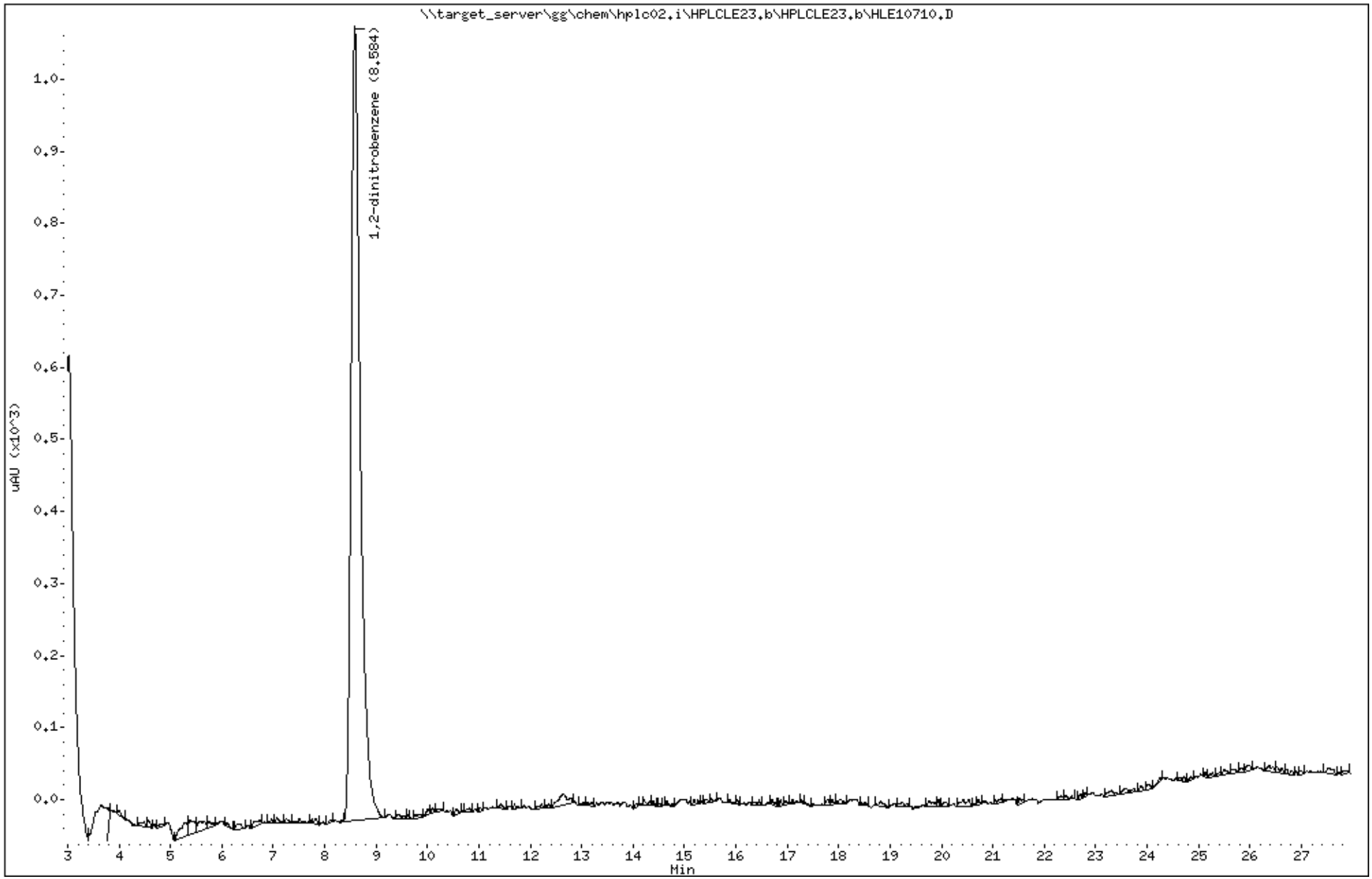
Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01280	Weight of Sample (Kg)
M	24.536	% Moisture
Cpnd Variable		Local Compound Variable

						CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	
Compounds	RT	EXP RT	DLT RT	RESPONSE				REVIEW CODE
$ 2 1,2-dinitrobenzene	8.583	8.573	0.010	1103		0.23836	494	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HPLCLE23.b\HLE10710.D
Date : 24-MAY-2018 05:45
Client ID: HAAP-21B-BPA-SB05-8
Sample Info: SL4233-44

Instrument: hplc02.i

Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 1000266

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4233-45
Client ID: CHAAP-21B-BPA-SS06
Project: Cornhusker Army Ammunition Plant
SDG: SL4233
Lab File ID: HLE10711.D

Sample Date: 15-MAY-18
Received Date: 16-MAY-18
Extract Date: 22-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228857

Analysis Date: 24-MAY-18
Analyst: AC
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 77.
Report Date: 31-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	59	ug/Kgdrywt	1	100	120	10.	59.
RDX	U	59	ug/Kgdrywt	1	100	120	8.0	59.
1,3,5-Trinitrobenzene	U	59	ug/Kgdrywt	1	100	120	7.9	59.
1,3-Dinitrobenzene	U	59	ug/Kgdrywt	1	100	120	7.3	59.
Tetryl	U	59	ug/Kgdrywt	1	100	120	6.4	59.
Nitrobenzene	U	59	ug/Kgdrywt	1	100	120	26.	59.
2,4,6-Trinitrotoluene	U	59	ug/Kgdrywt	1	100	120	7.9	59.
2-Am-DNT	U	59	ug/Kgdrywt	1	100	120	25.	59.
4-Am-DNT	U	59	ug/Kgdrywt	1	100	120	20.	59.
2,6-Dinitrotoluene	U	59	ug/Kgdrywt	1	100	120	32.	59.
2,4-Dinitrotoluene	U	59	ug/Kgdrywt	1	100	120	18.	59.
2-Nitrotoluene	U	59	ug/Kgdrywt	1	100	120	14.	59.
3-Nitrotoluene	U	59	ug/Kgdrywt	1	100	120	9.4	59.
4-Nitrotoluene	U	59	ug/Kgdrywt	1	100	120	32.	59.
Nitroglycerin	U	470	ug/Kgdrywt	1	800	950	150	470
PETN	U	470	ug/Kgdrywt	1	800	950	130	470
1,2-Dinitrobenzene		91.4	%					

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10711.D
Report Date: 31-May-2018 05:00

Katahdin Analytical Services

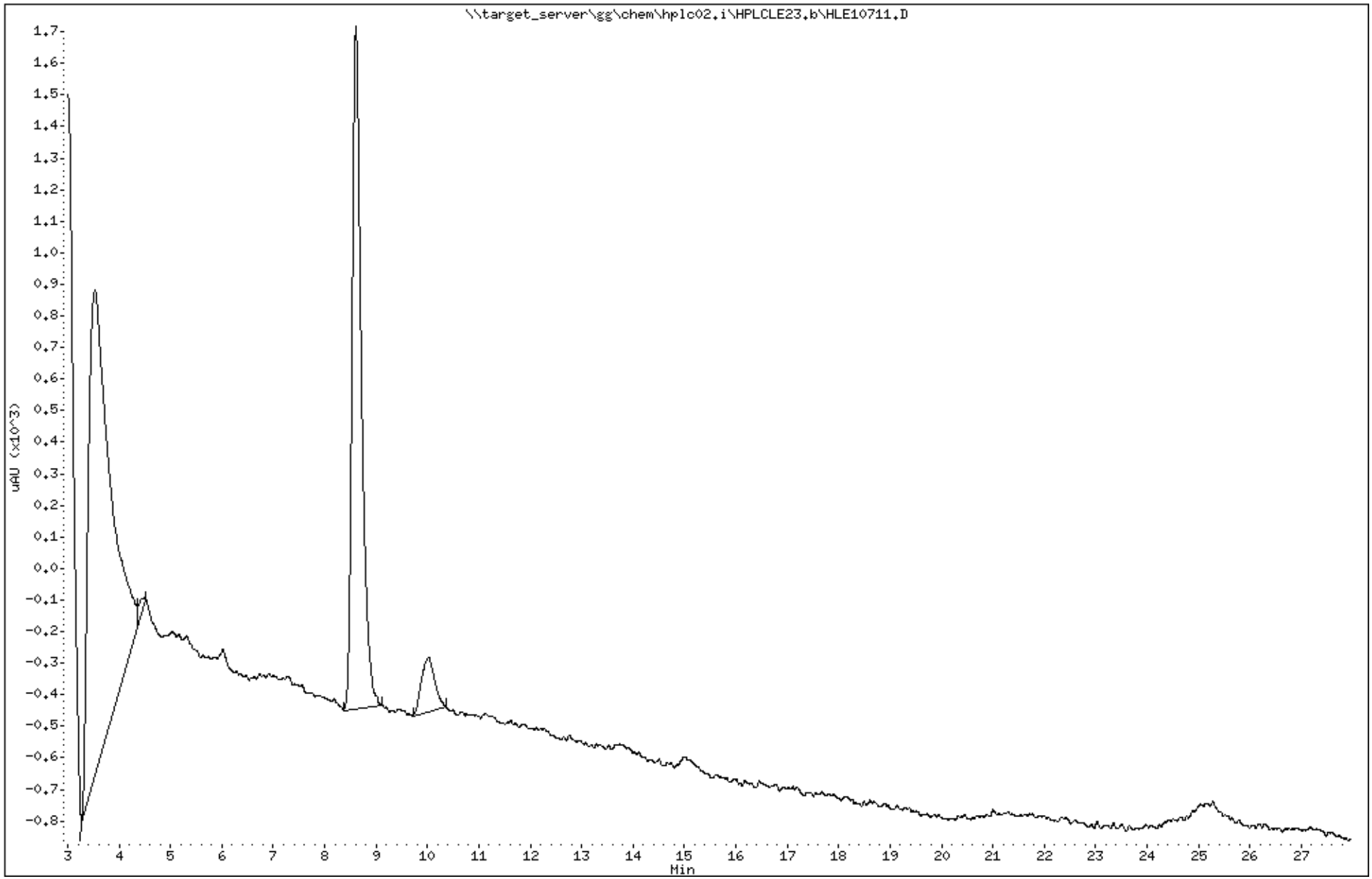
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10711.D
Lab Smp Id: SL4233-45 Client Smp ID: CHAAP-21B-BPA-SS06
Inj Date : 24-MAY-2018 06:16
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-45
Misc Info : WG228942,WG228857,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\EXPB05A.m
Meth Date : 25-May-2018 03:43 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 30
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01100	Weight of Sample (Kg)
M	23.190	% Moisture
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10711.D
Date : 24-MAY-2018 06:16
Client ID: CHAAP-21B-BPA-SS06
Instrument: hplc02.i
Sample Info: SL4233-45
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 1000269

Data File: HLE10711.D
Report Date: 31-May-2018 05:09

Katahdin Analytical Services

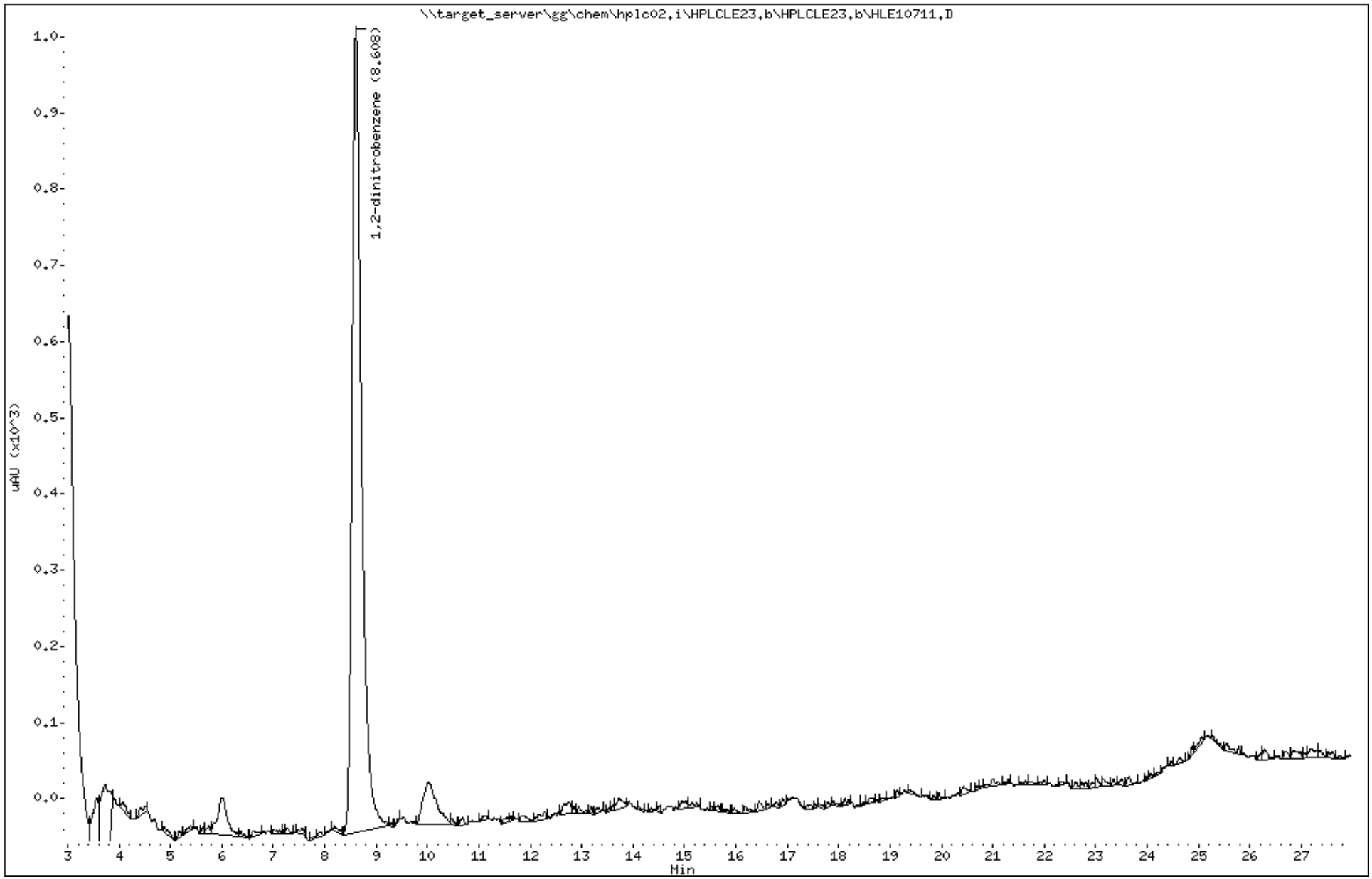
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HPLCLE23.b\HLE10711.D
Lab Smp Id: SL4233-45 Client Smp ID: CHAAP-21B-BPA-SS06
Inj Date : 24-MAY-2018 06:16
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-45
Misc Info : WG228942,WG228857,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\EXPB05A.m\EXPB05A.m
Meth Date : 25-May-2018 03:41 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 30
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01100	Weight of Sample (Kg)
M	23.190	% Moisture
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	REVIEW CODE
$ 2 1,2-dinitrobenzene	8.607	8.573	0.034	1058	0.22864	541	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HPLCLE23.b\HLE10711.D
Date : 24-MAY-2018 06:16
Client ID: CHAAP-21B-BPA-SS06
Instrument: hplc02.i
Sample Info: SL4233-45
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 1000271

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4233-46
Client ID: CHAAP-21B-BPA-SB06-4
Project: Cornhusker Army Ammunition Plant
SDG: SL4233
Lab File ID: HLE10713.D

Sample Date: 15-MAY-18
Received Date: 16-MAY-18
Extract Date: 22-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228857

Analysis Date: 24-MAY-18
Analyst: AC
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 78.
Report Date: 31-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	61	ug/Kgdrywt	1	100	120	10.	61.
RDX	U	61	ug/Kgdrywt	1	100	120	8.3	61.
1,3,5-Trinitrobenzene	U	61	ug/Kgdrywt	1	100	120	8.2	61.
1,3-Dinitrobenzene	U	61	ug/Kgdrywt	1	100	120	7.6	61.
Tetryl	U	61	ug/Kgdrywt	1	100	120	6.6	61.
Nitrobenzene	U	61	ug/Kgdrywt	1	100	120	27.	61.
2,4,6-Trinitrotoluene	U	61	ug/Kgdrywt	1	100	120	8.2	61.
2-Am-DNT	U	61	ug/Kgdrywt	1	100	120	26.	61.
4-Am-DNT	U	61	ug/Kgdrywt	1	100	120	21.	61.
2,6-Dinitrotoluene	U	61	ug/Kgdrywt	1	100	120	33.	61.
2,4-Dinitrotoluene	U	61	ug/Kgdrywt	1	100	120	18.	61.
2-Nitrotoluene	U	61	ug/Kgdrywt	1	100	120	15.	61.
3-Nitrotoluene	U	61	ug/Kgdrywt	1	100	120	9.7	61.
4-Nitrotoluene	U	61	ug/Kgdrywt	1	100	120	33.	61.
Nitroglycerin	U	490	ug/Kgdrywt	1	800	980	150	490
PETN	U	490	ug/Kgdrywt	1	800	980	130	490
1,2-Dinitrobenzene		91.8	%					

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10713.D
Report Date: 31-May-2018 05:00

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10713.D
Lab Smp Id: SL4233-46 Client Smp ID: HAAP-21B-BPA-SB06-4
Inj Date : 24-MAY-2018 07:18
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-46
Misc Info : WG228942,WG228857,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\EXPB05A.m
Meth Date : 25-May-2018 03:43 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 32
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01050	Weight of Sample (Kg)
M	22.116	% Moisture
Cpnd Variable		Local Compound Variable

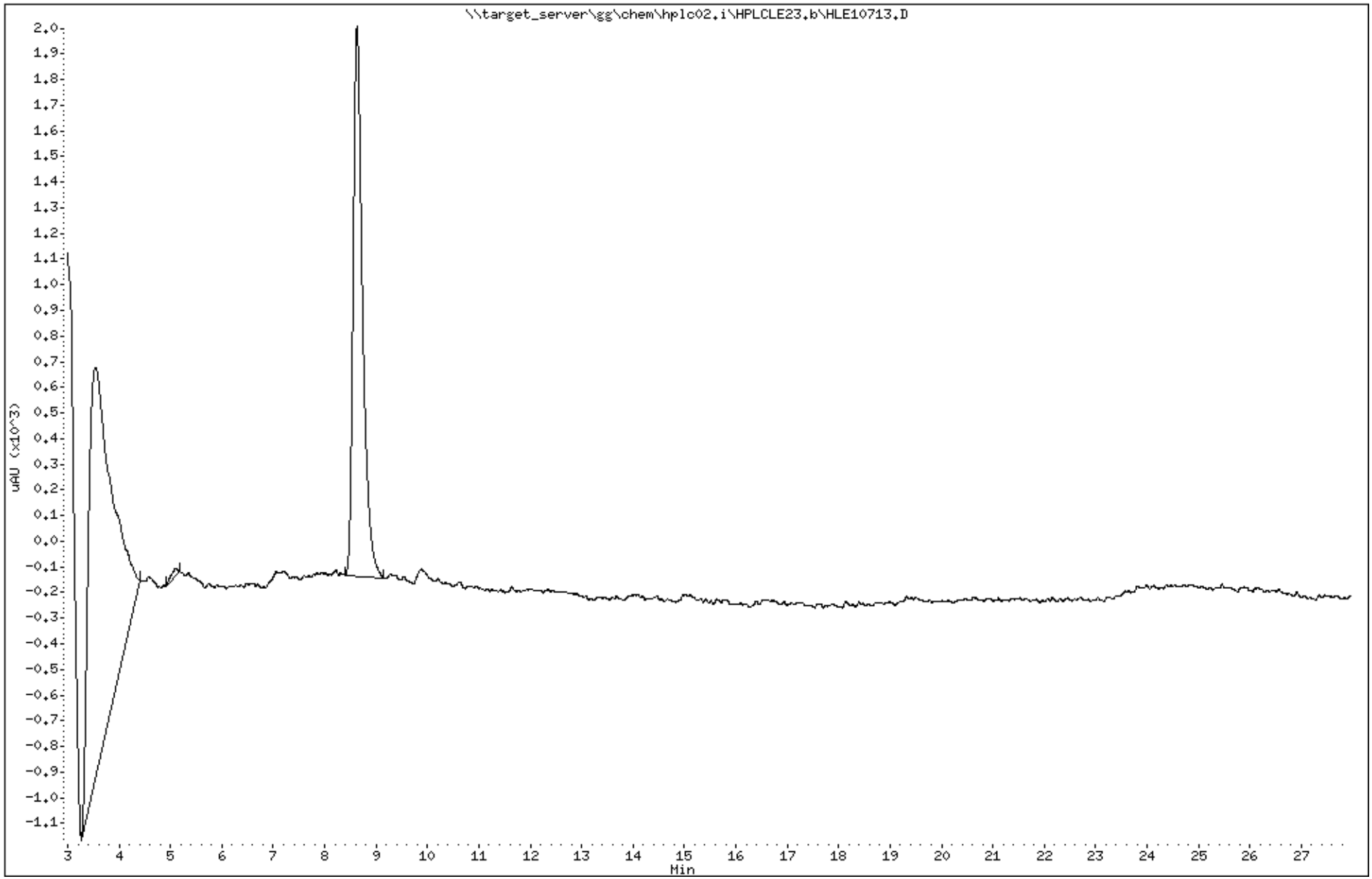
Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10713.D
Date : 24-MAY-2018 07:18
Client ID: HAAP-21B-BPA-SB06-4
Sample Info: SL4233-46

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 1000274

Data File: HLE10713.D
Report Date: 31-May-2018 05:09

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HPLCLE23.b\HLE10713.D
Lab Smp Id: SL4233-46 Client Smp ID: HAAP-21B-BPA-SB06-4
Inj Date : 24-MAY-2018 07:18
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-46
Misc Info : WG228942,WG228857,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\EXPB05A.m\EXPB05A.m
Meth Date : 25-May-2018 03:41 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 32
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

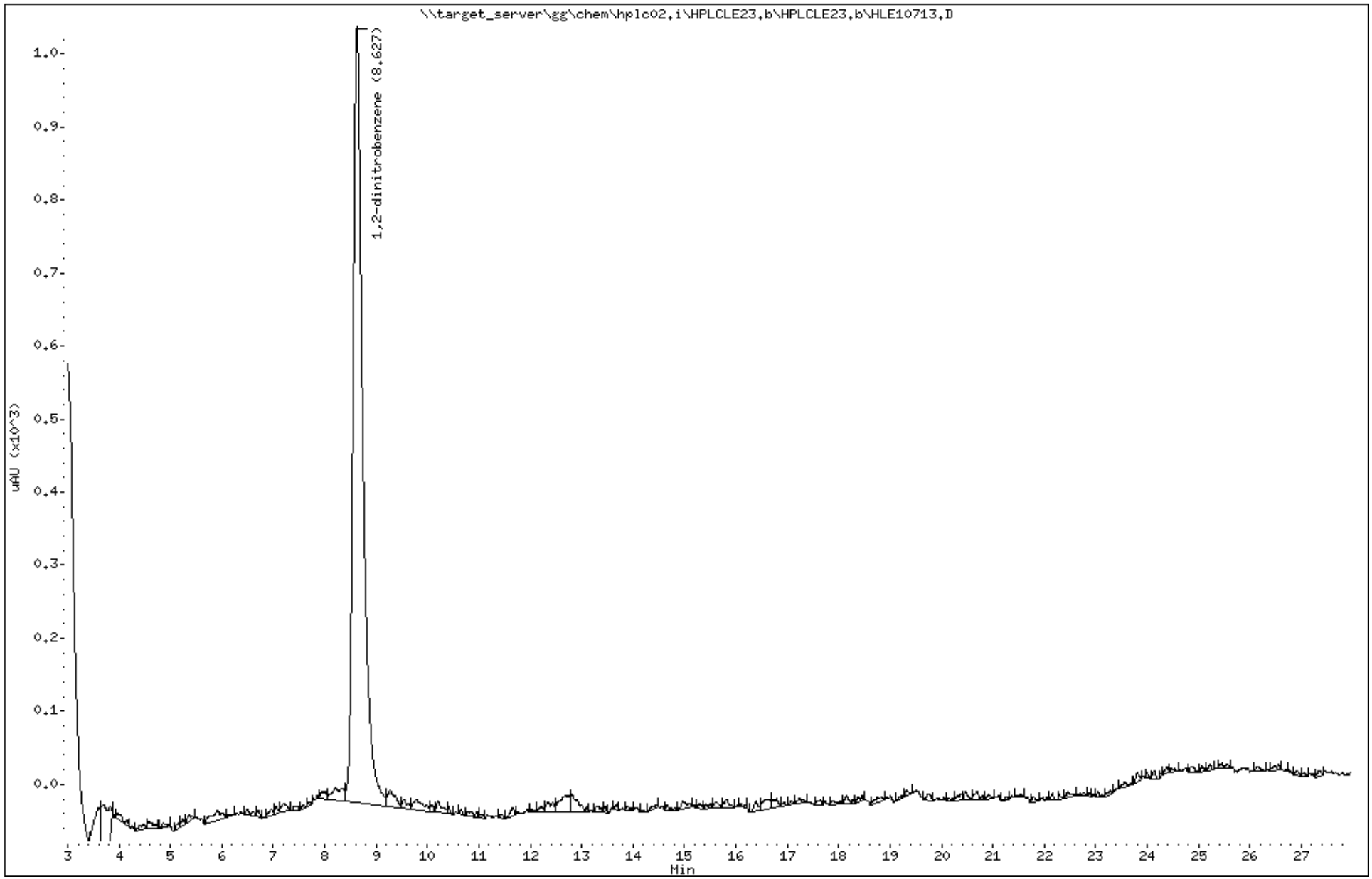
Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01050	Weight of Sample (Kg)
M	22.116	% Moisture
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	REVIEW CODE
$ 2 1,2-dinitrobenzene	8.626	8.573	0.053	1062	0.22950	561	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HPLCLE23.b\HLE10713.D
Date : 24-MAY-2018 07:18
Client ID: HAAP-21B-BPA-SB06-4
Sample Info: SL4233-46

Instrument: hplc02.i

Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 1000276

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4233-47
Client ID: CHAAP-21B-BPA-SB06-8
Project: Cornhusker Army Ammunition Plant
SDG: SL4233
Lab File ID: HLE10714.D

Sample Date: 15-MAY-18
Received Date: 16-MAY-18
Extract Date: 22-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228857

Analysis Date: 24-MAY-18
Analyst: AC
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 78.
Report Date: 31-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	59	ug/Kgdrywt	1	100	120	10.	59.
RDX	U	59	ug/Kgdrywt	1	100	120	8.0	59.
1,3,5-Trinitrobenzene	U	59	ug/Kgdrywt	1	100	120	7.9	59.
1,3-Dinitrobenzene	U	59	ug/Kgdrywt	1	100	120	7.3	59.
Tetryl	U	59	ug/Kgdrywt	1	100	120	6.3	59.
Nitrobenzene	U	59	ug/Kgdrywt	1	100	120	26.	59.
2,4,6-Trinitrotoluene	U	59	ug/Kgdrywt	1	100	120	7.9	59.
2-Am-DNT	U	59	ug/Kgdrywt	1	100	120	25.	59.
4-Am-DNT	U	59	ug/Kgdrywt	1	100	120	20.	59.
2,6-Dinitrotoluene	U	59	ug/Kgdrywt	1	100	120	32.	59.
2,4-Dinitrotoluene	U	59	ug/Kgdrywt	1	100	120	18.	59.
2-Nitrotoluene	U	59	ug/Kgdrywt	1	100	120	14.	59.
3-Nitrotoluene	U	59	ug/Kgdrywt	1	100	120	9.3	59.
4-Nitrotoluene	U	59	ug/Kgdrywt	1	100	120	32.	59.
Nitroglycerin	U	470	ug/Kgdrywt	1	800	940	140	470
PETN	U	470	ug/Kgdrywt	1	800	940	130	470
1,2-Dinitrobenzene		89.8	%					

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10714.D
Report Date: 31-May-2018 05:00

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10714.D
Lab Smp Id: SL4233-47 Client Smp ID: HAAP-21B-BPA-SB06-8
Inj Date : 24-MAY-2018 07:49
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-47
Misc Info : WG228942,WG228857,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\EXPB05A.m
Meth Date : 25-May-2018 03:43 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 33
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01090	Weight of Sample (Kg)
M	21.884	% Moisture
Cpnd Variable		Local Compound Variable

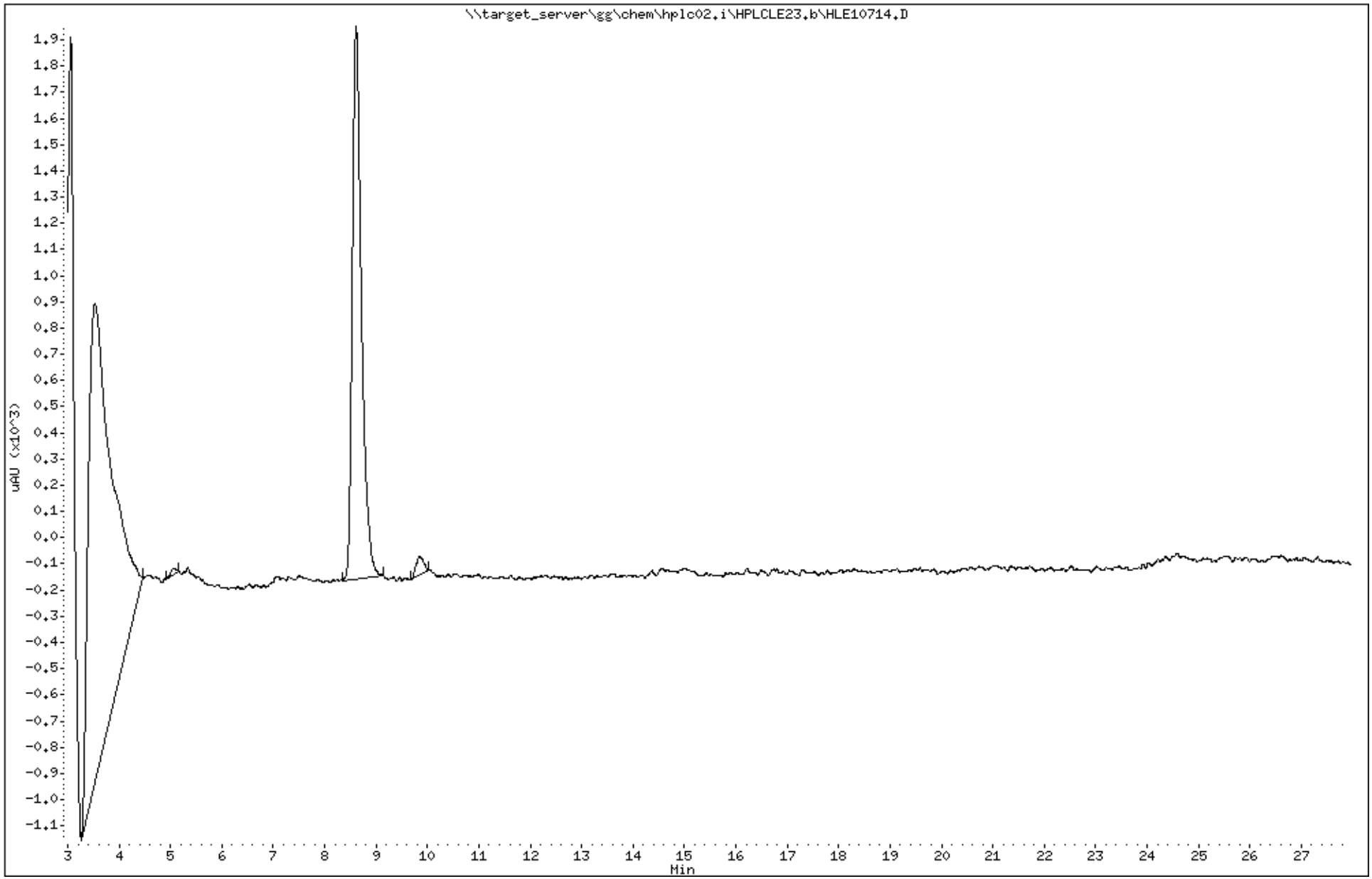
Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10714.D
Date : 24-MAY-2018 07:49
Client ID: HAAP-21B-BPA-SB06-8
Sample Info: SL4233-47

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 1000279

Data File: HLE10714.D
Report Date: 31-May-2018 05:09

Katahdin Analytical Services

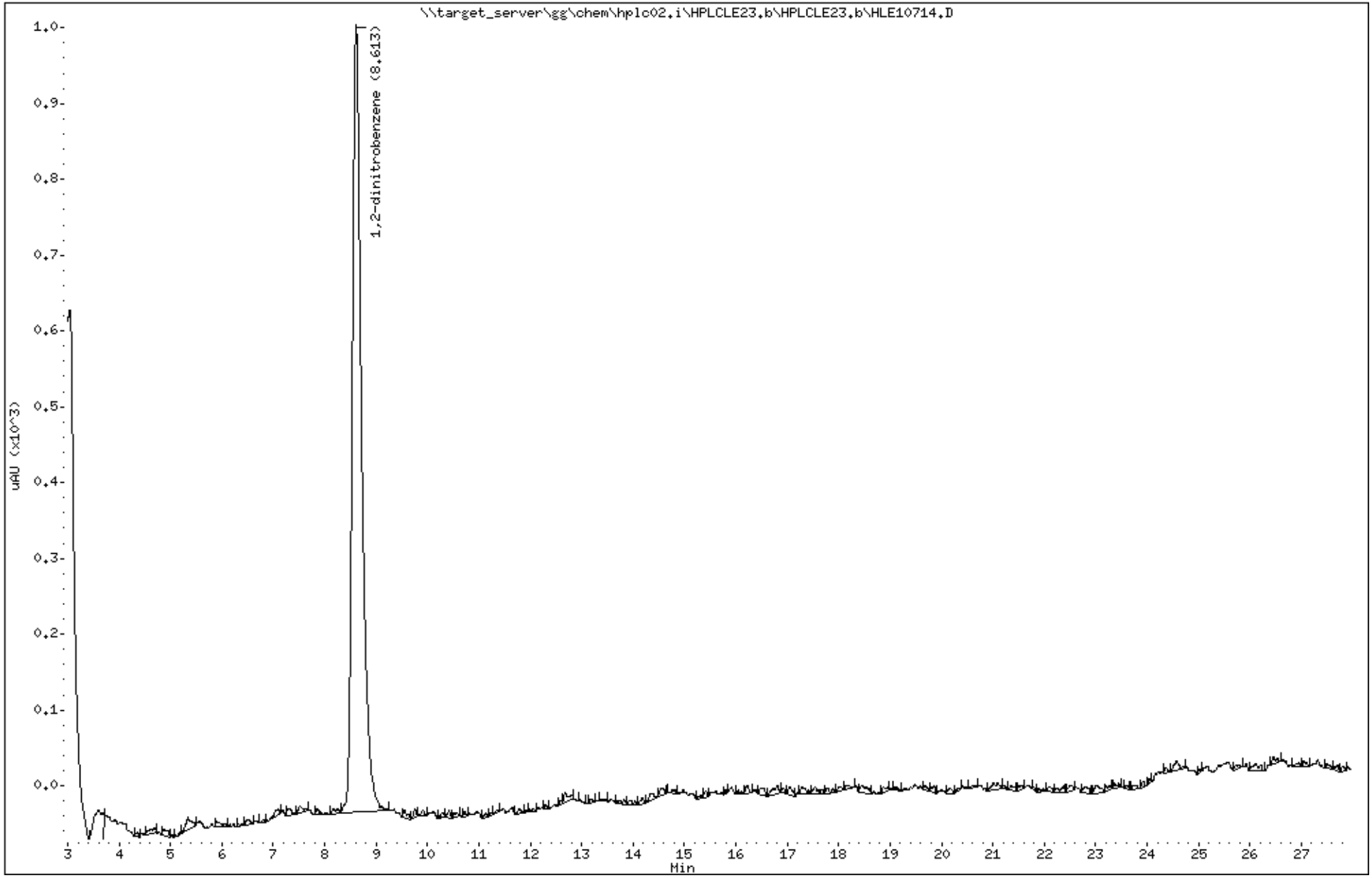
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HPLCLE23.b\HLE10714.D
Lab Smp Id: SL4233-47 Client Smp ID: HAAP-21B-BPA-SB06-8
Inj Date : 24-MAY-2018 07:49
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-47
Misc Info : WG228942,WG228857,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\EXPB05A.m\EXPB05A.m
Meth Date : 25-May-2018 03:41 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 33
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01090	Weight of Sample (Kg)
M	21.884	% Moisture
Cpnd Variable		Local Compound Variable

					CONCENTRATIONS		
					ON-COLUMN	FINAL	
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/mL)	(ug/Kgdrywt)	REVIEW CODE
$ 2 1,2-dinitrobenzene	8.613	8.573	0.040	1039	0.22453	527	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HPLCLE23.b\HLE10714.D
Date : 24-MAY-2018 07:49
Client ID: HAAP-21B-BPA-SB06-8
Instrument: hplc02.i
Sample Info: SL4233-47
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 1000281

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4233-48
Client ID: CHAAP-21B-BPA-SS08
Project: Cornhusker Army Ammunition Plant
SDG: SL4233
Lab File ID: HLE10715.D

Sample Date: 15-MAY-18
Received Date: 16-MAY-18
Extract Date: 22-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228857

Analysis Date: 24-MAY-18
Analyst: AC
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 72.
Report Date: 31-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	67	ug/Kgdrywt	1	100	130	12.	67.
RDX	U	67	ug/Kgdrywt	1	100	130	9.2	67.
1,3,5-Trinitrobenzene	U	67	ug/Kgdrywt	1	100	130	9.0	67.
1,3-Dinitrobenzene	U	67	ug/Kgdrywt	1	100	130	8.4	67.
Tetryl	U	67	ug/Kgdrywt	1	100	130	7.3	67.
Nitrobenzene	U	67	ug/Kgdrywt	1	100	130	30.	67.
2,4,6-Trinitrotoluene	U	67	ug/Kgdrywt	1	100	130	9.0	67.
2-Am-DNT	U	67	ug/Kgdrywt	1	100	130	28.	67.
4-Am-DNT	U	67	ug/Kgdrywt	1	100	130	23.	67.
2,6-Dinitrotoluene	U	67	ug/Kgdrywt	1	100	130	36.	67.
2,4-Dinitrotoluene	U	67	ug/Kgdrywt	1	100	130	20.	67.
2-Nitrotoluene	U	67	ug/Kgdrywt	1	100	130	16.	67.
3-Nitrotoluene	U	67	ug/Kgdrywt	1	100	130	11.	67.
4-Nitrotoluene	U	67	ug/Kgdrywt	1	100	130	36.	67.
Nitroglycerin	U	540	ug/Kgdrywt	1	800	1100	170	540
PETN	U	540	ug/Kgdrywt	1	800	1100	140	540
1,2-Dinitrobenzene		93.6	%					

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10715.D
Report Date: 31-May-2018 05:00

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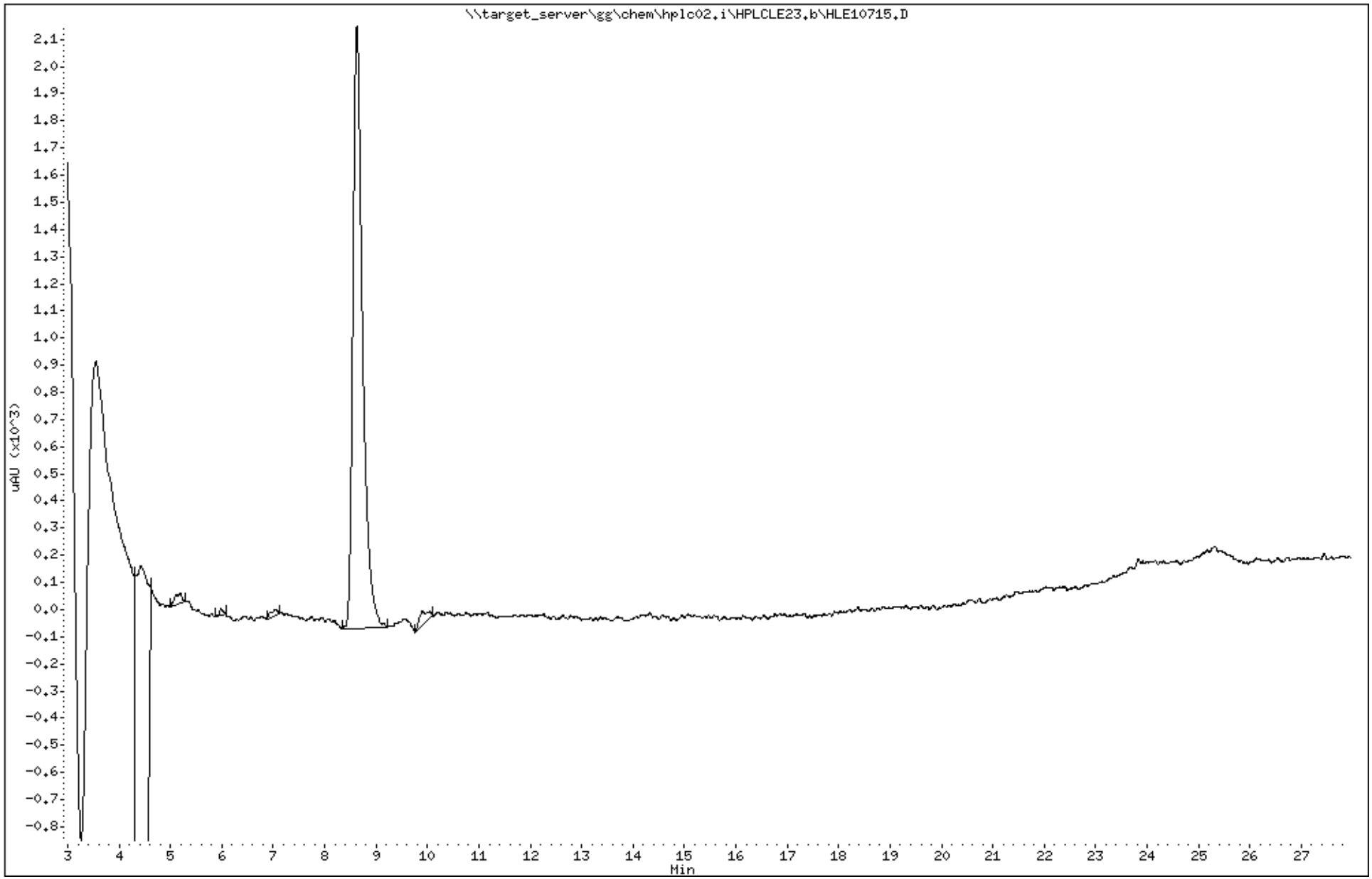
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10715.D
Lab Smp Id: SL4233-48 Client Smp ID: CHAAP-21B-BPA-SS08
Inj Date : 24-MAY-2018 08:20
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-48
Misc Info : WG228942,WG228857,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\EXPB05A.m
Meth Date : 25-May-2018 03:43 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 34
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01030	Weight of Sample (Kg)
M	28.051	% Moisture
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10715.D
Date : 24-MAY-2018 08:20
Client ID: CHAAP-21B-BPA-SS08
Instrument: hplc02.i
Sample Info: SL4233-48
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 1000284

Data File: HLE10715.D
Report Date: 31-May-2018 05:09

Katahdin Analytical Services

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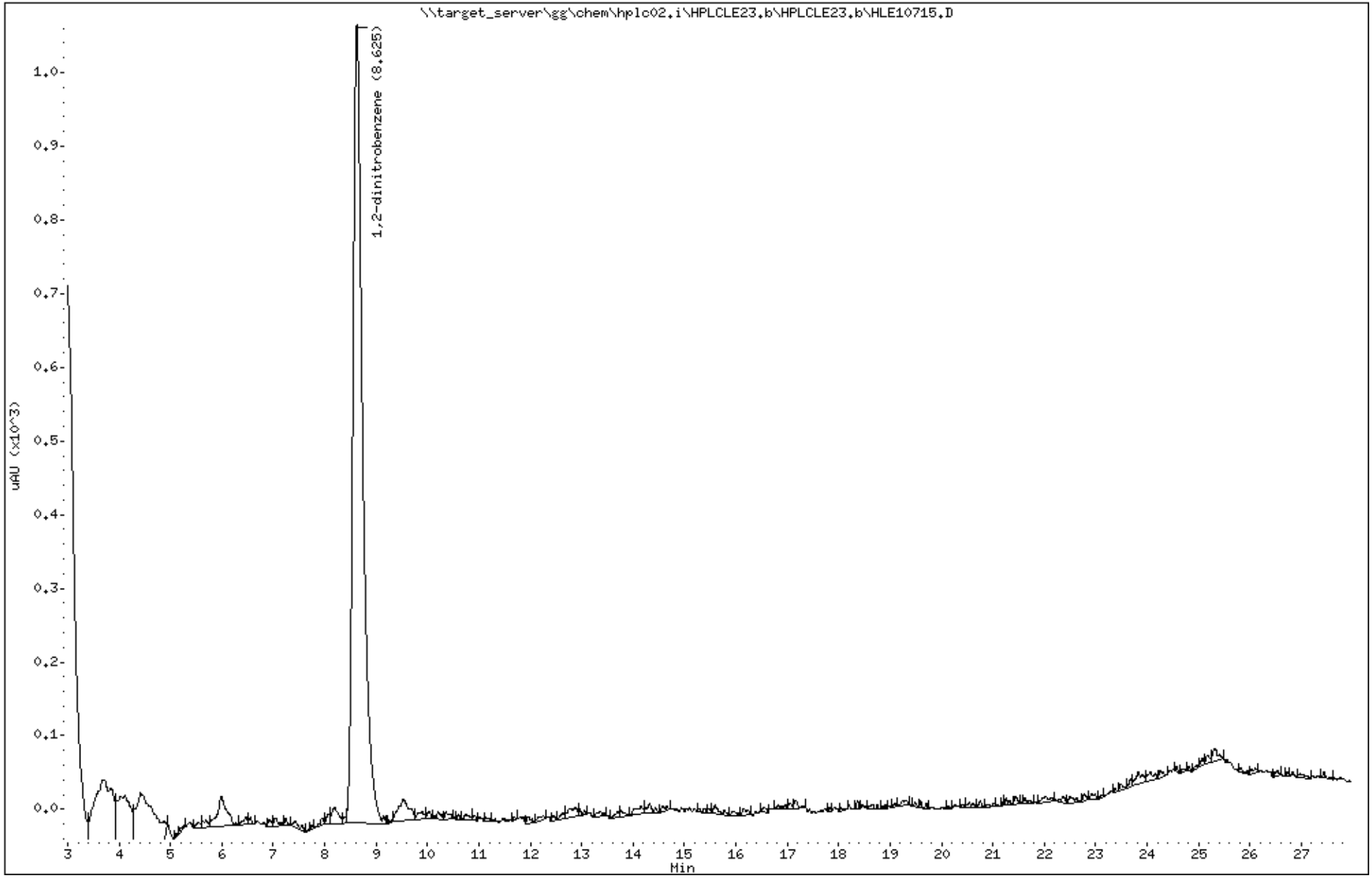
Lab Smp Id: SL4233-48 Client Smp ID: CHAAP-21B-BPA-SS08
Inj Date : 24-MAY-2018 08:20
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-48
Misc Info : WG228942,WG228857,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\EXPB05A.m\EXPB05A.m
Meth Date : 25-May-2018 03:41 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 34
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01030	Weight of Sample (Kg)
M	28.051	% Moisture
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	REVIEW CODE
$ 2 1,2-dinitrobenzene	8.625	8.573	0.052	1083	0.23404	632	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HPLCLE23.b\HLE10715.D
Date : 24-MAY-2018 08:20
Client ID: CHAAP-21B-BPA-SS08
Instrument: hplc02.i
Sample Info: SL4233-48
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 1000286

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4233-49
Client ID: CHAAP-21B-BPA-SB08-4
Project: Cornhusker Army Ammunition Plant
SDG: SL4233
Lab File ID: HLE10716.D

Sample Date: 15-MAY-18
Received Date: 16-MAY-18
Extract Date: 22-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228857

Analysis Date: 24-MAY-18
Analyst: AC
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 79.
Report Date: 31-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	58	ug/Kgdrywt	1	100	120	9.9	58.
RDX	U	58	ug/Kgdrywt	1	100	120	7.8	58.
1,3,5-Trinitrobenzene	U	58	ug/Kgdrywt	1	100	120	7.7	58.
1,3-Dinitrobenzene	U	58	ug/Kgdrywt	1	100	120	7.2	58.
Tetryl	U	58	ug/Kgdrywt	1	100	120	6.2	58.
Nitrobenzene	U	58	ug/Kgdrywt	1	100	120	25.	58.
2,4,6-Trinitrotoluene	U	58	ug/Kgdrywt	1	100	120	7.7	58.
2-Am-DNT	U	58	ug/Kgdrywt	1	100	120	24.	58.
4-Am-DNT	U	58	ug/Kgdrywt	1	100	120	20.	58.
2,6-Dinitrotoluene	U	58	ug/Kgdrywt	1	100	120	31.	58.
2,4-Dinitrotoluene	U	58	ug/Kgdrywt	1	100	120	17.	58.
2-Nitrotoluene	U	58	ug/Kgdrywt	1	100	120	14.	58.
3-Nitrotoluene	U	58	ug/Kgdrywt	1	100	120	9.1	58.
4-Nitrotoluene	U	58	ug/Kgdrywt	1	100	120	31.	58.
Nitroglycerin	U	460	ug/Kgdrywt	1	800	920	140	460
PETN	U	460	ug/Kgdrywt	1	800	920	120	460
1,2-Dinitrobenzene		93.1	%					

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10716.D
Report Date: 31-May-2018 05:00

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10716.D
Lab Smp Id: SL4233-49 Client Smp ID: HAAP-21B-BPA-SB08-4
Inj Date : 24-MAY-2018 08:51
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-49
Misc Info : WG228942,WG228857,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\EXPB05A.m
Meth Date : 25-May-2018 03:43 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 35
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01100	Weight of Sample (Kg)
M	21.184	% Moisture
Cpnd Variable		Local Compound Variable

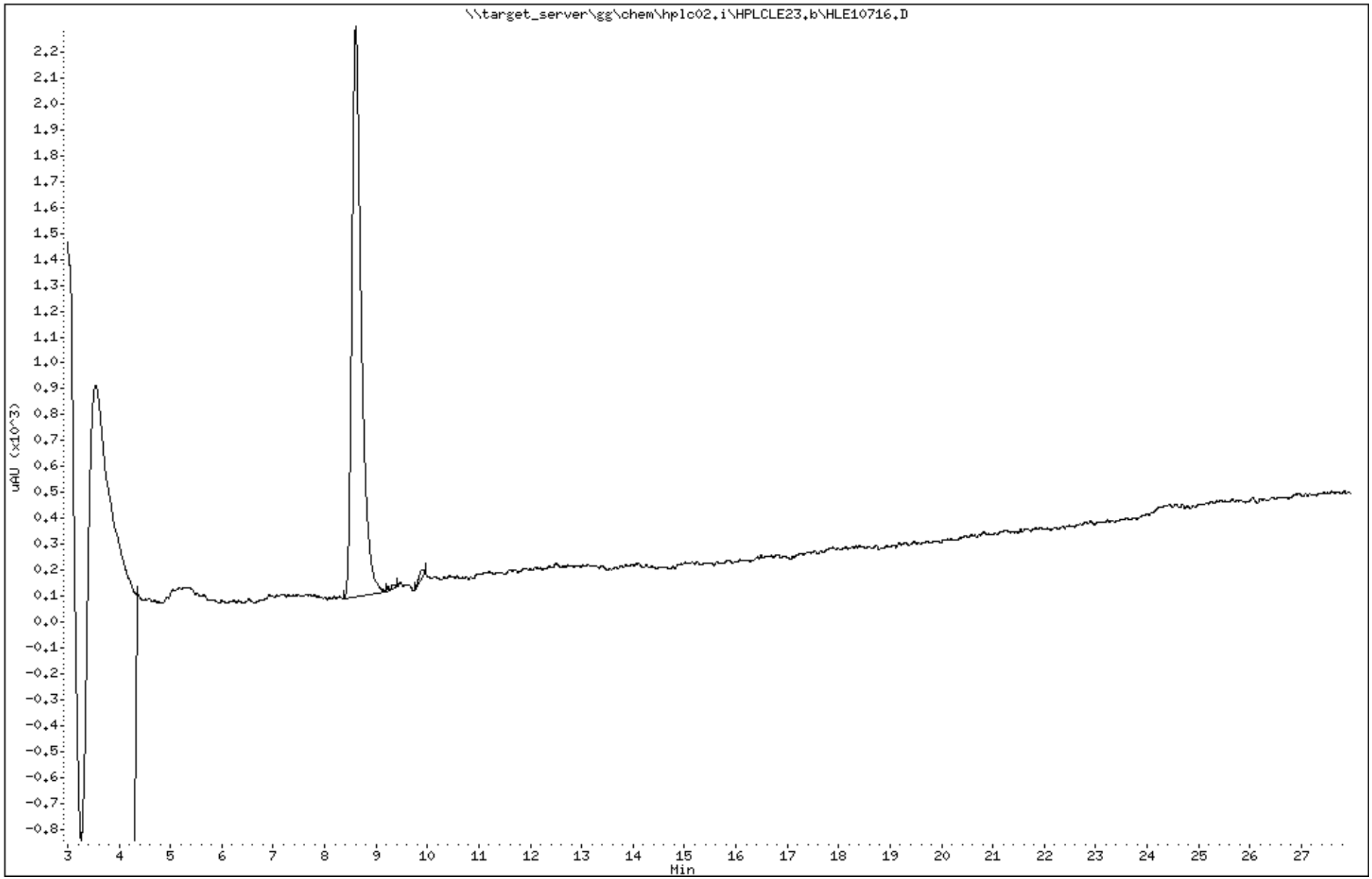
Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10716.D
Date : 24-MAY-2018 08:51
Client ID: HAAP-21B-BPA-SB08-4
Sample Info: SL4233-49

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 1000289

Data File: HLE10716.D
Report Date: 31-May-2018 05:09

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HPLCLE23.b\HLE10716.D
Lab Smp Id: SL4233-49 Client Smp ID: HAAP-21B-BPA-SB08-4
Inj Date : 24-MAY-2018 08:51
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-49
Misc Info : WG228942,WG228857,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\EXPB05A.m\EXPB05A.m
Meth Date : 25-May-2018 03:41 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 35
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01100	Weight of Sample (Kg)
M	21.184	% Moisture
Cpnd Variable		Local Compound Variable

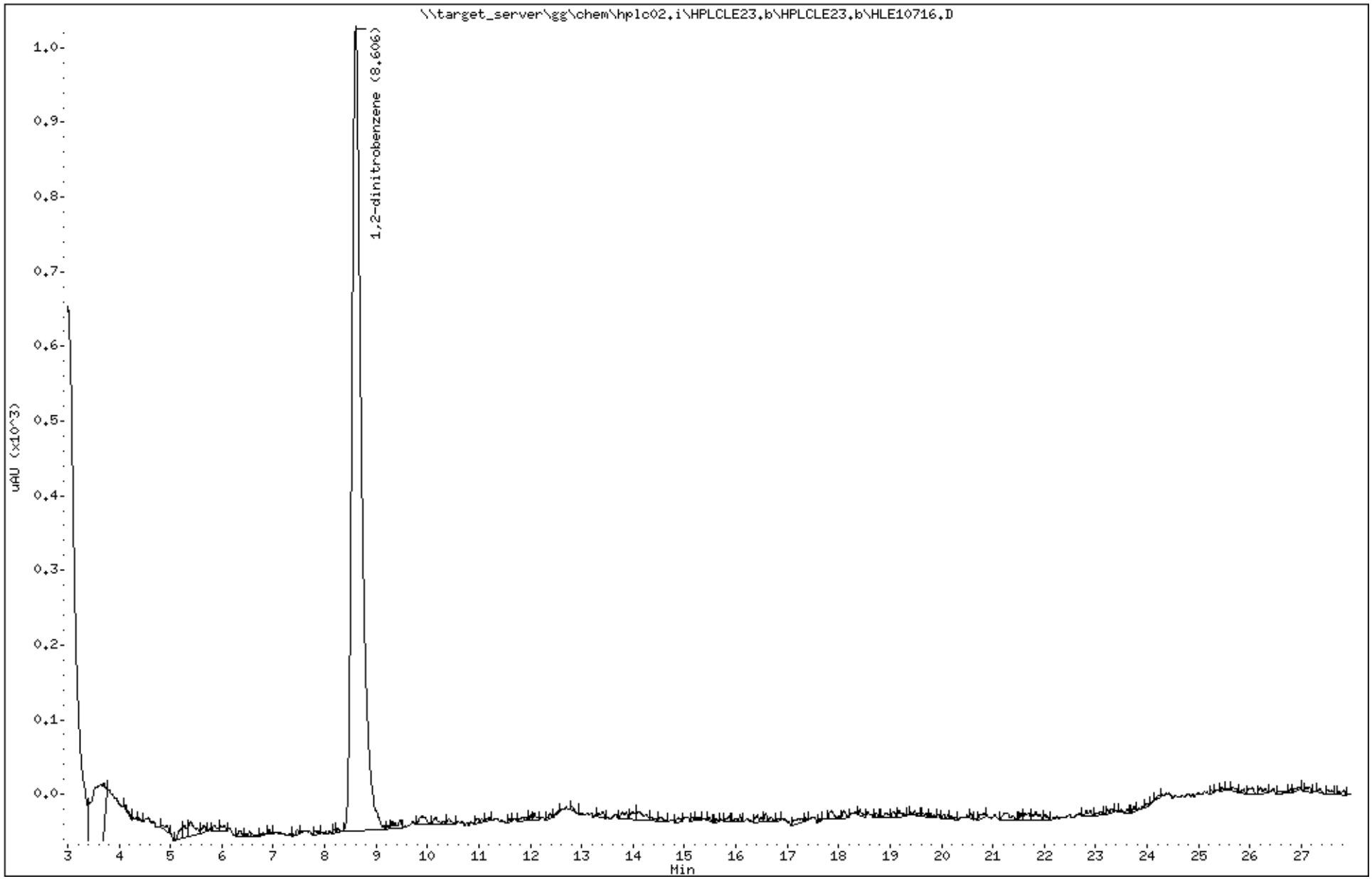
Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	REVIEW CODE
$ 2 1,2-dinitrobenzene	8.605	8.573	0.032	1078	0.23296	537	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HPLCLE23.b\HLE10716.D
Date : 24-MAY-2018 08:51
Client ID: HAAP-21B-BPA-SB08-4
Sample Info: SL4233-49

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 1000291

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4233-50
Client ID: CHAAP-21B-BPA-SB08-8
Project: Cornhusker Army Ammunition Plant
SDG: SL4233
Lab File ID: HLE10717.D

Sample Date: 15-MAY-18
Received Date: 16-MAY-18
Extract Date: 22-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228857

Analysis Date: 24-MAY-18
Analyst: AC
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 78.
Report Date: 31-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	55	ug/Kgdrywt	1	100	110	9.5	55.
RDX	U	55	ug/Kgdrywt	1	100	110	7.5	55.
1,3,5-Trinitrobenzene	U	55	ug/Kgdrywt	1	100	110	7.4	55.
1,3-Dinitrobenzene	U	55	ug/Kgdrywt	1	100	110	6.8	55.
Tetryl	U	55	ug/Kgdrywt	1	100	110	5.9	55.
Nitrobenzene	U	55	ug/Kgdrywt	1	100	110	24.	55.
2,4,6-Trinitrotoluene	U	55	ug/Kgdrywt	1	100	110	7.4	55.
2-Am-DNT	U	55	ug/Kgdrywt	1	100	110	23.	55.
4-Am-DNT	U	55	ug/Kgdrywt	1	100	110	19.	55.
2,6-Dinitrotoluene	U	55	ug/Kgdrywt	1	100	110	30.	55.
2,4-Dinitrotoluene	U	55	ug/Kgdrywt	1	100	110	16.	55.
2-Nitrotoluene	U	55	ug/Kgdrywt	1	100	110	13.	55.
3-Nitrotoluene	U	55	ug/Kgdrywt	1	100	110	8.7	55.
4-Nitrotoluene	U	55	ug/Kgdrywt	1	100	110	30.	55.
Nitroglycerin	U	440	ug/Kgdrywt	1	800	880	140	440
PETN	U	440	ug/Kgdrywt	1	800	880	120	440
1,2-Dinitrobenzene		91.6	%					

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10717.D
Report Date: 31-May-2018 05:00

Katahdin Analytical Services

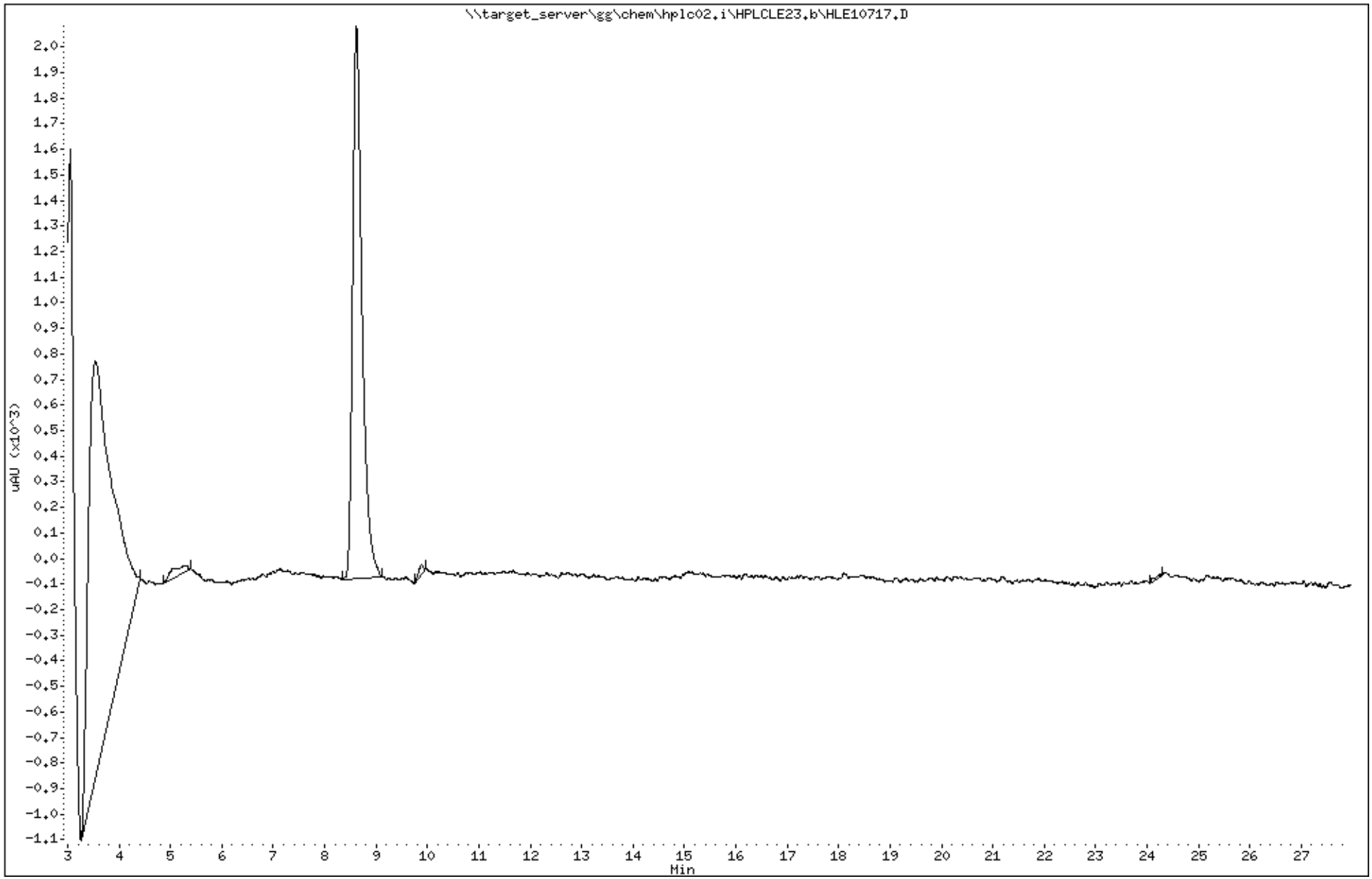
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10717.D
Lab Smp Id: SL4233-50 Client Smp ID: HAAP-21B-BPA-SB08-8
Inj Date : 24-MAY-2018 09:22
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-50
Misc Info : WG228942,WG228857,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\EXPB05A.m
Meth Date : 25-May-2018 03:43 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 36
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01160	Weight of Sample (Kg)
M	21.635	% Moisture
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10717.D
Date : 24-MAY-2018 09:22
Client ID: HAAP-21B-BPA-SB08-8
Instrument: hplc02.i
Sample Info: SL4233-50
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 1000294

Data File: HLE10717.D
Report Date: 31-May-2018 05:09

Katahdin Analytical Services

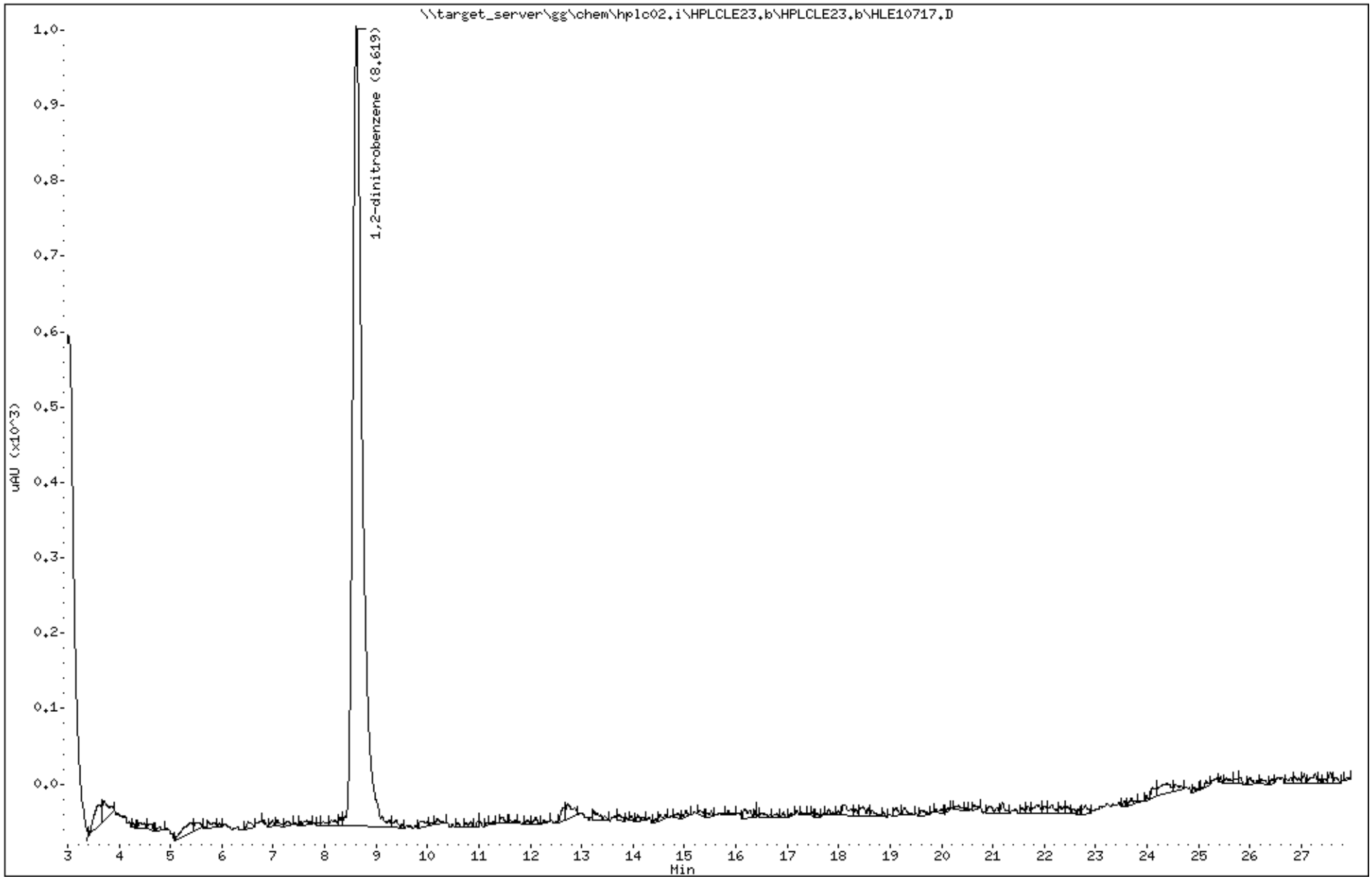
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HPLCLE23.b\HLE10717.D
Lab Smp Id: SL4233-50 Client Smp ID: HAAP-21B-BPA-SB08-8
Inj Date : 24-MAY-2018 09:22
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-50
Misc Info : WG228942,WG228857,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\EXPB05A.m\EXPB05A.m
Meth Date : 25-May-2018 03:41 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 36
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01160	Weight of Sample (Kg)
M	21.635	% Moisture
Cpnd Variable		Local Compound Variable

						CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	
Compounds	RT	EXP RT	DLT RT	RESPONSE				REVIEW CODE
$ 2 1,2-dinitrobenzene	8.618	8.573	0.045	1060		0.22907	504	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HPLCLE23.b\HLE10717.D
Date : 24-MAY-2018 09:22
Client ID: HAAP-21B-BPA-SB08-8
Instrument: hplc02.i
Sample Info: SL4233-50
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 1000296

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4233-51
Client ID: CHAAP-21B-BPA-SS07
Project: Cornhusker Army Ammunition Plant
SDG: SL4233
Lab File ID: HLE10718.D

Sample Date: 15-MAY-18
Received Date: 16-MAY-18
Extract Date: 22-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228857

Analysis Date: 24-MAY-18
Analyst: AC
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 75.
Report Date: 31-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	63	ug/Kgdrywt	1	100	130	11.	63.
RDX	U	63	ug/Kgdrywt	1	100	130	8.6	63.
1,3,5-Trinitrobenzene	U	63	ug/Kgdrywt	1	100	130	8.5	63.
1,3-Dinitrobenzene	U	63	ug/Kgdrywt	1	100	130	7.8	63.
Tetryl	U	63	ug/Kgdrywt	1	100	130	6.8	63.
Nitrobenzene	U	63	ug/Kgdrywt	1	100	130	28.	63.
2,4,6-Trinitrotoluene	U	63	ug/Kgdrywt	1	100	130	8.5	63.
2-Am-DNT	U	63	ug/Kgdrywt	1	100	130	27.	63.
4-Am-DNT	U	63	ug/Kgdrywt	1	100	130	22.	63.
2,6-Dinitrotoluene	U	63	ug/Kgdrywt	1	100	130	34.	63.
2,4-Dinitrotoluene	U	63	ug/Kgdrywt	1	100	130	19.	63.
2-Nitrotoluene	U	63	ug/Kgdrywt	1	100	130	15.	63.
3-Nitrotoluene	U	63	ug/Kgdrywt	1	100	130	10.	63.
4-Nitrotoluene	U	63	ug/Kgdrywt	1	100	130	34.	63.
Nitroglycerin	U	510	ug/Kgdrywt	1	800	1000	160	510
PETN	U	510	ug/Kgdrywt	1	800	1000	140	510
1,2-Dinitrobenzene		89.4	%					

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10718.D
Report Date: 31-May-2018 05:00

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10718.D
Lab Smp Id: SL4233-51 Client Smp ID: CHAAP-21B-BPA-SS07
Inj Date : 24-MAY-2018 09:53
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-51
Misc Info : WG228942,WG228857,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\EXPB05A.m
Meth Date : 25-May-2018 03:43 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 37
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

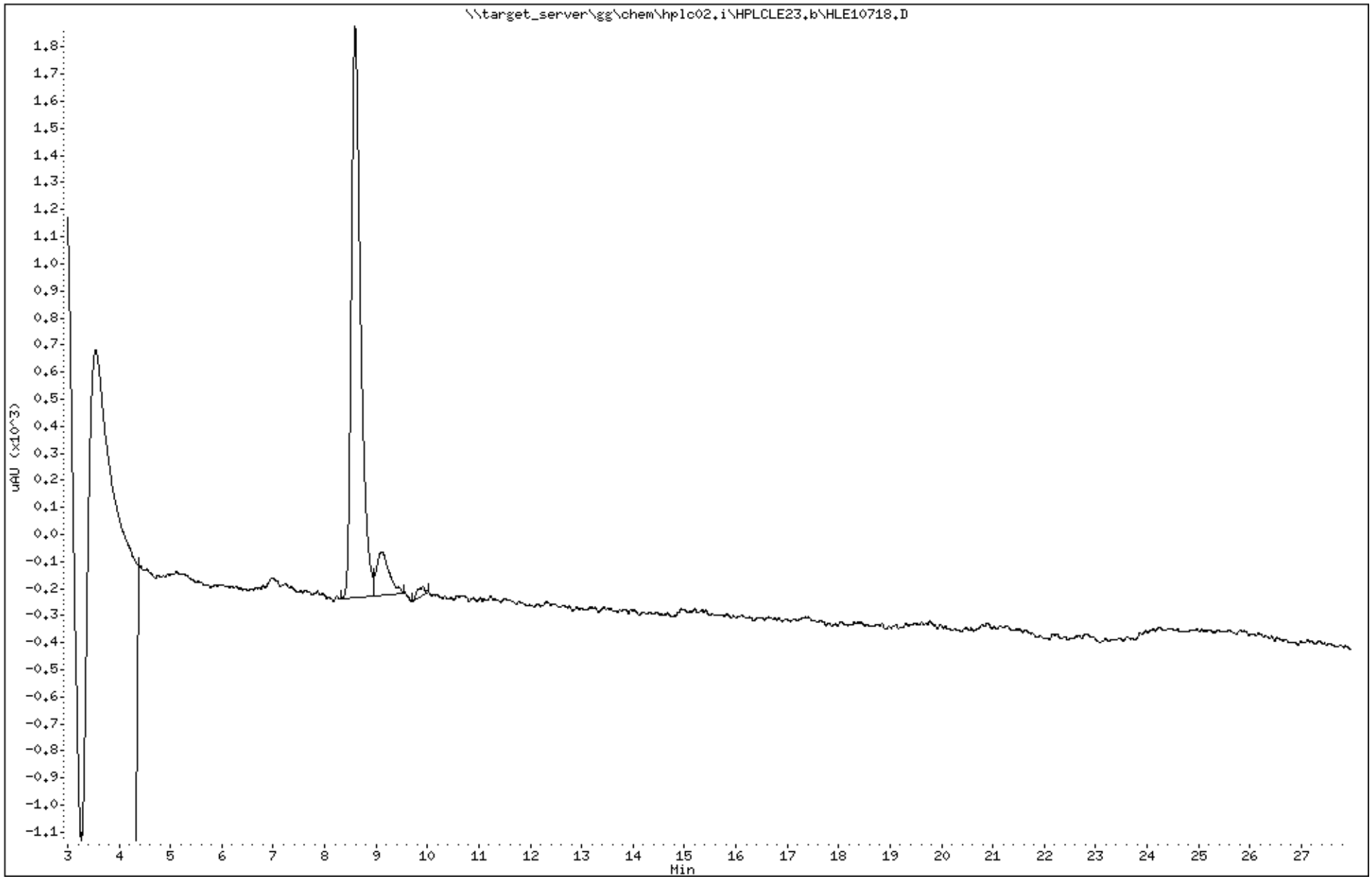
Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01050	Weight of Sample (Kg)
M	24.826	% Moisture
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10718.D
Date : 24-MAY-2018 09:53
Client ID: CHAAP-21B-BPA-SS07
Sample Info: SL4233-51

Instrument: hplc02.i

Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 1000299

Data File: HLE10718.D
Report Date: 31-May-2018 05:09

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HPLCLE23.b\HLE10718.D
Lab Smp Id: SL4233-51 Client Smp ID: CHAAP-21B-BPA-SS07
Inj Date : 24-MAY-2018 09:53
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-51
Misc Info : WG228942,WG228857,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\EXPB05A.m\EXPB05A.m
Meth Date : 25-May-2018 03:41 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 37
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01050	Weight of Sample (Kg)
M	24.826	% Moisture
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	REVIEW CODE
$ 2 1,2-dinitrobenzene	8.592	8.573	0.019	1033	0.22323	566	
~~11 4-AM-DNT~~	~~9.126~~	~~9.153~~	~~-0.027~~	~~309~~	~~0.07182~~	~~182(a)~~	NC

QC Flag Legend

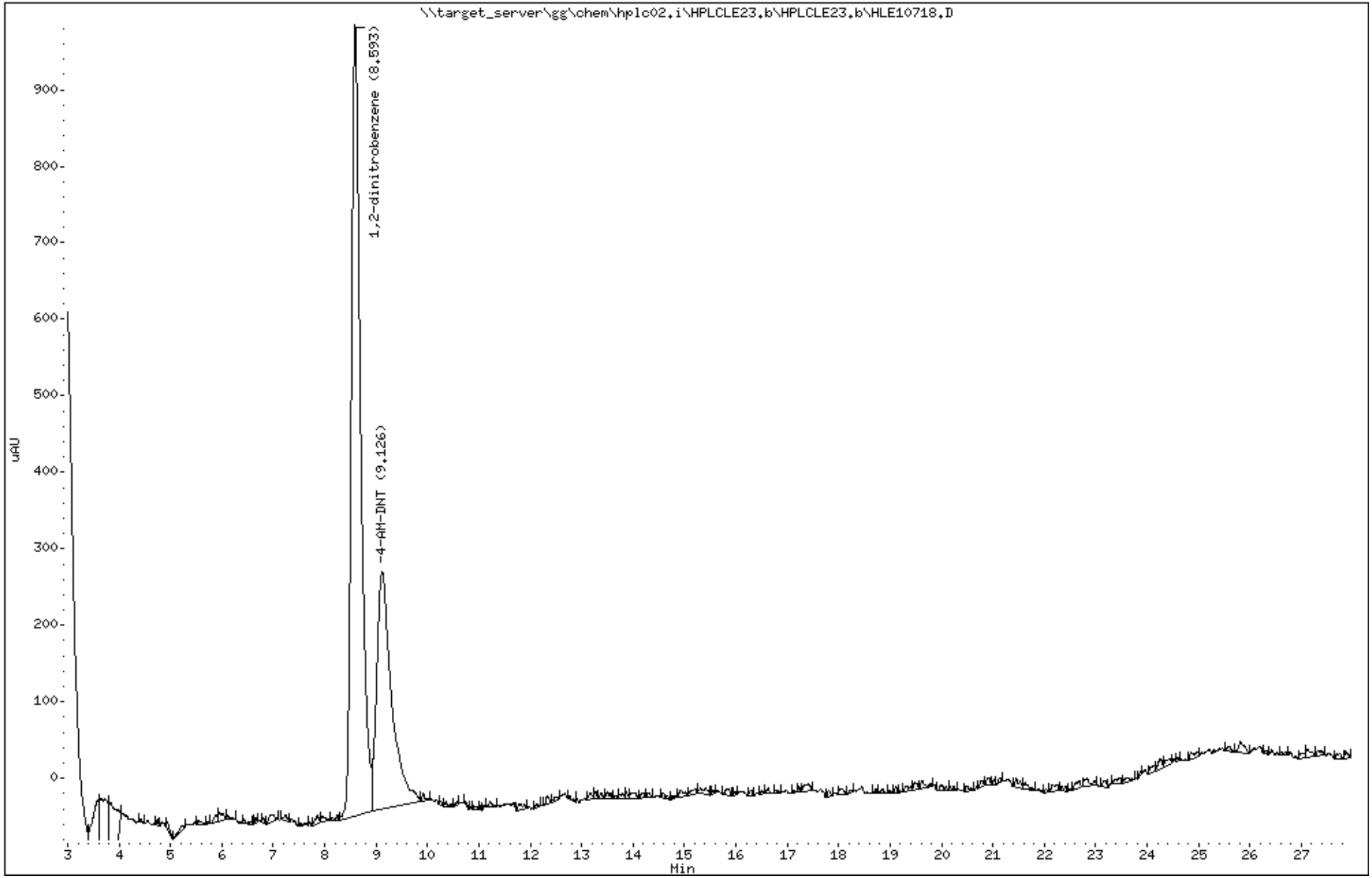
a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

AAB
7:23 am, May 31, 2018

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HPLCLE23.b\HLE10718.D
Date : 24-MAY-2018 09:53
Client ID: CHAAP-21B-BPA-SS07
Sample Info: SL4233-51

Instrument: hplc02.i

Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 1000301

Data File: HLE10825.D
Report Date: 31-May-2018 05:46

Katahdin Analytical Services

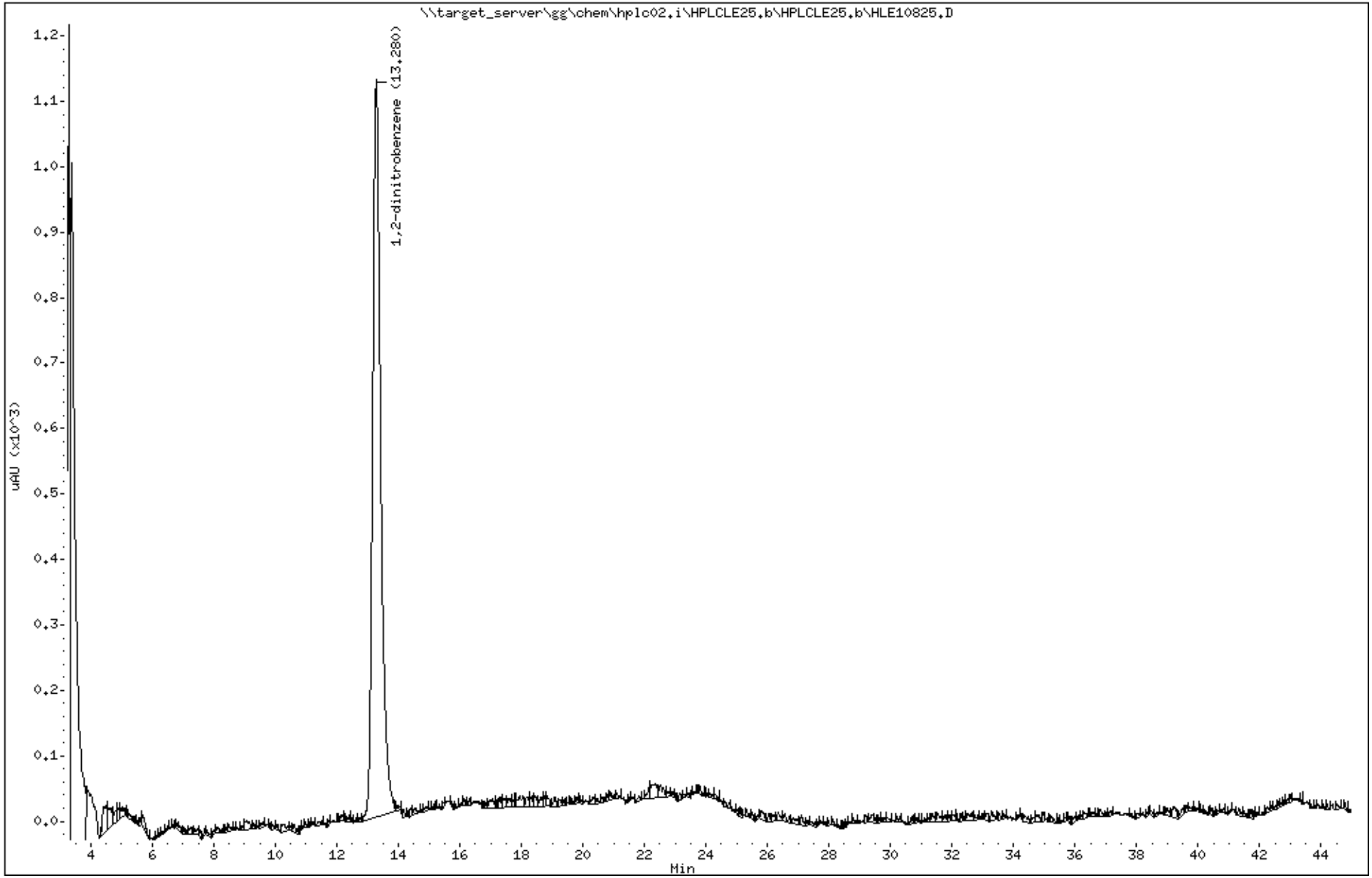
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE25.b\HPLCLE25.b\HLE10825.D
Lab Smp Id: SL4233-51C Client Smp ID: CHAAP-21B-BPA-SS07
Inj Date : 27-MAY-2018 11:31
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-51C
Misc Info : WG228942,WG228857,WG210620-13
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE25.b\E2016A.m\E2016A.m
Meth Date : 29-May-2018 16:32 abullentin Quant Type: ESTD
Cal Date : 01-AUG-2017 14:33 Cal File: HKH10014.D
Als bottle: 44
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01050	Weight of Sample (Kg)
M	24.826	% Moisture
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	REVIEW CODE
$ 2 1,2-dinitrobenzene	13.280	13.228	0.052	1128	0.21111	535	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE25.b\HPLCLE25.b\HLE10825.D
Date : 27-MAY-2018 11:31
Client ID: CHAAP-21B-BPA-SS07
Instrument: hplc02.i
Sample Info: SL4233-51C
Operator: AC
Column phase: Acclaim Exp E2
Column diameter: 4.60



Katahdin Analytical Services 1000303

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4233-52
Client ID: CHAAP-21B-BPA-SB07-4
Project: Cornhusker Army Ammunition Plant
SDG: SL4233
Lab File ID: HLE10771.D

Sample Date: 15-MAY-18
Received Date: 16-MAY-18
Extract Date: 22-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228857

Analysis Date: 25-MAY-18
Analyst: AC
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 78.
Report Date: 31-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	61	ug/Kgdrywt	1	100	120	10.	61.
RDX	U	61	ug/Kgdrywt	1	100	120	8.3	61.
1,3,5-Trinitrobenzene	U	61	ug/Kgdrywt	1	100	120	8.1	61.
1,3-Dinitrobenzene	U	61	ug/Kgdrywt	1	100	120	7.5	61.
Tetryl	U	61	ug/Kgdrywt	1	100	120	6.6	61.
Nitrobenzene	U	61	ug/Kgdrywt	1	100	120	27.	61.
2,4,6-Trinitrotoluene	U	61	ug/Kgdrywt	1	100	120	8.1	61.
2-Am-DNT	U	61	ug/Kgdrywt	1	100	120	26.	61.
4-Am-DNT	U	61	ug/Kgdrywt	1	100	120	21.	61.
2,6-Dinitrotoluene	U	61	ug/Kgdrywt	1	100	120	33.	61.
2,4-Dinitrotoluene	U	61	ug/Kgdrywt	1	100	120	18.	61.
2-Nitrotoluene	U	61	ug/Kgdrywt	1	100	120	14.	61.
3-Nitrotoluene	U	61	ug/Kgdrywt	1	100	120	9.6	61.
4-Nitrotoluene	U	61	ug/Kgdrywt	1	100	120	33.	61.
Nitroglycerin	U	480	ug/Kgdrywt	1	800	970	150	480
PETN	U	480	ug/Kgdrywt	1	800	970	130	480
1,2-Dinitrobenzene		94.6	%					

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE24.b\HLE10771.D
Report Date: 31-May-2018 05:15

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE24.b\HLE10771.D
Lab Smp Id: SL4233-52 Client Smp ID: HAAP-21B-BPA-SB07-4
Inj Date : 25-MAY-2018 14:12
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-52
Misc Info : WG228942,WG228857,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE24.b\EXPB05A.m
Meth Date : 29-May-2018 10:35 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 90
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01060	Weight of Sample (Kg)
M	22.347	% Moisture
Cpnd Variable		Local Compound Variable

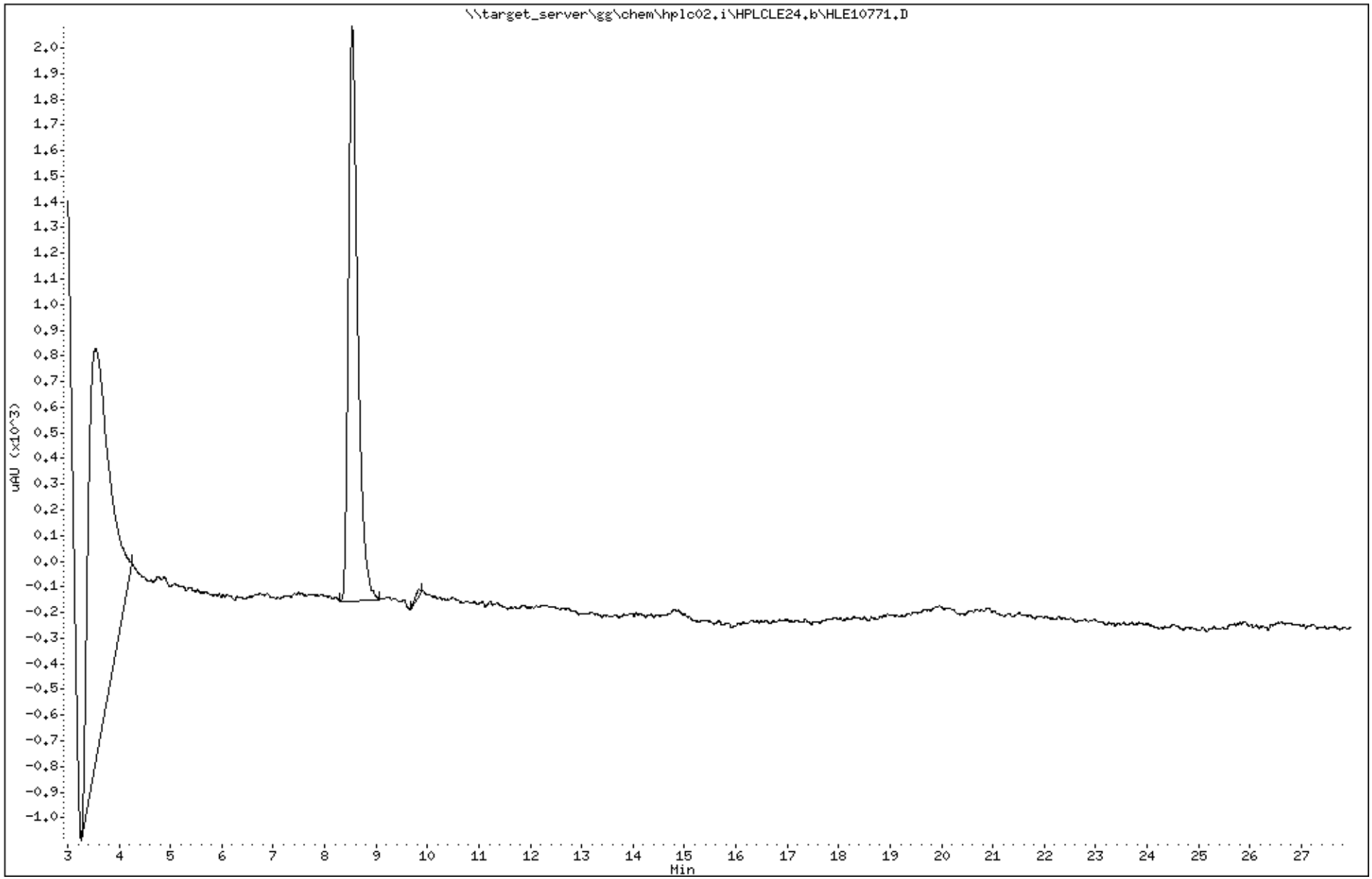
Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE24.b\HLE10771.D
Date : 25-MAY-2018 14:12
Client ID: HAAP-21B-BPA-SB07-4
Sample Info: SL4233-52

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 1000306

Data File: HLE10771.D
Report Date: 31-May-2018 05:18

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE24.b\HPLCLE24.b\HLE10771.D
Lab Smp Id: SL4233-52 Client Smp ID: HAAP-21B-BPA-SB07-4
Inj Date : 25-MAY-2018 14:12
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-52
Misc Info : WG228942,WG228857,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE24.b\EXPB05A.m\EXPB05A.m
Meth Date : 29-May-2018 10:18 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 90
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01060	Weight of Sample (Kg)
M	22.347	% Moisture
Cpnd Variable		Local Compound Variable

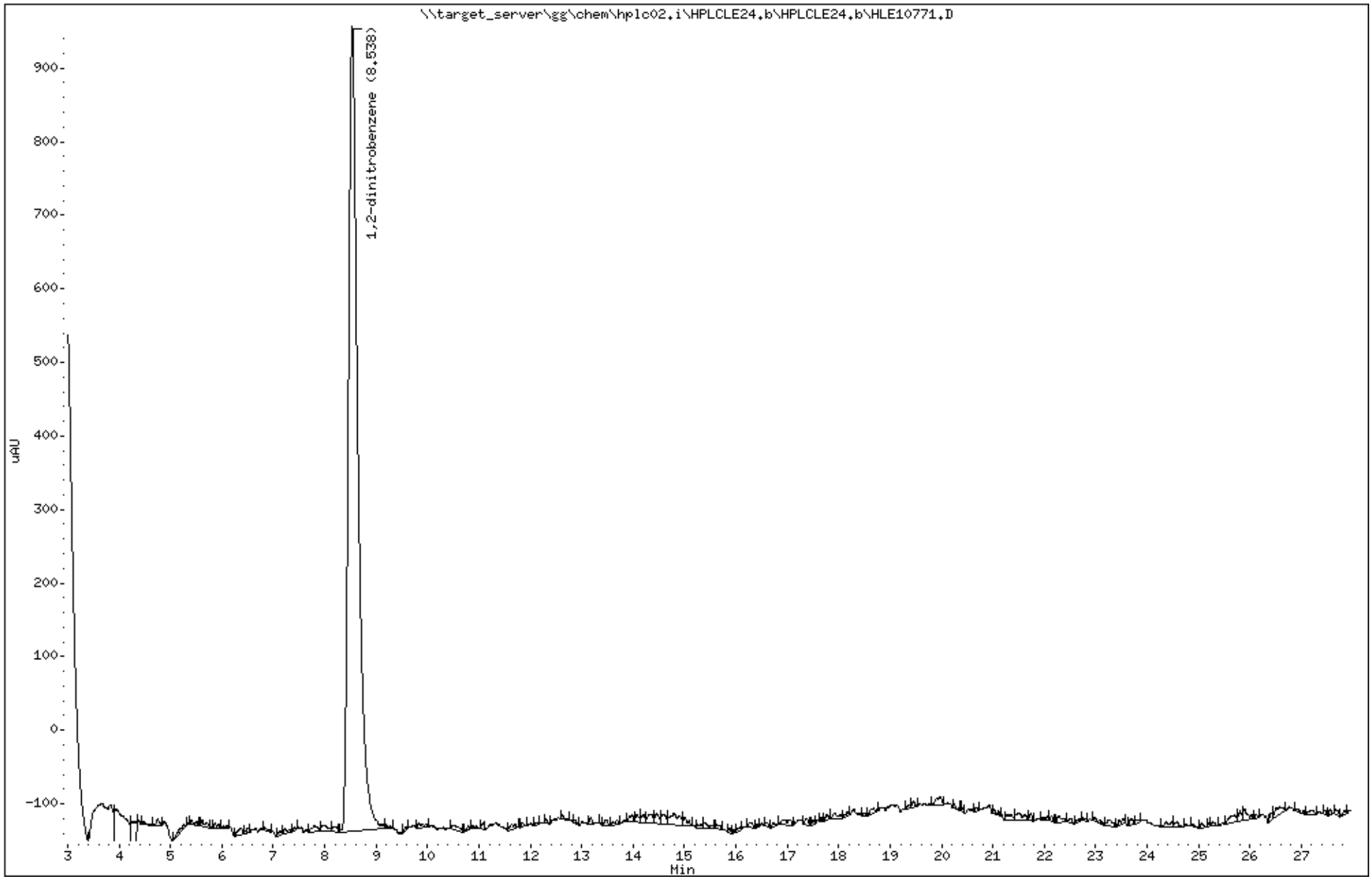
Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	REVIEW CODE
$ 2 1,2-dinitrobenzene	8.537	8.543	-0.006	1093	0.23620	574	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE24.b\HPLCLE24.b\HLE10771.D
Date : 25-MAY-2018 14:12
Client ID: HAAP-21B-BPA-SB07-4
Sample Info: SL4233-52

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 1000308

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4233-53
Client ID: CHAAP-21B-BPA-SB07-8
Project: Cornhusker Army Ammunition Plant
SDG: SL4233
Lab File ID: HLE10719.D

Sample Date: 15-MAY-18
Received Date: 16-MAY-18
Extract Date: 22-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228857

Analysis Date: 24-MAY-18
Analyst: AC
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 74.
Report Date: 31-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	50	ug/Kgdrywt	1	100	99.	8.6	50.
RDX	U	50	ug/Kgdrywt	1	100	99.	6.8	50.
1,3,5-Trinitrobenzene	U	50	ug/Kgdrywt	1	100	99.	6.7	50.
1,3-Dinitrobenzene	U	50	ug/Kgdrywt	1	100	99.	6.2	50.
Tetryl	U	50	ug/Kgdrywt	1	100	99.	5.4	50.
Nitrobenzene	U	50	ug/Kgdrywt	1	100	99.	22.	50.
2,4,6-Trinitrotoluene	U	50	ug/Kgdrywt	1	100	99.	6.7	50.
2-Am-DNT	U	50	ug/Kgdrywt	1	100	99.	21.	50.
4-Am-DNT	U	50	ug/Kgdrywt	1	100	99.	17.	50.
2,6-Dinitrotoluene	U	50	ug/Kgdrywt	1	100	99.	27.	50.
2,4-Dinitrotoluene	U	50	ug/Kgdrywt	1	100	99.	15.	50.
2-Nitrotoluene	U	50	ug/Kgdrywt	1	100	99.	12.	50.
3-Nitrotoluene	U	50	ug/Kgdrywt	1	100	99.	7.8	50.
4-Nitrotoluene	U	50	ug/Kgdrywt	1	100	99.	27.	50.
Nitroglycerin	U	400	ug/Kgdrywt	1	800	800	120	400
PETN	U	400	ug/Kgdrywt	1	800	800	110	400
1,2-Dinitrobenzene		93.8	%					

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10719.D
Report Date: 31-May-2018 05:00

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10719.D
Lab Smp Id: SL4233-53 Client Smp ID: HAAP-21B-BPA-SB07-8
Inj Date : 24-MAY-2018 10:24
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-53
Misc Info : WG228942,WG228857,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\EXPB05A.m
Meth Date : 25-May-2018 03:43 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 38
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01350	Weight of Sample (Kg)
M	25.544	% Moisture
Cpnd Variable		Local Compound Variable

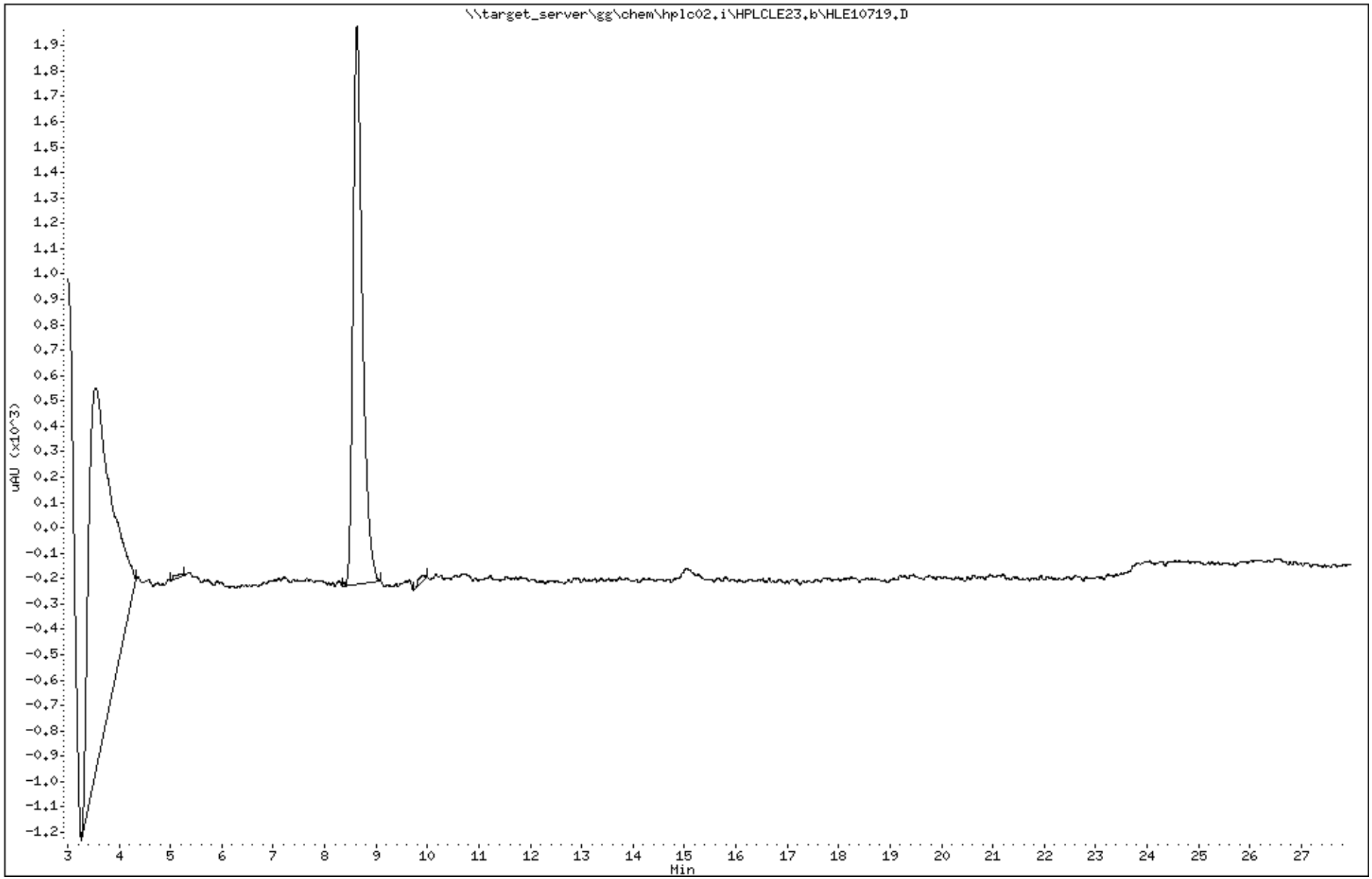
Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10719.D
Date : 24-MAY-2018 10:24
Client ID: HAAP-21B-BPA-SB07-8
Sample Info: SL4233-53

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 1000311

Data File: HLE10719.D
Report Date: 31-May-2018 05:09

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HPLCLE23.b\HLE10719.D
Lab Smp Id: SL4233-53 Client Smp ID: HAAP-21B-BPA-SB07-8
Inj Date : 24-MAY-2018 10:24
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-53
Misc Info : WG228942,WG228857,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\EXPB05A.m\EXPB05A.m
Meth Date : 25-May-2018 03:41 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 38
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

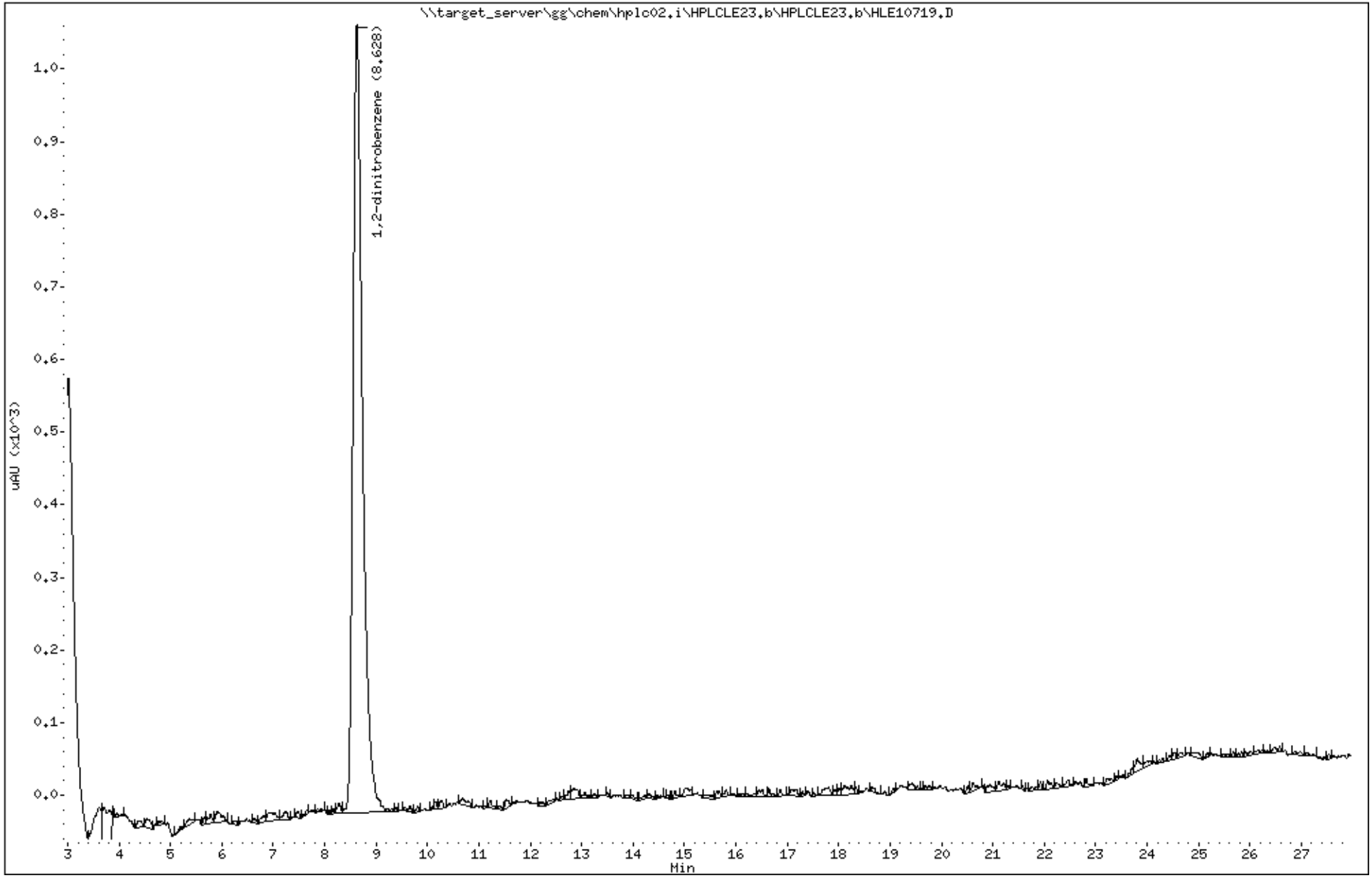
Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01350	Weight of Sample (Kg)
M	25.544	% Moisture
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	REVIEW CODE
$ 2 1,2-dinitrobenzene	8.627	8.573	0.054	1085	0.23447	466	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HPLCLE23.b\HLE10719.D
Date : 24-MAY-2018 10:24
Client ID: HAAP-21B-BPA-SB07-8
Sample Info: SL4233-53

Instrument: hplc02.i

Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 1000313

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ATI, Inc.
Lab ID: SL4233-54
Client ID: CHAAP-EB-051518
Project: Cornhusker Army Ammunition Plant
SDG: SL4233
Lab File ID: HLE10634.D

Sample Date: 15-MAY-18
Received Date: 16-MAY-18
Extract Date: 21-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330
Lab Prep Batch: WG228769

Analysis Date: 22-MAY-18
Analyst: AC
Analysis Method: SW846 8330B
Matrix: AQ
% Solids: NA
Report Date: 31-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	0.12	ug/L	1	.25	0.25	0.043	0.12
RDX	U	0.12	ug/L	1	.25	0.25	0.046	0.12
1,3,5-Trinitrobenzene	U	0.12	ug/L	1	.25	0.25	0.040	0.12
1,3-Dinitrobenzene	U	0.12	ug/L	1	.25	0.25	0.045	0.12
Tetryl	U	0.12	ug/L	1	.25	0.25	0.060	0.12
Nitrobenzene	U	0.12	ug/L	1	.25	0.25	0.071	0.12
2,4,6-Trinitrotoluene	U	0.12	ug/L	1	.25	0.25	0.064	0.12
4-Am-DNT	U	0.12	ug/L	1	.25	0.25	0.053	0.12
2-Am-DNT	U	0.12	ug/L	1	.25	0.25	0.038	0.12
2,6-Dinitrotoluene	U	0.12	ug/L	1	.25	0.25	0.056	0.12
2,4-Dinitrotoluene	U	0.12	ug/L	1	.25	0.25	0.052	0.12
2-Nitrotoluene	U	0.12	ug/L	1	.25	0.25	0.071	0.12
4-Nitrotoluene	U	0.12	ug/L	1	.25	0.25	0.060	0.12
3-Nitrotoluene	U	0.12	ug/L	1	.25	0.25	0.063	0.12
Nitroglycerin	U	2.0	ug/L	1	4	4.0	0.67	2.0
PETN	U	2.0	ug/L	1	4	4.0	0.58	2.0
1,2-Dinitrobenzene		86.2	%					

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10634.D
Report Date: 31-May-2018 04:36

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10634.D
Lab Smp Id: SL4233-54 Client Smp ID: CHAAP-EB-051518
Inj Date : 22-MAY-2018 13:13
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-54
Misc Info : WG228942,WG228769,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\EXPB05A.m
Meth Date : 23-May-2018 13:50 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 53
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

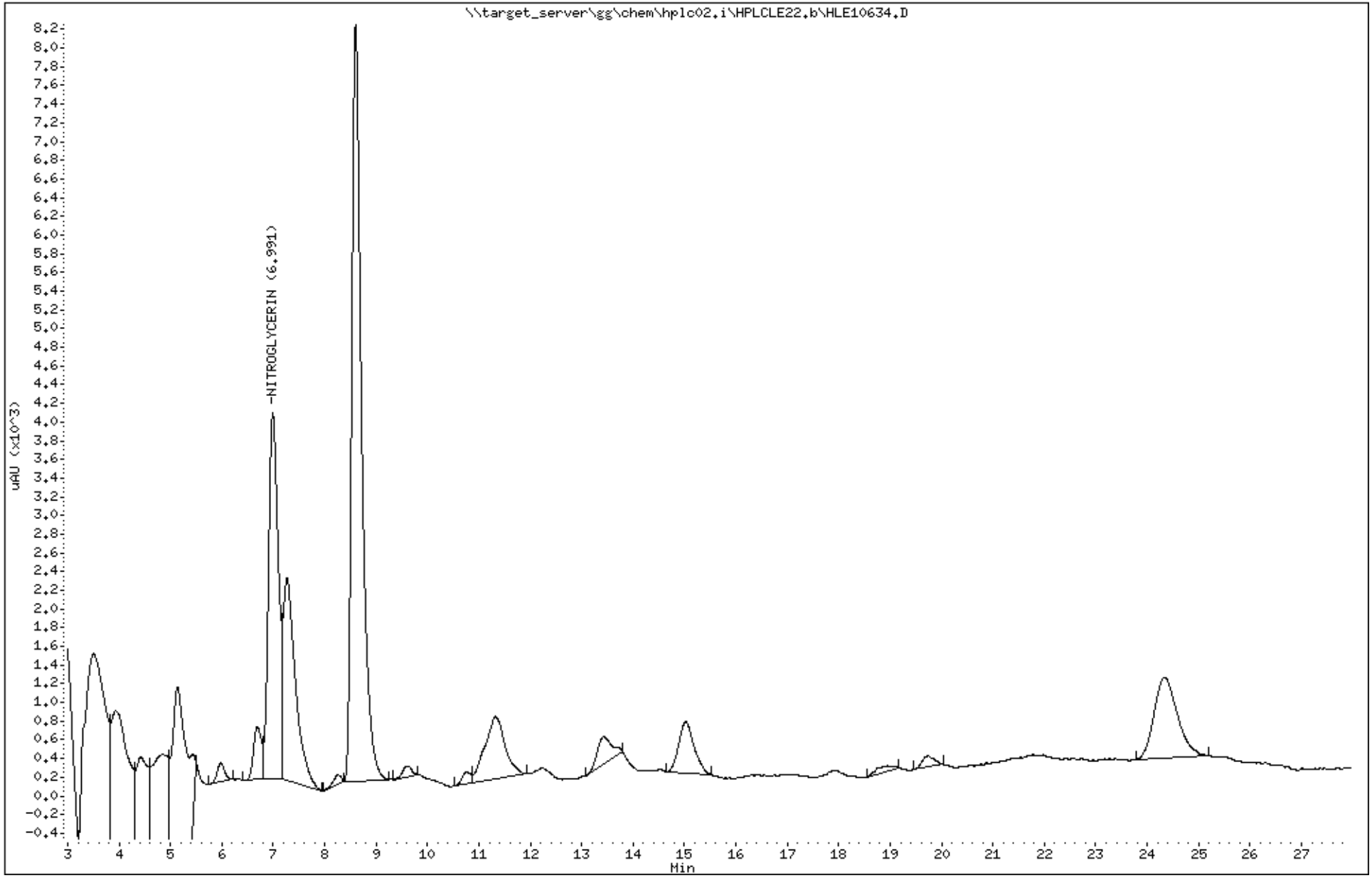
Concentration Formula: Amt * DF * 1000*(Vt/Vo) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00500	Final Volume (L)
Vo	0.50000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/L)	
8 NITROGLYCERIN	6.990	7.001	-0.011	3917	0.71048	7.10	NC

7:23 am, May 31, 2018

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10634.D
Date : 22-MAY-2018 13:13
Client ID: CHAAP-EB-051518
Instrument: hplc02.i
Sample Info: SL4233-54
Purge Volume: 0.5
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 1000316

Data File: HLE10634.D
Report Date: 31-May-2018 04:39

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HPLCLE22.b\HLE10634.D
Lab Smp Id: SL4233-54 Client Smp ID: CHAAP-EB-051518
Inj Date : 22-MAY-2018 13:13
Operator : AC Inst ID: hplc02.i
Smp Info : SL4233-54
Misc Info : WG228942,WG228769,WG225143-5
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\EXPB05A.m\EXPB05A.m
Meth Date : 23-May-2018 13:40 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 53
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*(Vt/Vo) * CpndVariable

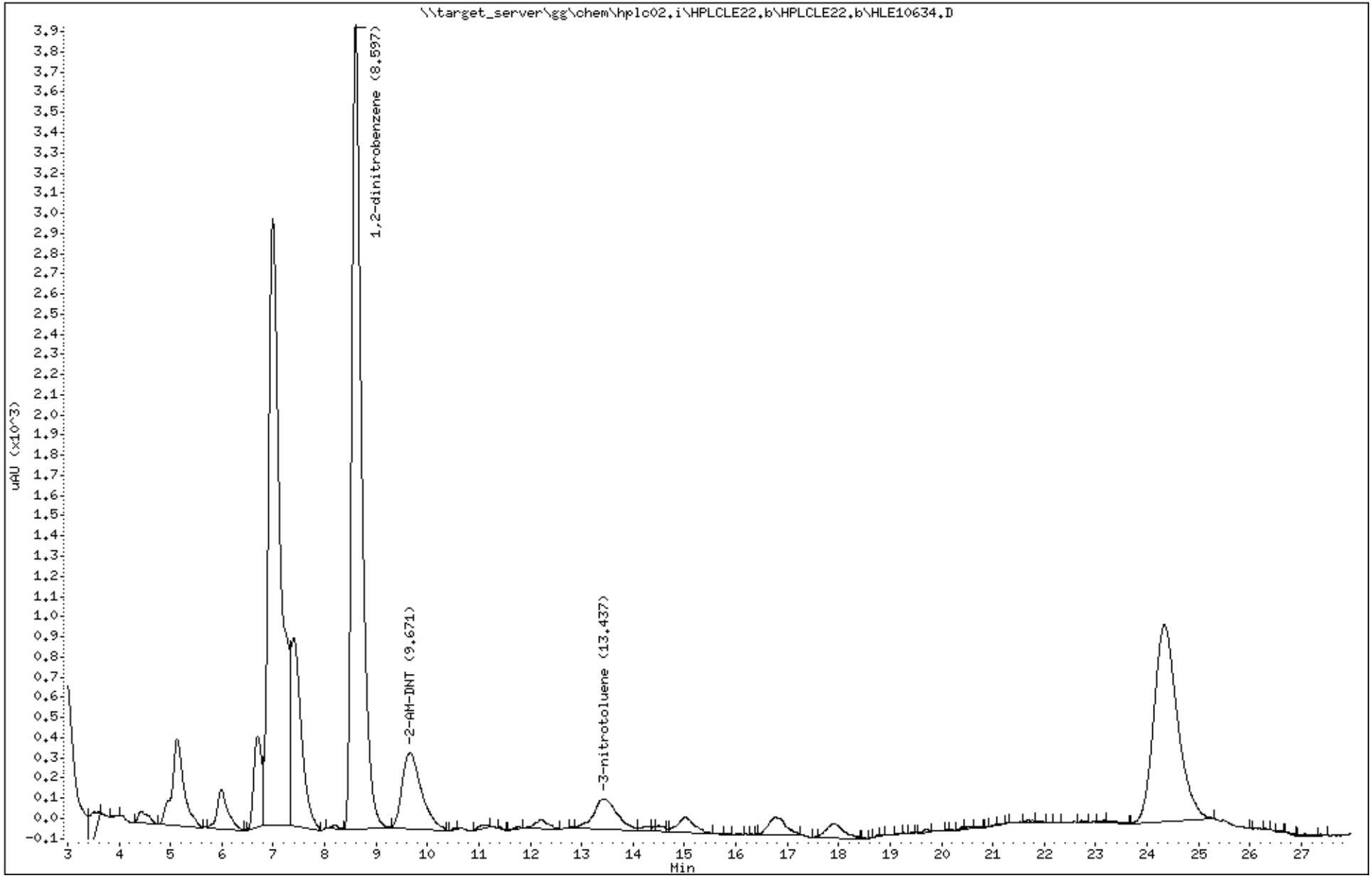
Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00500	Final Volume (L)
Vo	0.50000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/L)	REVIEW CODE
$ 2 1,2-dinitrobenzene	8.597	8.581	0.016	3988	0.86182	8.62	
~~12 2-AM-DNT~~	~~9.670~~	~~9.714~~	~~-0.044~~	~~378~~	~~0.06562~~	~~0.656~~	NC
~~17 3-nitrotoluene~~	~~13.437~~	~~13.394~~	~~0.043~~	~~149~~	~~0.04480~~	~~0.448~~	

AAB

7:23 am, May 31, 2018

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HPLCLE22.b\HLE10634.D
Date : 22-MAY-2018 13:13
Client ID: CHAAP-EB-051518
Instrument: hplc02.i
Sample Info: SL4233-54
Purge Volume: 0.5
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 1000318

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE29.b\HLE10831.D
Report Date: 31-May-2018 05:49

Katahdin Analytical Services

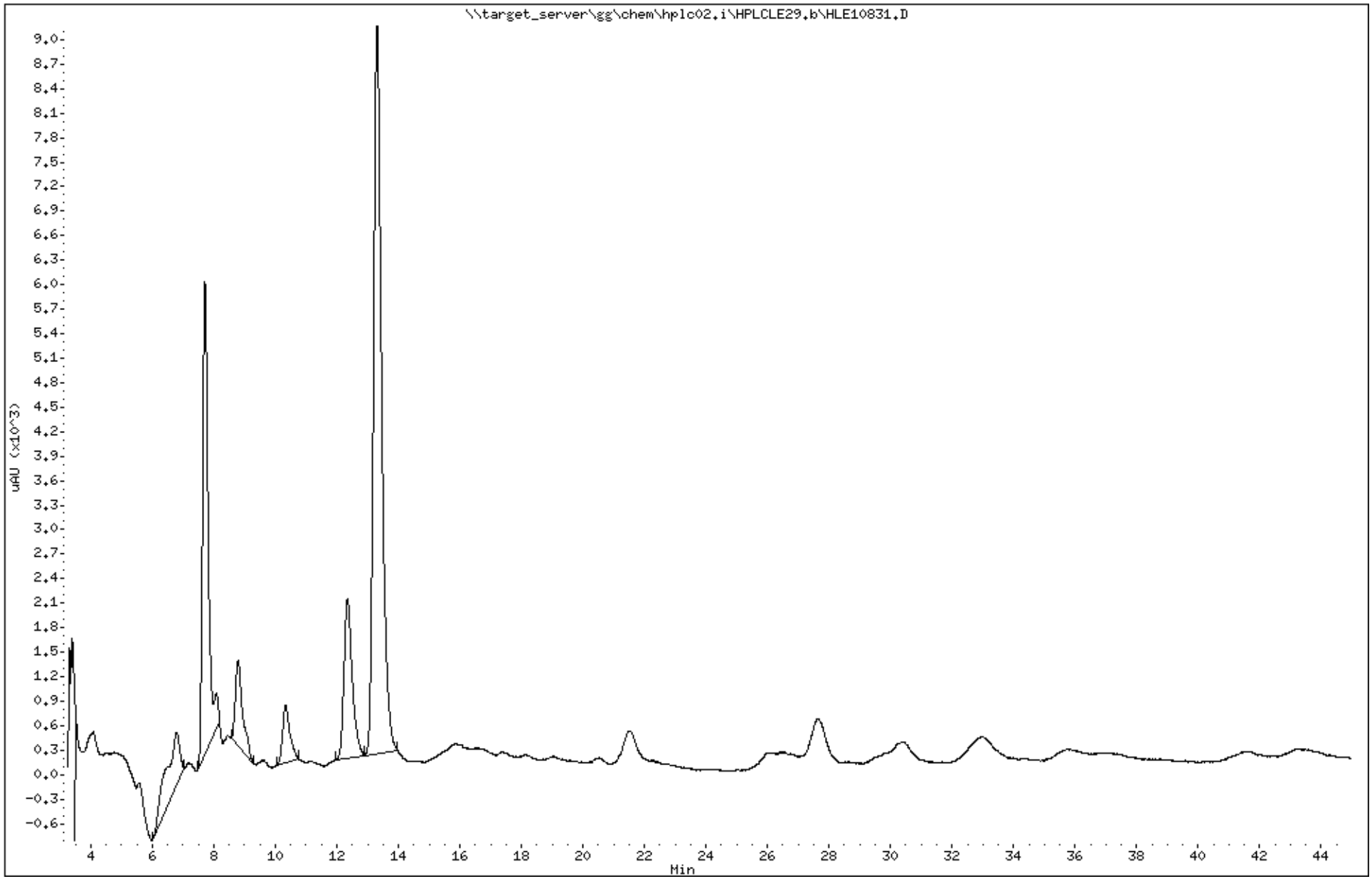
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE29.b\HLE10831.D
Lab Smp Id: SL4233-54C Client Smp ID: CHAAP-EB-051518
Inj Date : 29-MAY-2018 18:43
Operator : AAB Inst ID: hplc02.i
Smp Info : SL4233-54C
Misc Info : WG228942,WG228769,WG210620-13
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE29.b\E2016A.m
Meth Date : 30-May-2018 04:42 abullentin Quant Type: ESTD
Cal Date : 01-AUG-2017 14:33 Cal File: HKH10014.D
Als bottle: 95
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: NGPETN.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*(Vt/Vo) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00500	Final Volume (L)
Vo	0.50000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/L)	REVIEW CODE

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE29.b\HLE10831.D
Date : 29-MAY-2018 18:43
Client ID: CHAAP-EB-051518
Instrument: hplc02.i
Sample Info: SL4233-54C
Purge Volume: 0.5
Operator: AAB
Column phase: Acclaim Exp E2
Column diameter: 4.60



Katahdin Analytical Services 1000320

Data File: HLE10831.D
Report Date: 31-May-2018 05:52

Katahdin Analytical Services

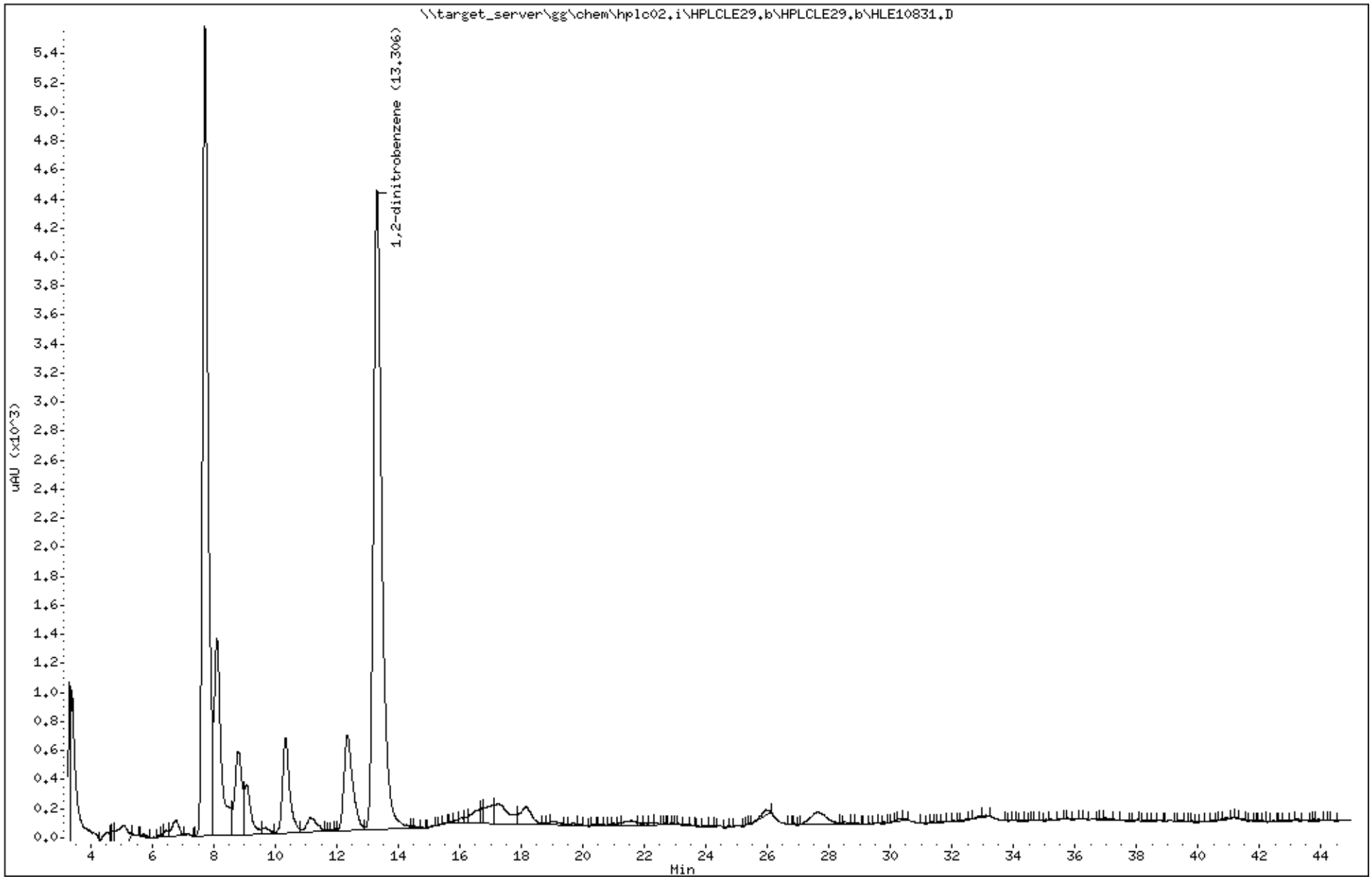
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE29.b\HPLCLE29.b\HLE10831.D
Lab Smp Id: SL4233-54C Client Smp ID: CHAAP-EB-051518
Inj Date : 29-MAY-2018 18:43
Operator : AAB Inst ID: hplc02.i
Smp Info : SL4233-54C
Misc Info : WG228942,WG228769,WG210620-13
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE29.b\E2016A.m\E2016A.m
Meth Date : 30-May-2018 04:40 abullentin Quant Type: ESTD
Cal Date : 01-AUG-2017 14:33 Cal File: HKH10014.D
Als bottle: 95
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*(Vt/Vo) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00500	Final Volume (L)
Vo	0.50000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

					CONCENTRATIONS		
					ON-COLUMN	FINAL	
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/mL)	(ug/L)	REVIEW CODE
$ 2 1,2-dinitrobenzene	13.306	13.294	0.012	4402	0.83044	8.30	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE29.b\HPLCLE29.b\HLE10831.D
Date : 29-MAY-2018 18:43
Client ID: CHAAP-EB-051518 Instrument: hplc02.i
Sample Info: SL4233-54C
Purge Volume: 0.5 Operator: AAB
Column phase: Acclaim Exp E2 Column diameter: 4.60



Katahdin Analytical Services 1000322

Standards Data Section

Katahdin
ANALYTICAL SERVICES

Form 6
Initial Calibration Summary

Lab Name : Katahdin Analytical Services
SDG: SL4233
Project : Cornhusker Army Ammunition Plant
Instrument ID: HPLC02
Lab File IDs : HKH10014.I HKH10013.I HKH10012.I HKH10011.I HKH10010.I HKH10009.I HKH10008.I
Calibration Date(s): 01-AUG-17 09:37
01-AUG-17 14:33

	0.100000(Level 1	0.200000(Level 2	0.400000(Level 3	1.0000 Level 4	2.0000 Level 5	0.000000(Level 6	0.000000(Level 7		New Crv	b	m1	%RSD	Max %RSD	
NITROGLYCERIN	387	842	1740	4623	9365	17883	35504		LNR	0.000e+00	4458	0.99971	0.99000	O
PETN	146	338	682	1700	3598	6996	13848		LNR	0.00110	1738	0.99984	0.99000	O

Legend: O = Kept Original Curve
Y = Failed Minimum RF
W = Failed %RSD Value

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P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://katahdinlab.com
sales@katahdinlab.com

Data File: \\target_server\gg\chem\hplc02.i\HPLCKH01B.b\HKH10016.D
Report Date: 02-Aug-2017 10:19

Katahdin Analytical Services

RECOVERY REPORT

Client Name: Client SDG: SDGa00508
Sample Matrix: LIQUID Fraction: Explosives
Lab Smp Id: WG210620-16
Level: LOW Operator: AAB
Data Type: LC DATA SampleType: LCS
SpikeList File: IND.spk Quant Type: ESTD
Sublist File: all.sub
Method File: \\target_server\gg\chem\hplc02.i\HPLCKH01B.b\E2016A.m
Misc Info: WG210620,WG210205,WG210620-13,SK6535-1

SPIKE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
3 Ethylene Glycol Di	20.0	20.4	102.14	80-120
8 NITROGLYCERIN	20.0	20.2	100.76	80-120
18 PETN	20.0	21.9	109.40	80-120

Data File: \\target_server\gg\chem\hplc02.i\HPLCKH01B.b\HKH10016.D
Report Date: 02-Aug-2017 10:19

Katahdin Analytical Services

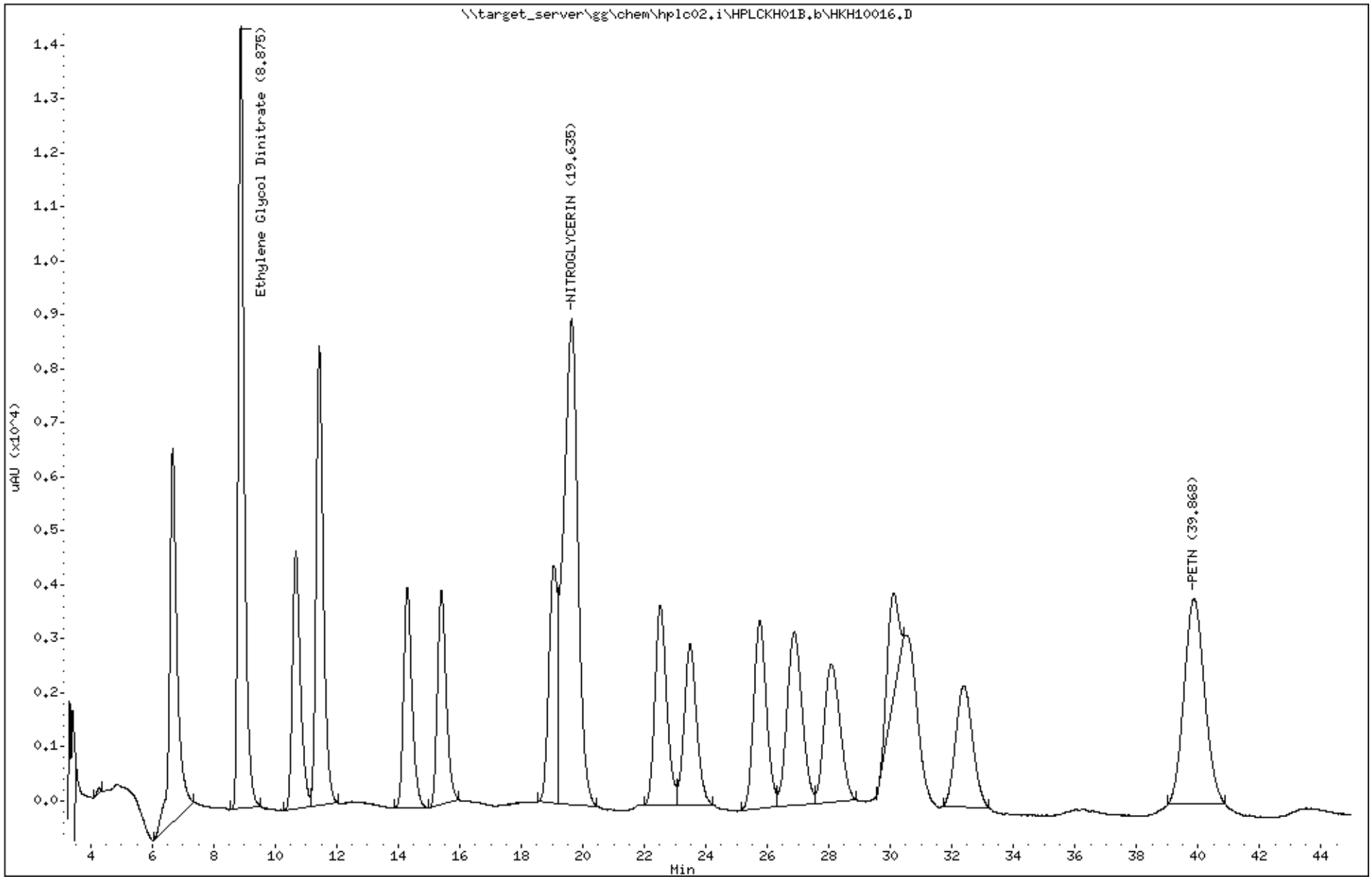
Data file : \\target_server\gg\chem\hplc02.i\HPLCKH01B.b\HKH10016.D
Lab Smp Id: WG210620-16
Inj Date : 01-AUG-2017 17:01
Operator : AAB   Inst ID: hplc02.i
Smp Info : WG210620-16,SK6535
Misc Info : WG210620,WG210205,WG210620-13,SK6535-1
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCKH01B.b\E2016A.m
Meth Date : 02-Aug-2017 09:48 hplc02.i   Quant Type: ESTD
Cal Date : 01-AUG-2017 14:33   Cal File: HKH10014.D
Als bottle: 30   QC Sample: LCS
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: all.sub
Target Version: 4.12

Concentration Formula: Amt * DF * 1000*(Vt/Vo) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00500	Final Volume (L)
Vo	0.50000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

						CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/L)	
Compounds	RT	EXP RT	DLT RT	RESPONSE				REVIEW CODE
3	Ethylene Glycol Dinitrate	8.874	8.878	-0.004	14487	2.04271	20.4	
8	NITROGLYCERIN	19.634	19.651	-0.017	8984	2.01523	20.2	
18	PETN	39.868	39.878	-0.010	3800	2.18806	21.9	

Data File: \\target_server\gg\chem\hplc02.i\HPLCKH01B.b\HKH10016.D
Date : 01-AUG-2017 17:01
Client ID:
Instrument: hplc02.i
Sample Info: WG210620-16,SK6535
Purge Volume: 0.5
Operator: AAB
Column phase: Acclaim Exp E2
Column diameter: 4.60



Katahdin Analytical Services 1000327

Data File: \\target_server\gg\chem\hplc02.i\HPLCKH01B.b\HKH10008.D
Report Date: 02-Aug-2017 09:49

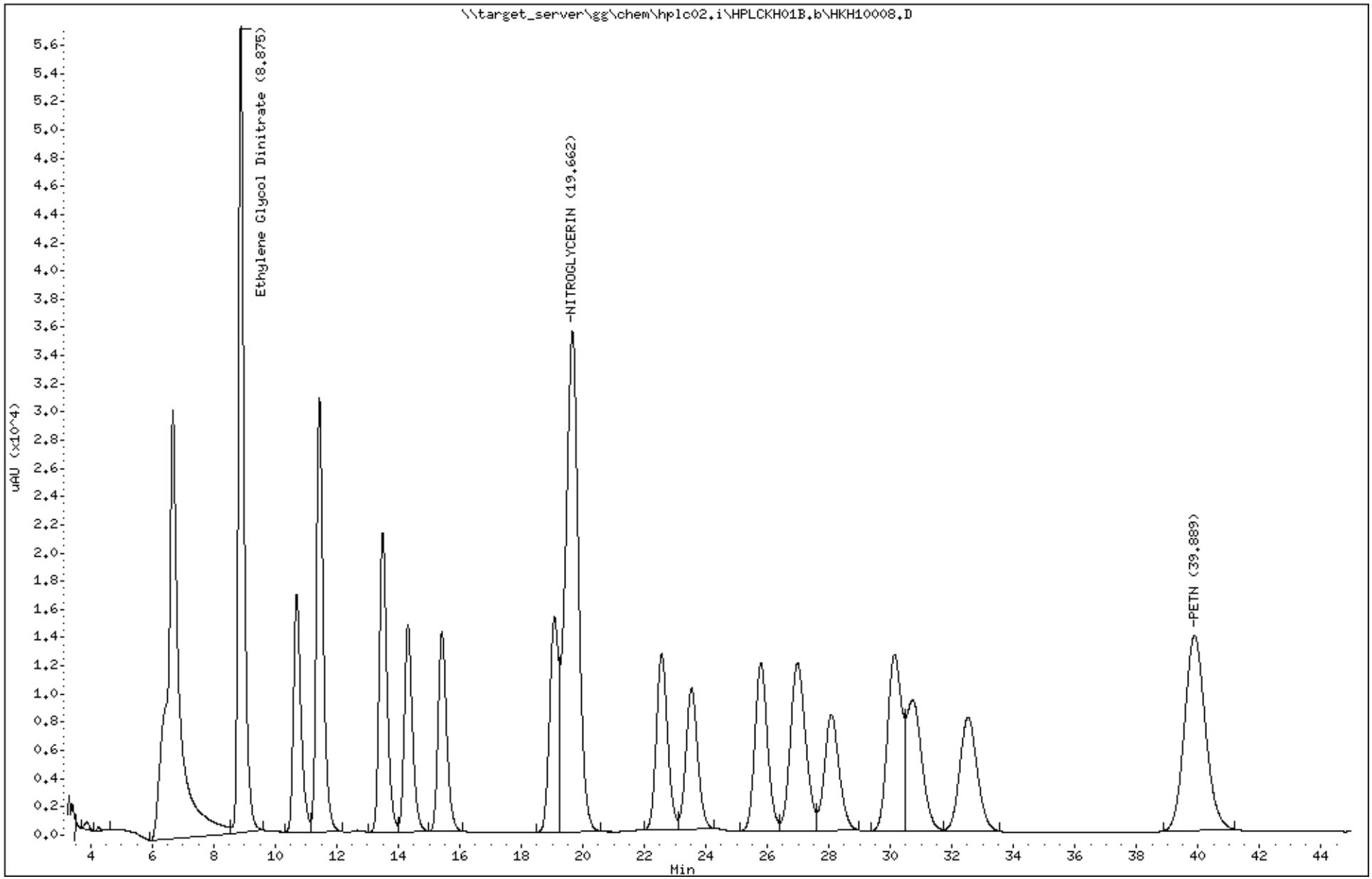
Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCKH01B.b\HKH10008.D
Lab Smp Id: WG210620-15
Inj Date : 01-AUG-2017 09:37
Operator : AAB   Inst ID: hplc02.i
Smp Info : WG210620-15
Misc Info :
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCKH01B.b\E2016A.m
Meth Date : 02-Aug-2017 09:48 hplc02.i   Quant Type: ESTD
Cal Date : 01-AUG-2017 09:37   Cal File: HKH10008.D
Als bottle: 1   Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: all.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable   Local Compound Variable

						AMOUNTS		
						CAL-AMT	ON-COL	
	Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/mL)	(ug/mL)	REVIEW CODE
3	Ethylene Glycol Dinitrate	8.875	8.878	-0.003	57193	8.00000	7.99	
8	NITROGLYCERIN	19.662	19.651	0.011	35504	8.00000	7.97	
18	PETN	39.888	39.878	0.010	13848	8.00000	7.99	

Data File: \\target_server\gg\chem\hplc02.i\HPLCKH01B.b\HKH10008.D
Date : 01-AUG-2017 09:37
Client ID:
Instrument: hplc02.i
Sample Info: WG210620-15
Purge Volume: 0.5
Operator: AAB
Column phase: Acclaim Exp E2
Column diameter: 4.60



Katahdin Analytical Services 1000329

Data File: \\target_server\gg\chem\hplc02.i\HPLCKH01B.b\HKH10009.D
Report Date: 02-Aug-2017 09:49

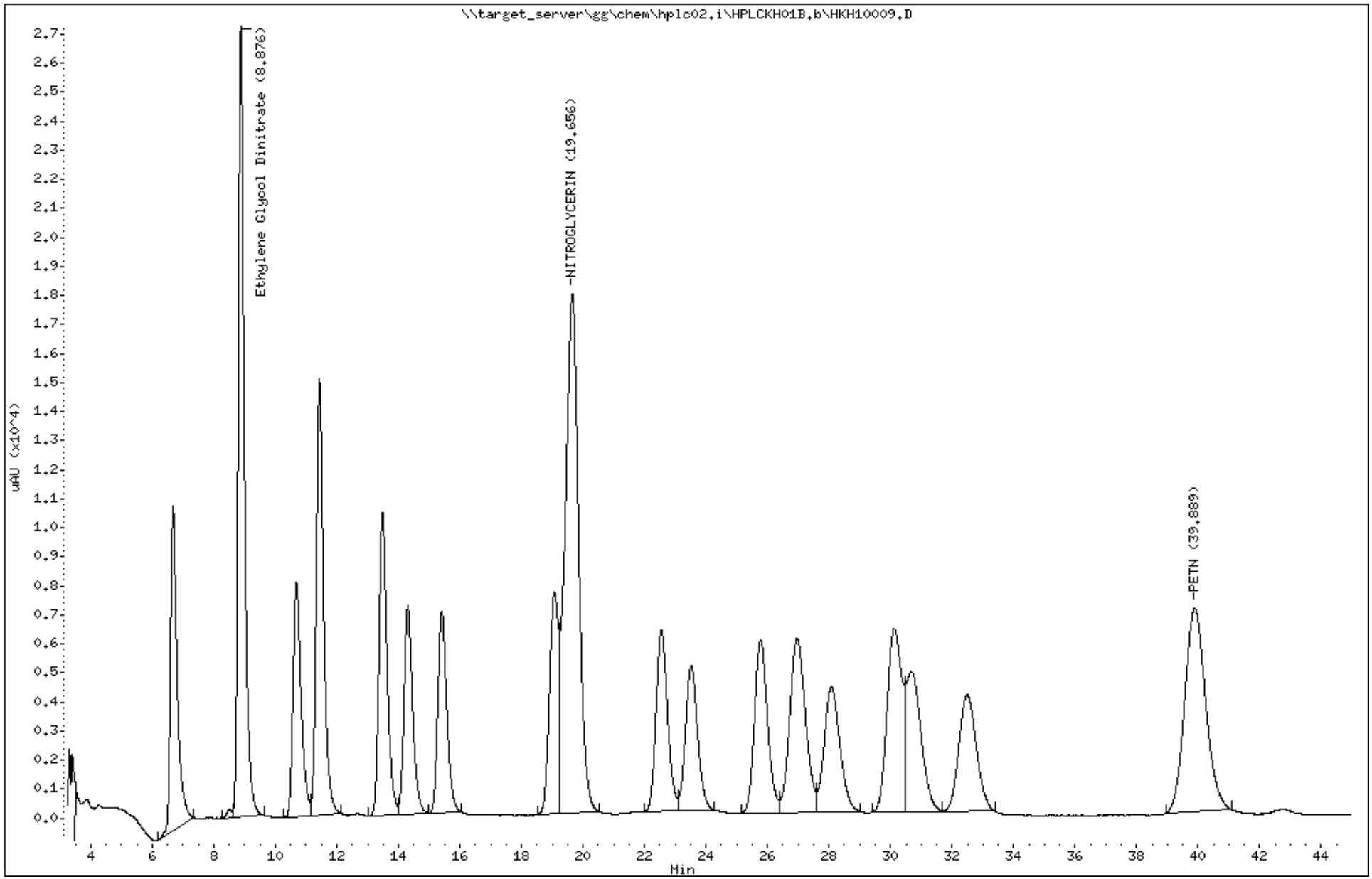
Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCKH01B.b\HKH10009.D
Lab Smp Id: WG210620-14
Inj Date : 01-AUG-2017 10:27
Operator : AAB   Inst ID: hplc02.i
Smp Info : WG210620-14
Misc Info :
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCKH01B.b\E2016A.m
Meth Date : 02-Aug-2017 09:48 hplc02.i   Quant Type: ESTD
Cal Date : 01-AUG-2017 10:27   Cal File: HKH10009.D
Als bottle: 1   Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: all.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable   Local Compound Variable

					AMOUNTS		
					CAL-AMT	ON-COL	
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/mL)	(ug/mL)	REVIEW CODE
3 Ethylene Glycol Dinitrate	8.875	8.878	-0.003	27233	4.00000	3.84	
8 NITROGLYCERIN	19.655	19.651	0.004	17883	4.00000	4.01	
18 PETN	39.889	39.878	0.011	6996	4.00000	4.01	

Data File: \\target_server\gg\chem\hplc02.i\HPLCKH01B.b\HKH10009.D
Date : 01-AUG-2017 10:27
Client ID:
Instrument: hplc02.i
Sample Info: WG210620-14
Purge Volume: 0.5
Operator: AAB
Column phase: Acclaim Exp E2
Column diameter: 4.60



Katahdin Analytical Services 1000331

Data File: \\target_server\gg\chem\hplc02.i\HPLCKH01B.b\HKH10010.D
Report Date: 02-Aug-2017 09:49

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCKH01B.b\HKH10010.D
Lab Smp Id: WG210620-13
Inj Date : 01-AUG-2017 11:16
Operator : AAB   Inst ID: hplc02.i
Smp Info : WG210620-13
Misc Info :
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCKH01B.b\E2016A.m
Meth Date : 02-Aug-2017 09:48 hplc02.i   Quant Type: ESTD
Cal Date : 09-FEB-2017 11:28   Cal File: HKB10080.D
Als bottle: 1   Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: all.sub
Target Version: 4.12

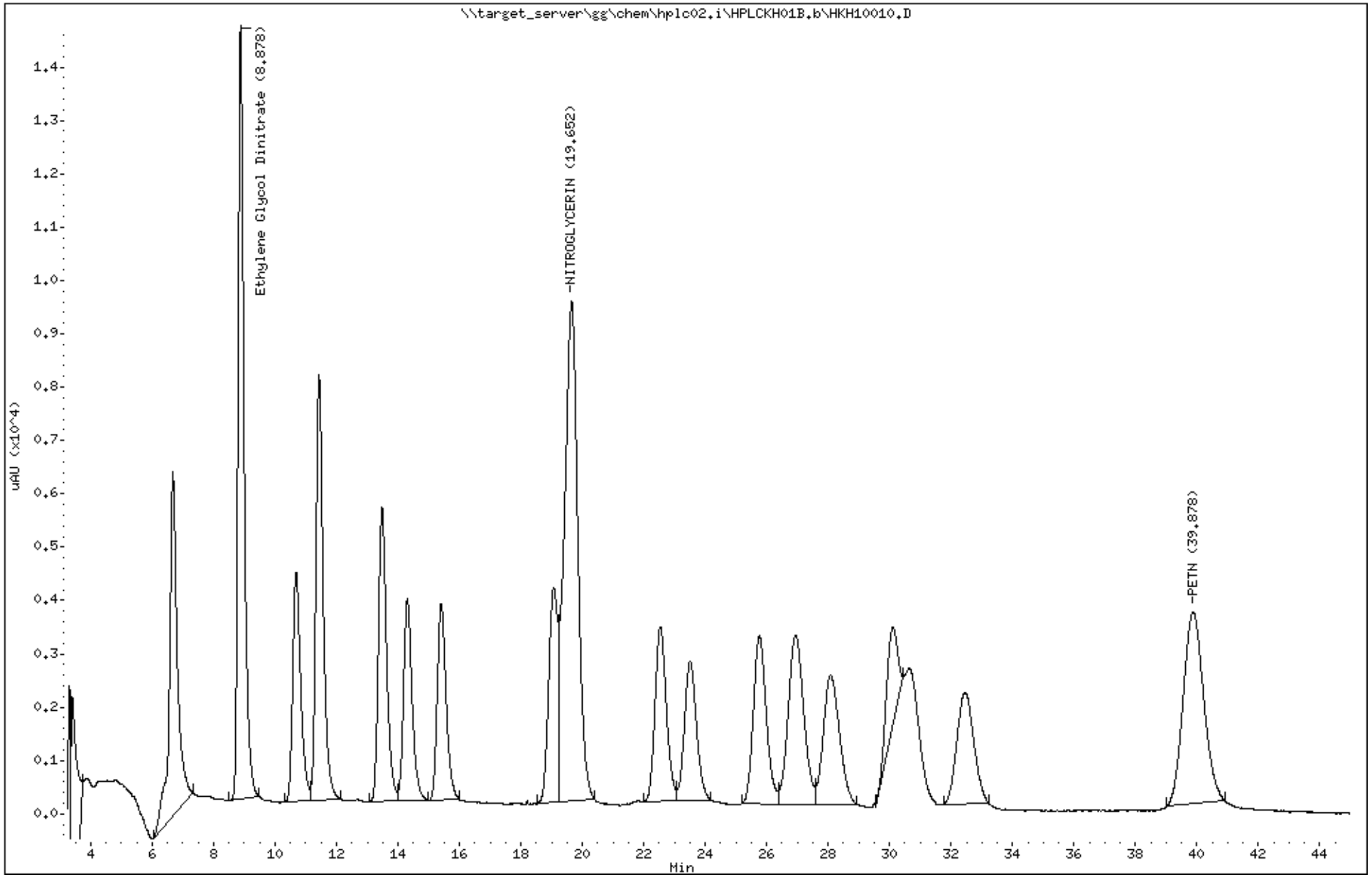
Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable   Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)	REVIEW CODE
3 Ethylene Glycol Dinitrate	8.878	8.878	0.000	14502	2.00000	2.00(a)	
8 NITROGLYCERIN	19.651	19.651	0.000	9365	2.00000	2.00(a)	
18 PETN	39.878	39.878	0.000	3598	2.00000	2.00(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).

Data File: \\target_server\gg\chem\hplc02.i\HPLCKH01B.b\HKH10010.D
Date : 01-AUG-2017 11:16
Client ID:
Instrument: hplc02.i
Sample Info: WG210620-13
Purge Volume: 0.5
Operator: AAB
Column phase: Acclaim Exp E2
Column diameter: 4.60



Katahdin Analytical Services 1000333

Data File: \\target_server\gg\chem\hplc02.i\HPLCKH01B.b\HKH10011.D
Report Date: 02-Aug-2017 09:49

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCKH01B.b\HKH10011.D
Lab Smp Id: WG210620-12
Inj Date : 01-AUG-2017 12:05
Operator : AAB   Inst ID: hplc02.i
Smp Info : WG210620-12
Misc Info :
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCKH01B.b\E2016A.m
Meth Date : 02-Aug-2017 09:48 hplc02.i   Quant Type: ESTD
Cal Date : 01-AUG-2017 12:05   Cal File: HKH10011.D
Als bottle: 1   Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: all.sub
Target Version: 4.12
Processing Host: V200T1

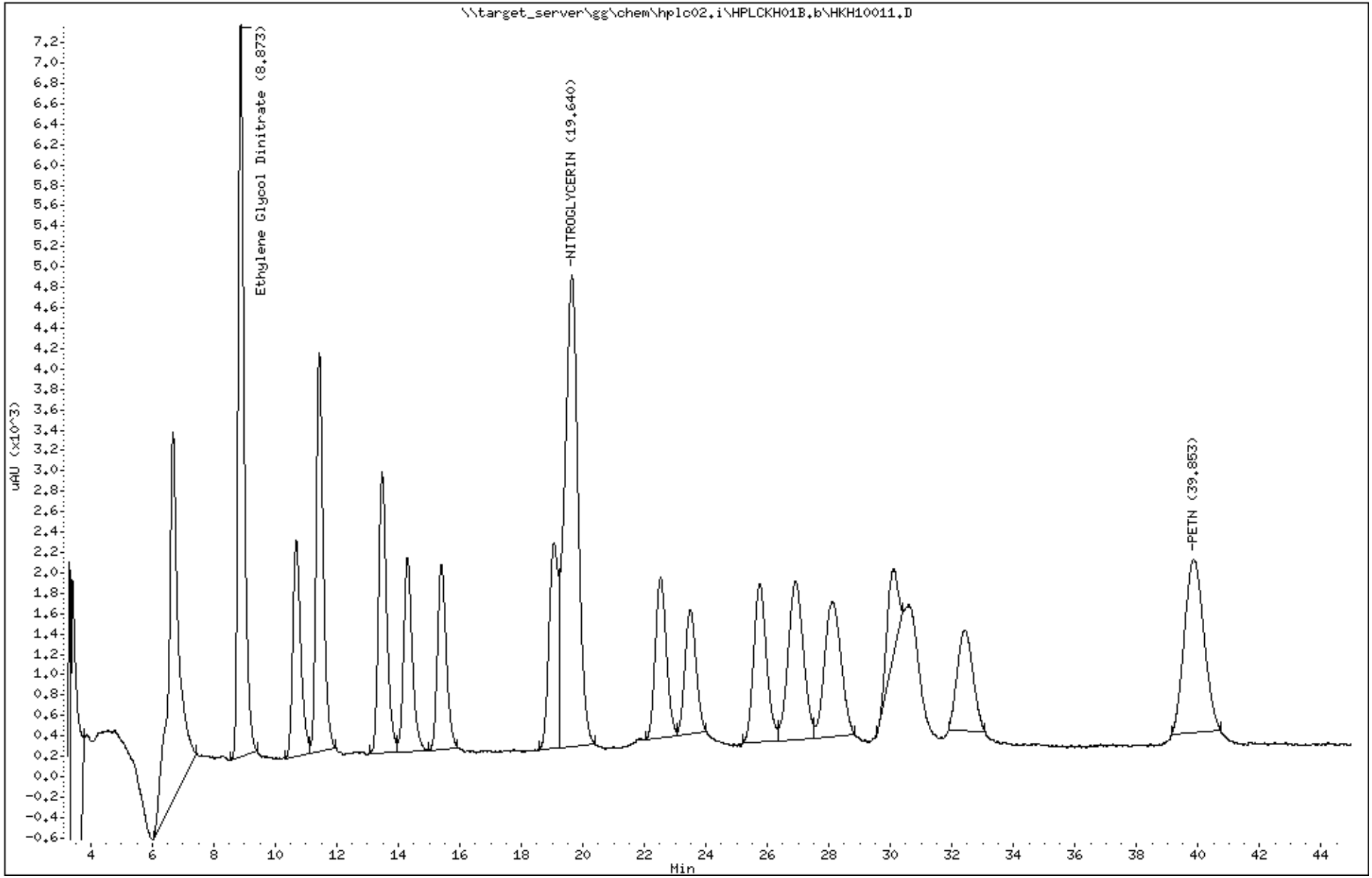
Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable   Local Compound Variable

						AMOUNTS		
						CAL-AMT	ON-COL	
Compounds	RT	EXP RT	DLT RT	RESPONSE		(ug/mL)	(ug/mL)	REVIEW CODE
3 Ethylene Glycol Dinitrate	8.873	8.878	-0.005	7179		1.00000	1.01(a)	
8 NITROGLYCERIN	19.639	19.651	-0.012	4623		1.00000	1.04(a)	
18 PETN	39.853	39.878	-0.025	1700		1.00000	0.962(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).

Data File: \\target_server\gg\chem\hplc02.i\HPLCKH01B.b\HKH10011.D
Date : 01-AUG-2017 12:05
Client ID:
Instrument: hplc02.i
Sample Info: WG210620-12
Purge Volume: 0.5
Operator: AAB
Column phase: Acclaim Exp E2
Column diameter: 4.60



Katahdin Analytical Services 1000335

Data File: \\target_server\gg\chem\hplc02.i\HPLCKH01B.b\HKH10012.D
Report Date: 02-Aug-2017 09:49

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCKH01B.b\HKH10012.D
Lab Smp Id: WG210620-11
Inj Date : 01-AUG-2017 12:54
Operator : AAB Inst ID: hplc02.i
Smp Info : WG210620-11
Misc Info :
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCKH01B.b\E2016A.m
Meth Date : 02-Aug-2017 09:48 hplc02.i Quant Type: ESTD
Cal Date : 01-AUG-2017 12:54 Cal File: HKH10012.D
Als bottle: 1 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: all.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

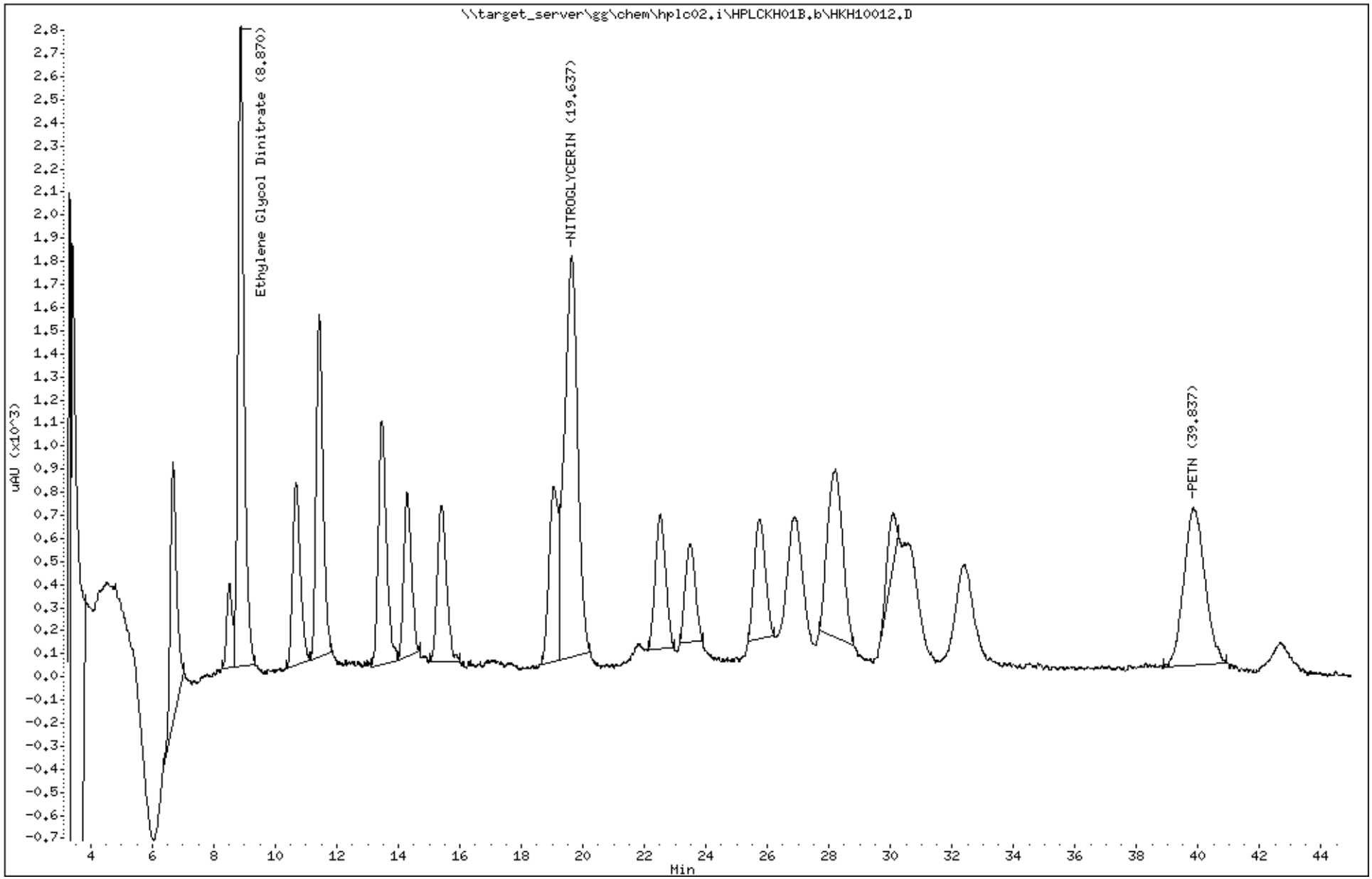
					AMOUNTS		
					CAL-AMT	ON-COL	
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/mL)	(ug/mL)	REVIEW CODE
3 Ethylene Glycol Dinitrate	8.870	8.878	-0.008	2775	0.40000	0.391(a)	
8 NITROGLYCERIN	19.636	19.651	-0.015	1740	0.40000	0.390(a)	
18 PETN	39.836	39.878	-0.042	682	0.40000	0.381(aM)	M6

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.

AAB
10:40 am, Aug 02, 2017

Data File: \\target_server\gg\chem\hplc02.i\HPLCKH01B.b\HKH10012.D
Date : 01-AUG-2017 12:54
Client ID:
Instrument: hplc02.i
Sample Info: WG210620-11
Purge Volume: 0.5
Operator: AAB
Column phase: Acclaim Exp E2
Column diameter: 4.60



Katahdin Analytical Services 1000337

Data File: \\target_server\gg\chem\hplc02.i\HPLCKH01B.b\HKH10013.D
Report Date: 02-Aug-2017 09:50

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCKH01B.b\HKH10013.D
Lab Smp Id: WG210620-10
Inj Date : 01-AUG-2017 13:44
Operator : AAB   Inst ID: hplc02.i
Smp Info : WG210620-10
Misc Info :
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCKH01B.b\E2016A.m
Meth Date : 02-Aug-2017 09:48 hplc02.i   Quant Type: ESTD
Cal Date : 01-AUG-2017 13:44   Cal File: HKH10013.D
Als bottle: 1   Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: all.sub
Target Version: 4.12

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable   Local Compound Variable

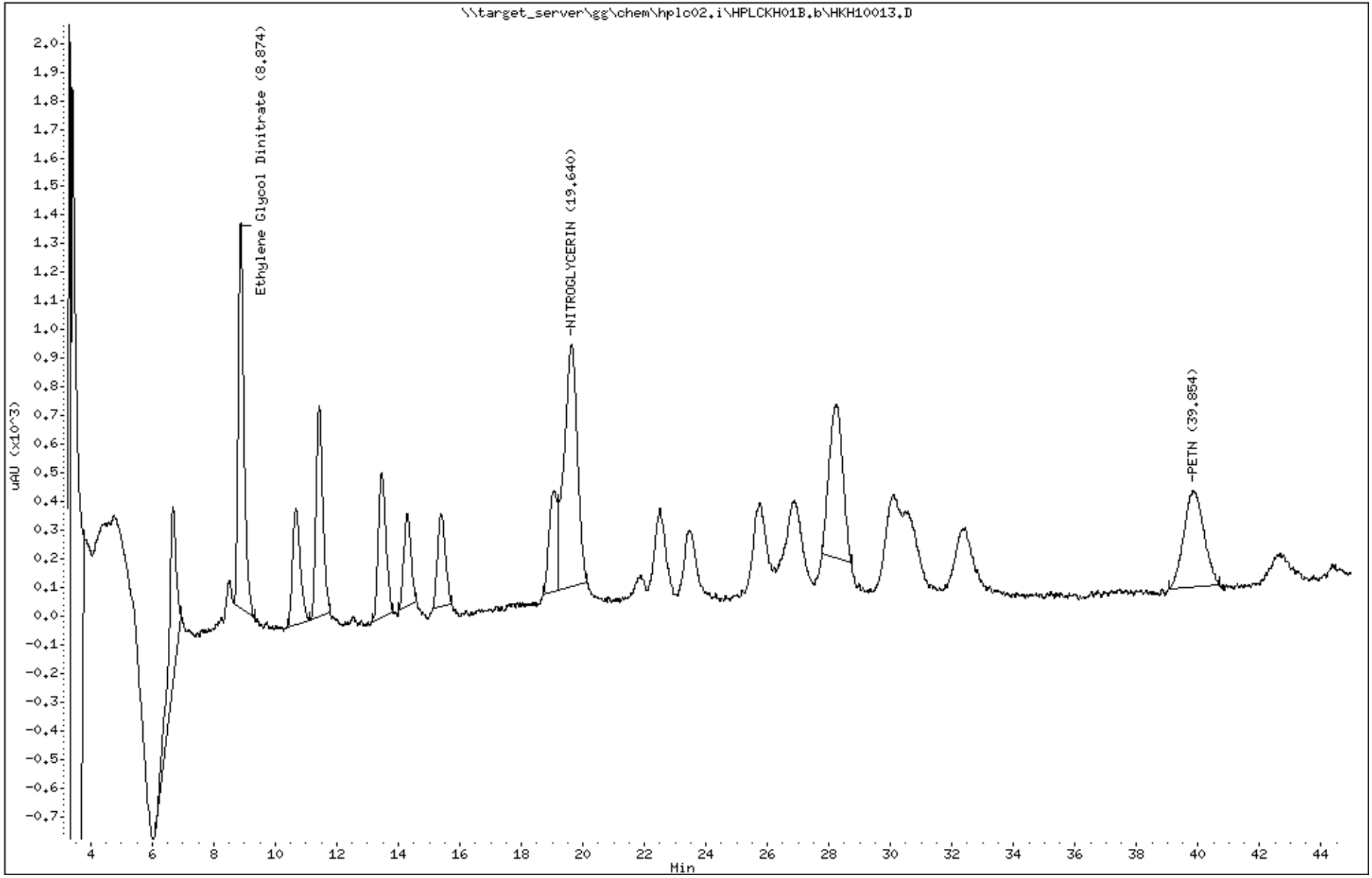
Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)	REVIEW CODE
3 Ethylene Glycol Dinitrate	8.873	8.878	-0.005	1343	0.20000	0.189(a)	
8 NITROGLYCERIN	19.640	19.651	-0.011	842	0.20000	0.189(a)	
18 PETN	39.853	39.878	-0.025	338	0.20000	0.196(aM)	M6

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.

10:40 am, Aug 02, 2017

Data File: \\target_server\gg\chem\hplc02.i\HPLCKH01B.b\HKH10013.D
Date : 01-AUG-2017 13:44
Client ID:
Instrument: hplc02.i
Sample Info: WG210620-10
Purge Volume: 0.5
Operator: AAB
Column phase: Acclaim Exp E2
Column diameter: 4.60



Katahdin Analytical Services 1000339

Data File: \\target_server\gg\chem\hplc02.i\HPLCKH01B.b\HKH10014.D
Report Date: 02-Aug-2017 09:50

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCKH01B.b\HKH10014.D
Lab Smp Id: WG210620-9
Inj Date : 01-AUG-2017 14:33
Operator : AAB   Inst ID: hplc02.i
Smp Info : WG210620-9
Misc Info :
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCKH01B.b\E2016A.m
Meth Date : 02-Aug-2017 09:48 hplc02.i   Quant Type: ESTD
Cal Date : 01-AUG-2017 14:33   Cal File: HKH10014.D
Als bottle: 1   Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: all.sub
Target Version: 4.12

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable   Local Compound Variable

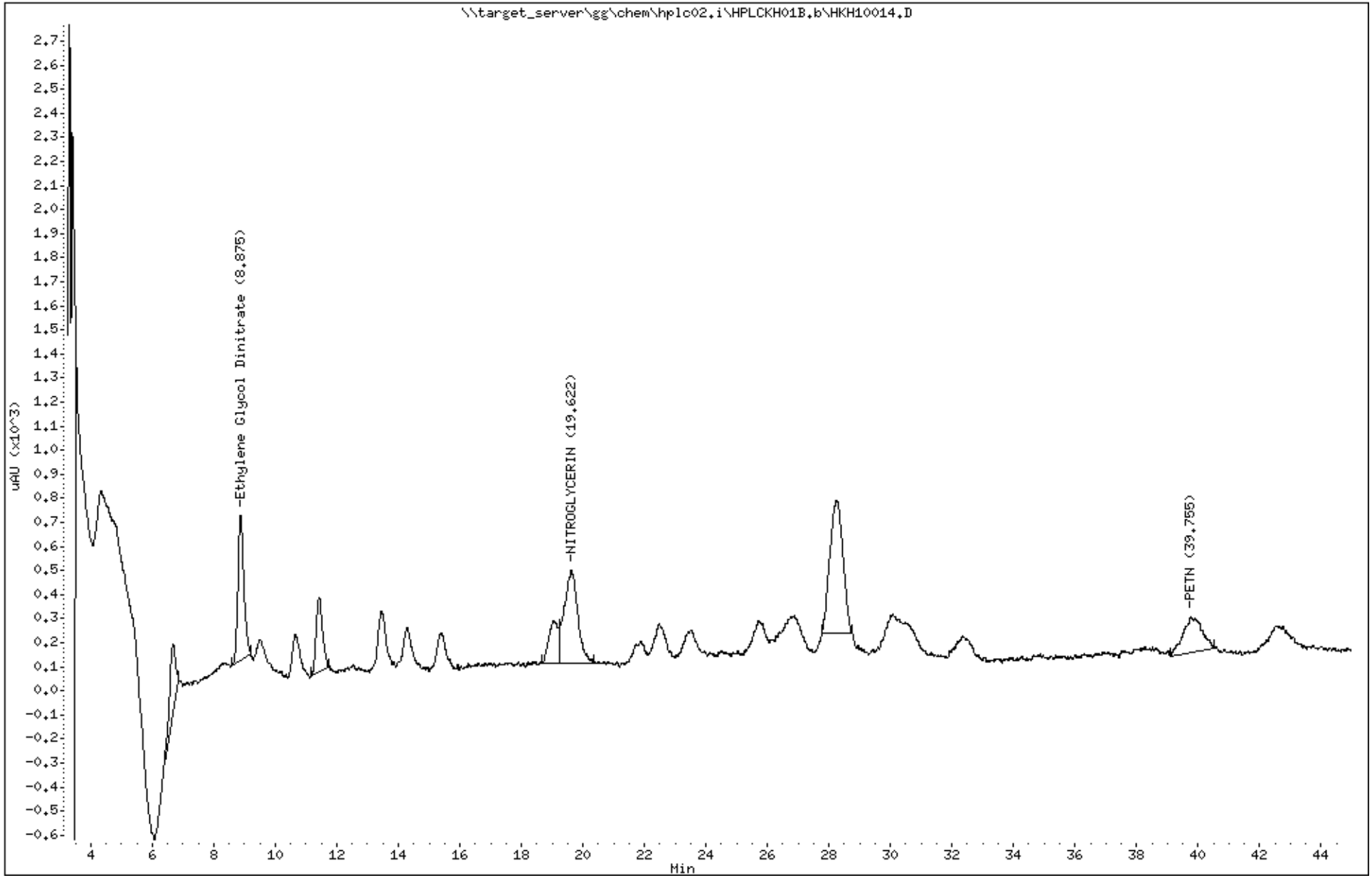
Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)	REVIEW CODE
3 Ethylene Glycol Dinitrate	8.875	8.878	-0.003	600	0.12500	0.0846(a)	
8 NITROGLYCERIN	19.621	19.651	-0.030	387	0.12500	0.0868(aM)	M6
18 PETN	39.755	39.878	-0.123	146	0.12500	0.0851(aM)	

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.

AAB
10:40 am, Aug 02, 2017

Data File: \\target_server\gg\chem\hplc02.i\HPLCKH01B.b\HKH10014.D
Date : 01-AUG-2017 14:33
Client ID:
Instrument: hplc02.i
Sample Info: WG210620-9
Purge Volume: 0.5
Operator: AAB
Column phase: Acclaim Exp E2
Column diameter: 4.60



Katahdin Analytical Services 1000341

Katahdin
ANALYTICAL SERVICES

Form 6
Initial Calibration Summary

Lab Name : Katahdin Analytical Services
SDG: SL4233
Project : Cornhusker Army Ammunition Plant
Instrument ID: HPLC02
Lab File IDs : HKH10014.I HKH10013.I HKH10012.I HKH10011.I HKH10010.I HKH10009.I HKH10008.I
Calibration Date(s): 01-AUG-17 09:37 01-AUG-17 14:33

	0.025000(Level 1	0.050000(Level 2	0.100000(Level 3	0.250000(Level 4	0.5000000 Level 5	1.0000 Level 6	2.0000 Level 7		New Crv	b	m1	%RSD	Max %RSD	
HMX	143	204	424	1108	2190	4103	8448		LNR	-0.00406	4200	0.99963	0.99000	O
RDX	92.00000	202	389	1038	2084	3920	8183		LNR	0.00215	4071	0.99952	0.99000	O
1,3,5-trinitrobenzene	222	508	1024	2674	5383	10154	20806		LNR	-0.00071	10372	0.99973	0.99000	O
1,3-dinitrobenzene	264	581	1148	2994	6045	11405	23270		LNR	-0.00176	11603	0.99976	0.99000	O
TETRYL	98.00000	244	482	1267	2545	4803	9244		LNR	-0.01222	4644	0.99914	0.99000	O
nitrobenzene	142	331	655	1720	3466	6563	13345		LNR	-0.00158	6659	0.99979	0.99000	O
2,4,6-trinitrotoluene	135	313	627	1624	3260	6187	12320		LNR	-0.00578	6161	0.99976	0.99000	O
2-AM-DNT	65.00000	171	311	854	1698	3193	6303		LNR	-0.00832	3155	0.99955	0.99000	O
4-AM-DNT	63.00000	118	244	663	1299	2450	4682		LNR	-0.01508	2353	0.99890	0.99000	O
2,6-dinitrotoluene	76.00000	172	369	981	1970	3749	7493		LNR	-0.00306	3750	0.99978	0.99000	O
2,4-dinitrotoluene	136	329	692	1809	3639	6925	13785		LNR	-0.00420	6900	0.99976	0.99000	O
2-nitrotoluene	63.00000	115	257	686	1382	2659	5246		LNR	-0.00402	2630	0.99976	0.99000	O
3-nitrotoluene	72.00000	124	256	701	1390	2617	5111		LNR	-0.01061	2561	0.99942	0.99000	O
4-nitrotoluene	101	120	227	531	1075	2023	3902		LNR	-0.02177	1947	0.99936	0.99000	O
1,2-dinitrobenzene	117	263	530	1379	2756	5196	10604		LNR	-0.00227	5286	0.99974	0.99000	

Legend: O = Kept Original Curve
Y = Failed Minimum RF
W = Failed %RSD Value

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029

http://katahdinlab.com
sales@katahdinlab.com

Data File: HKH10016.D
Report Date: 02-Aug-2017 10:20

Katahdin Analytical Services

RECOVERY REPORT

Client Name: Client SDG: SDGa00508
Sample Matrix: LIQUID Fraction: Explosives
Lab Smp Id: WG210620-16
Level: LOW Operator: AAB
Data Type: LC DATA SampleType: LCS
SpikeList File: IND.spk Quant Type: ESTD
Sublist File: SW8330A.sub
Method File: \\target_server\gg\chem\hplc02.i\HPLCKH01B.b\E2016A.m\E2016A.m
Misc Info: WG210620,WG210205,WG210620-13,SK6535-1

SPIKE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
1 HMX	5.00	5.68	113.67	80-120
4 RDX	5.00	5.76	115.30	80-120
5 1,3,5-trinitrobenz	5.00	5.58	111.71	80-120
6 1,3-dinitrobenzene	5.00	5.59	111.84	80-120
7 nitrobenzene	5.00	5.66	113.30	80-120
9 TETRYL	5.00	6.15	123.00*	80-120
10 2,4,6-trinitrotolu	5.00	5.74	114.80	80-120
11 4-AM-DNT	5.00	6.51	130.27*	80-120
12 2-AM-DNT	5.00	5.70	114.01	80-120
13 2,6-dinitrotoluene	5.00	5.74	114.91	80-120
14 2,4-dinitrotoluene	5.00	5.80	116.03	80-120
15 2-nitrotoluene	5.00	5.84	116.91	80-120
16 4-nitrotoluene	5.00	5.92	118.33	80-120
17 3-nitrotoluene	5.00	6.25	124.99*	80-120
52 3,5-dinitroaniline	5.00	5.53	110.58	80-120

SURROGATE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
$ 2 1,2-dinitrobenzene	10.0	0.000	*	82-150

Data File: HKH10016.D
Report Date: 02-Aug-2017 10:20

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCKH01B.b\HPLCKH01B.b\HKH10016.D
Lab Smp Id: WG210620-16
Inj Date : 01-AUG-2017 17:01
Operator : AAB   Inst ID: hplc02.i
Smp Info : WG210620-16,SK6535
Misc Info : WG210620,WG210205,WG210620-13,SK6535-1
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCKH01B.b\E2016A.m\E2016A.m
Meth Date : 02-Aug-2017 10:01 abullentin Quant Type: ESTD
Cal Date : 01-AUG-2017 14:33   Cal File: HKH10014.D
Als bottle: 30   QC Sample: LCS
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: SW8330A.sub
Target Version: 4.12

Concentration Formula: Amt * DF * 1000*(Vt/Vo) * CpndVariable

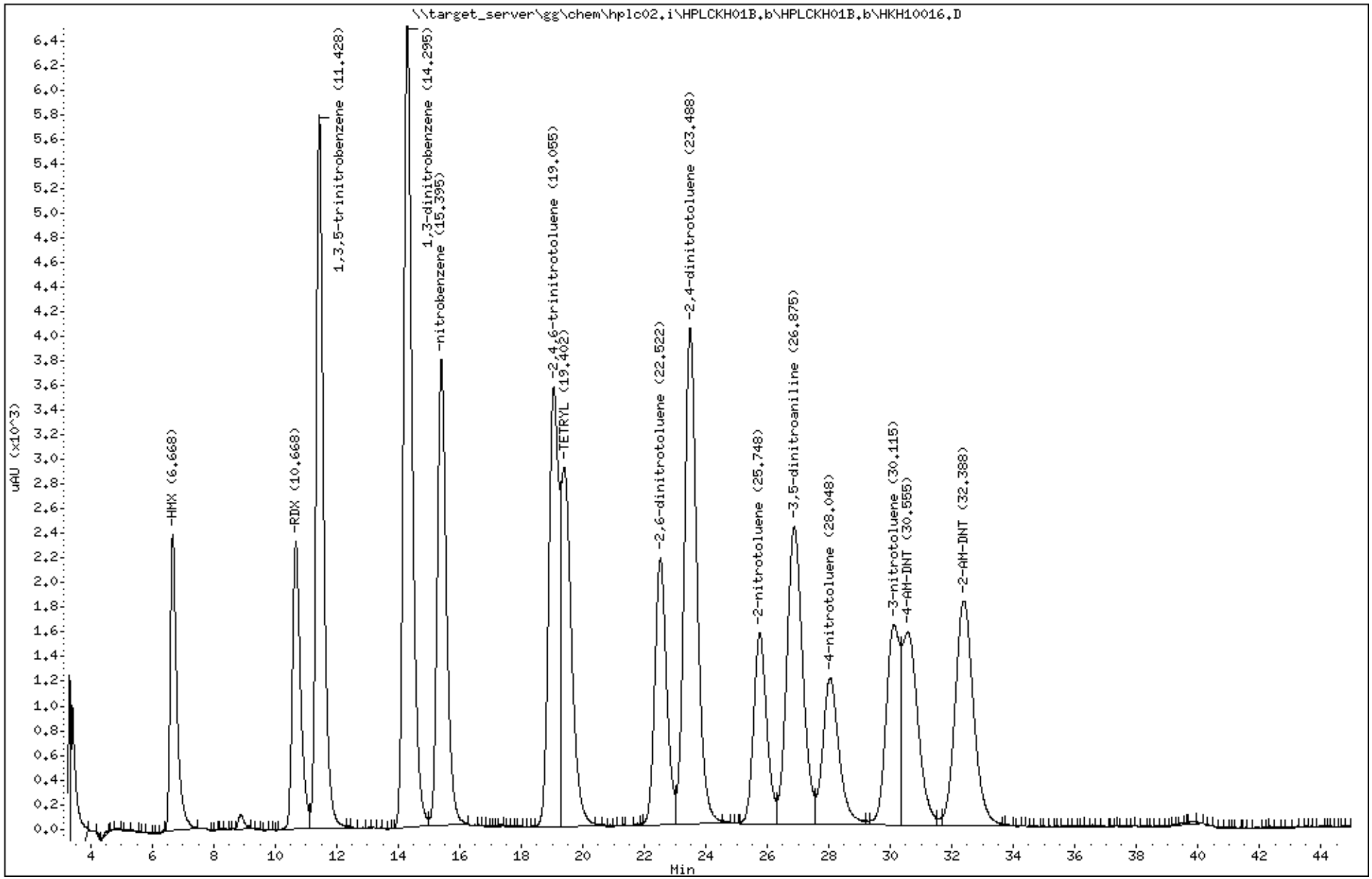
Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00500	Final Volume (L)
Vo	0.50000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

						CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/L)	
	Compounds	RT	EXP RT	DLT RT	RESPONSE			REVIEW CODE
1	HMX	6.668	6.678	-0.010	2404	0.56837	5.68	
4	RDX	10.668	10.684	-0.016	2338	0.57648	5.76	
5	1,3,5-trinitrobenzene	11.428	11.431	-0.003	5801	0.55856	5.58	
6	1,3-dinitrobenzene	14.294	14.304	-0.010	6509	0.55919	5.59	
7	nitrobenzene	15.394	15.411	-0.017	3783	0.56650	5.66	
10	2,4,6-trinitrotoluene	19.054	19.064	-0.010	3572	0.57402	5.74	
9	TETRYL	19.401	19.424	-0.023	2913	0.61500	6.15(R)	
13	2,6-dinitrotoluene	22.521	22.538	-0.017	2166	0.57456	5.74	
14	2,4-dinitrotoluene	23.488	23.511	-0.023	4032	0.58013	5.80	
15	2-nitrotoluene	25.748	25.764	-0.016	1548	0.58454	5.84	
52	3,5-dinitroaniline	26.874	26.931	-0.057	2417	0.55288	5.53	
16	4-nitrotoluene	28.048	28.058	-0.010	1194	0.59164	5.92	
17	3-nitrotoluene	30.114	30.111	0.003	1628	0.62497	6.25(R)	
11	4-AM-DNT	30.554	30.651	-0.097	1568	0.65133	6.51(R)	
12	2-AM-DNT	32.388	32.464	-0.076	1825	0.57005	5.70	

QC Flag Legend

R - Spike/Surrogate failed recovery limits.

Data File: \\target_server\gg\chem\hplc02.i\HPLCKH01B.b\HPLCKH01B.b\HKH10016.D
Date : 01-AUG-2017 17:01
Client ID:
Instrument: hplc02.i
Sample Info: WG210620-16,SK6535
Purge Volume: 0.5
Operator: AAB
Column phase: Acclaim Exp E2
Column diameter: 4.60



Katahdin Analytical Services 1000345

Data File: HKH10008.D
Report Date: 02-Aug-2017 09:55

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCKH01B.b\HPLCKH01B.b\HKH10008.D
Lab Smp Id: WG210620-15
Inj Date : 01-AUG-2017 09:37
Operator : AAB   Inst ID: hplc02.i
Smp Info : WG210620-15
Misc Info :
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCKH01B.b\E2016A.m\E2016A.m
Meth Date : 02-Aug-2017 09:51 abullentin Quant Type: ESTD
Cal Date : 01-AUG-2017 09:37   Cal File: HKH10008.D
Als bottle: 1   Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * Vt/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00500	Final Volume (L)
Vo	0.50000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

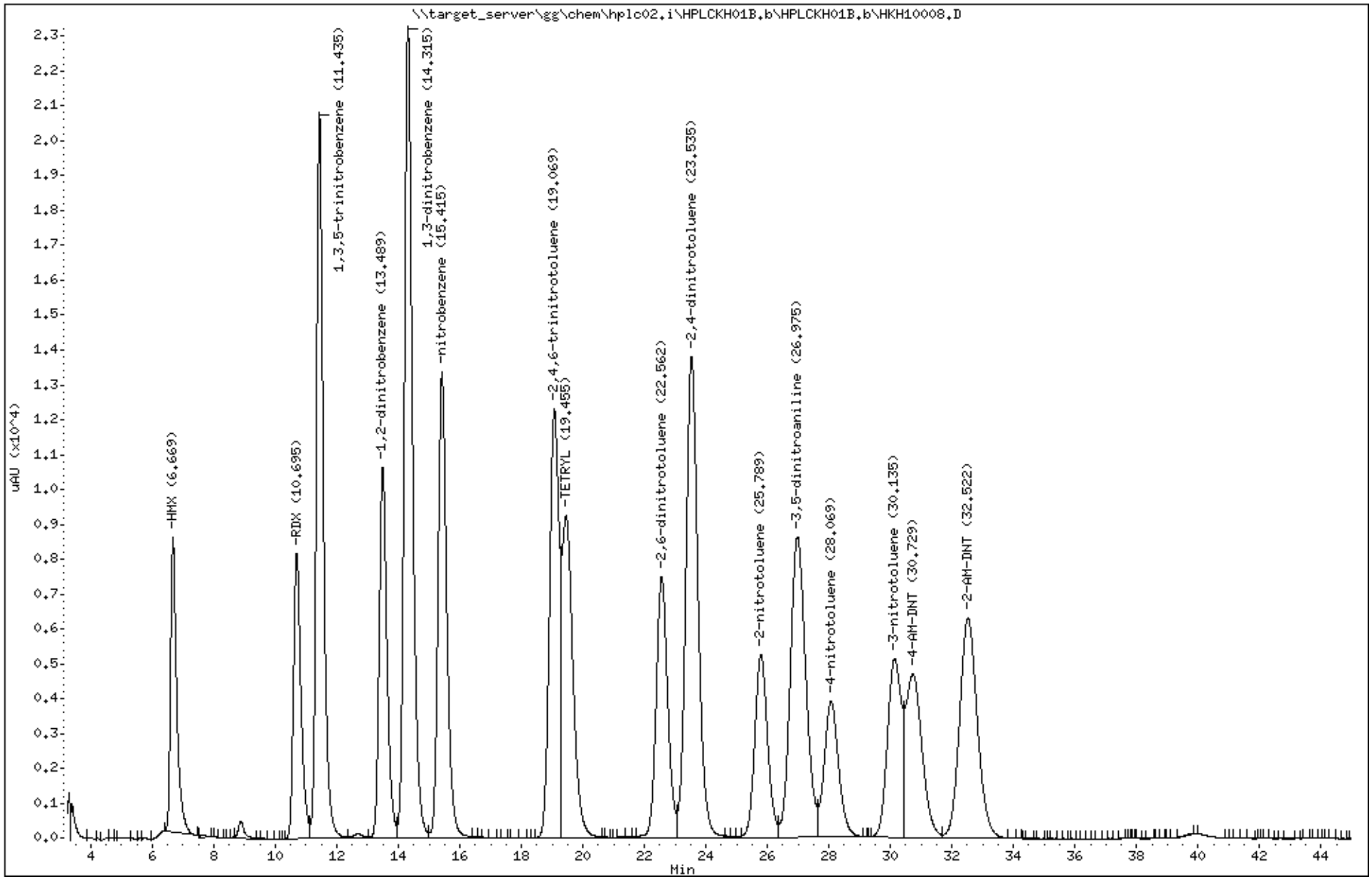
	Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)	REVIEW CODE
1	HMX	6.668	6.678	-0.010	8448	2.00000	2.01(AM)	M2
4	RDX	10.695	10.684	0.011	8183	2.00000	2.01(A)	
5	1,3,5-trinitrobenzene	11.435	11.431	0.004	20806	2.00000	2.00(A)	
$ 2	1,2-dinitrobenzene	13.488	13.478	0.010	10604	2.00000	2.00(A)	
6	1,3-dinitrobenzene	14.315	14.304	0.011	23270	2.00000	2.00(A)	
7	nitrobenzene	15.415	15.411	0.004	13345	2.00000	2.00(A)	
10	2,4,6-trinitrotoluene	19.068	19.064	0.004	12320	2.00000	1.99	
9	TETRYL	19.455	19.424	0.031	9244	2.00000	1.98	
13	2,6-dinitrotoluene	22.562	22.538	0.024	7493	2.00000	2.00	
14	2,4-dinitrotoluene	23.535	23.511	0.024	13785	2.00000	1.99	
15	2-nitrotoluene	25.788	25.764	0.024	5246	2.00000	1.99	
52	3,5-dinitroaniline	26.975	26.931	0.044	8614	2.00000	1.99	
16	4-nitrotoluene	28.068	28.058	0.010	3902	2.00000	1.98	
17	3-nitrotoluene	30.135	30.111	0.024	5111	2.00000	1.98	
11	4-AM-DNT	30.728	30.651	0.077	4682	2.00000	1.97	
12	2-AM-DNT	32.522	32.464	0.058	6303	2.00000	1.98	

AAB
10:41 am, Aug 02, 2017

QC Flag Legend

A - Target compound detected but, quantitated amount
    exceeded maximum amount.
M - Compound response manually integrated.

Data File: \\target_server\gg\chem\hplc02.i\HPLCKH01B.b\HPLCKH01B.b\HKH10008.D
Date : 01-AUG-2017 09:37
Client ID:
Instrument: hplc02.i
Sample Info: WG210620-15
Purge Volume: 0.5
Operator: AAB
Column phase: Acclaim Exp E2
Column diameter: 4.60



Katahdin Analytical Services 1000347

Data File: HKH10009.D
Report Date: 02-Aug-2017 09:55

Katahdin Analytical Services

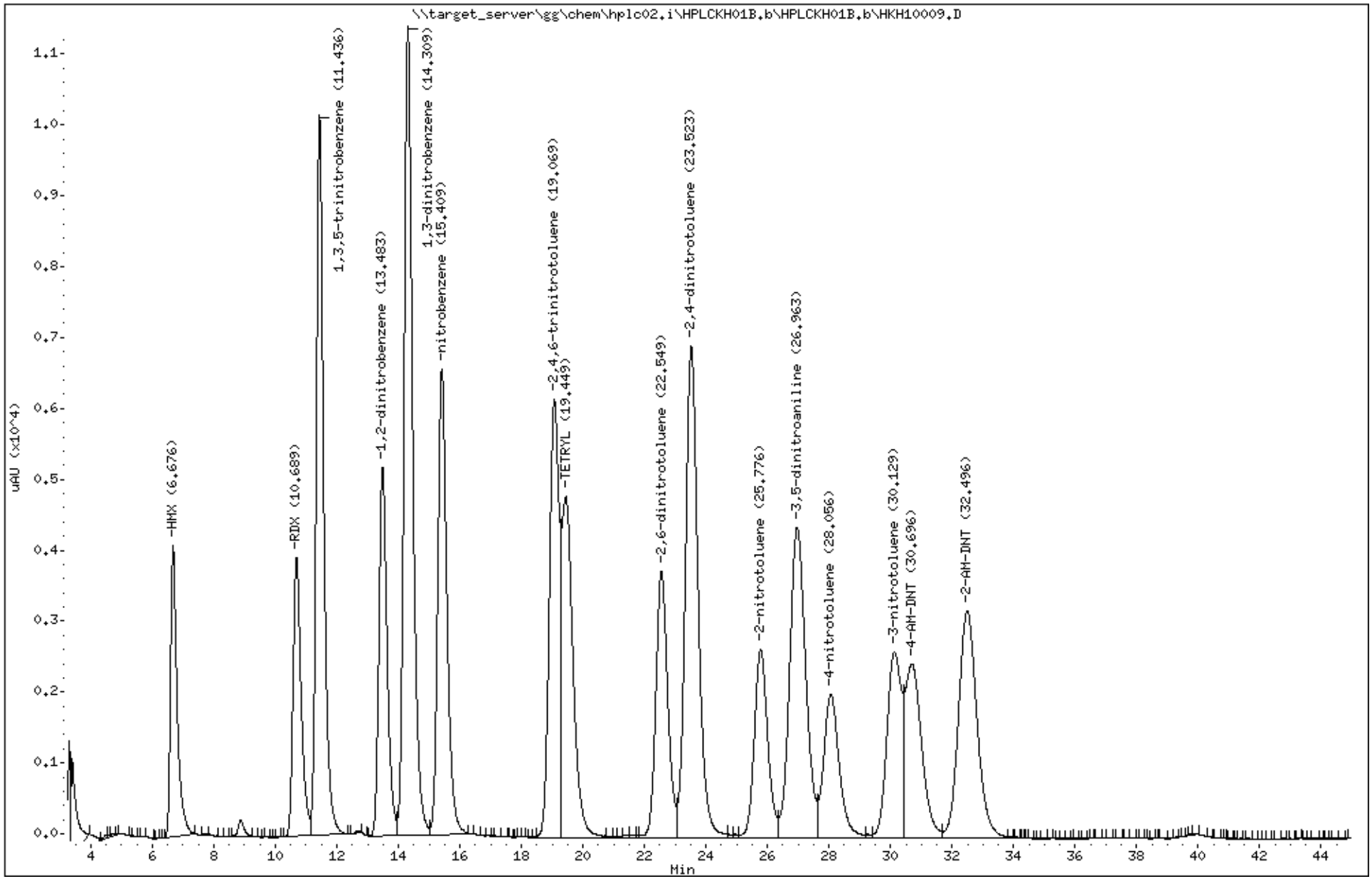
Data file : \\target_server\gg\chem\hplc02.i\HPLCKH01B.b\HPLCKH01B.b\HKH10009.D
Lab Smp Id: WG210620-14
Inj Date : 01-AUG-2017 10:27
Operator : AAB   Inst ID: hplc02.i
Smp Info : WG210620-14
Misc Info :
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCKH01B.b\E2016A.m\E2016A.m
Meth Date : 02-Aug-2017 09:51 abullentin Quant Type: ESTD
Cal Date : 01-AUG-2017 10:27   Cal File: HKH10009.D
Als bottle: 1   Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * Vt/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00500	Final Volume (L)
Vo	0.50000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)	REVIEW CODE
1	HMX	6.675	6.678	-0.003	4103	1.00000	0.952	
4	RDX	10.689	10.684	0.005	3920	1.00000	0.966	
5	1,3,5-trinitrobenzene	11.435	11.431	0.004	10154	1.00000	0.978	
$ 2	1,2-dinitrobenzene	13.482	13.478	0.004	5196	1.00000	0.980	
6	1,3-dinitrobenzene	14.309	14.304	0.005	11405	1.00000	0.981	
7	nitrobenzene	15.409	15.411	-0.002	6563	1.00000	0.983	
10	2,4,6-trinitrotoluene	19.069	19.064	0.005	6187	1.00000	0.996	
9	TETRYL	19.449	19.424	0.025	4803	1.00000	1.02	
13	2,6-dinitrotoluene	22.549	22.538	0.011	3749	1.00000	0.994	
14	2,4-dinitrotoluene	23.522	23.511	0.011	6925	1.00000	0.997	
15	2-nitrotoluene	25.775	25.764	0.011	2659	1.00000	1.00	
52	3,5-dinitroaniline	26.962	26.931	0.031	4377	1.00000	1.00	
16	4-nitrotoluene	28.055	28.058	-0.003	2023	1.00000	1.02	
17	3-nitrotoluene	30.129	30.111	0.018	2617	1.00000	1.01	
11	4-AM-DNT	30.695	30.651	0.044	2450	1.00000	1.02	
12	2-AM-DNT	32.495	32.464	0.031	3193	1.00000	1.00	

Data File: \\target_server\gg\chem\hplc02.i\HPLCKH01B.b\HPLCKH01B.b\HKH10009.D
Date : 01-AUG-2017 10:27
Client ID:
Instrument: hplc02.i
Sample Info: WG210620-14
Purge Volume: 0.5
Operator: AAB
Column phase: Acclaim Exp E2
Column diameter: 4.60



Katahdin Analytical Services 1000349

Data File: HKH10010.D
Report Date: 02-Aug-2017 09:55

Katahdin Analytical Services

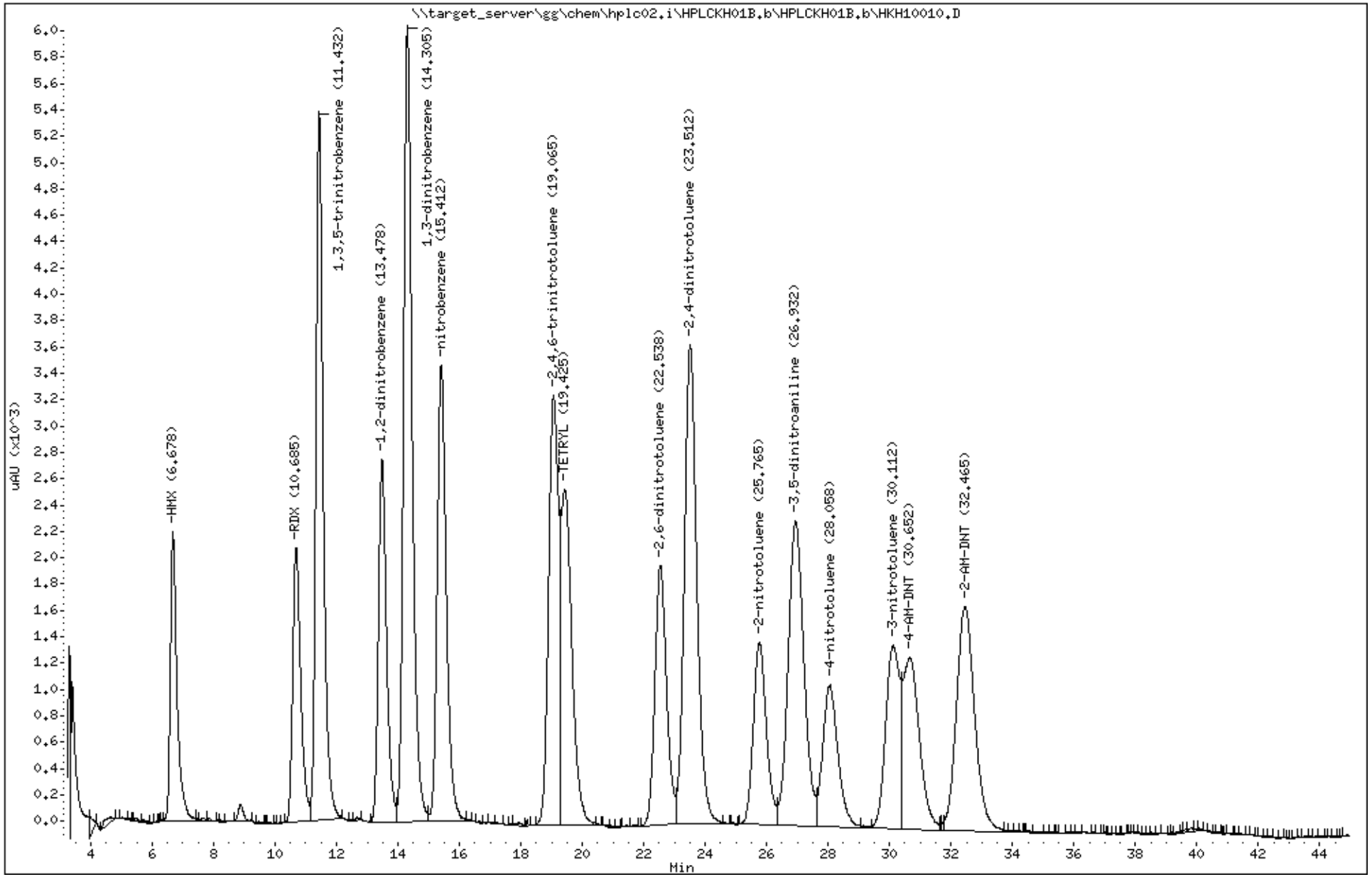
Data file : \\target_server\gg\chem\hplc02.i\HPLCKH01B.b\HPLCKH01B.b\HKH10010.D
Lab Smp Id: WG210620-13
Inj Date : 01-AUG-2017 11:16
Operator : AAB   Inst ID: hplc02.i
Smp Info : WG210620-13
Misc Info :
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCKH01B.b\E2016A.m\E2016A.m
Meth Date : 02-Aug-2017 09:51 abullentin Quant Type: ESTD
Cal Date : 09-FEB-2017 11:28   Cal File: HKB10080.D
Als bottle: 1   Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: SW8330A.sub
Target Version: 4.12

Concentration Formula: Amt * DF * Vt/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00500	Final Volume (L)
Vo	0.50000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)	REVIEW CODE
1	HMX	6.678	6.678	0.000	2190	0.50000	0.500	
4	RDX	10.684	10.684	0.000	2084	0.50000	0.500	
5	1,3,5-trinitrobenzene	11.431	11.431	0.000	5383	0.50000	0.500	
$ 2	1,2-dinitrobenzene	13.478	13.478	0.000	2756	0.50000	0.500	
6	1,3-dinitrobenzene	14.304	14.304	0.000	6045	0.50000	0.500	
7	nitrobenzene	15.411	15.411	0.000	3466	0.50000	0.500	
10	2,4,6-trinitrotoluene	19.064	19.064	0.000	3260	0.50000	0.500	
9	TETRYL	19.424	19.424	0.000	2545	0.50000	0.500	
13	2,6-dinitrotoluene	22.538	22.538	0.000	1970	0.50000	0.500	
14	2,4-dinitrotoluene	23.511	23.511	0.000	3639	0.50000	0.500	
15	2-nitrotoluene	25.764	25.764	0.000	1382	0.50000	0.500	
52	3,5-dinitroaniline	26.931	26.931	0.000	2314	0.50000	0.500	
16	4-nitrotoluene	28.058	28.058	0.000	1075	0.50000	0.500	
17	3-nitrotoluene	30.111	30.111	0.000	1390	0.50000	0.500	
11	4-AM-DNT	30.651	30.651	0.000	1299	0.50000	0.500	
12	2-AM-DNT	32.464	32.464	0.000	1698	0.50000	0.500	

Data File: \\target_server\gg\chem\hplc02.i\HPLCKH01B.b\HPLCKH01B.b\HKH10010.D
Date : 01-AUG-2017 11:16
Client ID:
Instrument: hplc02.i
Sample Info: WG210620-13
Purge Volume: 0.5
Operator: AAB
Column phase: Acclaim Exp E2
Column diameter: 4.60



Katahdin Analytical Services 1000351

Data File: HKH10011.D
Report Date: 02-Aug-2017 09:55

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCKH01B.b\HPLCKH01B.b\HKH10011.D
Lab Smp Id: WG210620-12
Inj Date : 01-AUG-2017 12:05
Operator : AAB   Inst ID: hplc02.i
Smp Info : WG210620-12
Misc Info :
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCKH01B.b\E2016A.m\E2016A.m
Meth Date : 02-Aug-2017 09:51 abullentin Quant Type: ESTD
Cal Date : 01-AUG-2017 12:05   Cal File: HKH10011.D
Als bottle: 1   Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * Vt/Vo * CpndVariable

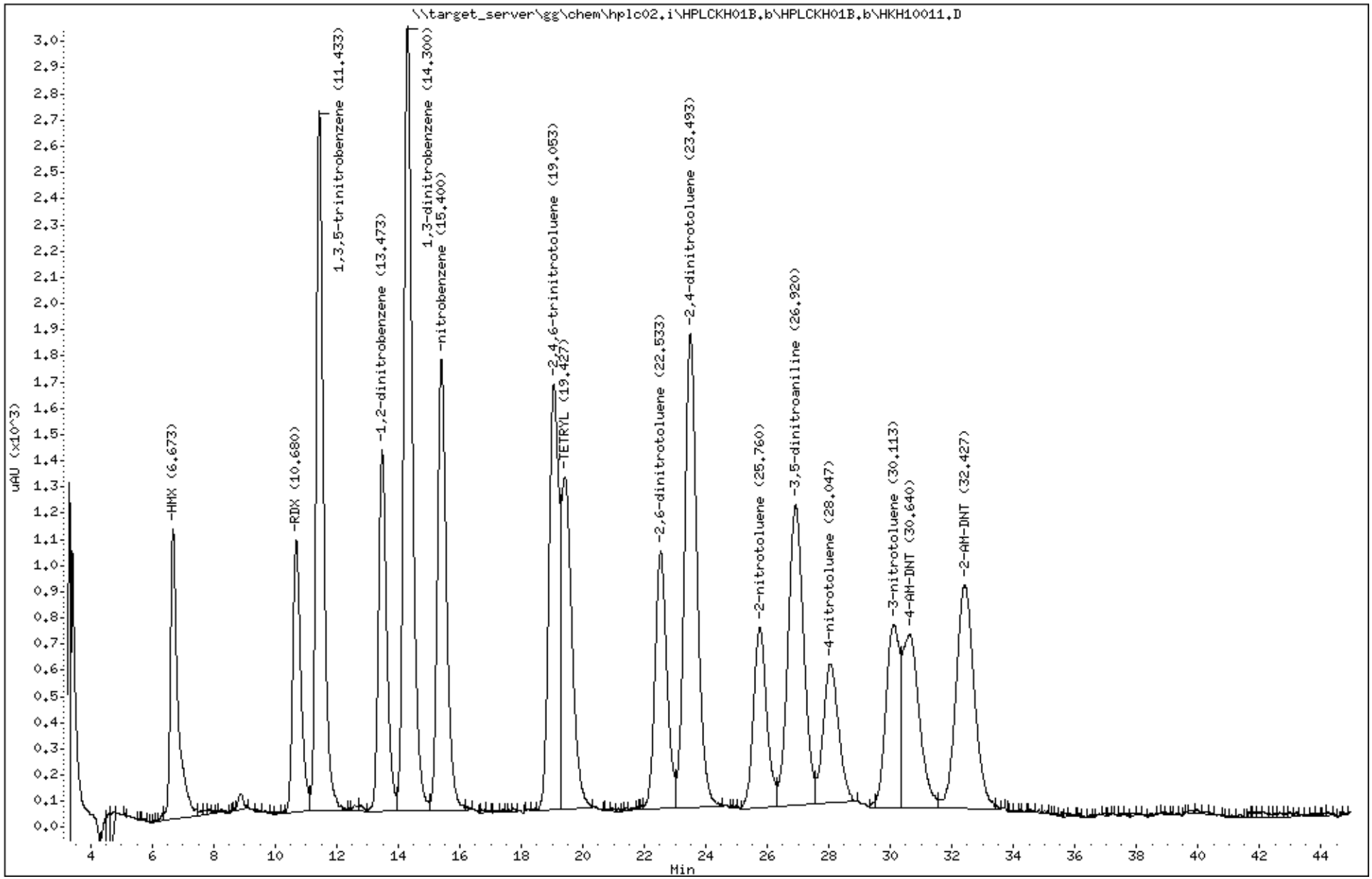
Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00500	Final Volume (L)
Vo	0.50000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)	REVIEW CODE
1	HMX	6.673	6.678	-0.005	1108	0.25000	0.262	
4	RDX	10.679	10.684	-0.005	1038	0.25000	0.257	
5	1,3,5-trinitrobenzene	11.433	11.431	0.002	2674	0.25000	0.254	
$ 2	1,2-dinitrobenzene	13.473	13.478	-0.005	1379	0.25000	0.255	
6	1,3-dinitrobenzene	14.299	14.304	-0.005	2994	0.25000	0.253	
7	nitrobenzene	15.399	15.411	-0.012	1720	0.25000	0.253	
10	2,4,6-trinitrotoluene	19.053	19.064	-0.011	1624	0.25000	0.252	
9	TETRYL	19.426	19.424	0.002	1267	0.25000	0.249(a)	
13	2,6-dinitrotoluene	22.533	22.538	-0.005	981	0.25000	0.252	
14	2,4-dinitrotoluene	23.493	23.511	-0.018	1809	0.25000	0.251	
15	2-nitrotoluene	25.759	25.764	-0.005	686	0.25000	0.249(a)	
52	3,5-dinitroaniline	26.919	26.931	-0.012	1145	0.25000	0.250	
16	4-nitrotoluene	28.046	28.058	-0.012	531	0.25000	0.248(a)	
17	3-nitrotoluene	30.113	30.111	0.002	701	0.25000	0.253	
11	4-AM-DNT	30.639	30.651	-0.012	663	0.25000	0.253	
12	2-AM-DNT	32.426	32.464	-0.038	854	0.25000	0.253	

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).

Data File: \\target_server\gg\chem\hplc02.i\HPLCKH01B.b\HPLCKH01B.b\HKH10011.D
Date : 01-AUG-2017 12:05
Client ID:
Instrument: hplc02.i
Sample Info: WG210620-12
Purge Volume: 0.5
Operator: AAB
Column phase: Acclaim Exp E2
Column diameter: 4.60



Katahdin Analytical Services 1000353

Data File: HKH10012.D
Report Date: 02-Aug-2017 09:55

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCKH01B.b\HPLCKH01B.b\HKH10012.D
Lab Smp Id: WG210620-11
Inj Date : 01-AUG-2017 12:54
Operator : AAB Inst ID: hplc02.i
Smp Info : WG210620-11
Misc Info :
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCKH01B.b\E2016A.m\E2016A.m
Meth Date : 02-Aug-2017 09:51 abullentin Quant Type: ESTD
Cal Date : 01-AUG-2017 12:54 Cal File: HKH10012.D
Als bottle: 1 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * Vt/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00500	Final Volume (L)
Vo	0.50000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

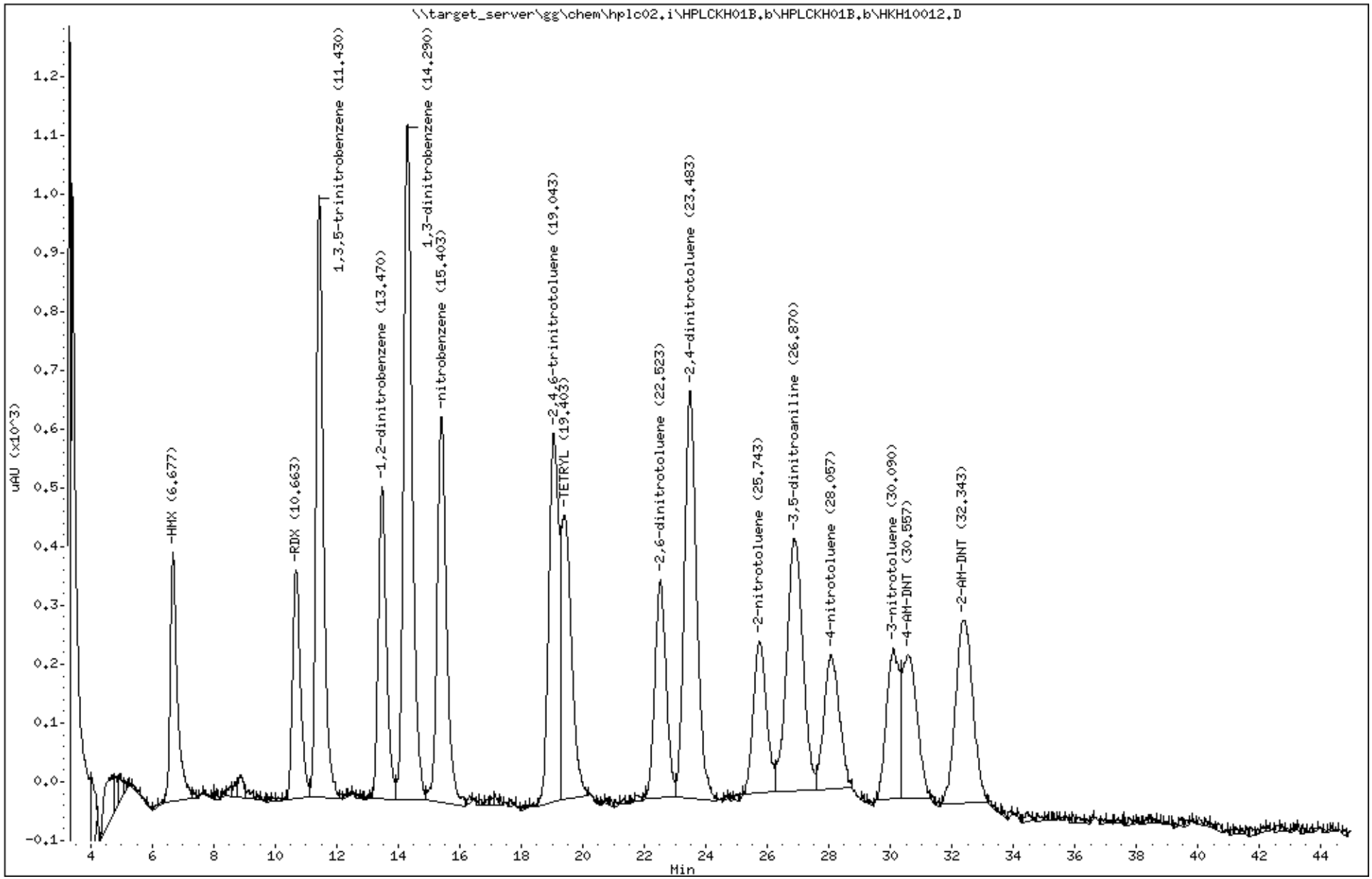
	Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	ON-COL (ug/mL)	REVIEW CODE
1	HMX	6.676	6.678	-0.002	424	0.10000	0.0860(a)	
4	RDX	10.663	10.684	-0.021	389	0.10000	0.0976(a)	
5	1,3,5-trinitrobenzene	11.430	11.431	-0.001	1024	0.10000	0.0970(a)	
$ 2	1,2-dinitrobenzene	13.470	13.478	-0.008	530	0.10000	0.0968	
6	1,3-dinitrobenzene	14.290	14.304	-0.014	1148	0.10000	0.0963(a)	
7	nitrobenzene	15.403	15.411	-0.008	655	0.10000	0.0956(a)	
10	2,4,6-trinitrotoluene	19.043	19.064	-0.021	627	0.10000	0.0940(a)	
9	TETRYL	19.403	19.424	-0.021	482	0.10000	0.0879(a)	
13	2,6-dinitrotoluene	22.523	22.538	-0.015	369	0.10000	0.0936(a)	
14	2,4-dinitrotoluene	23.483	23.511	-0.028	692	0.10000	0.0940(a)	
15	2-nitrotoluene	25.743	25.764	-0.021	257	0.10000	0.0969(a)	
52	3,5-dinitroaniline	26.870	26.931	-0.061	428	0.10000	0.0906(a)	
16	4-nitrotoluene	28.056	28.058	-0.002	227	0.10000	0.107(a)	
17	3-nitrotoluene	30.090	30.111	-0.021	256	0.10000	0.0912(aM)	M9
11	4-AM-DNT	30.556	30.651	-0.095	244	0.10000	0.0932(aM)	M9
12	2-AM-DNT	32.343	32.464	-0.121	311	0.10000	0.0874(aM)	M9

AAB
10:41 am, Aug 02, 2017

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.

Data File: \\target_server\gg\chem\hplc02.i\HPLCKH01B.b\HPLCKH01B.b\HKH10012.D
Date : 01-AUG-2017 12:54
Client ID:
Instrument: hplc02.i
Sample Info: WG210620-11
Purge Volume: 0.5
Operator: AAB
Column phase: Acclaim Exp E2
Column diameter: 4.60



Katahdin Analytical Services 1000355

Data File: HKH10013.D
Report Date: 02-Aug-2017 09:55

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCKH01B.b\HPLCKH01B.b\HKH10013.D
Lab Smp Id: WG210620-10
Inj Date : 01-AUG-2017 13:44
Operator : AAB   Inst ID: hplc02.i
Smp Info : WG210620-10
Misc Info :
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCKH01B.b\E2016A.m\E2016A.m
Meth Date : 02-Aug-2017 09:51 abullentin Quant Type: ESTD
Cal Date : 01-AUG-2017 13:44   Cal File: HKH10013.D
Als bottle: 1   Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * Vt/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00500	Final Volume (L)
Vo	0.50000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

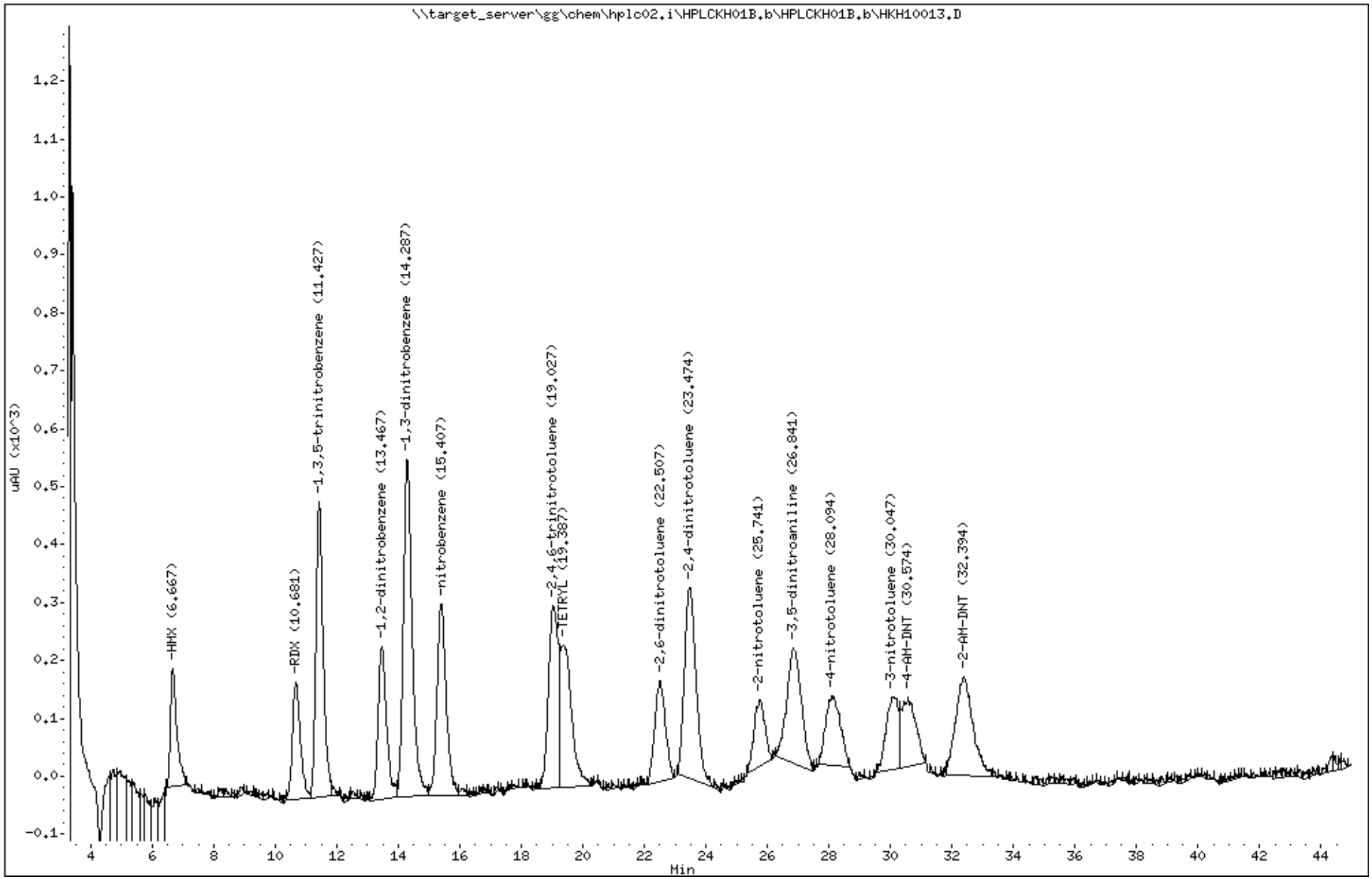
	Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	ON-COL (ug/mL)	REVIEW CODE
1	HMX	6.667	6.678	-0.011	204	0.05000	0.0456(aM)	M2
4	RDX	10.680	10.684	-0.004	202	0.05000	0.0517(a)	
5	1,3,5-trinitrobenzene	11.427	11.431	-0.004	508	0.05000	0.0473(a)	
$ 2	1,2-dinitrobenzene	13.467	13.478	-0.011	263	0.05000	0.0463(a)	
6	1,3-dinitrobenzene	14.287	14.304	-0.017	581	0.05000	0.0474(a)	
7	nitrobenzene	15.407	15.411	-0.004	331	0.05000	0.0469(a)	
10	2,4,6-trinitrotoluene	19.027	19.064	-0.037	313	0.05000	0.0430(a)	
9	TETRYL	19.387	19.424	-0.037	244	0.05000	0.0365(a)	
13	2,6-dinitrotoluene	22.507	22.538	-0.031	172	0.05000	0.0410(a)	
14	2,4-dinitrotoluene	23.473	23.511	-0.038	329	0.05000	0.0413(a)	
15	2-nitrotoluene	25.740	25.764	-0.024	115	0.05000	0.0385(aM)	M9
52	3,5-dinitroaniline	26.840	26.931	-0.091	199	0.05000	0.0375(a)	
16	4-nitrotoluene	28.093	28.058	0.035	120	0.05000	0.0410(aM)	M9
17	3-nitrotoluene	30.047	30.111	-0.064	124	0.05000	0.0361(aM)	M9
11	4-AM-DNT	30.573	30.651	-0.078	118	0.05000	0.0319(aM)	M9
12	2-AM-DNT	32.393	32.464	-0.071	171	0.05000	0.0429(a)	

10:41 am, Aug 02, 2017

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.

Data File: \\target_server\gg\chem\hplc02.i\HPLCKH01B.b\HPLCKH01B.b\HKH10013.D
Date : 01-AUG-2017 13:44
Client ID:
Instrument: hplc02.i
Sample Info: WG210620-10
Purge Volume: 0.5
Operator: AAB
Column phase: Acclaim Exp E2
Column diameter: 4.60



Katahdin Analytical Services 1000357

Data File: HKH10014.D
Report Date: 02-Aug-2017 09:55

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCKH01B.b\HPLCKH01B.b\HKH10014.D
Lab Smp Id: WG210620-9
Inj Date : 01-AUG-2017 14:33
Operator : AAB   Inst ID: hplc02.i
Smp Info : WG210620-9
Misc Info :
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCKH01B.b\E2016A.m\E2016A.m
Meth Date : 02-Aug-2017 09:51 abullentin Quant Type: ESTD
Cal Date : 01-AUG-2017 14:33   Cal File: HKH10014.D
Als bottle: 1   Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * Vt/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00500	Final Volume (L)
Vo	0.50000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	ON-COL (ug/mL)	REVIEW CODE
1	HMX	6.641	6.678	-0.037	143	0.02500	0.0300(a)	
4	RDX	10.668	10.684	-0.016	92	0.02500	0.0248(a)	
5	1,3,5-trinitrobenzene	11.428	11.431	-0.003	222	0.02500	0.0207(a)	
$ 2	1,2-dinitrobenzene	13.455	13.478	-0.023	117	0.02500	0.0199(a)	
6	1,3-dinitrobenzene	14.288	14.304	-0.016	264	0.02500	0.0210(a)	
7	nitrobenzene	15.388	15.411	-0.023	142	0.02500	0.0197(a)	
10	2,4,6-trinitrotoluene	19.048	19.064	-0.016	135	0.02500	0.0161(aM)	M9
9	TETRYL	19.301	19.424	-0.123	98	0.02500	0.00888(aM)	M6
13	2,6-dinitrotoluene	22.468	22.538	-0.070	76	0.02500	0.0172(aM)	M9
14	2,4-dinitrotoluene	23.508	23.511	-0.003	136	0.02500	0.0155(aM)	M9
15	2-nitrotoluene	25.708	25.764	-0.056	63	0.02500	0.0199(aM)	M9
52	3,5-dinitroaniline	26.795	26.931	-0.136	109	0.02500	0.0182(aM)	M9
16	4-nitrotoluene	28.141	28.058	0.083	101	0.02500	0.0301(aM)	M9
17	3-nitrotoluene	30.075	30.111	-0.036	72	0.02500	0.0175(aM)	M9
11	4-AM-DNT	30.475	30.651	-0.176	63	0.02500	0.0117(aM)	M6
12	2-AM-DNT	32.328	32.464	-0.136	65	0.02500	0.0123(aM)	M9

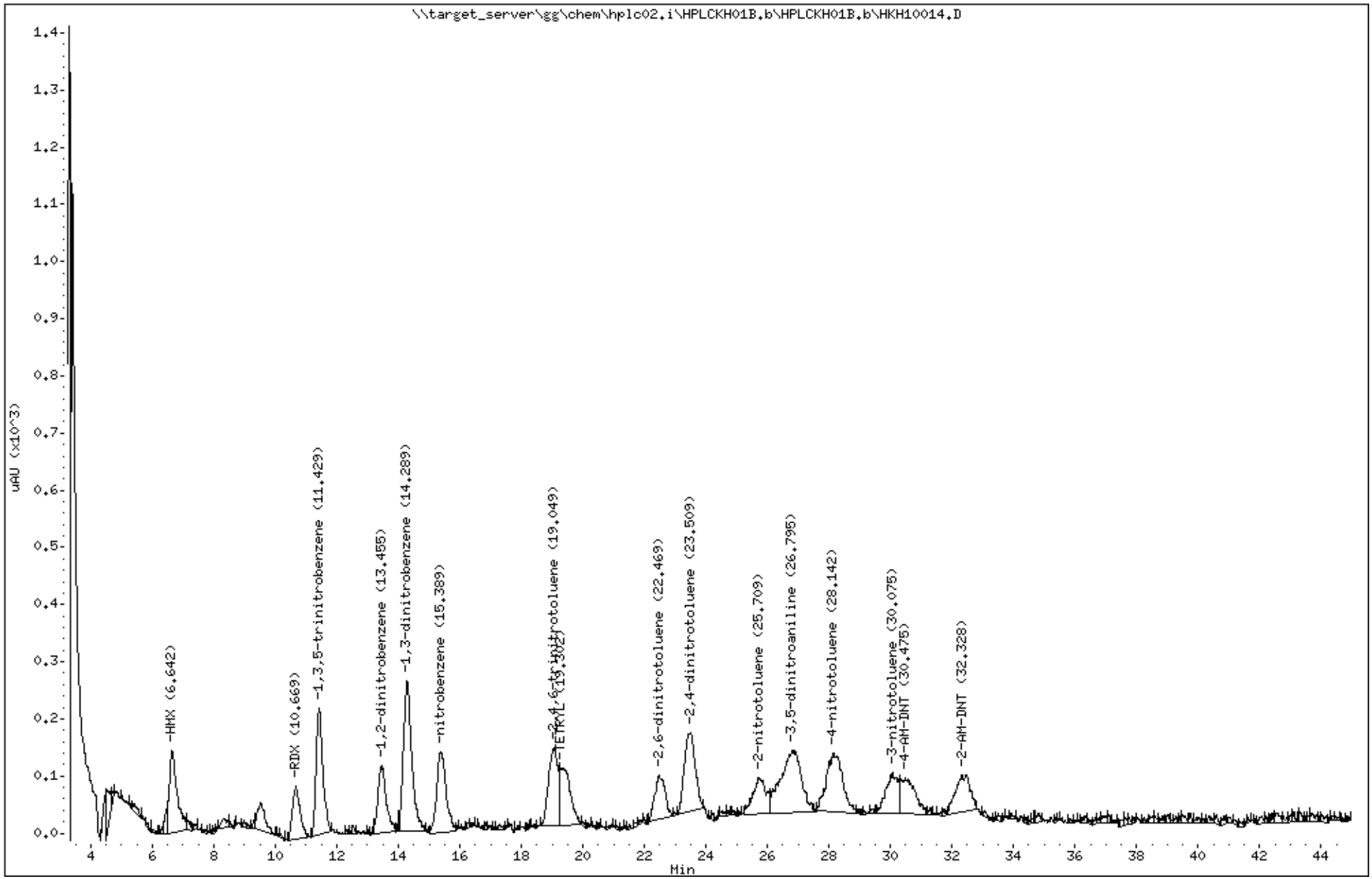


10:41 am, Aug 02, 2017

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.

Data File: \\target_server\gg\chem\hplc02.i\HPLCKH01B.b\HPLCKH01B.b\HKH10014.D
Date : 01-AUG-2017 14:33
Client ID:
Instrument: hplc02.i
Sample Info: WG210620-9
Purge Volume: 0.5
Operator: AAB
Column phase: Acclaim Exp E2
Column diameter: 4.60



Katahdin Analytical Services 1000359

Katahdin
ANALYTICAL SERVICES

Form 6
Initial Calibration Summary

Lab Name : Katahdin Analytical Services
SDG: SL4233
Project : Cornhusker Army Ammunition Plant
Instrument ID: HPLC02
Lab File IDs : HLC10037.D HLC10036.D HLC10035.D HLC10034.D HLC10033.D HLC10032.D HLC10031.D
Calibration Date(s): 20-MAR-18 14:54 20-MAR-18 18:05

	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 7		Crv				Max	
	0.025000(	0.050000(	0.100000(	0.250000(	0.500000(	1.0000	2.0000		New	b	m1	%RSD	%RSD	
NITROGLYCERIN	5440	5685	5280	5392	5454	5917	5425		AVG		5513	3.90686	20.00000	O
PETN	3020	2970	2465	3064	2834	3010	2768		AVG		2876	7.31282	15.00000	O

Legend: O = Kept Original Curve
Y = Failed Minimum RF
W = Failed %RSD Value

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://katahdinlab.com
sales@katahdinlab.com

Data File: \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HLC10038.D
Report Date: 26-Mar-2018 14:36

Katahdin Analytical Services

RECOVERY REPORT

Client Name: Client SDG: SDGa00508
Sample Matrix: LIQUID Fraction: Explosives
Lab Smp Id: WG225143-8
Level: LOW Operator: AC
Data Type: LC DATA SampleType: LCS
SpikeList File: IND.spk Quant Type: ESTD
Sublist File: ngpetnedgn.sub
Method File: \\target_server\gg\chem\hplc02.i\HPLCLC20.b\EXPB05A.m
Misc Info: WG225143,WG225143,WG225143-5,SL2295-1

SPIKE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
3 Ethylene Glycol Di	20.0	19.5	97.34	30-150
8 NITROGLYCERIN	20.0	18.5	92.69	80-120
18 PETN	20.0	19.6	97.78	80-120

Data File: \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HLC10038.D
Report Date: 26-Mar-2018 14:36

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HLC10038.D
Lab Smp Id: WG225143-8
Inj Date : 20-MAR-2018 18:37
Operator : AC Inst ID: hplc02.i
Smp Info : WG225143-8,SL2295
Misc Info : WG225143,WG225143,WG225143-5,SL2295-1
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLC20.b\EXPB05A.m
Meth Date : 21-Mar-2018 11:31 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 15 QC Sample: LCS
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetnedgn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*(Vt/Vo) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00500	Final Volume (L)
Vo	0.50000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

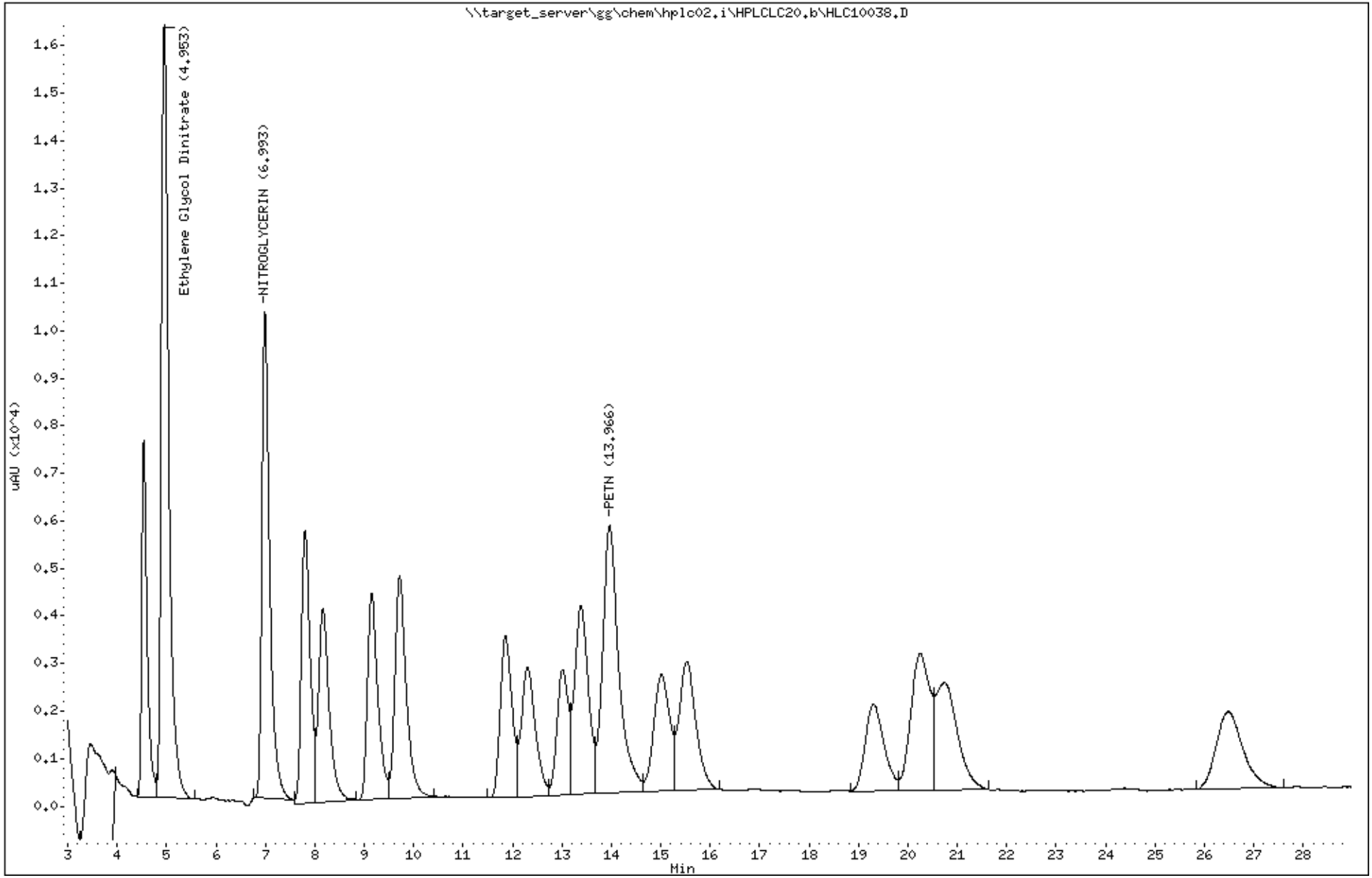
						CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/L)	
Compounds	RT	EXP RT	DLT RT	RESPONSE				
8 NITROGLYCERIN	6.992	6.997	-0.005	10220		1.85373	18.5(M)	M2
18 PETN	13.966	13.963	0.003	5624		1.95560	19.6	
3 Ethylene Glycol Dinitrate	4.952	4.957	-0.005	16261		1.94680	19.5	

QC Flag Legend

M - Compound response manually integrated.

2:37 pm, Mar 26, 2018

Data File: \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HLC10038.D
Date : 20-MAR-2018 18:37
Client ID:
Instrument: hplc02.i
Sample Info: WG225143-8,SL2295
Purge Volume: 0.5
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 1000363

Data File: \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HLC10031.D
Report Date: 26-Mar-2018 13:04

Katahdin Analytical Services

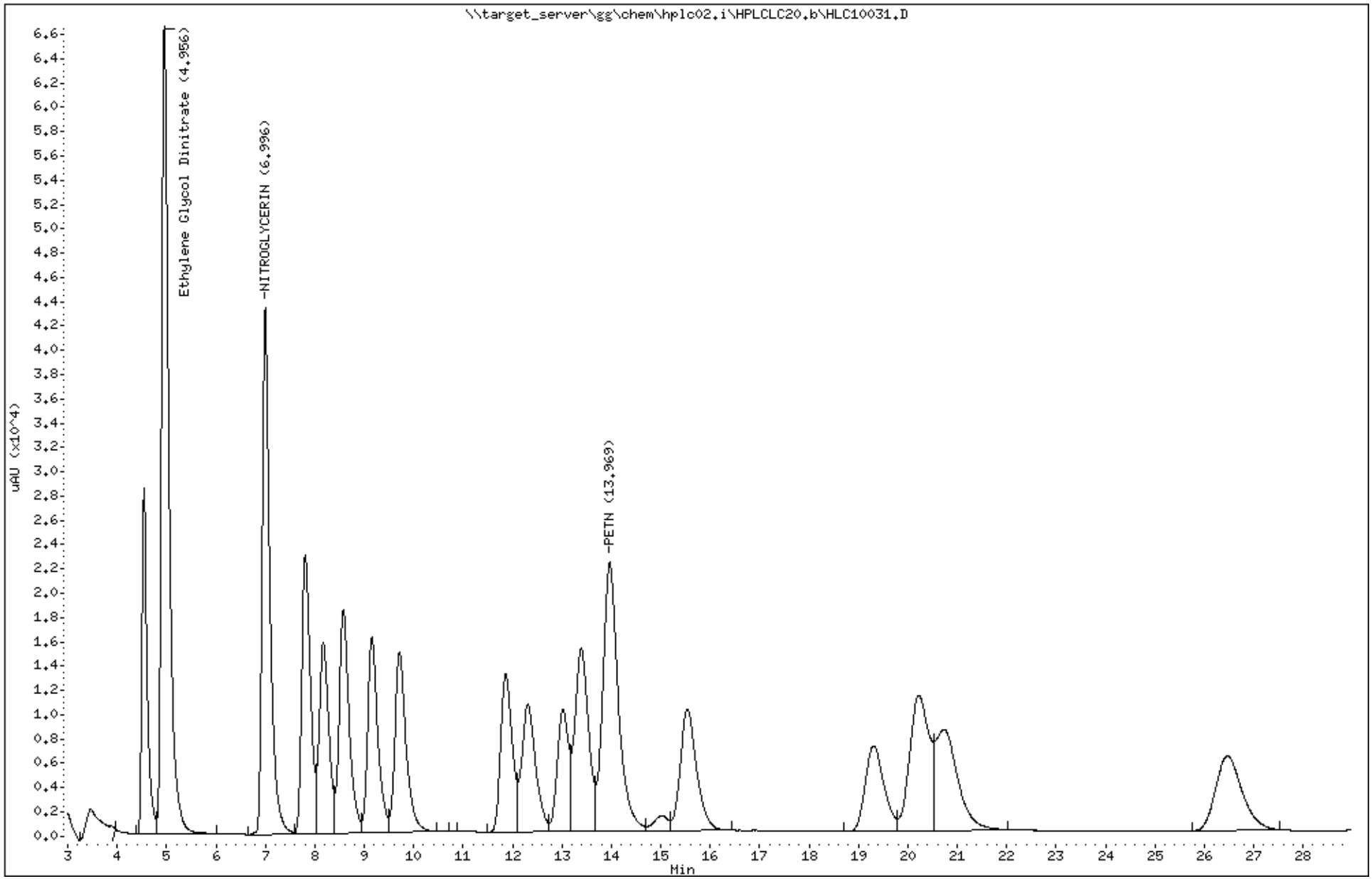
Data file : \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HLC10031.D
Lab Smp Id: WG225143-7
Inj Date : 20-MAR-2018 14:54
Operator : AC   Inst ID: hplc02.i
Smp Info : WG225143-7
Misc Info :
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCLC20.b\EXPB05A.m
Meth Date : 21-Mar-2018 11:31 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 14:54   Cal File: HLC10031.D
Als bottle: 8   Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: ngpetnedgn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*(Vt/Vo) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00500	Final Volume (L)
Vo	0.50000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

					AMOUNTS	
					CAL-AMT	ON-COL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/mL)	(ug/mL)
8 NITROGLYCERIN	6.995	6.997	-0.002	43399	8.00000	7.98
18 PETN	13.969	13.963	0.006	22141	8.00000	7.90
3 Ethylene Glycol Dinitrate	4.955	4.957	-0.002	66513	8.00000	8.00

Data File: \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HLC10031.D
Date : 20-MAR-2018 14:54
Client ID:
Instrument: hplc02.i
Sample Info: WG225143-7
Purge Volume: 0.5
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 1000365

Data File: \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HLC10032.D
Report Date: 26-Mar-2018 13:04

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HLC10032.D
Lab Smp Id: WG225143-6
Inj Date : 20-MAR-2018 15:26
Operator : AC   Inst ID: hplc02.i
Smp Info : WG225143-6
Misc Info :
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCLC20.b\EXPB05A.m
Meth Date : 21-Mar-2018 11:31 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 15:26   Cal File: HLC10032.D
Als bottle: 9   Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: ngpetnedgn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*(Vt/Vo) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00500	Final Volume (L)
Vo	0.50000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

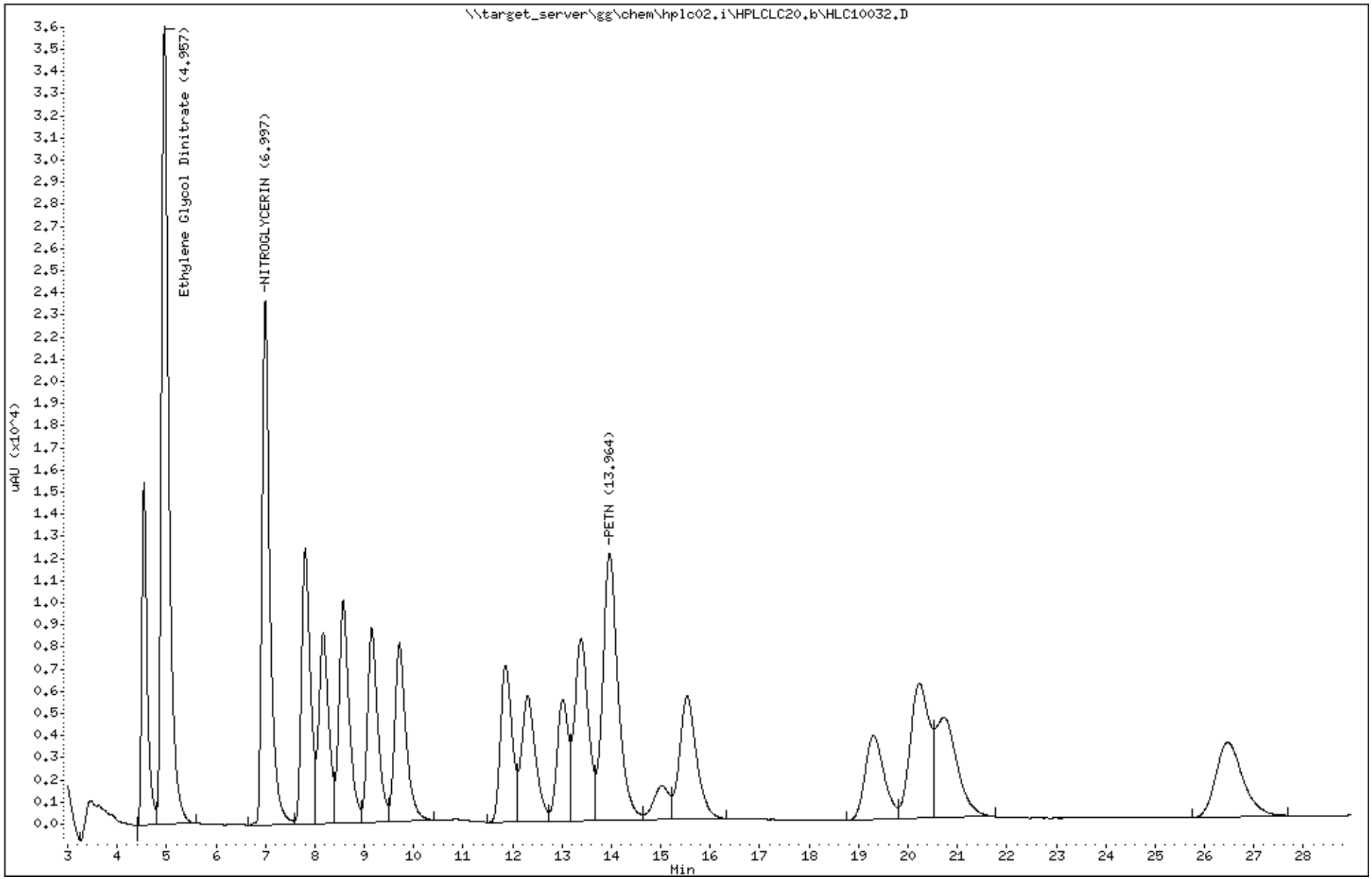
					AMOUNTS		
					CAL-AMT	ON-COL	
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/mL)	(ug/mL)	
8 NITROGLYCERIN	6.997	6.997	0.000	23668	4.00000	4.27	
18 PETN	13.963	13.963	0.000	12041	4.00000	4.43	
3 Ethylene Glycol Dinitrate	4.957	4.957	0.000	36056	4.00000	2.84(M)	M2

QC Flag Legend

M - Compound response manually integrated.

AAB
2:39 pm, Mar 26, 2018

Data File: \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HLC10032.D
Date : 20-MAR-2018 15:26
Client ID:
Instrument: hplc02.i
Sample Info: WG225143-6
Purge Volume: 0.5
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 1000367

Data File: \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HLC10033.D
Report Date: 26-Mar-2018 13:04

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HLC10033.D
Lab Smp Id: WG225143-5
Inj Date : 20-MAR-2018 15:58
Operator : AC   Inst ID: hplc02.i
Smp Info : WG225143-5
Misc Info :
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCLC20.b\EXPB05A.m
Meth Date : 21-Mar-2018 11:31 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 15:58   Cal File: HLC10033.D
Als bottle: 10   Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: ngpetnedgn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*(Vt/Vo) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00500	Final Volume (L)
Vo	0.50000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

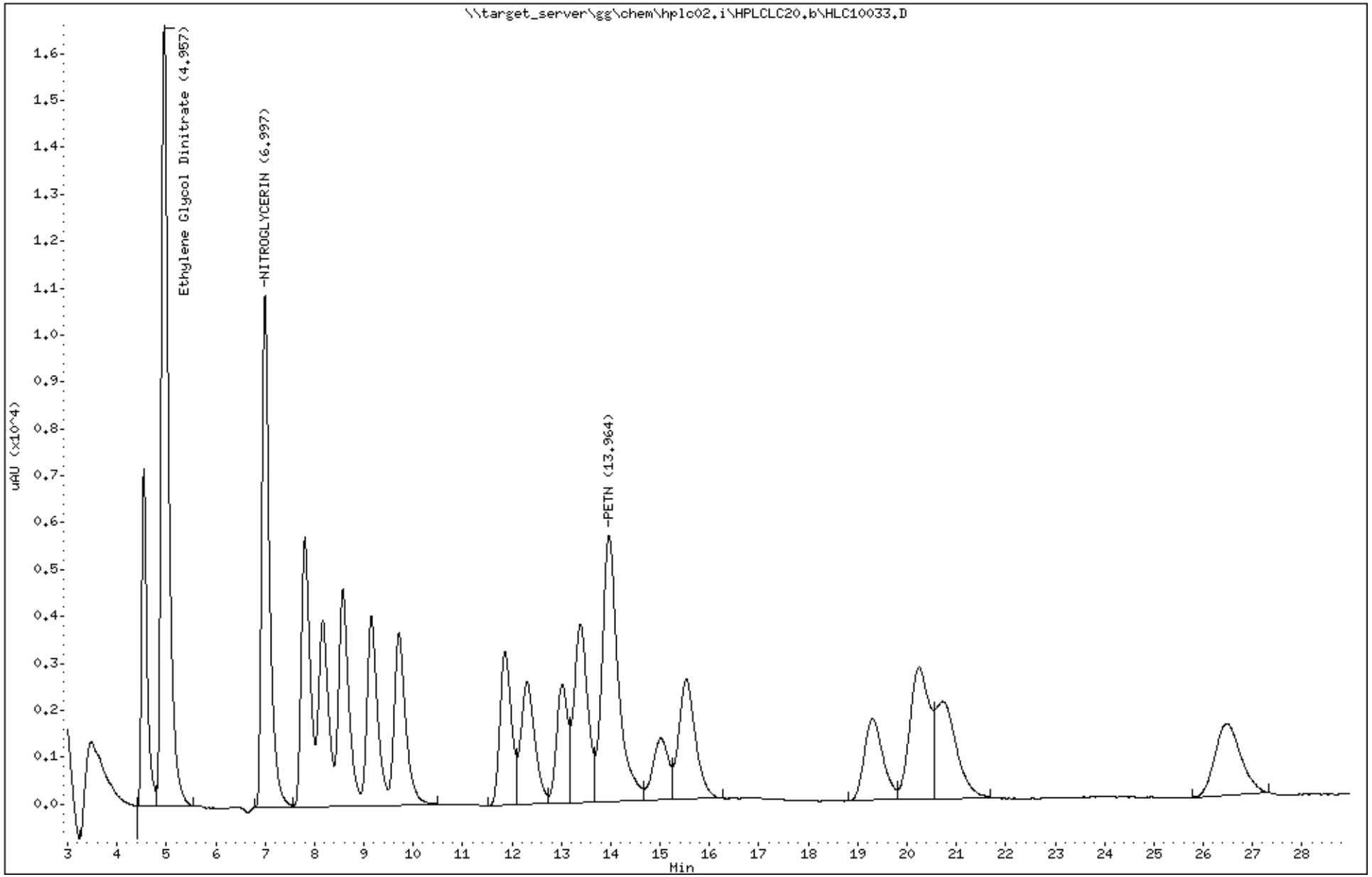
					AMOUNTS		
					CAL-AMT	ON-COL	
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/mL)	(ug/mL)	
8 NITROGLYCERIN	6.997	6.997	0.000	10907	2.00000	2.00(aM)	M2
18 PETN	13.963	13.963	0.000	5668	2.00000	2.00(a)	
3 Ethylene Glycol Dinitrate	4.957	4.957	0.000	16637	2.00000	2.00(aM)	

2:42 pm, Mar 26, 2018

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.

Data File: \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HLC10033.D
Date : 20-MAR-2018 15:58
Client ID:
Instrument: hplc02.i
Sample Info: WG225143-5
Purge Volume: 0.5
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 1000369

Data File: \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HLC10034.D
Report Date: 26-Mar-2018 13:04

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HLC10034.D
Lab Smp Id: WG225143-4
Inj Date : 20-MAR-2018 16:30
Operator : AC   Inst ID: hplc02.i
Smp Info : WG225143-4
Misc Info :
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCLC20.b\EXPB05A.m
Meth Date : 21-Mar-2018 11:31 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 16:30   Cal File: HLC10034.D
Als bottle: 11   Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: ngpetnedgn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*(Vt/Vo) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00500	Final Volume (L)
Vo	0.50000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

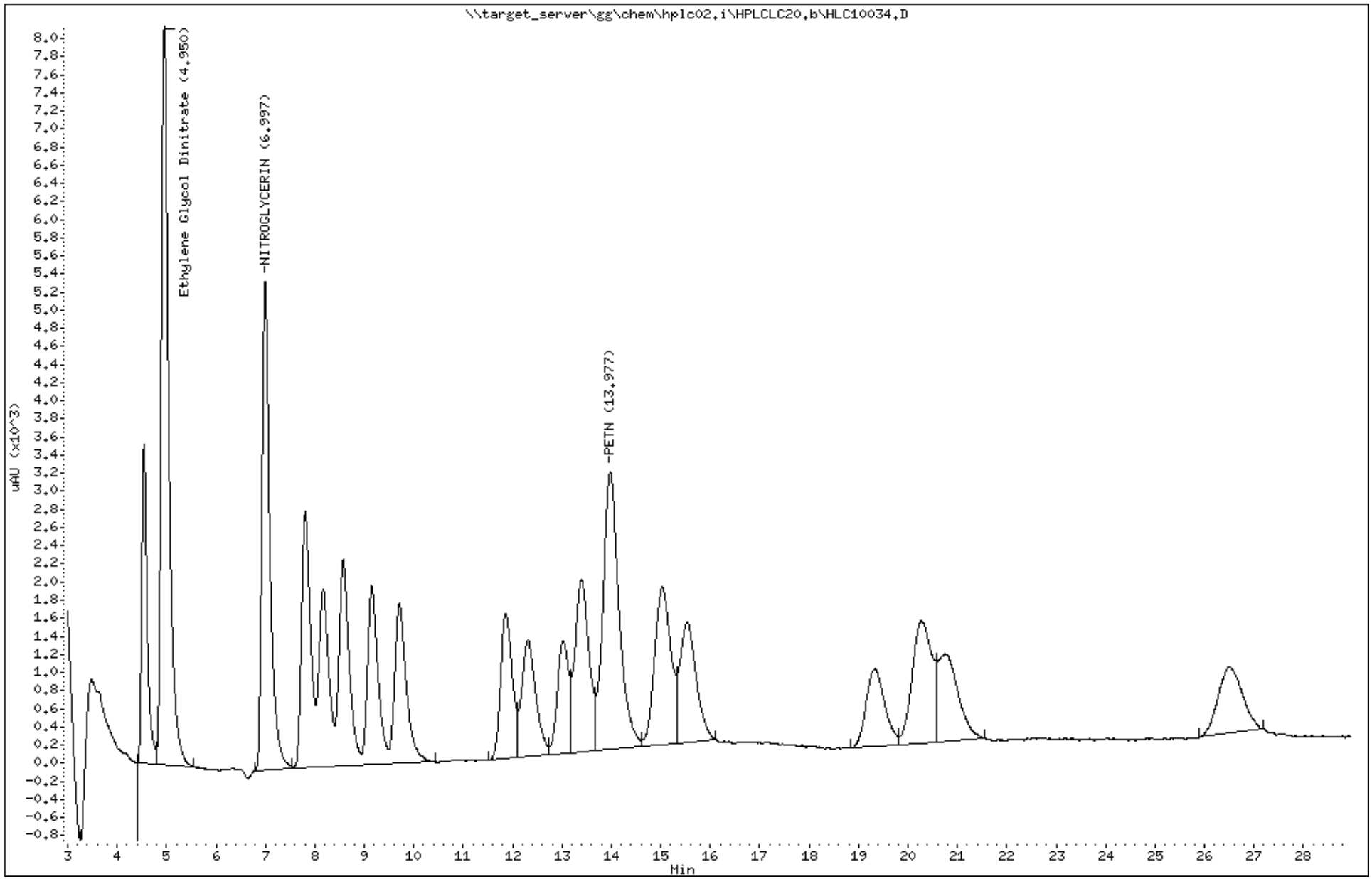
						AMOUNTS		
						CAL-AMT	ON-COL	
Compounds	RT	EXP RT	DLT RT	RESPONSE		(ug/mL)	(ug/mL)	
8	NITROGLYCERIN	6.997	6.997	0.000	5392	1.00000	0.974(aM)	M2
18	PETN	13.977	13.963	0.014	3064	1.00000	1.13(a)	
3	Ethylene Glycol Dinitrate	4.950	4.957	-0.007	8157	1.00000	0.705(aM)	

2:42 pm, Mar 26, 2018

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.

Data File: \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HLC10034.D
Date : 20-MAR-2018 16:30
Client ID:
Instrument: hplc02.i
Sample Info: WG225143-4
Purge Volume: 0.5
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 1000371

Data File: \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HLC10035.D
Report Date: 26-Mar-2018 13:04

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HLC10035.D
Lab Smp Id: WG225143-3
Inj Date : 20-MAR-2018 17:01
Operator : AC   Inst ID: hplc02.i
Smp Info : WG225143-3
Misc Info :
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCLC20.b\EXPB05A.m
Meth Date : 21-Mar-2018 11:31 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 17:01   Cal File: HLC10035.D
Als bottle: 12   Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: ngpetnedgn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*(Vt/Vo) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00500	Final Volume (L)
Vo	0.50000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

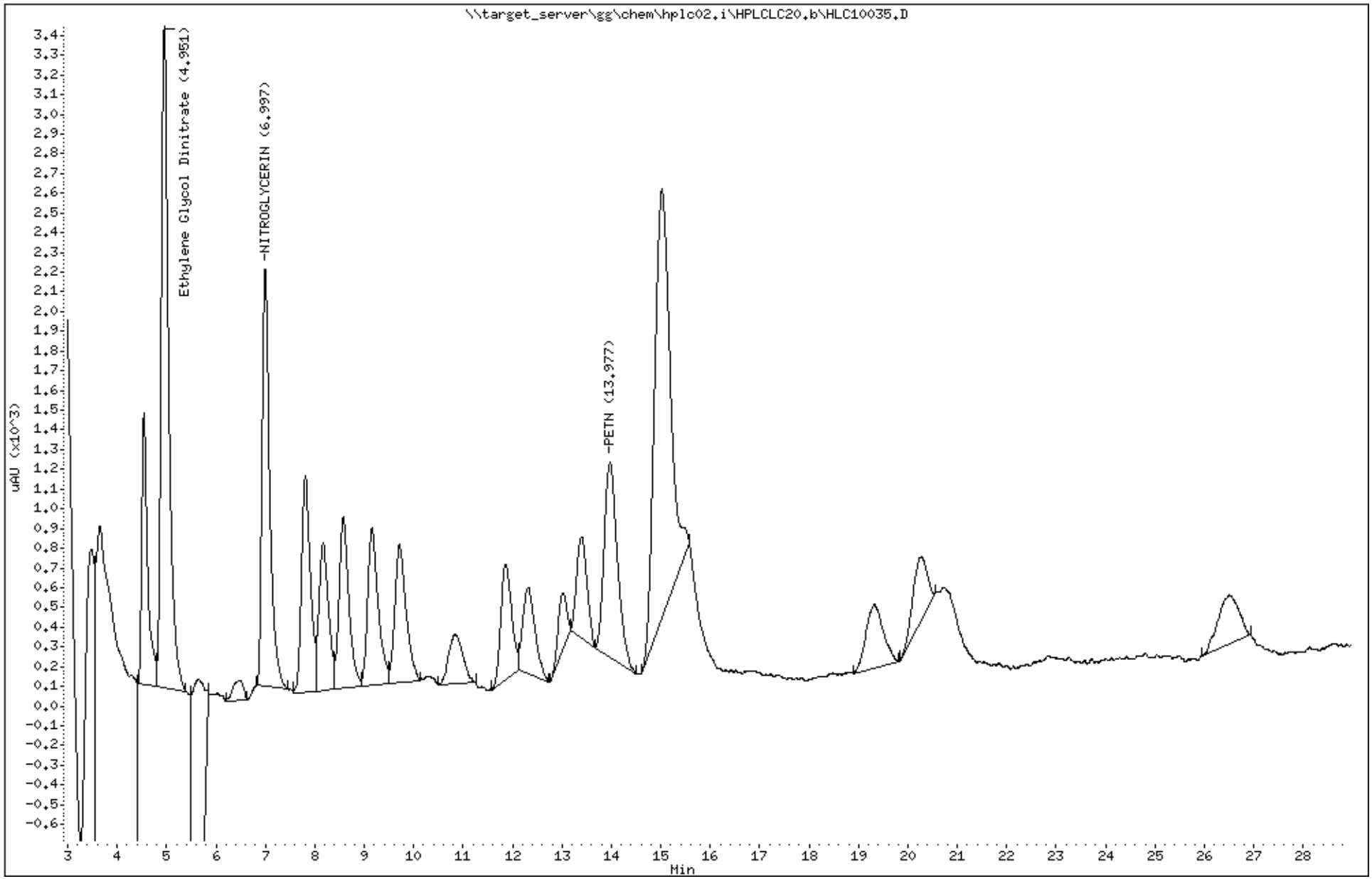
						AMOUNTS		
						CAL-AMT	ON-COL	
	Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/mL)	(ug/mL)	
8	NITROGLYCERIN	6.997	6.997	0.000	2112	0.40000	0.383(aM)	M2
18	PETN	13.977	13.963	0.014	986	0.40000	0.363(a)	
3	Ethylene Glycol Dinitrate	4.950	4.957	-0.007	3354	0.40000	0.402(aM)	

2:42 pm, Mar 26, 2018

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.

Data File: \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HLC10035.D
Date : 20-MAR-2018 17:01
Client ID:
Instrument: hplc02.i
Sample Info: WG225143-3
Purge Volume: 0.5
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 1000373

Data File: \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HLC10036.D
Report Date: 26-Mar-2018 13:04

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HLC10036.D
Lab Smp Id: WG225143-2
Inj Date : 20-MAR-2018 17:33
Operator : AC   Inst ID: hplc02.i
Smp Info : WG225143-2
Misc Info :
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCLC20.b\EXPB05A.m
Meth Date : 21-Mar-2018 11:31 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 17:33   Cal File: HLC10036.D
Als bottle: 13   Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: ngpetnedgn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*(Vt/Vo) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00500	Final Volume (L)
Vo	0.50000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

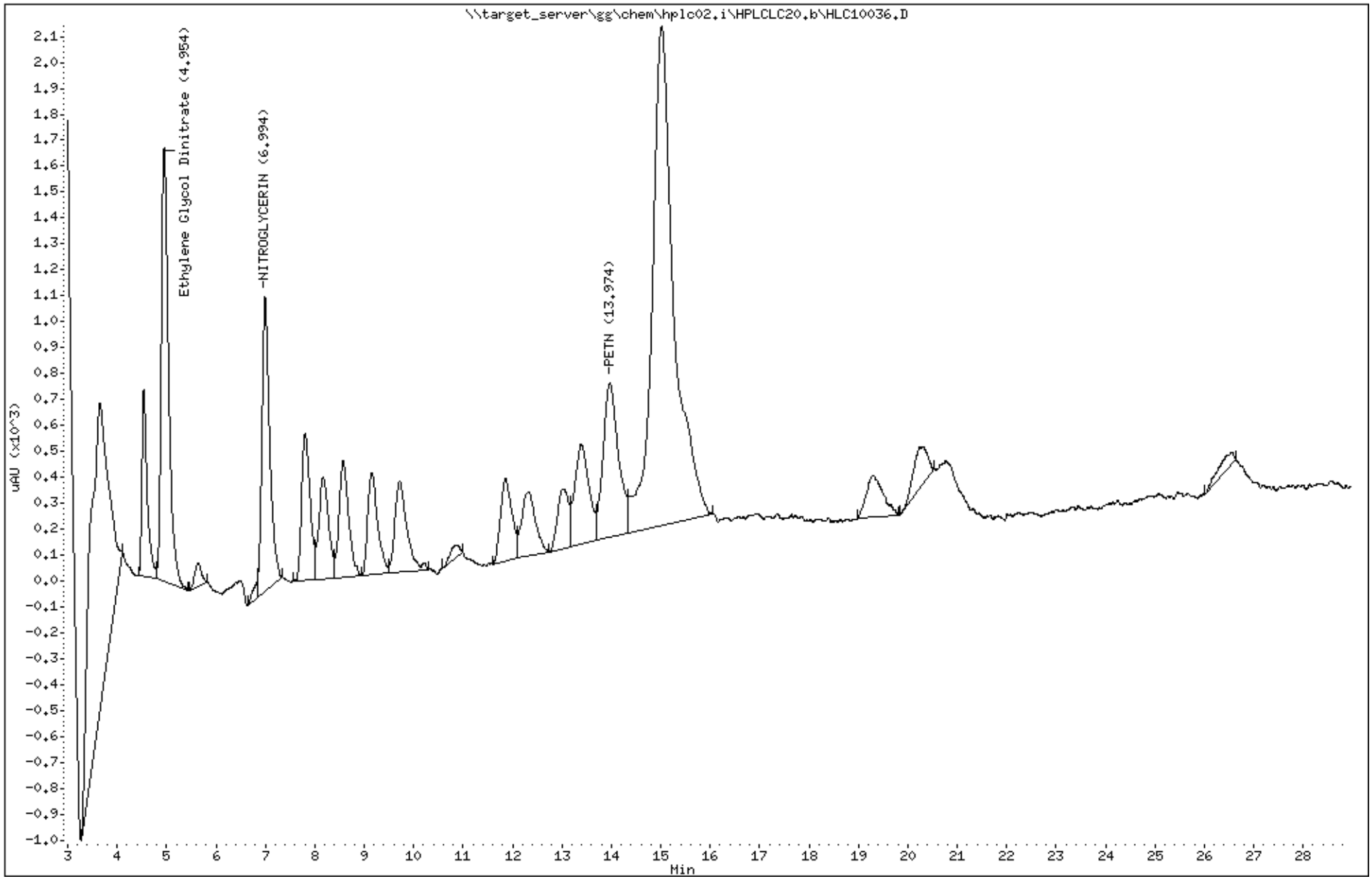
						AMOUNTS		
						CAL-AMT	ON-COL	
	Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/mL)	(ug/mL)	
8	NITROGLYCERIN	6.994	6.997	-0.003	1137	0.20000	0.206(aM)	M2
18	PETN	13.974	13.963	0.011	594	0.20000	0.218(a)	
3	Ethylene Glycol Dinitrate	4.954	4.957	-0.003	1670	0.20000	0.200(a)	

2:42 pm, Mar 26, 2018

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.

Data File: \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HLC10036.D
Date : 20-MAR-2018 17:33
Client ID:
Instrument: hplc02.i
Sample Info: WG225143-2
Purge Volume: 0.5
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 1000375

Data File: \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HLC10037.D
Report Date: 26-Mar-2018 13:04

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HLC10037.D
Lab Smp Id: WG225143-1
Inj Date : 20-MAR-2018 18:05
Operator : AC   Inst ID: hplc02.i
Smp Info : WG225143-1
Misc Info :
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCLC20.b\EXPB05A.m
Meth Date : 21-Mar-2018 11:31 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05   Cal File: HLC10037.D
Als bottle: 14   Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: ngpetnedgn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*(Vt/Vo) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00500	Final Volume (L)
Vo	0.50000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

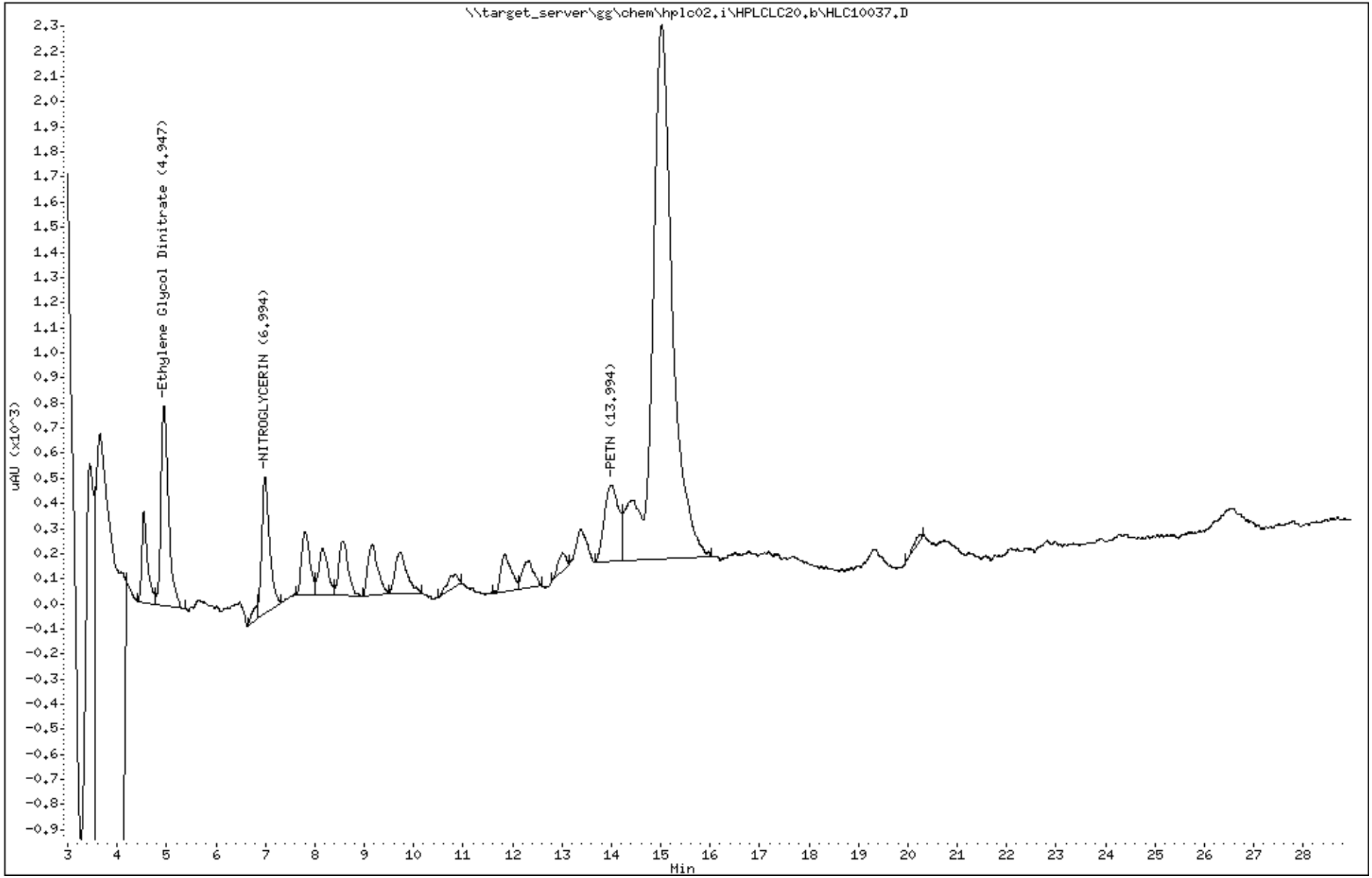
					AMOUNTS		
					CAL-AMT	ON-COL	
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/mL)	(ug/mL)	
8 NITROGLYCERIN	6.993	6.997	-0.004	544	0.10000	0.0987(aM)	M3
18 PETN	13.993	13.963	0.030	302	0.10000	0.105(aM)	
3 Ethylene Glycol Dinitrate	4.947	4.957	-0.010	793	0.10000	0.0949(a)	

2:43 pm, Mar 26, 2018

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.

Data File: \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HLC10037.D
Date : 20-MAR-2018 18:05
Client ID:
Instrument: hplc02.i
Sample Info: WG225143-1
Purge Volume: 0.5
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 1000377

Katahdin
ANALYTICAL SERVICES

Form 6
Initial Calibration Summary

Lab Name : Katahdin Analytical Services
SDG: SL4233
Project : Cornhusker Army Ammunition Plant
Instrument ID: HPLC02
Lab File IDs : HLC10037.D HLC10036.D HLC10035.D HLC10034.D HLC10033.D HLC10032.D HLC10031.D
Calibration Date(s): 20-MAR-18 14:54 20-MAR-18 18:05

	0.025000(Level 1	0.050000(Level 2	0.100000(Level 3	0.250000(Level 4	0.5000000 Level 5	1.0000 Level 6	2.0000 Level 7		New Crv	b	m1	%RSD	Max %RSD	
HMX	5320	5440	5140	5296	5378	5810	5351		AVG		5391	3.83807	20.00000	O
RDX	75.00000	225	466	1287	2694	5888	10895		LNR	0.00587	5552	0.99828	0.99000	O
1,3,5-trinitrobenzene	3240	3680	3770	3628	3744	4074	3686		AVG		3689	6.66990	20.00000	O
1,3-dinitrobenzene	6680	7280	7410	7508	7512	8198	7518		AVG		7444	5.99405	20.00000	O
TETRYL	2240	2660	2530	2424	2550	2797	2541		AVG		2535	6.90733	20.00000	O
nitrobenzene	6760	6820	6610	6736	6892	7418	6831		AVG		6867	3.77157	20.00000	O
2,4,6-trinitrotoluene	2600	2520	2510	2460	2478	2672	2445		AVG		2526	3.24744	20.00000	O
2-AM-DNT	5360	5700	5640	5720	5838	6280	5787		AVG		5761	4.78978	20.00000	O
4-AM-DNT	4200	4040	4240	4260	4366	4695	4318		AVG		4303	4.68155	20.00000	O
2,6-dinitrotoluene	101	175	345	733	1390	3147	5661		LNR	-0.01275	2869	0.99714	0.99000	O
2,4-dinitrotoluene	4280	4700	4560	4552	4620	5008	4610		AVG		4619	4.68458	20.00000	O
2-nitrotoluene	2520	2760	2900	2944	2952	3214	2937		AVG		2890	7.31192	20.00000	O
3-nitrotoluene	3360	3180	3390	3404	3136	3585	3225		AVG		3326	4.69272	20.00000	O
4-nitrotoluene	2280	1980	2350	2484	2298	2635	2370		AVG		2342	8.60342	20.00000	O
1,2-dinitrobenzene	4680	4500	4480	4532	4640	4978	4582		AVG		4627	3.69030	20.00000	

Legend: O = Kept Original Curve
Y = Failed Minimum RF
W = Failed %RSD Value

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029

http://katahdinlab.com
sales@katahdinlab.com

Data File: HLC10038.D
Report Date: 26-Mar-2018 14:36

Katahdin Analytical Services

RECOVERY REPORT

Client Name: Client SDG: SDGa00508
Sample Matrix: LIQUID Fraction: Explosives
Lab Smp Id: WG225143-8
Level: LOW Operator: AC
Data Type: LC DATA SampleType: LCS
SpikeList File: IND.spk Quant Type: ESTD
Sublist File: SW8330A.sub
Method File: \\target_server\gg\chem\hplc02.i\HPLCLC20.b\EXPB05A.m\EXPB05A.m
Misc Info: WG225143,WG225143,WG225143-5,SL2295-1

SPIKE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
1 HMX	5.00	5.25	104.96	80-120
4 RDX	5.00	5.14	102.73	80-120
5 1,3,5-trinitrobenz	5.00	5.21	104.21	80-120
6 1,3-dinitrobenzene	5.00	5.16	103.31	80-120
7 nitrobenzene	5.00	5.09	101.80	80-120
9 TETRYL	5.00	5.52	110.47	80-120
10 2,4,6-trinitrotolu	5.00	5.09	101.89	80-120
11 4-AM-DNT	5.00	5.41	108.21	80-120
12 2-AM-DNT	5.00	5.19	103.77	80-120
13 2,6-dinitrotoluene	5.00	4.91	98.26	80-120
14 2,4-dinitrotoluene	5.00	5.23	104.54	80-120
15 2-nitrotoluene	5.00	5.27	105.48	80-120
16 4-nitrotoluene	5.00	5.12	102.37	80-120
17 3-nitrotoluene	5.00	4.93	98.57	80-120
51 3,5-Dinitroaniline	5.00	4.94	98.91	80-120

SURROGATE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
$ 2 1,2-dinitrobenzene	10.0	0.000	*	83-119

Data File: HLC10038.D
Report Date: 26-Mar-2018 14:36

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HPLCLC20.b\HLC10038.D
Lab Smp Id: WG225143-8
Inj Date : 20-MAR-2018 18:37
Operator : AC Inst ID: hplc02.i
Smp Info : WG225143-8,SL2295
Misc Info : WG225143,WG225143,WG225143-5,SL2295-1
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLC20.b\EXPB05A.m\EXPB05A.m
Meth Date : 22-Mar-2018 05:09 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 15 QC Sample: LCS
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12

Concentration Formula: Amt * DF * 1000*(Vt/Vo) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00500	Final Volume (L)
Vo	0.50000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

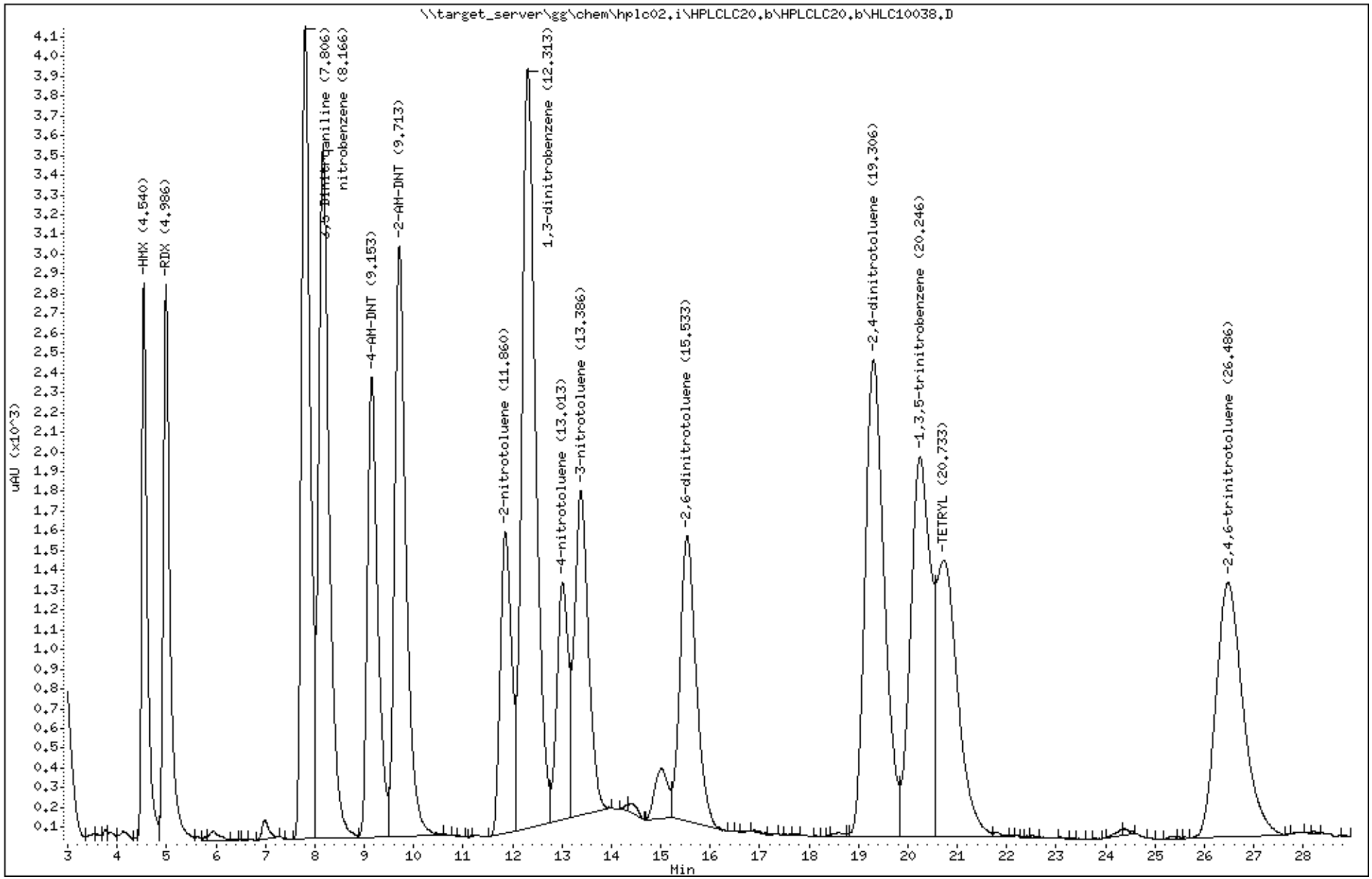
	Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/L)	REVIEW CODE
1	HMX	4.539	4.542	-0.003	2829	0.52480	5.25(M)	M5
4	RDX	4.986	4.989	-0.003	2819	0.51364	5.14(M)	
51	3,5-Dinitroaniline	7.806	7.809	-0.003	4113	0.49457	4.94	
7	nitrobenzene	8.166	8.175	-0.009	3495	0.50898	5.09	
11	4-AM-DNT	9.152	9.155	-0.003	2328	0.54105	5.41	
12	2-AM-DNT	9.712	9.715	-0.003	2989	0.51886	5.19	
15	2-nitrotoluene	11.859	11.862	-0.003	1524	0.52741	5.27	
6	1,3-dinitrobenzene	12.312	12.315	-0.003	3845	0.51654	5.16	
16	4-nitrotoluene	13.012	13.022	-0.010	1199	0.51186	5.12	
17	3-nitrotoluene	13.386	13.389	-0.003	1639	0.49284	4.93	
13	2,6-dinitrotoluene	15.532	15.542	-0.010	1446	0.49132	4.91	
14	2,4-dinitrotoluene	19.306	19.309	-0.003	2414	0.52268	5.23	
5	1,3,5-trinitrobenzene	20.246	20.222	0.024	1922	0.52103	5.21	
9	TETRYL	20.732	20.722	0.010	1400	0.55236	5.52	
10	2,4,6-trinitrotoluene	26.486	26.469	0.017	1287	0.50943	5.09	

AAB
2:37 pm, Mar 26, 2018

QC Flag Legend

M - Compound response manually integrated.

Data File: \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HPLCLC20.b\HLC10038.D
Date : 20-MAR-2018 18:37
Client ID:
Instrument: hplc02.i
Sample Info: WG225143-8,SL2295
Purge Volume: 0.5
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 1000381

Data File: HLC10031.D
Report Date: 26-Mar-2018 13:10

Katahdin Analytical Services

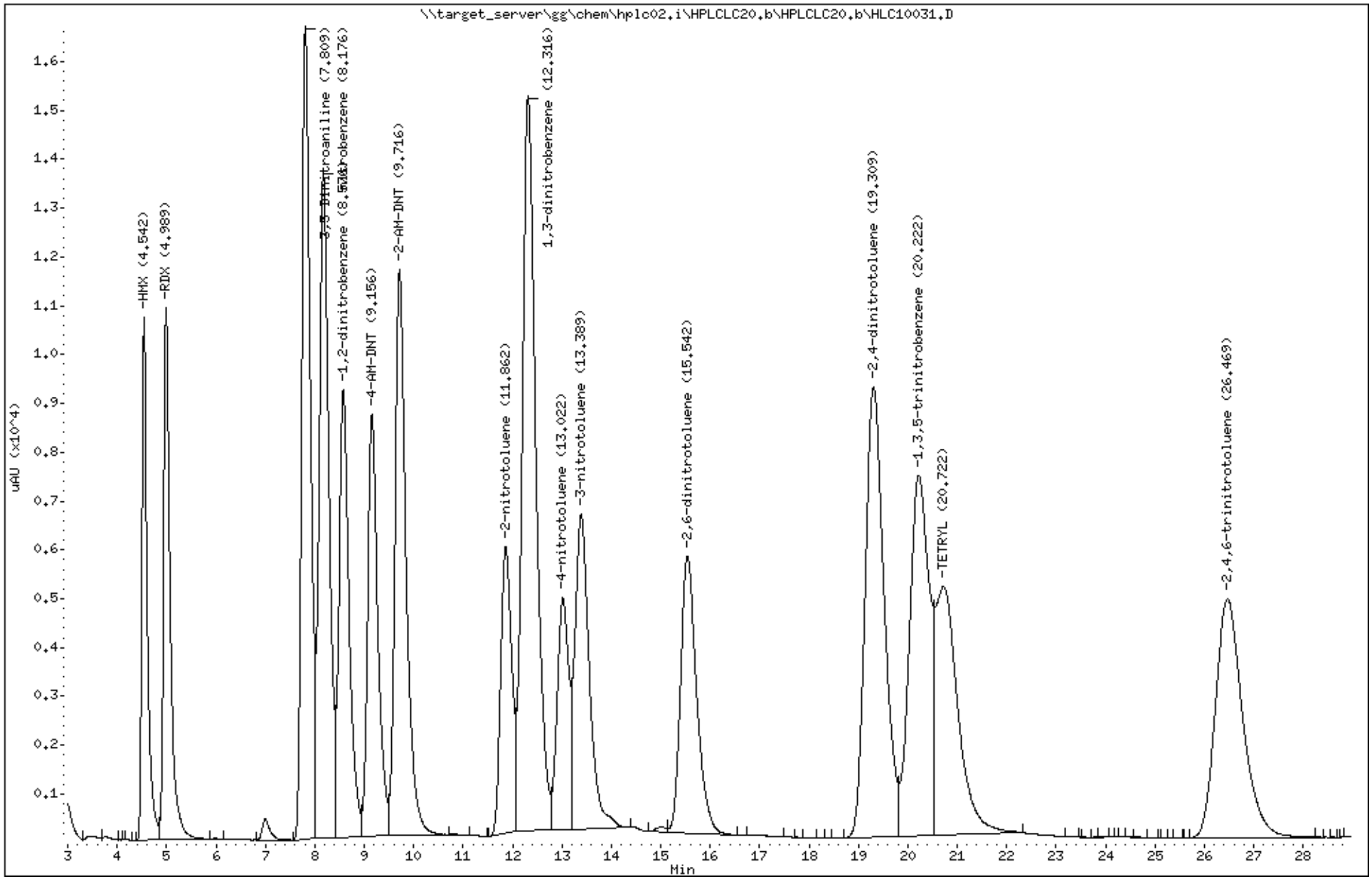
Data file : \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HPLCLC20.b\HLC10031.D
Lab Smp Id: WG225143-7
Inj Date : 20-MAR-2018 14:54
Operator : AC   Inst ID: hplc02.i
Smp Info : WG225143-7
Misc Info :
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCLC20.b\EXPB05A.m\EXPB05A.m
Meth Date : 22-Mar-2018 05:09 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 14:54   Cal File: HLC10031.D
Als bottle: 8   Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: T8-D4700

Concentration Formula: Amt * DF * 1000*(Vt/Vo) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00500	Final Volume (L)
Vo	0.50000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)	REVIEW CODE
1	HMX	4.542	4.542	0.000	10701	2.00000	2.00	
4	RDX	4.989	4.989	0.000	10895	2.00000	2.00	
51	3,5-Dinitroaniline	7.809	7.809	0.000	16640	2.00000	2.00	
7	nitrobenzene	8.175	8.175	0.000	13661	2.00000	2.00	
$ 2	1,2-dinitrobenzene	8.575	8.575	0.000	9164	2.00000	2.00	
11	4-AM-DNT	9.155	9.155	0.000	8636	2.00000	2.00	
12	2-AM-DNT	9.715	9.715	0.000	11574	2.00000	2.00	
15	2-nitrotoluene	11.862	11.862	0.000	5874	2.00000	2.00	
6	1,3-dinitrobenzene	12.315	12.315	0.000	15036	2.00000	2.00	
16	4-nitrotoluene	13.022	13.022	0.000	4740	2.00000	2.00	
17	3-nitrotoluene	13.389	13.389	0.000	6449	2.00000	2.00	
13	2,6-dinitrotoluene	15.542	15.542	0.000	5661	2.00000	2.00	
14	2,4-dinitrotoluene	19.309	19.309	0.000	9219	2.00000	2.00	
5	1,3,5-trinitrobenzene	20.222	20.222	0.000	7372	2.00000	2.00	
9	TETRYL	20.722	20.722	0.000	5082	2.00000	2.00	
10	2,4,6-trinitrotoluene	26.469	26.469	0.000	4889	2.00000	2.00	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HPLCLC20.b\HLC10031.D
Date : 20-MAR-2018 14:54
Client ID:
Instrument: hplc02.i
Sample Info: WG225143-7
Purge Volume: 0.5
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 1000383

Data File: HLC10032.D
Report Date: 26-Mar-2018 13:10

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HPLCLC20.b\HLC10032.D
Lab Smp Id: WG225143-6
Inj Date : 20-MAR-2018 15:26
Operator : AC   Inst ID: hplc02.i
Smp Info : WG225143-6
Misc Info :
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCLC20.b\EXPB05A.m\EXPB05A.m
Meth Date : 22-Mar-2018 05:09 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 15:26   Cal File: HLC10032.D
Als bottle: 9   Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: T8-D4700

Concentration Formula: Amt * DF * 1000*(Vt/Vo) * CpndVariable

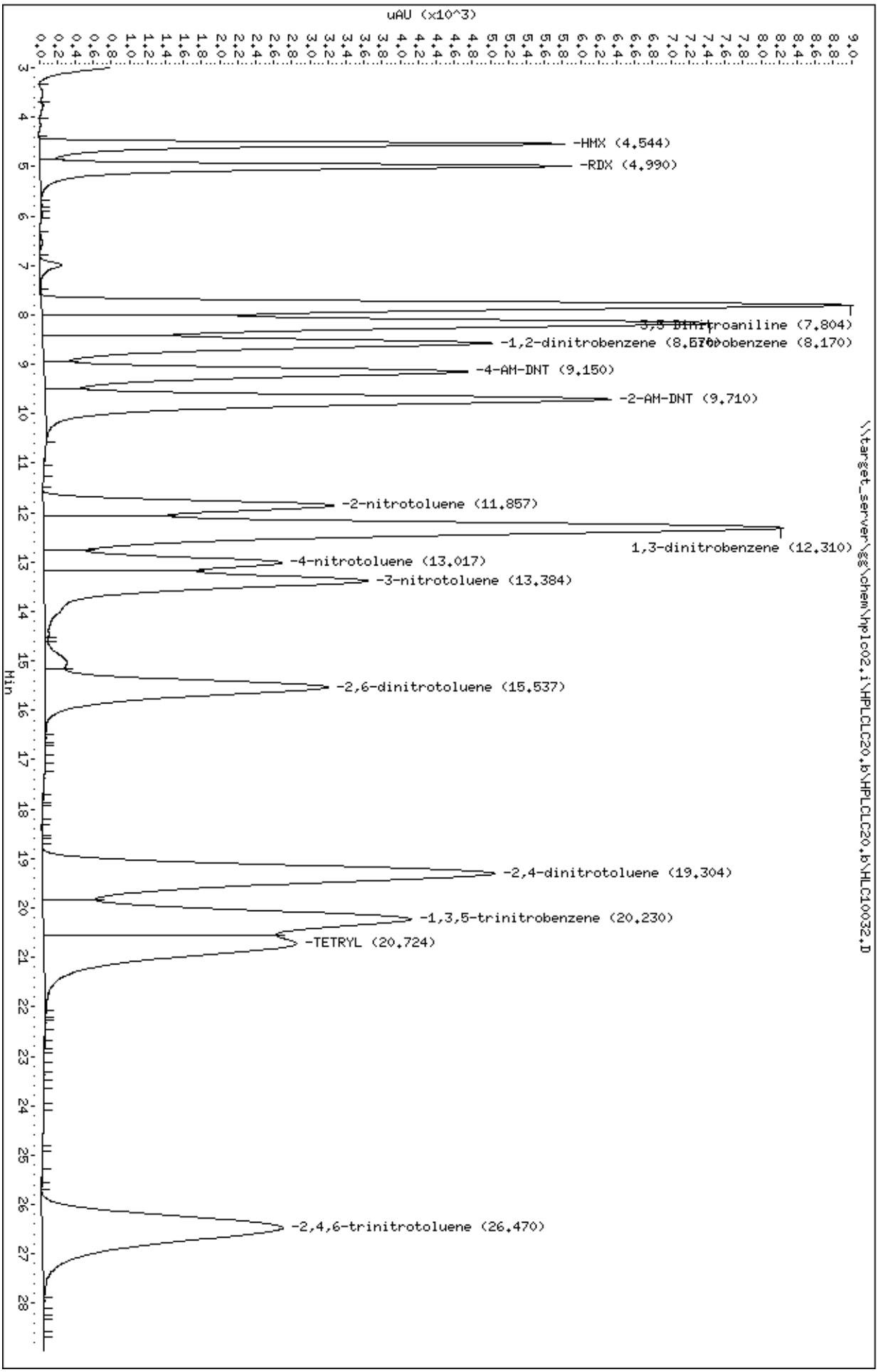
Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00500	Final Volume (L)
Vo	0.50000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)	REVIEW CODE
1	HMX	4.543	4.542	0.001	5810	1.00000	1.08(M)	M5
4	RDX	4.990	4.989	0.001	5888	1.00000	1.21(M)	
51	3,5-Dinitroaniline	7.803	7.809	-0.006	8996	1.00000	1.08	
7	nitrobenzene	8.170	8.175	-0.005	7418	1.00000	1.08	
$ 2	1,2-dinitrobenzene	8.570	8.575	-0.005	4978	1.00000	1.08	
11	4-AM-DNT	9.150	9.155	-0.005	4695	1.00000	1.09	
12	2-AM-DNT	9.710	9.715	-0.005	6280	1.00000	1.09	
15	2-nitrotoluene	11.857	11.862	-0.005	3214	1.00000	1.11	
6	1,3-dinitrobenzene	12.310	12.315	-0.005	8198	1.00000	1.11	
16	4-nitrotoluene	13.017	13.022	-0.005	2635	1.00000	1.19	
17	3-nitrotoluene	13.383	13.389	-0.006	3585	1.00000	1.13	
13	2,6-dinitrotoluene	15.537	15.542	-0.005	3147	1.00000	1.06	
14	2,4-dinitrotoluene	19.303	19.309	-0.006	5008	1.00000	1.09	
5	1,3,5-trinitrobenzene	20.230	20.222	0.008	4074	1.00000	1.35	
9	TETRYL	20.723	20.722	0.001	2797	1.00000	1.42	
10	2,4,6-trinitrotoluene	26.470	26.469	0.001	2672	1.00000	1.17	

2:43 pm, Mar 26, 2018

QC Flag Legend

M - Compound response manually integrated.


Data File: \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HPLCLC20.b\HLC10032.D
Date : 20-MAR-2018 15:26
Client ID:
Sample Info: WG225143-6
Purge Volume: 0.5
Column phase: Acclaim Exp E1
Instrument: hplc02.i
Operator: AC
Column diameter: 4.60
uAU (x10^3)
Min
-HMX (4.544)
-RDX (4.990)
3,5-Dinitroaniline (7.804)
-1,2-dinitrobenzene (8.570)
-nitrobenzene (8.170)
-4-AM-DNT (9.150)
-2-AM-DNT (9.710)
-2-nitrotoluene (11.857)
1,3-dinitrobenzene (12.310)
-4-nitrotoluene (13.017)
-3-nitrotoluene (13.384)
-2,6-dinitrotoluene (15.537)
-2,4-dinitrotoluene (19.304)
-1,3,5-trinitrobenzene (20.230)
-TETRYL (20.724)
-2,4,6-trinitrotoluene (26.470)
\\target_server\gg\chem\hplc02.i\HPLCLC20.b\HPLCLC20.b\HLC10032.D

Data File: HLC10033.D
Report Date: 26-Mar-2018 13:10

Katahdin Analytical Services

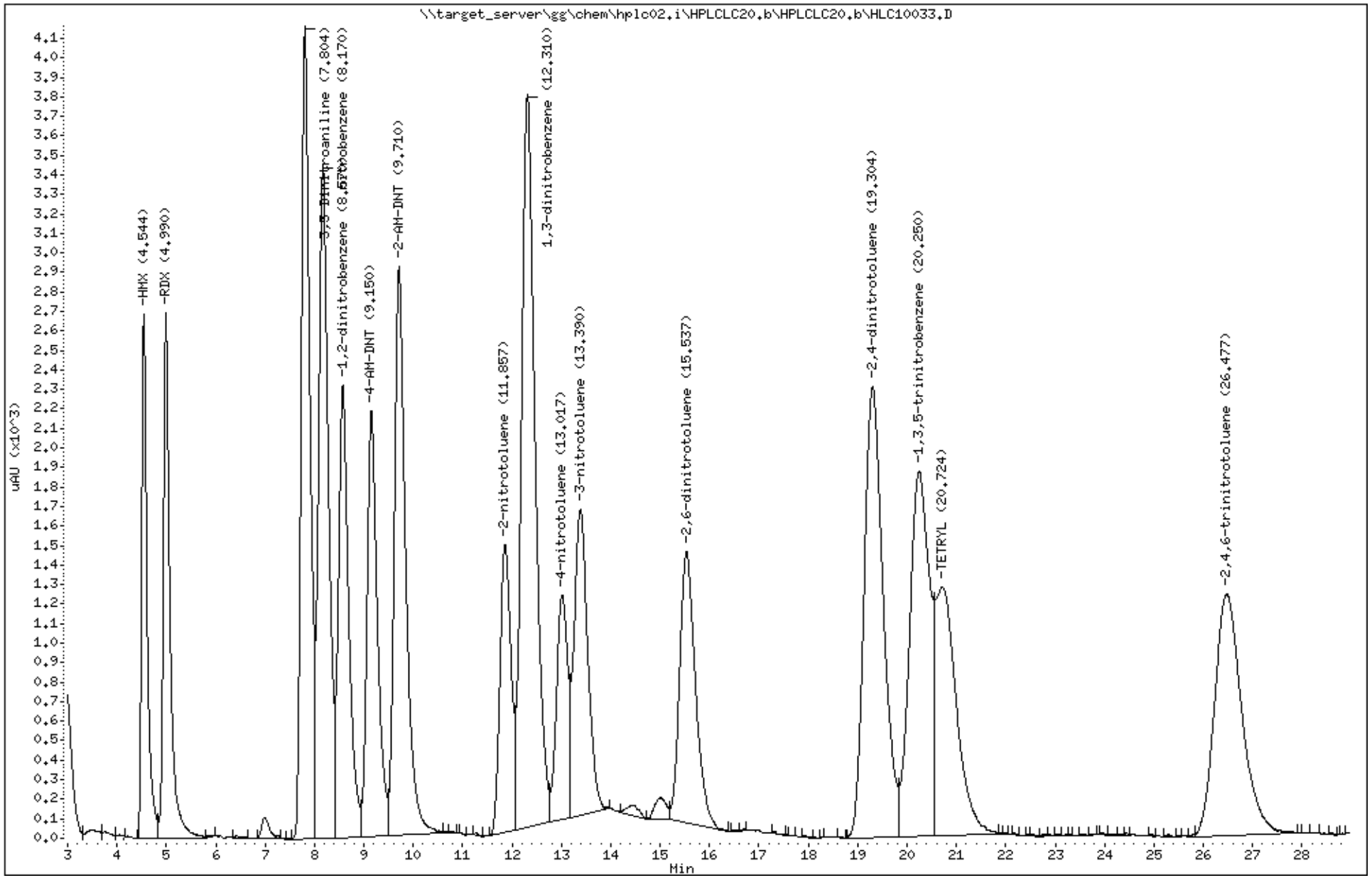
Data file : \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HPLCLC20.b\HLC10033.D
Lab Smp Id: WG225143-5
Inj Date : 20-MAR-2018 15:58
Operator : AC   Inst ID: hplc02.i
Smp Info : WG225143-5
Misc Info :
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCLC20.b\EXPB05A.m\EXPB05A.m
Meth Date : 22-Mar-2018 05:09 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 15:58   Cal File: HLC10033.D
Als bottle: 10   Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: T8-D4700

Concentration Formula: Amt * DF * 1000*(Vt/Vo) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00500	Final Volume (L)
Vo	0.50000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)	REVIEW CODE
1	HMX	4.543	4.542	0.001	2689	0.50000	0.478	
4	RDX	4.990	4.989	0.001	2694	0.50000	0.477	
51	3,5-Dinitroaniline	7.803	7.809	-0.006	4166	0.50000	0.487	
7	nitrobenzene	8.170	8.175	-0.005	3446	0.50000	0.489	
$ 2	1,2-dinitrobenzene	8.570	8.575	-0.005	2320	0.50000	0.490	
11	4-AM-DNT	9.150	9.155	-0.005	2183	0.50000	0.489	
12	2-AM-DNT	9.710	9.715	-0.005	2919	0.50000	0.489	
15	2-nitrotoluene	11.857	11.862	-0.005	1476	0.50000	0.486	
6	1,3-dinitrobenzene	12.310	12.315	-0.005	3756	0.50000	0.485	
16	4-nitrotoluene	13.017	13.022	-0.005	1149	0.50000	0.472	
17	3-nitrotoluene	13.390	13.389	0.001	1568	0.50000	0.473	
13	2,6-dinitrotoluene	15.537	15.542	-0.005	1390	0.50000	0.476	
14	2,4-dinitrotoluene	19.303	19.309	-0.006	2310	0.50000	0.487	
5	1,3,5-trinitrobenzene	20.250	20.222	0.028	1872	0.50000	0.488	
9	TETRYL	20.723	20.722	0.001	1275	0.50000	0.485	
10	2,4,6-trinitrotoluene	26.477	26.469	0.008	1239	0.50000	0.489	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HPLCLC20.b\HLC10033.D
Date : 20-MAR-2018 15:58
Client ID:
Instrument: hplc02.i
Sample Info: WG225143-5
Purge Volume: 0.5
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 1000387

Data File: HLC10034.D
Report Date: 26-Mar-2018 13:10

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HPLCLC20.b\HLC10034.D
Lab Smp Id: WG225143-4
Inj Date : 20-MAR-2018 16:30
Operator : AC   Inst ID: hplc02.i
Smp Info : WG225143-4
Misc Info :
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCLC20.b\EXPB05A.m\EXPB05A.m
Meth Date : 22-Mar-2018 05:09 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 16:30   Cal File: HLC10034.D
Als bottle: 11   Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: T8-D4700

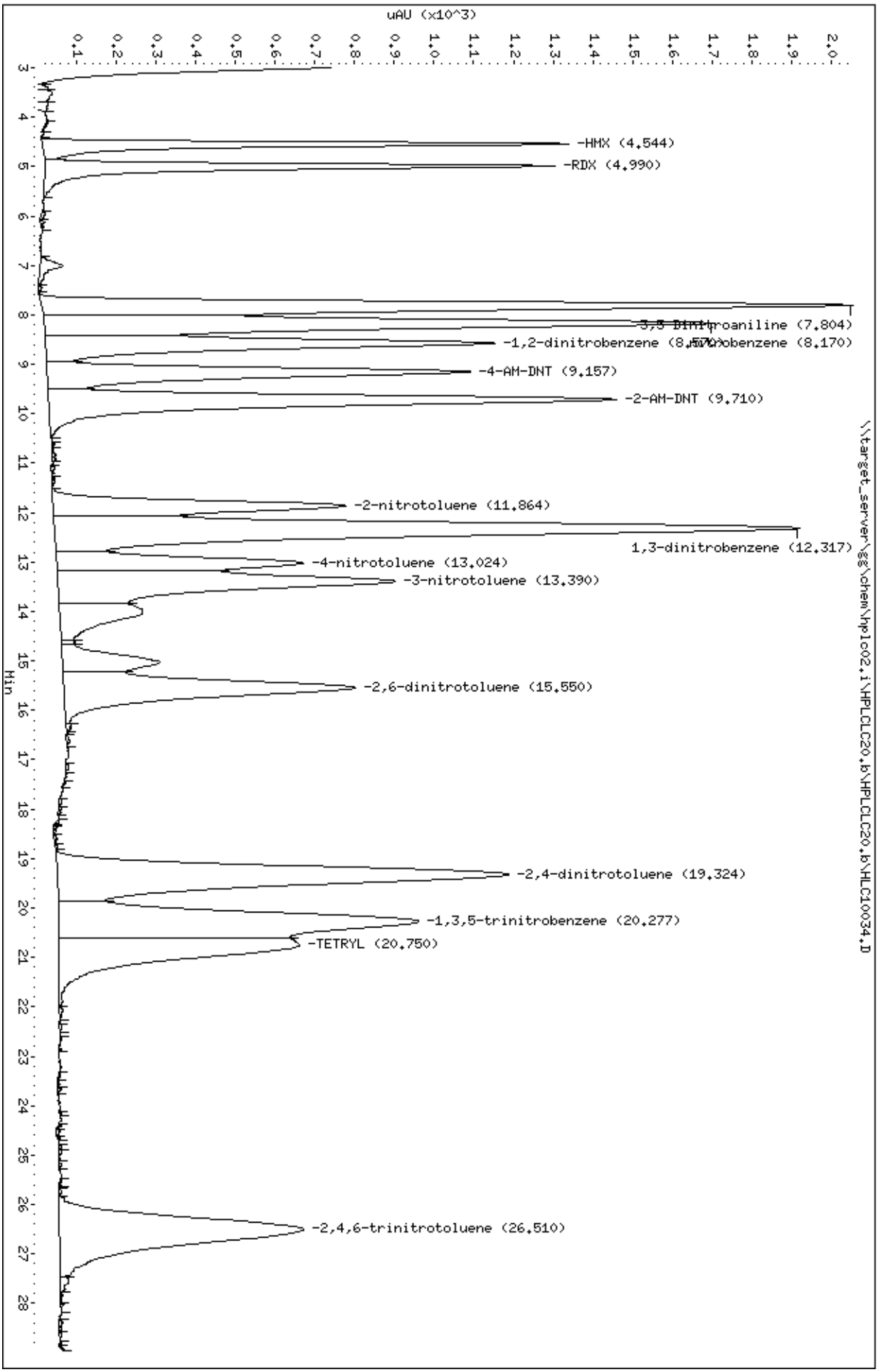
Concentration Formula: Amt * DF * 1000*(Vt/Vo) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00500	Final Volume (L)
Vo	0.50000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)	REVIEW CODE
1	HMX	4.543	4.542	0.001	1324	0.25000	0.239(a)	
4	RDX	4.990	4.989	0.001	1287	0.25000	0.233(a)	
51	3,5-Dinitroaniline	7.803	7.809	-0.006	2044	0.25000	0.242(a)	
7	nitrobenzene	8.170	8.175	-0.005	1684	0.25000	0.242(a)	
$ 2	1,2-dinitrobenzene	8.570	8.575	-0.005	1133	0.25000	0.242(a)	
11	4-AM-DNT	9.157	9.155	0.002	1065	0.25000	0.242(a)	
12	2-AM-DNT	9.710	9.715	-0.005	1430	0.25000	0.242(a)	
15	2-nitrotoluene	11.863	11.862	0.001	736	0.25000	0.244(a)	
6	1,3-dinitrobenzene	12.317	12.315	0.002	1877	0.25000	0.244(a)	
16	4-nitrotoluene	13.023	13.022	0.001	621	0.25000	0.254	
17	3-nitrotoluene	13.390	13.389	0.001	851	0.25000	0.255	
13	2,6-dinitrotoluene	15.550	15.542	0.008	733	0.25000	0.251	
14	2,4-dinitrotoluene	19.323	19.309	0.014	1138	0.25000	0.242(a)	
5	1,3,5-trinitrobenzene	20.277	20.222	0.055	907	0.25000	0.240(a)	
9	TETRYL	20.750	20.722	0.028	606	0.25000	0.235(a)	
10	2,4,6-trinitrotoluene	26.510	26.469	0.041	615	0.25000	0.245(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).


Data File: \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HPLCLC20.b\HLC10034.D
Date : 20-MAR-2018 16:30
Client ID:
Sample Info: WG225143-4
Purge Volume: 0.5
Column phase: Acclaim Exp E1
Instrument: hplc02.i
Operator: AC
Column diameter: 4.60
uAU (x10^3)
Min
-HMX (4.544)
-RDX (4.990)
-1,2-dinitrobenzene (8.170)
-4-AM-DNT (9.157)
-2-AM-DNT (9.710)
-2-nitrotoluene (11.864)
1,3-dinitrobenzene (12.317)
-4-nitrotoluene (13.024)
-3-nitrotoluene (13.390)
-2,6-dinitrotoluene (15.550)
-2,4-dinitrotoluene (19.324)
-1,3,5-trinitrobenzene (20.277)
-TETRYL (20.750)
-2,4,6-trinitrotoluene (26.510)
\\target_server\gg\chem\hplc02.i\HPLCLC20.b\HPLCLC20.b\HLC10034.D

Data File: HLC10035.D
Report Date: 26-Mar-2018 13:10

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HPLCLC20.b\HLC10035.D
Lab Smp Id: WG225143-3
Inj Date : 20-MAR-2018 17:01
Operator : AC   Inst ID: hplc02.i
Smp Info : WG225143-3
Misc Info :
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCLC20.b\EXPB05A.m\EXPB05A.m
Meth Date : 22-Mar-2018 05:09 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 17:01   Cal File: HLC10035.D
Als bottle: 12   Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: T8-D4700

Concentration Formula: Amt * DF * 1000*(Vt/Vo) * CpndVariable

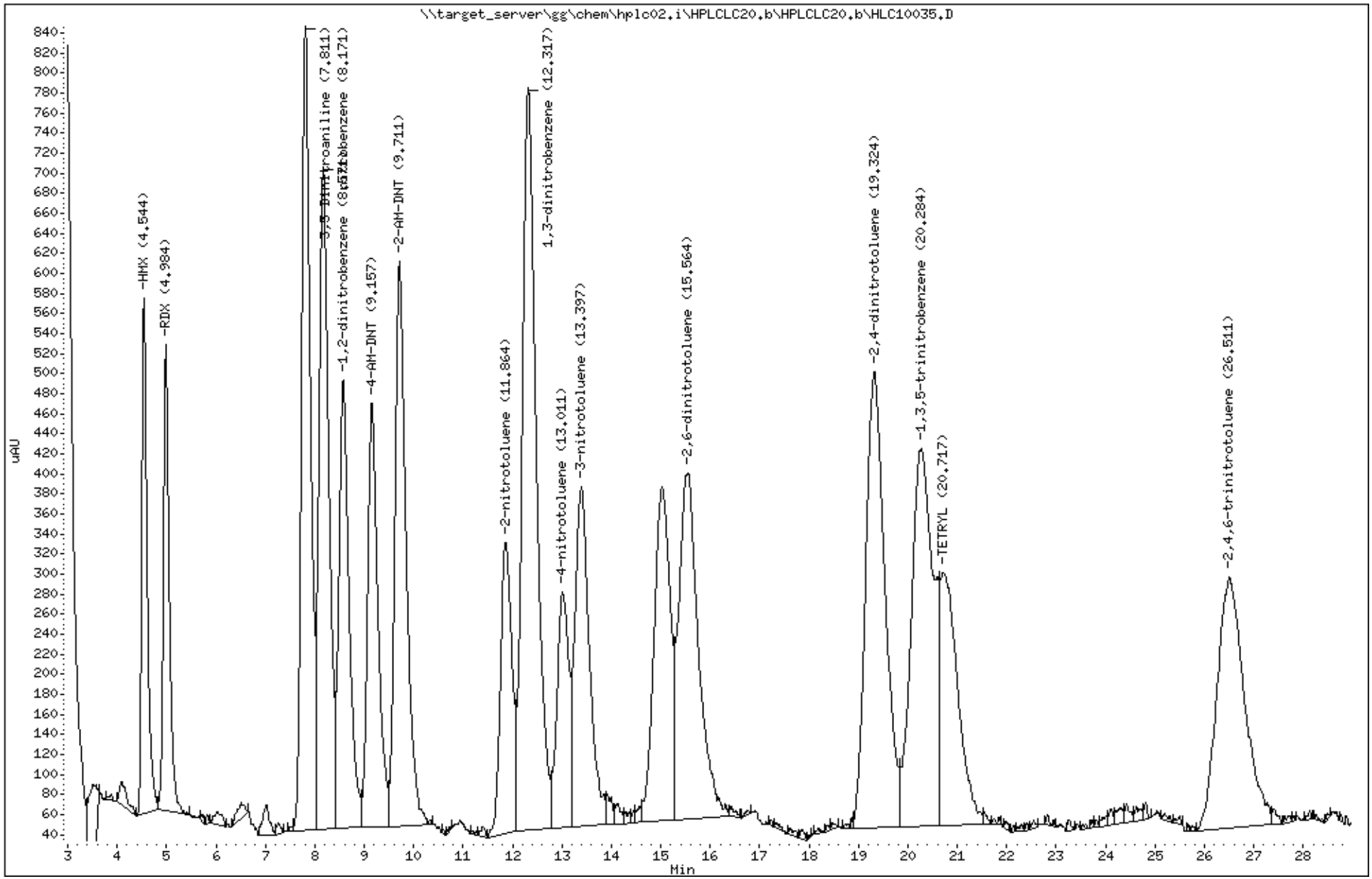
Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00500	Final Volume (L)
Vo	0.50000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)	REVIEW CODE
1	HMX	4.544	4.542	0.002	514	0.10000	0.0940(a)	
4	RDX	4.984	4.989	-0.005	466	0.10000	0.0870(a)	
51	3,5-Dinitroaniline	7.810	7.809	0.001	803	0.10000	0.0959(a)	
7	nitrobenzene	8.170	8.175	-0.005	661	0.10000	0.0958(a)	
$ 2	1,2-dinitrobenzene	8.570	8.575	-0.005	448	0.10000	0.0965(a)	
11	4-AM-DNT	9.157	9.155	0.002	424	0.10000	0.0969(a)	
12	2-AM-DNT	9.710	9.715	-0.005	564	0.10000	0.0964(a)	
15	2-nitrotoluene	11.864	11.862	0.002	290	0.10000	0.0970(a)	
6	1,3-dinitrobenzene	12.317	12.315	0.002	741	0.10000	0.0971(a)	
16	4-nitrotoluene	13.010	13.022	-0.012	235	0.10000	0.0968(a)	
17	3-nitrotoluene	13.397	13.389	0.008	339	0.10000	0.101(a)	
13	2,6-dinitrotoluene	15.564	15.542	0.022	345	0.10000	0.114(a)	
14	2,4-dinitrotoluene	19.324	19.309	0.015	456	0.10000	0.0976(a)	
5	1,3,5-trinitrobenzene	20.284	20.222	0.062	377	0.10000	0.0997(a)	
9	TETRYL	20.717	20.722	-0.005	253	0.10000	0.0985(a)	
10	2,4,6-trinitrotoluene	26.510	26.469	0.041	251	0.10000	0.0999(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).

Data File: \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HPLCLC20.b\HLC10035.D
Date : 20-MAR-2018 17:01
Client ID:
Instrument: hplc02.i
Sample Info: WG225143-3
Purge Volume: 0.5
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 1000391

Data File: HLC10036.D
Report Date: 26-Mar-2018 13:10

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HPLCLC20.b\HLC10036.D
Lab Smp Id: WG225143-2
Inj Date : 20-MAR-2018 17:33
Operator : AC   Inst ID: hplc02.i
Smp Info : WG225143-2
Misc Info :
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCLC20.b\EXPB05A.m\EXPB05A.m
Meth Date : 22-Mar-2018 05:09 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 17:33   Cal File: HLC10036.D
Als bottle: 13   Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: T8-D4700

Concentration Formula: Amt * DF * 1000*(Vt/Vo) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00500	Final Volume (L)
Vo	0.50000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

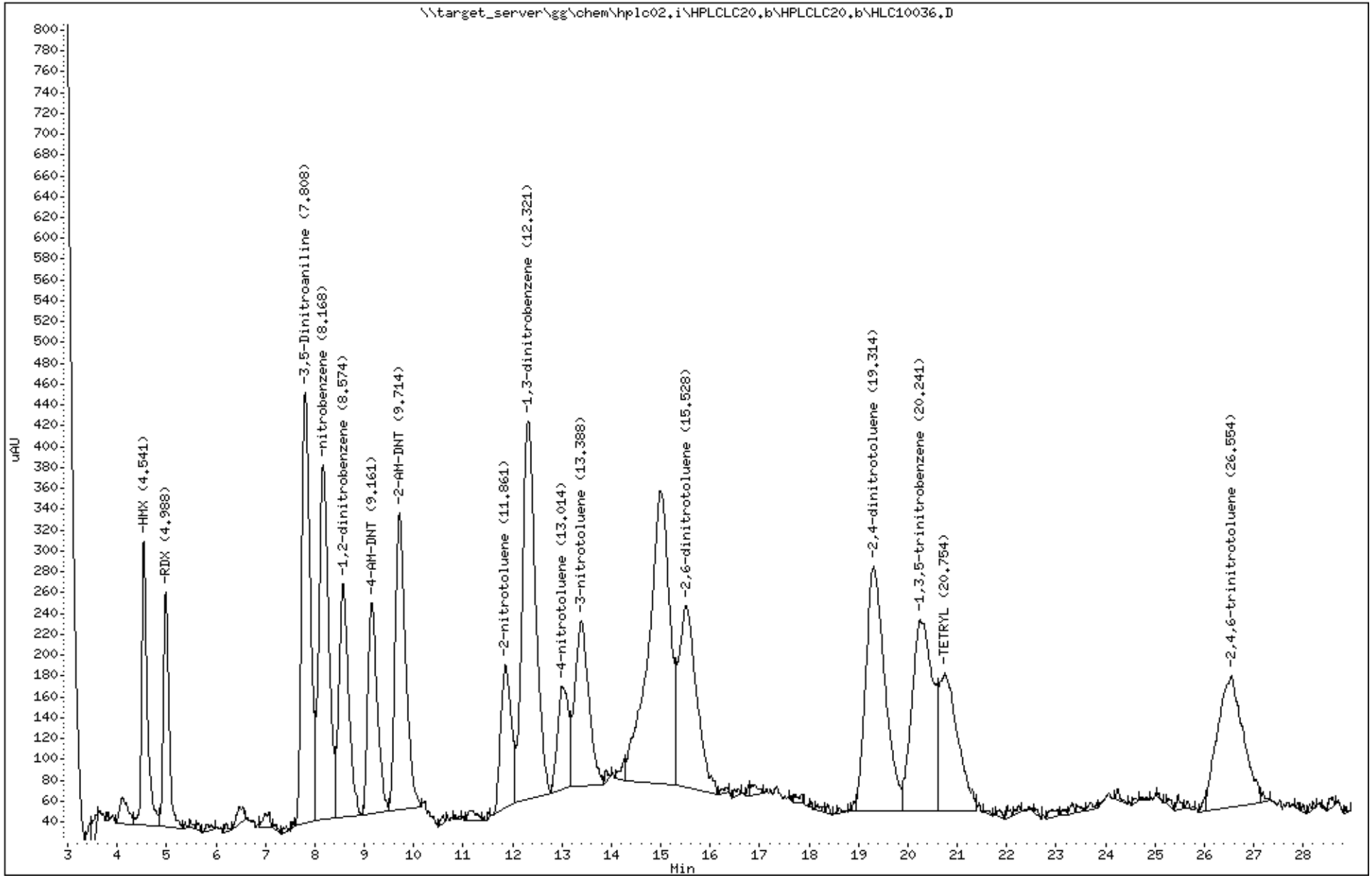
	Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	ON-COL (ug/mL)	REVIEW CODE
1	HMX	4.541	4.542	-0.001	272	0.05000	0.0504(a)	
4	RDX	4.987	4.989	-0.002	225	0.05000	0.0463(a)	
51	3,5-Dinitroaniline	7.807	7.809	-0.002	414	0.05000	0.0498(a)	
7	nitrobenzene	8.167	8.175	-0.008	341	0.05000	0.0497(a)	
$ 2	1,2-dinitrobenzene	8.574	8.575	-0.001	225	0.05000	0.0486(a)	
11	4-AM-DNT	9.161	9.155	0.006	202	0.05000	0.0469(a)	
12	2-AM-DNT	9.714	9.715	-0.001	285	0.05000	0.0495(a)	
15	2-nitrotoluene	11.861	11.862	-0.001	138	0.05000	0.0478(a)	
6	1,3-dinitrobenzene	12.321	12.315	0.006	364	0.05000	0.0492(a)	
16	4-nitrotoluene	13.014	13.022	-0.008	99	0.05000	0.0449(a)	
17	3-nitrotoluene	13.387	13.389	-0.002	159	0.05000	0.0502(a)	
13	2,6-dinitrotoluene	15.527	15.542	-0.015	175	0.05000	0.0588(a)	
14	2,4-dinitrotoluene	19.307	19.309	-0.002	235	0.05000	0.0508(aM)	M9
5	1,3,5-trinitrobenzene	20.241	20.222	0.019	184	0.05000	0.0548(aM)	M9
9	TETRYL	20.754	20.722	0.032	133	0.05000	0.0593(aM)	M9
10	2,4,6-trinitrotoluene	26.554	26.469	0.085	126	0.05000	0.0551(a)	

2:43 pm, Mar 26, 2018

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.

Data File: \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HPLCLC20.b\HLC10036.D
Date : 20-MAR-2018 17:33
Client ID:
Instrument: hplc02.i
Sample Info: WG225143-2
Purge Volume: 0.5
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 1000393

Data File: HLC10037.D
Report Date: 26-Mar-2018 13:11

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HPLCLC20.b\HLC10037.D
Lab Smp Id: WG225143-1
Inj Date : 20-MAR-2018 18:05
Operator : AC   Inst ID: hplc02.i
Smp Info : WG225143-1
Misc Info :
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCLC20.b\EXPB05A.m\EXPB05A.m
Meth Date : 22-Mar-2018 05:09 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05   Cal File: HLC10037.D
Als bottle: 14   Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: T8-D4700

Concentration Formula: Amt * DF * 1000*(Vt/Vo) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00500	Final Volume (L)
Vo	0.50000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

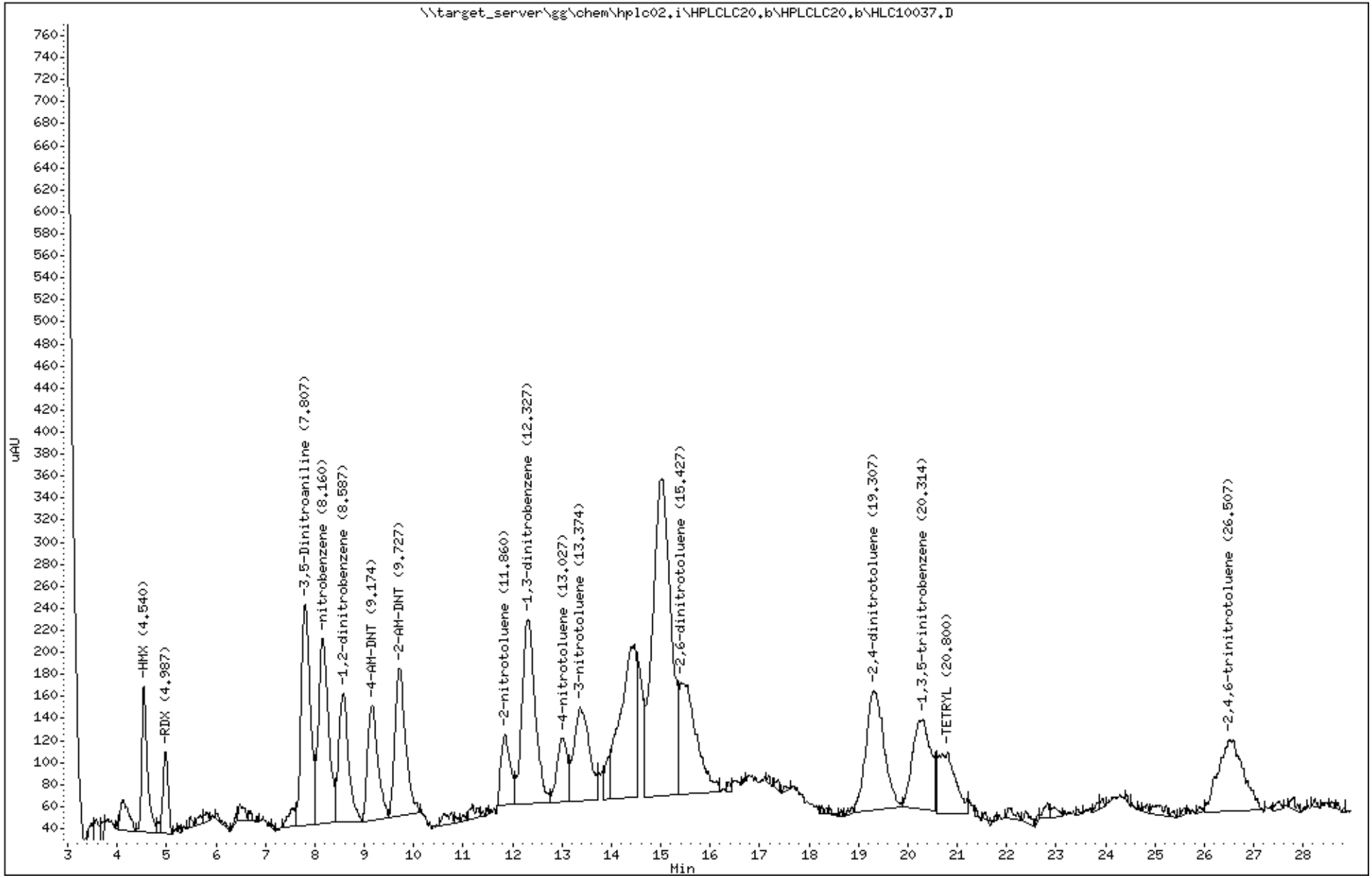
	Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)	REVIEW CODE
1	HMX	4.540	4.542	-0.002	133	0.02500	0.0247(a)	
4	RDX	4.987	4.989	-0.002	75	0.02500	0.0154(a)	
51	3,5-Dinitroaniline	7.807	7.809	-0.002	202	0.02500	0.0243(a)	
7	nitrobenzene	8.160	8.175	-0.015	169	0.02500	0.0246(a)	
$ 2	1,2-dinitrobenzene	8.587	8.575	0.012	117	0.02500	0.0253(a)	
11	4-AM-DNT	9.173	9.155	0.018	105	0.02500	0.0244(a)	
12	2-AM-DNT	9.727	9.715	0.012	134	0.02500	0.0233(a)	
15	2-nitrotoluene	11.847	11.862	-0.015	63	0.02500	0.0218(aM)	M9
6	1,3-dinitrobenzene	12.327	12.315	0.012	167	0.02500	0.0224(aM)	M9
16	4-nitrotoluene	12.993	13.022	-0.029	57	0.02500	0.0243(aM)	M9
17	3-nitrotoluene	13.373	13.389	-0.016	84	0.02500	0.0252(aM)	M9
13	2,6-dinitrotoluene	15.407	15.542	-0.135	101	0.02500	0.0312(aM)	M5
14	2,4-dinitrotoluene	19.307	19.309	-0.002	107	0.02500	0.0232(aM)	M9
5	1,3,5-trinitrobenzene	20.313	20.222	0.091	81	0.02500	0.0220(aM)	M9
9	TETRYL	20.800	20.722	0.078	56	0.02500	0.0221(aM)	M9
10	2,4,6-trinitrotoluene	26.507	26.469	0.038	65	0.02500	0.0257(aM)	M9

2:43 pm, Mar 26, 2018

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.

Data File: \\target_server\gg\chem\hplc02.i\HPLCLC20.b\HPLCLC20.b\HLC10037.D
Date : 20-MAR-2018 18:05
Client ID:
Instrument: hplc02.i
Sample Info: WG225143-1
Purge Volume: 0.5
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 1000395

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition F
Lab ID : WG228942-1
Lab File ID : HLE10627.D
Initial Calibration Date(s): 03/20/18 14:54 03/20/18 18:05

SDG: SL4233
Analytical Date: 05/22/18 08:56
Instrument ID: HPLC02
Column ID: A

Compound	RRF/Amount	RF0.500	Min RRF	%D/ %Drift	Max %D/ %Drift	Curve Type
150 NITROGLYCERIN	5513	5263	0.010	-4.53814	20.00000	Averaged
155 PETN	2876	3011	0.010	4.68248	20.00000	Averaged

*** = Compound out of QC criteria**

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10627.D
Report Date: 31-May-2018 04:36

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10627.D
Lab Smp Id: WG228942-1
Inj Date : 22-MAY-2018 08:56
Operator : AC   Inst ID: hplc02.i
Smp Info : WG228942-1,SL4233
Misc Info : WG228942,WG228769,WG225143-5,SL4233-54
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\EXPB05A.m
Meth Date : 23-May-2018 13:50 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05   Cal File: HLC10037.D
Als bottle: 46   Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: ngpetnedgn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*(Vt/Vo) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00500	Final Volume (L)
Vo	0.50000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

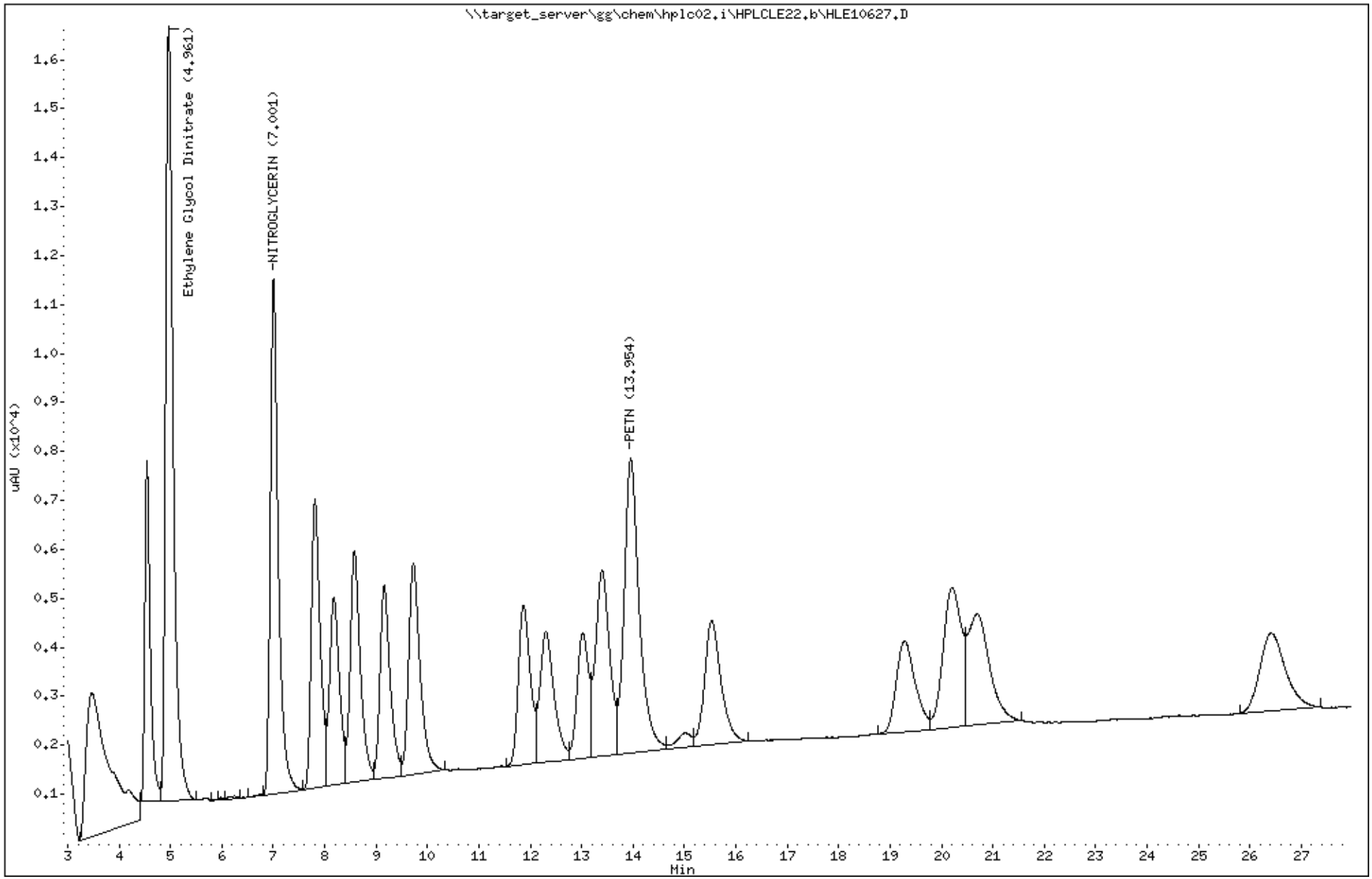
					AMOUNTS		
					CAL-AMT	ON-COL	
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/mL)	(ug/mL)	
8 NITROGLYCERIN	7.001	7.001	0.000	10526	1.00000	1.91(a)	
18 PETN	13.954	13.954	0.000	6021	1.00000	2.09(a)	
3 Ethylene Glycol Dinitrate	4.961	4.961	0.000	15811	1.00000	1.89(aM)	M2

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.

7:24 am, May 31, 2018

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10627.D
Date : 22-MAY-2018 08:56
Client ID:
Instrument: hplc02.i
Sample Info: WG228942-1,SL4233
Purge Volume: 0.5
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 1000398

Katahdin
ANALYTICAL SERVICES

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition F
Lab ID : WG228942-2
Lab File ID : HLE10639.D
Initial Calibration Date(s): 03/20/18 14:54 03/20/18 18:05

SDG: SL4233
Analytical Date: 05/22/18 15:47
Instrument ID: HPLC02
Column ID: A

Compound	RRF/Amount	RF0.250	Min RRF	%D/ %Drift	Max %D/ %Drift	Curve Type
150 NITROGLYCERIN	5513	5211	0.010	-5.48133	20.00000	Averaged
155 PETN	2876	2970	0.010	3.27420	20.00000	Averaged

*** = Compound out of QC criteria**

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10639.D
Report Date: 31-May-2018 04:36

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10639.D
Lab Smp Id: WG228942-2
Inj Date : 22-MAY-2018 15:47
Operator : AC   Inst ID: hplc02.i
Smp Info : WG228942-2,SL4233
Misc Info : WG228942,WG228769,WG225143-5,SL4233-54
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\EXPB05A.m
Meth Date : 23-May-2018 13:50 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05   Cal File: HLC10037.D
Als bottle: 58   Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*(Vt/Vo) * CpndVariable

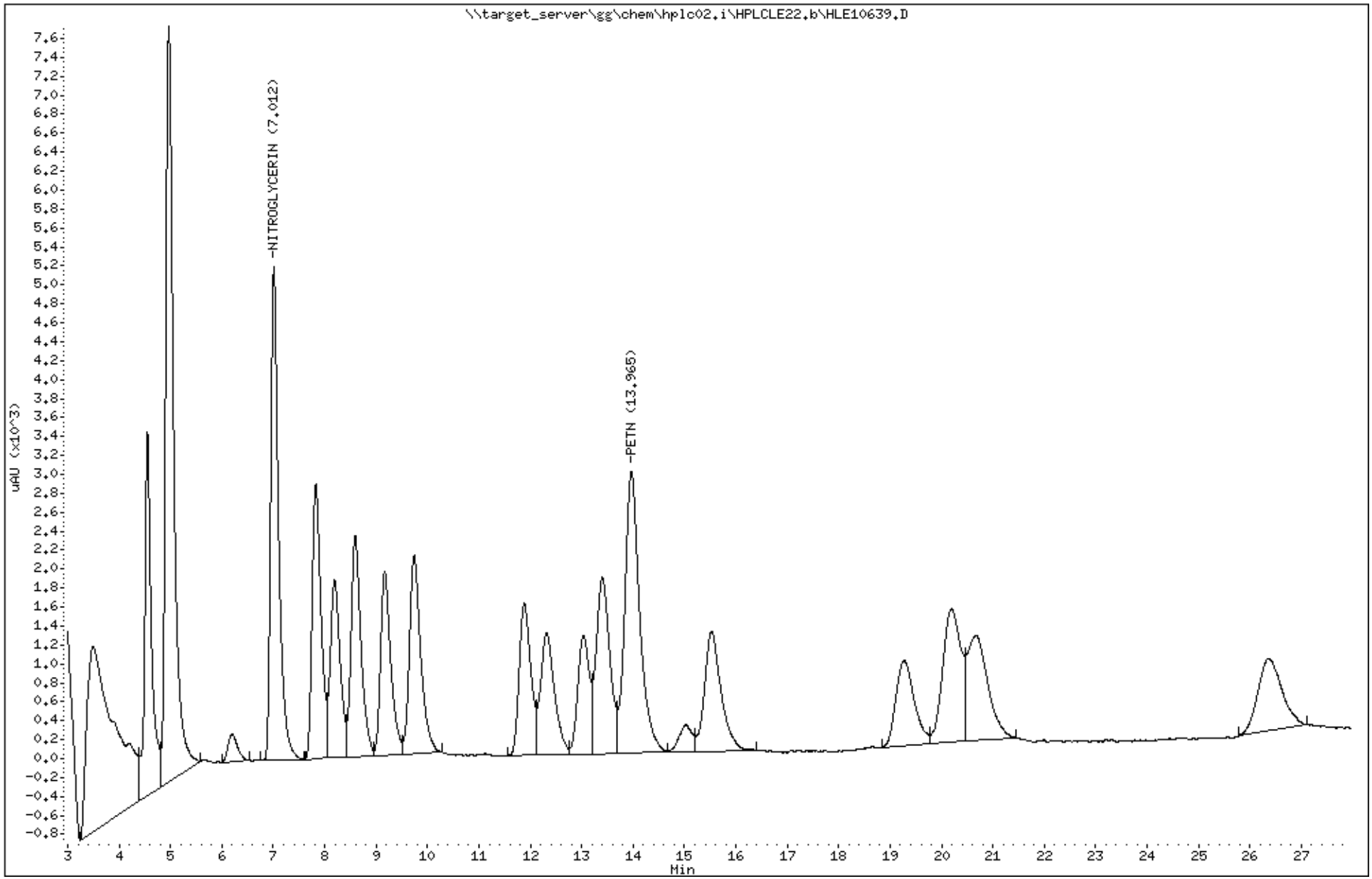
Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00500	Final Volume (L)
Vo	0.50000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

					AMOUNTS	
					CAL-AMT	ON-COL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/mL)	(ug/mL)
8 NITROGLYCERIN	7.012	7.001	0.011	5211	1.00000	0.945(a)
18 PETN	13.965	13.954	0.011	2970	1.00000	1.03(a)

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10639.D
Date : 22-MAY-2018 15:47
Client ID:
Instrument: hplc02.i
Sample Info: WG228942-2,SL4233
Purge Volume: 0.5
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 1000401

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition I
Lab ID : WG228942-3
Lab File ID : HLE10650.D
Initial Calibration Date(s): 03/20/18 14:54 03/20/18 18:05

SDG: SL4233
Analytical Date: 05/22/18 21:28
Instrument ID: HPLC02
Column ID: A

	Compound	RRF/Amount	RF0.500	Min RRF	%D/ %Drift	Max %D/ %Drift	Curve Type
130	NITROGLYCERIN	5513	5300	0.010	-3.86702	20.00000	Averaged
140	PETN	2876	3037	0.010	5.58657	20.00000	Averaged

*** = Compound out of QC criteria**

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10650.D
Report Date: 31-May-2018 04:43

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10650.D
Lab Smp Id: WG228942-3
Inj Date : 22-MAY-2018 21:28
Operator : AC   Inst ID: hplc02.i
Smp Info : WG228942-3,SL4233
Misc Info : WG228942,WG228770,WG225143-5,SL4233-2
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\EXPB05A.m
Meth Date : 23-May-2018 13:50 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05   Cal File: HLC10037.D
Als bottle: 69   Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01000	Weight of Sample (Kg)
M	0.00000	% Moisture
Cpnd Variable		Local Compound Variable

					AMOUNTS	
					CAL-AMT	ON-COL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/mL)	(ug/mL)
8 NITROGLYCERIN	6.996	7.001	-0.005	10600	1.00000	1.92(a)
18 PETN	13.916	13.954	-0.038	6073	1.00000	2.11(a)

QC Flag Legend

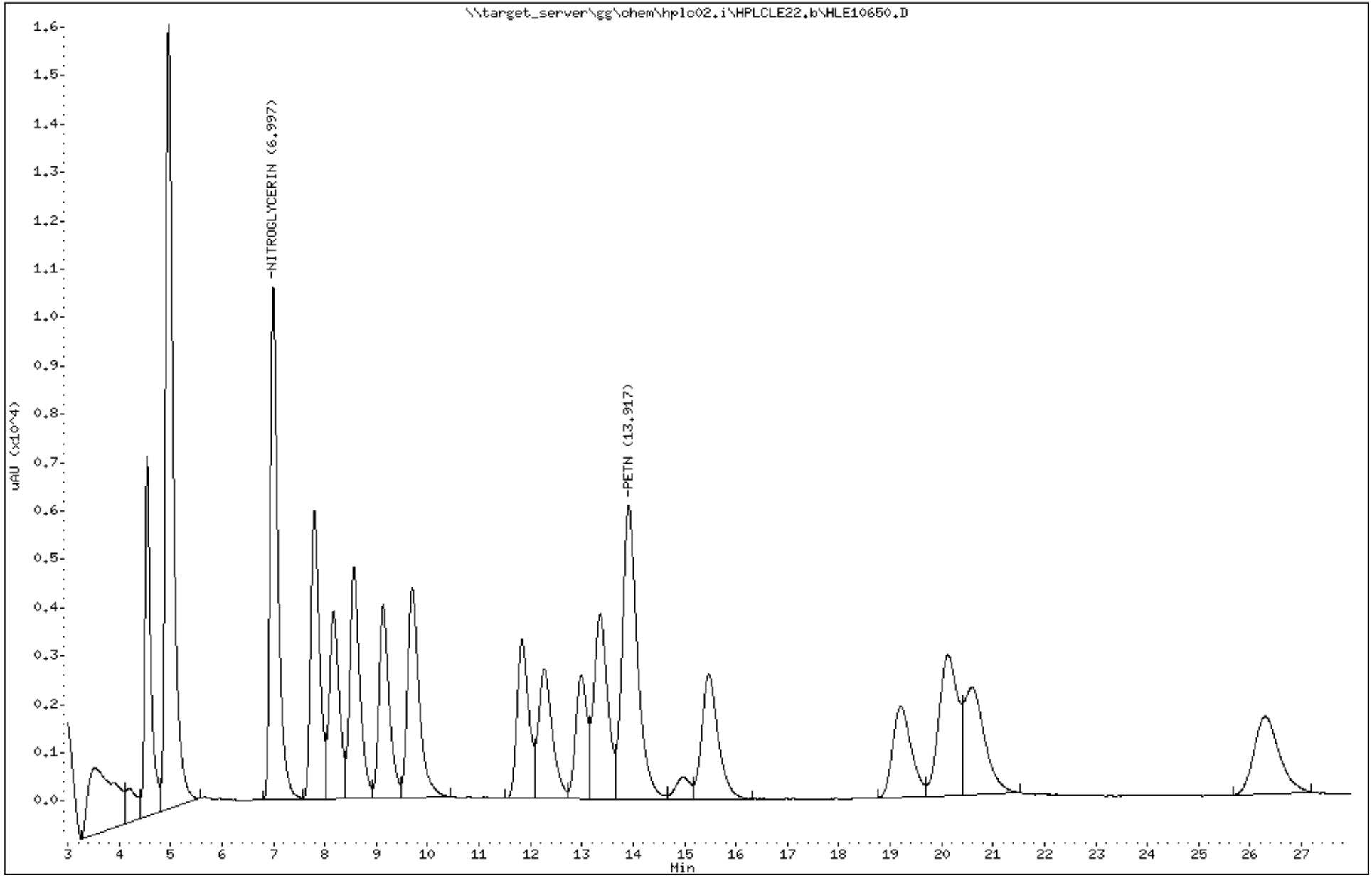
a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10650.D
Date : 22-MAY-2018 21:28
Client ID:
Sample Info: WG228942-3,SL4233

Column phase: Acclaim Exp E1

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60



Katahdin Analytical Services 1000404

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ANALYTICAL SERVICES

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition F
Lab ID : WG228942-4
Lab File ID : HLE10661.D
Initial Calibration Date(s): 03/20/18 14:54 03/20/18 18:05

SDG: SL4233
Analytical Date: 05/23/18 03:09
Instrument ID: HPLC02
Column ID: A

	Compound	$\overline{\text{RRF}}$/Amount	RF0.250	Min RRF	%D/ %Drift	Max %D/ %Drift	Curve Type
130	NITROGLYCERIN	5513	5157	0.010	-6.46080	20.00000	Averaged
140	PETN	2876	2952	0.010	2.64830	20.00000	Averaged

*** = Compound out of QC criteria**

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10661.D
Report Date: 31-May-2018 04:43

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Data file : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10661.D
Lab Smp Id: WG228942-4
Inj Date : 23-MAY-2018 03:09
Operator : AC   Inst ID: hplc02.i
Smp Info : WG228942-4,SL4233
Misc Info : WG228942,WG228770,WG225143-5,SL4233-2
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\EXPB05A.m
Meth Date : 23-May-2018 13:50 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05   Cal File: HLC10037.D
Als bottle: 80   Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01000	Weight of Sample (Kg)
M	0.00000	% Moisture
Cpnd Variable		Local Compound Variable

					AMOUNTS	
					CAL-AMT	ON-COL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/mL)	(ug/mL)
8 NITROGLYCERIN	7.014	7.001	0.013	5157	1.00000	0.935(a)
18 PETN	13.960	13.954	0.006	2952	1.00000	1.03(a)

QC Flag Legend

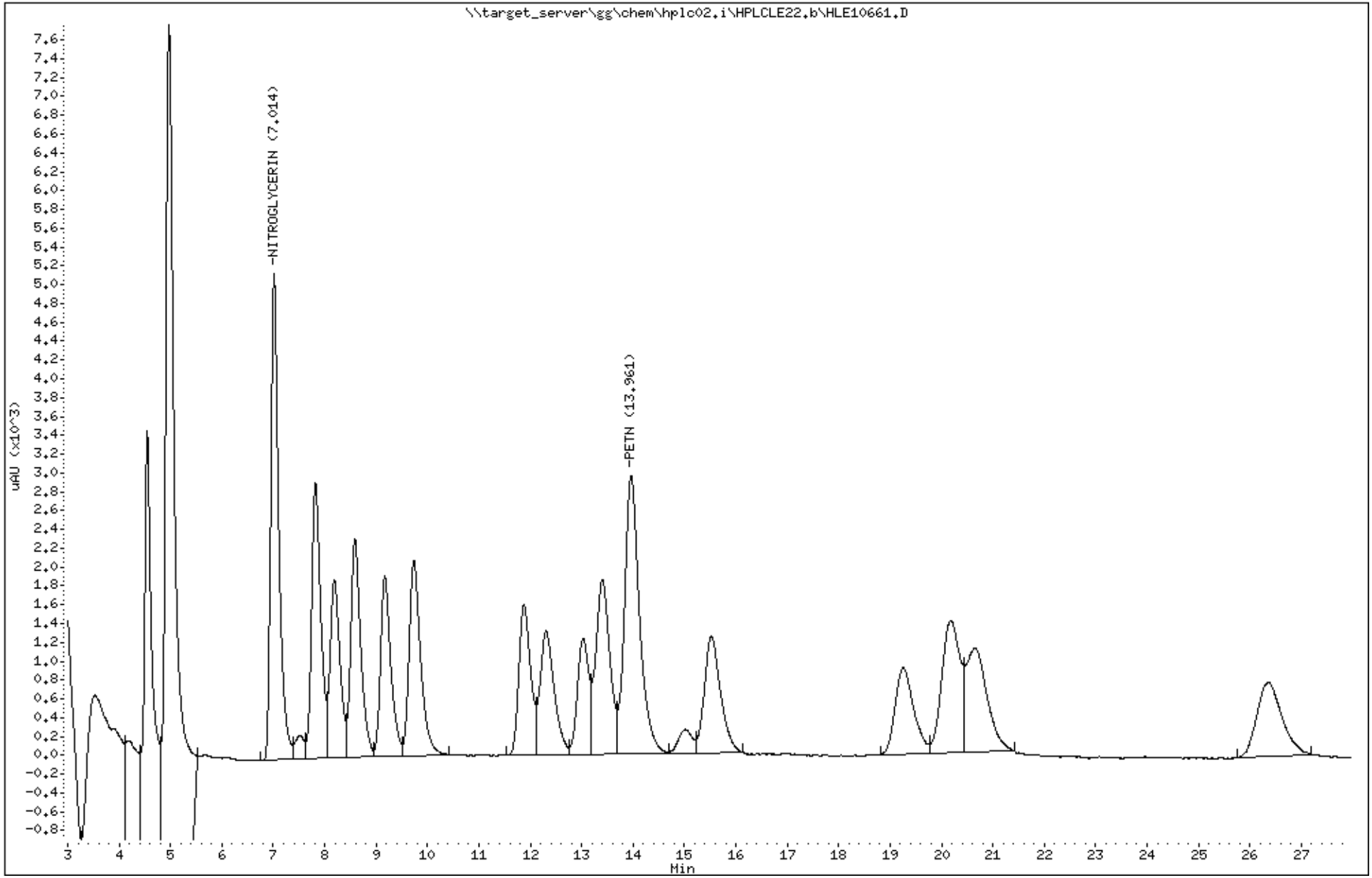
a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10661.D
Date : 23-MAY-2018 03:09
Client ID:
Sample Info: WG228942-4,SL4233

Column phase: Acclaim Exp E1

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60



Katahdin Analytical Services 1000407

Katahdin
ANALYTICAL SERVICES

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition F
Lab ID : WG228942-5
Lab File ID : HLE10672.D
Initial Calibration Date(s): 03/20/18 14:54 03/20/18 18:05

SDG: SL4233
Analytical Date: 05/23/18 08:50
Instrument ID: HPLC02
Column ID: A

	Compound	$\overline{RRF}$/Amount	RF0.500	Min RRF	%D/ %Drift	Max %D/ %Drift	Curve Type
130	NITROGLYCERIN	5513	5259	0.010	-4.61069	20.00000	Averaged
140	PETN	2876	3012	0.010	4.73464	20.00000	Averaged

*** = Compound out of QC criteria**

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10672.D
Report Date: 31-May-2018 04:44

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10672.D
Lab Smp Id: WG228942-5
Inj Date : 23-MAY-2018 08:50
Operator : AC   Inst ID: hplc02.i
Smp Info : WG228942-5,SL4233
Misc Info : WG228942,WG228770,WG225143-5,SL4233-2
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\EXPB05A.m
Meth Date : 23-May-2018 13:50 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05   Cal File: HLC10037.D
Als bottle: 91   Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01000	Weight of Sample (Kg)
M	0.00000	% Moisture
Cpnd Variable		Local Compound Variable

					AMOUNTS	
					CAL-AMT	ON-COL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/mL)	(ug/mL)
8 NITROGLYCERIN	7.011	7.001	0.010	10518	1.00000	1.91(a)
18 PETN	13.958	13.954	0.004	6024	1.00000	2.09(a)

QC Flag Legend

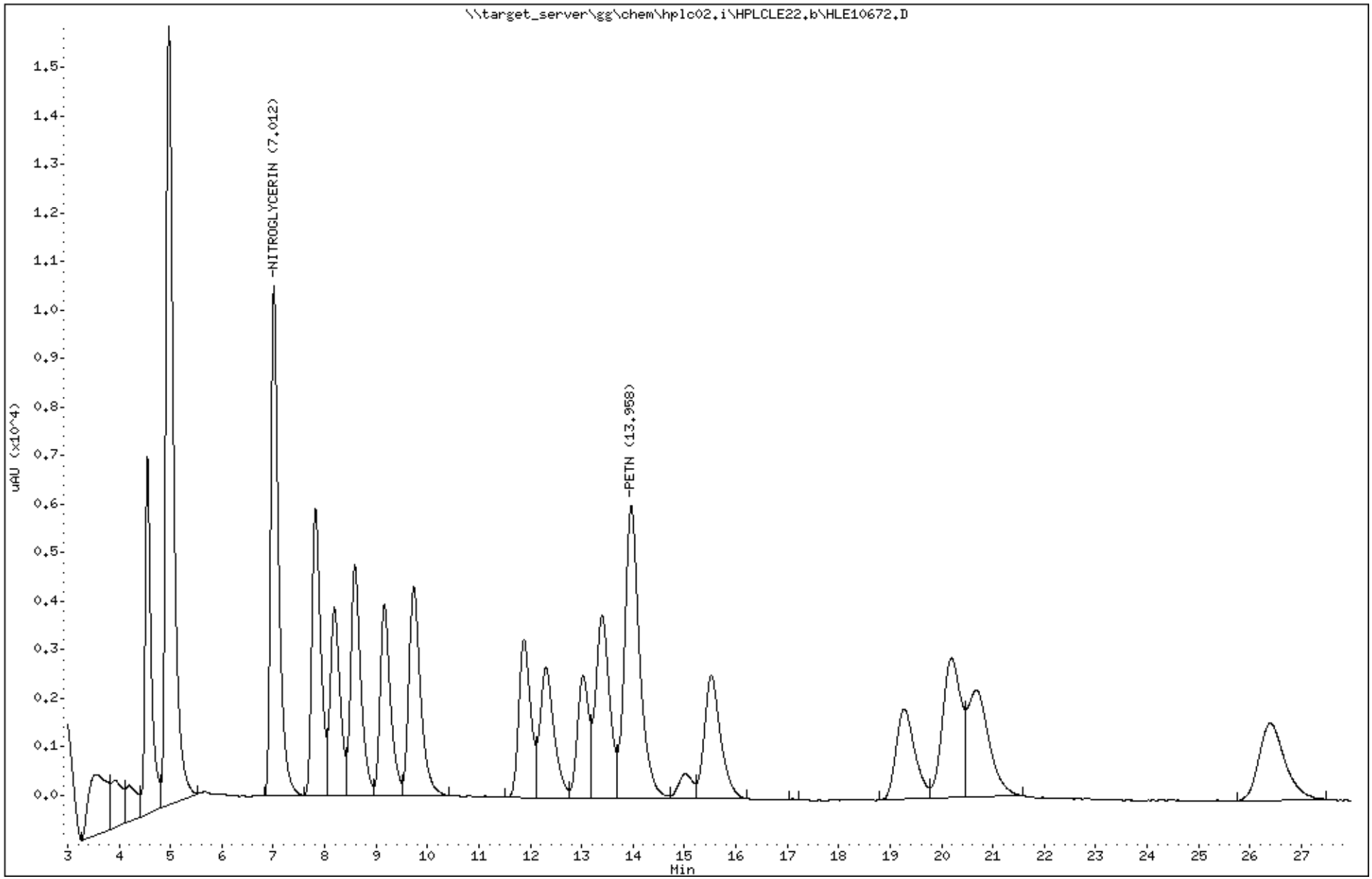
a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10672.D
Date : 23-MAY-2018 08:50
Client ID:
Sample Info: WG228942-5,SL4233

Column phase: Acclaim Exp E1

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60



Katahdin Analytical Services 1000410

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ANALYTICAL SERVICES

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition F
Lab ID : WG228942-6
Lab File ID : HLE10679.D
Initial Calibration Date(s): 03/20/18 14:54 03/20/18 18:05

SDG: SL4233
Analytical Date: 05/23/18 13:44
Instrument ID: HPLC02
Column ID: A

Compound	RRF/Amount	RF0.250	Min RRF	%D/ %Drift	Max %D/ %Drift	Curve Type
130 NITROGLYCERIN	5513	5235	0.010	-5.04601	20.00000	Averaged
140 PETN	2876	3016	0.010	4.87373	20.00000	Averaged

*** = Compound out of QC criteria**

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10679.D
Report Date: 31-May-2018 04:59

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Data file : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10679.D
Lab Smp Id: WG228942-6
Inj Date : 23-MAY-2018 13:44
Operator : AC   Inst ID: hplc02.i
Smp Info : WG228942-6,SL4233
Misc Info : WG228942,WG228856,WG225143-5,SL4233-25
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\EXPB05A.m
Meth Date : 25-May-2018 03:43 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05   Cal File: HLC10037.D
Als bottle: 98   Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: ngpetnedgn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01000	Weight of Sample (Kg)
M	0.00000	% Moisture
Cpnd Variable		Local Compound Variable

					AMOUNTS		
					CAL-AMT	ON-COL	
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/mL)	(ug/mL)	
8 NITROGLYCERIN	7.007	7.007	0.000	5235	1.00000	0.950(a)	
18 PETN	13.940	13.940	0.000	3016	1.00000	1.05(a)	
3 Ethylene Glycol Dinitrate	4.967	4.967	0.000	7849	1.00000	0.940(aM)	M2

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.

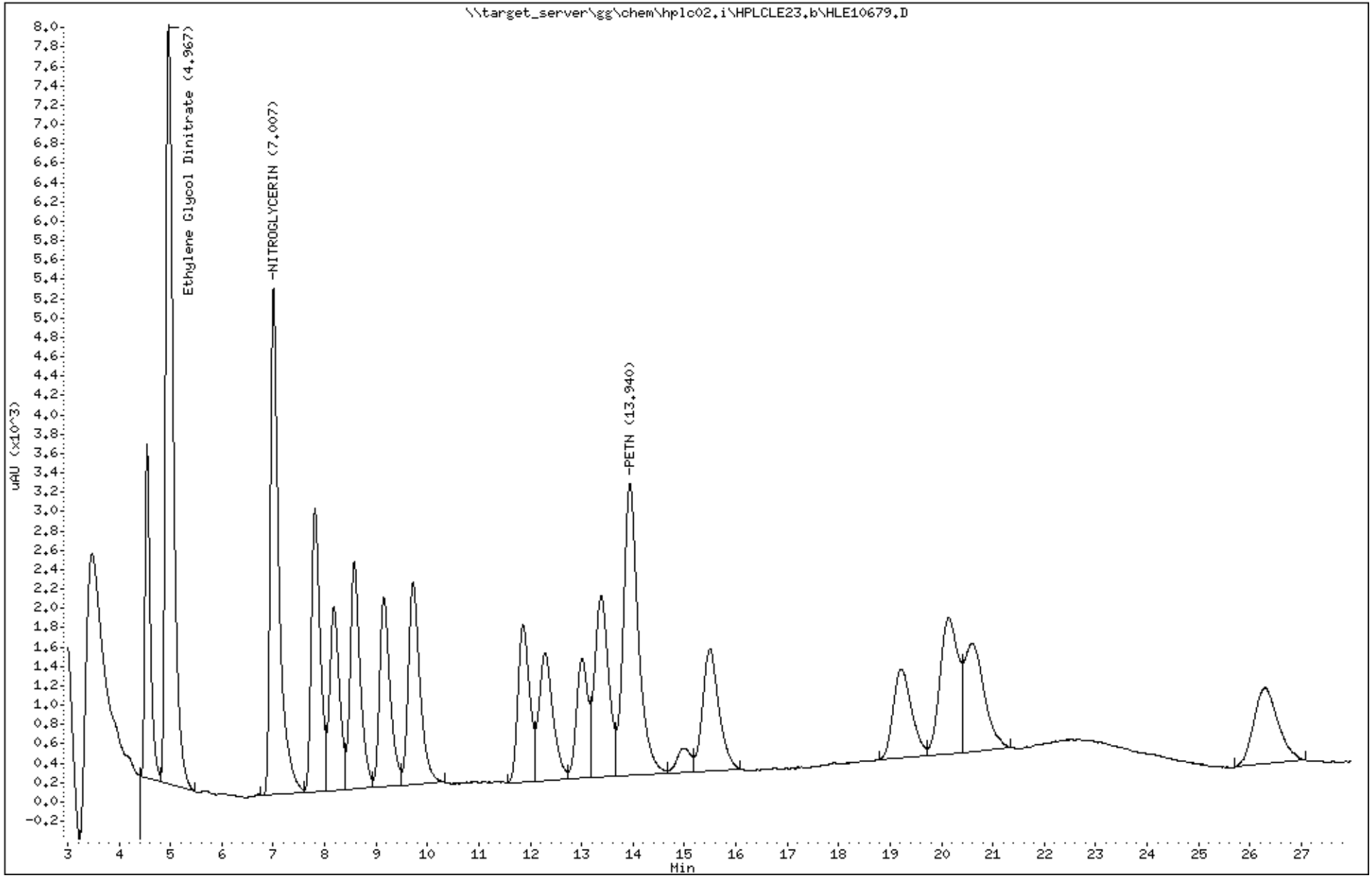
7:24 am, May 31, 2018

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10679.D
Date : 23-MAY-2018 13:44
Client ID:
Sample Info: WG228942-6,SL4233

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 1000413

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition F
Lab ID : WG228942-7
Lab File ID : HLE10690.D
Initial Calibration Date(s): 03/20/18 14:54 03/20/18 18:05

SDG: SL4233
Analytical Date: 05/23/18 19:25
Instrument ID: HPLC02
Column ID: A

Compound	RRF/Amount	RF0.500	Min RRF	%D/ %Drift	Max %D/ %Drift	Curve Type
130 NITROGLYCERIN	5513	5315	0.010	-3.59495	20.00000	Averaged
140 PETN	2876	3069	0.010	6.69929	20.00000	Averaged

*** = Compound out of QC criteria**

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10690.D
Report Date: 31-May-2018 04:59

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Data file : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10690.D
Lab Smp Id: WG228942-7
Inj Date : 23-MAY-2018 19:25
Operator : AC   Inst ID: hplc02.i
Smp Info : WG228942-7,SL4233
Misc Info : WG228942,WG228856,WG225143-5,SL4233-25
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\EXPB05A.m
Meth Date : 25-May-2018 03:43 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05   Cal File: HLC10037.D
Als bottle: 9   Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01000	Weight of Sample (Kg)
M	0.00000	% Moisture
Cpnd Variable		Local Compound Variable

					AMOUNTS	
					CAL-AMT	ON-COL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/mL)	(ug/mL)
8 NITROGLYCERIN	6.993	7.007	-0.014	10630	1.00000	1.93(a)
18 PETN	13.900	13.940	-0.040	6137	1.00000	2.13(a)

QC Flag Legend

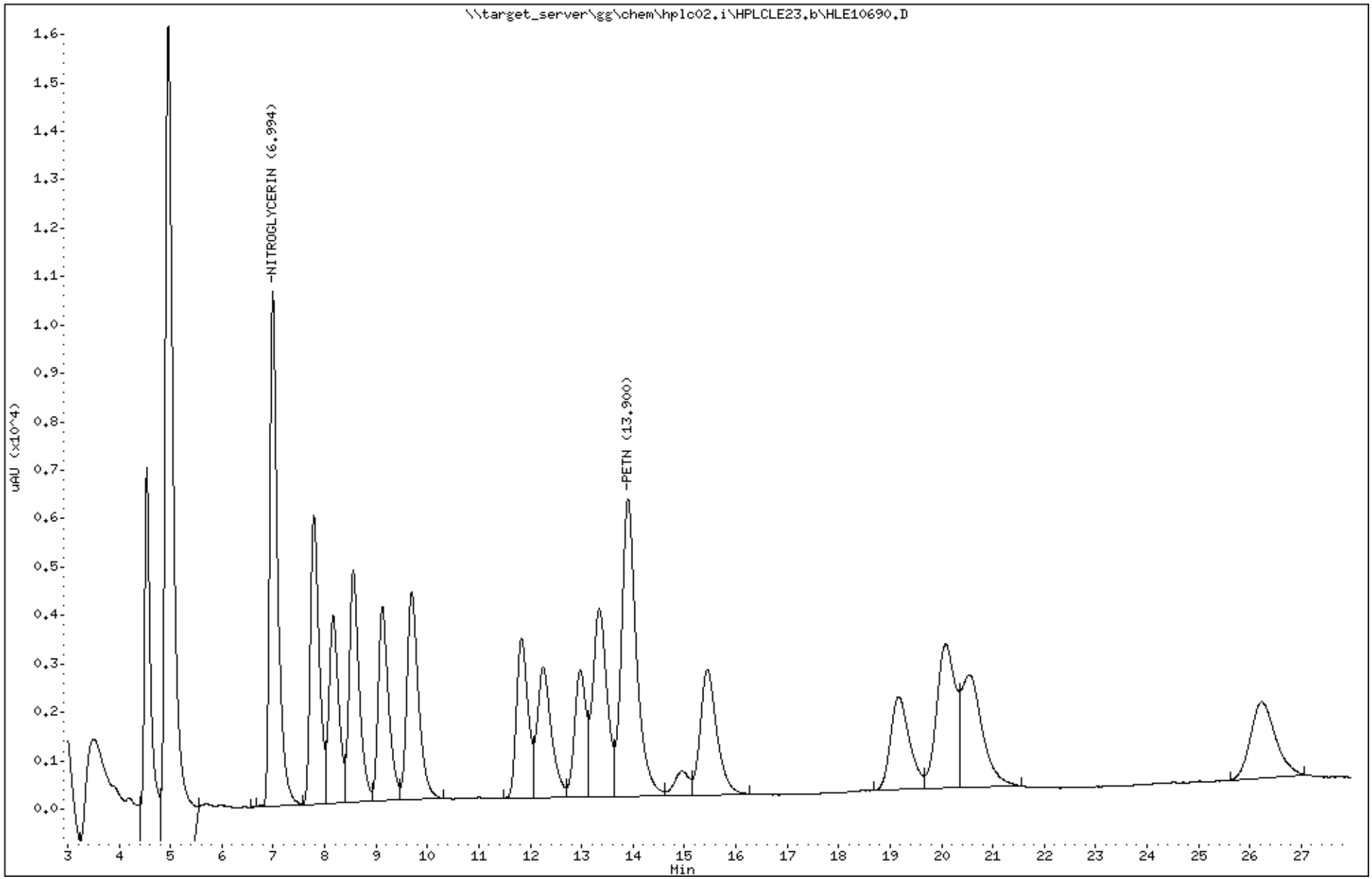
a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10690.D
Date : 23-MAY-2018 19:25
Client ID:
Sample Info: WG228942-7,SL4233

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 1000416

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition F
Lab ID : WG228942-8
Lab File ID : HLE10701.D
Initial Calibration Date(s): 03/20/18 14:54 03/20/18 18:05

SDG: SL4233
Analytical Date: 05/24/18 01:06
Instrument ID: HPLC02
Column ID: A

Compound	$\overline{\text{RRF}}$/Amount	RF0.250	Min RRF	%D/ %Drift	Max %D/ %Drift	Curve Type
130 NITROGLYCERIN	5513	5226	0.010	-5.20925	20.00000	Averaged
140 PETN	2876	2980	0.010	3.62192	20.00000	Averaged

*** = Compound out of QC criteria**

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10701.D
Report Date: 31-May-2018 05:00

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10701.D
Lab Smp Id: WG228942-8
Inj Date : 24-MAY-2018 01:06
Operator : AC   Inst ID: hplc02.i
Smp Info : WG228942-8,SL4233
Misc Info : WG228942,WG228856,WG225143-5,SL4233-25
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\EXPB05A.m
Meth Date : 25-May-2018 03:43 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05   Cal File: HLC10037.D
Als bottle: 20   Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01000	Weight of Sample (Kg)
M	0.00000	% Moisture
Cpnd Variable		Local Compound Variable

					AMOUNTS	
					CAL-AMT	ON-COL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/mL)	(ug/mL)
8 NITROGLYCERIN	7.003	7.007	-0.004	5226	1.00000	0.948(a)
18 PETN	13.943	13.940	0.003	2980	1.00000	1.04(a)

QC Flag Legend

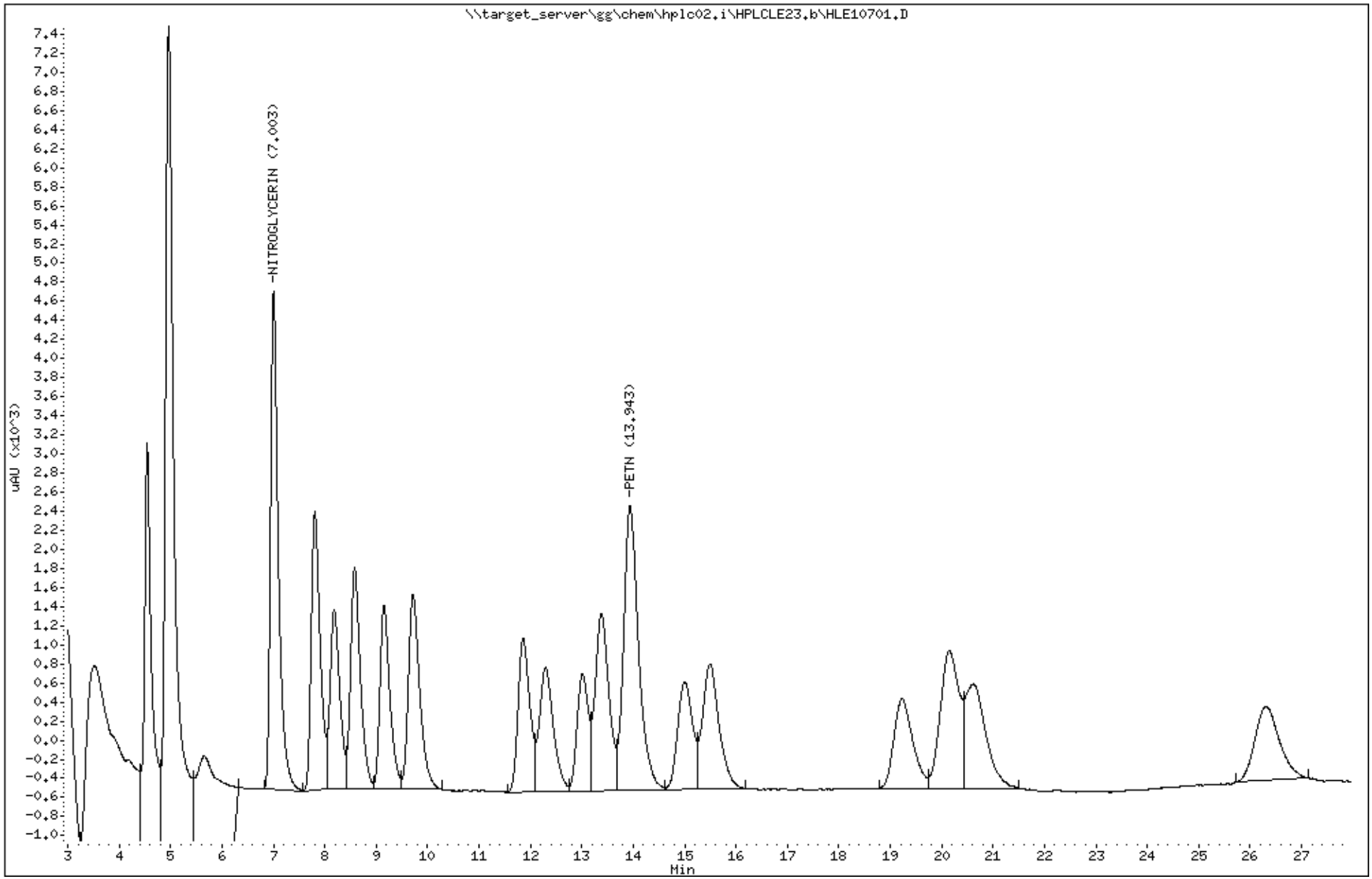
a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10701.D
Date : 24-MAY-2018 01:06
Client ID:
Sample Info: WG228942-8,SL4233

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 1000419

Katahdin
ANALYTICAL SERVICES

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition F
Lab ID : WG228942-9
Lab File ID : HLE10712.D
Initial Calibration Date(s): 03/20/18 14:54 03/20/18 18:05

SDG: SL4233
Analytical Date: 05/24/18 06:47
Instrument ID: HPLC02
Column ID: A

Compound	$\overline{\text{RRF}}$/Amount	RF0.500	Min RRF	%D/ %Drift	Max %D/ %Drift	Curve Type
130 NITROGLYCERIN	5513	5270	0.010	-4.42024	20.00000	Averaged
140 PETN	2876	3006	0.010	4.52601	20.00000	Averaged

*** = Compound out of QC criteria**

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10712.D
Report Date: 31-May-2018 05:00

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10712.D
Lab Smp Id: WG228942-9
Inj Date : 24-MAY-2018 06:47
Operator : AC   Inst ID: hplc02.i
Smp Info : WG228942-9,SL4233
Misc Info : WG228942,WG228857,WG225143-5,SL4233-45
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\EXPB05A.m
Meth Date : 25-May-2018 03:43 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05   Cal File: HLC10037.D
Als bottle: 31   Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01000	Weight of Sample (Kg)
M	0.00000	% Moisture
Cpnd Variable		Local Compound Variable

					AMOUNTS	
					CAL-AMT	ON-COL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/mL)	(ug/mL)
8 NITROGLYCERIN	7.000	7.007	-0.007	10539	1.00000	1.91(a)
18 PETN	13.933	13.940	-0.007	6012	1.00000	2.09(a)

QC Flag Legend

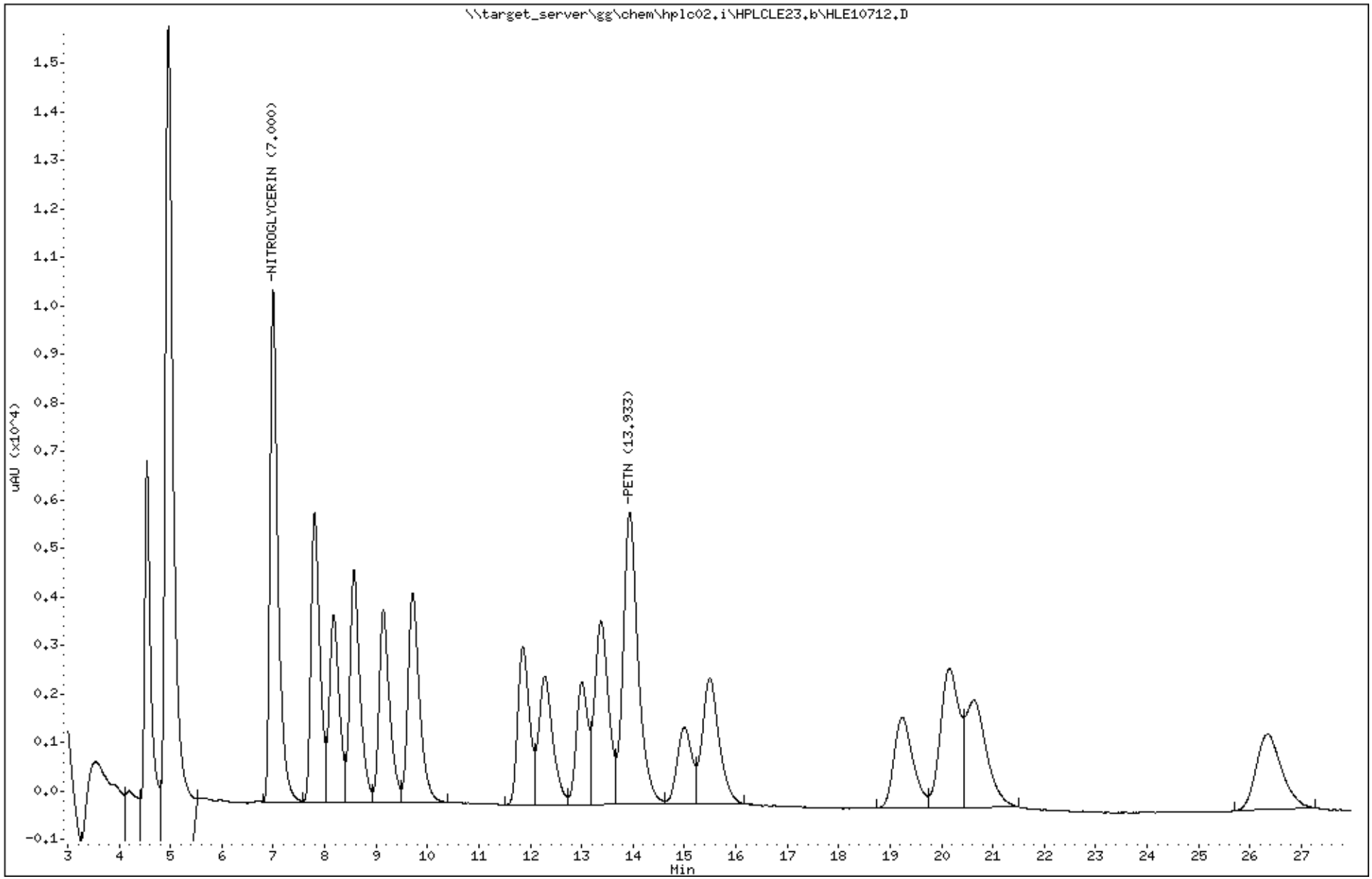
a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10712.D
Date : 24-MAY-2018 06:47
Client ID:
Sample Info: WG228942-9,SL4233

Column phase: Acclaim Exp E1

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60



Katahdin Analytical Services 1000422

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition F
Lab ID : WG228942-10
Lab File ID : HLE10720.D
Initial Calibration Date(s): 03/20/18 14:54 03/20/18 18:05

SDG: SL4233
Analytical Date: 05/24/18 10:55
Instrument ID: HPLC02
Column ID: A

	Compound	$\overline{\text{RRF}}$/Amount	RF0.250	Min RRF	%D/ %Drift	Max %D/ %Drift	Curve Type
130	NITROGLYCERIN	5513	5163	0.010	-6.35197	20.00000	Averaged
140	PETN	2876	2952	0.010	2.64830	20.00000	Averaged

*** = Compound out of QC criteria**

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10720.D
Report Date: 31-May-2018 05:00

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10720.D
Lab Smp Id: WG228942-10
Inj Date : 24-MAY-2018 10:55
Operator : AC   Inst ID: hplc02.i
Smp Info : WG228942-10,SL4233
Misc Info : WG228942,WG228857,WG225143-5,SL4233-45
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\EXPB05A.m
Meth Date : 25-May-2018 03:43 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05   Cal File: HLC10037.D
Als bottle: 39   Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01000	Weight of Sample (Kg)
M	0.00000	% Moisture
Cpnd Variable		Local Compound Variable

					AMOUNTS	
					CAL-AMT	ON-COL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/mL)	(ug/mL)
8 NITROGLYCERIN	7.000	7.007	-0.007	5163	1.00000	0.936(a)
18 PETN	13.934	13.940	-0.006	2952	1.00000	1.03(a)

QC Flag Legend

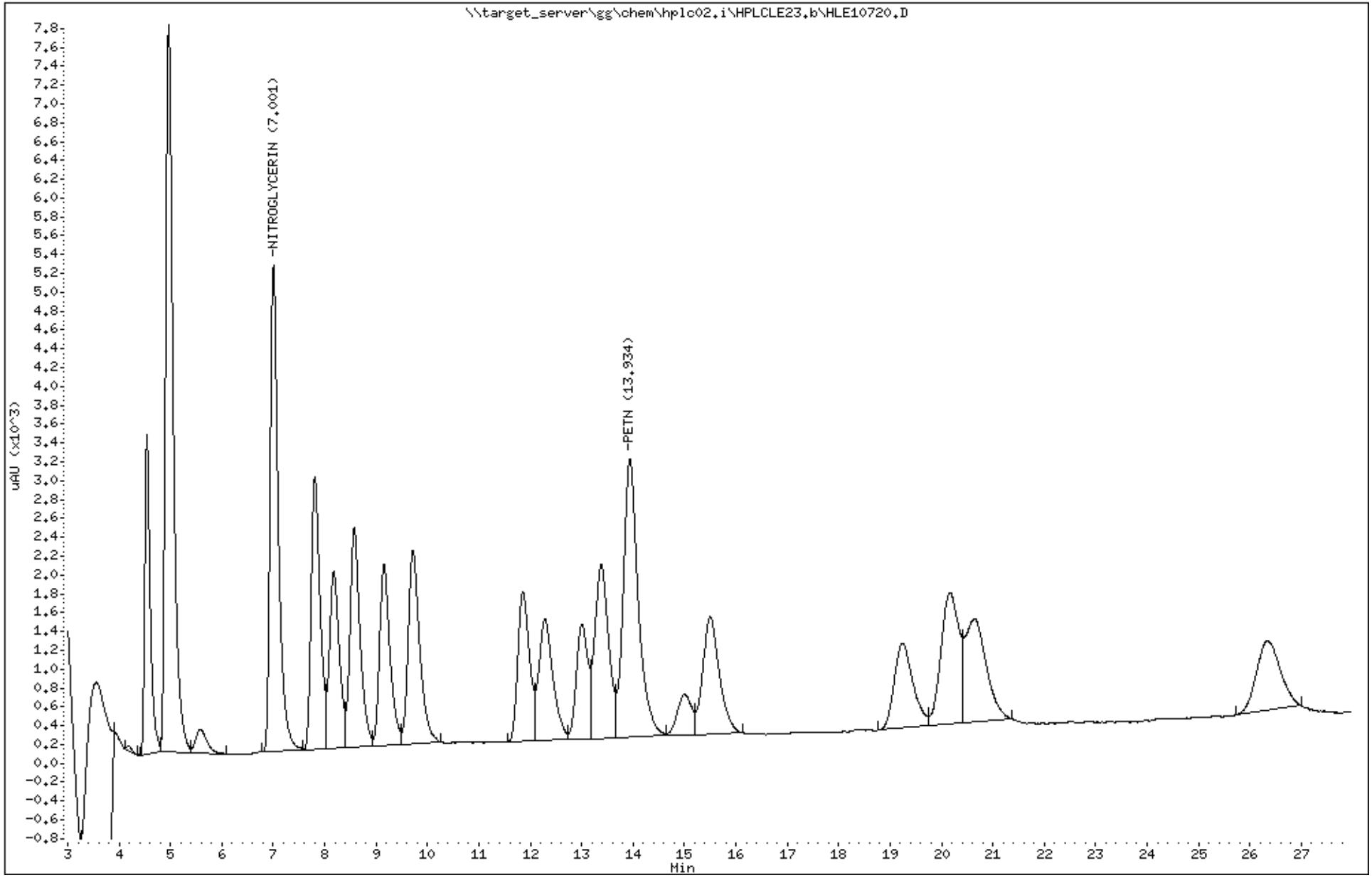
a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10720.D
Date : 24-MAY-2018 10:55
Client ID:
Sample Info: WG228942-10,SL4233

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 1000425

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition F
Lab ID : WG228942-11
Lab File ID : HLE10728.D
Initial Calibration Date(s): 03/20/18 14:54 03/20/18 18:05

SDG: SL4233
Analytical Date: 05/24/18 15:59
Instrument ID: HPLC02
Column ID: A

Compound	RRF/Amount	RF0.500	Min RRF	%D/ %Drift	Max %D/ %Drift	Curve Type
130 NITROGLYCERIN	5513	5231	0.010	-5.11856	20.00000	Averaged
140 PETN	2876	3008	0.010	4.59555	20.00000	Averaged

*** = Compound out of QC criteria**

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE24.b\HLE10728.D
Report Date: 31-May-2018 05:12

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE24.b\HLE10728.D
Lab Smp Id: WG228942-11
Inj Date : 24-MAY-2018 15:59
Operator : AC   Inst ID: hplc02.i
Smp Info : WG228942-11,SL4233
Misc Info : WG228942,WG228857,WG225143-5,SL4233-45
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCLE24.b\EXPB05A.m
Meth Date : 29-May-2018 10:35 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05   Cal File: HLC10037.D
Als bottle: 47   Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: ngpetnedgn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01000	Weight of Sample (Kg)
M	0.00000	% Moisture
Cpnd Variable		Local Compound Variable

					AMOUNTS		
					CAL-AMT	ON-COL	
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/mL)	(ug/mL)	
8 NITROGLYCERIN	6.976	6.976	0.000	10462	1.00000	1.90(a)	
18 PETN	13.849	13.849	0.000	6016	1.00000	2.09(a)	
3 Ethylene Glycol Dinitrate	4.956	4.956	0.000	15744	1.00000	1.88(aM)	M2

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.

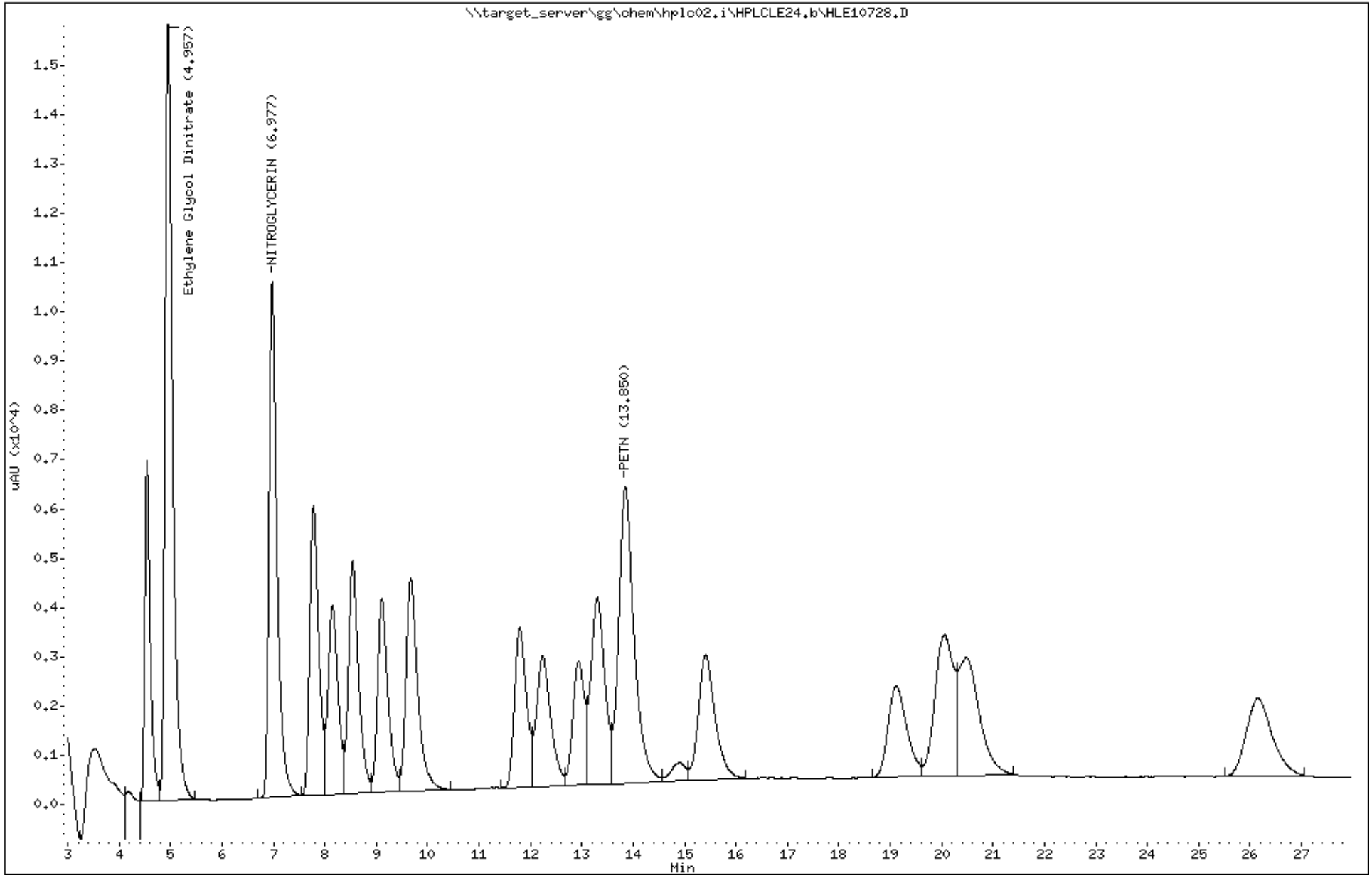
AAB
7:24 am, May 31, 2018

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE24.b\HLE10728.D
Date : 24-MAY-2018 15:59
Client ID:
Sample Info: WG228942-11,SL4233

Column phase: Acclaim Exp E1

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60



Katahdin Analytical Services 1000428

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition F
Lab ID : WG228942-14
Lab File ID : HLE10761.D
Initial Calibration Date(s): 03/20/18 14:54 03/20/18 18:05

SDG: SL4233
Analytical Date: 05/25/18 09:02
Instrument ID: HPLC02
Column ID: A

	Compound	RRF/Amount	RF0.250	Min RRF	%D/ %Drift	Max %D/ %Drift	Curve Type
130	NITROGLYCERIN	5513	5205	0.010	-5.59016	20.00000	Averaged
140	PETN	2876	2983	0.010	3.72624	20.00000	Averaged

*** = Compound out of QC criteria**

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE24.b\HLE10761.D
Report Date: 31-May-2018 05:15

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE24.b\HLE10761.D
Lab Smp Id: WG228942-14
Inj Date : 25-MAY-2018 09:02
Operator : AC   Inst ID: hplc02.i
Smp Info : WG228942-14,SL4233
Misc Info : WG228942,WG228857,WG225143-5,SL4233-45
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCLE24.b\EXPB05A.m
Meth Date : 29-May-2018 10:35 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05   Cal File: HLC10037.D
Als bottle: 80   Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

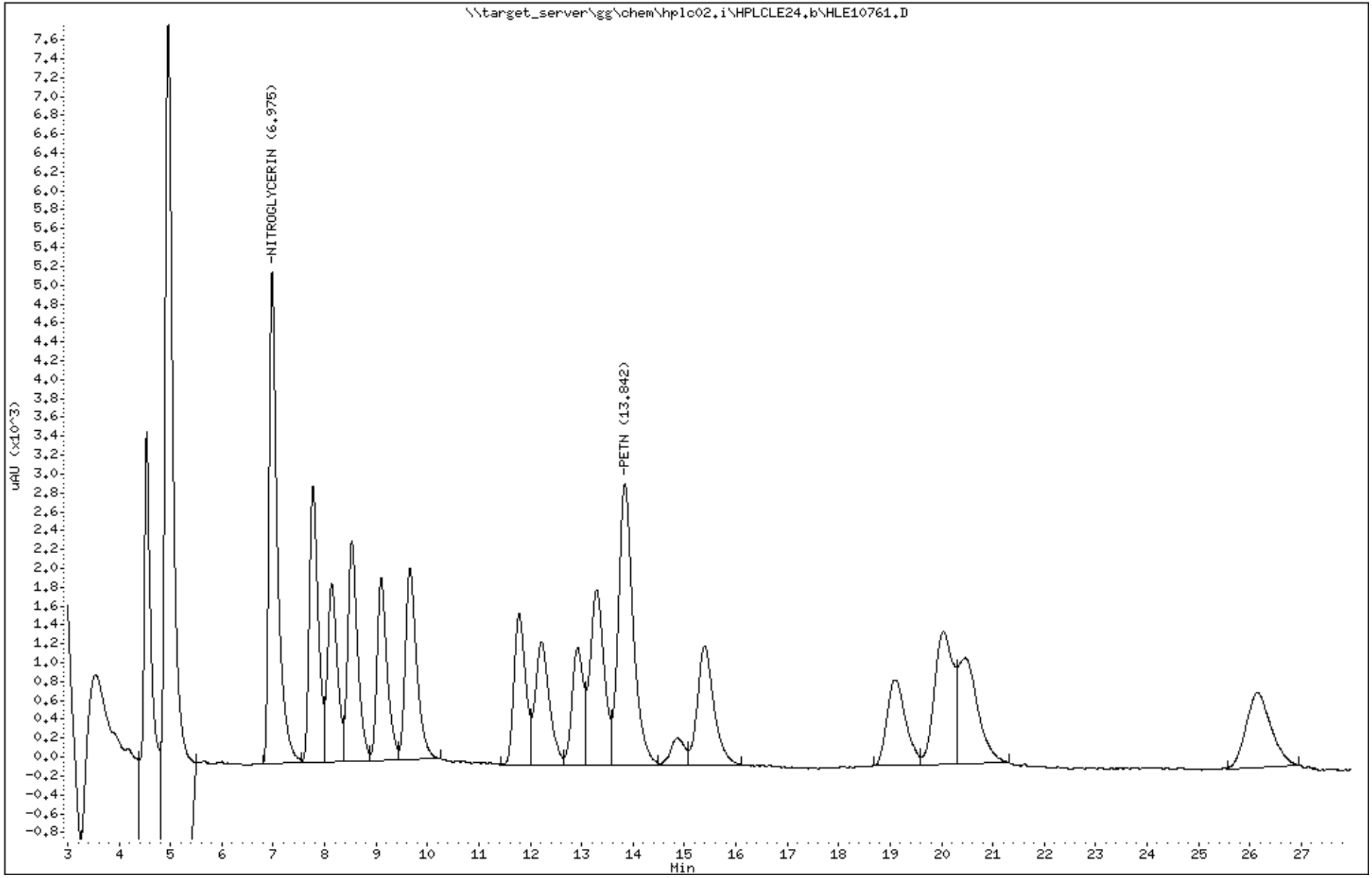
Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01000	Weight of Sample (Kg)
M	0.00000	% Moisture
Cpnd Variable		Local Compound Variable

					AMOUNTS	
					CAL-AMT	ON-COL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/mL)	(ug/mL)
8 NITROGLYCERIN	6.975	6.976	-0.001	5205	1.00000	0.944(a)
18 PETN	13.841	13.849	-0.008	2983	1.00000	1.04(a)

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE24.b\HLE10761.D
Date : 25-MAY-2018 09:02
Client ID:
Instrument: hplc02.i
Sample Info: WG228942-14,SL4233
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 1000431

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Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition F
Lab ID : WG228942-15
Lab File ID : HLE10772.D
Initial Calibration Date(s): 03/20/18 14:54 03/20/18 18:05

SDG: SL4233
Analytical Date: 05/25/18 14:43
Instrument ID: HPLC02
Column ID: A

Compound	$\overline{\text{RRF}}$/Amount	RF0.500	Min RRF	%D/ %Drift	Max %D/ %Drift	Curve Type
130 NITROGLYCERIN	5513	5308	0.010	-3.73098	20.00000	Averaged
140 PETN	2876	3052	0.010	6.10815	20.00000	Averaged

*** = Compound out of QC criteria**

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE24.b\HLE10772.D
Report Date: 31-May-2018 05:15

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE24.b\HLE10772.D
Lab Smp Id: WG228942-15
Inj Date : 25-MAY-2018 14:43
Operator : AC   Inst ID: hplc02.i
Smp Info : WG228942-15,SL4233
Misc Info : WG228942,WG228857,WG225143-5,SL4233-45
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCLE24.b\EXPB05A.m
Meth Date : 29-May-2018 10:35 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05   Cal File: HLC10037.D
Als bottle: 91   Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01000	Weight of Sample (Kg)
M	0.00000	% Moisture
Cpnd Variable		Local Compound Variable

					AMOUNTS	
					CAL-AMT	ON-COL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/mL)	(ug/mL)
8 NITROGLYCERIN	6.979	6.976	0.003	10615	1.00000	1.92(a)
18 PETN	13.846	13.849	-0.003	6103	1.00000	2.12(a)

QC Flag Legend

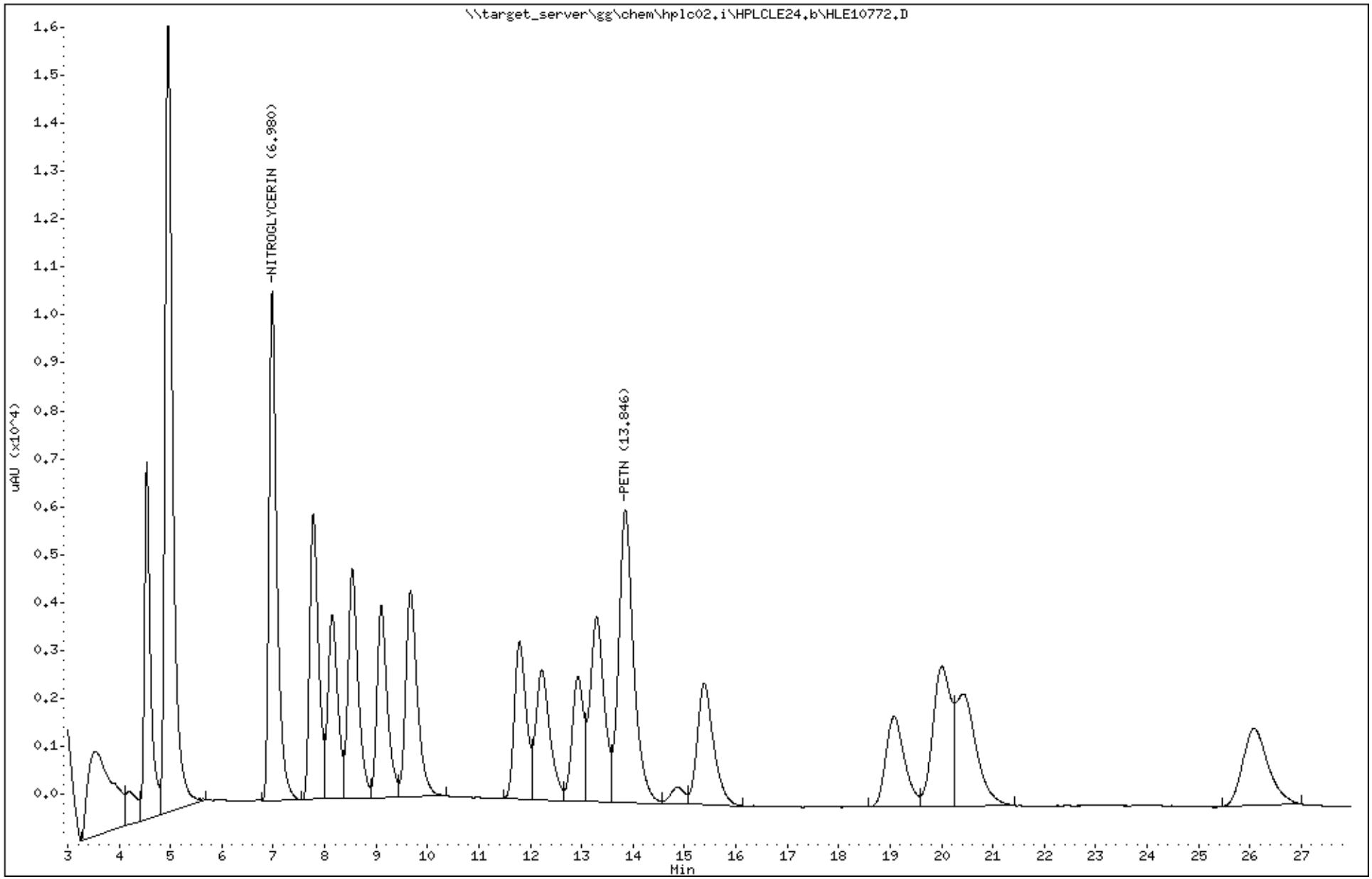
a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE24.b\HLE10772.D
Date : 25-MAY-2018 14:43
Client ID:
Sample Info: WG228942-15,SL4233

Column phase: Acclaim Exp E1

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60



Katahdin Analytical Services 1000434

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
Lab ID : WG228942-17
Lab File ID : HLE10806.D
Initial Calibration Date(s): 08/01/17 09:37 08/01/17 14:33

SDG: SL4233
Analytical Date: 05/26/18 19:57
Instrument ID: HPLC02
Column ID: A

	Compound	RRF/Amount	RF1	CCAL RRF1	Min	%D/ %Drift	Max %D/ %Drift	Curve Type
8	NITROGLYCERIN	1.00000	0.98474	4390	0.010	-1.52629	20.00000	Linear
18	PETN	1.00000	0.97660	1695	0.010	-2.34006	20.00000	Linear

*** = Compound out of QC criteria**

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE25.b\HLE10806.D
Report Date: 31-May-2018 05:40

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Data file : \\target_server\gg\chem\hplc02.i\HPLCLE25.b\HLE10806.D
Lab Smp Id: WG228942-17
Inj Date : 26-MAY-2018 19:57
Operator : AC   Inst ID: hplc02.i
Smp Info : WG228942-17,SL4233
Misc Info : WG228942,WG228770,WG210620-13,SL4233-2
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCLE25.b\E2016A.m
Meth Date : 29-May-2018 16:33 abullentin Quant Type: ESTD
Cal Date : 01-AUG-2017 14:33   Cal File: HKH10014.D
Als bottle: 25   Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: NGPETN.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01000	Weight of Sample (Kg)
M	0.00000	% Moisture
Cpnd Variable		Local Compound Variable

					AMOUNTS		
					CAL-AMT	ON-COL	
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/mL)	(ug/mL)	REVIEW CODE
8 NITROGLYCERIN	19.138	19.181	-0.043	4390	2.00000	0.985(a)	
18 PETN	38.445	38.535	-0.090	1695	2.00000	0.976(a)	

QC Flag Legend

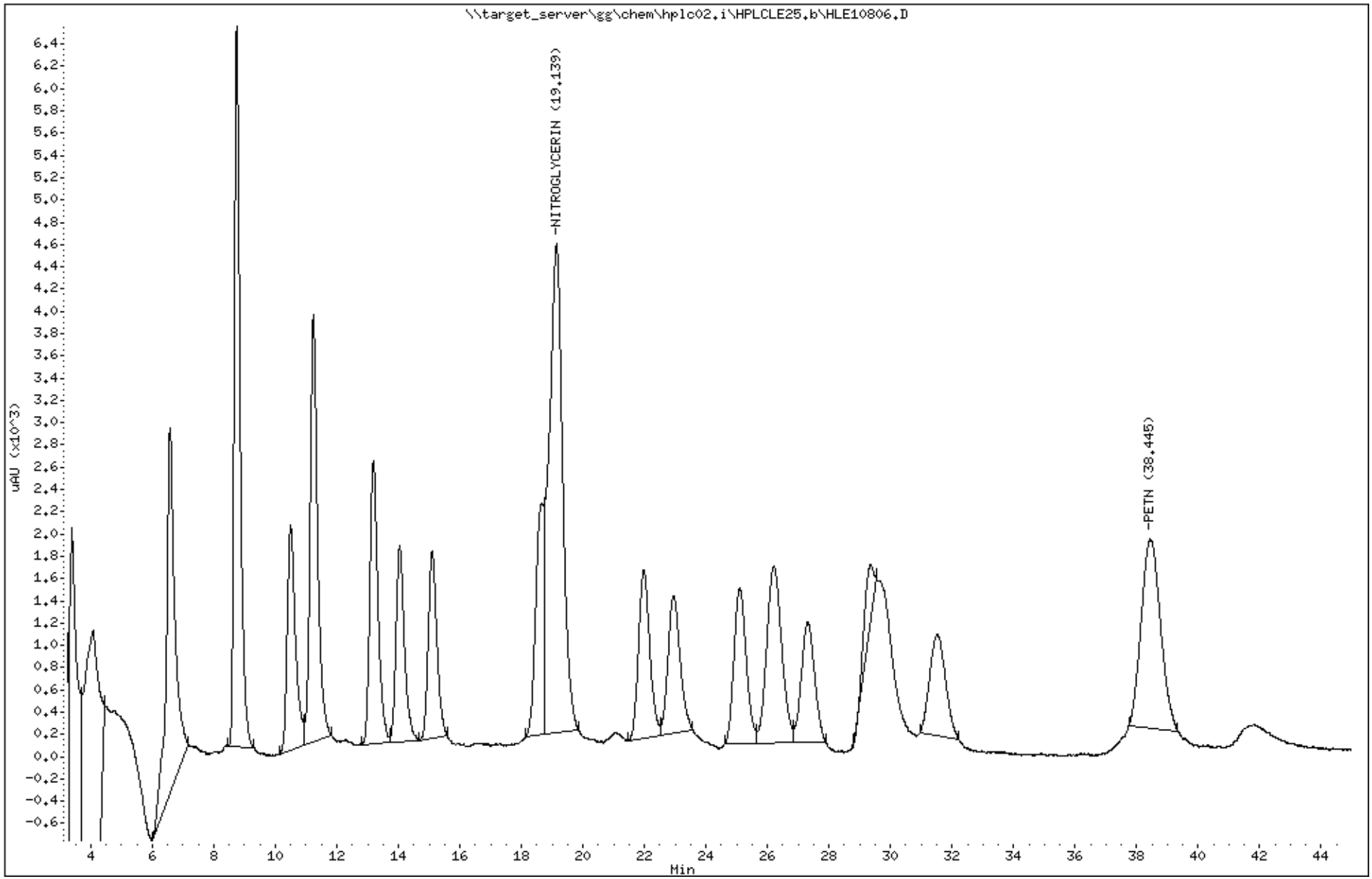
a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE25.b\HLE10806.D
Date : 26-MAY-2018 19:57
Client ID:
Sample Info: WG228942-17,SL4233

Column phase: Acclaim Exp E2

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60



Katahdin Analytical Services 1000437

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
Lab ID : WG228942-18
Lab File ID : HLE10817.D
Initial Calibration Date(s): 08/01/17 09:37 08/01/17 14:33

SDG: SL4233
Analytical Date: 05/27/18 04:57
Instrument ID: HPLC02
Column ID: A

	Compound	RRF/Amount	RF2	CCAL RRF2	Min	%D/ %Drift	Max %D/ %Drift	Curve Type
8	NITROGLYCERIN	2.00000	1.99998	4458	0.010	-0.00096	20.00000	Linear
18	PETN	2.00000	2.06375	1792	0.010	3.18753	20.00000	Linear

*** = Compound out of QC criteria**

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE25.b\HLE10817.D
Report Date: 31-May-2018 05:40

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Data file : \\target_server\gg\chem\hplc02.i\HPLCLE25.b\HLE10817.D
Lab Smp Id: WG228942-18
Inj Date : 27-MAY-2018 04:57
Operator : AC   Inst ID: hplc02.i
Smp Info : WG228942-18,SL4233
Misc Info : WG228942,WG228770,WG210620-13,SL4233-2
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCLE25.b\E2016A.m
Meth Date : 29-May-2018 16:33 abullentin Quant Type: ESTD
Cal Date : 01-AUG-2017 14:33   Cal File: HKH10014.D
Als bottle: 36   Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: NGPETN.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01000	Weight of Sample (Kg)
M	0.00000	% Moisture
Cpnd Variable		Local Compound Variable

					AMOUNTS		
					CAL-AMT	ON-COL	
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/mL)	(ug/mL)	REVIEW CODE
8 NITROGLYCERIN	19.204	19.181	0.023	8916	2.00000	2.00(a)	
18 PETN	38.618	38.535	0.083	3584	2.00000	2.06(a)	

QC Flag Legend

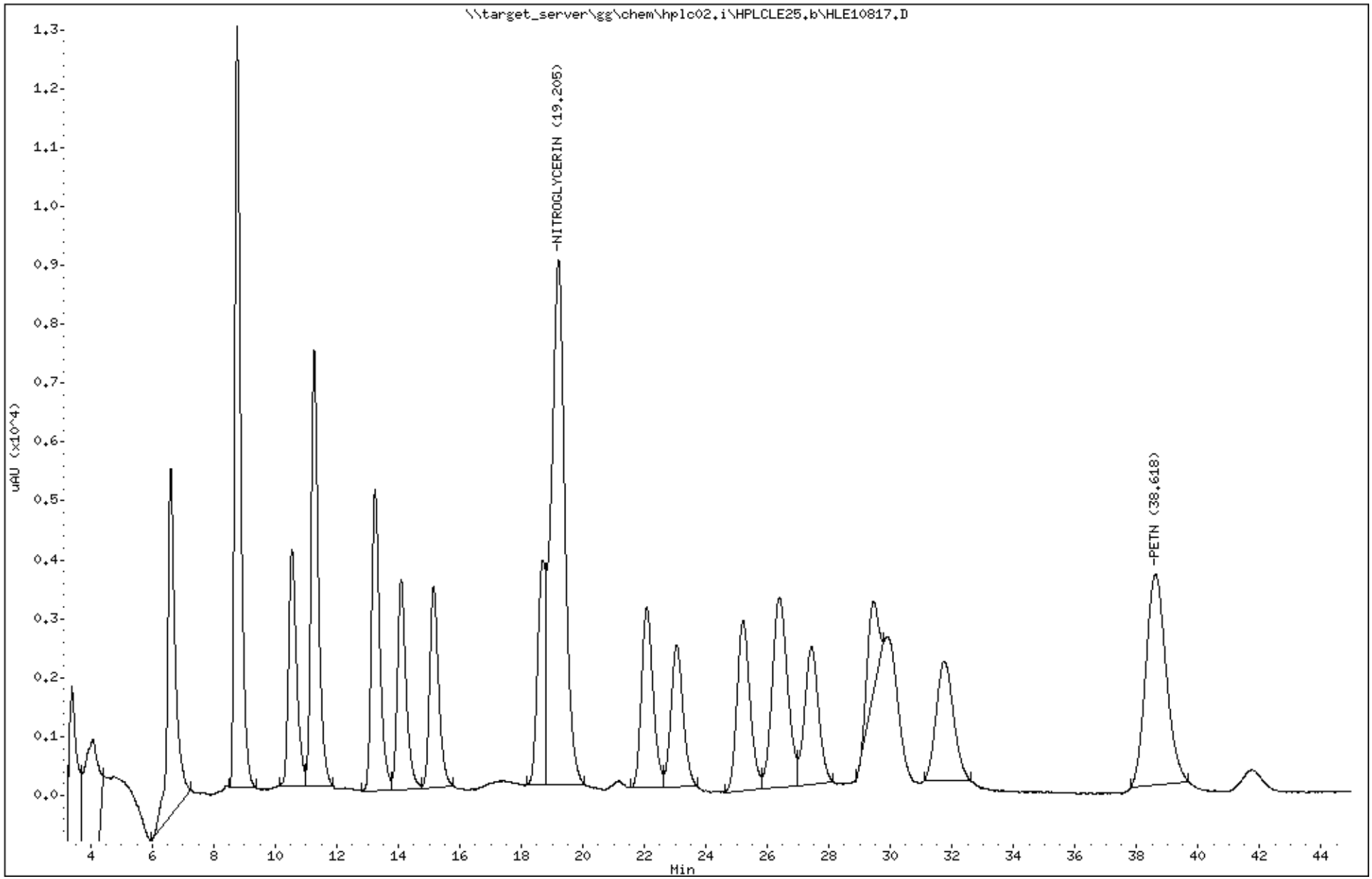
a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE25.b\HLE10817.D
Date : 27-MAY-2018 04:57
Client ID:
Sample Info: WG228942-18,SL4233

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60

Column phase: Acclaim Exp E2



Katahdin Analytical Services 1000440

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ANALYTICAL SERVICES

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
Lab ID : WG228942-20
Lab File ID : HLE10829.D
Initial Calibration Date(s): 08/01/17 09:37 08/01/17 14:33

SDG: SL4233
Analytical Date: 05/29/18 17:05
Instrument ID: HPLC02
Column ID: A

	Compound	RRF/Amount	RF2	CCAL RRF2	Min	%D/ %Drift	Max %D/ %Drift	Curve Type
8	NITROGLYCERIN	2.00000	2.01815	4499	0.010	0.90751	20.00000	Linear
18	PETN	2.00000	2.03267	1765	0.010	1.63364	20.00000	Linear

*** = Compound out of QC criteria**

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE29.b\HLE10829.D
Report Date: 31-May-2018 05:49

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE29.b\HLE10829.D
Lab Smp Id: WG228942-20
Inj Date : 29-MAY-2018 17:05
Operator : AAB   Inst ID: hplc02.i
Smp Info : WG228942-20,SL4233
Misc Info : WG228942,WG228769,WG210620-13,SL4233-54
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCLE29.b\E2016A.m
Meth Date : 30-May-2018 04:42 abullentin Quant Type: ESTD
Cal Date : 01-AUG-2017 14:33   Cal File: HKH10014.D
Als bottle: 93   Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: all.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*(Vt/Vo) * CpndVariable

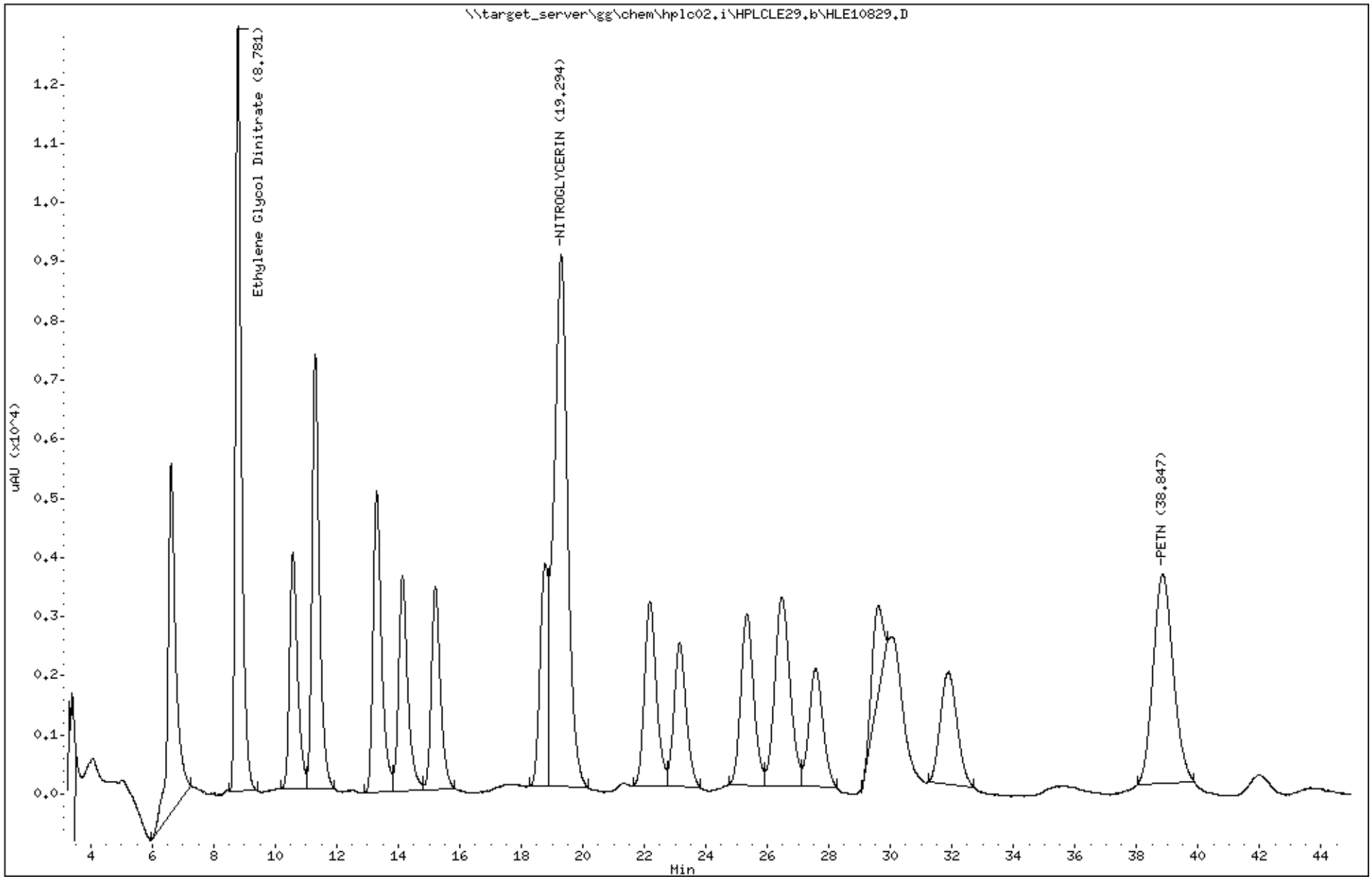
Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.10000	Final Volume (L)
Vo	1.000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

					AMOUNTS		
					CAL-AMT	ON-COL	
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/mL)	(ug/mL)	REVIEW CODE
3 Ethylene Glycol Dinitrate	8.780	8.780	0.000	12928	2.00000	1.82(a)	
8 NITROGLYCERIN	19.294	19.294	0.000	8997	2.00000	2.02(a)	
18 PETN	38.847	38.847	0.000	3530	2.00000	2.03(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE29.b\HLE10829.D
Date : 29-MAY-2018 17:05
Client ID:
Instrument: hplc02.i
Sample Info: WG228942-20,SL4233
Purge Volume: 1.0
Operator: AAB
Column phase: Acclaim Exp E2
Column diameter: 4.60



Katahdin Analytical Services 1000443

Katahdin
ANALYTICAL SERVICES

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
Lab ID : WG228942-21
Lab File ID : HLE10836.D
Initial Calibration Date(s): 08/01/17 09:37 08/01/17 14:33

SDG: SL4233
Analytical Date: 05/29/18 22:49
Instrument ID: HPLC02
Column ID: A

Compound	RRF/Amount	RF1	CCAL RRF1	Min	%D/ %Drift	Max %D/ %Drift	Curve Type
8 NITROGLYCERIN	1.00000	0.98631	4397	0.010	-1.36927	20.00000	Linear
18 PETN	1.00000	0.94552	1641	0.010	-5.44785	20.00000	Linear

*** = Compound out of QC criteria**

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE29.b\HLE10836.D
Report Date: 31-May-2018 05:49

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Data file : \\target_server\gg\chem\hplc02.i\HPLCLE29.b\HLE10836.D
Lab Smp Id: WG228942-21
Inj Date : 29-MAY-2018 22:49
Operator : AAB   Inst ID: hplc02.i
Smp Info : WG228942-21,SL4233
Misc Info : WG228942,WG228769,WG210620-13,SL4233-54
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCLE29.b\E2016A.m
Meth Date : 30-May-2018 04:42 abullentin Quant Type: ESTD
Cal Date : 01-AUG-2017 14:33   Cal File: HKH10014.D
Als bottle: 100   Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: NGPETN.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*(Vt/Vo) * CpndVariable

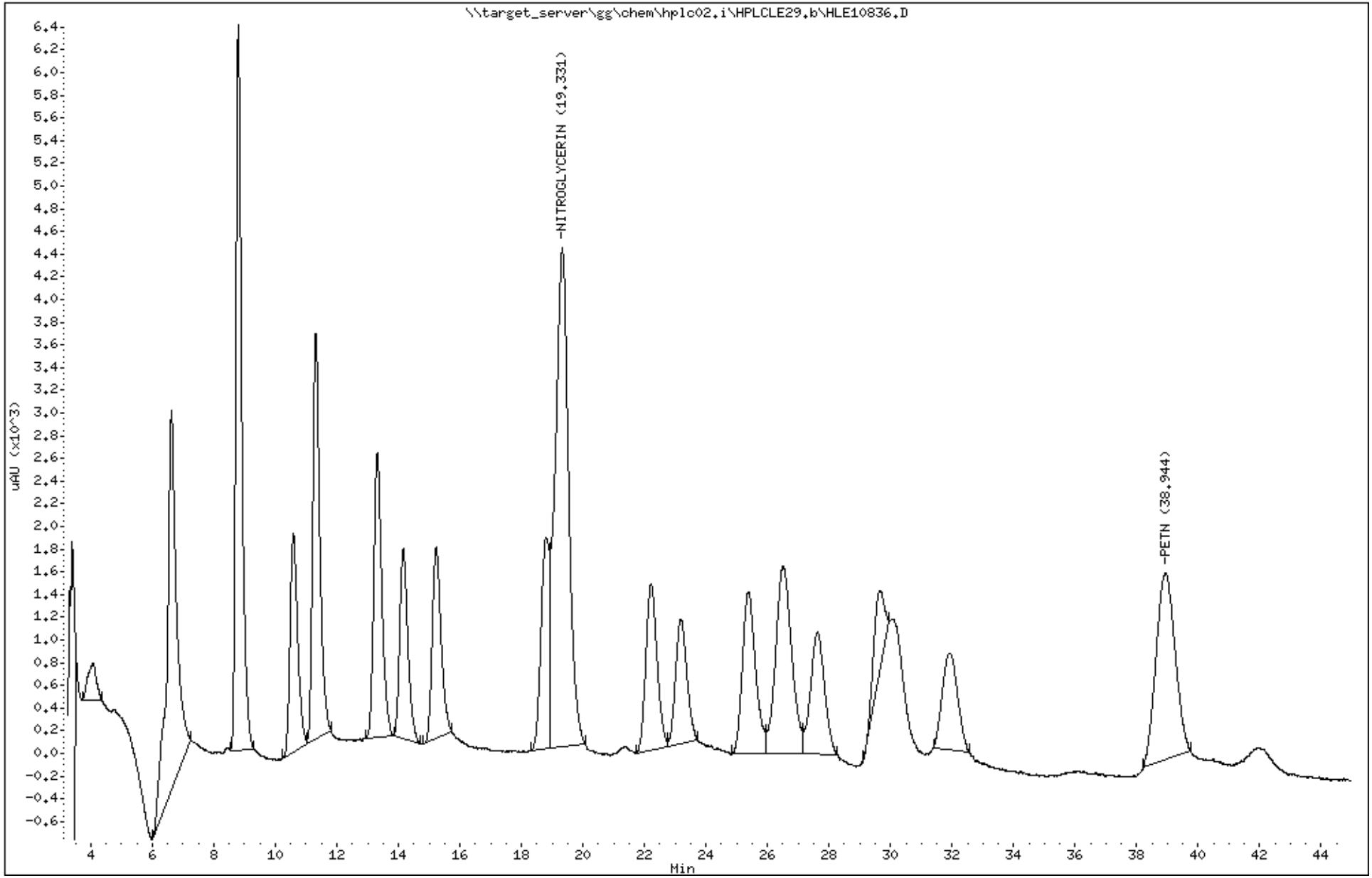
Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.10000	Final Volume (L)
Vo	1.000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

					AMOUNTS		
					CAL-AMT	ON-COL	
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/mL)	(ug/mL)	REVIEW CODE
8 NITROGLYCERIN	19.330	19.294	0.036	4397	2.00000	0.986(a)	
18 PETN	38.944	38.847	0.097	1641	2.00000	0.946(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE29.b\HLE10836.D
Date : 29-MAY-2018 22:49
Client ID:
Instrument: hplc02.i
Sample Info: WG228942-21,SL4233
Purge Volume: 1.0
Operator: AAB
Column phase: Acclaim Exp E2
Column diameter: 4.60



Katahdin Analytical Services 1000446

Katahdin
ANALYTICAL SERVICES

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
SDG: SL4233
Lab ID : WG228942-1
Analytical Date: 05/22/18 08:56
Lab File ID : HLE10627.D
Instrument ID: HPLC02
Initial Calibration Date(s): 03/20/18 14:54 03/20/18 18:05
Column ID: B

	Compound	$\overline{\text{RRF}}$/Amount	RF0.500	CCAL RRF0.500	Min	%D/ %Drift	Max %D/ %Drift	Curve Type
1	HMX	5391	5240	5240	0.010	-2.79452	20.00000	Averaged
4	RDX	0.50000	0.48518	5322	0.010	-2.96475	20.00000	Linear
5	1,3,5-trinitrobenzene	3689	3830	3830	0.010	3.82619	20.00000	Averaged
6	1,3-dinitrobenzene	7444	7584	7584	0.010	1.88462	20.00000	Averaged
7	nitrobenzene	6867	6732	6732	0.010	-1.96083	20.00000	Averaged
9	TETRYL	2535	2816	2816	0.010	11.10360	20.00000	Averaged
10	2,4,6-trinitrotoluene	2526	2522	2522	0.010	-0.17247	20.00000	Averaged
11	4-AM-DNT	4303	4276	4276	0.010	-0.62087	20.00000	Averaged
12	2-AM-DNT	5761	5744	5744	0.010	-0.29014	20.00000	Averaged
13	2,6-dinitrotoluene	0.50000	0.48853	2876	0.010	-2.29330	20.00000	Linear
14	2,4-dinitrotoluene	4619	4708	4708	0.010	1.93786	20.00000	Averaged
15	2-nitrotoluene	2890	2966	2966	0.010	2.64498	20.00000	Averaged
16	4-nitrotoluene	2342	2448	2448	0.010	4.50692	20.00000	Averaged
17	3-nitrotoluene	3326	3304	3304	0.010	-0.65079	20.00000	Averaged
2	1,2-dinitrobenzene	4627	4756	4756	0.010	2.77846	20.00000	Averaged

*** = Compound out of QC criteria**

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Data File: HLE10627.D
Report Date: 31-May-2018 04:39

Katahdin Analytical Services

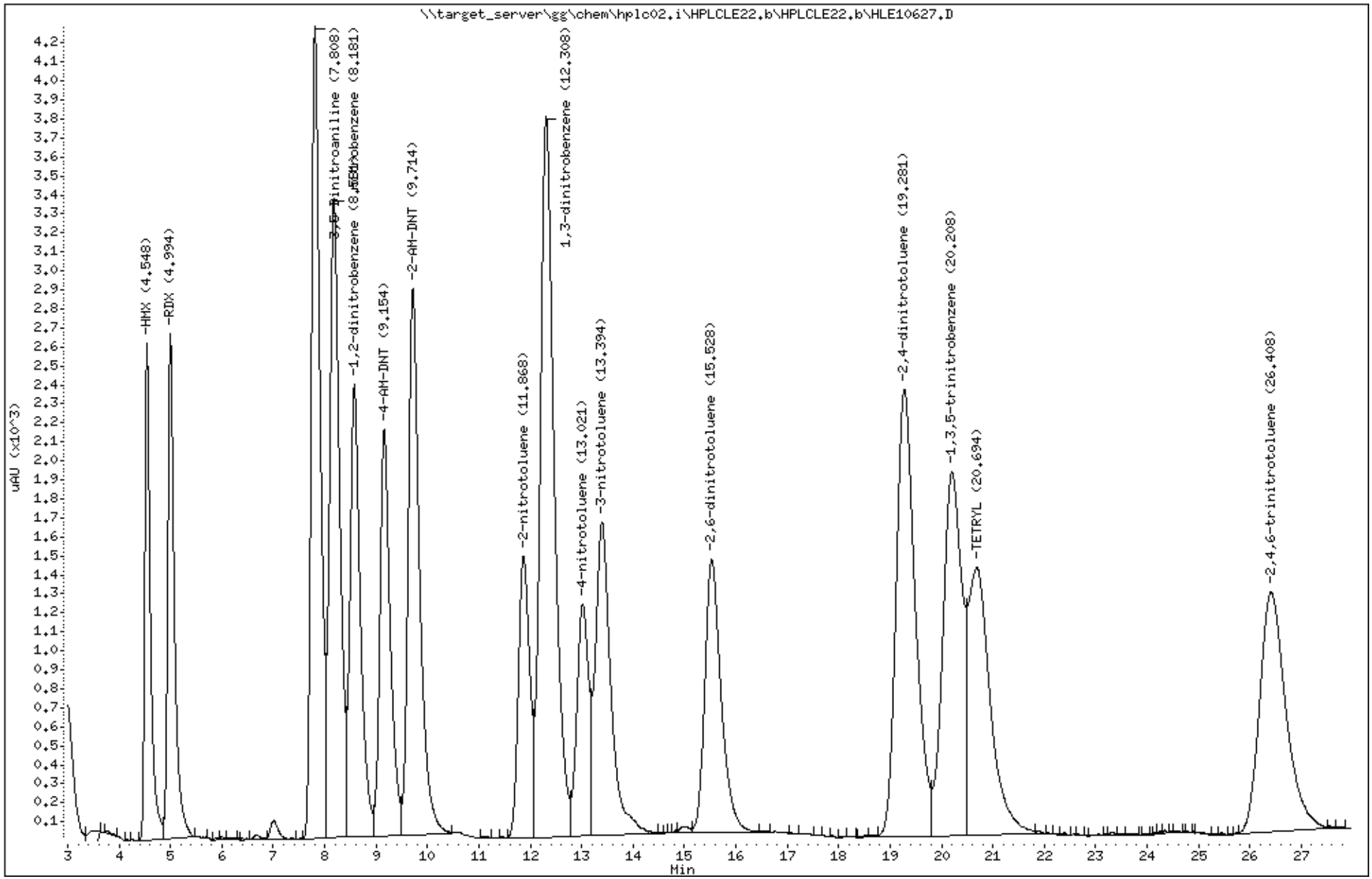
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HPLCLE22.b\HLE10627.D
Lab Smp Id: WG228942-1
Inj Date : 22-MAY-2018 08:56
Operator : AC   Inst ID: hplc02.i
Smp Info : WG228942-1,SL4233
Misc Info : WG228942,WG228769,WG225143-5,SL4233-54
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\EXPB05A.m\EXPB05A.m
Meth Date : 23-May-2018 13:40 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05   Cal File: HLC10037.D
Als bottle: 46   Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*(Vt/Vo) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00500	Final Volume (L)
Vo	0.50000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)	REVIEW CODE
1	HMX	4.547	4.547	0.000	2620	0.25000	0.486	
4	RDX	4.994	4.994	0.000	2661	0.25000	0.485	
51	3,5-Dinitroaniline	7.807	7.807	0.000	4275	0.25000	0.514	
7	nitrobenzene	8.181	8.181	0.000	3366	0.25000	0.490	
$ 2	1,2-dinitrobenzene	8.581	8.581	0.000	2378	0.25000	0.514	
11	4-AM-DNT	9.154	9.154	0.000	2138	0.25000	0.497	
12	2-AM-DNT	9.714	9.714	0.000	2872	0.25000	0.498	
15	2-nitrotoluene	11.867	11.867	0.000	1483	0.25000	0.513	
6	1,3-dinitrobenzene	12.307	12.307	0.000	3792	0.25000	0.509	
16	4-nitrotoluene	13.021	13.021	0.000	1224	0.25000	0.522	
17	3-nitrotoluene	13.394	13.394	0.000	1652	0.25000	0.497	
13	2,6-dinitrotoluene	15.527	15.527	0.000	1438	0.25000	0.488	
14	2,4-dinitrotoluene	19.281	19.281	0.000	2354	0.25000	0.510	
5	1,3,5-trinitrobenzene	20.207	20.207	0.000	1915	0.25000	0.519	
9	TETRYL	20.694	20.694	0.000	1408	0.25000	0.556	
10	2,4,6-trinitrotoluene	26.407	26.407	0.000	1261	0.25000	0.499	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HPLCLE22.b\HLE10627.D
Date : 22-MAY-2018 08:56
Client ID:
Instrument: hplc02.i
Sample Info: WG228942-1,SL4233
Purge Volume: 0.5
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 1000449

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
Lab ID : WG228942-2
Lab File ID : HLE10639.D
Initial Calibration Date(s): 03/20/18 14:54 03/20/18 18:05

SDG: SL4233
Analytical Date: 05/22/18 15:47
Instrument ID: HPLC02
Column ID: B

	Compound	$\overline{RRF}$/Amount	RF0.250	CCAL RRF0.250	Min	%D/ %Drift	Max %D/ %Drift	Curve Type
1	HMX	5391	5208	5208	0.010	-3.38815	20.00000	Averaged
4	RDX	0.25000	0.23949	5188	0.010	-4.20390	20.00000	Linear
5	1,3,5-trinitrobenzene	3689	3836	3836	0.010	3.98885	20.00000	Averaged
6	1,3-dinitrobenzene	7444	7468	7468	0.010	0.32626	20.00000	Averaged
7	nitrobenzene	6867	6620	6620	0.010	-3.59190	20.00000	Averaged
9	TETRYL	2535	2812	2812	0.010	10.94578	20.00000	Averaged
10	2,4,6-trinitrotoluene	2526	2528	2528	0.010	0.06503	20.00000	Averaged
11	4-AM-DNT	4303	4268	4268	0.010	-0.80680	20.00000	Averaged
12	2-AM-DNT	5761	5728	5728	0.010	-0.56789	20.00000	Averaged
13	2,6-dinitrotoluene	0.25000	0.23580	2852	0.010	-5.67899	20.00000	Linear
14	2,4-dinitrotoluene	4619	4648	4648	0.010	0.63874	20.00000	Averaged
15	2-nitrotoluene	2890	2904	2904	0.010	0.49933	20.00000	Averaged
16	4-nitrotoluene	2342	2460	2460	0.010	5.01921	20.00000	Averaged
17	3-nitrotoluene	3326	3280	3280	0.010	-1.37245	20.00000	Averaged
2	1,2-dinitrobenzene	4627	4700	4700	0.010	1.56829	20.00000	Averaged

*** = Compound out of QC criteria**

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Data File: HLE10639.D
Report Date: 31-May-2018 04:39

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HPLCLE22.b\HLE10639.D
Lab Smp Id: WG228942-2
Inj Date : 22-MAY-2018 15:47
Operator : AC   Inst ID: hplc02.i
Smp Info : WG228942-2,SL4233
Misc Info : WG228942,WG228769,WG225143-5,SL4233-54
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\EXPB05A.m\EXPB05A.m
Meth Date : 23-May-2018 13:40 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05   Cal File: HLC10037.D
Als bottle: 58   Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*(Vt/Vo) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00500	Final Volume (L)
Vo	0.50000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

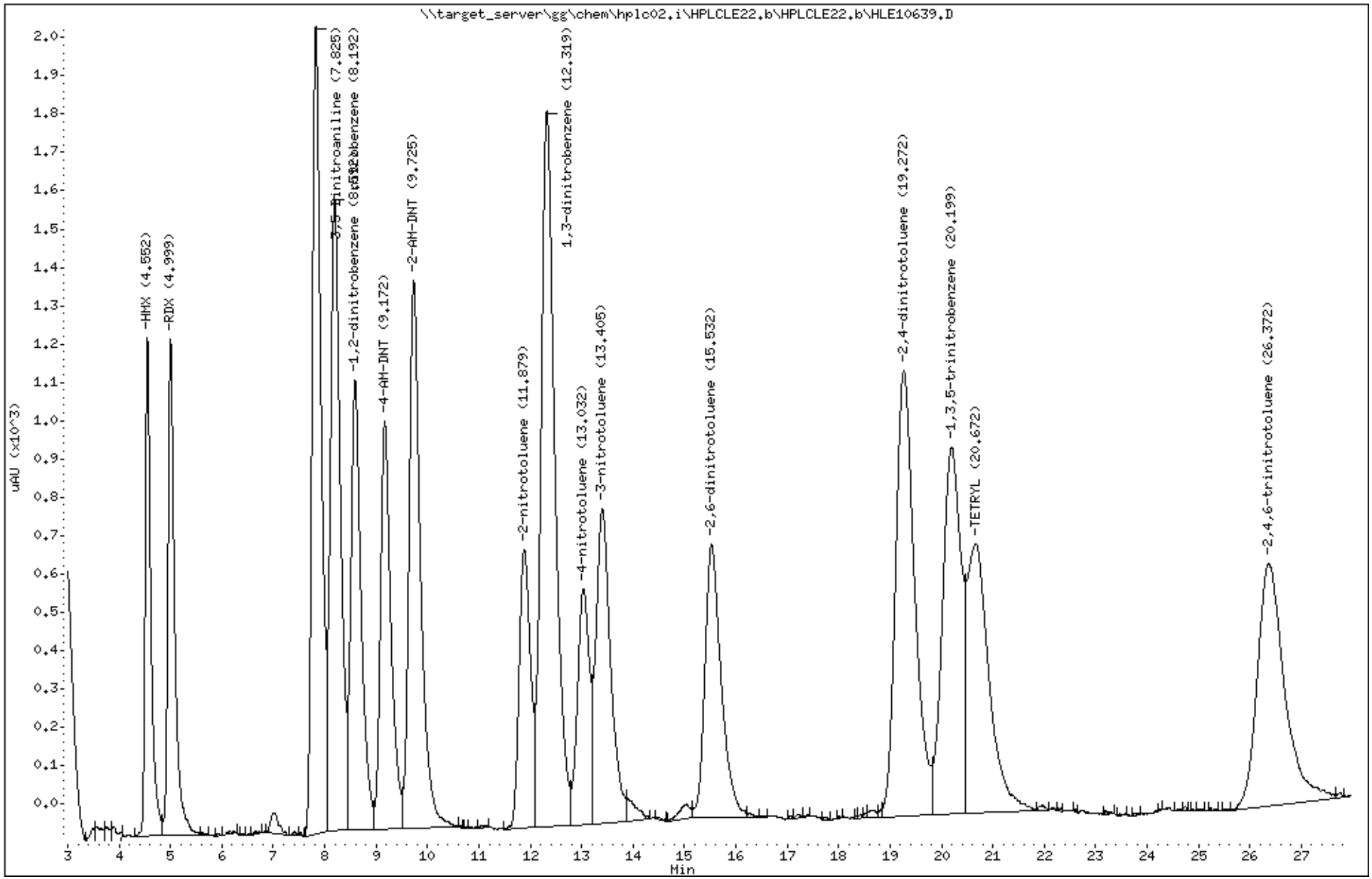
	Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)	REVIEW CODE
1	HMX	4.552	4.547	0.005	1302	0.25000	0.242(a)	
4	RDX	4.998	4.994	0.004	1297	0.25000	0.239(a)	
51	3,5-Dinitroaniline	7.825	7.807	0.018	2108	0.25000	0.253	
7	nitrobenzene	8.192	8.181	0.011	1655	0.25000	0.241(a)	
$ 2	1,2-dinitrobenzene	8.592	8.581	0.011	1175	0.25000	0.254	
11	4-AM-DNT	9.172	9.154	0.018	1067	0.25000	0.248(a)	
12	2-AM-DNT	9.725	9.714	0.011	1432	0.25000	0.248(a)	
15	2-nitrotoluene	11.878	11.867	0.011	726	0.25000	0.251(M)	M8
6	1,3-dinitrobenzene	12.318	12.307	0.011	1867	0.25000	0.251(M)	M8
16	4-nitrotoluene	13.032	13.021	0.011	615	0.25000	0.262(M)	M8
17	3-nitrotoluene	13.405	13.394	0.011	820	0.25000	0.246(aM)	M8
13	2,6-dinitrotoluene	15.532	15.527	0.005	713	0.25000	0.236(a)	
14	2,4-dinitrotoluene	19.272	19.281	-0.009	1162	0.25000	0.252	
5	1,3,5-trinitrobenzene	20.198	20.207	-0.009	959	0.25000	0.260	
9	TETRYL	20.672	20.694	-0.022	703	0.25000	0.277	
10	2,4,6-trinitrotoluene	26.372	26.407	-0.035	632	0.25000	0.250	

7:25 am, May 31, 2018

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HPLCLE22.b\HLE10639.D
Date : 22-MAY-2018 15:47
Client ID:
Instrument: hplc02.i
Sample Info: WG228942-2,SL4233
Purge Volume: 0.5
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 1000452

Katahdin
ANALYTICAL SERVICES

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
SDG: SL4233
Lab ID : WG228942-3
Analytical Date: 05/22/18 21:28
Lab File ID : HLE10650.D
Instrument ID: HPLC02
Initial Calibration Date(s): 03/20/18 14:54 03/20/18 18:05
Column ID: B

	Compound	$\overline{\text{RRF}}$/Amount	RF0.500	CCAL RRF0.500	Min	%D/ %Drift	Max %D/ %Drift	Curve Type
1	HMX	5391	5324	5324	0.010	-1.23627	20.00000	Averaged
4	RDX	0.50000	0.48752	5348	0.010	-2.49643	20.00000	Linear
5	1,3,5-trinitrobenzene	3689	3888	3888	0.010	5.39850	20.00000	Averaged
6	1,3-dinitrobenzene	7444	7684	7684	0.010	3.22804	20.00000	Averaged
7	nitrobenzene	6867	6786	6786	0.010	-1.17441	20.00000	Averaged
9	TETRYL	2535	2758	2758	0.010	8.81524	20.00000	Averaged
10	2,4,6-trinitrotoluene	2526	2568	2568	0.010	1.64834	20.00000	Averaged
11	4-AM-DNT	4303	4334	4334	0.010	0.72712	20.00000	Averaged
12	2-AM-DNT	5761	5842	5842	0.010	1.41104	20.00000	Averaged
13	2,6-dinitrotoluene	0.50000	0.49690	2924	0.010	-0.62005	20.00000	Linear
14	2,4-dinitrotoluene	4619	4768	4768	0.010	3.23698	20.00000	Averaged
15	2-nitrotoluene	2890	2990	2990	0.010	3.47555	20.00000	Averaged
16	4-nitrotoluene	2342	2462	2462	0.010	5.10459	20.00000	Averaged
17	3-nitrotoluene	3326	3326	3326	0.010	0.01074	20.00000	Averaged
2	1,2-dinitrobenzene	4627	4792	4792	0.010	3.55643	20.00000	Averaged

*** = Compound out of QC criteria**

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Data File: HLE10650.D
Report Date: 31-May-2018 04:50

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HPLCLE22.b\HLE10650.D
Lab Smp Id: WG228942-3
Inj Date : 22-MAY-2018 21:28
Operator : AC   Inst ID: hplc02.i
Smp Info : WG228942-3,SL4233
Misc Info : WG228942,WG228770,WG225143-5,SL4233-2
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\EXPB05A.m\EXPB05A.m
Meth Date : 23-May-2018 13:40 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05   Cal File: HLC10037.D
Als bottle: 69   Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01000	Weight of Sample (Kg)
M	0.00000	% Moisture
Cpnd Variable		Local Compound Variable

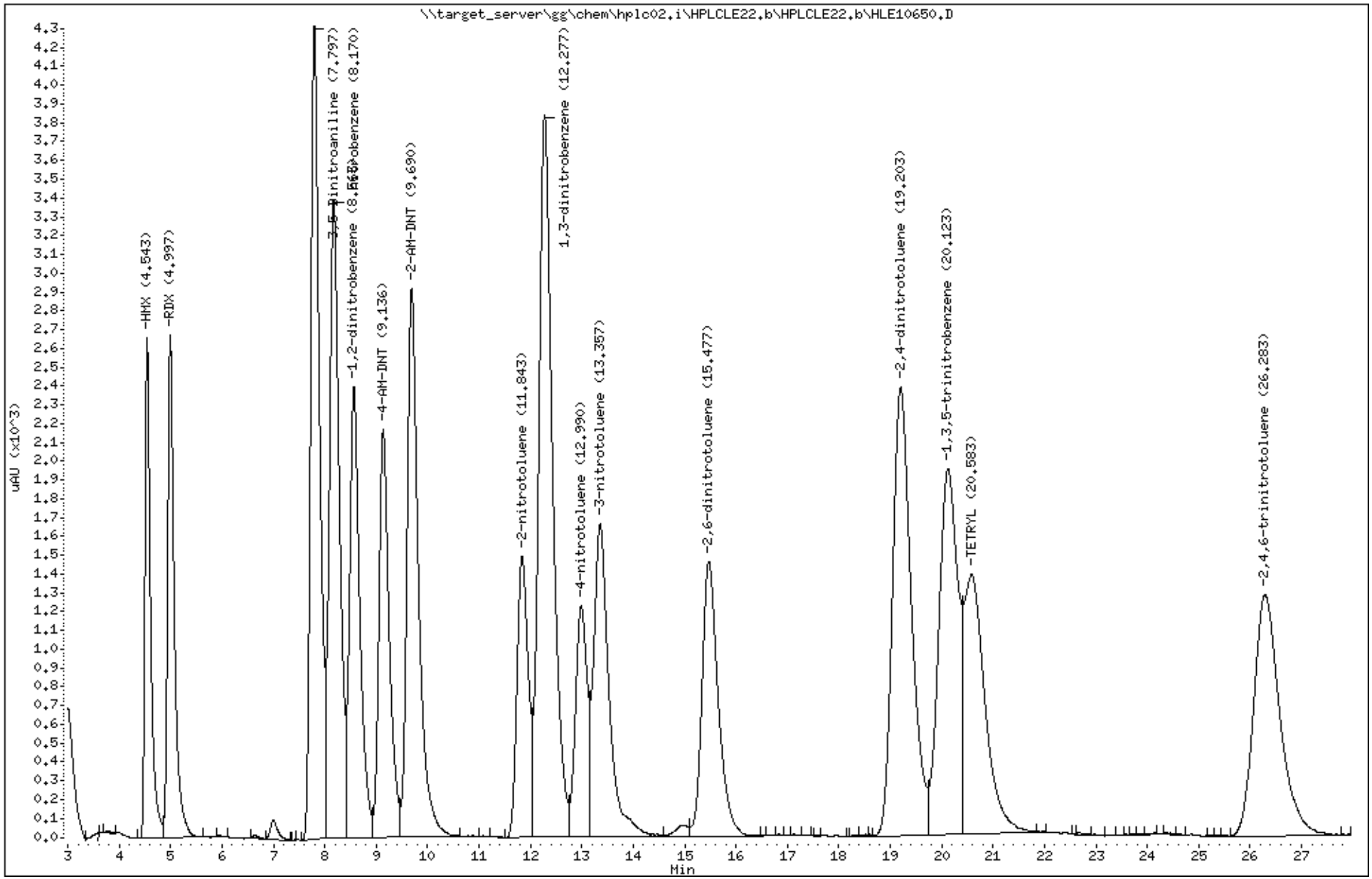
	Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)	REVIEW CODE
1	HMX	4.543	4.547	-0.004	2662	0.25000	0.494	
4	RDX	4.996	4.994	0.002	2674	0.25000	0.488	
51	3,5-Dinitroaniline	7.796	7.807	-0.011	4323	0.25000	0.520	
7	nitrobenzene	8.169	8.181	-0.012	3393	0.25000	0.494	
$ 2	1,2-dinitrobenzene	8.563	8.581	-0.018	2396	0.25000	0.518	
11	4-AM-DNT	9.136	9.154	-0.018	2167	0.25000	0.504	
12	2-AM-DNT	9.689	9.714	-0.025	2921	0.25000	0.507	
15	2-nitrotoluene	11.843	11.867	-0.024	1495	0.25000	0.517	
6	1,3-dinitrobenzene	12.276	12.307	-0.031	3842	0.25000	0.516	
16	4-nitrotoluene	12.989	13.021	-0.032	1231	0.25000	0.526	
17	3-nitrotoluene	13.356	13.394	-0.038	1663	0.25000	0.500	
13	2,6-dinitrotoluene	15.476	15.527	-0.051	1462	0.25000	0.497	
14	2,4-dinitrotoluene	19.203	19.281	-0.078	2384	0.25000	0.516	
5	1,3,5-trinitrobenzene	20.123	20.207	-0.084	1944	0.25000	0.527	
9	TETRYL	20.583	20.694	-0.111	1379	0.25000	0.544	
10	2,4,6-trinitrotoluene	26.283	26.407	-0.124	1284	0.25000	0.508	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HPLCLE22.b\HLE10650.D
Date : 22-MAY-2018 21:28
Client ID:
Sample Info: WG228942-3,SL4233

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 1000455

Katahdin
ANALYTICAL SERVICES

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
SDG: SL4233
Lab ID : WG228942-4
Analytical Date: 05/23/18 03:09
Lab File ID : HLE10661.D
Instrument ID: HPLC02
Initial Calibration Date(s): 03/20/18 14:54 03/20/18 18:05
Column ID: B

	Compound	$\overline{\text{RRF}}$/Amount	RF0.250	CCAL RRF0.250	Min	%D/ %Drift	Max %D/ %Drift	Curve Type
1	HMX	5391	5204	5204	0.010	-3.46235	20.00000	Averaged
4	RDX	0.25000	0.23913	5180	0.010	-4.34799	20.00000	Linear
5	1,3,5-trinitrobenzene	3689	3820	3820	0.010	3.55511	20.00000	Averaged
6	1,3-dinitrobenzene	7444	7492	7492	0.010	0.64868	20.00000	Averaged
7	nitrobenzene	6867	6700	6700	0.010	-2.42685	20.00000	Averaged
9	TETRYL	2535	2800	2800	0.010	10.47233	20.00000	Averaged
10	2,4,6-trinitrotoluene	2526	2524	2524	0.010	-0.09330	20.00000	Averaged
11	4-AM-DNT	4303	4212	4212	0.010	-2.10830	20.00000	Averaged
12	2-AM-DNT	5761	5684	5684	0.010	-1.33168	20.00000	Averaged
13	2,6-dinitrotoluene	0.25000	0.23406	2832	0.010	-6.37618	20.00000	Linear
14	2,4-dinitrotoluene	4619	4680	4680	0.010	1.33160	20.00000	Averaged
15	2-nitrotoluene	2890	2892	2892	0.010	0.08405	20.00000	Averaged
16	4-nitrotoluene	2342	2332	2332	0.010	-0.44520	20.00000	Averaged
17	3-nitrotoluene	3326	3184	3184	0.010	-4.25911	20.00000	Averaged
2	1,2-dinitrobenzene	4627	4700	4700	0.010	1.56829	20.00000	Averaged

*** = Compound out of QC criteria**

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Data File: HLE10661.D
Report Date: 31-May-2018 04:50

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HPLCLE22.b\HLE10661.D
Lab Smp Id: WG228942-4
Inj Date : 23-MAY-2018 03:09
Operator : AC   Inst ID: hplc02.i
Smp Info : WG228942-4,SL4233
Misc Info : WG228942,WG228770,WG225143-5,SL4233-2
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\EXPB05A.m\EXPB05A.m
Meth Date : 23-May-2018 13:40 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05   Cal File: HLC10037.D
Als bottle: 80   Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01000	Weight of Sample (Kg)
M	0.00000	% Moisture
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)	REVIEW CODE
1	HMX	4.547	4.547	0.000	1301	0.25000	0.241(a)	
4	RDX	5.000	4.994	0.006	1295	0.25000	0.239(a)	
51	3,5-Dinitroaniline	7.820	7.807	0.013	2110	0.25000	0.254	
7	nitrobenzene	8.187	8.181	0.006	1675	0.25000	0.244(a)	
$ 2	1,2-dinitrobenzene	8.587	8.581	0.006	1175	0.25000	0.254	
11	4-AM-DNT	9.167	9.154	0.013	1053	0.25000	0.245(a)	
12	2-AM-DNT	9.727	9.714	0.013	1421	0.25000	0.247(a)	
15	2-nitrotoluene	11.874	11.867	0.007	723	0.25000	0.250	
6	1,3-dinitrobenzene	12.314	12.307	0.007	1873	0.25000	0.252	
16	4-nitrotoluene	13.027	13.021	0.006	583	0.25000	0.249(a)	
17	3-nitrotoluene	13.400	13.394	0.006	796	0.25000	0.239(a)	
13	2,6-dinitrotoluene	15.520	15.527	-0.007	708	0.25000	0.234(a)	
14	2,4-dinitrotoluene	19.260	19.281	-0.021	1170	0.25000	0.253	
5	1,3,5-trinitrobenzene	20.180	20.207	-0.027	955	0.25000	0.259	
9	TETRYL	20.647	20.694	-0.047	700	0.25000	0.276	
10	2,4,6-trinitrotoluene	26.360	26.407	-0.047	631	0.25000	0.250	

QC Flag Legend

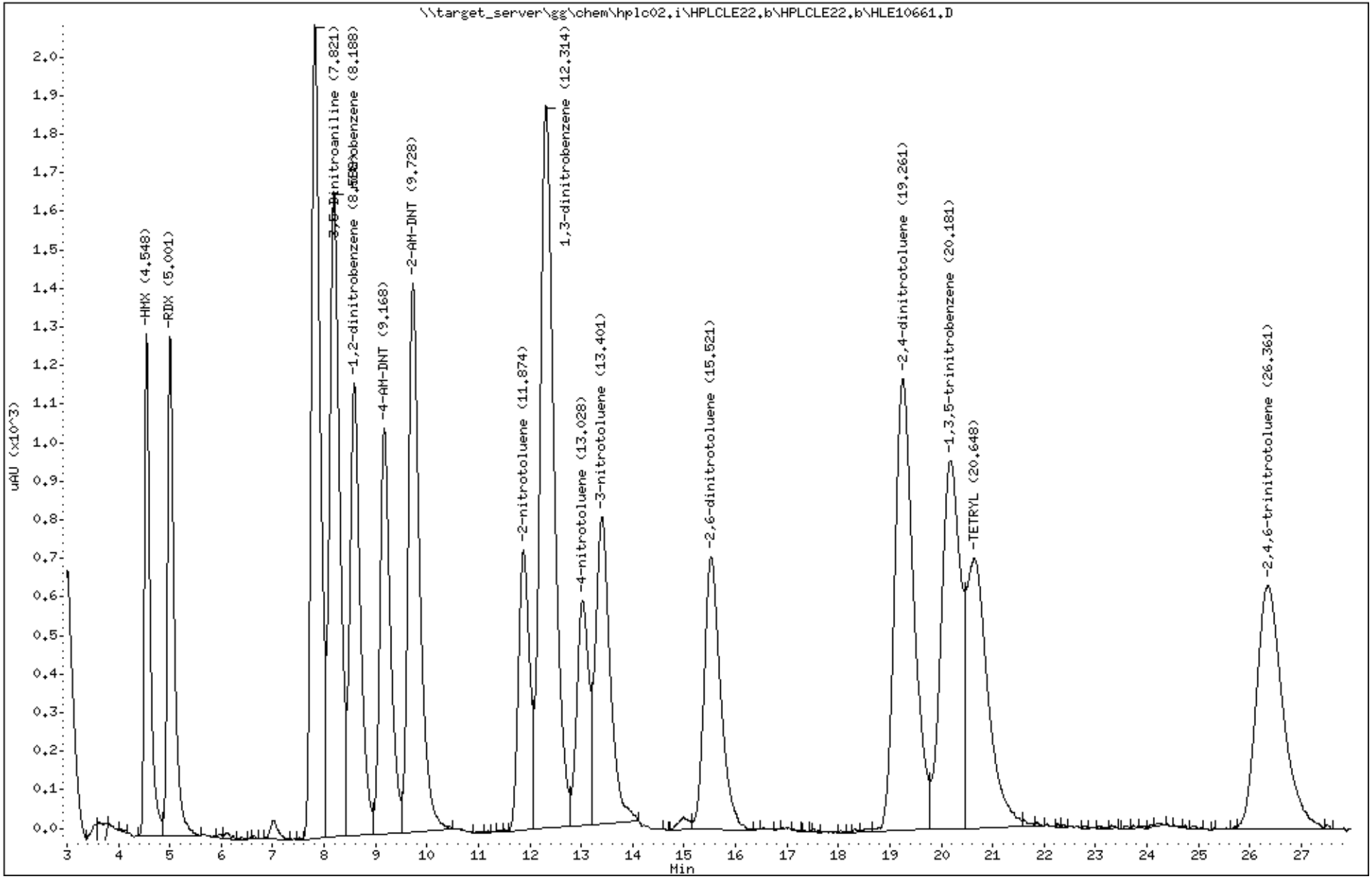
a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HPLCLE22.b\HLE10661.D
Date : 23-MAY-2018 03:09
Client ID:
Sample Info: WG228942-4,SL4233

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 1000458

Katahdin
ANALYTICAL SERVICES

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
SDG: SL4233
Lab ID : WG228942-5
Analytical Date: 05/23/18 08:50
Lab File ID : HLE10672.D
Instrument ID: HPLC02
Initial Calibration Date(s): 03/20/18 14:54 03/20/18 18:05
Column ID: B

	Compound	$\overline{RRF}$/Amount	RF0.500	CCAL RRF0.500	Min	%D/ %Drift	Max %D/ %Drift	Curve Type
1	HMX	5391	5250	5250	0.010	-2.60902	20.00000	Averaged
4	RDX	0.50000	0.48464	5316	0.010	-3.07282	20.00000	Linear
5	1,3,5-trinitrobenzene	3689	3878	3878	0.010	5.12741	20.00000	Averaged
6	1,3-dinitrobenzene	7444	7670	7670	0.010	3.03996	20.00000	Averaged
7	nitrobenzene	6867	6748	6748	0.010	-1.72781	20.00000	Averaged
9	TETRYL	2535	2770	2770	0.010	9.28869	20.00000	Averaged
10	2,4,6-trinitrotoluene	2526	2550	2550	0.010	0.93585	20.00000	Averaged
11	4-AM-DNT	4303	4294	4294	0.010	-0.20253	20.00000	Averaged
12	2-AM-DNT	5761	5788	5788	0.010	0.47365	20.00000	Averaged
13	2,6-dinitrotoluene	0.50000	0.49202	2896	0.010	-1.59611	20.00000	Linear
14	2,4-dinitrotoluene	4619	4738	4738	0.010	2.58742	20.00000	Averaged
15	2-nitrotoluene	2890	2974	2974	0.010	2.92184	20.00000	Averaged
16	4-nitrotoluene	2342	2452	2452	0.010	4.67768	20.00000	Averaged
17	3-nitrotoluene	3326	3310	3310	0.010	-0.47037	20.00000	Averaged
2	1,2-dinitrobenzene	4627	4774	4774	0.010	3.16745	20.00000	Averaged

*** = Compound out of QC criteria**

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Data File: HLE10672.D
Report Date: 31-May-2018 04:51

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HPLCLE22.b\HLE10672.D
Lab Smp Id: WG228942-5
Inj Date : 23-MAY-2018 08:50
Operator : AC   Inst ID: hplc02.i
Smp Info : WG228942-5,SL4233
Misc Info : WG228942,WG228770,WG225143-5,SL4233-2
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\EXPB05A.m\EXPB05A.m
Meth Date : 23-May-2018 13:40 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05   Cal File: HLC10037.D
Als bottle: 91   Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01000	Weight of Sample (Kg)
M	0.00000	% Moisture
Cpnd Variable		Local Compound Variable

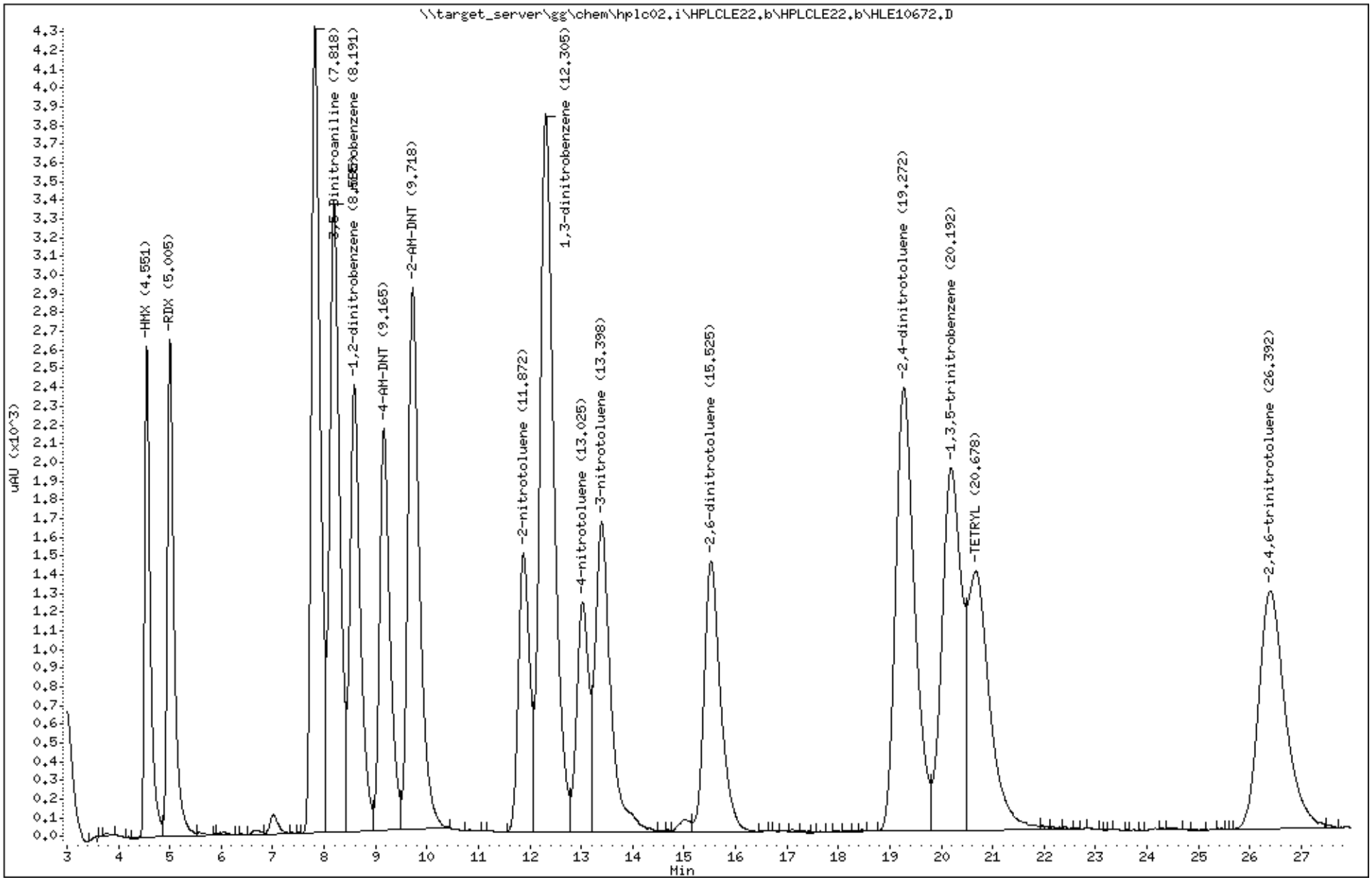
	Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)	REVIEW CODE
1	HMX	4.551	4.547	0.004	2625	0.25000	0.487	
4	RDX	5.004	4.994	0.010	2658	0.25000	0.485	
51	3,5-Dinitroaniline	7.818	7.807	0.011	4313	0.25000	0.519	
7	nitrobenzene	8.191	8.181	0.010	3374	0.25000	0.491	
$ 2	1,2-dinitrobenzene	8.584	8.581	0.003	2387	0.25000	0.516	
11	4-AM-DNT	9.164	9.154	0.010	2147	0.25000	0.499	
12	2-AM-DNT	9.718	9.714	0.004	2894	0.25000	0.502	
15	2-nitrotoluene	11.871	11.867	0.004	1487	0.25000	0.515	
6	1,3-dinitrobenzene	12.304	12.307	-0.003	3835	0.25000	0.515	
16	4-nitrotoluene	13.024	13.021	0.003	1226	0.25000	0.523	
17	3-nitrotoluene	13.398	13.394	0.004	1655	0.25000	0.498	
13	2,6-dinitrotoluene	15.524	15.527	-0.003	1448	0.25000	0.492	
14	2,4-dinitrotoluene	19.271	19.281	-0.010	2369	0.25000	0.513	
5	1,3,5-trinitrobenzene	20.191	20.207	-0.016	1939	0.25000	0.526	
9	TETRYL	20.678	20.694	-0.016	1385	0.25000	0.546	
10	2,4,6-trinitrotoluene	26.391	26.407	-0.016	1275	0.25000	0.505	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HPLCLE22.b\HLE10672.D
Date : 23-MAY-2018 08:50
Client ID:
Sample Info: WG228942-5,SL4233

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 1000461

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
Lab ID : WG228942-6
Lab File ID : HLE10679.D
Initial Calibration Date(s): 03/20/18 14:54 03/20/18 18:05

SDG: SL4233
Analytical Date: 05/23/18 13:44
Instrument ID: HPLC02
Column ID: B

	Compound	$\overline{RRF}$/Amount	RF0.250	CCAL RRF0.250	Min	%D/ %Drift	Max %D/ %Drift	Curve Type
1	HMX	5391	5268	5268	0.010	-2.27511	20.00000	Averaged
4	RDX	0.25000	0.24183	5240	0.010	-3.26726	20.00000	Linear
5	1,3,5-trinitrobenzene	3689	3872	3872	0.010	4.96476	20.00000	Averaged
6	1,3-dinitrobenzene	7444	7548	7548	0.010	1.40099	20.00000	Averaged
7	nitrobenzene	6867	6624	6624	0.010	-3.53365	20.00000	Averaged
9	TETRYL	2535	2872	2872	0.010	13.31304	20.00000	Averaged
10	2,4,6-trinitrotoluene	2526	2588	2588	0.010	2.43999	20.00000	Averaged
11	4-AM-DNT	4303	4240	4240	0.010	-1.45755	20.00000	Averaged
12	2-AM-DNT	5761	5716	5716	0.010	-0.77619	20.00000	Averaged
13	2,6-dinitrotoluene	0.25000	0.23789	2876	0.010	-4.84236	20.00000	Linear
14	2,4-dinitrotoluene	4619	4728	4728	0.010	2.37090	20.00000	Averaged
15	2-nitrotoluene	2890	2944	2944	0.010	1.88362	20.00000	Averaged
16	4-nitrotoluene	2342	2392	2392	0.010	2.11624	20.00000	Averaged
17	3-nitrotoluene	3326	3260	3260	0.010	-1.97384	20.00000	Averaged
2	1,2-dinitrobenzene	4627	4712	4712	0.010	1.82761	20.00000	Averaged

*** = Compound out of QC criteria**

Data File: HLE10679.D
Report Date: 31-May-2018 05:08

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HPLCLE23.b\HLE10679.D
Lab Smp Id: WG228942-6
Inj Date : 23-MAY-2018 13:44
Operator : AC   Inst ID: hplc02.i
Smp Info : WG228942-6,SL4233
Misc Info : WG228942,WG228856,WG225143-5,SL4233-25
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\EXPB05A.m\EXPB05A.m
Meth Date : 25-May-2018 03:41 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05   Cal File: HLC10037.D
Als bottle: 98   Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01000	Weight of Sample (Kg)
M	0.00000	% Moisture
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)	REVIEW CODE
1	HMX	4.547	4.547	0.000	1317	0.25000	0.244(a)	
4	RDX	5.000	5.000	0.000	1310	0.25000	0.242(a)	
51	3,5-Dinitroaniline	7.807	7.807	0.000	2135	0.25000	0.257	
7	nitrobenzene	8.180	8.180	0.000	1656	0.25000	0.241(a)	
$ 2	1,2-dinitrobenzene	8.573	8.573	0.000	1178	0.25000	0.254	
11	4-AM-DNT	9.153	9.153	0.000	1060	0.25000	0.246(a)	
12	2-AM-DNT	9.707	9.707	0.000	1429	0.25000	0.248(a)	
15	2-nitrotoluene	11.860	11.860	0.000	736	0.25000	0.255	
6	1,3-dinitrobenzene	12.293	12.293	0.000	1887	0.25000	0.254	
16	4-nitrotoluene	13.007	13.007	0.000	598	0.25000	0.255	
17	3-nitrotoluene	13.380	13.380	0.000	815	0.25000	0.245(a)	
13	2,6-dinitrotoluene	15.493	15.493	0.000	719	0.25000	0.238(a)	
14	2,4-dinitrotoluene	19.213	19.213	0.000	1182	0.25000	0.256	
5	1,3,5-trinitrobenzene	20.140	20.140	0.000	968	0.25000	0.262	
9	TETRYL	20.593	20.593	0.000	718	0.25000	0.283	
10	2,4,6-trinitrotoluene	26.293	26.293	0.000	647	0.25000	0.256	

QC Flag Legend

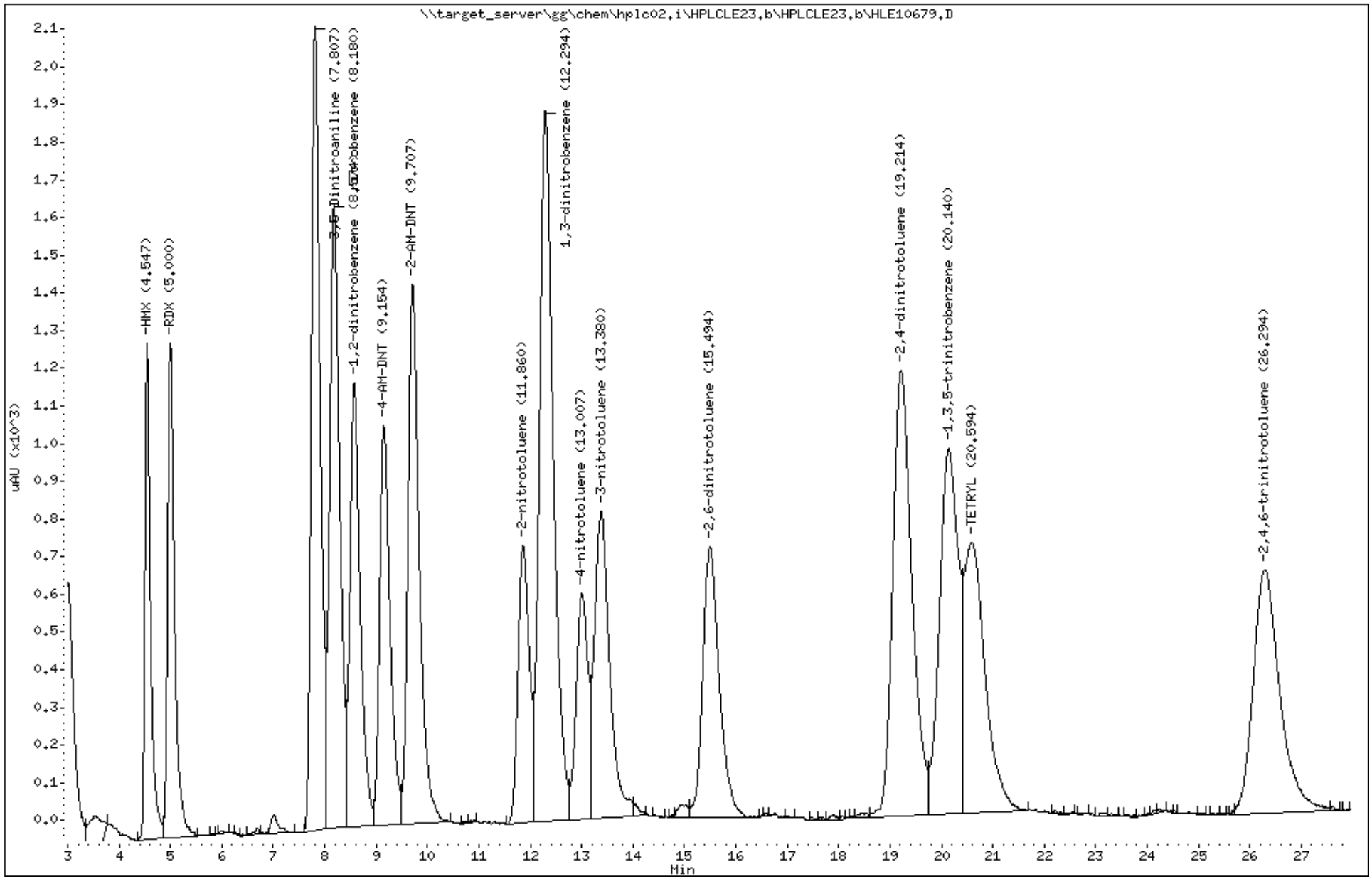
a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HPLCLE23.b\HLE10679.D
Date : 23-MAY-2018 13:44
Client ID:
Sample Info: WG228942-6,SL4233

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 1000464

Katahdin
ANALYTICAL SERVICES

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
SDG: SL4233
Lab ID : WG228942-7
Analytical Date: 05/23/18 19:25
Lab File ID : HLE10690.D
Instrument ID: HPLC02
Initial Calibration Date(s): 03/20/18 14:54 03/20/18 18:05
Column ID: B

	Compound	$\overline{\text{RRF}}$/Amount	RF0.500	CCAL RRF0.500	Min	%D/ %Drift	Max %D/ %Drift	Curve Type
1	HMX	5391	5286	5286	0.010	-1.94119	20.00000	Averaged
4	RDX	0.50000	0.48716	5344	0.010	-2.56848	20.00000	Linear
5	1,3,5-trinitrobenzene	3689	3896	3896	0.010	5.61537	20.00000	Averaged
6	1,3-dinitrobenzene	7444	7686	7686	0.010	3.25490	20.00000	Averaged
7	nitrobenzene	6867	6744	6744	0.010	-1.78607	20.00000	Averaged
9	TETRYL	2535	2828	2828	0.010	11.57705	20.00000	Averaged
10	2,4,6-trinitrotoluene	2526	2556	2556	0.010	1.17334	20.00000	Averaged
11	4-AM-DNT	4303	4362	4362	0.010	1.37787	20.00000	Averaged
12	2-AM-DNT	5761	5856	5856	0.010	1.65406	20.00000	Averaged
13	2,6-dinitrotoluene	0.50000	0.49655	2922	0.010	-0.68977	20.00000	Linear
14	2,4-dinitrotoluene	4619	4778	4778	0.010	3.45350	20.00000	Averaged
15	2-nitrotoluene	2890	2986	2986	0.010	3.33712	20.00000	Averaged
16	4-nitrotoluene	2342	2476	2476	0.010	5.70226	20.00000	Averaged
17	3-nitrotoluene	3326	3330	3330	0.010	0.13102	20.00000	Averaged
2	1,2-dinitrobenzene	4627	4804	4804	0.010	3.81576	20.00000	Averaged

*** = Compound out of QC criteria**

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Data File: HLE10690.D
Report Date: 31-May-2018 05:08

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HPLCLE23.b\HLE10690.D
Lab Smp Id: WG228942-7
Inj Date : 23-MAY-2018 19:25
Operator : AC Inst ID: hplc02.i
Smp Info : WG228942-7,SL4233
Misc Info : WG228942,WG228856,WG225143-5,SL4233-25
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\EXPB05A.m\EXPB05A.m
Meth Date : 25-May-2018 03:41 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 9 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01000	Weight of Sample (Kg)
M	0.00000	% Moisture
Cpnd Variable		Local Compound Variable

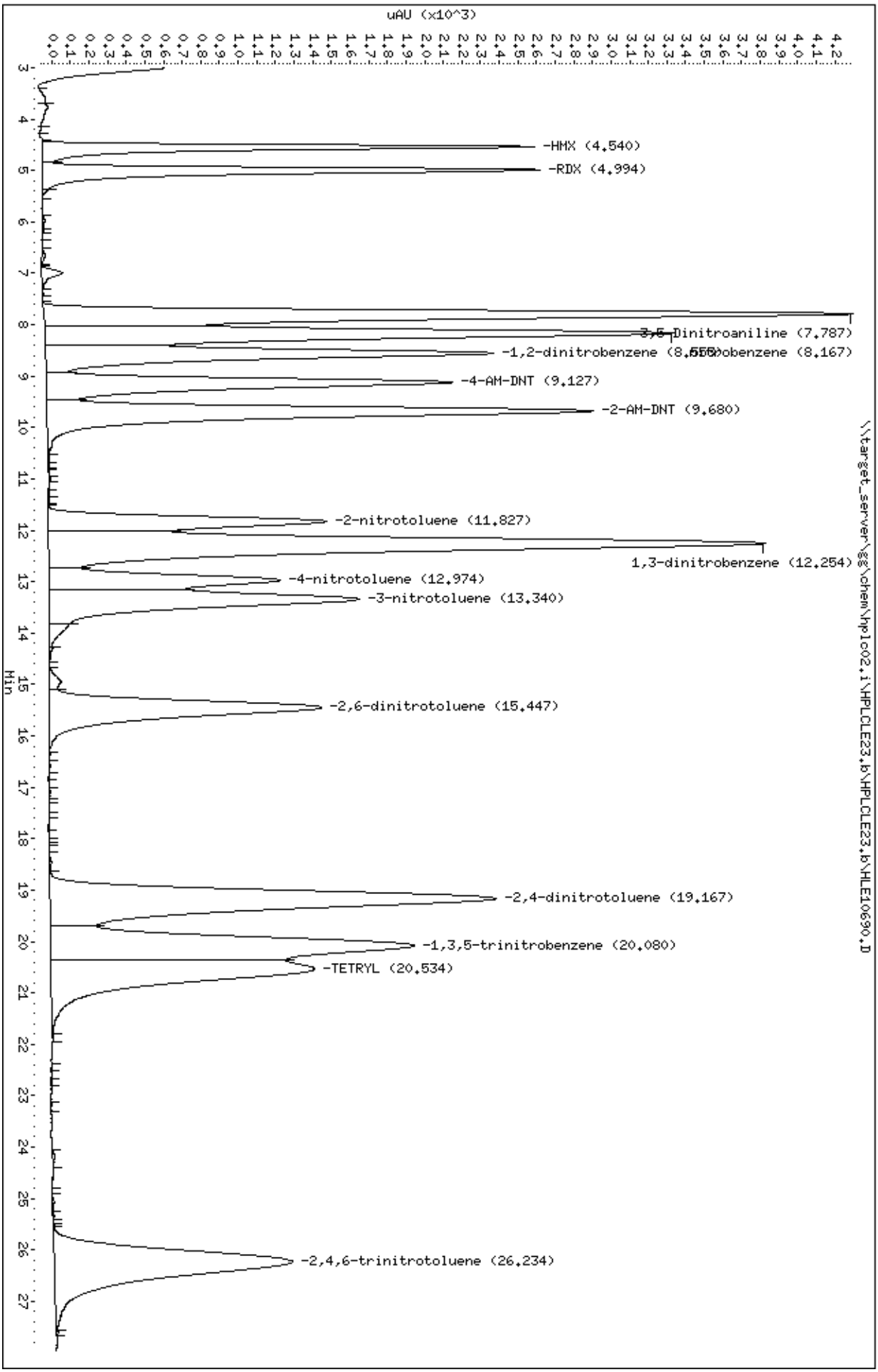
	Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	ON-COL (ug/mL)	REVIEW CODE
1	HMX	4.540	4.547	-0.007	2643	0.25000	0.490(M)	M2
4	RDX	4.993	5.000	-0.007	2672	0.25000	0.487(M)	M2
51	3,5-Dinitroaniline	7.786	7.807	-0.021	4340	0.25000	0.522	
7	nitrobenzene	8.166	8.180	-0.014	3372	0.25000	0.491	
$ 2	1,2-dinitrobenzene	8.553	8.573	-0.020	2402	0.25000	0.519	
11	4-AM-DNT	9.126	9.153	-0.027	2181	0.25000	0.507	
12	2-AM-DNT	9.680	9.707	-0.027	2928	0.25000	0.508	
15	2-nitrotoluene	11.826	11.860	-0.034	1493	0.25000	0.517	
6	1,3-dinitrobenzene	12.253	12.293	-0.040	3843	0.25000	0.516	
16	4-nitrotoluene	12.973	13.007	-0.034	1238	0.25000	0.528	
17	3-nitrotoluene	13.340	13.380	-0.040	1665	0.25000	0.501(M)	M3
13	2,6-dinitrotoluene	15.446	15.493	-0.047	1461	0.25000	0.496	
14	2,4-dinitrotoluene	19.166	19.213	-0.047	2389	0.25000	0.517	
5	1,3,5-trinitrobenzene	20.080	20.140	-0.060	1948	0.25000	0.528	
9	TETRYL	20.533	20.593	-0.060	1414	0.25000	0.558	
10	2,4,6-trinitrotoluene	26.233	26.293	-0.060	1278	0.25000	0.506	



7:25 am, May 31, 2018

QC Flag Legend

M - Compound response manually integrated.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Date : 23-MAY-2018 19:25
Client ID:
Sample Info: WG228942-7,SL4233
Column phase: Acclaim Exp E1
Instrument: hplc02.i
Operator: AC
Column diameter: 4.60
uAU (x10^3)
Min
\\target_server\gg\chem\hplc02.i\HPLCLE23.b\HPLCLE23.b\HLE10690.D
-HMX (4.540)
-RDX (4.994)
3,5-Dinitroaniline (7.787)
-1,2-dinitrobenzene (8.556)
-nitrobenzene (8.167)
-4-AM-DNT (9.127)
-2-AM-DNT (9.680)
-2-nitrotoluene (11.827)
1,3-dinitrobenzene (12.254)
-4-nitrotoluene (12.974)
-3-nitrotoluene (13.340)
-2,6-dinitrotoluene (15.447)
-2,4-dinitrotoluene (19.167)
-1,3,5-trinitrobenzene (20.080)
-TETRYL (20.534)
-2,4,6-trinitrotoluene (26.234)

Katahdin
ANALYTICAL SERVICES

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
SDG: SL4233
Lab ID : WG228942-8
Analytical Date: 05/24/18 01:06
Lab File ID : HLE10701.D
Instrument ID: HPLC02
Initial Calibration Date(s): 03/20/18 14:54 03/20/18 18:05
Column ID: B

	Compound	$\overline{RRF}$/Amount	RF0.250	CCAL RRF0.250	Min	%D/ %Drift	Max %D/ %Drift	Curve Type
1	HMX	5391	5232	5232	0.010	-2.94293	20.00000	Averaged
4	RDX	0.25000	0.24021	5204	0.010	-3.91570	20.00000	Linear
5	1,3,5-trinitrobenzene	3689	3788	3788	0.010	2.68763	20.00000	Averaged
6	1,3-dinitrobenzene	7444	7536	7536	0.010	1.23978	20.00000	Averaged
7	nitrobenzene	6867	6640	6640	0.010	-3.30064	20.00000	Averaged
9	TETRYL	2535	2664	2664	0.010	5.10653	20.00000	Averaged
10	2,4,6-trinitrotoluene	2526	2524	2524	0.010	-0.09330	20.00000	Averaged
11	4-AM-DNT	4303	4268	4268	0.010	-0.80680	20.00000	Averaged
12	2-AM-DNT	5761	5772	5772	0.010	0.19591	20.00000	Averaged
13	2,6-dinitrotoluene	0.25000	0.24173	2920	0.010	-3.30855	20.00000	Linear
14	2,4-dinitrotoluene	4619	4700	4700	0.010	1.76464	20.00000	Averaged
15	2-nitrotoluene	2890	2928	2928	0.010	1.32991	20.00000	Averaged
16	4-nitrotoluene	2342	2396	2396	0.010	2.28700	20.00000	Averaged
17	3-nitrotoluene	3326	3268	3268	0.010	-1.73328	20.00000	Averaged
2	1,2-dinitrobenzene	4627	4724	4724	0.010	2.08694	20.00000	Averaged

*** = Compound out of QC criteria**

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Data File: HLE10701.D
Report Date: 31-May-2018 05:09

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HPLCLE23.b\HLE10701.D
Lab Smp Id: WG228942-8
Inj Date : 24-MAY-2018 01:06
Operator : AC Inst ID: hplc02.i
Smp Info : WG228942-8,SL4233
Misc Info : WG228942,WG228856,WG225143-5,SL4233-25
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\EXPB05A.m\EXPB05A.m
Meth Date : 25-May-2018 03:41 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 20 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01000	Weight of Sample (Kg)
M	0.00000	% Moisture
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)	REVIEW CODE
1	HMX	4.543	4.547	-0.004	1308	0.25000	0.243(a)	
4	RDX	4.996	5.000	-0.004	1301	0.25000	0.240(a)	
51	3,5-Dinitroaniline	7.809	7.807	0.002	2137	0.25000	0.257	
7	nitrobenzene	8.183	8.180	0.003	1660	0.25000	0.242(a)	
$ 2	1,2-dinitrobenzene	8.576	8.573	0.003	1181	0.25000	0.255	
11	4-AM-DNT	9.156	9.153	0.003	1067	0.25000	0.248(a)	
12	2-AM-DNT	9.709	9.707	0.002	1443	0.25000	0.250	
15	2-nitrotoluene	11.863	11.860	0.003	732	0.25000	0.253	
6	1,3-dinitrobenzene	12.296	12.293	0.003	1884	0.25000	0.253	
16	4-nitrotoluene	13.016	13.007	0.009	599	0.25000	0.256	
17	3-nitrotoluene	13.383	13.380	0.003	817	0.25000	0.246(aM)	M3
13	2,6-dinitrotoluene	15.509	15.493	0.016	730	0.25000	0.242(a)	
14	2,4-dinitrotoluene	19.229	19.213	0.016	1175	0.25000	0.254	
5	1,3,5-trinitrobenzene	20.149	20.140	0.009	947	0.25000	0.257	
9	TETRYL	20.616	20.593	0.023	666	0.25000	0.263	
10	2,4,6-trinitrotoluene	26.323	26.293	0.030	631	0.25000	0.250	

7:25 am, May 31, 2018

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

Data File: HLE10701.D
Report Date: 31-May-2018 05:09

QC Flag Legend

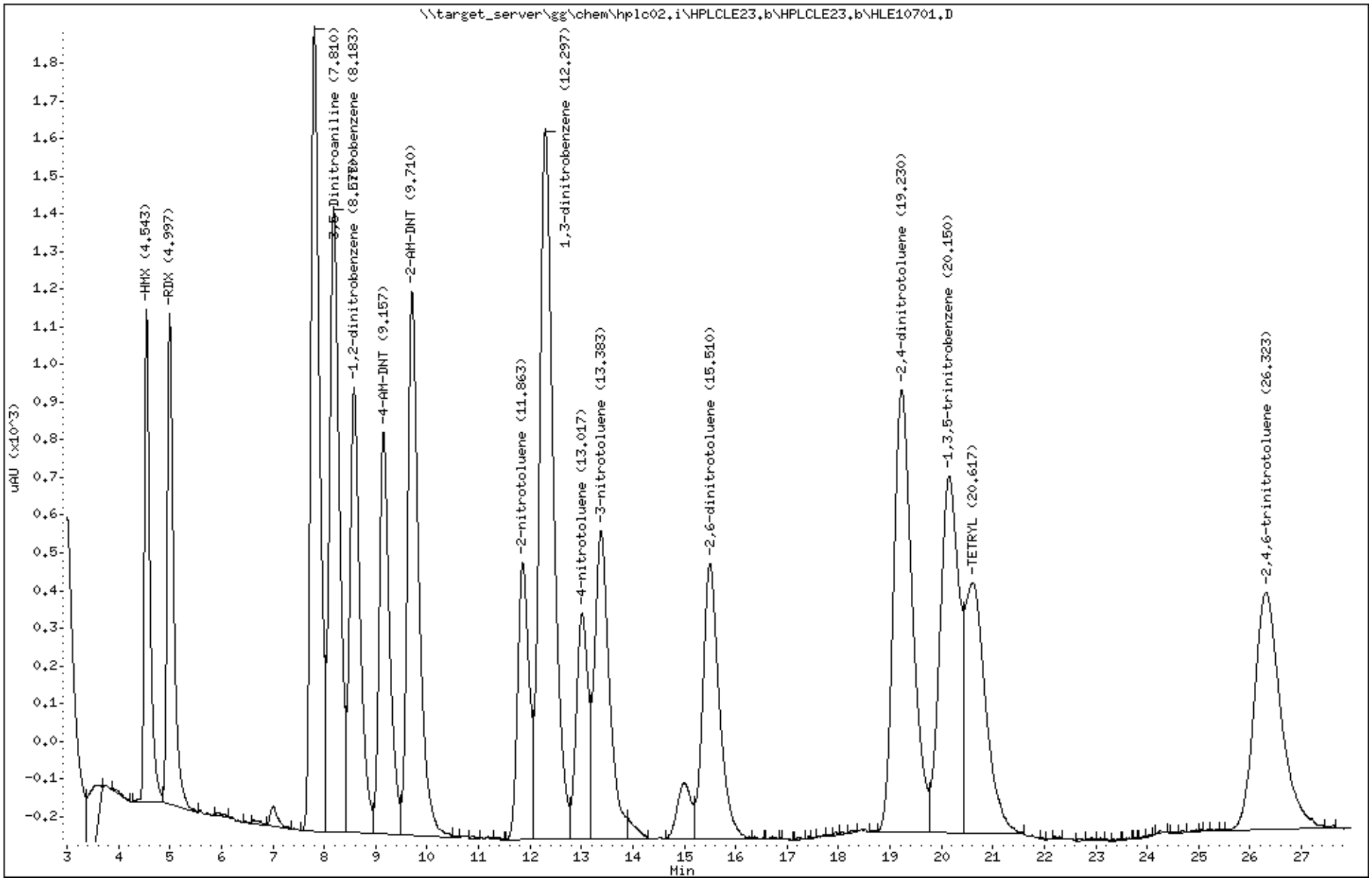
M - Compound response manually integrated.

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HPLCLE23.b\HLE10701.D
Date : 24-MAY-2018 01:06
Client ID:
Sample Info: WG228942-8,SL4233

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 1000471

Katahdin
ANALYTICAL SERVICES

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
SDG: SL4233
Lab ID : WG228942-9
Analytical Date: 05/24/18 06:47
Lab File ID : HLE10712.D
Instrument ID: HPLC02
Initial Calibration Date(s): 03/20/18 14:54 03/20/18 18:05
Column ID: B

	Compound	$\overline{\text{RRF}}$/Amount	RF0.500	CCAL RRF0.500	Min	%D/ %Drift	Max %D/ %Drift	Curve Type
1	HMX	5391	5276	5276	0.010	-2.12670	20.00000	Averaged
4	RDX	0.50000	0.48680	5340	0.010	-2.64053	20.00000	Linear
5	1,3,5-trinitrobenzene	3689	3844	3844	0.010	4.20572	20.00000	Averaged
6	1,3-dinitrobenzene	7444	7618	7618	0.010	2.34138	20.00000	Averaged
7	nitrobenzene	6867	6716	6716	0.010	-2.19384	20.00000	Averaged
9	TETRYL	2535	2746	2746	0.010	8.34179	20.00000	Averaged
10	2,4,6-trinitrotoluene	2526	2524	2524	0.010	-0.09330	20.00000	Averaged
11	4-AM-DNT	4303	4312	4312	0.010	0.21581	20.00000	Averaged
12	2-AM-DNT	5761	5812	5812	0.010	0.89027	20.00000	Averaged
13	2,6-dinitrotoluene	0.50000	0.49202	2896	0.010	-1.59611	20.00000	Linear
14	2,4-dinitrotoluene	4619	4730	4730	0.010	2.41420	20.00000	Averaged
15	2-nitrotoluene	2890	2964	2964	0.010	2.57577	20.00000	Averaged
16	4-nitrotoluene	2342	2432	2432	0.010	3.82387	20.00000	Averaged
17	3-nitrotoluene	3326	3288	3288	0.010	-1.13190	20.00000	Averaged
2	1,2-dinitrobenzene	4627	4768	4768	0.010	3.03779	20.00000	Averaged

*** = Compound out of QC criteria**

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Data File: HLE10712.D
Report Date: 31-May-2018 05:09

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HPLCLE23.b\HLE10712.D
Lab Smp Id: WG228942-9
Inj Date : 24-MAY-2018 06:47
Operator : AC Inst ID: hplc02.i
Smp Info : WG228942-9,SL4233
Misc Info : WG228942,WG228857,WG225143-5,SL4233-45
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\EXPB05A.m\EXPB05A.m
Meth Date : 25-May-2018 03:41 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 31 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01000	Weight of Sample (Kg)
M	0.00000	% Moisture
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)	REVIEW CODE
1	HMX	4.540	4.547	-0.007	2638	0.25000	0.489	
4	RDX	4.993	5.000	-0.007	2670	0.25000	0.487	
51	3,5-Dinitroaniline	7.800	7.807	-0.007	4320	0.25000	0.519	
7	nitrobenzene	8.173	8.180	-0.007	3358	0.25000	0.489	
$ 2	1,2-dinitrobenzene	8.573	8.573	0.000	2384	0.25000	0.515	
11	4-AM-DNT	9.146	9.153	-0.007	2156	0.25000	0.501	
12	2-AM-DNT	9.700	9.707	-0.007	2906	0.25000	0.504	
15	2-nitrotoluene	11.860	11.860	0.000	1482	0.25000	0.513	
6	1,3-dinitrobenzene	12.286	12.293	-0.007	3809	0.25000	0.512	
16	4-nitrotoluene	13.006	13.007	-0.001	1216	0.25000	0.519	
17	3-nitrotoluene	13.373	13.380	-0.007	1644	0.25000	0.494(M)	M3
13	2,6-dinitrotoluene	15.493	15.493	0.000	1448	0.25000	0.492	
14	2,4-dinitrotoluene	19.233	19.213	0.020	2365	0.25000	0.512	
5	1,3,5-trinitrobenzene	20.153	20.140	0.013	1922	0.25000	0.521	
9	TETRYL	20.626	20.593	0.033	1373	0.25000	0.542	
10	2,4,6-trinitrotoluene	26.346	26.293	0.053	1262	0.25000	0.500	



7:25 am, May 31, 2018

QC Flag Legend

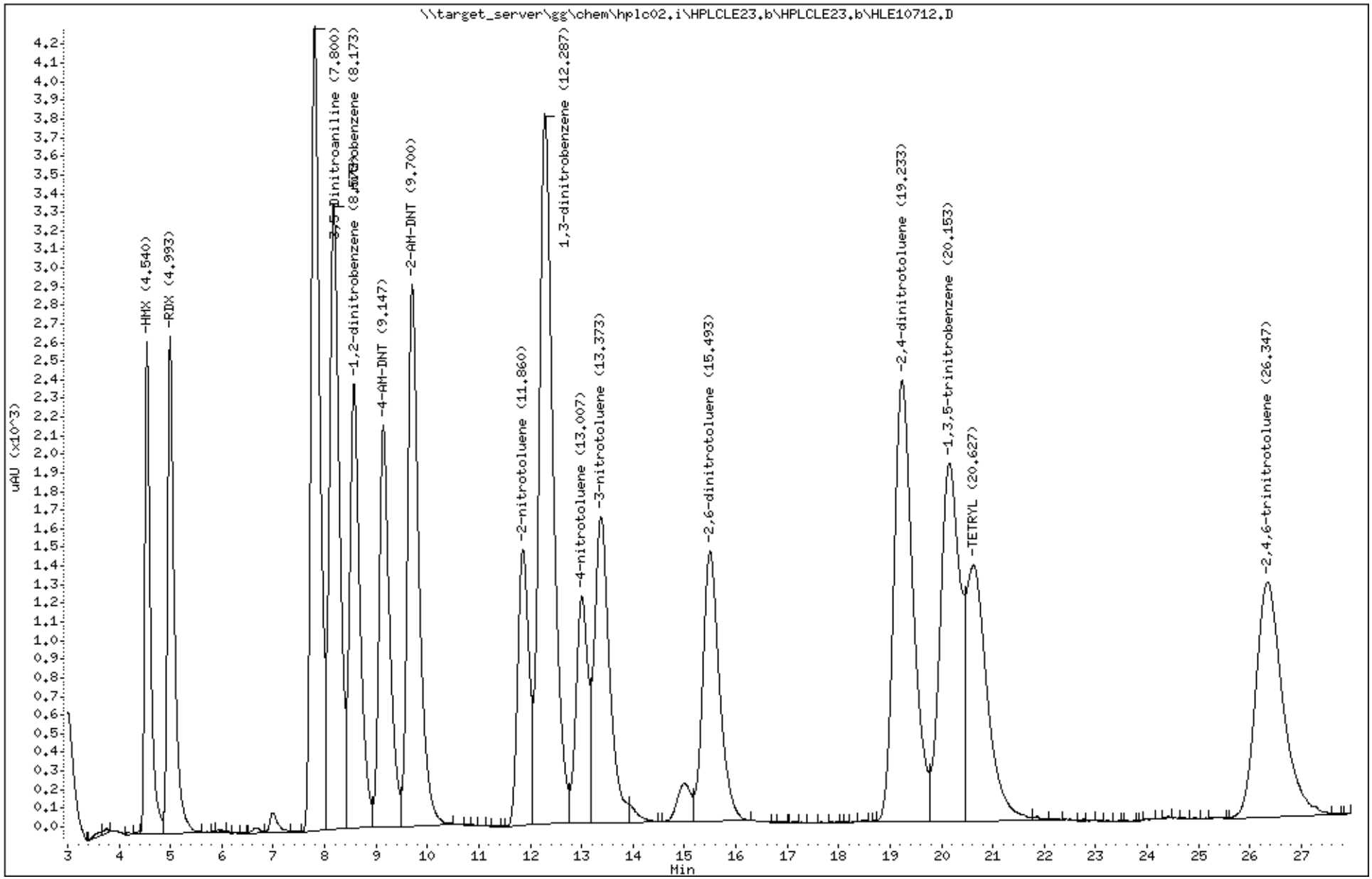
M - Compound response manually integrated.

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HPLCLE23.b\HLE10712.D
Date : 24-MAY-2018 06:47
Client ID:
Sample Info: WG228942-9,SL4233

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 1000474

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
Lab ID : WG228942-10
Lab File ID : HLE10720.D
Initial Calibration Date(s): 03/20/18 14:54 03/20/18 18:05

SDG: SL4233
Analytical Date: 05/24/18 10:55
Instrument ID: HPLC02
Column ID: B

	Compound	$\overline{RRF}$/Amount	RF0.250	CCAL RRF0.250	Min	%D/ %Drift	Max %D/ %Drift	Curve Type
1	HMX	5391	5168	5168	0.010	-4.13017	20.00000	Averaged
4	RDX	0.25000	0.23841	5164	0.010	-4.63619	20.00000	Linear
5	1,3,5-trinitrobenzene	3689	3776	3776	0.010	2.36233	20.00000	Averaged
6	1,3-dinitrobenzene	7444	7448	7448	0.010	0.05757	20.00000	Averaged
7	nitrobenzene	6867	6584	6584	0.010	-4.11617	20.00000	Averaged
9	TETRYL	2535	2784	2784	0.010	9.84106	20.00000	Averaged
10	2,4,6-trinitrotoluene	2526	2500	2500	0.010	-1.04329	20.00000	Averaged
11	4-AM-DNT	4303	4224	4224	0.010	-1.82941	20.00000	Averaged
12	2-AM-DNT	5761	5684	5684	0.010	-1.33168	20.00000	Averaged
13	2,6-dinitrotoluene	0.25000	0.23232	2812	0.010	-7.07337	20.00000	Linear
14	2,4-dinitrotoluene	4619	4628	4628	0.010	0.20569	20.00000	Averaged
15	2-nitrotoluene	2890	2888	2888	0.010	-0.05438	20.00000	Averaged
16	4-nitrotoluene	2342	2316	2316	0.010	-1.12826	20.00000	Averaged
17	3-nitrotoluene	3326	3152	3152	0.010	-5.22133	20.00000	Averaged
2	1,2-dinitrobenzene	4627	4688	4688	0.010	1.30897	20.00000	Averaged

*** = Compound out of QC criteria**

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Data File: HLE10720.D
Report Date: 31-May-2018 05:09

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HPLCLE23.b\HLE10720.D
Lab Smp Id: WG228942-10
Inj Date : 24-MAY-2018 10:55
Operator : AC   Inst ID: hplc02.i
Smp Info : WG228942-10,SL4233
Misc Info : WG228942,WG228857,WG225143-5,SL4233-45
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\EXPB05A.m\EXPB05A.m
Meth Date : 25-May-2018 03:41 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05   Cal File: HLC10037.D
Als bottle: 39   Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01000	Weight of Sample (Kg)
M	0.00000	% Moisture
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)	REVIEW CODE
1	HMX	4.547	4.547	0.000	1292	0.25000	0.240(a)	
4	RDX	4.994	5.000	-0.006	1291	0.25000	0.238(a)	
51	3,5-Dinitroaniline	7.807	7.807	0.000	2107	0.25000	0.253	
7	nitrobenzene	8.180	8.180	0.000	1646	0.25000	0.240(a)	
$ 2	1,2-dinitrobenzene	8.574	8.573	0.001	1172	0.25000	0.253	
11	4-AM-DNT	9.147	9.153	-0.006	1056	0.25000	0.245(a)	
12	2-AM-DNT	9.707	9.707	0.000	1421	0.25000	0.247(a)	
15	2-nitrotoluene	11.854	11.860	-0.006	722	0.25000	0.250	
6	1,3-dinitrobenzene	12.287	12.293	-0.006	1862	0.25000	0.250	
16	4-nitrotoluene	13.007	13.007	0.000	579	0.25000	0.247(a)	
17	3-nitrotoluene	13.380	13.380	0.000	788	0.25000	0.237(a)	
13	2,6-dinitrotoluene	15.500	15.493	0.007	703	0.25000	0.232(a)	
14	2,4-dinitrotoluene	19.240	19.213	0.027	1157	0.25000	0.250	
5	1,3,5-trinitrobenzene	20.167	20.140	0.027	944	0.25000	0.256	
9	TETRYL	20.647	20.593	0.054	696	0.25000	0.275	
10	2,4,6-trinitrotoluene	26.334	26.293	0.041	625	0.25000	0.247(a)	

QC Flag Legend

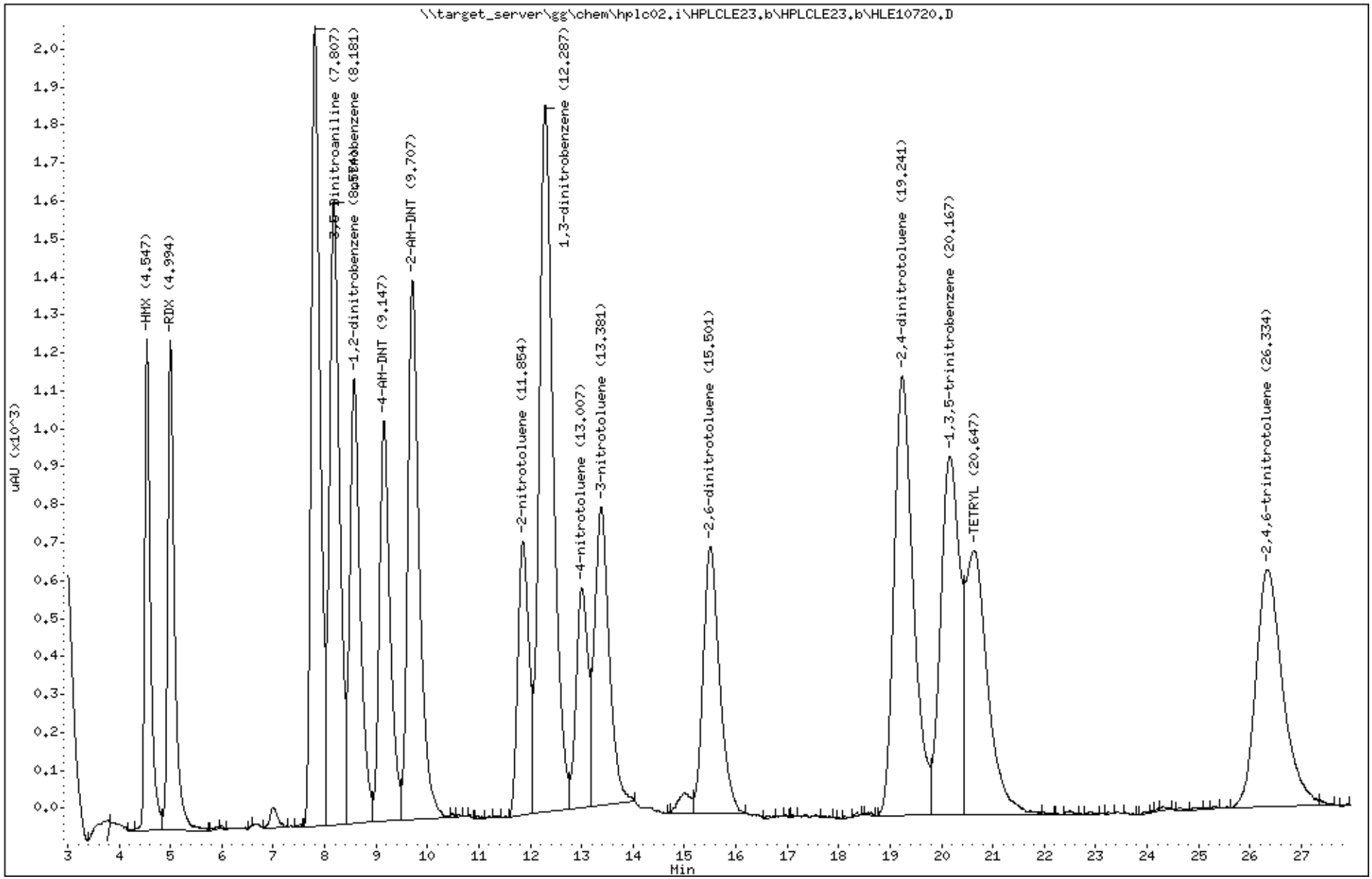
a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HPLCLE23.b\HLE10720.D
Date : 24-MAY-2018 10:55
Client ID:
Sample Info: WG228942-10,SL4233

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 1000477

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
SDG: SL4233
Lab ID : WG228942-11
Analytical Date: 05/24/18 15:59
Lab File ID : HLE10728.D
Instrument ID: HPLC02
Initial Calibration Date(s): 03/20/18 14:54 03/20/18 18:05
Column ID: B

	Compound	RRF/Amount	RF0.500	CCAL RRF0.500	Min	%D/ %Drift	Max %D/ %Drift	Curve Type
1	HMX	5391	5236	5236	0.010	-2.86873	20.00000	Averaged
4	RDX	0.50000	0.48121	5278	0.010	-3.75728	20.00000	Linear
5	1,3,5-trinitrobenzene	3689	3842	3842	0.010	4.15150	20.00000	Averaged
6	1,3-dinitrobenzene	7444	7580	7580	0.010	1.83088	20.00000	Averaged
7	nitrobenzene	6867	6718	6718	0.010	-2.16471	20.00000	Averaged
9	TETRYL	2535	2978	2978	0.010	17.49521	20.00000	Averaged
10	2,4,6-trinitrotoluene	2526	2514	2514	0.010	-0.48913	20.00000	Averaged
11	4-AM-DNT	4303	4266	4266	0.010	-0.85328	20.00000	Averaged
12	2-AM-DNT	5761	5758	5758	0.010	-0.04712	20.00000	Averaged
13	2,6-dinitrotoluene	0.50000	0.48853	2876	0.010	-2.29330	20.00000	Linear
14	2,4-dinitrotoluene	4619	4678	4678	0.010	1.28830	20.00000	Averaged
15	2-nitrotoluene	2890	2960	2960	0.010	2.43734	20.00000	Averaged
16	4-nitrotoluene	2342	2432	2432	0.010	3.82387	20.00000	Averaged
17	3-nitrotoluene	3326	3308	3308	0.010	-0.53051	20.00000	Averaged
2	1,2-dinitrobenzene	4627	4746	4746	0.010	2.56236	20.00000	Averaged

*** = Compound out of QC criteria**

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Data File: HLE10728.D
Report Date: 31-May-2018 05:13

Katahdin Analytical Services

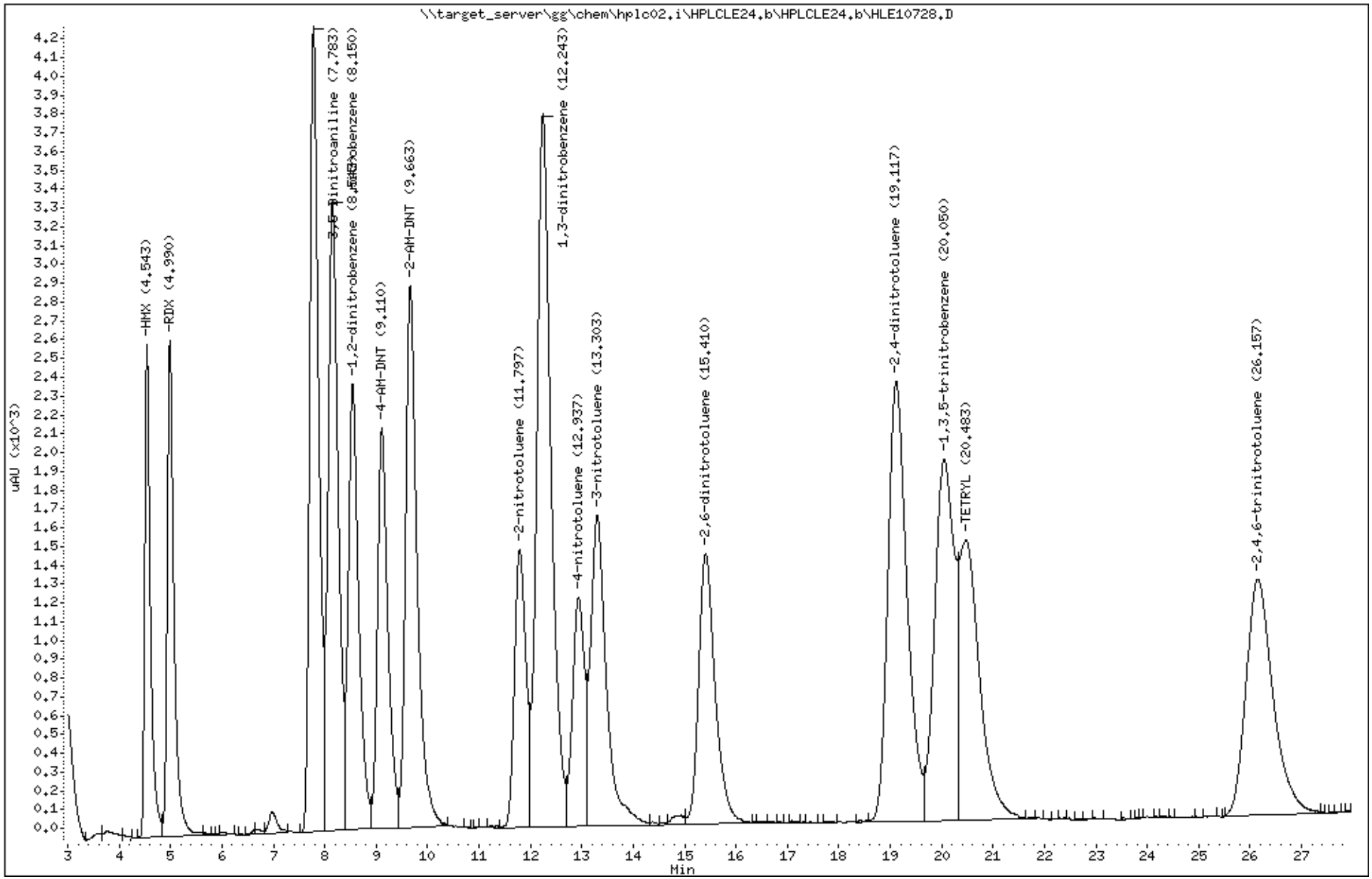
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE24.b\HPLCLE24.b\HLE10728.D
Lab Smp Id: WG228942-11
Inj Date : 24-MAY-2018 15:59
Operator : AC   Inst ID: hplc02.i
Smp Info : WG228942-11,SL4233
Misc Info : WG228942,WG228857,WG225143-5,SL4233-45
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCLE24.b\EXPB05A.m\EXPB05A.m
Meth Date : 29-May-2018 10:18 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05   Cal File: HLC10037.D
Als bottle: 47   Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01000	Weight of Sample (Kg)
M	0.00000	% Moisture
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)	REVIEW CODE
1	HMX	4.543	4.543	0.000	2618	0.25000	0.486	
4	RDX	4.989	4.989	0.000	2639	0.25000	0.481	
51	3,5-Dinitroaniline	7.783	7.783	0.000	4285	0.25000	0.515	
7	nitrobenzene	8.149	8.149	0.000	3359	0.25000	0.489	
$ 2	1,2-dinitrobenzene	8.543	8.543	0.000	2373	0.25000	0.513	
11	4-AM-DNT	9.109	9.109	0.000	2133	0.25000	0.496	
12	2-AM-DNT	9.663	9.663	0.000	2879	0.25000	0.500	
15	2-nitrotoluene	11.796	11.796	0.000	1480	0.25000	0.512	
6	1,3-dinitrobenzene	12.243	12.243	0.000	3790	0.25000	0.509	
16	4-nitrotoluene	12.936	12.936	0.000	1216	0.25000	0.519	
17	3-nitrotoluene	13.303	13.303	0.000	1654	0.25000	0.497	
13	2,6-dinitrotoluene	15.409	15.409	0.000	1438	0.25000	0.488	
14	2,4-dinitrotoluene	19.116	19.116	0.000	2339	0.25000	0.506	
5	1,3,5-trinitrobenzene	20.049	20.049	0.000	1921	0.25000	0.521	
9	TETRYL	20.483	20.483	0.000	1489	0.25000	0.587	
10	2,4,6-trinitrotoluene	26.156	26.156	0.000	1257	0.25000	0.498	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE24.b\HPLCLE24.b\HLE10728.D
Date : 24-MAY-2018 15:59
Client ID:
Instrument: hplc02.i
Sample Info: WG228942-11,SL4233
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 1000480

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
SDG: SL4233
Lab ID : WG228942-14
Analytical Date: 05/25/18 09:02
Lab File ID : HLE10761.D
Instrument ID: HPLC02
Initial Calibration Date(s): 03/20/18 14:54 03/20/18 18:05
Column ID: B

	Compound	$\overline{\text{RRF}}$/Amount	RF0.250	CCAL RRF0.250	Min	%D/ %Drift	Max %D/ %Drift	Curve Type
1	HMX	5391	5276	5276	0.010	-2.12670	20.00000	Averaged
4	RDX	0.25000	0.23985	5196	0.010	-4.05980	20.00000	Linear
5	1,3,5-trinitrobenzene	3689	3824	3824	0.010	3.66354	20.00000	Averaged
6	1,3-dinitrobenzene	7444	7540	7540	0.010	1.29352	20.00000	Averaged
7	nitrobenzene	6867	6656	6656	0.010	-3.06763	20.00000	Averaged
9	TETRYL	2535	2860	2860	0.010	12.83959	20.00000	Averaged
10	2,4,6-trinitrotoluene	2526	2524	2524	0.010	-0.09330	20.00000	Averaged
11	4-AM-DNT	4303	4288	4288	0.010	-0.34198	20.00000	Averaged
12	2-AM-DNT	5761	5808	5808	0.010	0.82083	20.00000	Averaged
13	2,6-dinitrotoluene	0.25000	0.23789	2876	0.010	-4.84236	20.00000	Linear
14	2,4-dinitrotoluene	4619	4676	4676	0.010	1.24499	20.00000	Averaged
15	2-nitrotoluene	2890	2912	2912	0.010	0.77619	20.00000	Averaged
16	4-nitrotoluene	2342	2400	2400	0.010	2.45777	20.00000	Averaged
17	3-nitrotoluene	3326	3244	3244	0.010	-2.45495	20.00000	Averaged
2	1,2-dinitrobenzene	4627	4768	4768	0.010	3.03779	20.00000	Averaged

*** = Compound out of QC criteria**

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Data File: HLE10761.D
Report Date: 31-May-2018 05:18

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE24.b\HPLCLE24.b\HLE10761.D
Lab Smp Id: WG228942-14
Inj Date : 25-MAY-2018 09:02
Operator : AC   Inst ID: hplc02.i
Smp Info : WG228942-14,SL4233
Misc Info : WG228942,WG228857,WG225143-5,SL4233-45
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCLE24.b\EXPB05A.m\EXPB05A.m
Meth Date : 29-May-2018 10:18 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05   Cal File: HLC10037.D
Als bottle: 80   Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01000	Weight of Sample (Kg)
M	0.00000	% Moisture
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)	REVIEW CODE
1	HMX	4.541	4.543	-0.002	1319	0.25000	0.245(a)	
4	RDX	4.988	4.989	-0.001	1299	0.25000	0.240(a)	
51	3,5-Dinitroaniline	7.775	7.783	-0.008	2132	0.25000	0.256	
7	nitrobenzene	8.141	8.149	-0.008	1664	0.25000	0.242(a)	
$ 2	1,2-dinitrobenzene	8.528	8.543	-0.015	1192	0.25000	0.258	
11	4-AM-DNT	9.095	9.109	-0.014	1072	0.25000	0.249(a)	
12	2-AM-DNT	9.655	9.663	-0.008	1452	0.25000	0.252	
15	2-nitrotoluene	11.781	11.796	-0.015	728	0.25000	0.252	
6	1,3-dinitrobenzene	12.221	12.243	-0.022	1885	0.25000	0.253	
16	4-nitrotoluene	12.921	12.936	-0.015	600	0.25000	0.256	
17	3-nitrotoluene	13.281	13.303	-0.022	811	0.25000	0.244(a)	
13	2,6-dinitrotoluene	15.395	15.409	-0.014	719	0.25000	0.238(a)	
14	2,4-dinitrotoluene	19.101	19.116	-0.015	1169	0.25000	0.253	
5	1,3,5-trinitrobenzene	20.041	20.049	-0.008	956	0.25000	0.259	
9	TETRYL	20.455	20.483	-0.028	715	0.25000	0.282	
10	2,4,6-trinitrotoluene	26.141	26.156	-0.015	631	0.25000	0.250	

QC Flag Legend

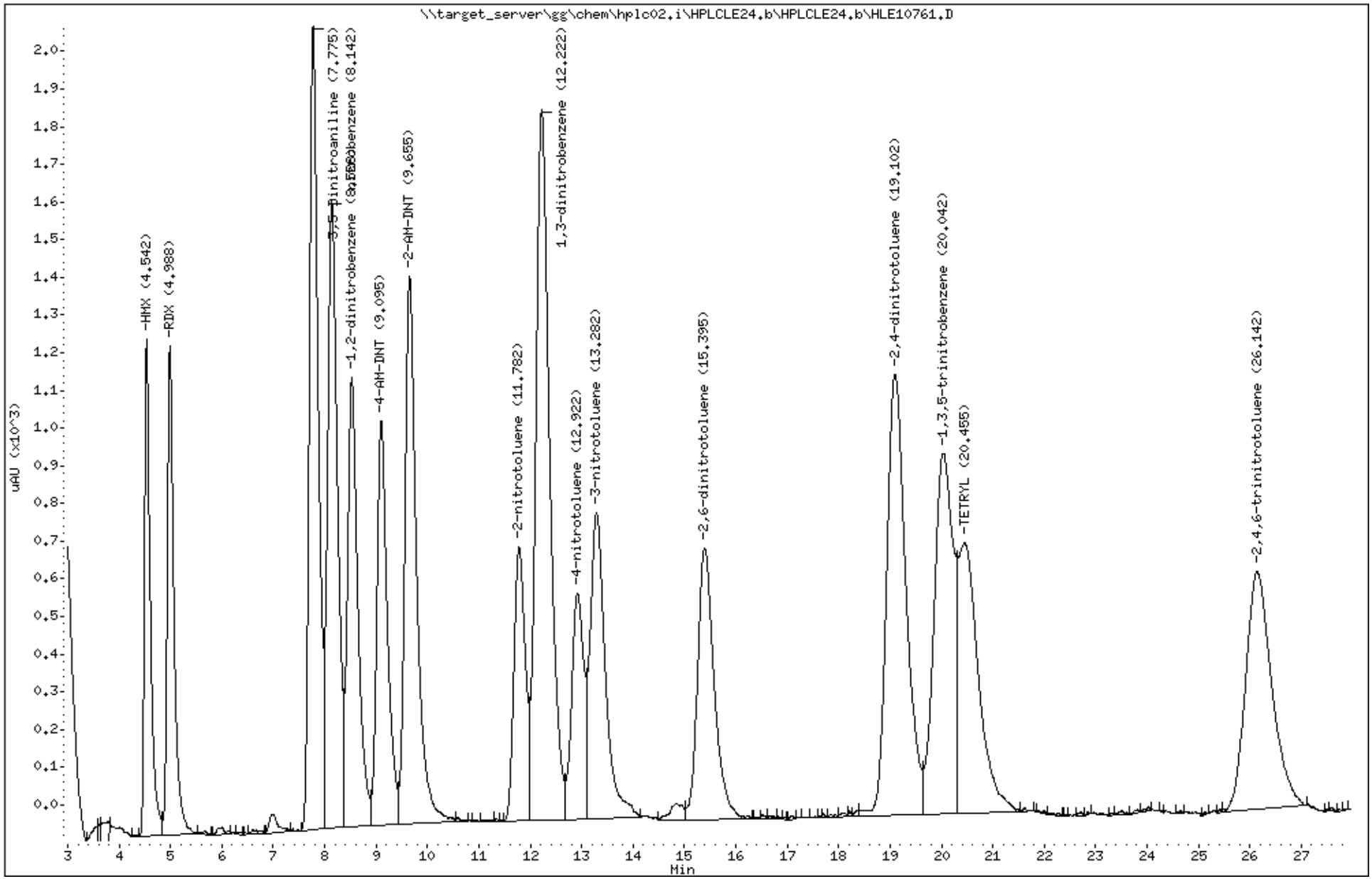
a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE24.b\HPLCLE24.b\HLE10761.D
Date : 25-MAY-2018 09:02
Client ID:
Sample Info: WG228942-14,SL4233

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 1000483

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ANALYTICAL SERVICES

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
SDG: SL4233
Lab ID : WG228942-15
Analytical Date: 05/25/18 14:43
Lab File ID : HLE10772.D
Instrument ID: HPLC02
Initial Calibration Date(s): 03/20/18 14:54 03/20/18 18:05
Column ID: B

	Compound	$\overline{RRF}$/Amount	RF0.500	CCAL RRF0.500	Min	%D/ %Drift	Max %D/ %Drift	Curve Type
1	HMX	5391	5332	5332	0.010	-1.08786	20.00000	Averaged
4	RDX	0.50000	0.49436	5424	0.010	-1.12750	20.00000	Linear
5	1,3,5-trinitrobenzene	3689	3894	3894	0.010	5.56115	20.00000	Averaged
6	1,3-dinitrobenzene	7444	7744	7744	0.010	4.03408	20.00000	Averaged
7	nitrobenzene	6867	6780	6780	0.010	-1.26179	20.00000	Averaged
9	TETRYL	2535	2898	2898	0.010	14.33886	20.00000	Averaged
10	2,4,6-trinitrotoluene	2526	2592	2592	0.010	2.59832	20.00000	Averaged
11	4-AM-DNT	4303	4418	4418	0.010	2.67937	20.00000	Averaged
12	2-AM-DNT	5761	5936	5936	0.010	3.04278	20.00000	Averaged
13	2,6-dinitrotoluene	0.50000	0.49063	2888	0.010	-1.87499	20.00000	Linear
14	2,4-dinitrotoluene	4619	4750	4750	0.010	2.84724	20.00000	Averaged
15	2-nitrotoluene	2890	3038	3038	0.010	5.13670	20.00000	Averaged
16	4-nitrotoluene	2342	2498	2498	0.010	6.64146	20.00000	Averaged
17	3-nitrotoluene	3326	3342	3342	0.010	0.49185	20.00000	Averaged
2	1,2-dinitrobenzene	4627	4856	4856	0.010	4.93949	20.00000	Averaged

*** = Compound out of QC criteria**

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Data File: HLE10772.D
Report Date: 31-May-2018 05:18

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE24.b\HPLCLE24.b\HLE10772.D
Lab Smp Id: WG228942-15
Inj Date : 25-MAY-2018 14:43
Operator : AC Inst ID: hplc02.i
Smp Info : WG228942-15,SL4233
Misc Info : WG228942,WG228857,WG225143-5,SL4233-45
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE24.b\EXPB05A.m\EXPB05A.m
Meth Date : 29-May-2018 10:18 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 91 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01000	Weight of Sample (Kg)
M	0.00000	% Moisture
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)	REVIEW CODE
1	HMX	4.539	4.543	-0.004	2666	0.25000	0.494	
4	RDX	4.986	4.989	-0.003	2712	0.25000	0.494	
51	3,5-Dinitroaniline	7.779	7.783	-0.004	4355	0.25000	0.524	
7	nitrobenzene	8.146	8.149	-0.003	3390	0.25000	0.494	
$ 2	1,2-dinitrobenzene	8.539	8.543	-0.004	2428	0.25000	0.525	
11	4-AM-DNT	9.106	9.109	-0.003	2209	0.25000	0.513	
12	2-AM-DNT	9.659	9.663	-0.004	2968	0.25000	0.515	
15	2-nitrotoluene	11.786	11.796	-0.010	1519	0.25000	0.526	
6	1,3-dinitrobenzene	12.226	12.243	-0.017	3872	0.25000	0.520	
16	4-nitrotoluene	12.926	12.936	-0.010	1249	0.25000	0.533	
17	3-nitrotoluene	13.292	13.303	-0.011	1671	0.25000	0.502(M)	M3
13	2,6-dinitrotoluene	15.392	15.409	-0.017	1444	0.25000	0.491	
14	2,4-dinitrotoluene	19.079	19.116	-0.037	2375	0.25000	0.514	
5	1,3,5-trinitrobenzene	19.999	20.049	-0.050	1947	0.25000	0.528	
9	TETRYL	20.412	20.483	-0.071	1449	0.25000	0.572	
10	2,4,6-trinitrotoluene	26.086	26.156	-0.070	1296	0.25000	0.513	



7:25 am, May 31, 2018

QC Flag Legend

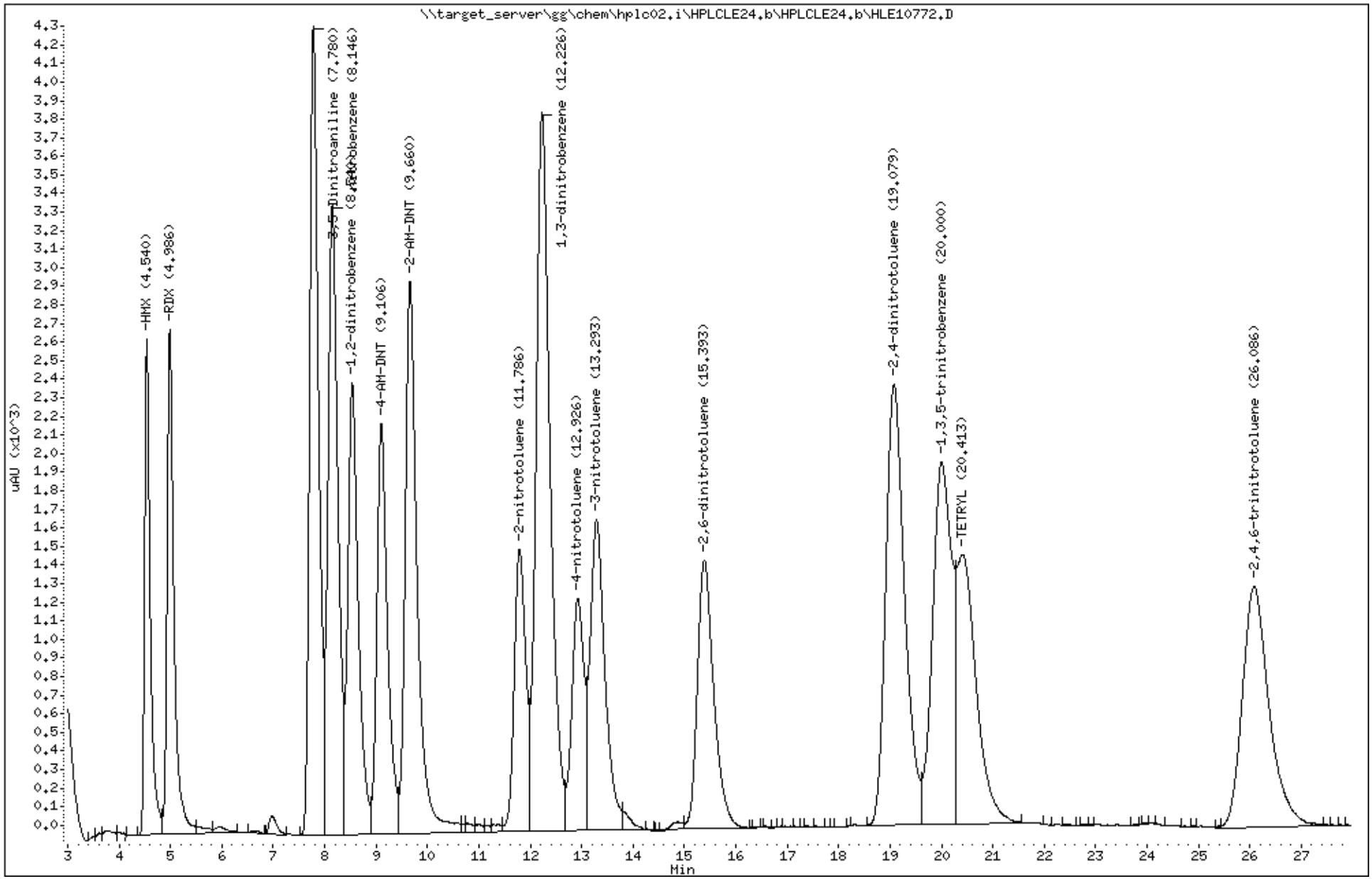
M - Compound response manually integrated.

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE24.b\HPLCLE24.b\HLE10772.D
Date : 25-MAY-2018 14:43
Client ID:
Sample Info: WG228942-15,SL4233

Column phase: Acclaim Exp E1

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60



Katahdin Analytical Services 1000486

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Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
SDG: SL4233
Lab ID : WG228942-17
Analytical Date: 05/26/18 19:57
Lab File ID : HLE10806.D
Instrument ID: HPLC02
Initial Calibration Date(s): 08/01/17 09:37 08/01/17 14:33
Column ID: B

	Compound	$\overline{RRF}$/Amount	RF0.250	CCAL RRF0.250	Min	%D/ %Drift	Max %D/ %Drift	Curve Type
1	HMX	0.25000	0.24167	4128	0.010	-3.33086	20.00000	Linear
4	RDX	0.25000	0.24338	3928	0.010	-2.64820	20.00000	Linear
5	1,3,5-trinitrobenzene	0.25000	0.24484	10188	0.010	-2.06331	20.00000	Linear
6	1,3-dinitrobenzene	0.25000	0.24024	11232	0.010	-3.90556	20.00000	Linear
7	nitrobenzene	0.25000	0.24214	6492	0.010	-3.14460	20.00000	Linear
9	TETRYL	0.25000	0.28879	5592	0.010	15.51700	20.00000	Linear
10	2,4,6-trinitrotoluene	0.25000	0.25198	6352	0.010	0.79061	20.00000	Linear
11	4-AM-DNT	0.25000	0.27392	2720	0.010	9.56925	20.00000	Linear
12	2-AM-DNT	0.25000	0.23697	3096	0.010	-5.21086	20.00000	Linear
13	2,6-dinitrotoluene	0.25000	0.24122	3664	0.010	-3.51320	20.00000	Linear
14	2,4-dinitrotoluene	0.25000	0.24116	6772	0.010	-3.53776	20.00000	Linear
15	2-nitrotoluene	0.25000	0.23969	2564	0.010	-4.12473	20.00000	Linear
16	4-nitrotoluene	0.25000	0.23819	2024	0.010	-4.72552	20.00000	Linear
17	3-nitrotoluene	0.25000	0.25799	2752	0.010	3.19718	20.00000	Linear
2	1,2-dinitrobenzene	0.25000	0.24081	5140	0.010	-3.67630	20.00000	Linear

*** = Compound out of QC criteria**

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Data File: HLE10806.D
Report Date: 31-May-2018 05:46

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Data file : \\target_server\gg\chem\hplc02.i\HPLCLE25.b\HPLCLE25.b\HLE10806.D
Lab Smp Id: WG228942-17
Inj Date : 26-MAY-2018 19:57
Operator : AC Inst ID: hplc02.i
Smp Info : WG228942-17,SL4233
Misc Info : WG228942,WG228770,WG210620-13,SL4233-2
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE25.b\E2016A.m\E2016A.m
Meth Date : 29-May-2018 16:32 abullentin Quant Type: ESTD
Cal Date : 01-AUG-2017 14:33 Cal File: HKH10014.D
Als bottle: 25 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01000	Weight of Sample (Kg)
M	0.00000	% Moisture
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)	REVIEW CODE
1	HMX	6.578	6.588	-0.010	1032	0.25000	0.242(a)	
4	RDX	10.498	10.528	-0.030	982	0.25000	0.243(a)	
5	1,3,5-trinitrobenzene	11.238	11.255	-0.017	2547	0.25000	0.245(a)	
$ 2	1,2-dinitrobenzene	13.192	13.228	-0.036	1285	0.25000	0.241	
6	1,3-dinitrobenzene	14.045	14.075	-0.030	2808	0.25000	0.240(a)	
7	nitrobenzene	15.098	15.128	-0.030	1623	0.25000	0.242(a)	
10	2,4,6-trinitrotoluene	18.632	18.675	-0.043	1588	0.25000	0.252(M)	M3
9	TETRYL	18.792	18.848	-0.056	1398	0.25000	0.289(M)	M6
13	2,6-dinitrotoluene	21.978	22.048	-0.070	916	0.25000	0.241(a)	
14	2,4-dinitrotoluene	22.945	23.015	-0.070	1693	0.25000	0.241(a)	
15	2-nitrotoluene	25.105	25.168	-0.063	641	0.25000	0.240(a)	
52	3,5-dinitroaniline	26.205	26.321	-0.116	1200	0.25000	0.271	
16	4-nitrotoluene	27.312	27.388	-0.076	506	0.25000	0.238(a)	
17	3-nitrotoluene	29.365	29.421	-0.056	688	0.25000	0.258(M)	M8
11	4-AM-DNT	29.698	29.875	-0.177	680	0.25000	0.274(M)	M8
12	2-AM-DNT	31.538	31.661	-0.123	774	0.25000	0.237(a)	

7:25 am, May 31, 2018

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

Data File: HLE10806.D
Report Date: 31-May-2018 05:46

QC Flag Legend

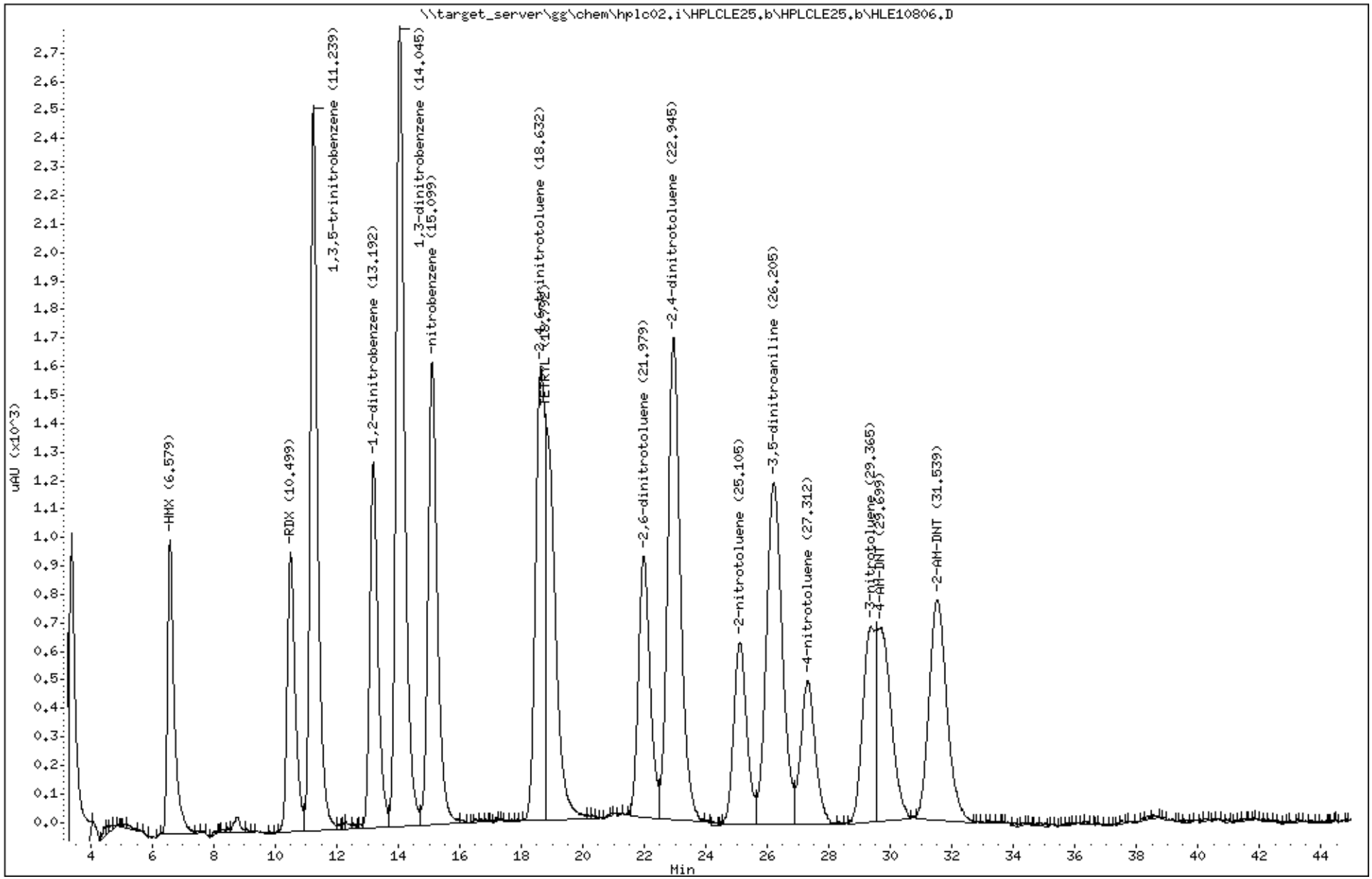
M - Compound response manually integrated.

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE25.b\HPLCLE25.b\HLE10806.D
Date : 26-MAY-2018 19:57
Client ID:
Sample Info: WG228942-17,SL4233

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60

Column phase: Acclaim Exp E2



Katahdin Analytical Services 1000490

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
Lab ID : WG228942-18
Lab File ID : HLE10817.D
Initial Calibration Date(s): 08/01/17 09:37 08/01/17 14:33

SDG: SL4233
Analytical Date: 05/27/18 04:57
Instrument ID: HPLC02
Column ID: B

	Compound	$\overline{RRF}$/Amount	RF0.500	CCAL RRF0.500	Min	%D/ %Drift	Max %D/ %Drift	Curve Type
1	HMX	0.50000	0.47884	4056	0.010	-4.23237	20.00000	Linear
4	RDX	0.50000	0.48068	3896	0.010	-3.86476	20.00000	Linear
5	1,3,5-trinitrobenzene	0.50000	0.48182	10010	0.010	-3.63688	20.00000	Linear
6	1,3-dinitrobenzene	0.50000	0.48413	11276	0.010	-3.17418	20.00000	Linear
7	nitrobenzene	0.50000	0.48601	6494	0.010	-2.79852	20.00000	Linear
9	TETRYL	0.50000	0.52370	4978	0.010	4.74061	20.00000	Linear
10	2,4,6-trinitrotoluene	0.50000	0.48977	6106	0.010	-2.04543	20.00000	Linear
11	4-AM-DNT	0.50000	0.52170	2526	0.010	4.34077	20.00000	Linear
12	2-AM-DNT	0.50000	0.49146	3154	0.010	-1.70862	20.00000	Linear
13	2,6-dinitrotoluene	0.50000	0.48389	3652	0.010	-3.22171	20.00000	Linear
14	2,4-dinitrotoluene	0.50000	0.48434	6742	0.010	-3.13222	20.00000	Linear
15	2-nitrotoluene	0.50000	0.48074	2550	0.010	-3.85208	20.00000	Linear
16	4-nitrotoluene	0.50000	0.50739	2060	0.010	1.47715	20.00000	Linear
17	3-nitrotoluene	0.50000	0.49536	2592	0.010	-0.92827	20.00000	Linear
2	1,2-dinitrobenzene	0.50000	0.47859	5084	0.010	-4.28212	20.00000	Linear

*** = Compound out of QC criteria**

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Data File: HLE10817.D
Report Date: 31-May-2018 05:46

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE25.b\HPLCLE25.b\HLE10817.D
Lab Smp Id: WG228942-18
Inj Date : 27-MAY-2018 04:57
Operator : AC Inst ID: hplc02.i
Smp Info : WG228942-18,SL4233
Misc Info : WG228942,WG228770,WG210620-13,SL4233-2
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE25.b\E2016A.m\E2016A.m
Meth Date : 29-May-2018 16:32 abullentin Quant Type: ESTD
Cal Date : 01-AUG-2017 14:33 Cal File: HKH10014.D
Als bottle: 36 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01000	Weight of Sample (Kg)
M	0.00000	% Moisture
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)	REVIEW CODE
1	HMX	6.598	6.588	0.010	2028	0.25000	0.479	
4	RDX	10.538	10.528	0.010	1948	0.25000	0.481	
5	1,3,5-trinitrobenzene	11.264	11.255	0.009	5005	0.25000	0.482	
$ 2	1,2-dinitrobenzene	13.244	13.228	0.016	2542	0.25000	0.478	
6	1,3-dinitrobenzene	14.091	14.075	0.016	5638	0.25000	0.484	
7	nitrobenzene	15.144	15.128	0.016	3247	0.25000	0.486	
10	2,4,6-trinitrotoluene	18.684	18.675	0.009	3053	0.25000	0.490(M)	M6
9	TETRYL	18.958	18.848	0.110	2489	0.25000	0.524(M)	M6
13	2,6-dinitrotoluene	22.071	22.048	0.023	1826	0.25000	0.484	
14	2,4-dinitrotoluene	23.051	23.015	0.036	3371	0.25000	0.484	
15	2-nitrotoluene	25.204	25.168	0.036	1275	0.25000	0.481	
52	3,5-dinitroaniline	26.391	26.321	0.070	2378	0.25000	0.544	
16	4-nitrotoluene	27.424	27.388	0.036	1030	0.25000	0.507	
17	3-nitrotoluene	29.464	29.421	0.043	1296	0.25000	0.495	
11	4-AM-DNT	29.938	29.875	0.063	1263	0.25000	0.522	
12	2-AM-DNT	31.744	31.661	0.083	1577	0.25000	0.491	



7:25 am, May 31, 2018

QC Flag Legend

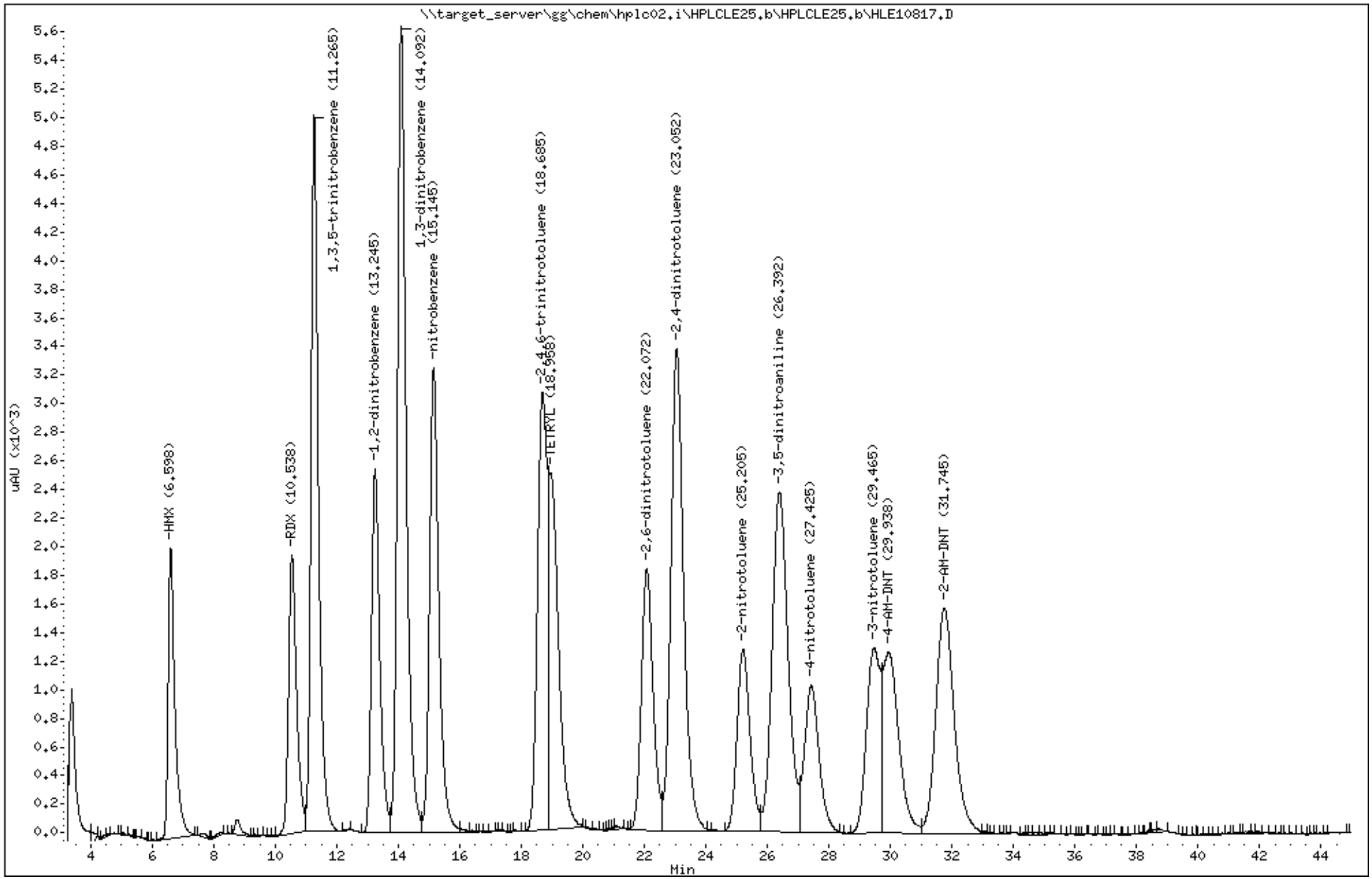
M - Compound response manually integrated.

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE25.b\HPLCLE25.b\HLE10817.D
Date : 27-MAY-2018 04:57
Client ID:
Sample Info: WG228942-18,SL4233

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60

Column phase: Acclaim Exp E2



Katahdin Analytical Services 1000493

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
Lab ID : WG228942-19
Lab File ID : HLE10827.D
Initial Calibration Date(s): 08/01/17 09:37 08/01/17 14:33

SDG: SL4233
Analytical Date: 05/27/18 13:09
Instrument ID: HPLC02
Column ID: B

	Compound	$\overline{\text{RRF}}$/Amount	RF0.250	CCAL RRF0.250	Min	%D/ %Drift	Max %D/ %Drift	Curve Type
1	HMX	0.25000	0.23572	4028	0.010	-5.71204	20.00000	Linear
4	RDX	0.25000	0.24043	3880	0.010	-3.82732	20.00000	Linear
5	1,3,5-trinitrobenzene	0.25000	0.24041	10004	0.010	-3.83724	20.00000	Linear
6	1,3-dinitrobenzene	0.25000	0.23920	11184	0.010	-4.31923	20.00000	Linear
7	nitrobenzene	0.25000	0.23868	6400	0.010	-4.52612	20.00000	Linear
9	TETRYL	0.25000	0.25327	4932	0.010	1.30610	20.00000	Linear
10	2,4,6-trinitrotoluene	0.25000	0.23964	6048	0.010	-4.14387	20.00000	Linear
11	4-AM-DNT	0.25000	0.24290	2428	0.010	-2.84104	20.00000	Linear
12	2-AM-DNT	0.25000	0.23475	3068	0.010	-6.09822	20.00000	Linear
13	2,6-dinitrotoluene	0.25000	0.23855	3624	0.010	-4.57990	20.00000	Linear
14	2,4-dinitrotoluene	0.25000	0.24058	6756	0.010	-3.76964	20.00000	Linear
15	2-nitrotoluene	0.25000	0.23741	2540	0.010	-5.03722	20.00000	Linear
16	4-nitrotoluene	0.25000	0.23767	2020	0.010	-4.93102	20.00000	Linear
17	3-nitrotoluene	0.25000	0.23301	2496	0.010	-6.79716	20.00000	Linear
2	1,2-dinitrobenzene	0.25000	0.23438	5004	0.010	-6.24894	20.00000	Linear

*** = Compound out of QC criteria**

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Data File: HLE10827.D
Report Date: 31-May-2018 06:54

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE25.b\HPLCLE25.b\HLE10827.D
Lab Smp Id: WG228942-19
Inj Date : 27-MAY-2018 13:09
Operator : AC   Inst ID: hplc02.i
Smp Info : WG228942-19,SL4233
Misc Info : WG228942,WG228857,WG210620-13,SL4233-45
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCLE25.b\E2016A.m\E2016A.m
Meth Date : 29-May-2018 16:32 abullentin Quant Type: ESTD
Cal Date : 01-AUG-2017 14:33   Cal File: HKH10014.D
Als bottle: 46   Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01000	Weight of Sample (Kg)
M	0.00000	% Moisture
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)	REVIEW CODE
1	HMX	6.608	6.588	0.020	1007	0.25000	0.236(a)	
4	RDX	10.554	10.528	0.026	970	0.25000	0.240(a)	
5	1,3,5-trinitrobenzene	11.268	11.255	0.013	2501	0.25000	0.240(a)	
$ 2	1,2-dinitrobenzene	13.261	13.228	0.033	1251	0.25000	0.234	
6	1,3-dinitrobenzene	14.108	14.075	0.033	2796	0.25000	0.239(a)	
7	nitrobenzene	15.161	15.128	0.033	1600	0.25000	0.239(a)	
10	2,4,6-trinitrotoluene	18.708	18.675	0.033	1512	0.25000	0.240(a)	
9	TETRYL	19.001	18.848	0.153	1233	0.25000	0.253	
13	2,6-dinitrotoluene	22.101	22.048	0.053	906	0.25000	0.238(a)	
14	2,4-dinitrotoluene	23.081	23.015	0.066	1689	0.25000	0.240(a)	
15	2-nitrotoluene	25.234	25.168	0.066	635	0.25000	0.237(a)	
52	3,5-dinitroaniline	26.461	26.321	0.140	1175	0.25000	0.265	
16	4-nitrotoluene	27.461	27.388	0.073	505	0.25000	0.238(a)	
17	3-nitrotoluene	29.508	29.421	0.087	624	0.25000	0.233(a)	
11	4-AM-DNT	30.014	29.875	0.139	607	0.25000	0.243(a)	
12	2-AM-DNT	31.841	31.661	0.180	767	0.25000	0.235(a)	

QC Flag Legend

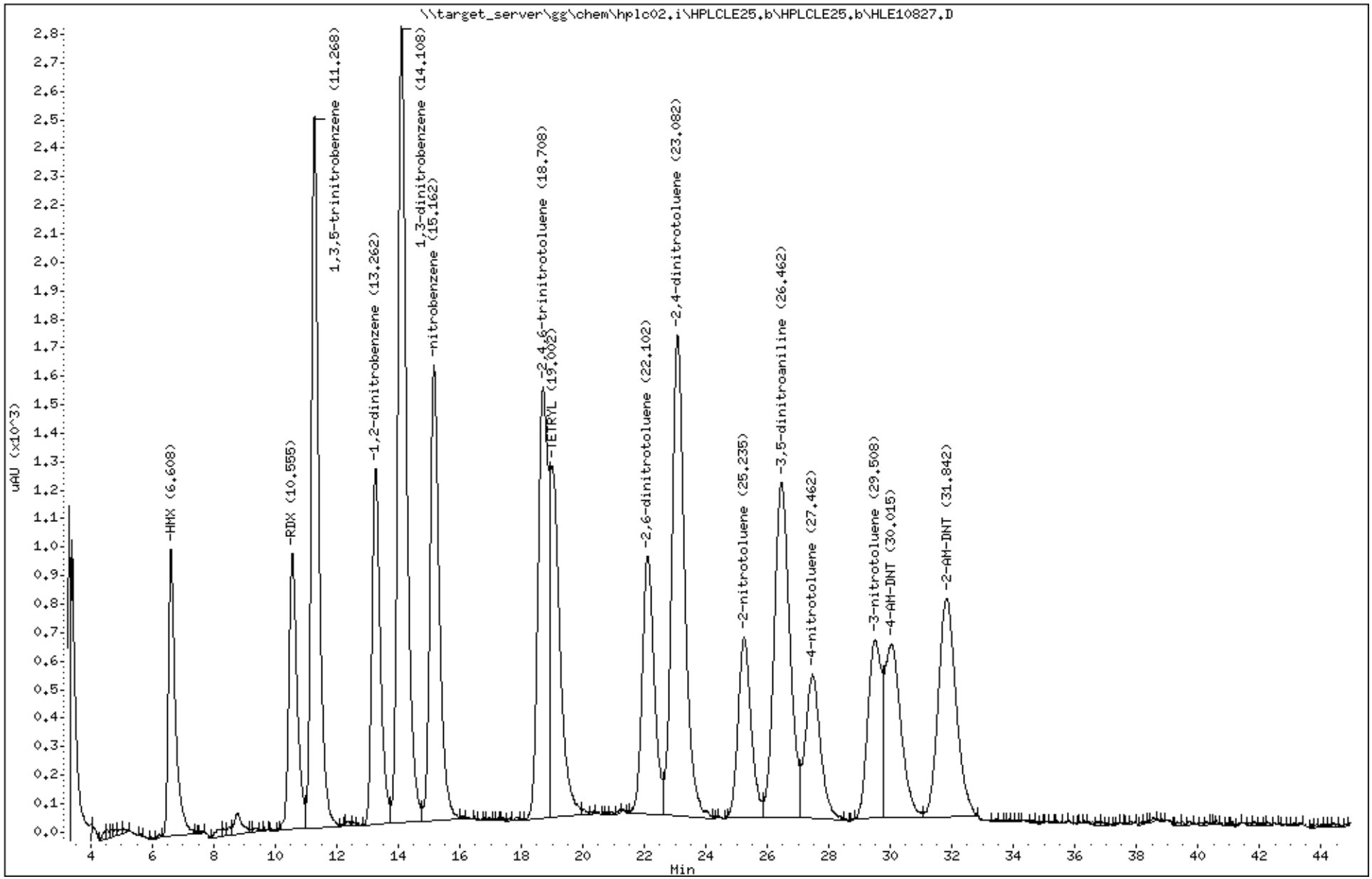
a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE25.b\HPLCLE25.b\HLE10827.D
Date : 27-MAY-2018 13:09
Client ID:
Sample Info: WG228942-19,SL4233

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60

Column phase: Acclaim Exp E2



Katahdin Analytical Services 1000496

Katahdin
ANALYTICAL SERVICES

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
Lab ID : WG228942-20
Lab File ID : HLE10829.D
Initial Calibration Date(s): 08/01/17 09:37 08/01/17 14:33

SDG: SL4233
Analytical Date: 05/29/18 17:05
Instrument ID: HPLC02
Column ID: B

	Compound	$\overline{RRF}$/Amount	RF0.500	CCAL RRF0.500	Min	%D/ %Drift	Max %D/ %Drift	Curve Type
1	HMX	0.50000	0.47955	4062	0.010	-4.08950	20.00000	Linear
4	RDX	0.50000	0.48092	3898	0.010	-3.81563	20.00000	Linear
5	1,3,5-trinitrobenzene	0.50000	0.48047	9982	0.010	-3.90682	20.00000	Linear
6	1,3-dinitrobenzene	0.50000	0.47904	11158	0.010	-4.19112	20.00000	Linear
7	nitrobenzene	0.50000	0.48045	6420	0.010	-3.90974	20.00000	Linear
9	TETRYL	0.50000	0.53791	5110	0.010	7.58279	20.00000	Linear
10	2,4,6-trinitrotoluene	0.50000	0.48701	6072	0.010	-2.59732	20.00000	Linear
11	4-AM-DNT	0.50000	0.52978	2564	0.010	5.95581	20.00000	Linear
12	2-AM-DNT	0.50000	0.48860	3136	0.010	-2.27907	20.00000	Linear
13	2,6-dinitrotoluene	0.50000	0.48256	3642	0.010	-3.48839	20.00000	Linear
14	2,4-dinitrotoluene	0.50000	0.48231	6714	0.010	-3.53801	20.00000	Linear
15	2-nitrotoluene	0.50000	0.47846	2538	0.010	-4.30833	20.00000	Linear
16	4-nitrotoluene	0.50000	0.48273	1964	0.010	-3.45475	20.00000	Linear
17	3-nitrotoluene	0.50000	0.50278	2630	0.010	0.55527	20.00000	Linear
2	1,2-dinitrobenzene	0.50000	0.47443	5040	0.010	-5.11445	20.00000	Linear

*** = Compound out of QC criteria**

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Data File: HLE10829.D
Report Date: 31-May-2018 05:52

Katahdin Analytical Services

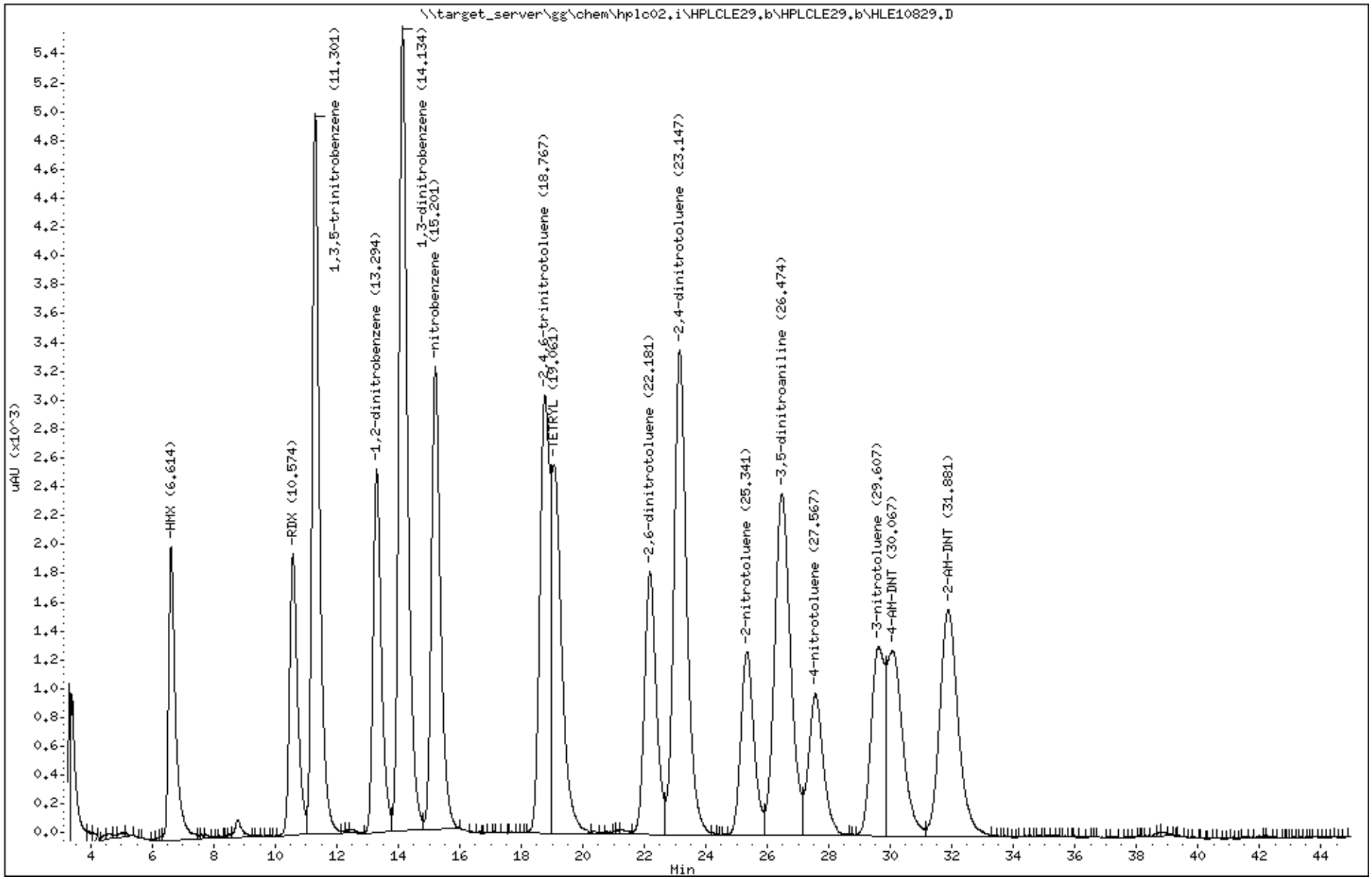
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE29.b\HPLCLE29.b\HLE10829.D
Lab Smp Id: WG228942-20
Inj Date : 29-MAY-2018 17:05
Operator : AAB   Inst ID: hplc02.i
Smp Info : WG228942-20,SL4233
Misc Info : WG228942,WG228769,WG210620-13,SL4233-54
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCLE29.b\E2016A.m\E2016A.m
Meth Date : 30-May-2018 04:40 abullentin Quant Type: ESTD
Cal Date : 01-AUG-2017 14:33   Cal File: HKH10014.D
Als bottle: 93   Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*(Vt/Vo) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.10000	Final Volume (L)
Vo	1.000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)	REVIEW CODE
1	HMX	6.614	6.614	0.000	2031	0.25000	0.480	
4	RDX	10.574	10.574	0.000	1949	0.25000	0.481	
5	1,3,5-trinitrobenzene	11.300	11.300	0.000	4991	0.25000	0.480	
$ 2	1,2-dinitrobenzene	13.294	13.294	0.000	2520	0.25000	0.474	
6	1,3-dinitrobenzene	14.134	14.134	0.000	5579	0.25000	0.479	
7	nitrobenzene	15.200	15.200	0.000	3210	0.25000	0.480	
10	2,4,6-trinitrotoluene	18.767	18.767	0.000	3036	0.25000	0.487	
9	TETRYL	19.060	19.060	0.000	2555	0.25000	0.538	
13	2,6-dinitrotoluene	22.180	22.180	0.000	1821	0.25000	0.482	
14	2,4-dinitrotoluene	23.147	23.147	0.000	3357	0.25000	0.482	
15	2-nitrotoluene	25.340	25.340	0.000	1269	0.25000	0.478	
52	3,5-dinitroaniline	26.474	26.474	0.000	2371	0.25000	0.542	
16	4-nitrotoluene	27.567	27.567	0.000	982	0.25000	0.483	
17	3-nitrotoluene	29.607	29.607	0.000	1315	0.25000	0.503	
11	4-AM-DNT	30.067	30.067	0.000	1282	0.25000	0.530	
12	2-AM-DNT	31.880	31.880	0.000	1568	0.25000	0.489	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE29.b\HPLCLE29.b\HLE10829.D
Date : 29-MAY-2018 17:05
Client ID:
Instrument: hplc02.i
Sample Info: WG228942-20,SL4233
Purge Volume: 1.0
Operator: AAB
Column phase: Acclaim Exp E2
Column diameter: 4.60



Katahdin Analytical Services 1000499

Katahdin
ANALYTICAL SERVICES

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Cornhusker Army Ammunition Plant
SDG: SL4233
Lab ID : WG228942-21
Analytical Date: 05/29/18 22:49
Lab File ID : HLE10836.D
Instrument ID: HPLC02
Initial Calibration Date(s): 08/01/17 09:37 08/01/17 14:33
Column ID: B

	Compound	$\overline{RRF}$/Amount	RF0.250	CCAL RRF0.250	Min	%D/ %Drift	Max %D/ %Drift	Curve Type
1	HMX	0.25000	0.23786	4064	0.010	-4.85482	20.00000	Linear
4	RDX	0.25000	0.23896	3856	0.010	-4.41687	20.00000	Linear
5	1,3,5-trinitrobenzene	0.25000	0.23751	9884	0.010	-4.99415	20.00000	Linear
6	1,3-dinitrobenzene	0.25000	0.23610	11040	0.010	-5.56024	20.00000	Linear
7	nitrobenzene	0.25000	0.23733	6364	0.010	-5.06672	20.00000	Linear
9	TETRYL	0.25000	0.25348	4936	0.010	1.39222	20.00000	Linear
10	2,4,6-trinitrotoluene	0.25000	0.23818	6012	0.010	-4.72822	20.00000	Linear
11	4-AM-DNT	0.25000	0.25692	2560	0.010	2.76909	20.00000	Linear
12	2-AM-DNT	0.25000	0.23349	3052	0.010	-6.60529	20.00000	Linear
13	2,6-dinitrotoluene	0.25000	0.23668	3596	0.010	-5.32659	20.00000	Linear
14	2,4-dinitrotoluene	0.25000	0.23782	6680	0.010	-4.87107	20.00000	Linear
15	2-nitrotoluene	0.25000	0.23246	2488	0.010	-7.01430	20.00000	Linear
16	4-nitrotoluene	0.25000	0.22637	1932	0.010	-9.45193	20.00000	Linear
17	3-nitrotoluene	0.25000	0.24394	2608	0.010	-2.42464	20.00000	Linear
2	1,2-dinitrobenzene	0.25000	0.23476	5012	0.010	-6.09761	20.00000	Linear

*** = Compound out of QC criteria**

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Data File: HLE10836.D
Report Date: 31-May-2018 05:52

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE29.b\HPLCLE29.b\HLE10836.D
Lab Smp Id: WG228942-21
Inj Date : 29-MAY-2018 22:49
Operator : AAB   Inst ID: hplc02.i
Smp Info : WG228942-21,SL4233
Misc Info : WG228942,WG228769,WG210620-13,SL4233-54
Comment   :
Method   : \\target_server\gg\chem\hplc02.i\HPLCLE29.b\E2016A.m\E2016A.m
Meth Date : 30-May-2018 04:40 abullentin Quant Type: ESTD
Cal Date : 01-AUG-2017 14:33   Cal File: HKH10014.D
Als bottle: 100   Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon   Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*(Vt/Vo) * CpndVariable

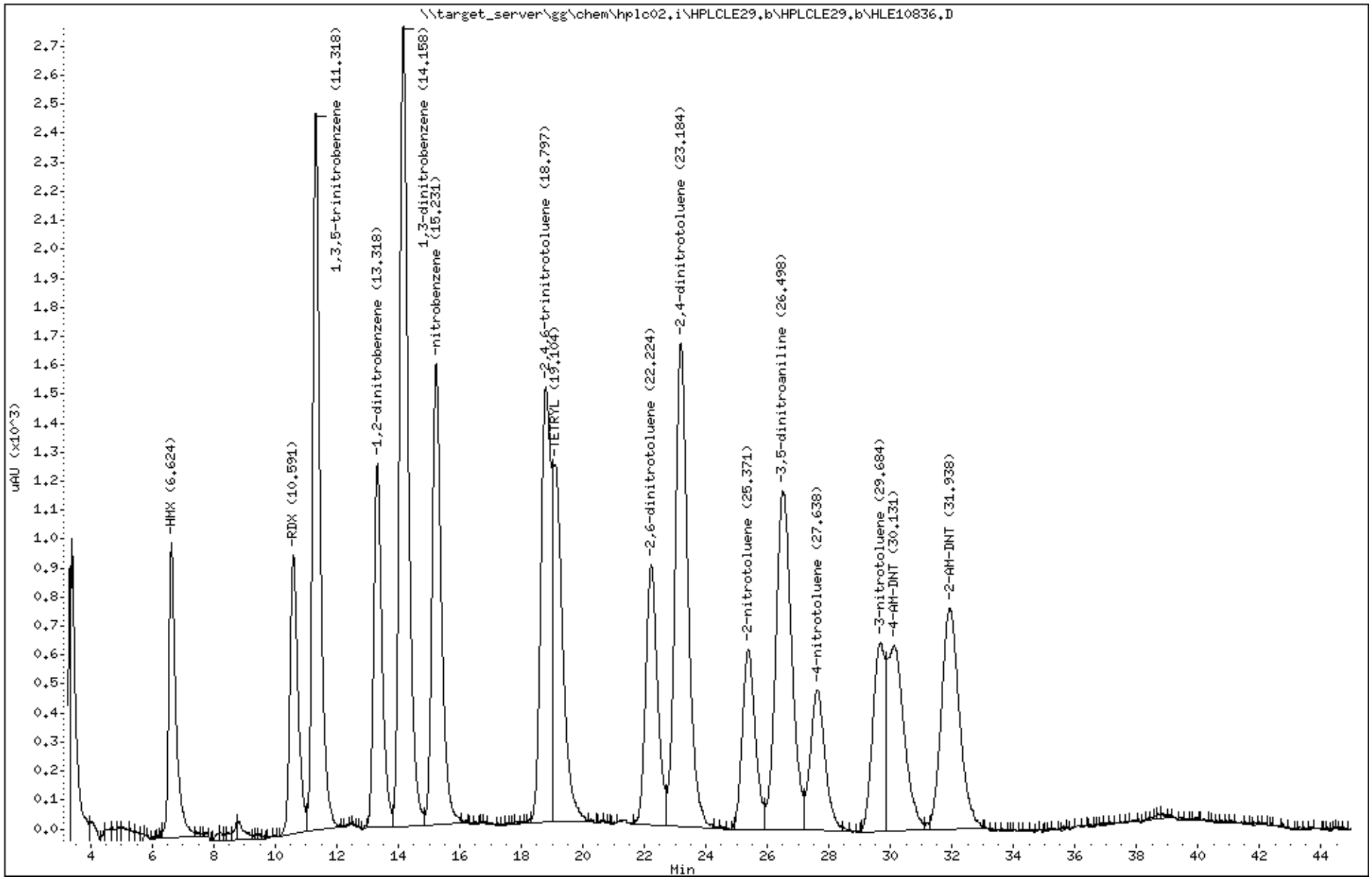
Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.10000	Final Volume (L)
Vo	1.000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)	REVIEW CODE
1	HMX	6.624	6.614	0.010	1016	0.25000	0.238(a)	
4	RDX	10.590	10.574	0.016	964	0.25000	0.239(a)	
5	1,3,5-trinitrobenzene	11.317	11.300	0.017	2471	0.25000	0.238(a)	
$ 2	1,2-dinitrobenzene	13.317	13.294	0.023	1253	0.25000	0.235	
6	1,3-dinitrobenzene	14.157	14.134	0.023	2760	0.25000	0.236(a)	
7	nitrobenzene	15.230	15.200	0.030	1591	0.25000	0.237(a)	
10	2,4,6-trinitrotoluene	18.797	18.767	0.030	1503	0.25000	0.238(a)	
9	TETRYL	19.104	19.060	0.044	1234	0.25000	0.253	
13	2,6-dinitrotoluene	22.224	22.180	0.044	899	0.25000	0.237(a)	
14	2,4-dinitrotoluene	23.184	23.147	0.037	1670	0.25000	0.238(a)	
15	2-nitrotoluene	25.370	25.340	0.030	622	0.25000	0.232(a)	
52	3,5-dinitroaniline	26.497	26.474	0.023	1166	0.25000	0.263	
16	4-nitrotoluene	27.637	27.567	0.070	483	0.25000	0.226(a)	
17	3-nitrotoluene	29.684	29.607	0.077	652	0.25000	0.244(a)	
11	4-AM-DNT	30.130	30.067	0.063	640	0.25000	0.257	
12	2-AM-DNT	31.937	31.880	0.057	763	0.25000	0.233(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE29.b\HPLCLE29.b\HLE10836.D
Date : 29-MAY-2018 22:49
Client ID:
Instrument: hplc02.i
Sample Info: WG228942-21,SL4233
Purge Volume: 1.0
Operator: AAB
Column phase: Acclaim Exp E2
Column diameter: 4.60



Katahdin Analytical Services 1000502

Raw QC Data Section

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client:
Lab ID: WG228769-1
Client ID: Method Blank Sample
Project:
SDG: SL4233
Lab File ID: HLE10628.D

Sample Date:
Received Date:
Extract Date: 21-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330
Lab Prep Batch: WG228769

Analysis Date: 22-MAY-18
Analyst: AC
Analysis Method: SW846 8330B
Matrix: AQ
% Solids: NA
Report Date: 31-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	0.12	ug/L	1	.25	0.25	0.043	0.12
RDX	U	0.12	ug/L	1	.25	0.25	0.046	0.12
1,3,5-Trinitrobenzene	U	0.12	ug/L	1	.25	0.25	0.040	0.12
1,3-Dinitrobenzene	U	0.12	ug/L	1	.25	0.25	0.045	0.12
Tetryl	U	0.12	ug/L	1	.25	0.25	0.060	0.12
Nitrobenzene	U	0.12	ug/L	1	.25	0.25	0.071	0.12
2,4,6-Trinitrotoluene	U	0.12	ug/L	1	.25	0.25	0.064	0.12
4-Am-DNT	U	0.12	ug/L	1	.25	0.25	0.053	0.12
2-Am-DNT	U	0.12	ug/L	1	.25	0.25	0.038	0.12
2,6-Dinitrotoluene	U	0.12	ug/L	1	.25	0.25	0.056	0.12
2,4-Dinitrotoluene	U	0.12	ug/L	1	.25	0.25	0.052	0.12
2-Nitrotoluene	U	0.12	ug/L	1	.25	0.25	0.071	0.12
4-Nitrotoluene	U	0.12	ug/L	1	.25	0.25	0.060	0.12
3-Nitrotoluene	U	0.12	ug/L	1	.25	0.25	0.063	0.12
Nitroglycerin	U	2.0	ug/L	1	4	4.0	0.67	2.0
PETN	U	2.0	ug/L	1	4	4.0	0.58	2.0
1,2-Dinitrobenzene		86.6	%					

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10628.D
Report Date: 31-May-2018 04:36

Katahdin Analytical Services

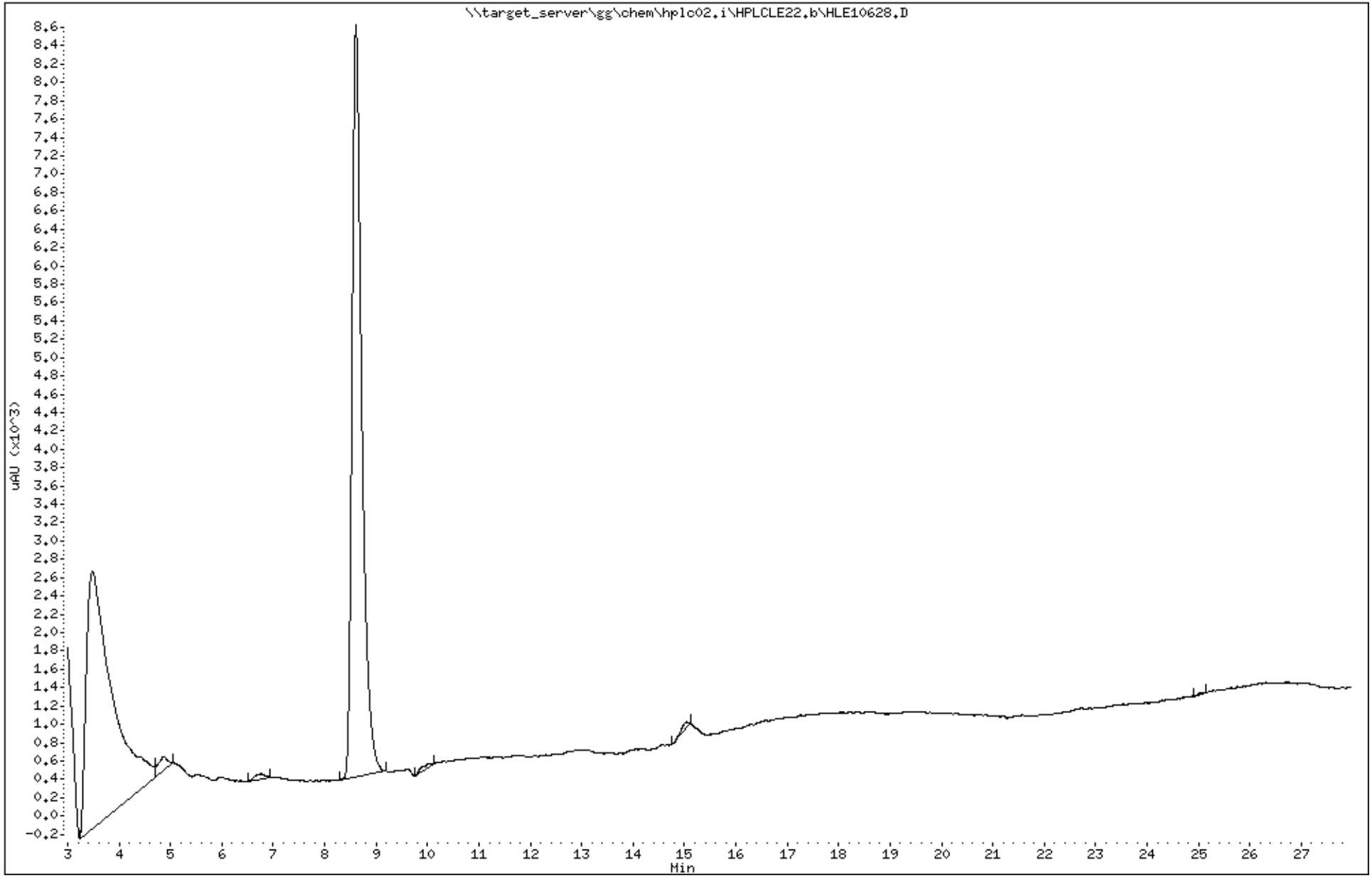
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10628.D
Lab Smp Id: WG228769-1 Client Smp ID: WG228769-Blank
Inj Date : 22-MAY-2018 10:07
Operator : AC Inst ID: hplc02.i
Smp Info : WG228769-1,SL4233
Misc Info : WG228942,WG228769,WG225143-5,SL4233-54
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\EXPB05A.m
Meth Date : 23-May-2018 13:50 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 47 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*(Vt/Vo) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00500	Final Volume (L)
Vo	0.50000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/L)

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10628.D
Date : 22-MAY-2018 10:07
Client ID: WG228769-Blank
Instrument: hplc02.i
Sample Info: WG228769-1,SL4233
Purge Volume: 0.5
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 1000506

Data File: HLE10628.D
Report Date: 31-May-2018 04:39

Katahdin Analytical Services

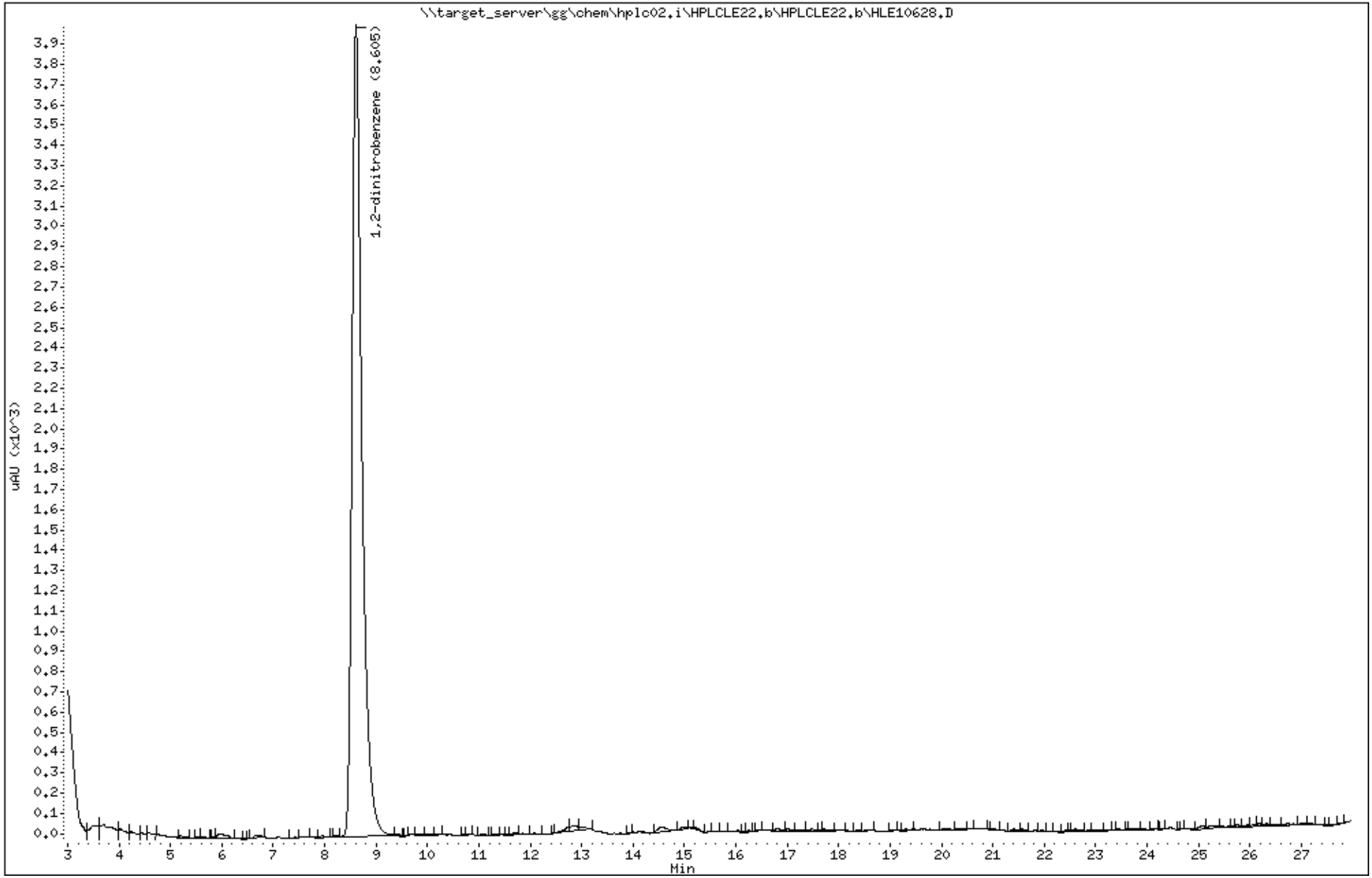
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HPLCLE22.b\HLE10628.D
Lab Smp Id: WG228769-1 Client Smp ID: WG228769-Blank
Inj Date : 22-MAY-2018 10:07
Operator : AC Inst ID: hplc02.i
Smp Info : WG228769-1,SL4233
Misc Info : WG228942,WG228769,WG225143-5,SL4233-54
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\EXPB05A.m\EXPB05A.m
Meth Date : 23-May-2018 13:40 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 47 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*(Vt/Vo) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00500	Final Volume (L)
Vo	0.50000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

					CONCENTRATIONS		
					ON-COLUMN	FINAL	
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/mL)	(ug/L)	REVIEW CODE
$ 2 1,2-dinitrobenzene	8.605	8.581	0.024	4009	0.86636	8.66	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HPLCLE22.b\HLE10628.D
Date : 22-MAY-2018 10:07
Client ID: WG228769-Blank
Instrument: hplc02.i
Sample Info: WG228769-1,SL4233
Purge Volume: 0.5
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 1000508

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE29.b\HLE10830.D
Report Date: 31-May-2018 05:49

Katahdin Analytical Services

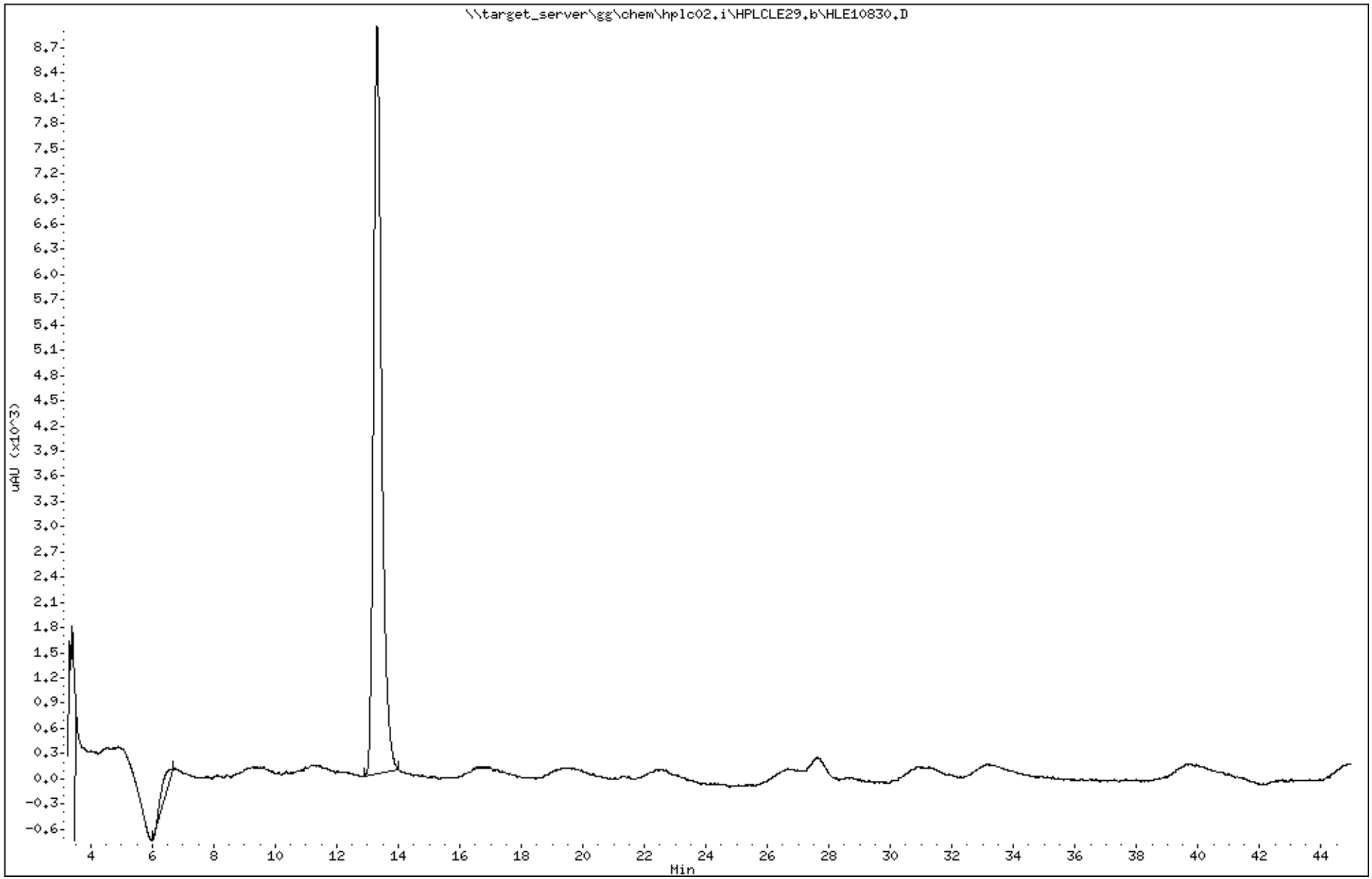
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE29.b\HLE10830.D
Lab Smp Id: WG228769-1C Client Smp ID: WG228769-Blank
Inj Date : 29-MAY-2018 17:54
Operator : AAB Inst ID: hplc02.i
Smp Info : WG228769-1C,SL4233
Misc Info : WG228942,WG228769,WG210620-13,SL4233-54
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE29.b\E2016A.m
Meth Date : 30-May-2018 04:42 abullentin Quant Type: ESTD
Cal Date : 01-AUG-2017 14:33 Cal File: HKH10014.D
Als bottle: 94 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: NGPETN.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*(Vt/Vo) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00500	Final Volume (L)
Vo	0.50000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/L)	REVIEW CODE

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE29.b\HLE10830.D
Date : 29-MAY-2018 17:54
Client ID: WG228769-Blank
Instrument: hplc02.i
Sample Info: WG228769-1C,SL4233
Purge Volume: 0.5
Operator: AAB
Column phase: Acclaim Exp E2
Column diameter: 4.60



Katahdin Analytical Services 1000510

Data File: HLE10830.D
Report Date: 31-May-2018 05:52

Katahdin Analytical Services

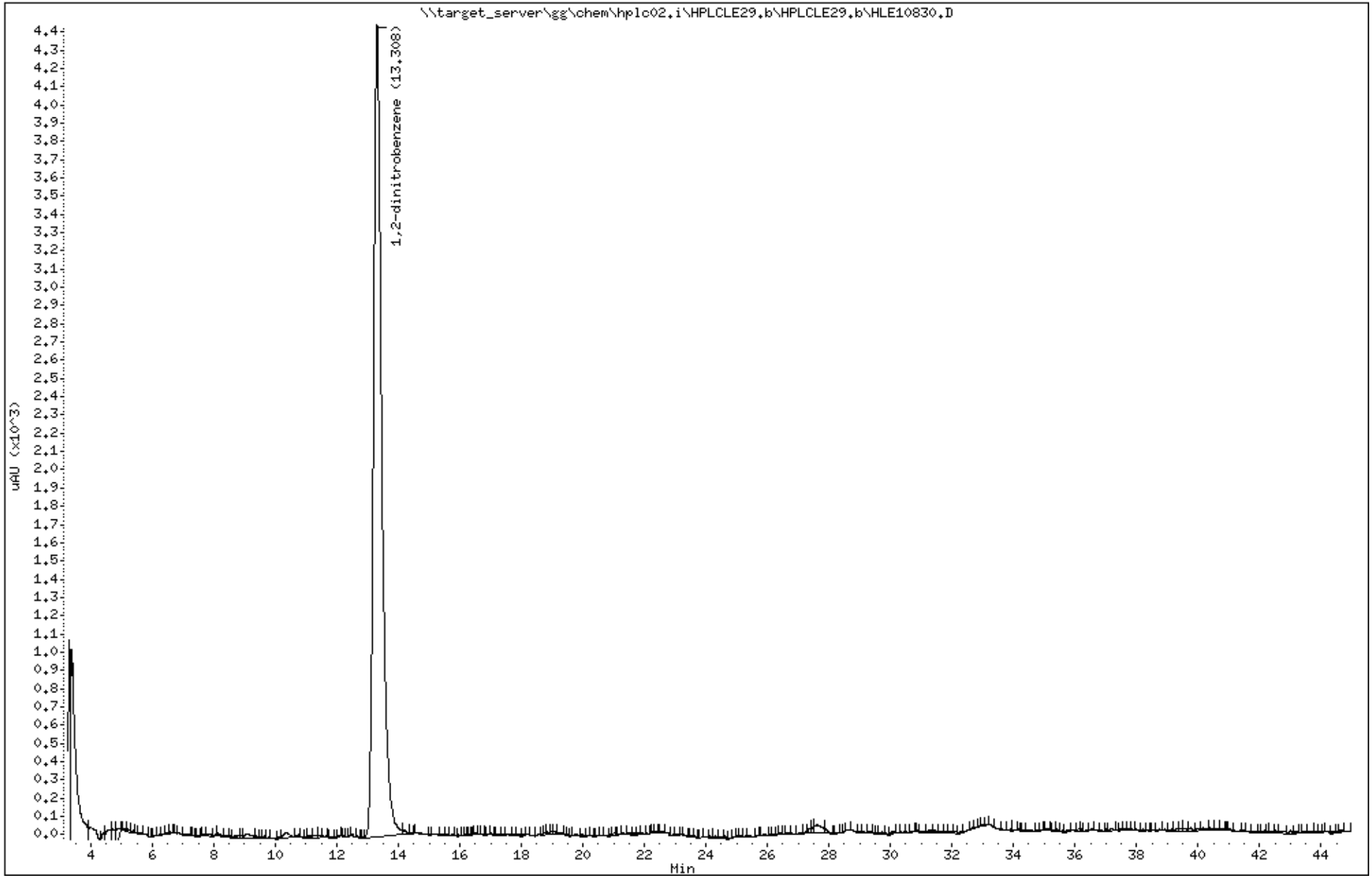
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE29.b\HPLCLE29.b\HLE10830.D
Lab Smp Id: WG228769-1C Client Smp ID: WG228769-Blank
Inj Date : 29-MAY-2018 17:54
Operator : AAB Inst ID: hplc02.i
Smp Info : WG228769-1C,SL4233
Misc Info : WG228942,WG228769,WG210620-13,SL4233-54
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE29.b\E2016A.m\E2016A.m
Meth Date : 30-May-2018 04:40 abullentin Quant Type: ESTD
Cal Date : 01-AUG-2017 14:33 Cal File: HKH10014.D
Als bottle: 94 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*(Vt/Vo) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00500	Final Volume (L)
Vo	0.50000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

					CONCENTRATIONS		
					ON-COLUMN	FINAL	
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/mL)	(ug/L)	REVIEW CODE
$ 2 1,2-dinitrobenzene	13.308	13.294	0.014	4449	0.83933	8.39	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE29.b\HPLCLE29.b\HLE10830.D
Date : 29-MAY-2018 17:54
Client ID: WG228769-Blank
Instrument: hplc02.i
Sample Info: WG228769-1C,SL4233
Purge Volume: 0.5
Operator: AAB
Column phase: Acclaim Exp E2
Column diameter: 4.60



Katahdin Analytical Services 1000512

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client:
Lab ID: WG228770-1
Client ID: Method Blank Sample
Project:
SDG: SL4233
Lab File ID: HLE10653.D

Sample Date:
Received Date:
Extract Date: 21-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228770

Analysis Date: 22-MAY-18
Analyst: AC
Analysis Method: SW846 8330B
Matrix: SL
% Solids: NA
Report Date: 31-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	50	ug/Kgdrywt	1	100	100	8.6	50.
RDX	U	50	ug/Kgdrywt	1	100	100	6.8	50.
1,3,5-Trinitrobenzene	U	50	ug/Kgdrywt	1	100	100	6.7	50.
1,3-Dinitrobenzene	U	50	ug/Kgdrywt	1	100	100	6.2	50.
Tetryl	U	50	ug/Kgdrywt	1	100	100	5.4	50.
Nitrobenzene	U	50	ug/Kgdrywt	1	100	100	22.	50.
2,4,6-Trinitrotoluene	U	50	ug/Kgdrywt	1	100	100	6.7	50.
2-Am-DNT	U	50	ug/Kgdrywt	1	100	100	21.	50.
4-Am-DNT	U	50	ug/Kgdrywt	1	100	100	17.	50.
2,6-Dinitrotoluene	U	50	ug/Kgdrywt	1	100	100	27.	50.
2,4-Dinitrotoluene	U	50	ug/Kgdrywt	1	100	100	15.	50.
2-Nitrotoluene	U	50	ug/Kgdrywt	1	100	100	12.	50.
3-Nitrotoluene	U	50	ug/Kgdrywt	1	100	100	7.9	50.
4-Nitrotoluene	U	50	ug/Kgdrywt	1	100	100	27.	50.
Nitroglycerin	U	400	ug/Kgdrywt	1	800	800	120	400
PETN	U	400	ug/Kgdrywt	1	800	800	110	400
1,2-Dinitrobenzene		95.2	%					

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10653.D
Report Date: 31-May-2018 04:43

Katahdin Analytical Services

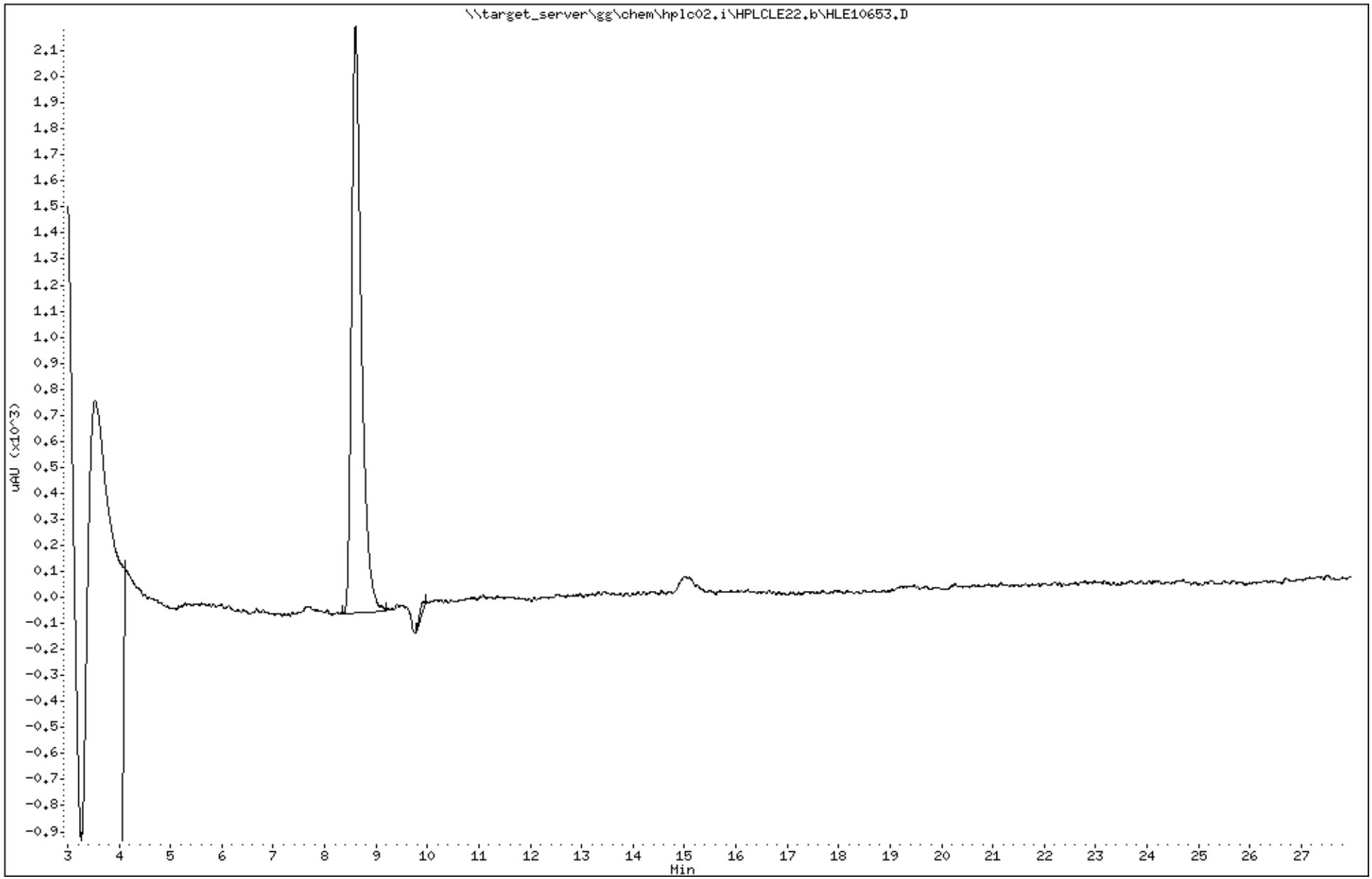
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10653.D
Lab Smp Id: WG228770-1 Client Smp ID: WG228770-Blank
Inj Date : 22-MAY-2018 23:01
Operator : AC Inst ID: hplc02.i
Smp Info : WG228770-1,SL4233
Misc Info : WG228942,WG228770,WG225143-5,SL4233-2
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\EXPB05A.m
Meth Date : 23-May-2018 13:50 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 72 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01000	Weight of Sample (Kg)
M	0.00000	% Moisture
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10653.D
Date : 22-MAY-2018 23:01
Client ID: WG228770-Blank
Instrument: hplc02.i
Sample Info: WG228770-1,SL4233
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 1000515

Data File: HLE10653.D
Report Date: 31-May-2018 04:50

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HPLCLE22.b\HLE10653.D
Lab Smp Id: WG228770-1 Client Smp ID: WG228770-Blank
Inj Date : 22-MAY-2018 23:01
Operator : AC Inst ID: hplc02.i
Smp Info : WG228770-1,SL4233
Misc Info : WG228942,WG228770,WG225143-5,SL4233-2
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\EXPB05A.m\EXPB05A.m
Meth Date : 23-May-2018 13:40 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 72 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

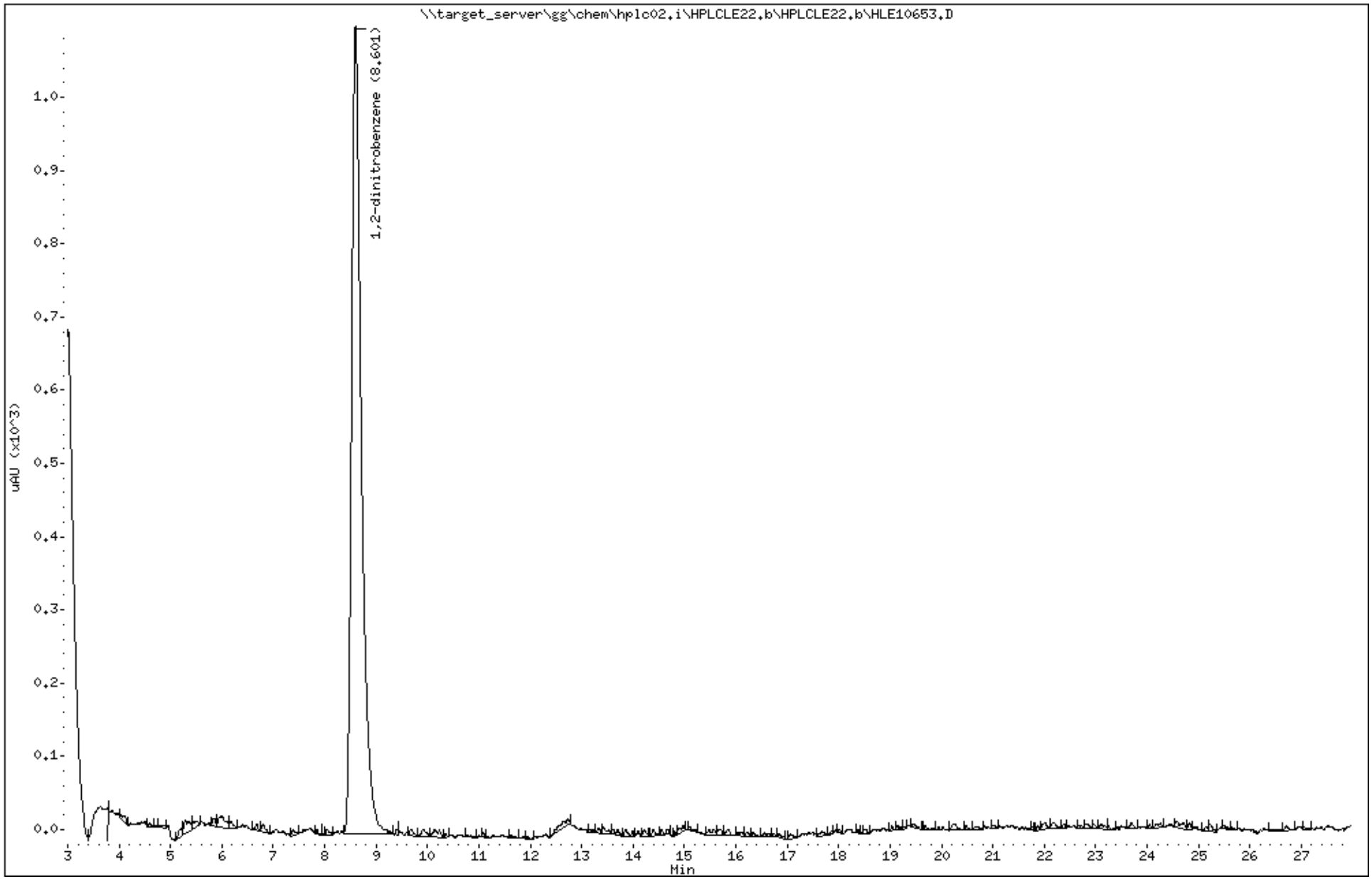
Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01000	Weight of Sample (Kg)
M	0.00000	% Moisture
Cpnd Variable		Local Compound Variable

						CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	
Compounds	RT	EXP RT	DLT RT	RESPONSE				REVIEW CODE
$ 2 1,2-dinitrobenzene	8.600	8.581	0.019	1102		0.23815	476	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HPLCLE22.b\HLE10653.D
Date : 22-MAY-2018 23:01
Client ID: WG228770-Blank
Sample Info: WG228770-1,SL4233
Column phase: Acclaim Exp E1

Instrument: hplc02.i
Operator: AC
Column diameter: 4.60



Katahdin Analytical Services 1000517

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE25.b\HLE10807.D
Report Date: 31-May-2018 05:40

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE25.b\HLE10807.D
Lab Smp Id: WG228770-1C Client Smp ID: WG228770-Blank
Inj Date : 26-MAY-2018 20:46
Operator : AC Inst ID: hplc02.i
Smp Info : WG228770-1C,SL4233
Misc Info : WG228942,WG228770,WG210620-13,SL4233-2
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE25.b\E2016A.m
Meth Date : 29-May-2018 16:33 abullentin Quant Type: ESTD
Cal Date : 01-AUG-2017 14:33 Cal File: HKH10014.D
Als bottle: 26 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: NGPETN.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01000	Weight of Sample (Kg)
M	0.00000	% Moisture
Cpnd Variable		Local Compound Variable

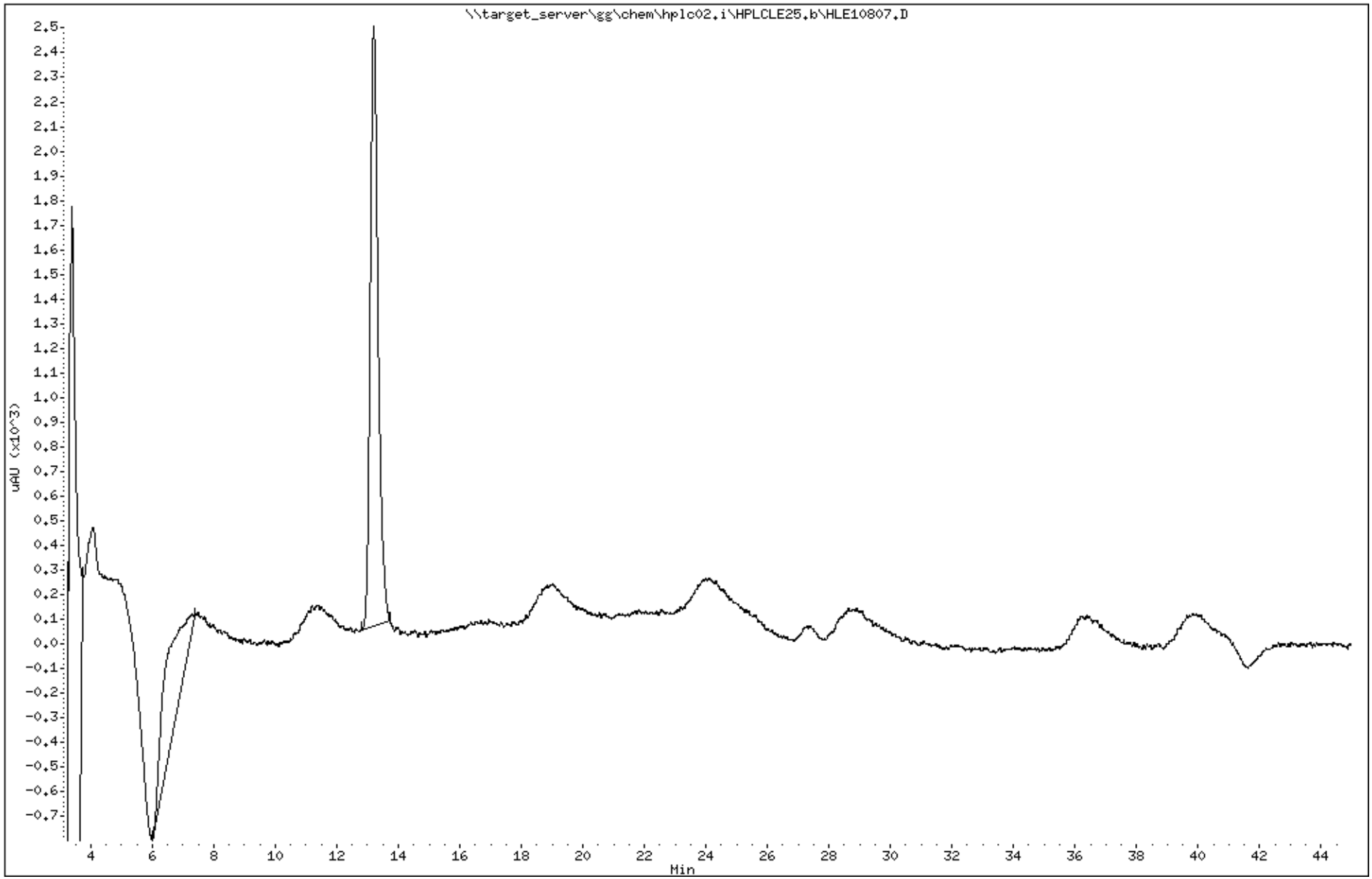
Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	REVIEW CODE

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE25.b\HLE10807.D
Date : 26-MAY-2018 20:46
Client ID: WG228770-Blank
Sample Info: WG228770-1C,SL4233

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60

Column phase: Acclaim Exp E2



Katahdin Analytical Services 1000519

Data File: HLE10807.D
Report Date: 31-May-2018 05:46

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE25.b\HPLCLE25.b\HLE10807.D
Lab Smp Id: WG228770-1C Client Smp ID: WG228770-Blank
Inj Date : 26-MAY-2018 20:46
Operator : AC Inst ID: hplc02.i
Smp Info : WG228770-1C,SL4233
Misc Info : WG228942,WG228770,WG210620-13,SL4233-2
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE25.b\E2016A.m\E2016A.m
Meth Date : 29-May-2018 16:32 abullentin Quant Type: ESTD
Cal Date : 01-AUG-2017 14:33 Cal File: HKH10014.D
Als bottle: 26 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01000	Weight of Sample (Kg)
M	0.00000	% Moisture
Cpnd Variable		Local Compound Variable

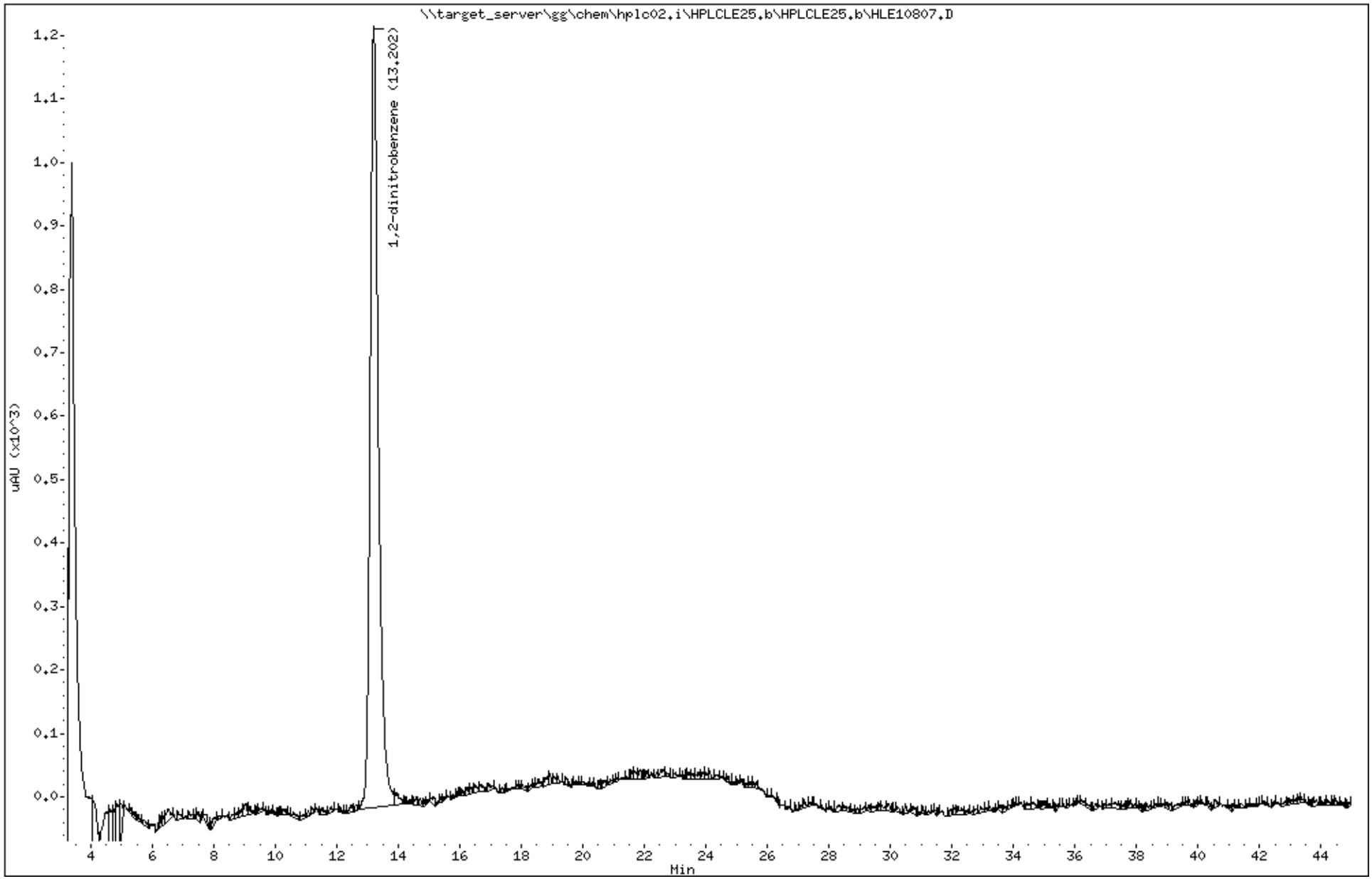
						CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	
Compounds	RT	EXP RT	DLT RT	RESPONSE				REVIEW CODE
$ 2 1,2-dinitrobenzene	13.202	13.228	-0.026	1232		0.23078	462	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE25.b\HPLCLE25.b\HLE10807.D
Date : 26-MAY-2018 20:46
Client ID: WG228770-Blank
Sample Info: WG228770-1C,SL4233

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60

Column phase: Acclaim Exp E2



Katahdin Analytical Services 1000521

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ANALYTICAL SERVICES

Report of Analytical Results

Client:
Lab ID: WG228856-1
Client ID: Method Blank Sample
Project:
SDG: SL4233
Lab File ID: HLE10680.D

Sample Date:
Received Date:
Extract Date: 22-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228856

Analysis Date: 23-MAY-18
Analyst: AC
Analysis Method: SW846 8330B
Matrix: SL
% Solids: NA
Report Date: 31-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	50	ug/Kgdrywt	1	100	100	8.6	50.
RDX	U	50	ug/Kgdrywt	1	100	100	6.8	50.
1,3,5-Trinitrobenzene	U	50	ug/Kgdrywt	1	100	100	6.7	50.
1,3-Dinitrobenzene	U	50	ug/Kgdrywt	1	100	100	6.2	50.
Tetryl	U	50	ug/Kgdrywt	1	100	100	5.4	50.
Nitrobenzene	U	50	ug/Kgdrywt	1	100	100	22.	50.
2,4,6-Trinitrotoluene	U	50	ug/Kgdrywt	1	100	100	6.7	50.
2-Am-DNT	U	50	ug/Kgdrywt	1	100	100	21.	50.
4-Am-DNT	U	50	ug/Kgdrywt	1	100	100	17.	50.
2,6-Dinitrotoluene	U	50	ug/Kgdrywt	1	100	100	27.	50.
2,4-Dinitrotoluene	U	50	ug/Kgdrywt	1	100	100	15.	50.
2-Nitrotoluene	U	50	ug/Kgdrywt	1	100	100	12.	50.
3-Nitrotoluene	U	50	ug/Kgdrywt	1	100	100	7.9	50.
4-Nitrotoluene	U	50	ug/Kgdrywt	1	100	100	27.	50.
Nitroglycerin	U	400	ug/Kgdrywt	1	800	800	120	400
PETN	U	400	ug/Kgdrywt	1	800	800	110	400
1,2-Dinitrobenzene		96.6	%					

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10680.D
Report Date: 31-May-2018 04:59

Katahdin Analytical Services

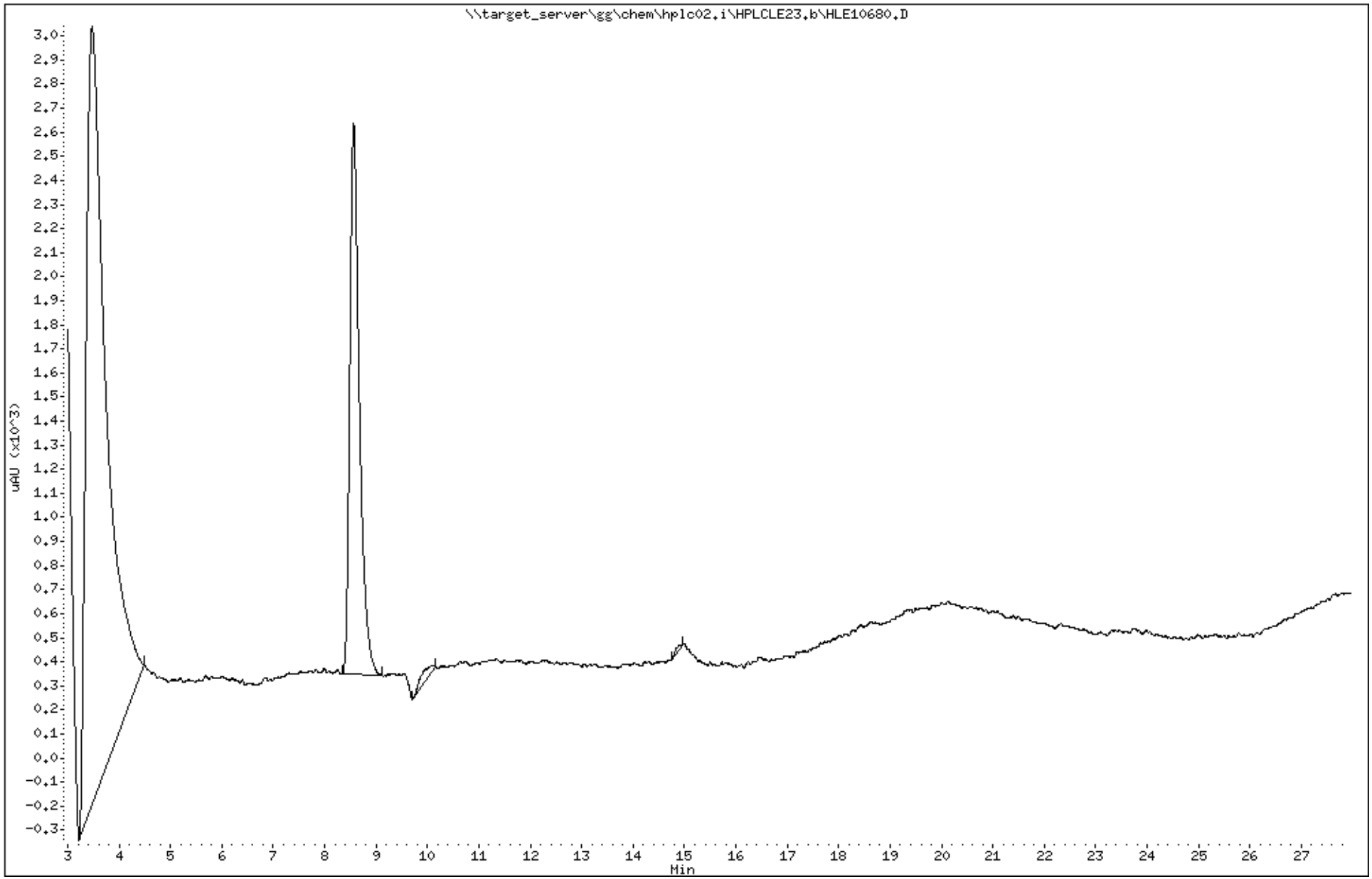
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10680.D
Lab Smp Id: WG228856-1 Client Smp ID: WG228856-Blank
Inj Date : 23-MAY-2018 14:15
Operator : AC Inst ID: hplc02.i
Smp Info : WG228856-1,SL4233
Misc Info : WG228942,WG228856,WG225143-5,SL4233-25
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\EXPB05A.m
Meth Date : 25-May-2018 03:43 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 99 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01000	Weight of Sample (Kg)
M	0.00000	% Moisture
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10680.D
Date : 23-MAY-2018 14:15
Client ID: WG228856-Blank
Instrument: hplc02.i
Sample Info: WG228856-1,SL4233
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 1000524

Data File: HLE10680.D
Report Date: 31-May-2018 05:08

Katahdin Analytical Services

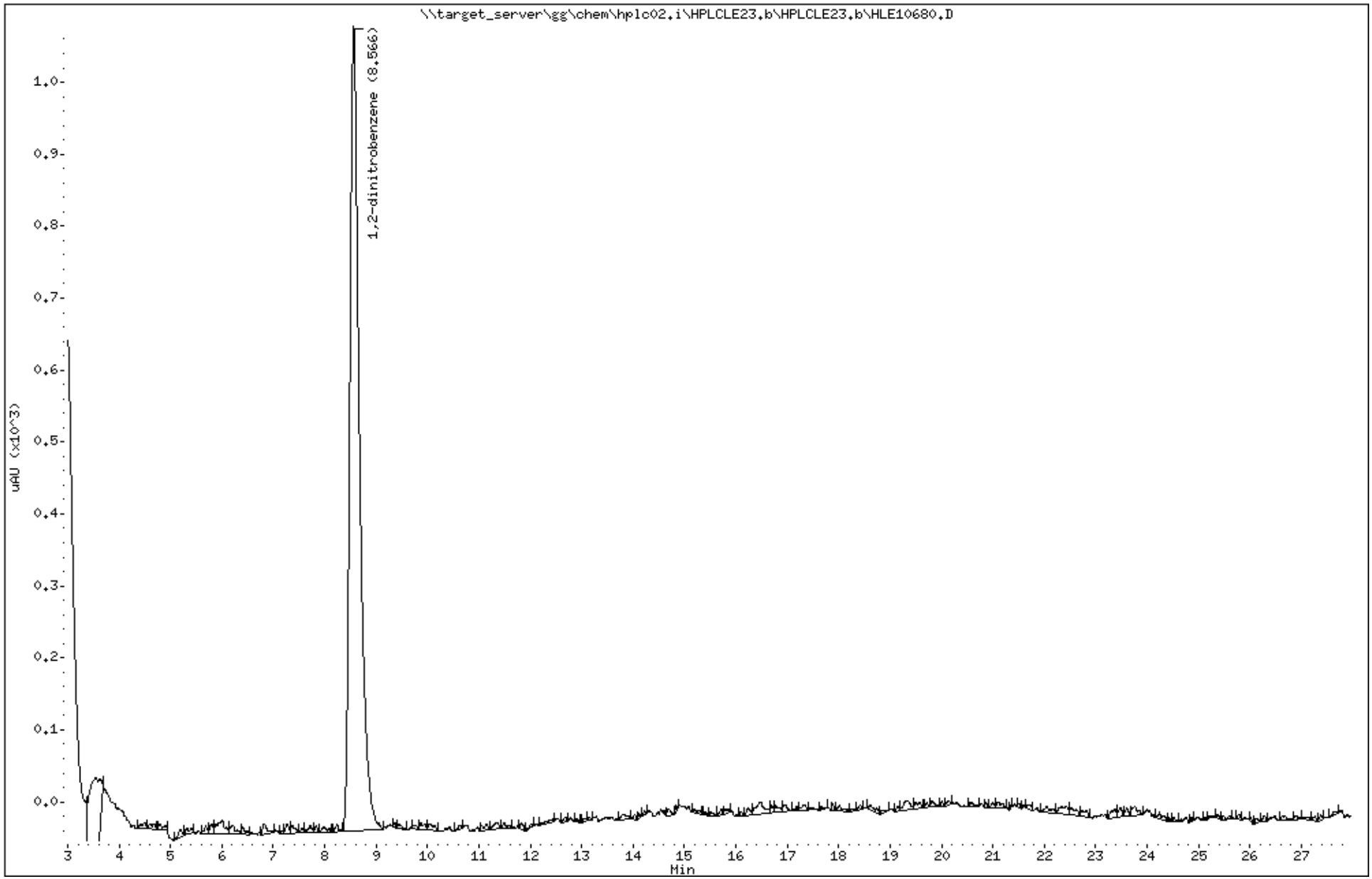
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HPLCLE23.b\HLE10680.D
Lab Smp Id: WG228856-1 Client Smp ID: WG228856-Blank
Inj Date : 23-MAY-2018 14:15
Operator : AC Inst ID: hplc02.i
Smp Info : WG228856-1,SL4233
Misc Info : WG228942,WG228856,WG225143-5,SL4233-25
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\EXPB05A.m\EXPB05A.m
Meth Date : 25-May-2018 03:41 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 99 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01000	Weight of Sample (Kg)
M	0.00000	% Moisture
Cpnd Variable		Local Compound Variable

						CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	
Compounds	RT	EXP RT	DLT RT	RESPONSE				REVIEW CODE
$ 2 1,2-dinitrobenzene	8.565	8.573	-0.008	1117		0.24139	483	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HPLCLE23.b\HLE10680.D
Date : 23-MAY-2018 14:15
Client ID: WG228856-Blank
Instrument: hplc02.i
Sample Info: WG228856-1,SL4233
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 1000526

Data File: HLE10812.D
Report Date: 31-May-2018 05:46

Katahdin Analytical Services

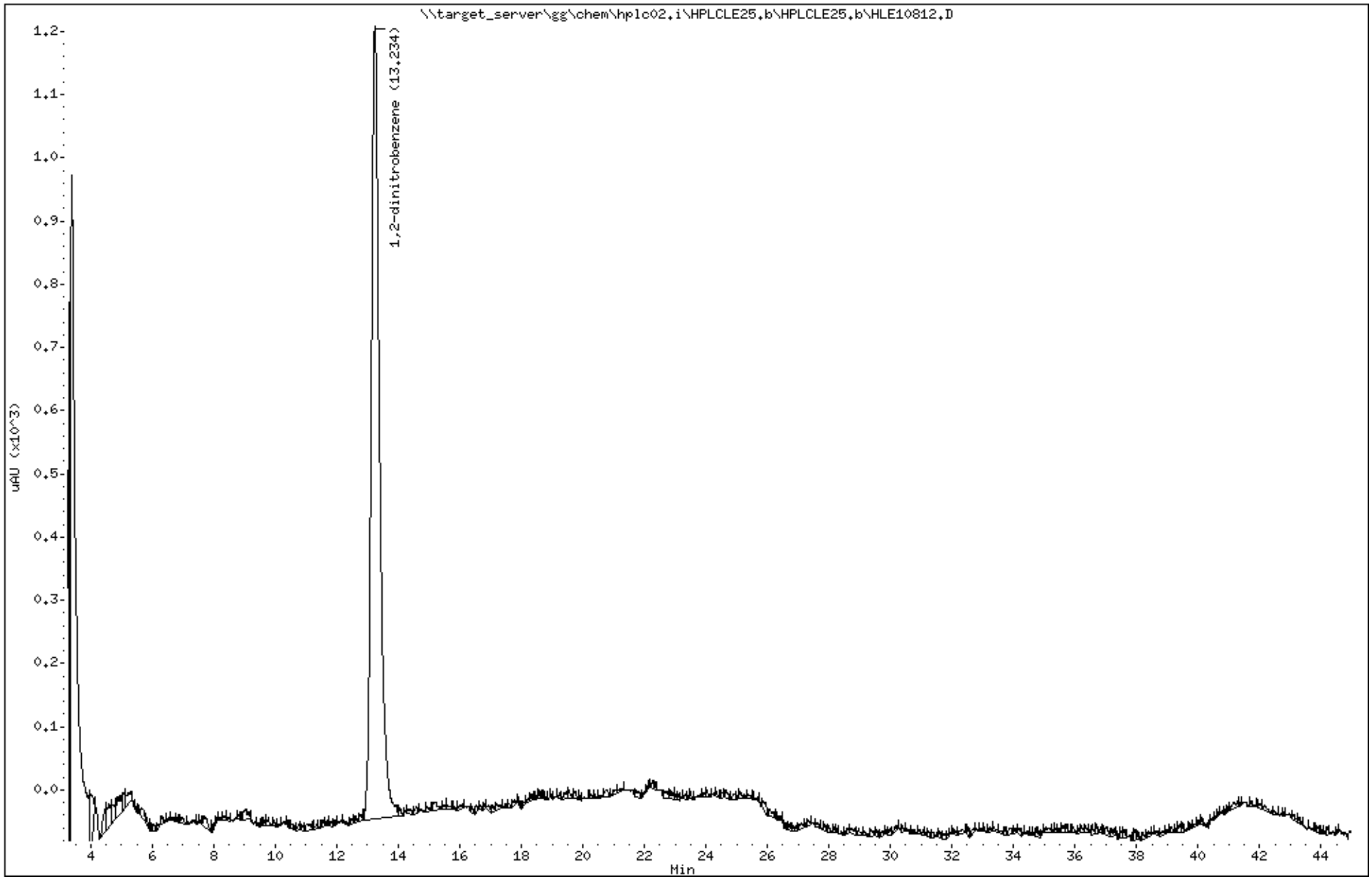
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE25.b\HPLCLE25.b\HLE10812.D
Lab Smp Id: WG228856-1C Client Smp ID: WG228856-Blank
Inj Date : 27-MAY-2018 00:52
Operator : AC Inst ID: hplc02.i
Smp Info : WG228856-1C,SL4233
Misc Info : WG228942,WG228856,WG210620-13,SL4233-25
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE25.b\E2016A.m\E2016A.m
Meth Date : 29-May-2018 16:32 abullentin Quant Type: ESTD
Cal Date : 01-AUG-2017 14:33 Cal File: HKH10014.D
Als bottle: 31 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01000	Weight of Sample (Kg)
M	0.00000	% Moisture
Cpnd Variable		Local Compound Variable

						CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	
Compounds	RT	EXP RT	DLT RT	RESPONSE				REVIEW CODE
$ 2 1,2-dinitrobenzene	13.233	13.228	0.005	1253		0.23476	470	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE25.b\HPLCLE25.b\HLE10812.D
Date : 27-MAY-2018 00:52
Client ID: WG228856-Blank
Instrument: hplc02.i
Sample Info: WG228856-1C,SL4233
Operator: AC
Column phase: Acclaim Exp E2
Column diameter: 4.60



Katahdin Analytical Services 1000528

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client:
Lab ID: WG228857-1
Client ID: Method Blank Sample
Project:
SDG: SL4233
Lab File ID: HLE10686.D

Sample Date:
Received Date:
Extract Date: 22-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228857

Analysis Date: 23-MAY-18
Analyst: AC
Analysis Method: SW846 8330B
Matrix: SL
% Solids: NA
Report Date: 31-MAY-18

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
HMX	U	50	ug/Kgdrywt	1	100	100	8.6	50.
RDX	U	50	ug/Kgdrywt	1	100	100	6.8	50.
1,3,5-Trinitrobenzene	U	50	ug/Kgdrywt	1	100	100	6.7	50.
1,3-Dinitrobenzene	U	50	ug/Kgdrywt	1	100	100	6.2	50.
Tetryl	U	50	ug/Kgdrywt	1	100	100	5.4	50.
Nitrobenzene	U	50	ug/Kgdrywt	1	100	100	22.	50.
2,4,6-Trinitrotoluene	U	50	ug/Kgdrywt	1	100	100	6.7	50.
2-Am-DNT	U	50	ug/Kgdrywt	1	100	100	21.	50.
4-Am-DNT	U	50	ug/Kgdrywt	1	100	100	17.	50.
2,6-Dinitrotoluene	U	50	ug/Kgdrywt	1	100	100	27.	50.
2,4-Dinitrotoluene	U	50	ug/Kgdrywt	1	100	100	15.	50.
2-Nitrotoluene	U	50	ug/Kgdrywt	1	100	100	12.	50.
3-Nitrotoluene	U	50	ug/Kgdrywt	1	100	100	7.9	50.
4-Nitrotoluene	U	50	ug/Kgdrywt	1	100	100	27.	50.
Nitroglycerin	U	400	ug/Kgdrywt	1	800	800	120	400
PETN	U	400	ug/Kgdrywt	1	800	800	110	400
1,2-Dinitrobenzene		96.6	%					

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10686.D
Report Date: 31-May-2018 04:59

Katahdin Analytical Services

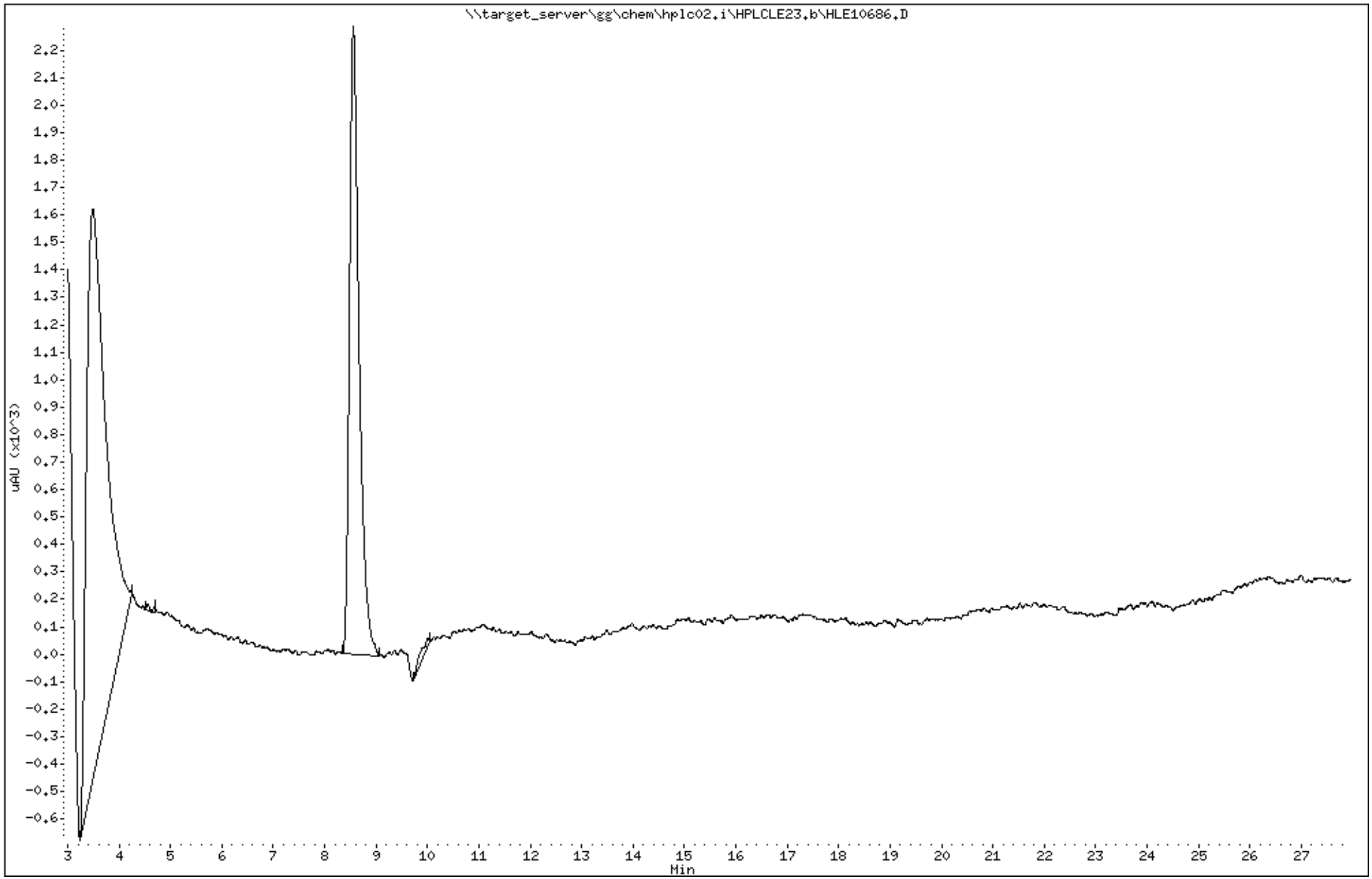
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10686.D
Lab Smp Id: WG228857-1 Client Smp ID: WG228857-Blank
Inj Date : 23-MAY-2018 17:21
Operator : AC Inst ID: hplc02.i
Smp Info : WG228857-1,SL4233
Misc Info : WG228942,WG228857,WG225143-5,SL4233-45
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\EXPB05A.m
Meth Date : 25-May-2018 03:43 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 5 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01000	Weight of Sample (Kg)
M	0.00000	% Moisture
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10686.D
Date : 23-MAY-2018 17:21
Client ID: WG228857-Blank
Instrument: hplc02.i
Sample Info: WG228857-1,SL4233
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 1000531

Data File: HLE10686.D
Report Date: 31-May-2018 05:08

Katahdin Analytical Services

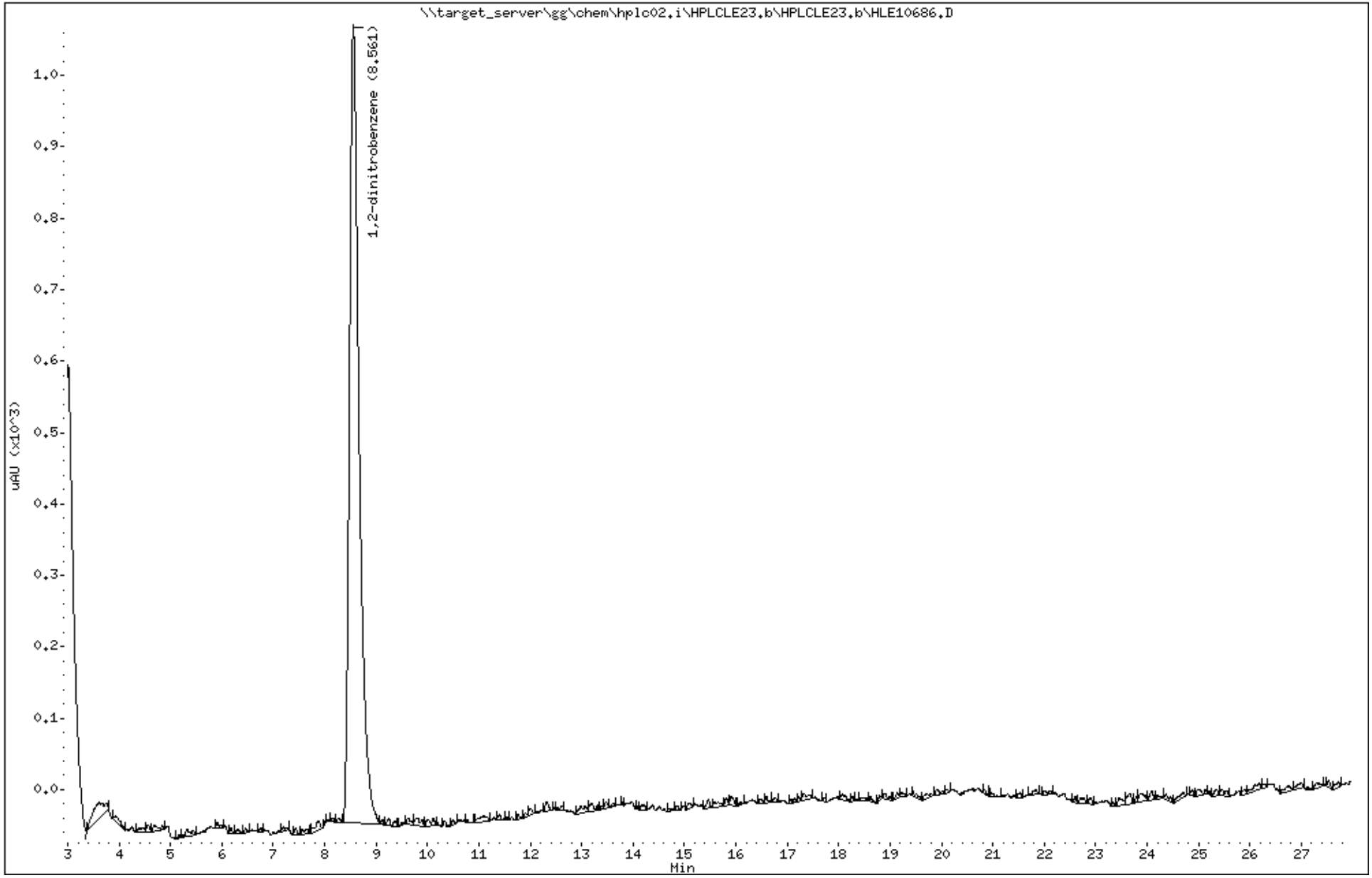
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HPLCLE23.b\HLE10686.D
Lab Smp Id: WG228857-1 Client Smp ID: WG228857-Blank
Inj Date : 23-MAY-2018 17:21
Operator : AC Inst ID: hplc02.i
Smp Info : WG228857-1,SL4233
Misc Info : WG228942,WG228857,WG225143-5,SL4233-45
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\EXPB05A.m\EXPB05A.m
Meth Date : 25-May-2018 03:41 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 5 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01000	Weight of Sample (Kg)
M	0.00000	% Moisture
Cpnd Variable		Local Compound Variable

						CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	
Compounds	RT	EXP RT	DLT RT	RESPONSE				REVIEW CODE
$ 2 1,2-dinitrobenzene	8.561	8.573	-0.012	1118		0.24160	483	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HPLCLE23.b\HLE10686.D
Date : 23-MAY-2018 17:21
Client ID: WG228857-Blank
Instrument: hplc02.i
Sample Info: WG228857-1,SL4233
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 1000533

Data File: HLE10824.D
Report Date: 31-May-2018 05:46

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE25.b\HPLCLE25.b\HLE10824.D
Lab Smp Id: WG228857-1C Client Smp ID: WG228857-Blank
Inj Date : 27-MAY-2018 10:41
Operator : AC Inst ID: hplc02.i
Smp Info : WG228857-1C,SL4233
Misc Info : WG228942,WG228857,WG210620-13,SL4233-45
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE25.b\E2016A.m\E2016A.m
Meth Date : 29-May-2018 16:32 abullentin Quant Type: ESTD
Cal Date : 01-AUG-2017 14:33 Cal File: HKH10014.D
Als bottle: 43 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01000	Weight of Sample (Kg)
M	0.00000	% Moisture
Cpnd Variable		Local Compound Variable

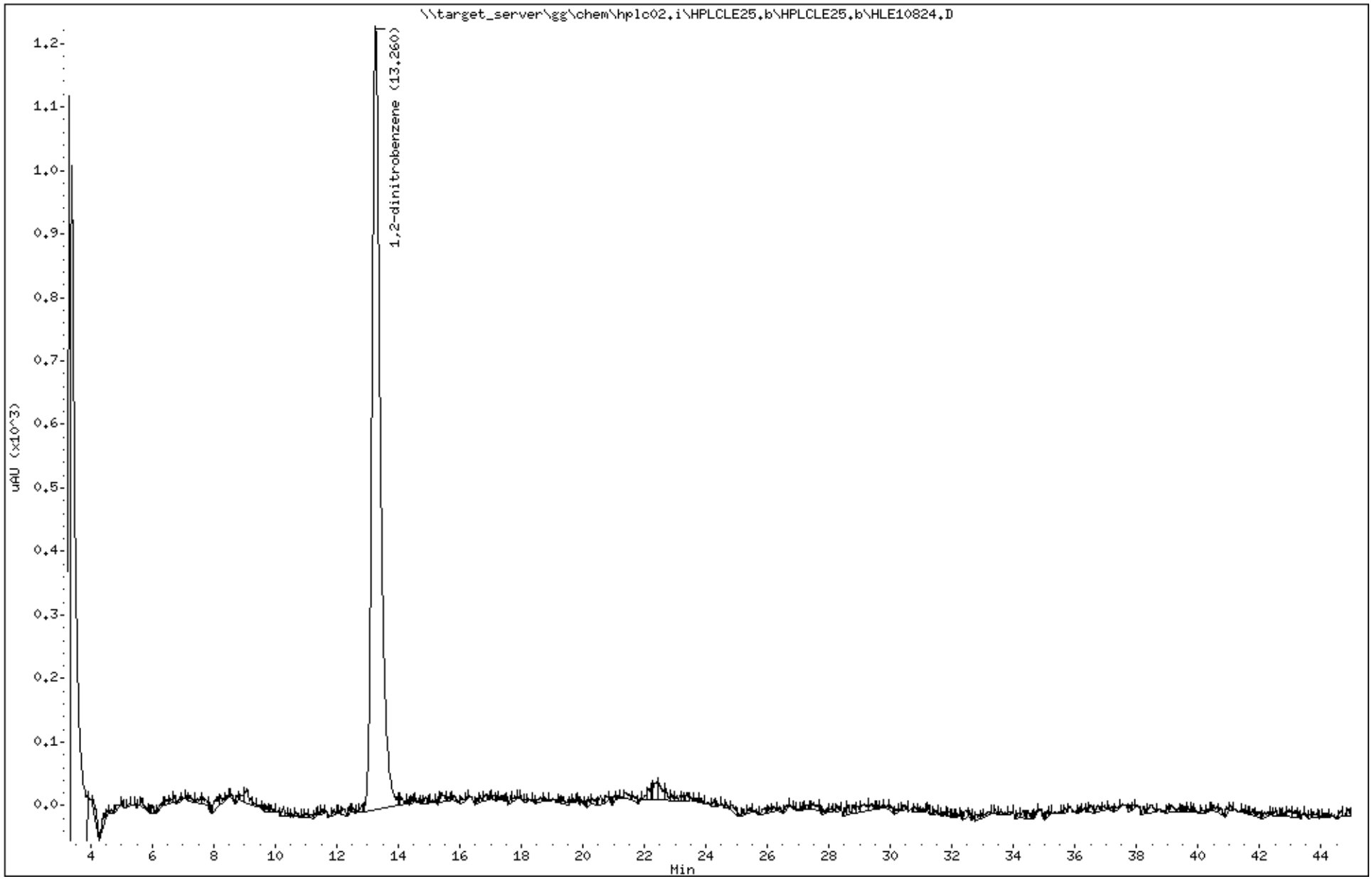
						CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	
Compounds	RT	EXP RT	DLT RT	RESPONSE				REVIEW CODE
$ 2 1,2-dinitrobenzene	13.259	13.228	0.031	1232		0.23078	462	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE25.b\HPLCLE25.b\HLE10824.D
Date : 27-MAY-2018 10:41
Client ID: WG228857-Blank
Sample Info: WG228857-1C,SL4233

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60

Column phase: Acclaim Exp E2



Katahdin Analytical Services 1000535

Katahdin
ANALYTICAL SERVICES

LCS Recovery Report

Client:
Lab ID: WG228769-2
Client ID: LCS
Project:
SDG: SL4233
LCS File ID: HLE10629.D

Sample Date:
Received Date:
Extract Date: 21-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330
Lab Prep Batch: WG228769

Analysis Date: 22-MAY-18
Analyst: AC
Analysis Method: SW846 8330B
Matrix: AQ
% Solids: NA
Report Date: 31-MAY-18

Compound	Recovery (%)	Conc Added	Conc Recovered	Conc Units	Limits
HMX	97.6	5.00	4.88	ug/L	65-135
RDX	98.2	5.00	4.91	ug/L	68-130
1,3,5-Trinitrobenzene	99.0	5.00	4.95	ug/L	73-125
1,3-Dinitrobenzene	99.2	5.00	4.96	ug/L	78-120
Tetryl	113.	5.00	5.65	ug/L	64-128
Nitrobenzene	97.8	5.00	4.89	ug/L	65-134
2,4,6-Trinitrotoluene	101.	5.00	5.04	ug/L	71-123
4-Am-DNT	103.	5.00	5.17	ug/L	76-125
2-Am-DNT	99.2	5.00	4.96	ug/L	79-120
2,6-Dinitrotoluene	95.8	5.00	4.79	ug/L	77-127
2,4-Dinitrotoluene	101.	5.00	5.04	ug/L	78-120
2-Nitrotoluene	101.	5.00	5.07	ug/L	70-127
4-Nitrotoluene	103.	5.00	5.16	ug/L	71-127
3-Nitrotoluene	98.4	5.00	4.92	ug/L	73-125
Nitroglycerin	90.5	20.0	18.1	ug/L	74-127
PETN	99.0	20.0	19.8	ug/L	73-127
1,2-Dinitrobenzene	89.6				83-120

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10629.D
Report Date: 31-May-2018 04:36

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10629.D
Lab Smp Id: WG228769-2 Client Smp ID: WG228769-LCS
Inj Date : 22-MAY-2018 10:38
Operator : AC Inst ID: hplc02.i
Smp Info : WG228769-2,SL4233
Misc Info : WG228942,WG228769,WG225143-5,SL4233-54
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\EXPB05A.m
Meth Date : 23-May-2018 13:50 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 48 QC Sample: LCS
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*(Vt/Vo) * CpndVariable

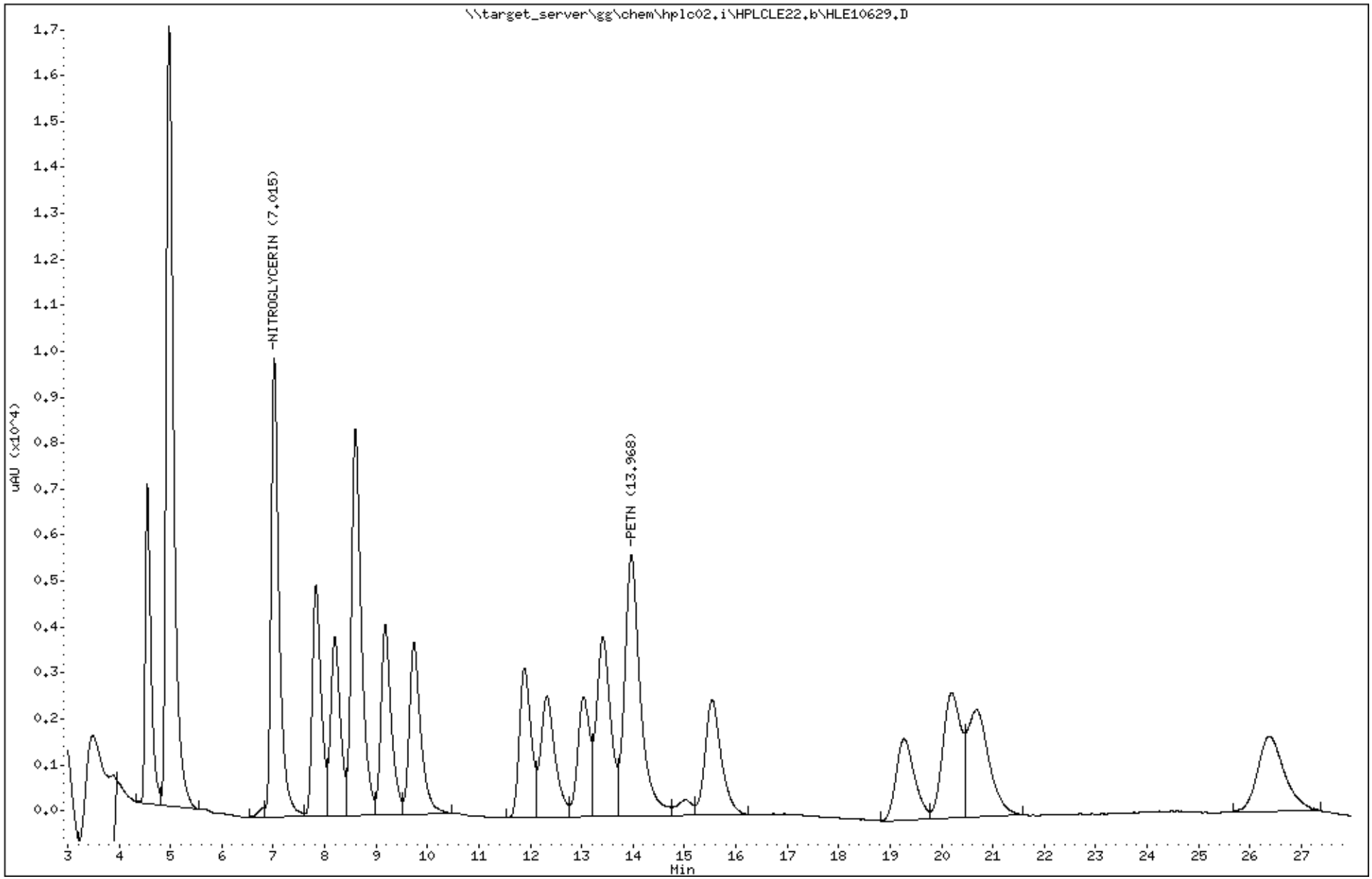
Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00500	Final Volume (L)
Vo	0.50000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

					CONCENTRATIONS	
					ON-COLUMN	FINAL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/mL)	(ug/L)
8 NITROGLYCERIN	7.015	7.001	0.014	9990	1.81202	18.1
18 PETN	13.968	13.954	0.014	5692	1.97925	19.8(R)

QC Flag Legend

R - Spike/Surrogate failed recovery limits.

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10629.D
Date : 22-MAY-2018 10:38
Client ID: WG228769-LCS
Instrument: hplc02.i
Sample Info: WG228769-2,SL4233
Purge Volume: 0.5
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 1000538

Data File: HLE10629.D
Report Date: 31-May-2018 04:39

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HPLCLE22.b\HLE10629.D
Lab Smp Id: WG228769-2 Client Smp ID: WG228769-LCS
Inj Date : 22-MAY-2018 10:38
Operator : AC Inst ID: hplc02.i
Smp Info : WG228769-2,SL4233
Misc Info : WG228942,WG228769,WG225143-5,SL4233-54
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\EXPB05A.m\EXPB05A.m
Meth Date : 23-May-2018 13:40 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 48 QC Sample: LCS
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*(Vt/Vo) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00500	Final Volume (L)
Vo	0.50000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

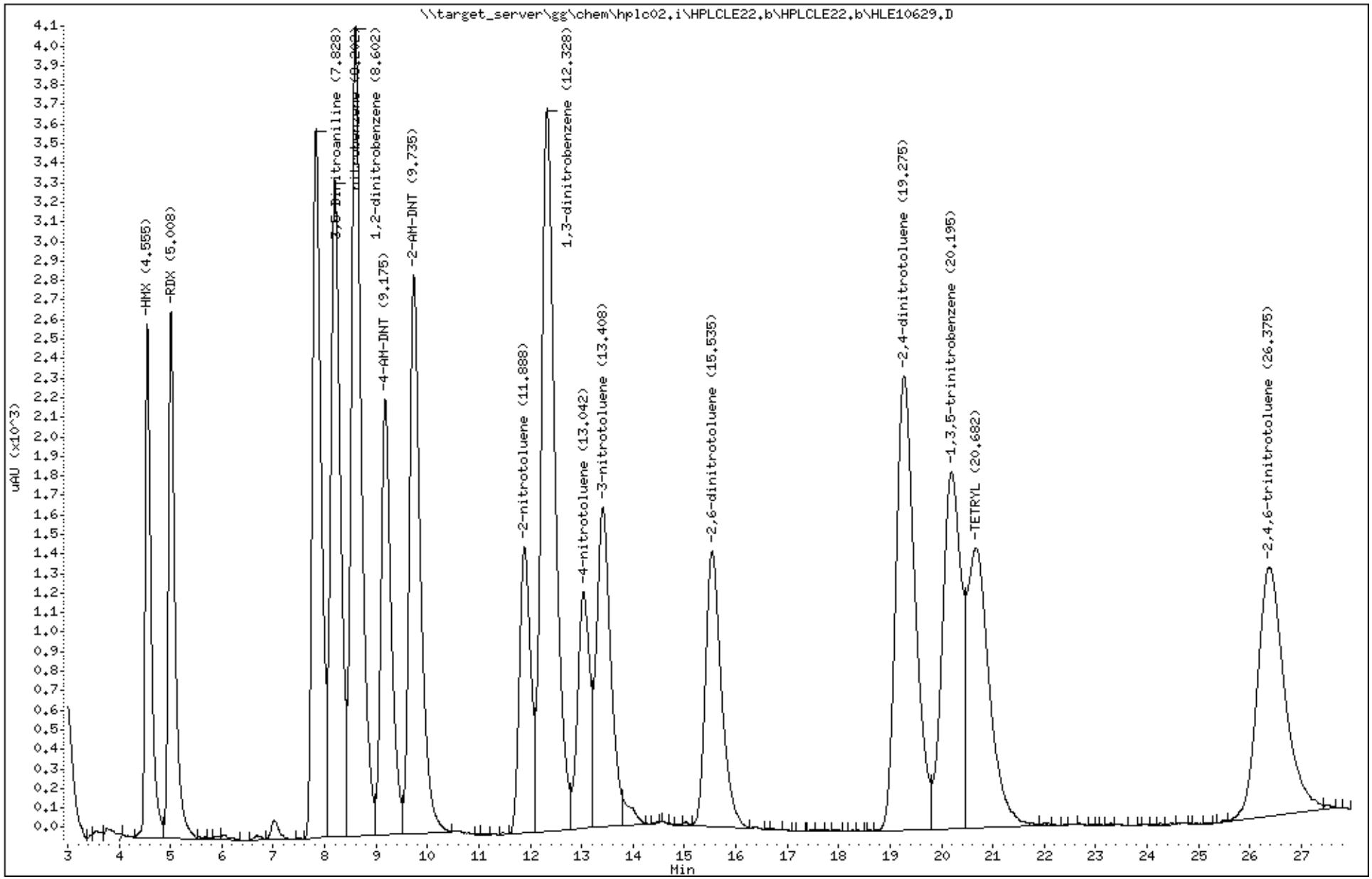
	Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/L)	REVIEW CODE
1	HMX	4.555	4.547	0.008	2632	0.48825	4.88	
4	RDX	5.008	4.994	0.014	2693	0.49094	4.91	
51	3,5-Dinitroaniline	7.828	7.807	0.021	3634	0.43697	4.37	
7	nitrobenzene	8.201	8.181	0.020	3360	0.48932	4.89	
$ 2	1,2-dinitrobenzene	8.601	8.581	0.020	4145	0.89575	8.96	
11	4-AM-DNT	9.175	9.154	0.021	2226	0.51735	5.17	
12	2-AM-DNT	9.735	9.714	0.021	2856	0.49577	4.96	
15	2-nitrotoluene	11.888	11.867	0.021	1464	0.50665	5.07	
6	1,3-dinitrobenzene	12.328	12.307	0.021	3696	0.49653	4.96	
16	4-nitrotoluene	13.041	13.021	0.020	1208	0.51570	5.16	
17	3-nitrotoluene	13.408	13.394	0.014	1636	0.49193	4.92(M)	M3
13	2,6-dinitrotoluene	15.535	15.527	0.008	1410	0.47877	4.79	
14	2,4-dinitrotoluene	19.275	19.281	-0.006	2328	0.50406	5.04	
5	1,3,5-trinitrobenzene	20.195	20.207	-0.012	1825	0.49473	4.95	
9	TETRYL	20.681	20.694	-0.013	1432	0.56499	5.65	
10	2,4,6-trinitrotoluene	26.375	26.407	-0.032	1274	0.50428	5.04	

AAB
7:13 am, May 31, 2018

QC Flag Legend

M - Compound response manually integrated.

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HPLCLE22.b\HLE10629.D
Date : 22-MAY-2018 10:38
Client ID: WG228769-LCS
Instrument: hplc02.i
Sample Info: WG228769-2,SL4233
Purge Volume: 0.5
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 1000540

Katahdin
ANALYTICAL SERVICES

LCS Recovery Report

Client:
Lab ID: WG228770-2
Client ID: LCS
Project:
SDG: SL4233
LCS File ID: HLE10654.D

Sample Date:
Received Date:
Extract Date: 21-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228770

Analysis Date: 22-MAY-18
Analyst: AC
Analysis Method: SW846 8330B
Matrix: SL
% Solids: NA
Report Date: 31-MAY-18

Compound	Recovery (%)	Conc Added	Conc Recovered	Conc Units	Limits
HMX	106.	1000	1060	ug/Kgdrywt	74-125
RDX	104.	1000	1040	ug/Kgdrywt	67-129
1,3,5-Trinitrobenzene	110.	1000	1100	ug/Kgdrywt	80-125
1,3-Dinitrobenzene	109.	1000	1090	ug/Kgdrywt	73-125
Tetryl	127.	1000	1270	ug/Kgdrywt	68-135
Nitrobenzene	105.	1000	1050	ug/Kgdrywt	67-129
2,4,6-Trinitrotoluene	112.	1000	1120	ug/Kgdrywt	71-125
2-Am-DNT	110.	1000	1100	ug/Kgdrywt	71-125
4-Am-DNT	114.	1000	1140	ug/Kgdrywt	64-127
2,6-Dinitrotoluene	106.	1000	1060	ug/Kgdrywt	79-125
2,4-Dinitrotoluene	111.	1000	1110	ug/Kgdrywt	75-125
2-Nitrotoluene	112.	1000	1120	ug/Kgdrywt	70-125
3-Nitrotoluene	109.	1000	1090	ug/Kgdrywt	67-129
4-Nitrotoluene	112.	1000	1120	ug/Kgdrywt	71-125
Nitroglycerin	89.8	1000	898.	ug/Kgdrywt	73-125
PETN	117.	1000	1170	ug/Kgdrywt	72-128
1,2-Dinitrobenzene	106.				78-125

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10654.D
Report Date: 31-May-2018 04:43

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10654.D
Lab Smp Id: WG228770-2 Client Smp ID: WG228770-LCS
Inj Date : 22-MAY-2018 23:32
Operator : AC Inst ID: hplc02.i
Smp Info : WG228770-2,SL4233
Misc Info : WG228942,WG228770,WG225143-5,SL4233-2
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\EXPB05A.m
Meth Date : 23-May-2018 13:50 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 73 QC Sample: LCS
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01000	Weight of Sample (Kg)
M	0.00000	% Moisture
Cpnd Variable		Local Compound Variable

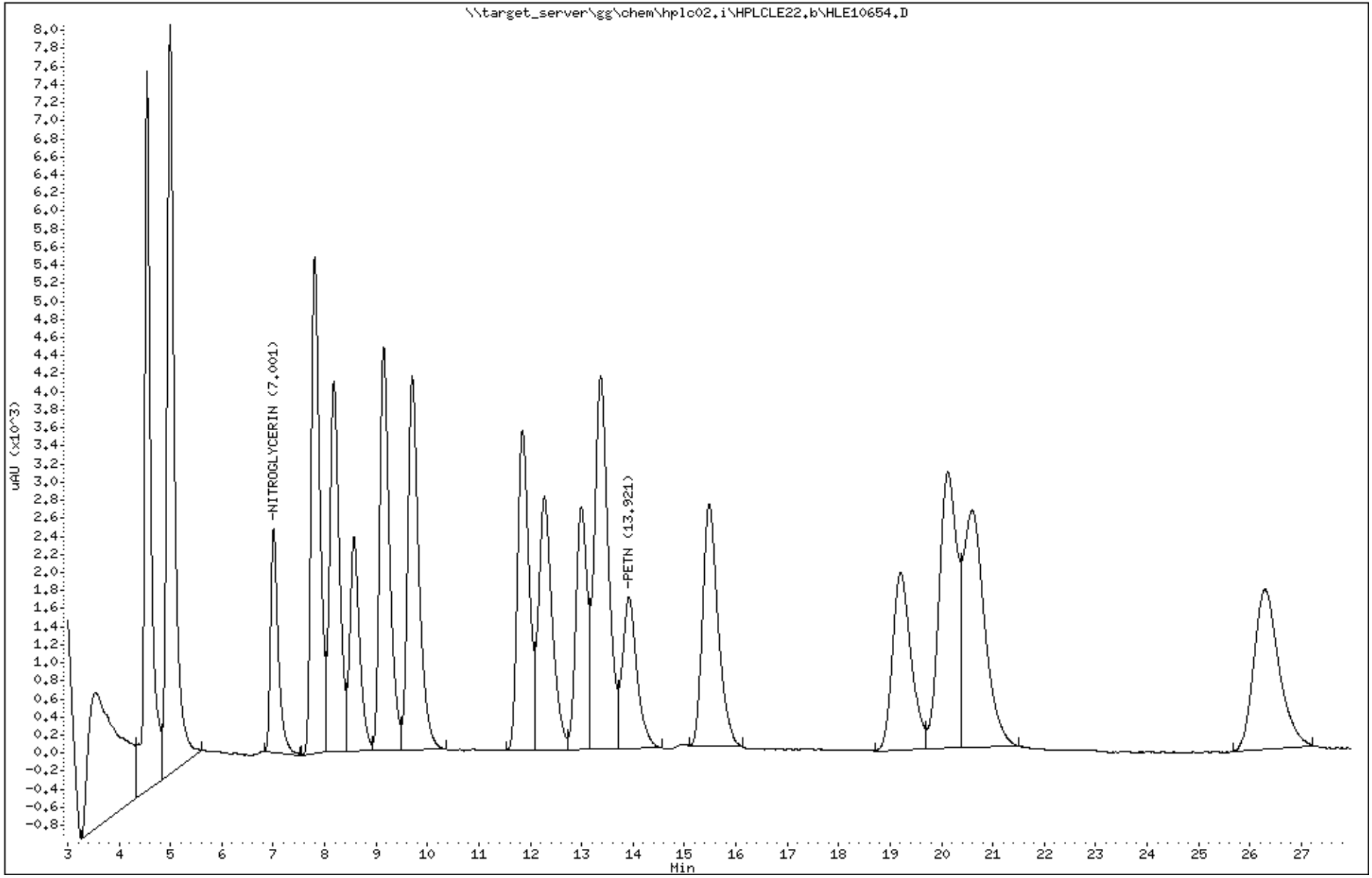
					CONCENTRATIONS	
					ON-COLUMN	FINAL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/mL)	(ug/Kgdrywt)
8 NITROGLYCERIN	7.001	7.001	0.000	2475	0.44892	898
18 PETN	13.921	13.954	-0.033	1679	0.58383	1170

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10654.D
Date : 22-MAY-2018 23:32
Client ID: WG228770-LCS
Sample Info: WG228770-2,SL4233

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 1000543

Data File: HLE10654.D
Report Date: 31-May-2018 04:50

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HPLCLE22.b\HLE10654.D
Lab Smp Id: WG228770-2 Client Smp ID: WG228770-LCS
Inj Date : 22-MAY-2018 23:32
Operator : AC Inst ID: hplc02.i
Smp Info : WG228770-2,SL4233
Misc Info : WG228942,WG228770,WG225143-5,SL4233-2
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\EXPB05A.m\EXPB05A.m
Meth Date : 23-May-2018 13:40 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 73 QC Sample: LCS
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01000	Weight of Sample (Kg)
M	0.00000	% Moisture
Cpnd Variable		Local Compound Variable

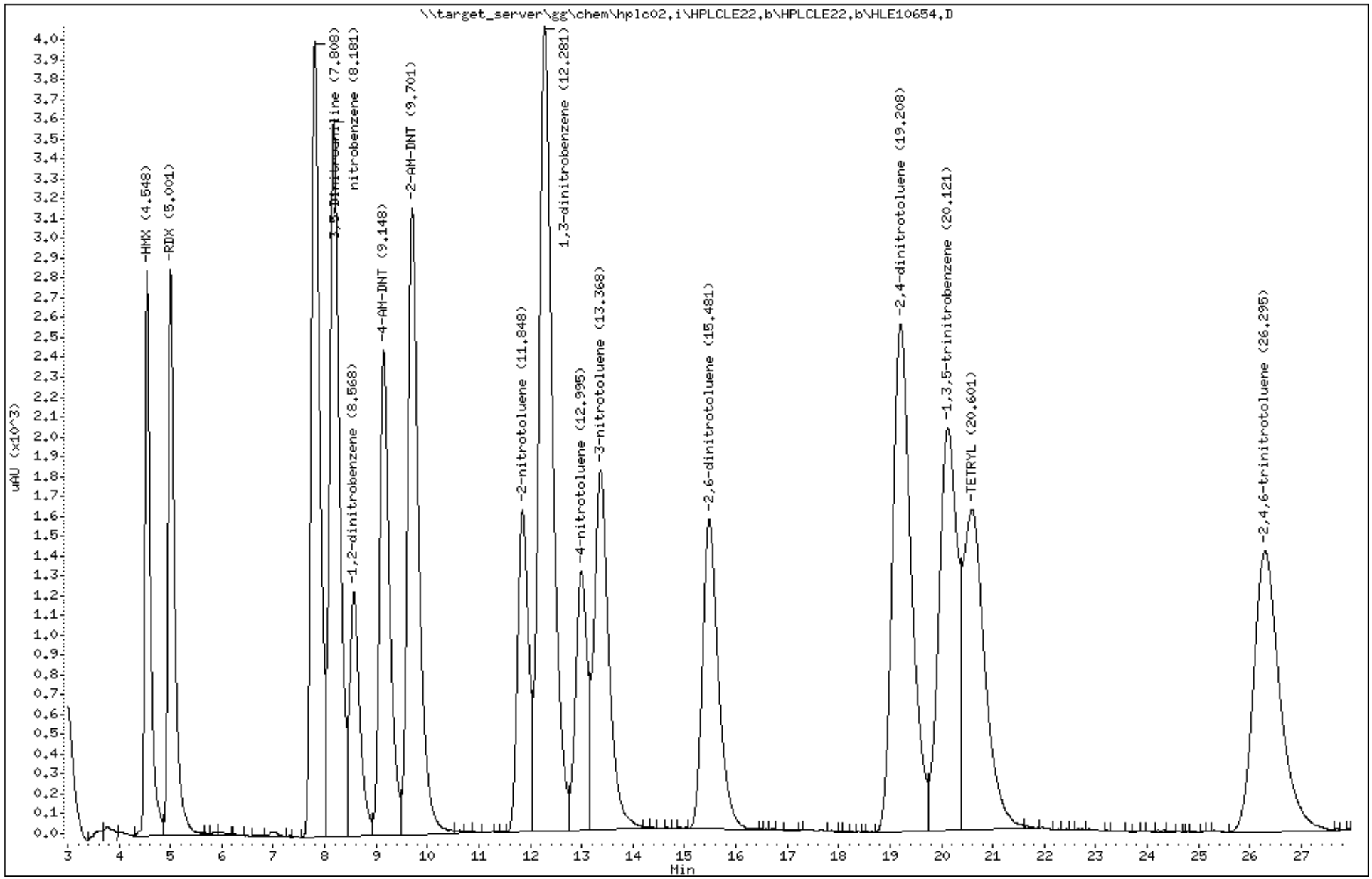
	Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	REVIEW CODE
1	HMX	4.547	4.547	0.000	2847	0.52814	1060	
4	RDX	5.001	4.994	0.007	2855	0.52012	1040	
51	3,5-Dinitroaniline	7.807	7.807	0.000	4012	0.48243	965	
7	nitrobenzene	8.181	8.181	0.000	3613	0.52617	1050	
$ 2	1,2-dinitrobenzene	8.567	8.581	-0.014	1229	0.26559	531	
11	4-AM-DNT	9.147	9.154	-0.007	2447	0.56871	1140	
12	2-AM-DNT	9.701	9.714	-0.013	3156	0.54785	1100	
15	2-nitrotoluene	11.847	11.867	-0.020	1621	0.56098	1120	
6	1,3-dinitrobenzene	12.281	12.307	-0.026	4057	0.54502	1090	
16	4-nitrotoluene	12.994	13.021	-0.027	1307	0.55797	1120	
17	3-nitrotoluene	13.367	13.394	-0.027	1813	0.54516	1090	
13	2,6-dinitrotoluene	15.481	15.527	-0.046	1561	0.53141	1060	
14	2,4-dinitrotoluene	19.207	19.281	-0.074	2561	0.55451	1110	
5	1,3,5-trinitrobenzene	20.121	20.207	-0.086	2027	0.54949	1100	
9	TETRYL	20.601	20.694	-0.093	1612	0.63600	1270	
10	2,4,6-trinitrotoluene	26.294	26.407	-0.113	1418	0.56128	1120	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HPLCLE22.b\HLE10654.D
Date : 22-MAY-2018 23:32
Client ID: WG228770-LCS
Sample Info: WG228770-2,SL4233

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 1000545

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ANALYTICAL SERVICES

LCS Recovery Report

Client:
Lab ID: WG228856-2
Client ID: LCS
Project:
SDG: SL4233
LCS File ID: HLE10681.D

Sample Date:
Received Date:
Extract Date: 22-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228856

Analysis Date: 23-MAY-18
Analyst: AC
Analysis Method: SW846 8330B
Matrix: SL
% Solids: NA
Report Date: 31-MAY-18

Compound	Recovery (%)	Conc Added	Conc Recovered	Conc Units	Limits
HMX	104.	1000	1040	ug/Kgdrywt	74-125
RDX	102.	1000	1020	ug/Kgdrywt	67-129
1,3,5-Trinitrobenzene	108.	1000	1080	ug/Kgdrywt	80-125
1,3-Dinitrobenzene	107.	1000	1070	ug/Kgdrywt	73-125
Tetryl	124.	1000	1240	ug/Kgdrywt	68-135
Nitrobenzene	104.	1000	1040	ug/Kgdrywt	67-129
2,4,6-Trinitrotoluene	110.	1000	1100	ug/Kgdrywt	71-125
2-Am-DNT	108.	1000	1080	ug/Kgdrywt	71-125
4-Am-DNT	112.	1000	1120	ug/Kgdrywt	64-127
2,6-Dinitrotoluene	104.	1000	1040	ug/Kgdrywt	79-125
2,4-Dinitrotoluene	109.	1000	1090	ug/Kgdrywt	75-125
2-Nitrotoluene	110.	1000	1100	ug/Kgdrywt	70-125
3-Nitrotoluene	108.	1000	1080	ug/Kgdrywt	67-129
4-Nitrotoluene	111.	1000	1110	ug/Kgdrywt	71-125
Nitroglycerin	88.6	1000	886.	ug/Kgdrywt	73-125
PETN	92.8	1000	928.	ug/Kgdrywt	72-128
1,2-Dinitrobenzene	105.				78-125

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10681.D
Report Date: 31-May-2018 04:59

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Data file : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10681.D
Lab Smp Id: WG228856-2 Client Smp ID: WG228856-LCS
Inj Date : 23-MAY-2018 14:46
Operator : AC Inst ID: hplc02.i
Smp Info : WG228856-2,SL4233
Misc Info : WG228942,WG228856,WG225143-5,SL4233-25
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\EXPB05A.m
Meth Date : 25-May-2018 03:43 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 100 QC Sample: LCS
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01000	Weight of Sample (Kg)
M	0.00000	% Moisture
Cpnd Variable		Local Compound Variable

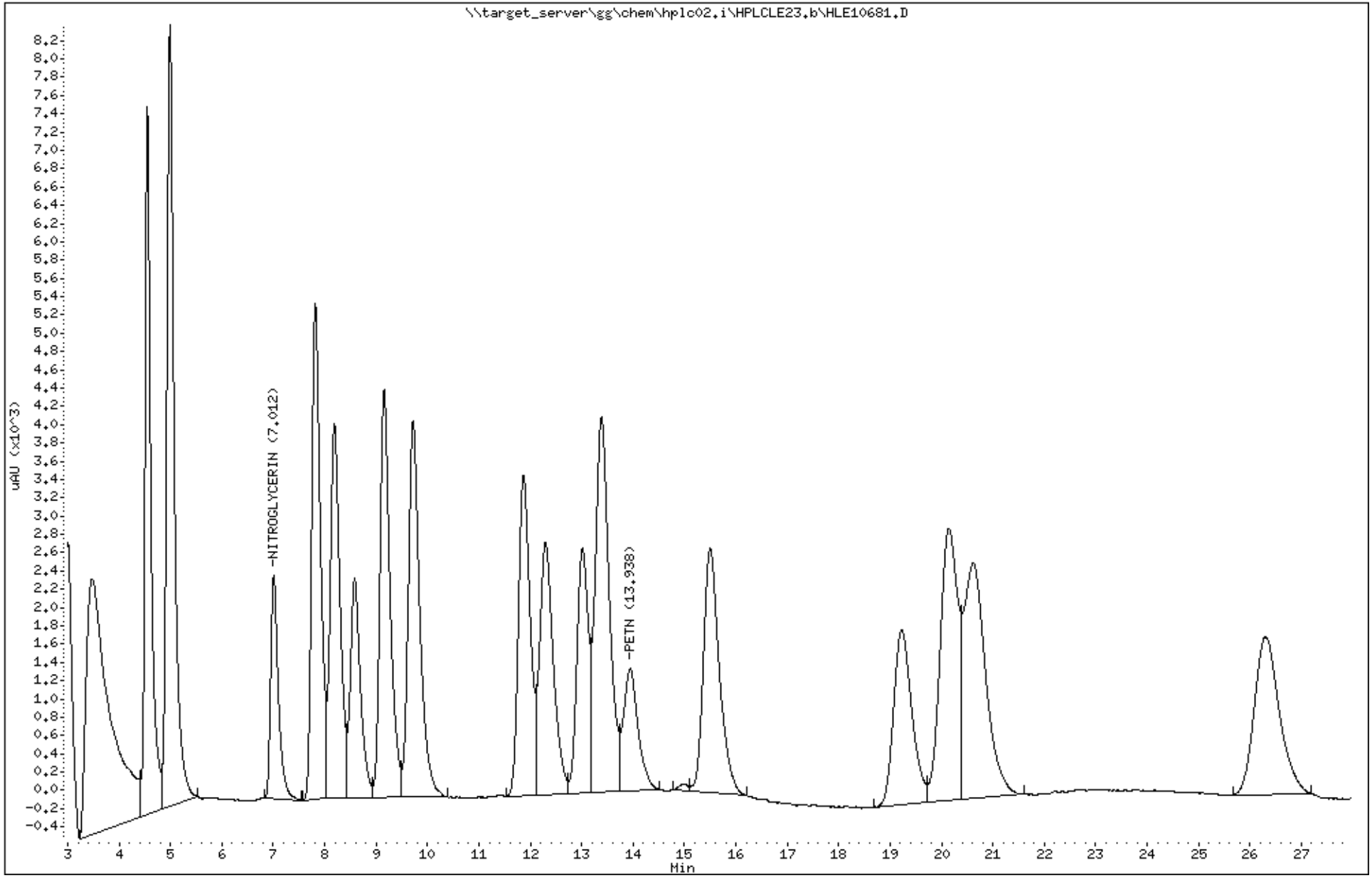
					CONCENTRATIONS	
					ON-COLUMN	FINAL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/mL)	(ug/Kgdrywt)
8 NITROGLYCERIN	7.011	7.007	0.004	2441	0.44276	886
18 PETN	13.938	13.940	-0.002	1335	0.46421	928

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10681.D
Date : 23-MAY-2018 14:46
Client ID: WG228856-LCS
Sample Info: WG228856-2,SL4233

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 1000548

Data File: HLE10681.D
Report Date: 31-May-2018 05:08

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HPLCLE23.b\HLE10681.D
Lab Smp Id: WG228856-2 Client Smp ID: WG228856-LCS
Inj Date : 23-MAY-2018 14:46
Operator : AC Inst ID: hplc02.i
Smp Info : WG228856-2,SL4233
Misc Info : WG228942,WG228856,WG225143-5,SL4233-25
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\EXPB05A.m\EXPB05A.m
Meth Date : 25-May-2018 03:41 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 100 QC Sample: LCS
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01000	Weight of Sample (Kg)
M	0.00000	% Moisture
Cpnd Variable		Local Compound Variable

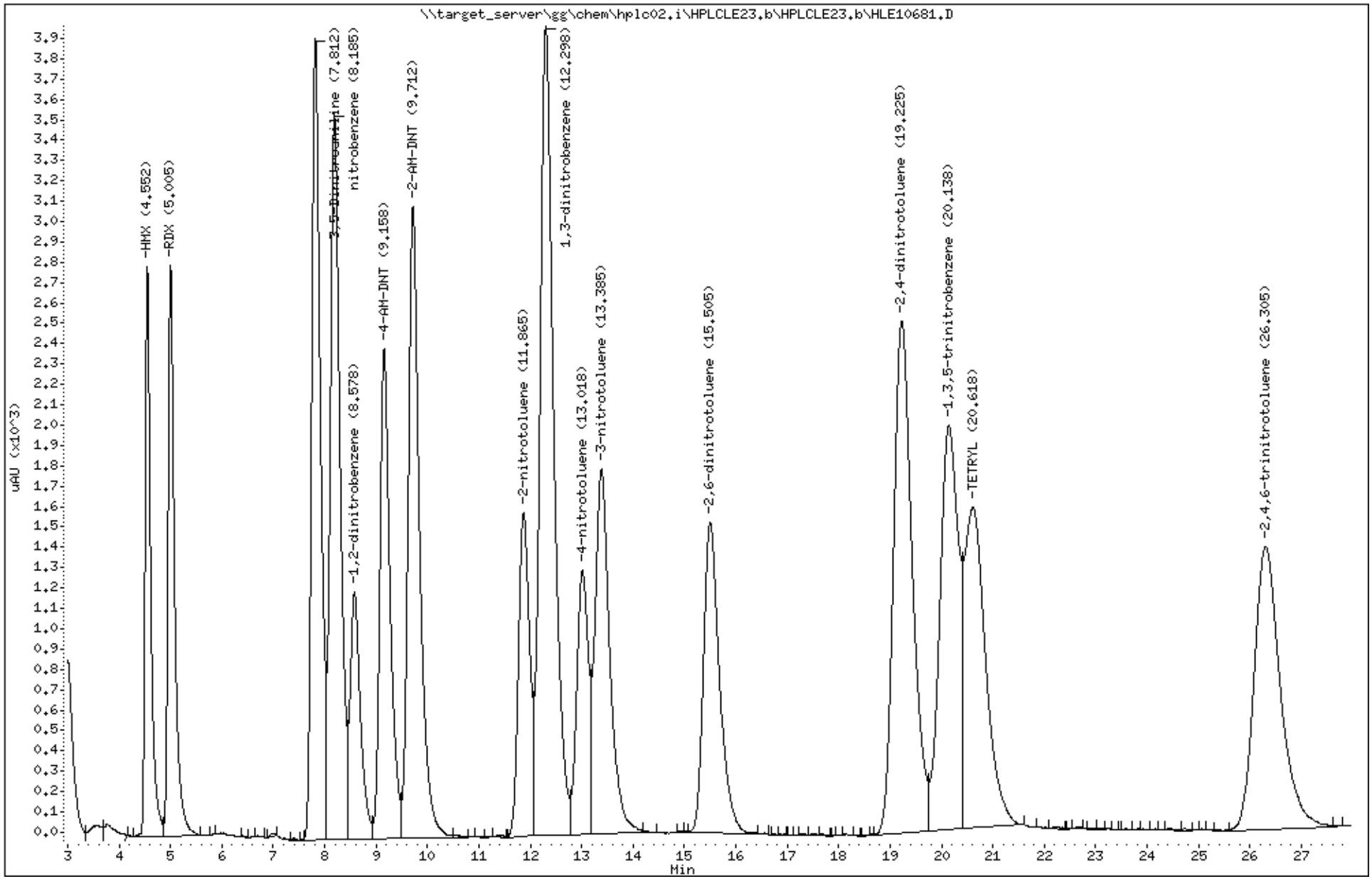
	Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	REVIEW CODE
1	HMX	4.551	4.547	0.004	2800	0.51942	1040	
4	RDX	5.005	5.000	0.005	2805	0.51111	1020	
51	3,5-Dinitroaniline	7.811	7.807	0.004	3939	0.47365	947	
7	nitrobenzene	8.185	8.180	0.005	3564	0.51903	1040	
$ 2	1,2-dinitrobenzene	8.578	8.573	0.005	1215	0.26256	525	
11	4-AM-DNT	9.158	9.153	0.005	2404	0.55872	1120	
12	2-AM-DNT	9.711	9.707	0.004	3106	0.53917	1080	
15	2-nitrotoluene	11.865	11.860	0.005	1588	0.54956	1100	
6	1,3-dinitrobenzene	12.298	12.293	0.005	3974	0.53387	1070	
16	4-nitrotoluene	13.018	13.007	0.011	1296	0.55327	1110	
17	3-nitrotoluene	13.385	13.380	0.005	1790	0.53824	1080	
13	2,6-dinitrotoluene	15.505	15.493	0.012	1525	0.51886	1040	
14	2,4-dinitrotoluene	19.225	19.213	0.012	2515	0.54455	1090	
5	1,3,5-trinitrobenzene	20.138	20.140	-0.002	1984	0.53784	1080	
9	TETRYL	20.618	20.593	0.025	1579	0.62299	1240	
10	2,4,6-trinitrotoluene	26.305	26.293	0.012	1388	0.54941	1100	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HPLCLE23.b\HLE10681.D
Date : 23-MAY-2018 14:46
Client ID: WG228856-LCS
Sample Info: WG228856-2,SL4233

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 1000550

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ANALYTICAL SERVICES

LCS Recovery Report

Client:
Lab ID: WG228857-2
Client ID: LCS
Project:
SDG: SL4233
LCS File ID: HLE10687.D

Sample Date:
Received Date:
Extract Date: 22-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228857

Analysis Date: 23-MAY-18
Analyst: AC
Analysis Method: SW846 8330B
Matrix: SL
% Solids: NA
Report Date: 31-MAY-18

Compound	Recovery (%)	Conc Added	Conc Recovered	Conc Units	Limits
HMX	103.	1000	1030	ug/Kgdrywt	74-125
RDX	102.	1000	1020	ug/Kgdrywt	67-129
1,3,5-Trinitrobenzene	106.	1000	1060	ug/Kgdrywt	80-125
1,3-Dinitrobenzene	106.	1000	1060	ug/Kgdrywt	73-125
Tetryl	122.	1000	1220	ug/Kgdrywt	68-135
Nitrobenzene	104.	1000	1040	ug/Kgdrywt	67-129
2,4,6-Trinitrotoluene	108.	1000	1080	ug/Kgdrywt	71-125
2-Am-DNT	107.	1000	1070	ug/Kgdrywt	71-125
4-Am-DNT	111.	1000	1110	ug/Kgdrywt	64-127
2,6-Dinitrotoluene	104.	1000	1040	ug/Kgdrywt	79-125
2,4-Dinitrotoluene	108.	1000	1080	ug/Kgdrywt	75-125
2-Nitrotoluene	110.	1000	1100	ug/Kgdrywt	70-125
3-Nitrotoluene	107.	1000	1070	ug/Kgdrywt	67-129
4-Nitrotoluene	110.	1000	1100	ug/Kgdrywt	71-125
Nitroglycerin	84.7	1000	847.	ug/Kgdrywt	73-125
PETN	96.3	1000	963.	ug/Kgdrywt	72-128
1,2-Dinitrobenzene	97.8				78-125

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10687.D
Report Date: 31-May-2018 04:59

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10687.D
Lab Smp Id: WG228857-2 Client Smp ID: WG228857-LCS
Inj Date : 23-MAY-2018 17:52
Operator : AC Inst ID: hplc02.i
Smp Info : WG228857-2,SL4233
Misc Info : WG228942,WG228857,WG225143-5,SL4233-45
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\EXPB05A.m
Meth Date : 25-May-2018 03:43 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 6 QC Sample: LCS
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01000	Weight of Sample (Kg)
M	0.00000	% Moisture
Cpnd Variable		Local Compound Variable

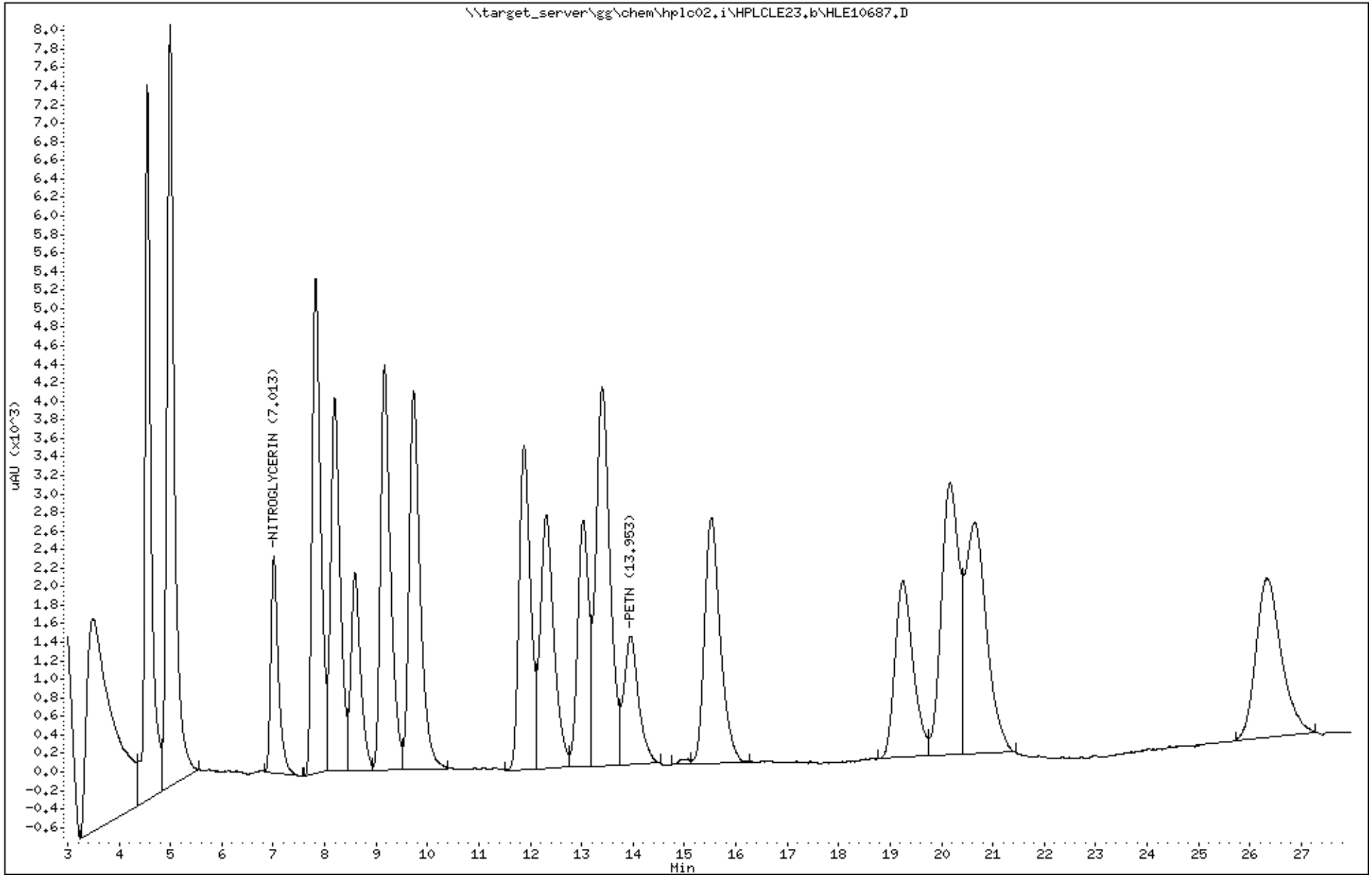
					CONCENTRATIONS	
					ON-COLUMN	FINAL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/mL)	(ug/Kgdrywt)
8 NITROGLYCERIN	7.013	7.007	0.006	2334	0.42335	847
18 PETN	13.953	13.940	0.013	1385	0.48160	963

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10687.D
Date : 23-MAY-2018 17:52
Client ID: WG228857-LCS
Sample Info: WG228857-2,SL4233

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 1000553

Data File: HLE10687.D
Report Date: 31-May-2018 05:08

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HPLCLE23.b\HLE10687.D
Lab Smp Id: WG228857-2 Client Smp ID: WG228857-LCS
Inj Date : 23-MAY-2018 17:52
Operator : AC Inst ID: hplc02.i
Smp Info : WG228857-2,SL4233
Misc Info : WG228942,WG228857,WG225143-5,SL4233-45
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\EXPB05A.m\EXPB05A.m
Meth Date : 25-May-2018 03:41 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 6 QC Sample: LCS
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01000	Weight of Sample (Kg)
M	0.00000	% Moisture
Cpnd Variable		Local Compound Variable

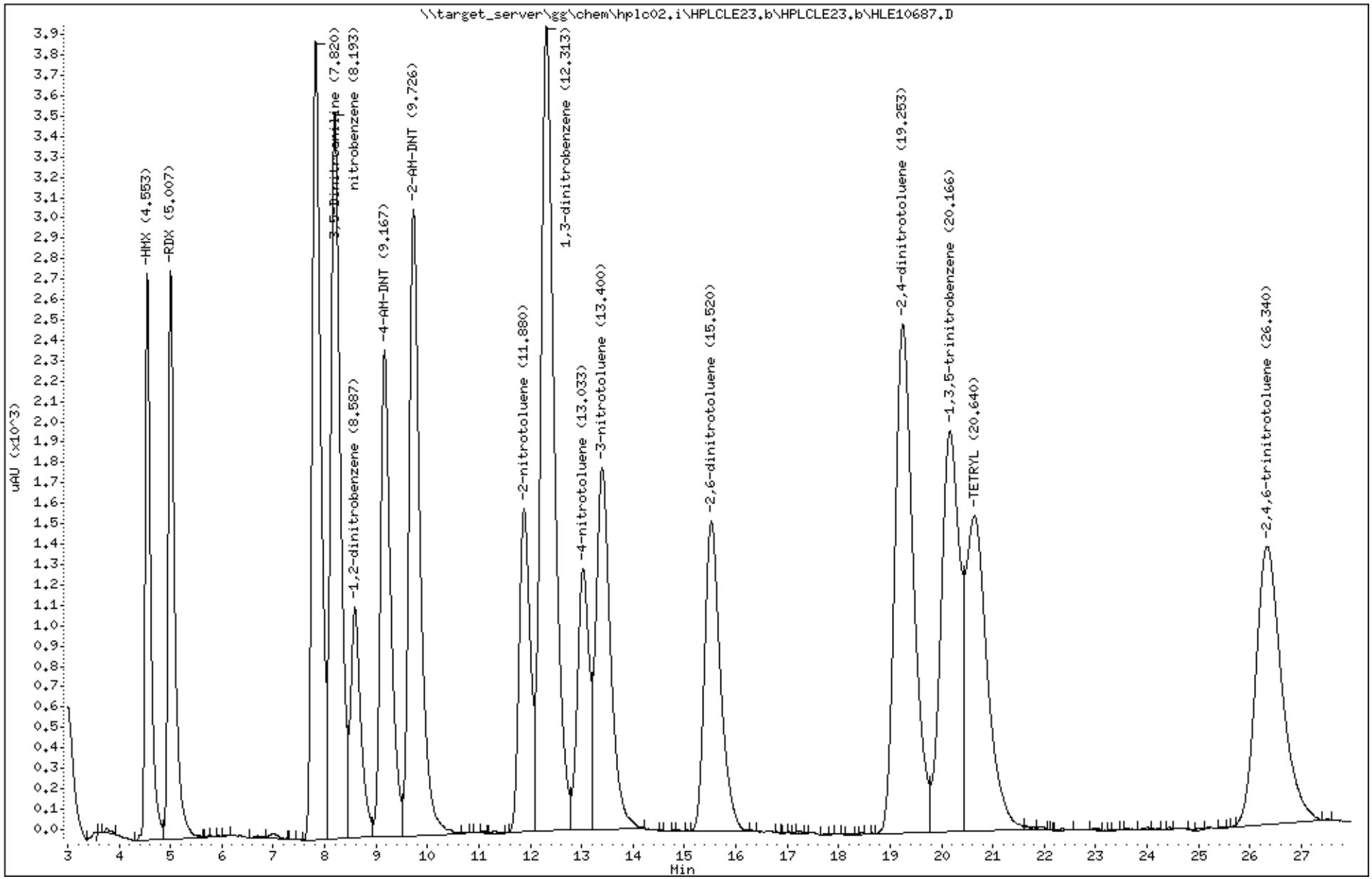
	Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	REVIEW CODE
1	HMX	4.553	4.547	0.006	2776	0.51497	1030	
4	RDX	5.006	5.000	0.006	2788	0.50805	1020	
51	3,5-Dinitroaniline	7.819	7.807	0.012	3916	0.47088	942	
7	nitrobenzene	8.193	8.180	0.013	3567	0.51947	1040	
$ 2	1,2-dinitrobenzene	8.586	8.573	0.013	1131	0.24441	489	
11	4-AM-DNT	9.166	9.153	0.013	2390	0.55546	1110	
12	2-AM-DNT	9.726	9.707	0.019	3075	0.53379	1070	
15	2-nitrotoluene	11.879	11.860	0.019	1586	0.54887	1100	
6	1,3-dinitrobenzene	12.313	12.293	0.020	3948	0.53038	1060	
16	4-nitrotoluene	13.033	13.007	0.026	1283	0.54772	1100	
17	3-nitrotoluene	13.399	13.380	0.019	1775	0.53373	1070	
13	2,6-dinitrotoluene	15.519	15.493	0.026	1522	0.51782	1040	
14	2,4-dinitrotoluene	19.253	19.213	0.040	2493	0.53979	1080	
5	1,3,5-trinitrobenzene	20.166	20.140	0.026	1963	0.53214	1060	
9	TETRYL	20.639	20.593	0.046	1545	0.60957	1220	
10	2,4,6-trinitrotoluene	26.339	26.293	0.046	1365	0.54030	1080	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HPLCLE23.b\HLE10687.D
Date : 23-MAY-2018 17:52
Client ID: WG228857-LCS
Sample Info: WG228857-2,SL4233

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 1000555

Katahdin
ANALYTICAL SERVICES

MS/MSD Recovery Report

MS ID: WG228770-3
MSD ID: WG228770-4
Sample ID: SL4233-15
Client ID: CHAAP-21B-BB-SB06
Project:
SDG: SL4233
MS File ID: HLE10655.D

Received Date:
Extract Date: 21-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228770
Report Date: 31-MAY-18
MSD File ID: HLE10656.D

Analysis Date: 23-MAY-18
Analyst: AC
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 73.

Compound	MS Spike	MSD Spike	Conc Units	Samp Conc	MS Conc	MSD Conc	MS Rec (%)	MSD Rec (%)	RPD (%)	RPD Limit	Limits
HMX	1300	1360	ug/Kgdrywt	U56	1300	1400	101.	106.	9	20	74-125
RDX	1300	1360	ug/Kgdrywt	U56	1200	1400	96.3	101.	9	20	67-129
1,3,5-Trinitrobenzene	1300	1360	ug/Kgdrywt	U56	1400	1500	106.	112.	10	20	80-125
1,3-Dinitrobenzene	1300	1360	ug/Kgdrywt	U56	1400	1500	106.	111.	10	20	73-125
Tetryl	1300	1360	ug/Kgdrywt	U56	1600	1700	122.	128.	10	20	68-135
Nitrobenzene	1300	1360	ug/Kgdrywt	U56	1300	1500	103.	107.	8	20	67-129
2,4,6-Trinitrotoluene	1300	1360	ug/Kgdrywt	U56	1400	1600	108.	114.	10	20	71-125
2-Am-DNT	1300	1360	ug/Kgdrywt	U56	1400	1500	106.	111.	9	20	71-125
4-Am-DNT	1300	1360	ug/Kgdrywt	U56	1400	1600	111.	116.	9	20	64-127
2,6-Dinitrotoluene	1300	1360	ug/Kgdrywt	U56	1300	1500	103.	108.	9	20	79-125
2,4-Dinitrotoluene	1300	1360	ug/Kgdrywt	U56	1400	1500	107.	112.	10	20	75-125
2-Nitrotoluene	1300	1360	ug/Kgdrywt	U56	1400	1600	109.	114.	9	20	70-125
3-Nitrotoluene	1300	1360	ug/Kgdrywt	U56	1400	1500	105.	110.	10	20	67-129
4-Nitrotoluene	1300	1360	ug/Kgdrywt	U56	1400	1500	108.	113.	10	20	71-125
Nitroglycerin	1300	1360	ug/Kgdrywt	U450	1200	1300	89.4	95.5	11	20	73-125
PETN	1300	1360	ug/Kgdrywt	U450	1300	1500	98.6	111.	16	20	72-128
1,2-Dinitrobenzene							102.	107.			78-125

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10655.D
Report Date: 31-May-2018 04:43

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10655.D
Lab Smp Id: WG228770-3 Client Smp ID: CHAAP-21B-BB-SB06MS
Inj Date : 23-MAY-2018 00:03
Operator : AC Inst ID: hplc02.i
Smp Info : WG228770-3,SL4233
Misc Info : WG228942,WG228770,WG225143-5,SL4233-15
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\EXPB05A.m
Meth Date : 23-May-2018 13:50 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 74 QC Sample: MS
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01060	Weight of Sample (Kg)
M	27.292	% Moisture
Cpnd Variable		Local Compound Variable

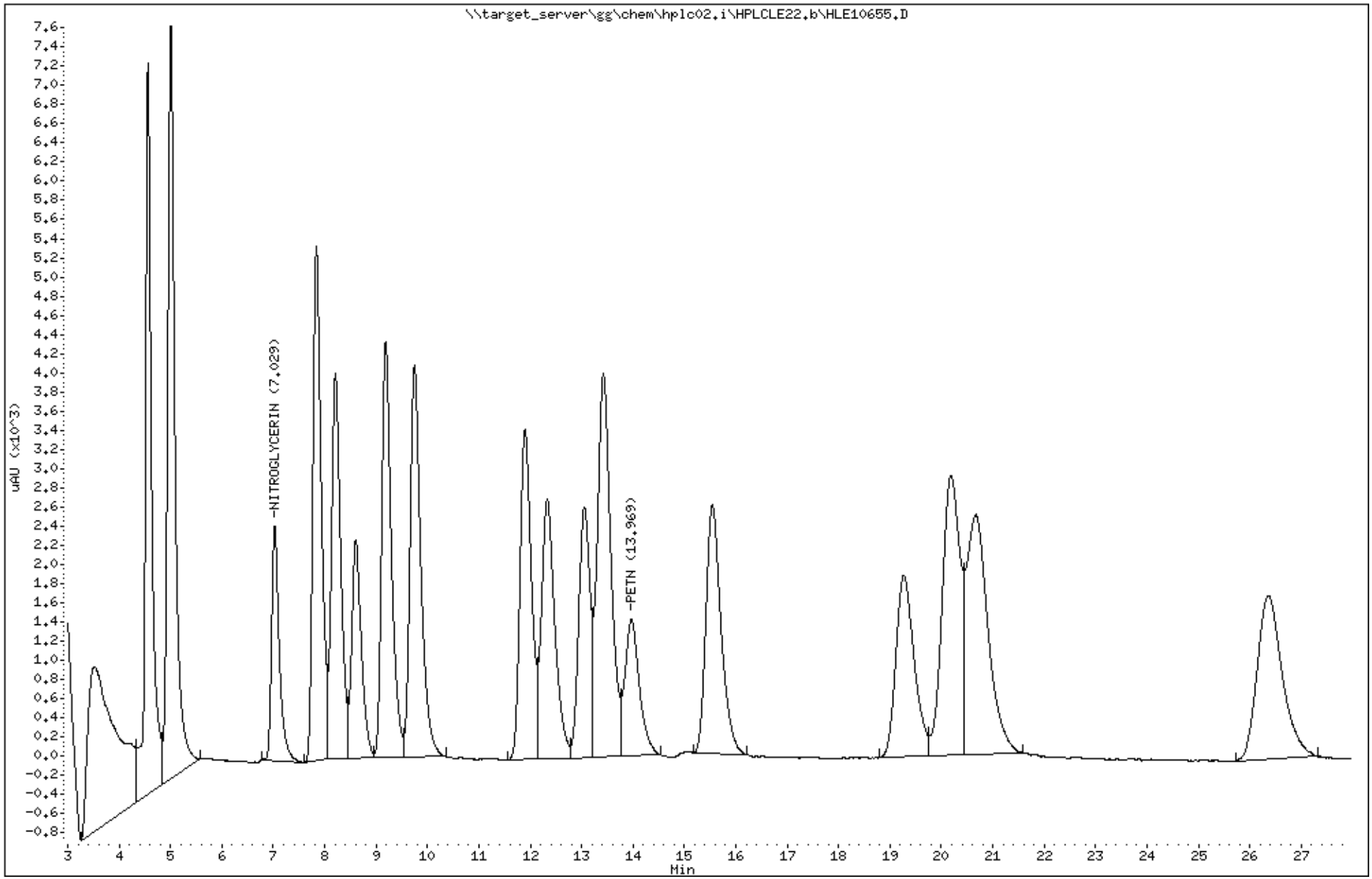
					CONCENTRATIONS	
					ON-COLUMN	FINAL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/mL)	(ug/Kgdrywt)
8 NITROGLYCERIN	7.029	7.001	0.028	2454	0.44511	1160
18 PETN	13.969	13.954	0.015	1423	0.49481	1280

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10655.D
Date : 23-MAY-2018 00:03
Client ID: CHAAP-21B-BB-SB06MS
Sample Info: WG228770-3,SL4233

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 1000558

Data File: HLE10655.D
Report Date: 31-May-2018 04:50

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HPLCLE22.b\HLE10655.D
Lab Smp Id: WG228770-3 Client Smp ID: CHAAP-21B-BB-SB06MS
Inj Date : 23-MAY-2018 00:03
Operator : AC Inst ID: hplc02.i
Smp Info : WG228770-3,SL4233
Misc Info : WG228942,WG228770,WG225143-5,SL4233-15
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\EXPB05A.m\EXPB05A.m
Meth Date : 23-May-2018 13:40 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 74 QC Sample: MS
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01060	Weight of Sample (Kg)
M	27.292	% Moisture
Cpnd Variable		Local Compound Variable

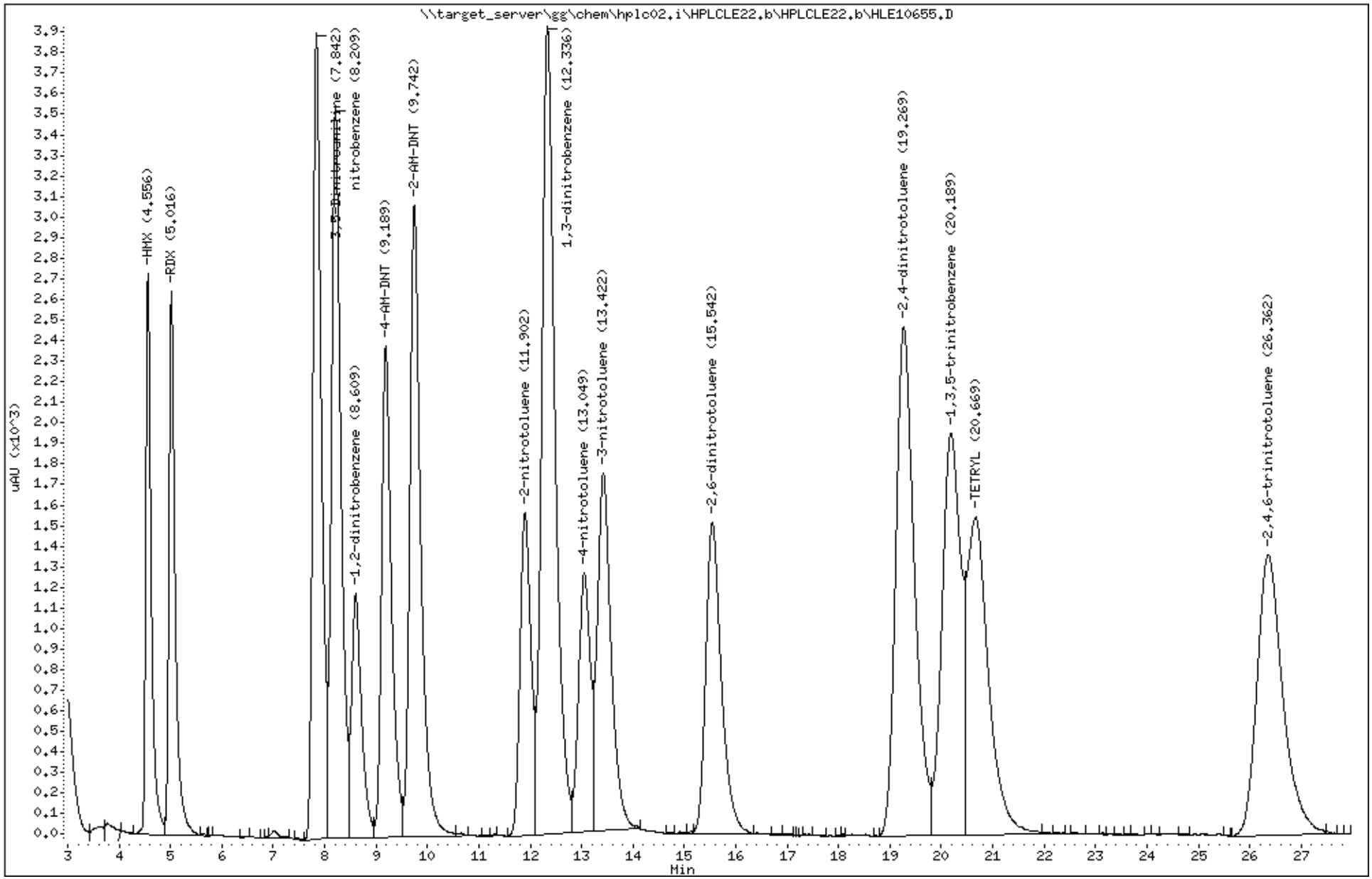
	Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	REVIEW CODE
1	HMX	4.555	4.547	0.008	2726	0.50569	1310	
4	RDX	5.015	4.994	0.021	2641	0.48157	1250	
51	3,5-Dinitroaniline	7.842	7.807	0.035	3917	0.47100	1220	
7	nitrobenzene	8.209	8.181	0.028	3549	0.51685	1340	
$ 2	1,2-dinitrobenzene	8.609	8.581	0.028	1184	0.25587	664	
11	4-AM-DNT	9.189	9.154	0.035	2383	0.55384	1440	
12	2-AM-DNT	9.742	9.714	0.028	3069	0.53275	1380	
15	2-nitrotoluene	11.902	11.867	0.035	1569	0.54299	1410	
6	1,3-dinitrobenzene	12.335	12.307	0.028	3926	0.52742	1370	
16	4-nitrotoluene	13.049	13.021	0.028	1262	0.53876	1400	
17	3-nitrotoluene	13.422	13.394	0.028	1740	0.52321	1360	
13	2,6-dinitrotoluene	15.542	15.527	0.015	1515	0.51538	1340	
14	2,4-dinitrotoluene	19.269	19.281	-0.012	2473	0.53546	1390	
5	1,3,5-trinitrobenzene	20.189	20.207	-0.018	1952	0.52916	1370	
9	TETRYL	20.669	20.694	-0.025	1542	0.60839	1580	
10	2,4,6-trinitrotoluene	26.362	26.407	-0.045	1363	0.53951	1400	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HPLCLE22.b\HLE10655.D
Date : 23-MAY-2018 00:03
Client ID: CHAAP-21B-BB-SB06MS
Sample Info: WG228770-3,SL4233

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 1000560

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10656.D
Report Date: 31-May-2018 04:43

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10656.D
Lab Smp Id: WG228770-4 Client Smp ID: CHAAP-21B-BB-SB06MS
Inj Date : 23-MAY-2018 00:34
Operator : AC Inst ID: hplc02.i
Smp Info : WG228770-4,SL4233
Misc Info : WG228942,WG228770,WG225143-5,SL4233-15
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\EXPB05A.m
Meth Date : 23-May-2018 13:50 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 75 QC Sample: MSD
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01010	Weight of Sample (Kg)
M	27.292	% Moisture
Cpnd Variable		Local Compound Variable

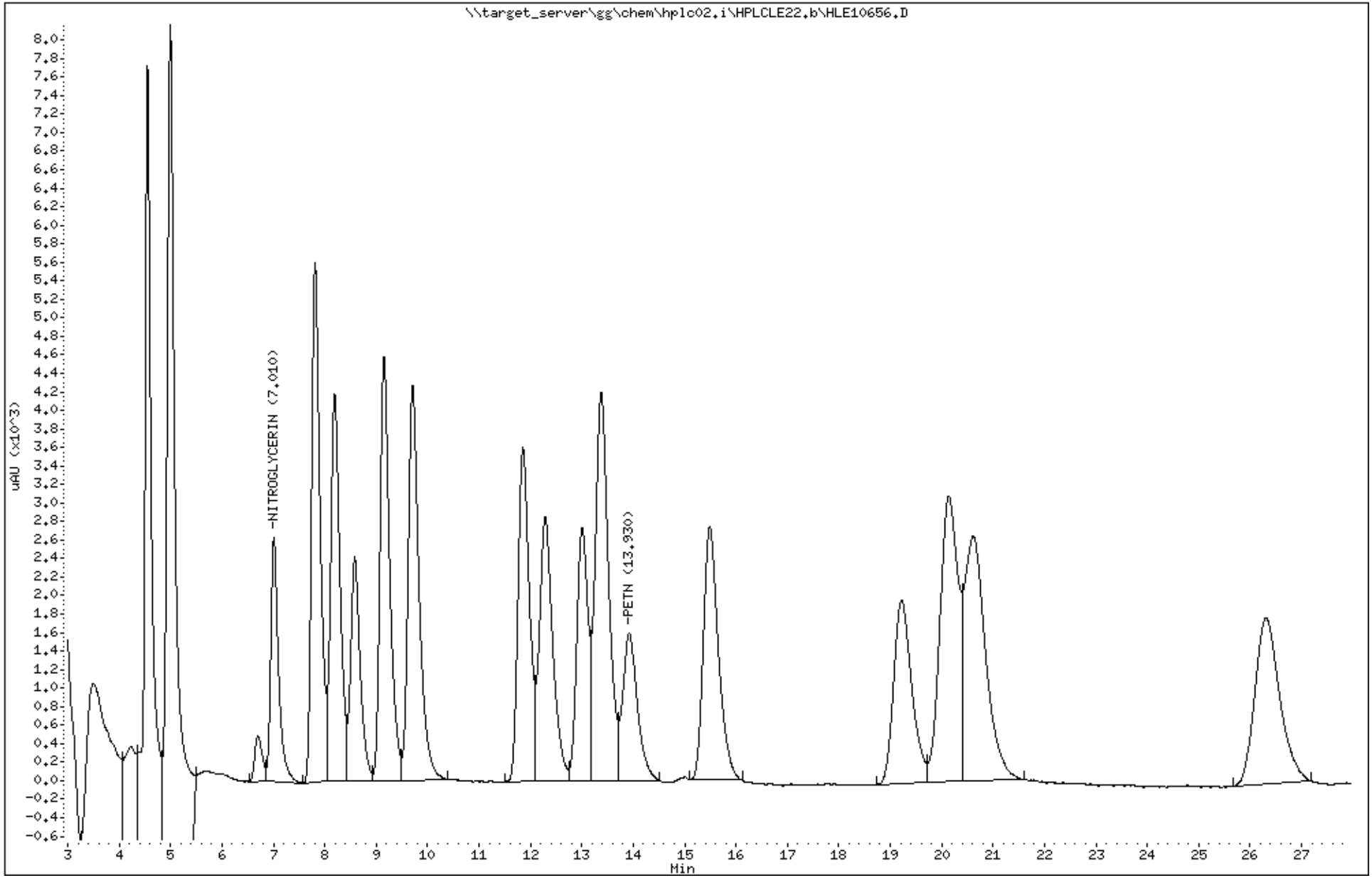
					CONCENTRATIONS	
					ON-COLUMN	FINAL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/mL)	(ug/Kgdrywt)
8 NITROGLYCERIN	7.009	7.001	0.008	2640	0.47885	1300
18 PETN	13.929	13.954	-0.025	1597	0.55532	1510

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HLE10656.D
Date : 23-MAY-2018 00:34
Client ID: CHAAP-21B-BB-SB06MS
Sample Info: WG228770-4,SL4233

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 1000562

Data File: HLE10656.D
Report Date: 31-May-2018 04:50

Katahdin Analytical Services

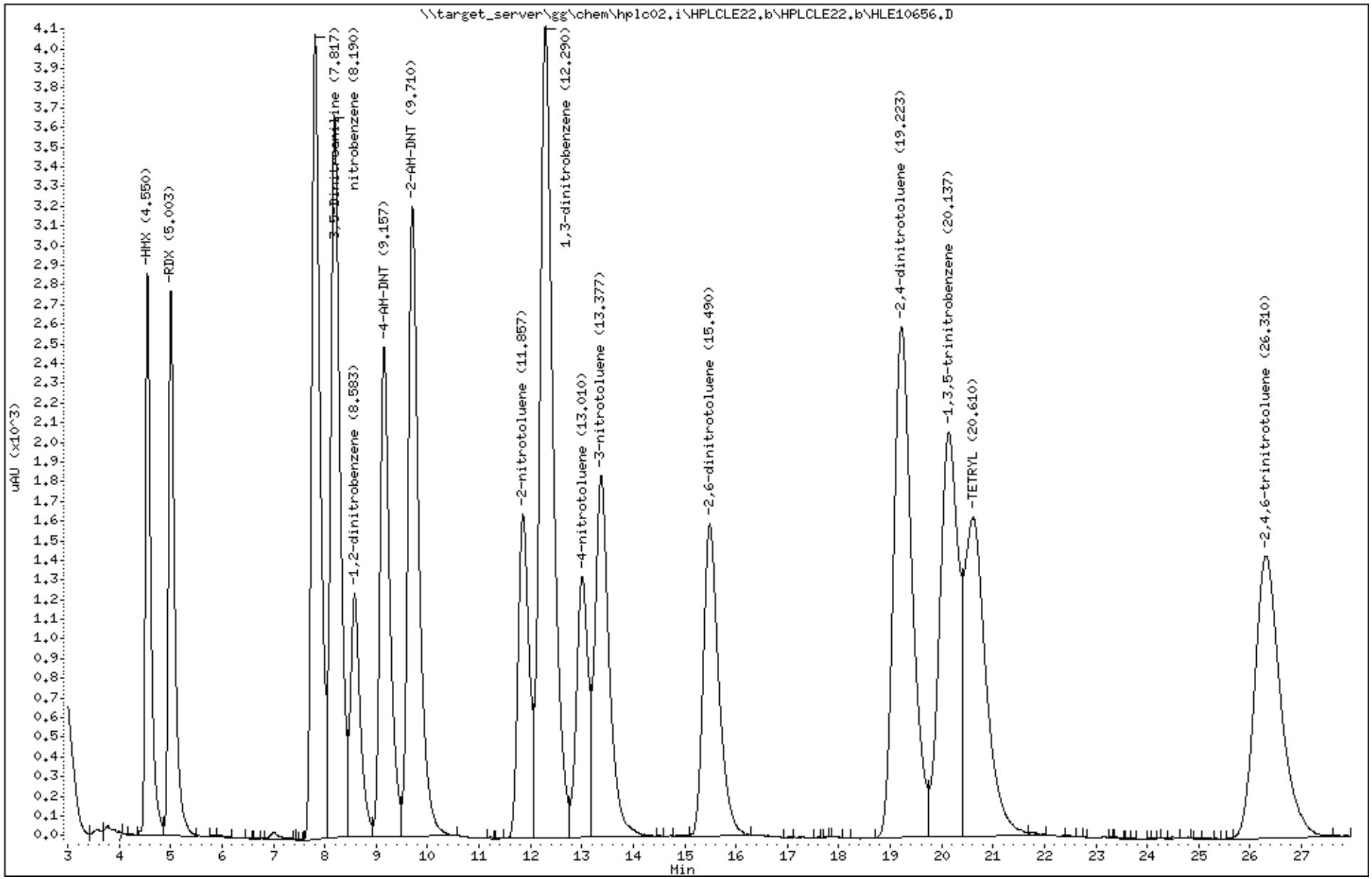
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HPLCLE22.b\HLE10656.D
Lab Smp Id: WG228770-4 Client Smp ID: CHAAP-21B-BB-SB06MS
Inj Date : 23-MAY-2018 00:34
Operator : AC Inst ID: hplc02.i
Smp Info : WG228770-4,SL4233
Misc Info : WG228942,WG228770,WG225143-5,SL4233-15
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE22.b\EXPB05A.m\EXPB05A.m
Meth Date : 23-May-2018 13:40 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 75 QC Sample: MSD
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01010	Weight of Sample (Kg)
M	27.292	% Moisture
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	REVIEW CODE
1	HMX	4.549	4.547	0.002	2856	0.52981	1440	
4	RDX	5.003	4.994	0.009	2767	0.50427	1370	
51	3,5-Dinitroaniline	7.816	7.807	0.009	4089	0.49169	1340	
7	nitrobenzene	8.189	8.181	0.008	3671	0.53461	1460	
$ 2	1,2-dinitrobenzene	8.583	8.581	0.002	1236	0.26710	727	
11	4-AM-DNT	9.156	9.154	0.002	2489	0.57847	1580	
12	2-AM-DNT	9.709	9.714	-0.005	3203	0.55601	1510	
15	2-nitrotoluene	11.856	11.867	-0.011	1645	0.56929	1550	
6	1,3-dinitrobenzene	12.289	12.307	-0.018	4125	0.55416	1510	
16	4-nitrotoluene	13.009	13.021	-0.012	1324	0.56523	1540	
17	3-nitrotoluene	13.376	13.394	-0.018	1836	0.55207	1500	
13	2,6-dinitrotoluene	15.489	15.527	-0.038	1584	0.53943	1470	
14	2,4-dinitrotoluene	19.223	19.281	-0.058	2597	0.56230	1530	
5	1,3,5-trinitrobenzene	20.136	20.207	-0.071	2057	0.55763	1520	
9	TETRYL	20.609	20.694	-0.085	1622	0.63995	1740	
10	2,4,6-trinitrotoluene	26.309	26.407	-0.098	1435	0.56801	1550	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE22.b\HPLCLE22.b\HLE10656.D
Date : 23-MAY-2018 00:34
Client ID: CHAAP-21B-BB-SB06MS
Instrument: hplc02.i
Sample Info: WG228770-4,SL4233
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 1000564

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MS/MSD Recovery Report

MS ID: WG228856-3
MSD ID: WG228856-4
Sample ID: SL4233-31
Client ID: CHAAP-21B-BPA-SB01-8
Project:
SDG: SL4233
MS File ID: HLE10682.D

Received Date:
Extract Date: 22-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228856
Report Date: 31-MAY-18
MSD File ID: HLE10683.D

Analysis Date: 23-MAY-18
Analyst: AC
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 76.

Compound	MS Spike	MSD Spike	Conc Units	Samp Conc	MS Conc	MSD Conc	MS Rec (%)	MSD Rec (%)	RPD (%)	RPD Limit	Limits
HMX	1300	1270	ug/Kgdrywt	U59	1400	1300	105.	105.	2	20	74-125
RDX	1300	1270	ug/Kgdrywt	U59	1300	1200	98.0	98.4	2	20	67-129
1,3,5-Trinitrobenzene	1300	1270	ug/Kgdrywt	U59	1400	1400	111.	111.	2	20	80-125
1,3-Dinitrobenzene	1300	1270	ug/Kgdrywt	U59	1400	1400	110.	110.	1	20	73-125
Tetryl	1300	1270	ug/Kgdrywt	U59	1700	1600	128.	127.	3	20	68-135
Nitrobenzene	1300	1270	ug/Kgdrywt	U59	1400	1400	106.	106.	2	20	67-129
2,4,6-Trinitrotoluene	1300	1270	ug/Kgdrywt	U59	1500	1400	113.	112.	2	20	71-125
2-Am-DNT	1300	1270	ug/Kgdrywt	U59	1400	1400	111.	109.	4	20	71-125
4-Am-DNT	1300	1270	ug/Kgdrywt	U59	1500	1400	115.	114.	3	20	64-127
2,6-Dinitrotoluene	1300	1270	ug/Kgdrywt	U59	1400	1400	108.	107.	3	20	79-125
2,4-Dinitrotoluene	1300	1270	ug/Kgdrywt	U59	1500	1400	113.	112.	3	20	75-125
2-Nitrotoluene	1300	1270	ug/Kgdrywt	U59	1500	1400	113.	113.	2	20	70-125
3-Nitrotoluene	1300	1270	ug/Kgdrywt	U59	1400	1400	110.	110.	2	20	67-129
4-Nitrotoluene	1300	1270	ug/Kgdrywt	U59	1500	1400	113.	113.	2	20	71-125
Nitroglycerin	1300	1270	ug/Kgdrywt	U470	1200	1200	93.4	92.1	3	20	73-125
PETN	1300	1270	ug/Kgdrywt	U470	1300	1300	99.6	102.	0	20	72-128
1,2-Dinitrobenzene							107.	104.			78-125

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Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10682.D
Report Date: 31-May-2018 04:59

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Data file : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10682.D
Lab Smp Id: WG228856-3 Client Smp ID: HAAP-21B-BPA-SB01-8
Inj Date : 23-MAY-2018 15:17
Operator : AC Inst ID: hplc02.i
Smp Info : WG228856-3,SL4233
Misc Info : WG228942,WG228856,WG225143-5,SL4233-31
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\EXPB05A.m
Meth Date : 25-May-2018 03:43 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 1 QC Sample: MS
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01010	Weight of Sample (Kg)
M	23.571	% Moisture
Cpnd Variable		Local Compound Variable

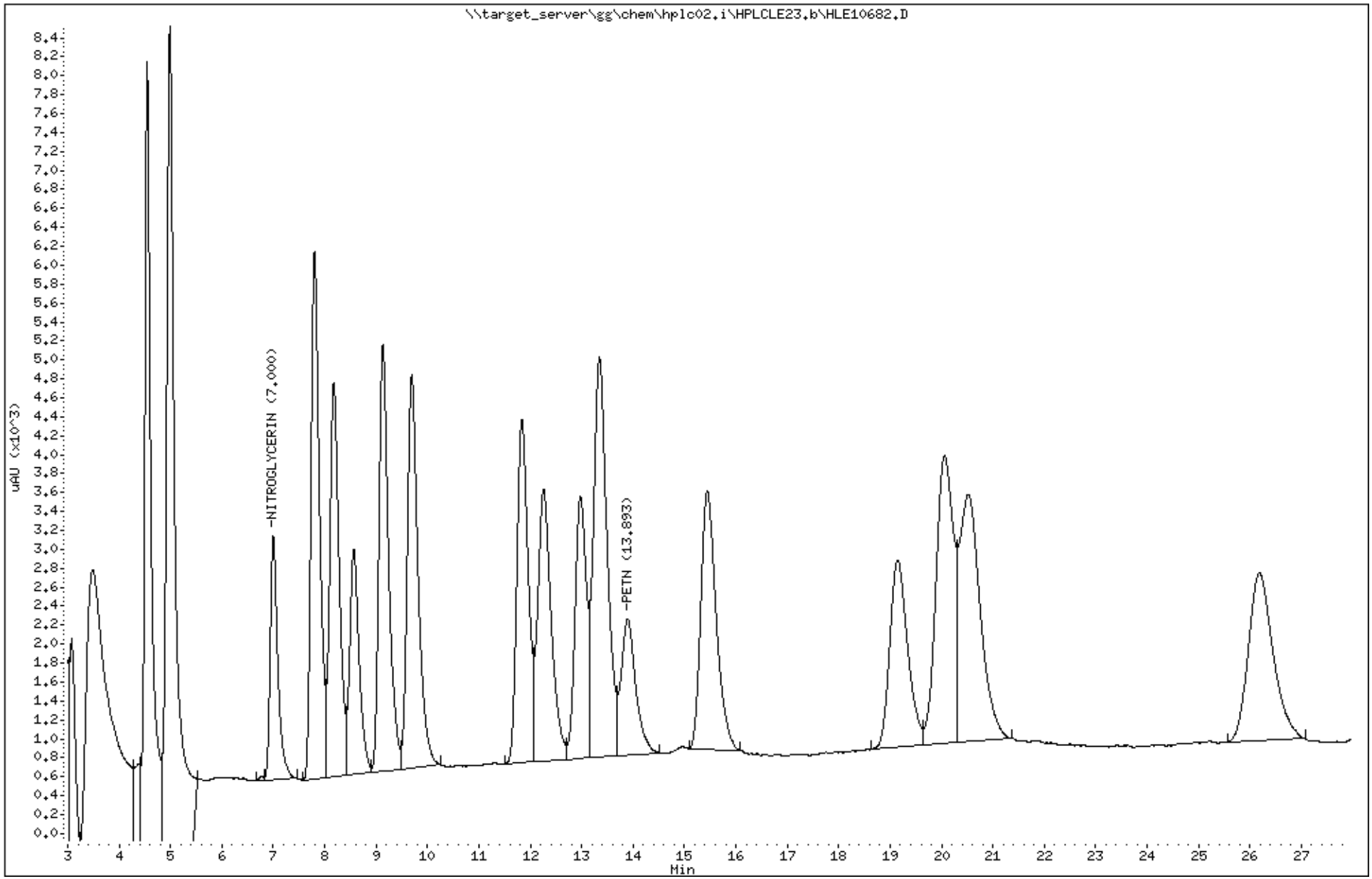
					CONCENTRATIONS	
					ON-COLUMN	FINAL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/mL)	(ug/Kgdrywt)
8 NITROGLYCERIN	6.999	7.007	-0.008	2567	0.46561	1210
18 PETN	13.893	13.940	-0.047	1437	0.49968	1290

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10682.D
Date : 23-MAY-2018 15:17
Client ID: HAAP-21B-BPA-SB01-8
Sample Info: WG228856-3,SL4233

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 1000567

Data File: HLE10682.D
Report Date: 31-May-2018 05:08

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HPLCLE23.b\HLE10682.D
Lab Smp Id: WG228856-3 Client Smp ID: HAAP-21B-BPA-SB01-8
Inj Date : 23-MAY-2018 15:17
Operator : AC Inst ID: hplc02.i
Smp Info : WG228856-3,SL4233
Misc Info : WG228942,WG228856,WG225143-5,SL4233-31
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\EXPB05A.m\EXPB05A.m
Meth Date : 25-May-2018 03:41 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 1 QC Sample: MS
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01010	Weight of Sample (Kg)
M	23.571	% Moisture
Cpnd Variable		Local Compound Variable

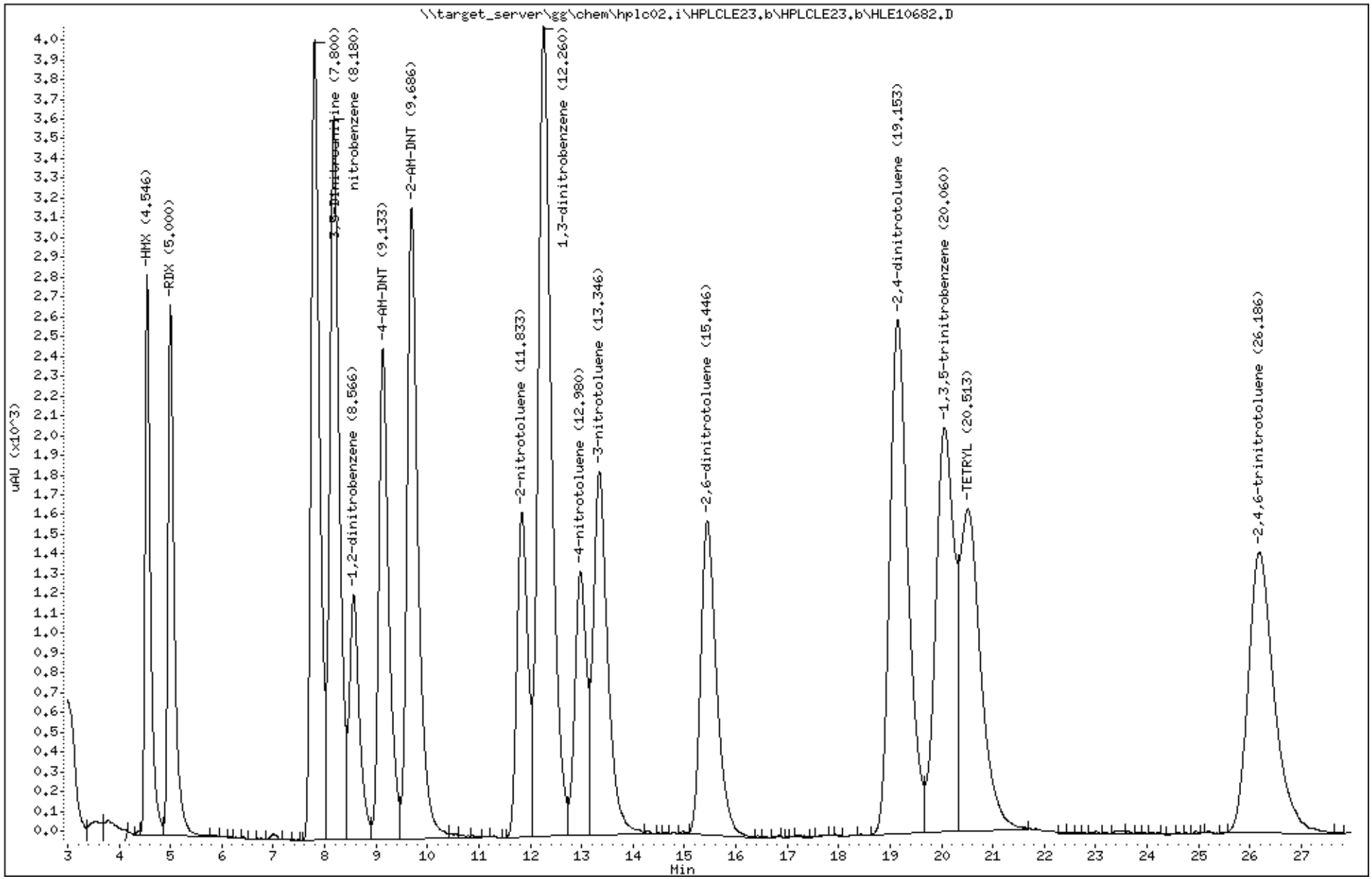
	Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	REVIEW CODE
1	HMX	4.546	4.547	-0.001	2829	0.52480	1360	
4	RDX	4.999	5.000	-0.001	2682	0.48896	1270	
51	3,5-Dinitroaniline	7.799	7.807	-0.008	4047	0.48664	1260	
7	nitrobenzene	8.179	8.180	-0.001	3653	0.53199	1380	
$ 2	1,2-dinitrobenzene	8.566	8.573	-0.007	1235	0.26689	691	
11	4-AM-DNT	9.133	9.153	-0.020	2479	0.57615	1490	
12	2-AM-DNT	9.686	9.707	-0.021	3191	0.55392	1440	
15	2-nitrotoluene	11.833	11.860	-0.027	1641	0.56790	1470	
6	1,3-dinitrobenzene	12.259	12.293	-0.034	4093	0.54986	1420	
16	4-nitrotoluene	12.979	13.007	-0.028	1332	0.56864	1470	
17	3-nitrotoluene	13.346	13.380	-0.034	1837	0.55237	1430	
13	2,6-dinitrotoluene	15.446	15.493	-0.047	1586	0.54013	1400	
14	2,4-dinitrotoluene	19.153	19.213	-0.060	2601	0.56317	1460	
5	1,3,5-trinitrobenzene	20.059	20.140	-0.081	2047	0.55491	1440	
9	TETRYL	20.513	20.593	-0.080	1629	0.64271	1660	
10	2,4,6-trinitrotoluene	26.186	26.293	-0.107	1420	0.56207	1460	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HPLCLE23.b\HLE10682.D
Date : 23-MAY-2018 15:17
Client ID: HAAP-21B-BPA-SB01-8
Sample Info: WG228856-3,SL4233

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 1000569

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10683.D
Report Date: 31-May-2018 04:59

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10683.D
Lab Smp Id: WG228856-4 Client Smp ID: HAAP-21B-BPA-SB01-8
Inj Date : 23-MAY-2018 15:48
Operator : AC Inst ID: hplc02.i
Smp Info : WG228856-4,SL4233
Misc Info : WG228942,WG228856,WG225143-5,SL4233-31
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\EXPB05A.m
Meth Date : 25-May-2018 03:43 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 2 QC Sample: MSD
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01030	Weight of Sample (Kg)
M	23.571	% Moisture
Cpnd Variable		Local Compound Variable

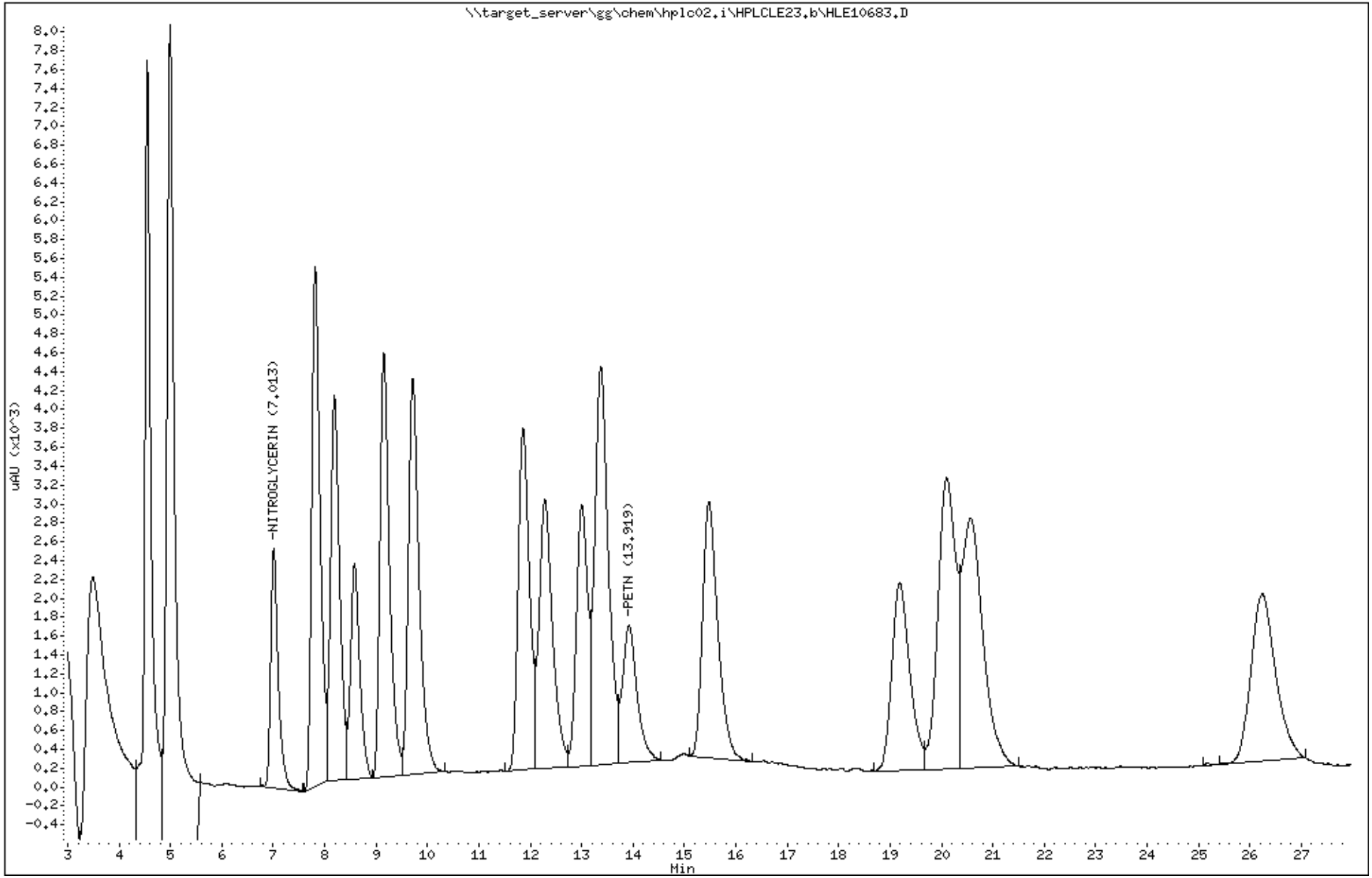
					CONCENTRATIONS	
					ON-COLUMN	FINAL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/mL)	(ug/Kgdrywt)
8 NITROGLYCERIN	7.012	7.007	0.005	2542	0.46108	1170
18 PETN	13.919	13.940	-0.021	1456	0.50629	1290

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10683.D
Date : 23-MAY-2018 15:48
Client ID: HAAP-21B-BPA-SB01-8
Sample Info: WG228856-4,SL4233

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 1000571

Data File: HLE10683.D
Report Date: 31-May-2018 05:08

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HPLCLE23.b\HLE10683.D
Lab Smp Id: WG228856-4 Client Smp ID: HAAP-21B-BPA-SB01-8
Inj Date : 23-MAY-2018 15:48
Operator : AC Inst ID: hplc02.i
Smp Info : WG228856-4,SL4233
Misc Info : WG228942,WG228856,WG225143-5,SL4233-31
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\EXPB05A.m\EXPB05A.m
Meth Date : 25-May-2018 03:41 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 2 QC Sample: MSD
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01030	Weight of Sample (Kg)
M	23.571	% Moisture
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	REVIEW CODE
1	HMX	4.545	4.547	-0.002	2817	0.52257	1330(M)	M2
4	RDX	5.005	5.000	0.005	2708	0.49364	1250(M)	M2
51	3,5-Dinitroaniline	7.812	7.807	0.005	4044	0.48627	1240	
7	nitrobenzene	8.192	8.180	0.012	3644	0.53068	1350	
$ 2	1,2-dinitrobenzene	8.579	8.573	0.006	1207	0.26084	663	
11	4-AM-DNT	9.152	9.153	-0.001	2458	0.57127	1450	
12	2-AM-DNT	9.705	9.707	-0.002	3163	0.54906	1390	
15	2-nitrotoluene	11.859	11.860	-0.001	1640	0.56756	1440	
6	1,3-dinitrobenzene	12.285	12.293	-0.008	4090	0.54946	1400	
16	4-nitrotoluene	13.005	13.007	-0.002	1327	0.56651	1440	
17	3-nitrotoluene	13.372	13.380	-0.008	1829	0.54997	1400	
13	2,6-dinitrotoluene	15.479	15.493	-0.014	1572	0.53525	1360	
14	2,4-dinitrotoluene	19.192	19.213	-0.021	2590	0.56079	1420	
5	1,3,5-trinitrobenzene	20.099	20.140	-0.041	2042	0.55356	1410	
9	TETRYL	20.565	20.593	-0.028	1611	0.63561	1610	
10	2,4,6-trinitrotoluene	26.239	26.293	-0.054	1421	0.56247	1430	



7:13 am, May 31, 2018

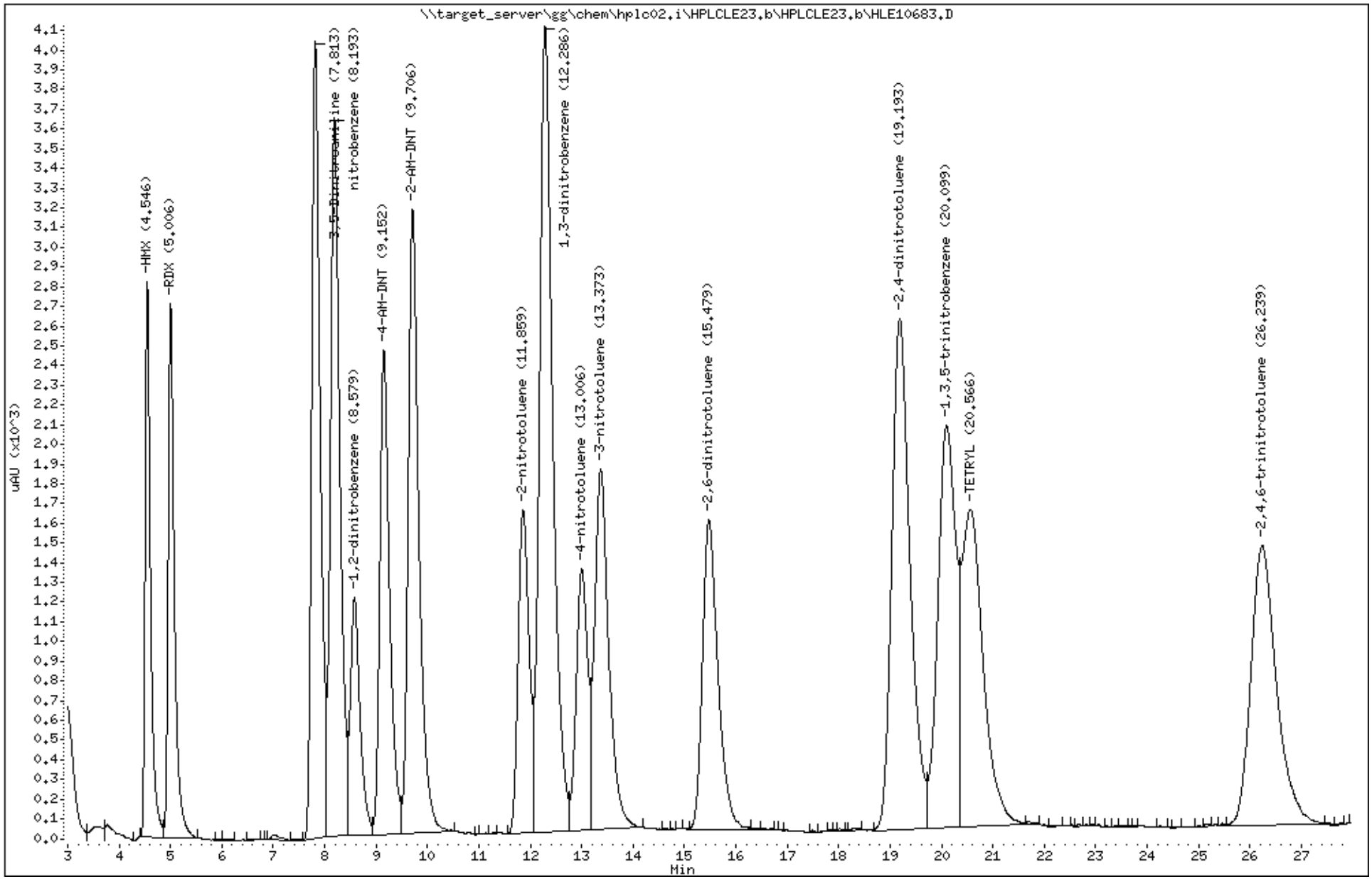
QC Flag Legend

M - Compound response manually integrated.

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HPLCLE23.b\HLE10683.D
Date : 23-MAY-2018 15:48
Client ID: HAAP-21B-BPA-SB01-8
Sample Info: WG228856-4,SL4233

Instrument: hplc02.i
Operator: AC
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 1000573

Katahdin
ANALYTICAL SERVICES

MS/MSD Recovery Report

MS ID: WG228856-5
MSD ID: WG228856-6
Sample ID: SL4233-36
Client ID: CHAAP-21B-BPA-SB03-4
Project:
SDG: SL4233
MS File ID: HLE10684.D

Received Date:
Extract Date: 22-MAY-18
Extracted By: JMS
Extraction Method: SW846 8330B MOD
Lab Prep Batch: WG228856
Report Date: 31-MAY-18
MSD File ID: HLE10685.D

Analysis Date: 23-MAY-18
Analyst: AC
Analysis Method: SW846 8330B
Matrix: SL
% Solids: 80.

Compound	MS Spike	MSD Spike	Conc Units	Samp Conc	MS Conc	MSD Conc	MS Rec (%)	MSD Rec (%)	RPD (%)	RPD Limit	Limits
HMX	1210	1200	ug/Kgdrywt	J29	1300	1200	104.	102.	3	20	74-125
RDX	1210	1200	ug/Kgdrywt	J87	1200	1200	95.3	94.4	2	20	67-129
1,3,5-Trinitrobenzene	1210	1200	ug/Kgdrywt	U59	1300	1300	109.	107.	3	20	80-125
1,3-Dinitrobenzene	1210	1200	ug/Kgdrywt	U59	1300	1300	109.	106.	4	20	73-125
Tetryl	1210	1200	ug/Kgdrywt	U59	1500	1500	124.	122.	3	20	68-135
Nitrobenzene	1210	1200	ug/Kgdrywt	U59	1300	1200	106.	104.	2	20	67-129
2,4,6-Trinitrotoluene	1210	1200	ug/Kgdrywt	U59	1300	1300	110.	108.	2	20	71-125
2-Am-DNT	1210	1200	ug/Kgdrywt	U59	1300	1300	109.	107.	2	20	71-125
4-Am-DNT	1210	1200	ug/Kgdrywt	U59	1400	1300	114.	112.	3	20	64-127
2,6-Dinitrotoluene	1210	1200	ug/Kgdrywt	U59	1300	1200	106.	103.	4	20	79-125
2,4-Dinitrotoluene	1210	1200	ug/Kgdrywt	U59	1300	1300	110.	108.	3	20	75-125
2-Nitrotoluene	1210	1200	ug/Kgdrywt	U59	1400	1300	112.	111.	2	20	70-125
3-Nitrotoluene	1210	1200	ug/Kgdrywt	U59	1300	1300	110.	107.	4	20	67-129
4-Nitrotoluene	1210	1200	ug/Kgdrywt	U59	1400	1300	113.	110.	4	20	71-125
Nitroglycerin	1210	1200	ug/Kgdrywt	U480	1100	1100	89.9	88.3	3	20	73-125
PETN	1210	1200	ug/Kgdrywt	U480	1200	1100	95.7	93.3	4	20	72-128
1,2-Dinitrobenzene							104.	101.			78-125

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10684.D
Report Date: 31-May-2018 04:59

Katahdin Analytical Services

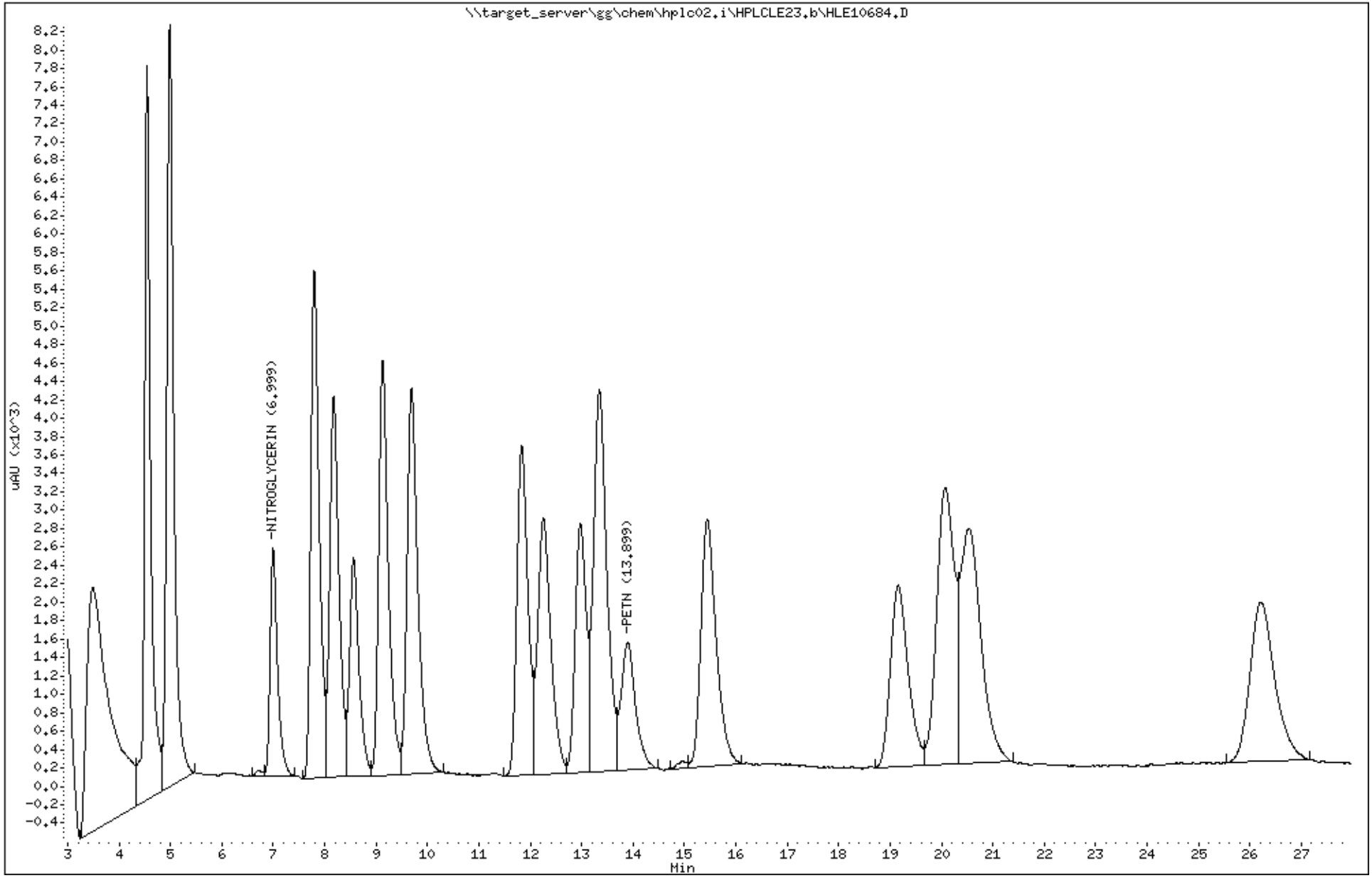
Data file : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10684.D
Lab Smp Id: WG228856-5 Client Smp ID: HAAP-21B-BPA-SB03-4
Inj Date : 23-MAY-2018 16:19
Operator : AC Inst ID: hplc02.i
Smp Info : WG228856-5,SL4233
Misc Info : WG228942,WG228856,WG225143-5,SL4233-36
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\EXPB05A.m
Meth Date : 25-May-2018 03:43 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 3 QC Sample: MS
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01030	Weight of Sample (Kg)
M	19.895	% Moisture
Cpnd Variable		Local Compound Variable

					CONCENTRATIONS	
					ON-COLUMN	FINAL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/mL)	(ug/Kgdrywt)
8 NITROGLYCERIN	6.999	7.007	-0.008	2476	0.44910	1090
18 PETN	13.899	13.940	-0.041	1383	0.48090	1160

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10684.D
Date : 23-MAY-2018 16:19
Client ID: HAAP-21B-BPA-SB03-4
Instrument: hplc02.i
Sample Info: WG228856-5,SL4233
Operator: AC
Column phase: Acclaim Exp E1
Column diameter: 4.60



Katahdin Analytical Services 1000576

Data File: HLE10684.D
Report Date: 31-May-2018 05:08

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HPLCLE23.b\HLE10684.D
Lab Smp Id: WG228856-5 Client Smp ID: HAAP-21B-BPA-SB03-4
Inj Date : 23-MAY-2018 16:19
Operator : AC Inst ID: hplc02.i
Smp Info : WG228856-5,SL4233
Misc Info : WG228942,WG228856,WG225143-5,SL4233-36
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\EXPB05A.m\EXPB05A.m
Meth Date : 25-May-2018 03:41 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 3 QC Sample: MS
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01030	Weight of Sample (Kg)
M	19.895	% Moisture
Cpnd Variable		Local Compound Variable

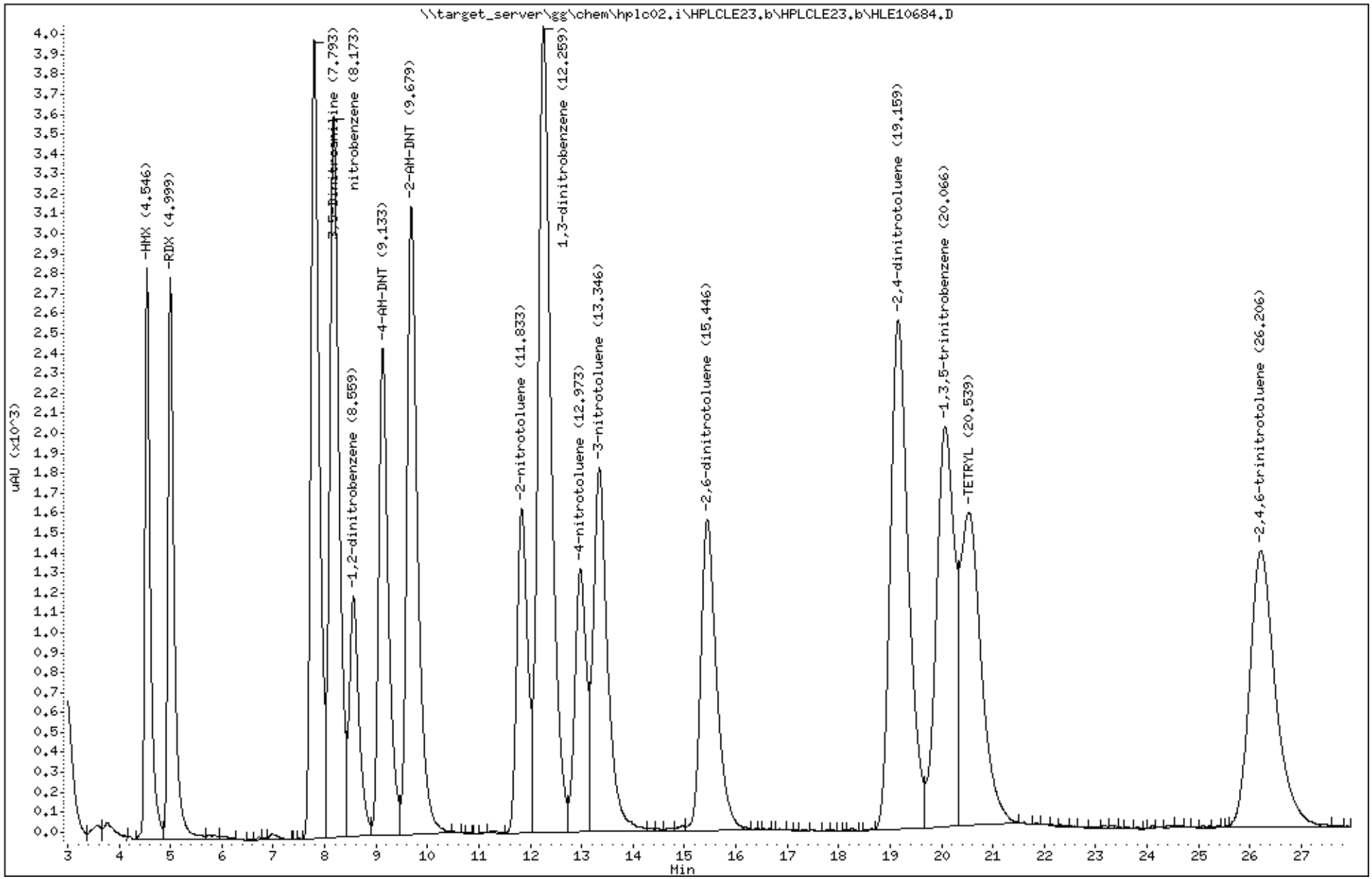
	Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	REVIEW CODE
1	HMX	4.546	4.547	-0.001	2866	0.53166	1290	
4	RDX	4.999	5.000	-0.001	2816	0.51310	1240	
51	3,5-Dinitroaniline	7.792	7.807	-0.015	4002	0.48122	1170	
7	nitrobenzene	8.172	8.180	-0.008	3615	0.52646	1280	
$ 2	1,2-dinitrobenzene	8.559	8.573	-0.014	1204	0.26019	631	
11	4-AM-DNT	9.132	9.153	-0.021	2442	0.56755	1380	
12	2-AM-DNT	9.679	9.707	-0.028	3147	0.54629	1320	
15	2-nitrotoluene	11.832	11.860	-0.028	1624	0.56202	1360	
6	1,3-dinitrobenzene	12.259	12.293	-0.034	4042	0.54301	1320	
16	4-nitrotoluene	12.972	13.007	-0.035	1321	0.56394	1370	
17	3-nitrotoluene	13.346	13.380	-0.034	1825	0.54877	1330	
13	2,6-dinitrotoluene	15.446	15.493	-0.047	1561	0.53141	1290	
14	2,4-dinitrotoluene	19.159	19.213	-0.054	2556	0.55343	1340	
5	1,3,5-trinitrobenzene	20.066	20.140	-0.074	2008	0.54434	1320	
9	TETRYL	20.539	20.593	-0.054	1573	0.62062	1500	
10	2,4,6-trinitrotoluene	26.206	26.293	-0.087	1385	0.54822	1330	

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HPLCLE23.b\HLE10684.D
Date : 23-MAY-2018 16:19
Client ID: HAAP-21B-BPA-SB03-4
Sample Info: WG228856-5,SL4233

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 1000578

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10685.D
Report Date: 31-May-2018 04:59

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10685.D
Lab Smp Id: WG228856-6 Client Smp ID: HAAP-21B-BPA-SB03-4
Inj Date : 23-MAY-2018 16:50
Operator : AC Inst ID: hplc02.i
Smp Info : WG228856-6,SL4233
Misc Info : WG228942,WG228856,WG225143-5,SL4233-36
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\EXPB05A.m
Meth Date : 25-May-2018 03:43 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 4 QC Sample: MSD
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: ngpetn.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01040	Weight of Sample (Kg)
M	19.895	% Moisture
Cpnd Variable		Local Compound Variable

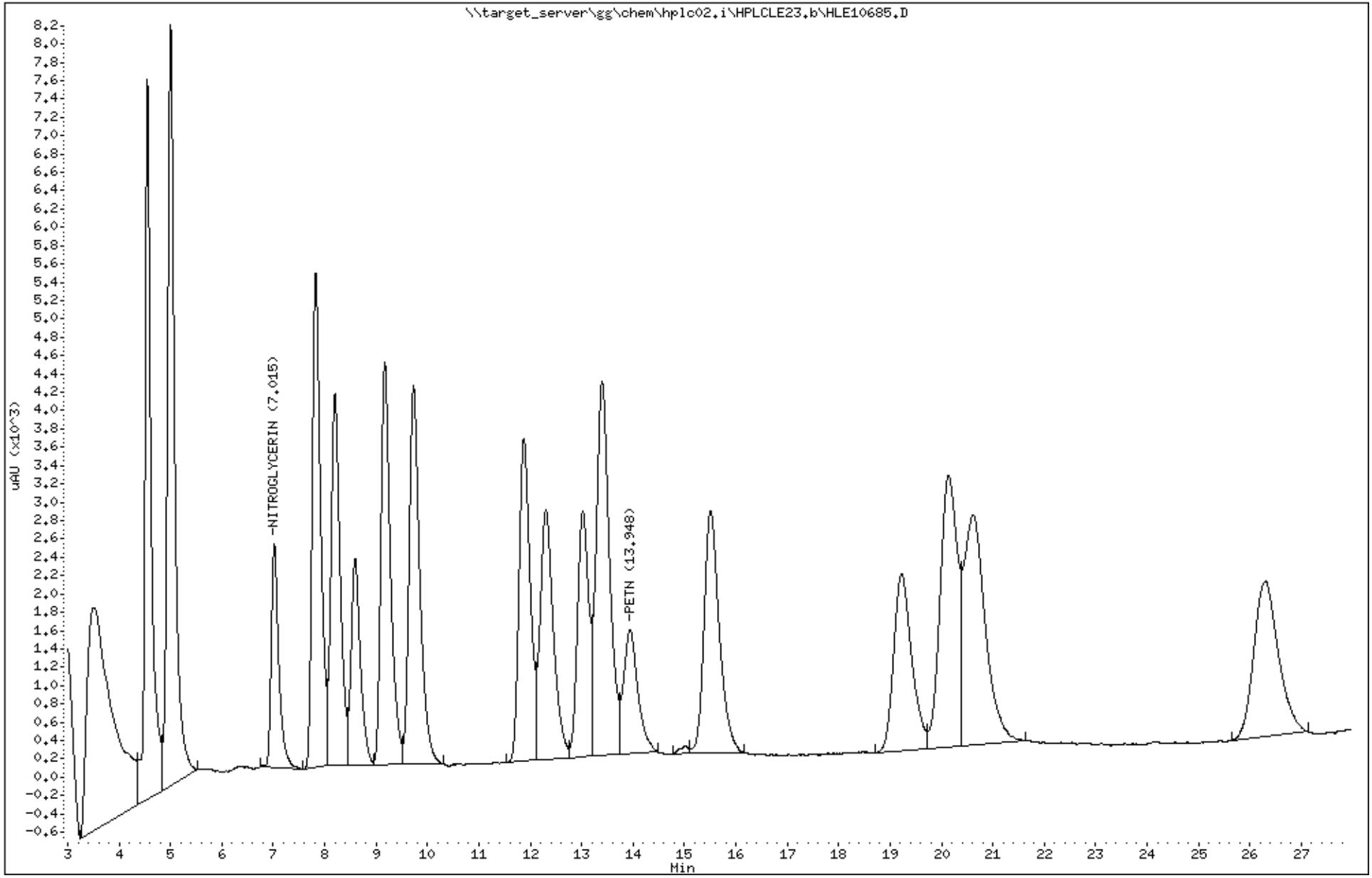
					CONCENTRATIONS	
					ON-COLUMN	FINAL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/mL)	(ug/Kgdrywt)
8 NITROGLYCERIN	7.014	7.007	0.007	2434	0.44149	1060
18 PETN	13.948	13.940	0.008	1347	0.46839	1120

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HLE10685.D
Date : 23-MAY-2018 16:50
Client ID: HAAP-21B-BPA-SB03-4
Sample Info: WG228856-6,SL4233

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 1000580

Data File: HLE10685.D
Report Date: 31-May-2018 05:08

Katahdin Analytical Services

Data file : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HPLCLE23.b\HLE10685.D
Lab Smp Id: WG228856-6 Client Smp ID: HAAP-21B-BPA-SB03-4
Inj Date : 23-MAY-2018 16:50
Operator : AC Inst ID: hplc02.i
Smp Info : WG228856-6,SL4233
Misc Info : WG228942,WG228856,WG225143-5,SL4233-36
Comment :
Method : \\target_server\gg\chem\hplc02.i\HPLCLE23.b\EXPB05A.m\EXPB05A.m
Meth Date : 25-May-2018 03:41 abullentin Quant Type: ESTD
Cal Date : 20-MAR-2018 18:05 Cal File: HLC10037.D
Als bottle: 4 QC Sample: MSD
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: SW8330A.sub
Target Version: 4.12
Processing Host: V200T1

Concentration Formula: Amt * DF * 1000*Vt*(1/Ws)*(100/(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.02000	Final Volume (L)
Ws	0.01040	Weight of Sample (Kg)
M	19.895	% Moisture
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/Kgdrywt)	REVIEW CODE
1	HMX	4.554	4.547	0.007	2812	0.52164	1250(M)	M2
4	RDX	5.008	5.000	0.008	2800	0.51021	1220(M)	M2
51	3,5-Dinitroaniline	7.821	7.807	0.014	3937	0.47341	1140	
7	nitrobenzene	8.201	8.180	0.021	3579	0.52122	1250	
$ 2	1,2-dinitrobenzene	8.594	8.573	0.021	1173	0.25349	608	
11	4-AM-DNT	9.168	9.153	0.015	2408	0.55965	1340	
12	2-AM-DNT	9.721	9.707	0.014	3094	0.53709	1290	
15	2-nitrotoluene	11.874	11.860	0.014	1598	0.55302	1330	
6	1,3-dinitrobenzene	12.308	12.293	0.015	3952	0.53092	1270	
16	4-nitrotoluene	13.028	13.007	0.021	1288	0.54986	1320	
17	3-nitrotoluene	13.394	13.380	0.014	1773	0.53313	1280	
13	2,6-dinitrotoluene	15.508	15.493	0.015	1521	0.51747	1240	
14	2,4-dinitrotoluene	19.228	19.213	0.015	2506	0.54260	1300	
5	1,3,5-trinitrobenzene	20.134	20.140	-0.006	1972	0.53458	1280	
9	TETRYL	20.608	20.593	0.015	1543	0.60878	1460	
10	2,4,6-trinitrotoluene	26.301	26.293	0.008	1367	0.54110	1300	



7:13 am, May 31, 2018

QC Flag Legend

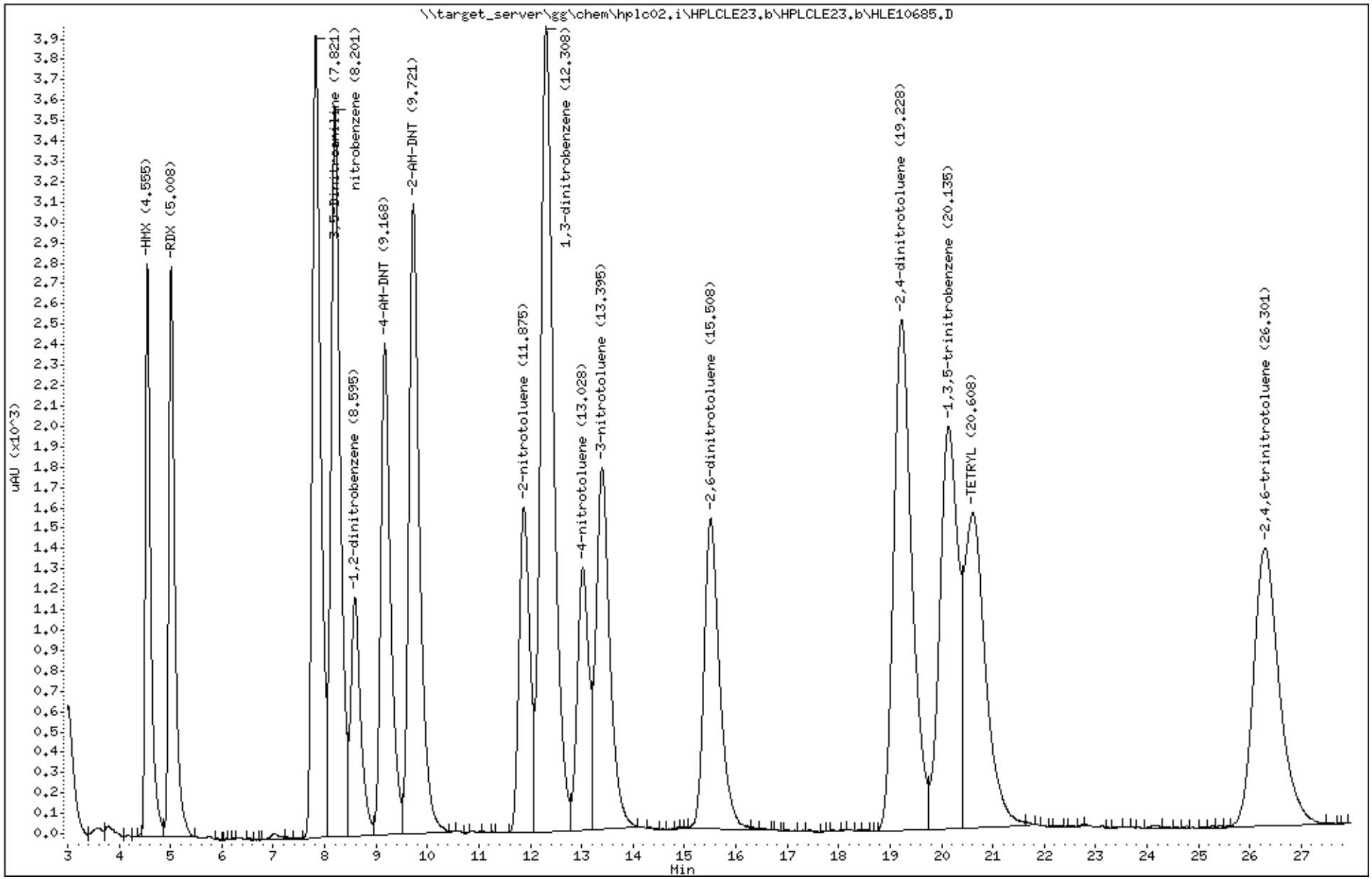
M - Compound response manually integrated.

Data File: \\target_server\gg\chem\hplc02.i\HPLCLE23.b\HPLCLE23.b\HLE10685.D
Date : 23-MAY-2018 16:50
Client ID: HAAP-21B-BPA-SB03-4
Sample Info: WG228856-6,SL4233

Instrument: hplc02.i

Operator: AC
Column diameter: 4.60

Column phase: Acclaim Exp E1



Katahdin Analytical Services 1000582

Logbooks and Supporting Documents

KATAHDIN ANALYTICAL SERVICES
ORGANIC EXTRACTIONS LOGBOOK - AQUEOUS EXPLOSIVES
METHOD: SW846 8330 B Mod.

Surrogate Lot # P9105
Spike Lot # P9106
Acetonitrile (ACN) Lot # D81695
Cartridge Lot # 1102341

Vial Lot # 1727 7/16

Other Lot # SJTC 5436 - NG
Other Lot # 5438 - PETN
5477 - EDGN

Extraction Start Time: 10:15
Extraction Finish Time: 12:05

Extract Date	Extract Time	Analyst	Sample ID	Bottle ID.	Initial Vol. (600 mL)	Surr.: Add 500 uL of 10 ug/mL. Add to all samples	SPIKE: Add 25 uL of 100 ug/mL to MS/D & LCS/D	Elute 15 mL ACN (at gravity flow rate) thru cartridge and discard	Elute 30 mL water thru cartridge and discard	Elute sample through cartridge and discard	Elute 5 mL ACN through cartridge and collect	Add 10 mL water to ACN extract	Store sample in labeled vial	EXP 241 Tray Location	Comments
5/21/16	10:15	JMS	WG278769-1	Z	✓	✓	NR	✓	✓	✓	✓	✓	✓	E1	RY74042
			-2				✓							2	LCS/LCSD
			-3	B										3	MS 543549-3
			-4	B										4	MSD

QAEX339
0000082

Extract Date	Extract Time	Analyst	Sample ID	Bottle ID.	Initial Vol. (600 mL)	Surr.: Add 500 uL of 10 ug/mL. Add to all samples	SPIKE: Add 25 uL of 100 ug/mL to MS/D & LCS/D	Elute 15 mL ACN (at gravity flow rate) thru cartridge and discard	Elute 30 mL water thru cartridge and discard	Elute sample through cartridge and discard	Elute 5 mL ACN through cartridge and collect	Add 10 mL water to ACN extract	Store sample in labeled amber vial	EXP 241 Tray Location	Comments
5/24/16	11:25	JMS	SL4089-1	C	✓	✓	NR	✓	✓	✓	✓	✓	✓	E5	Re sulfur odor
	↓		SL4141-2	H										6	↓
	10:15		SL4233-54	I										7	
			SL4290-14	I										8	
			SL4349-1	A										9	
			-2	A										10	
			-3	A										11	MS/D

QAEX339
0000083

Katahdin Analytical Services
Organic Extractions Log – Explosives (Soils)

Method SW846 8330B

Surrogate ID: P9105	Acetonitrile (ACN) Lot # DQ695		Filter Lot No: T0407171425
Spike ID (15): P9106			Vial Lot No: 00255593
Spike ID (NG): SLY 5436			Syringe Lot No: 112 4803
Spike ID (PETN): 5438	Extraction Start Time: 13:40 5/21/18		Balance SN: Mettler PJ400
Spike ID (EGDN): 5477	Extraction End Time: 7:40 5/22/18		No. 30 Sieve S/N —

Date Extracted	Analyst	Sample Id.	Initial Amount (g)	Surrogate Volume (ml)	Spike Volume (ml)	Final Volume (mL)	Filter 5 ml of Extract	Add 10 ml of Water to ACN Extract	EXP241 Tray Location	Comments
5-21-18	JMS	IN62287701	9.98	0.5mL	NR	20mL	✓	✓	E12	RA74093
		-2	10.03		100L				F1	100L PINGTE
		-3	10.65						2	MS SL4233-15 D
		-4	10.10						3	MSD

EX-022 – Revision 2 – 03/21/2018



Date Extracted	Analyst	Sample Id.	Initial Amount (g)	Surrogate Volume (ml)	Spike Volume (ml)	Final Volume (mL)	Filter 5 ml of Extract	Add 10 ml of Water to ACN Extract	EXP241 Tray Location	Comments
5-21-18	JMS	SL4233-2 E	11.23	0.5mL	NR	20mL	✓	✓	F4	
		-3 E	11.44						5	
		-4 E	11.64						6	
		-5 E	10.76						7	
		-6 E	10.83						8	
		-7 E	11.39						9	
		-8 E	10.84						10	
		-9 E	11.46						11	
		-10 E	10.32						12	
		-11 E	10.84						EXP242 M1	
		-12 E	11.71						2	
		-13 E	10.86						3	
		-14 E	10.98						4	
		-15 D	12.24						5	MS/D
		-17 E	10.34						6	
		-19 E	10.61						7	
		-21 E	10.67						8	
		-22 E	10.55						9	
		-23 E	11.08						10	
		-24 E	10.39						11	

Katahdin Analytical Services
Organic Extractions Log – Explosives (Soils)

Method SW846 8330B

Surrogate ID: P9105	Acetonitrile (ACN) Lot # DQ695	Filter Lot No: T040717 1425
Spike ID (15): P9106		Vial Lot No: 00255893
Spike ID (NG): STK 5436		Syringe Lot No: 1124803
Spike ID (PETN): 5439	Extraction Start Time: 14:15 5/22	Balance SN: Mettler PJ400
Spike ID (EGDN): 5477	Extraction End Time: 8:15 5/23	No. 30 Sieve S/N —

Date Extracted	Analyst	Sample Id.	Initial Amount (g)	Surrogate Volume (ml)	Spike Volume (ml)	Final Volume (mL)	Filter 5 ml of Extract	Add 10 ml of Water to ACN Extract	EXP 242 Tray Location	Comments
5/22/18	JMS	WG228856-1	9.99	0.5mL	NR	20mL	✓	✓	A12	R474896
		-2	10.04		100uL				B1	10uL PtNG x E
		-3	10.14						2	MS: SL4233-31C
		-4	10.27						3	MSD: SL4233-31C
		-5	10.30						4	MS: SL4233-36E
		-6	10.36						5	MSD: SL4233-36E

EX-022 – Revision 2 – 03/21/2018



Date Extracted	Analyst	Sample Id.	Initial Amount (g)	Surrogate Volume (ml)	Spike Volume (ml)	Final Volume (mL)	Filter 5 ml of Extract	Add 10 ml of Water to ACN Extract	EXP242 Tray Location	Comments
5/22/18	JMS	SL4233-25E	11.20	0.5mL	NR	20mL	✓	✓	B6	
		-26E	11.21						7	
		-27E	11.07						8	
		-28E	10.36						9	
		-29E	10.04						10	
		-30E	10.13						11	
		-31C	11.06						12	
		-32E	10.72						C1	
		-33E	10.46						2	
		-34E	10.42						3	
		-35E	10.58						4	
		-36E	10.50						5	
		-37E	13.82						6	
		-38E	11.33						7	
		-39E	11.52						8	
		-40E	11.84						9	
		-41E	10.44						10	
		-42E	11.81						11	
		-43E	10.33						12	
		-44E	12.04						D1	

EX-022 – Revision 2 – 03/21/2018

Katahdin Analytical Services
Organic Extractions Log – Explosives (Soils)

Method SW846 8330B

Surrogate ID: P9105	Acetonitrile (ACN) Lot # JDQ695	Filter Lot No: JD407171425
Spike ID (15): P9106		Vial Lot No: 00255593
Spike ID (NG): 5976 5430		Syringe Lot No: 114803
Spike ID (PETN): 5439	Extraction Start Time: 14:15 5/22	Balance SN: Mettler AG400
Spike ID (EGDN): 5477	Extraction End Time: 845 5/23	No. 30 Sieve S/N —

Date Extracted	Analyst	Sample Id.	Initial Amount (g)	Surrogate Volume (ml)	Spike Volume (ml)	Final Volume (mL)	Filter 5 ml of Extract	Add 10 ml of Water to ACN Extract	EXP242 Tray Location	Comments
5/22/18	JMS	[illegible]857-1	10.04	0.5mL	NA	20mL	✓	✓	02	A474897
↓	↓	↓ -2	10.04	↓	100µL	↓	↓	↓	03	10µL PANG+E

EX-022 – Revision 2 – 03/21/2018

Date Extracted	Analyst	Sample Id.	Initial Amount (g)	Surrogate Volume (ml)	Spike Volume (ml)	Final Volume (mL)	Filter 5 ml of Extract	Add 10 ml of Water to ACN Extract	EXP 242 Tray Location	Comments
5/22/18	JMS	SL4180-4E	10.41	0.5mL	NA	20mL	✓	✓	04	BE
		SL4233-45E	10.98						5	
		-46E	10.46						6	
		-47E	10.88						7	
		-48E	10.31						8	
		-49E	11.02						9	
		-50E	11.63						10	
		-51E	10.52						11	
		-52E	10.57						12	
		-53E	13.52						E1	
		SL4236-1A	10.08						2	
		-2A	11.28						3	
		-3A	11.50						4	
		-4A	11.88						5	
		-5A	10.82						6	
		-6A	10.14						7	
		SL4290-1E	10.63						8	
		-2E	10.00						9	
		-3E	10.43						10	
		-4E	10.81						11	

Katahdin Analytical Services

HPLC Runlog
Instrument: HPLC02

Method (circle): ~~8330B MOD.~~ ~~8330B~~

Column: PHENOMENEX	Injection Volume: 100µL	Standard	Standard ID
Flow Rate: 1.0 mL/min	Methanol lot #: DQ788	C5	P8846
Detector Wavelengths: 210 nm/254 nm		C4	P8847

Date	Init.	Result File	Sample ID	Y/N	Analytical Workgroup	Method	Comments
073117	AAB	HKH10216	IND -8	Y	WL210620 (10 AMB 080217)	EXPB03A	
080117	AAB	HKH10001	C5 -17	Y	↓	EXPB03A	
↓	↓	002	WL210205-1	Y	↓	↓	
		003	↓ -2	↓			
		004	SK6535-1				
		005	↓ -2				
↓	↓	006	C4 -18	Y	↓	↓	
CHANGE TO ACCLAIM EZ COLUMN							
080117	AAB	HKH10007	PRIME	N	WL210620 (10 AMB 080217)	EZ016A	
↓	↓	008	C7 -15	Y	↓	↓	P8844
		009	C6 -14	↓			C7 150→300
		010	C5 -13				
		011	C4 -12				
		012	C3 -11				C5 60→300
		013	C2 -10				C4 60→300
		014	C1 -9	↓			C4 30→300
		015	IND	N			P8845
		016	IND -16	Y			T&T 4AM 3HT ↑
		017	WL210205-1C	Y			
		018	SK6535-1C	↓			
		019	↓ -2C	↓			
↓		020	C5	N			WRONG VIAL
080217	↓	021	C5 -19	Y	↓	↓	
CHANGE TO PHENOMENEX COLUMN							
080317	AAB	HKH10022	C5	Y	WL210944-1	EXPB03A	
↓	↓	023	WL210421-1	Y	WL210944	↓	
		024	↓ -2	↓	↓		
↓	↓	025	↓ -3	↓	↓	↓	

Reviewed by/Date: _____

Katahdin Analytical Services

HPLC Runlog
Instrument: HPLC02

Method (circle): ~~8330B MOD.~~ 8330B

Column: PHENOMENEX	Injection Volume: 100uL	Standard	Standard ID
Flow Rate: 1.0 mL/MIN	Methanol lot #: DS 202	C5	P9009
Detector Wavelengths: 210 nm / 252 nm		C4	P9010

Date	Init.	Result File	Sample ID	Y/N	Analyical Workgroup	Method	Comments
031618	AC	HLC10023	COMBO	N		CANNA81	CANN TESTING
CHANGE TO PHENOMENEX COLUMN							
032018	AC	HLC10024	C5	Y		EXP804A	
		025	WL225027-1	N			
		026	-2				
		027	-5				
		028	-3				
		029	-4				
		030	IND	N	WL225143	EXP805A	
		031	C7 -7	Y			P9008
		032	C6 -6				↓ 150→300
		033	C5 -5				P9009
		034	C4 -4				P9010
		035	C3 -3				P9009 100→500
		036	C2 -2				↓ 50→500
		037	C1 -1				P9010 50-500
		038	IND -8				P9071
		039	WL225027-1	Y			
		040	-2				
		041	-5				
		042	-3				
		043	-4				SS DOUBLE SPIKE
		044	WL225094-1	Y			
		045	-2				
		046	SL2079-14	Y			R,D
		047	SL2135-20	Y			
		048	SL2295-1	Y			PETN SS ROUNDS IN
032118		049	C5 -9	Y			

Reviewed by/Date: _____

HP-003 - Revision 2 - 09/01/2016

Katahdin Analytical Services

HPLC Runlog
Instrument: HPLC02

Method (circle): 8330B MOD. 8330B

Column: PHENOMENEX	Injection Volume: 100mL	Standard	Standard ID
Flow Rate: 1.0 mL/MIN	Methanol lot #: DS243	c5	P9101
Detector Wavelengths: 210nm/254nm		c4	P9102

Date	Init.	Result File	Sample ID	Y/N	Analyical Workgroup	Method	Comments
052218	AC	HLE10627	c5 -1	Y	WG228942	EXPBOSA	
		628	WG228769-1	Y			
		629	-2				
		630	-3				4NT↑
		631	-4				4NT↑
		632	SL4089-1RE	Y			ss↓ MATRIX OOH
		633	SL4141-2RE	Y			MB OOH
		634	SL4233-5d	Y			MB, 2AM 3NT
		635	SL4290-14	Y			MB 2AM
		636	SL4349-1	Y			H R DNA 4AM 2AM 4NT 2,4 1,3,5 TNT
		637	-2				H R DNA 4AM 2AM 2,6 1,3,5 TNT
		638	-3				4NT
		639	c4 -15 -2	Y			WG228756
		640	SL4180-16	Y			WG228756
		641	-17				
		642	-18				
		643	-19				
		644	-20				
		645	-21				12
		646	-22				
		647	-23				
		648	-24				
		649	-25				
		650	c5 -16 -3	Y			WG228756
		651	SL4180-26	Y			
		652	-27				
		653	SL228770-1	Y			
		654	-2				

Reviewed by/Date:

Katahdin Analytical Services

HPLC Runlog
Instrument: HPLC02

Method (circle): (8330B MOD.) (8330B)

Column: PHENOMENEX	Injection Volume: 100 µL	Standard	Standard ID
Flow Rate: 1.0 mL/MIN	Methanol lot #: DS 243	C5	P9101
Detector Wavelengths: 210 nm / 254 nm		C4	P9102

Date	Init.	Result File	Sample ID	Y/N	Analyical Workgroup	Method	Comments
052318	AC	17LE10655	WL228770-3	Y	WL228942	EXP8054	
		656	↓ -4	↓			
		657	SL4233-2	Y			4
		658	-3				
		659	-4				
		660	-5	↓			
		661	C4 -17 -4	Y			WL228756
		662	SL4233-6	Y			
		663	-7				
		664	-8				
		665	-9				
		666	-10				
		667	-11				
		668	-12				
		669	-13				
		670	-14				MG
		671	-15	↓			
		672	C5 -5	Y			
		673	SL4233-17	Y			
		674	-19				
		675	-21				
		676	-22				
		677	-23				4AM
↓	↓	678	-24	↓	↓	↓	2,4
052318	AC	17LE10679	C4 -6	Y	WL228942	EXP8054	
		680	WL228856-1	Y			
		681	↓ -2	↓			
↓	↓	682	-3	↓	↓	↓	

Reviewed by/Date:

Katahdin Analytical Services

HPLC Runlog
Instrument: HPLC02

Method (circle): 8330B MOD / 8330B

Column: PHENOMENEX	Injection Volume: 100 uL	Standard	Standard ID
Flow Rate: 1.0 mL / MIN	Methanol lot #: DS 243	CS	P9101
Detector Wavelengths: 210 nm / 254 nm		CU	P9102

Date	Init.	Result File	Sample ID	Y/N	Analyical Workgroup	Method	Comments
052318	AC	HLE10683	WG228856-4	Y	WG228942	EXPBOSA	
		684	-5				
		685	-6				
		686	WG228857-1	Y			
		687	-2				
		688	SL4180-4RE	Y			
		689	SL4233-25	Y			
		690	CS -7	Y			
		691	SL4233-26	Y			
		692	-27				
		693	-28				
		694	-29				
		695	-30				
		696	-31				
		697	-32				H R
		698	-33				H R
052418		699	-34				R
		700	-35				H
		701	CU -8	Y			
		702	SL4233-36	Y			H R
		703	-37				R
		704	-38				H R
		705	-39				H R
		706	-40				RE 1:2 H R
		707	-41				R
		708	-42				
		709	-43				
		710	-44				

Reviewed by/Date:

Katahdin Analytical Services

HPLC Runlog
Instrument: HPLC02

Method (circle): ~~8330B MOD~~ ~~8330B~~

Column: PHENOMENEX	Injection Volume: 100 mL	Standard	Standard ID
Flow Rate: 1.0 mL/MIN	Methanol lot #: DS 243	CS	P9101
Detector Wavelengths: 210nm / 254nm		CH	P9102

Date	Init.	Result File	Sample ID	Y/N	Analyical Workgroup	Method	Comments
052418	AC	HLE10711	SL4233-45	Y	WG228942	EX8B05A	
		712	CS -9	Y			
		713	SL4233-46	Y			
		714	-47				
		715	-48				
		716	-49				
		717	-50				
		718	-51				4AM
		719	-53				
		720	CH -10	Y			
		721	SL4236-1	Y			
		722	-2				
		723	-3				
		724	-4				
		725	-5				
		726	-6				
		727	SL4233-40DL	Y			150 → 800
052418	AC	HLE10728	CS -11 -1	Y		EX8B05A	WG228942 DT 507
		729	WG229013-1	Y	WG229070		Analyze 052518
		730	-2				
		731	-3				
		732	-4				
		733	SL4452-2	Y			
		734	-3				
		735	-4				
		736	-5				
		737	-6				
		738	-7				

Reviewed by/Date: _____

Katahdin Analytical Services

HPLC Runlog
Instrument: HPLC02

Method (circle): 8330B MOD 8330B

Column: PHENOMENEX	Injection Volume: 100 µL	Standard	Standard ID
Flow Rate: 1.0 mL / MIN	Methanol lot #: ~~DS2413~~ DT507 AAB 052518	C5	P9101
Detector Wavelengths: 210 nm / 254 nm		C4	P9102

Date	Init.	Result File	Sample ID	Y/N	Analyical Workgroup	Method	Comments
052418	AC	HL610739	C4 -12 -2	Y	WG228942 WG229070	EXP805A	
		740	SL4511-2	Y	WG229070		
		741	-3				
		742	-4				
		743	SL4569-1	Y			
052518		744	-2				
		745	-3				
		746	-4				
		747	-5				H R DNA 4AM 2AM 1,3,5 TNT
		748	WG228935-1	Y	WG228942		
		749	-2				
		750	C5 -13 -3	Y	WG228942 WG229070		
		751	SL4290-1	Y	WG228942		NB
		752	-2				
		753	-3				
		754	-4				
		755	-5				
		756	-6				
		757	-7				
		758	-8				
		759	-9				
		760	-10				
		761	C4 -14	Y			
		762	SL4290-11	Y			
		763	-12				
		764	-13				
		765	SL4292-1				
		766	-2				

Reviewed by/Date:

Katahdin Analytical Services

HPLC Runlog
Instrument: HPLC02

Method (circle): 8330B MOD / 8330B

Column: PHENOMENEX	Injection Volume: 100uL	Standard	Standard ID
Flow Rate: 1.0mL/MIN	Methanol lot #: DT507	C5	P9101
Detector Wavelengths: 210nm / 254nm		C4	P9102

Date	Init.	Result File	Sample ID	Y/N	Analyical Workgroup	Method	Comments
052518	AC	HLE10767	SL4292-3	Y	WG228942	EXPB05A	
		768	-4				
		769	-5				
		770	-6				
		771	SL4233-5Z				
		772	C5 -15	Y			
CHANGE TO ACCLAIM EZ COLUMN							
052518	AC	HLE10773	C5 -11	Y	WG228756	EZ016A	
		774	WG228250/450-1C KAB 052518	Y	WG228756		
		775	SL4032-3C	Y			NONE
		776	-4C				NONE
		777	-5C				NONE
		778	-6C				NONE
		779	-7C				NONE
		780	WG228834-1C	Y	WG228756		
		781	SL4089-1C	Y			NONE
052618		782	-2C				NONE
		783	-4C				NONE
		784	C4 -12	Y	WG228756		
		785	SL4089-5C	Y	WG228756		NONE
		786	-6C				NONE
		787	-7C				NONE
		788	-9C				NONE
		789	-1C				NONE
		790	-12C				NONE
		791	WG228439-1C	Y	WG228756		
		792	SL4180-5C	Y			4
		793	-6C				NONE

Reviewed by/Date: _____

Katahdin Analytical Services

HPLC Runlog
Instrument: HPLC02

Method (circle): (8330B MOD.) (8330B)

Column: ACCLAIM E2	Injection Volume: 150uL	Standard	Standard ID
Flow Rate: 1.0 mL/MIN	Methanol lot #: DT 567	C5	P9101
Detector Wavelengths: 210 nm / 254 nm		C4	P9102

Date	Init.	Result File	Sample ID	Y/N	Analyical Workgroup	Method	Comments
052618	AC	HLE10794	SL4180-7C	Y	WG228756	E2016A	NONE
		795	C5 -13 -16	Y	WG228756 WG228942		WG229070-4
		796	WG228442-1C	Y	WG228756		
		797	SL4141-1C	Y			NONE
		798	-2C				NONE
		799	-4C				NONE
		800	-5C				NONE
		801	-8C				NONE
		802	WG228437-1C	Y	WG228756		
		803	SL4180-21C	Y			H
		804	WG229013-1C	Y	WG229070 ~~WG228942~~ *		*AAS 052918
		805	SL4569-5C	Y			R 1,3,5 TNT DNA HMX 2AM
		806	C4 -14 -17	Y	WG228756 WG228942		WG229070-5
		807	WG228770-1C	Y	WG228942		
		808	SL4233-2C	Y			H
		809	-14C				NG
		810	-23C				NONE
052718		811	-24C				NONE
		812	WG228856-1C	Y			
		813	SL4233-32C	Y			H R
		814	-33C				H R
		815	-34C				R
		816	-35C				NONE
		817	C5 -18	Y	WG228942		
		818	SL4233-36C	Y	WG228942		H R
		819	-37C				R
		820	-38C				H R
		821	-39C				H R

Reviewed by/Date: _____

Katahdin Analytical Services

HPLC Runlog
Instrument: HPLC02

Method (circle): (8330B MOD) (8330B)

Column: ACCLAIM EZ	Injection Volume: 150mL	Standard	Standard ID
Flow Rate: 1.0mL/min	Methanol lot #: DT 507	CS	P9101
Detector Wavelengths: 210nm / 254nm		CCV	P9102

Date	Init.	Result File	Sample ID	Y/N	Analyical Workgroup	Method	Comments
052718	AC	HLE10822	SL4233-40C	Y	WG228942	E2016A	4 R
		823	-41C				R
		824	WG228857-1C	Y			
		825	SL4233-51C	Y			NONE
		826	SL4290-1C	Y			NONE
		827	CCV -19	Y	WG228942		
052918	AAB	HLE10828	PRIME	N		E2016A	
		829	CS -20	Y	WG228942		
		830	WG228769-1C	Y			
		831	SL4233-54C	Y			NONE
		832	SL4290-14C	Y			NONE
		833	SL4349-1C	Y			4 R 1,3,5 TNT 2,4 DNA 4AM 2AM
		834	-2C				4 R 1,3,5 TNT 2,6 DNA 4AM 2AM
		835	-3C				4NT
		836	CCV -21	Y			

Reviewed by/Date:

METALS DATA

Sample Data Section

METALS SAMPLE FLAGGING

FLAG	SPECIFIED MEANING
E	The reported value is estimated because of the presence of interference (as indicated by serial dilution).
N	The pre-digestion spiked sample recovery is not within control limits.
*	The duplicate sample analysis relative percent difference (RPD) is not within control limits.
B	Indicates the analyte was detected in the laboratory method blank analyzed concurrently with the sample.
A	The post-digestion spiked sample recovery is not within control limits.
•	Analytical run QC sample (e.g. ICV, CCV, ICB, CCB, ICSA, ICSAB) not within control limits.
U	The analyte was not detected above the specified level. This level may be the Practical Quantitation Level (PQL) (also called Limit of Quantitation (LOQ)), the Limit of Detection (LOD) or Method Detection Limit (MDL) as required by the client. Note: All results reported as "U" MDL have a 50% rate for false negatives compared to those results reported as "U" PQL, "U" LOQ or "U" LOD, where the rate of false negatives is <1%.
J	Estimated value. The analyte was detected in the sample at a concentration less than the laboratory Practical Quantitation Level (PQL) (also called Limit of Quantitation (LOQ)), but above the Method Detection Limit (MDL).
Q	One or more quality control criteria failed (e.g., LCS recovery, surrogate spike recovery or CCV).

COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Lab Name: Katahdin Analytical Services

SDG Name: SL4233 **SOW No.** SW846

Client Field ID	Lab Sample ID
CHAAP-21B-BB-SB01	SL4233-006
CHAAP-21B-BB-SB02	SL4233-008
CHAAP-21B-BB-SB03	SL4233-014
CHAAP-21B-BB-SB04	SL4233-012
CHAAP-21B-BB-SB05	SL4233-010
CHAAP-21B-BB-SB06	SL4233-015
CHAAP-21B-BB-SB06	SL4233-015P
CHAAP-21B-BB-SB06	SL4233-015S
CHAAP-21B-BB-SS01	SL4233-004
CHAAP-21B-BB-SS02	SL4233-007
CHAAP-21B-BB-SS03	SL4233-013
CHAAP-21B-BB-SS04	SL4233-011
CHAAP-21B-BB-SS05	SL4233-009
CHAAP-21B-BB-SS06	SL4233-017
CHAAP-21B-BB-SS101	SL4233-005
CHAAP-21B-BB-SS106	SL4233-019
CHAAP-21B-BPA-SB01-4	SL4233-029
CHAAP-21B-BPA-SB01-8	SL4233-031
CHAAP-21B-BPA-SB01-8	SL4233-031P
CHAAP-21B-BPA-SB01-8	SL4233-031S
CHAAP-21B-BPA-SB02-4	SL4233-033
CHAAP-21B-BPA-SB02-8	SL4233-034
CHAAP-21B-BPA-SB03-4	SL4233-036
CHAAP-21B-BPA-SB03-4	SL4233-036P

Were ICP interelement corrections applied ?	Yes
Were ICP background corrections applied ?	Yes
If yes - were raw data generated before application of background corrections ?	No

Comments:

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the case narrative. Release of the data contained in this hardcopy data package and in the computer-readable data submitted has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: _____ Name: Jason Stewart

Date: 6-1-18 Title: Analyst

COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Lab Name: Katahdin Analytical Services

SDG Name: SL4233 **SOW No.** SW846

Client Field ID	Lab Sample ID
CHAAP-21B-BPA-SB03-4	SL4233-036S
CHAAP-21B-BPA-SB03-8	SL4233-037
CHAAP-21B-BPA-SB04-4	SL4233-040
CHAAP-21B-BPA-SB04-8	SL4233-041
CHAAP-21B-BPA-SB05-4	SL4233-043
CHAAP-21B-BPA-SB05-8	SL4233-044
CHAAP-21B-BPA-SB06-4	SL4233-046
CHAAP-21B-BPA-SB06-8	SL4233-047
CHAAP-21B-BPA-SB07-4	SL4233-052
CHAAP-21B-BPA-SB07-8	SL4233-053
CHAAP-21B-BPA-SB08-4	SL4233-049
CHAAP-21B-BPA-SB08-8	SL4233-050
CHAAP-21B-BPA-SB101-4	SL4233-030
CHAAP-21B-BPA-SS01	SL4233-028
CHAAP-21B-BPA-SS02	SL4233-032
CHAAP-21B-BPA-SS03	SL4233-035
CHAAP-21B-BPA-SS04	SL4233-038
CHAAP-21B-BPA-SS05	SL4233-042
CHAAP-21B-BPA-SS06	SL4233-045
CHAAP-21B-BPA-SS07	SL4233-051
CHAAP-21B-BPA-SS08	SL4233-048
CHAAP-21B-BPA-SS09	SL4233-023
CHAAP-21B-BPA-SS09-5	SL4233-024
CHAAP-21B-BPA-SS10	SL4233-021

Were ICP interelement corrections applied ?	Yes
Were ICP background corrections applied ?	Yes
If yes - were raw data generated before application of background corrections ?	No

Comments:

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the case narrative. Release of the data contained in this hardcopy data package and in the computer-readable data submitted has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: _____ Name: Jason Stewart

Date: 6-1-18 Title: Analyst

COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Lab Name: Katahdin Analytical Services

SDG Name: SL4233 **SOW No.** SW846

Client Field ID	Lab Sample ID
CHAAP-21B-BPA-SS10-5	SL4233-022
CHAAP-21B-BPA-SS104	SL4233-039
CHAAP-21B-BPA-SS21	SL4233-025
CHAAP-21B-BPA-SS21-3	SL4233-026
CHAAP-21B-BPA-SS21-6	SL4233-027
CHAAP-21B-DS-SB01-5	SL4233-003
CHAAP-21B-DS-SS01	SL4233-002
CHAAP-EB-051518	SL4233-054

Were ICP interelement corrections applied ?	Yes
Were ICP background corrections applied ?	Yes
If yes - were raw data generated before application of background corrections ?	No

Comments:

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the case narrative. Release of the data contained in this hardcopy data package and in the computer-readable data submitted has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: _____ Name: Jason Stuart

Date: 6.1.18 Title: Analyst

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** CHAAP-21B-DS-SS01

Matrix: SOIL **SDG Name:** SL4233

Percent Solids: 81.8 **Lab Sample ID:** SL4233-002

Concentration Units : mg/Kg drywt

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED LOQ	ADJUSTED MDL	ADJUSTED LOD
7429-90-5	ALUMINUM, TOTAL	12800			MS	5	12	0.61	4.8
7440-36-0	ANTIMONY, TOTAL	0.13			MS	5	0.12	0.024	0.060
7440-38-2	ARSENIC, TOTAL	2.66			MS	5	0.60	0.18	0.48
7440-39-3	BARIUM, TOTAL	140			MS	5	0.24	0.044	0.12
7440-41-7	BERYLLIUM, TOTAL	0.664			MS	5	0.12	0.0049	0.024
7440-43-9	CADMIUM, TOTAL	0.138			MS	5	0.12	0.0091	0.024
7440-70-2	CALCIUM, TOTAL	2410			MS	5	12	4.6	9.7
7440-47-3	CHROMIUM, TOTAL	13.0			MS	5	0.60	0.059	0.48
7440-48-4	COBALT, TOTAL	7.16			MS	5	0.12	0.0067	0.036
7440-50-8	COPPER, TOTAL	10.2			MS	5	0.36	0.085	0.24
7439-89-6	IRON, TOTAL	11200			MS	5	12	2.9	7.3
7439-92-1	LEAD, TOTAL	17.8			MS	5	0.12	0.0085	0.060
7439-95-4	MAGNESIUM, TOTAL	3040			MS	5	12	1.6	9.7
7439-96-5	MANGANESE, TOTAL	404			MS	5	0.24	0.051	0.12
7439-97-6	MERCURY, TOTAL	0.020	J		CV	1	0.029	0.0046	0.015
7440-02-0	NICKEL, TOTAL	9.66			MS	5	0.24	0.032	0.14
7440-09-7	POTASSIUM, TOTAL	3450			MS	5	120	5.5	48
7782-49-2	SELENIUM, TOTAL	0.680			MS	5	0.60	0.047	0.36
7440-22-4	SILVER, TOTAL	0.062	J		MS	5	0.12	0.0079	0.048
7440-23-5	SODIUM, TOTAL	132			MS	5	120	3.1	48
7440-28-0	THALLIUM, TOTAL	0.245			MS	5	0.12	0.011	0.048
7440-62-2	VANADIUM, TOTAL	24.6			MS	5	0.60	0.13	0.48
7440-66-6	ZINC, TOTAL	39.1			MS	5	1.2	0.16	0.97

Comments: