Groundwater Field Sampling Data Sheet

Well No.: PRGW-05	Site: CHAAP	Tract: 21B-BPA	Date: 6.1.18
Samplers: D. Hedgepeth		Project No.: AT3001	
Measured Well Depth and Condition of Bottom: 25.6' Hard			Sample Time: 900
DTW (ft): 12.05	DTP (ft): 20.5	FedEx: X UPS ___Hand ___Other	
MP Ht. Aboveground/Below Ground Surface: ~2.5' AGS		Sampling Method (G=grab, B=bailer, **SP=submersible pump**):	
Installed Well Depth: 23.6 BGS		Type of Pump: QED SampPro Bladder Pump 1.75''	
Screen Interval (ft): 10'		Weather (sun/clear, overcast/rain, wind direction, ambient temp):	
Well Diameter (in): 4"		Other: Purge Start time at 820	
Placement of Pump (ft): 20.5 BTOC		Other: Controller Settings - 10/5 cycle, 4cpm, 24psi	

Field Parameters

Time	Depth to Water (ft)	Flow Rate (ml/min)	Total Volume (L)	pH (± 0.1 units)	Temp (°C) (± 0.5 °C)	S. Cond (µS/cm) (± 3%)	ORP (mV) (± 10mV)	DO (mg/L) (± 10%)	Turbidity (NTU) (<50 or ± 10%)	Note
825	12.05	150	.75	7.07	13.05	3349	113.1	5.43	10.86	
830	12.05		1.5	7.14	13.02	3334	78.3	5.07	8.71	
835	12.05		2.25	7.01	13.17	3320	65.1	4.88	8.23	
840	12.05		3.0	6.92	13.11	3302	50.7	4.56	9.03	
845	12.05		3.75	6.89	13.12	3294	44.3	4.34	7.86	
850	12.05		4.5	6.95	13.38	3273	41.8	4.16	7.21	
855	12.05		5.25	6.97	13.43	3266	39.6	4.04	6.84	
900	12.05		6.00	6.98	13.55	3268	39.2	3.92	6.51	

Observations

Color: Clear/Other (describe)
Odor: None/Low/Medium/High/Very Strong/H2S/Fuel-Like
Notes:
Sampled for: VOCs, Explosives, Metals + FD @1200
Purge Volume Calculations Well Casing Volume = J $(Rc)^2$ (well depth – static H_2O depth) x (conversion 7.48 gal/ft^3)

Groundwater Field Sampling Data Sheet

Well No.: PRGW05	Site: CHAAP	Tract: 21B	Date: 11-06-18
Samplers: Brant Hylinski		Project No.: 16-027	
Measured Well Depth and Condition of Bottom: 25.55 clean			Sample Time: 11:20
DTW (ft): 15.87	DTP (ft): _____	FedEx: _X_ UPS ___Hand ___Other	
MP Ht. Aboveground/Below Ground Surface:		Sampling Method (G=grab, B=bailer, **SP=submersible pump**):	
Installed Well Depth:		Type of Pump: QED SampPro Bladder Pump 1.75"	
Screen Interval (ft):		Weather (sun/clear, overcast/rain, wind direction, ambient temp):	
Well Diameter (in):		Other:	
Placement of Pump (ft):		Other:	

Field Parameters

Time	Depth to Water (ft)	Flow Rate (ml/min)	Total Volume (L)	pH (± 0.1 units)	Temp (°C) (± 0.5 °C)	Cond (µS/cm) (± 3%)	ORP (mV) (± 10mV)	DO (mg/L) (± 10%)	Turbidity (NTU) (<50 or ± 10%)	Note
10:30	15.97	—	—	6.95	11.45	2.783	90.5	1.00	225	
10:35	15.97	200	1	6.94	11.55	2.781	91.2	1.51	14.8	
10:40	15.97	↓	2	6.92	11.62	2.774	89.1	1.49	12.7	
10:45	15.99		3	6.94	11.67	2.763	72.9	1.32	11.5	
10:50	16.00		4	6.96	11.73	2.749	52.2	1.27	10.5	
10:55	16.00		5	6.98	11.63	2.734	35.8	1.36	9.20	
11:00	16.09		6	6.99	11.68	2.719	29.9	1.29	7.87	
11:05	16.09		7	7.00	11.70	2.713	26.4	1.31	7.58	
11:10	16.10		8	7.00	11.71	2.710	23.1	1.32	7.00	
11:15	16.10		9	7.01	11.74	2.710	21.4	1.31	6.43	
11:20	16.10		10	7.01	11.75	2.712	20.6	1.31	5.83	

Observations

Color: Clear/Other (describe)

Odor: None/Low/Medium/High/Very Strong/H2S/Fuel-Like

Notes: PAHs collected

Purge Volume Calculations Well Casing Volume = J $(Rc)^2$ (well depth – static H_2O depth) x (conversion 7.48 gal/ft^3)

Groundwater Field Sampling Data Sheet

Well No.: G0071	Site: CHAAP	Tract: 21B	Date: 6-18-18
Samplers: B. Hylinski		Project No.: 16-027	
Measured Well Depth and Condition of Bottom: 40.28			Sample Time: 13:30
DTW (ft): 11.29	DTP (ft): 33	FedEx: X UPS ___Hand ___Other	
MP Ht. Aboveground/Below Ground Surface:		Sampling Method (G=grab, B=bailer, SP=submersible pump): S	
Installed Well Depth: 40.28		Type of Pump: QED SampPro Bladder Pump 1.75"	
Screen Interval (ft): 28-38		Weather (sun/clear, overcast/rain, wind direction, ambient temp):	
Well Diameter (in): 4"		Other: Purge Start time at 11:05	
Placement of Pump (ft): 33		Other: Controller Settings - 25 PSI	

Field Parameters

Time	Depth to Water (ft)	Flow Rate (ml/min)	Total Volume (L)	pH (± 0.1 units)	Temp (°C) (± 0.5 °C)	Cond (µS/cm) (± 3%)	ORP (mV) (± 10mV)	DO (mg/L) (± 10%)	Turbidity (NTU) (<50 or ± 10%)	Note
11:05	11.29	–	–	–	–	–	–	–	–	–
11:10	11.29	100	.5	7.01	13.87	1961	-21.9	15.3	220	
11:15	11.29	300	2.0	6.94	13.67	1.954	-31.2	12.5	202	
11:20	11.29	300	3.5	6.91	13.28	1.937	-34.1	11.1	158	
11:25	11.29	300	5.0	6.91	13.22	1.934	-49.7	11	140	
11:30	11.29		6.5	6.91	13.42	1.942	-52.3	11.2	129	
11:35	11.29		8.0	6.91	13.42	1.940	-54.4	12	118	
11:40	11.29		9.5	6.92	13.36	1.940	-55.6	12	107	
11:45	11.29		11.00	6.91	13.22	1.939	-55.7	11	95	
11:50	11.29		12.5	6.91	13.25	1.937	-55.8	10.3	94.7	
11:55	11.29		14.0	6.90	13.27	1.940	-51.1	10.3	91.5	
12:00	11.29		15.5	6.90	13.27	1.942	-49.5	10.2	89.2	
12:05	11.29	300	17	6.91	13.45	1.950	-48.7	9.3	83.6	
12:10	11.29	300	18.5	6.91	13.45	1949	-46.9	9.2	81.1	
12:15	11.29	300	20	6.91	13.43	1.949	-45.1	9.2	80	
12:20	11.29	300	21.5	6.92	13.49	1950	-42.9	9.1	75.2	

Observations

Color: Clear/Other (describe)

Odor: None/Low/Medium/High/Very Strong/H2S/Fuel-Like

Notes:

Sampled for: VOCs, explosives, metals

Purge Volume Calculations Well Casing Volume = J (Rc)^2 (well depth – static H_2O depth) x (conversion 7.48 gal/ft^3)

Groundwater Field Sampling Data Sheet

Well No.: G0071	Site: CHAAP	Tract: 21B	Date: 6-18-18
Samplers: B. Hylinski		Project No.: 16-027	
Measured Well Depth and Condition of Bottom:			Sample Time: 13:30
DTW (ft): 11.29	DTP (ft): 33	FedEx: X UPS ___Hand ___Other	
MP Ht. Aboveground/Below Ground Surface:		Sampling Method (G=grab, B=bailer, **SP=submersible pump**):	
Installed Well Depth: 40.28		Type of Pump: QED SampPro Bladder Pump 1.75"	
Screen Interval (ft): 28-38		Weather (sun/clear, overcast/rain, wind direction, ambient temp):	
Well Diameter (in): 4"		Other: Purge Start time at 11.05	
Placement of Pump (ft): 33ft		Other: Controller Settings - PSI 25	

Field Parameters

Time	Depth to Water (ft)	Flow Rate (ml/min)	Total Volume (L)	pH (± 0.1 units)	Temp (°C) (± 0.5 °C)	Cond (µS/cm) (± 3%)	ORP (mV) (± 10mV)	DO (mg/L) (± 10%)	Turbidity (NTU) (<50 or ± 10%)	Note
12:25	11.29	300	23	6.93	13.20	1.941	-41.4	9.3	69.4	
12:30	11.29	300	24.5	6.92	13.16	1.933	-40.9	9.3	65	
12:35	11.29	300	26	6.90	13.09	1.933	-42.1	8.9	62.4	
12:40	11.29	300	27.5	6.90	13.06	1.931	-46.6	8.5	58.9	
12:45	11.29	300	29	6.92	13.29	1.941	-50.1	8.4	58.1	
12:50	11.29	↓	30.5	6.92	13.40	1.952	-56.8	8.4	56.0	
12:55	11.29		32	6.89	13.64	1.967	-54.1	.78	48.7	
13:00	11.29		33.5	6.89	13.64	2.498	-51.7	.75	47.2	
13:05	11.29		35	6.89	13.62	2.513	-51.2	.67	46.7	
13:10	11.29		36.5	6.89	13.68	2.512	-51.8	.65	45.4	
13:15	11.29		38	6.89	13.94	2.511	-52.5	.64	44.3	
13:20	11.29		39.5	6.88	13.98	2.500	-50.6	.63	42.2	
13:25	11.29		41	6.86	14.28	2.449	-48.1	.61	43.4	

Observations

Color: Clear/Other (describe)

Odor: None/Low/Medium/High/Very Strong/H2S/Fuel-Like

Notes:

Sampled for: VOCs, explosives, metals

Purge Volume Calculations Well Casing Volume = J $(Rc)^2$ (well depth – static H_2O depth) x (conversion 7.48 gal/ft^3)

17.90

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Tract 21B: Decanting Station – Surface and Subsurface Soil Field Sampling Records

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FIELD SAMPLING REPORT

LOCATION: Corn Husker AAP	PROJECT: CHAAP RI/FS
SITE: Tract 21B-BPA / BB / DS	PROJECT NUMBER: AT3001.05

SAMPLE INFORMATION

SAMPLE ID: CHAAP-21B-DS-SS01-AH	TIME: 835 DATE: 5.15.18
QC SAMPLE: YES (X) NO ~~(X)~~ AH	MATRIX: SO
QC SAMPLE ID: CHAAP-TB-051518	FIELD FILTERED: YES ( ) NO (X)
TYPE OF QC SAMPLE: – ~~0830~~ 800	BEGINNING DEPTH: ~~X~~ 0.0
GRAB (X) COMPOSITE ( )	END DEPTH: 0.5'
QC SAMPLE TYPE CODES: DUPLICATE (DUP), MATRIX SPIKE (MS), MATRIX SPIKE DUP (MSD), EQUIPMENT BLANK (EB), TRIP BLANK (TB), FIELD BLANK (FB)	SAMPLING METHOD: HA or (SS)
	SAMPLING EQUIPMENT: HA or (DPT)

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANAYLSIS	NOTES
8oz Glass	1	-	8330B	Explosives	
		-	6010	Metals	
		~~—~~	~~7196A~~	~~Hex Chrome~~	
4x40mL VOA	1	DI / MEOH	8260	VOCs	

NOTABLE OBSERVATIONS

SAMPLE CHARACTERISTICS		MISCELLANEOUS
		Color: Topsoil
		Odor: –
		PID: 0.0
		Other: –

Comments:

GENERAL INFORMATION

WEATHER: SUN/CLEAR X OVERCAST/RAIN ____ WIND DIRECTION ____ AMBIENT TEMP 65

SHIPMENT VIA: FedEx X HAND DELIVER ____ COURIER ____ UPS ____

SHIPPED TO: Katahdin Laboratory

TRACKING NUMBER: ____ COC NUMBER: ____

COMMENTS: ____

SAMPLER: AH OBSERVER: XC

MATRIX TYPE CODES		SAMPLING METHOD/EQUIPMENT CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	HA=HAND AUGER
WG=GROUND WATER	SO=SOIL	BP = BLADDER PUMP	HSA=HOLLOW STEM AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	DPT=DIRECT PUSH	HP=HYDRO PUNCH
SH=HAZARDOUS SOLID WASTE	WS=SURFACE WATER	LF = LOW FLOW	ST= SHELBY TUBE
SE=SEDIMENT	SW=SWAP/WIPE	MC = MARCO CORE	SS=SPLIT SPOON
		PDB = PASSIVE DIFFUSION BAG	SP=SUBMERSIBLE PUMP
		PP = PERISTALTIC PUMP	
		HYD = HYDRASLEEVE	

FIELD SAMPLING REPORT

LOCATION: Corn Husker AAP	PROJECT: CHAAP RI/FS
SITE: Tract 21B-BPA / BB / DS	PROJECT NUMBER: AT3001.05

SAMPLE INFORMATION

SAMPLE ID: CHAAP-21B- DS-SB01-S	TIME: 840	DATE: 5.15.18
QC SAMPLE: YES ( ) NO (✓)	MATRIX: SO	
QC SAMPLE ID: —	FIELD FILTERED: YES ( ) NO (✓)	
TYPE OF QC SAMPLE: —	BEGINNING DEPTH: 4 '	
GRAB (X) COMPOSITE ( )	END DEPTH: 5 '	
QC SAMPLE TYPE CODES: DUPLICATE (DUP), MATRIX SPIKE (MS), MATRIX SPIKE DUP (MSD), EQUIPMENT BLANK (EB), TRIP BLANK (TB), FIELD BLANK (FB)	SAMPLING METHOD: HA or (SS)	
	SAMPLING EQUIPMENT: HA or (DPT)	

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANAYLSIS	NOTES
8oz Glass	1	-	8330B	Explosives	
		-	6010	Metals	
		~~-~~	~~7196A~~	~~Hex Chrome~~	
4x40mL VOA	1	DI / MEOH	8260	VOCs	

NOTABLE OBSERVATIONS

SAMPLE CHARACTERISTICS		MISCELLANEOUS
		Color: light Gray
		Odor: —
		PID: 0.0
		Other: —

Comments:

GENERAL INFORMATION

WEATHER: SUN/CLEAR (X) OVERCAST/RAIN ____ WIND DIRECTION ____ AMBIENT TEMP 65

SHIPMENT VIA: FedEx X HAND DELIVER ____ COURIER ____ UPS ____

SHIPPED TO: Katahdin Laboratory

TRACKING NUMBER: ____ COC NUMBER: ____

COMMENTS: ____

SAMPLER: AH OBSERVER: XC

MATRIX TYPE CODES		SAMPLING METHOD/EQUIPMENT CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	HA=HAND AUGER
WG=GROUND WATER	SO=SOIL	BP = BLADDER PUMP	HSA=HOLLOW STEM AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	DPT=DIRECT PUSH	HP=HYDRO PUNCH
SH=HAZARDOUS SOLID WASTE	WS=SURFACE WATER	LF = LOW FLOW	ST= SHELBY TUBE
SE=SEDIMENT	SW=SWAP/WIPE	MC = MARCO CORE	SS=SPLIT SPOON
		PDB = PASSIVE DIFFUSION BAG	SP=SUBMERSIBLE PUMP
		PP = PERISTALTIC PUMP	
		HYD = HYDRASLEEVE	

FIELD SAMPLING REPORT

LOCATION: Corn Husker AAP	PROJECT: CHAAP RI/FS
SITE: Tract 21B-BPA / BB / DS	PROJECT NUMBER: AT3001.05

SAMPLE INFORMATION

SAMPLE ID: CHAAP-21B- DS-5502	TIME: 1500	DATE: 5.14.18
QC SAMPLE: YES (✓) NO ( )	MATRIX: SO	
QC SAMPLE ID: CHAAP-21B-DS-5502	FIELD FILTERED: YES ( ) NO (✓)	
TYPE OF QC SAMPLE: FD @1200	BEGINNING DEPTH: 0.0 '	
GRAB (X) COMPOSITE ( )	END DEPTH: 0.5 '	
QC SAMPLE TYPE CODES: DUPLICATE (DUP), MATRIX SPIKE (MS), MATRIX SPIKE DUP (MSD), EQUIPMENT BLANK (EB), TRIP BLANK (TB), FIELD BLANK (FB)	SAMPLING METHOD: HA or (SS)	
	SAMPLING EQUIPMENT: HA or (DPT)	

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANAYLSIS	NOTES
8oz Glass	2 1	-	8330B	Explosives	
		-	6010	Metals	
		-	7196A	Hex Chrome	
4x40mL VOA	2	DI / MEOH	8260	VOCs	

NOTABLE OBSERVATIONS

SAMPLE CHARACTERISTICS		MISCELLANEOUS
		Color: Topsoil
		Odor: —
		PID: 0.0
		Other: —

Comments:

GENERAL INFORMATION

WEATHER: SUN/CLEAR ____ OVERCAST/RAIN ✓ WIND DIRECTION ____ AMBIENT TEMP 75

SHIPMENT VIA: FedEx X HAND DELIVER ____ COURIER ____ UPS ____

SHIPPED TO: Katahdin Laboratory

TRACKING NUMBER: ____ COC NUMBER: ____

COMMENTS: ____

SAMPLER: AH OBSERVER: TC

MATRIX TYPE CODES		SAMPLING METHOD/EQUIPMENT CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	HA=HAND AUGER
WG=GROUND WATER	SO=SOIL	BP = BLADDER PUMP	HSA=HOLLOW STEM AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	DPT=DIRECT PUSH	HP=HYDRO PUNCH
SH=HAZARDOUS SOLID WASTE	WS=SURFACE WATER	LF = LOW FLOW	ST= SHELBY TUBE
SE=SEDIMENT	SW=SWAP/WIPE	MC = MARCO CORE	SS=SPLIT SPOON
		PDB = PASSIVE DIFFUSION BAG	SP=SUBMERSIBLE PUMP
		PP = PERISTALTIC PUMP	
		HYD = HYDRASLEEVE	

FIELD SAMPLING REPORT

LOCATION: Corn Husker AAP	PROJECT: CHAAP RI/FS
SITE: Tract 21B-BPA / BB / DS	PROJECT NUMBER: AT3001.05

SAMPLE INFORMATION

SAMPLE ID: CHAAP-21B-DS-5802-S	TIME: 1505	DATE: 5.14.18
QC SAMPLE: YES ( ) NO (✓)	MATRIX: SO	
QC SAMPLE ID: —	FIELD FILTERED: YES ( ) NO (✓)	
TYPE OF QC SAMPLE: —	BEGINNING DEPTH: 4 '	
GRAB (X) COMPOSITE ( )	END DEPTH: 5 '	
QC SAMPLE TYPE CODES: DUPLICATE (DUP), MATRIX SPIKE (MS), MATRIX SPIKE DUP (MSD), EQUIPMENT BLANK (EB), TRIP BLANK (TB), FIELD BLANK (FB)	SAMPLING METHOD: HA or SS	
	SAMPLING EQUIPMENT: HA or DPT	

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANAYLSIS	NOTES
8oz Glass	1	-	8330B	Explosives	
		-	6010	Metals	
		-	7196A	Hex Chrome	
4x40mL VOA	1	DI / MEOH	8260	VOCs	

NOTABLE OBSERVATIONS

SAMPLE CHARACTERISTICS		MISCELLANEOUS
		Color: light Gray
		Odor: —
		PID: 0.0
		Other: —

Comments:

GENERAL INFORMATION

WEATHER: SUN/CLEAR ✓ OVERCAST/RAIN ____ WIND DIRECTION ____ AMBIENT TEMP 75

SHIPMENT VIA: FedEx X HAND DELIVER ____ COURIER ____ UPS ____

SHIPPED TO: Katahdin Laboratory

TRACKING NUMBER: ____ COC NUMBER: ____

COMMENTS: ____

SAMPLER: AH OBSERVER: XC

MATRIX TYPE CODES		SAMPLING METHOD/EQUIPMENT CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	HA=HAND AUGER
WG=GROUND WATER	SO=SOIL	BP = BLADDER PUMP	HSA=HOLLOW STEM AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	DPT=DIRECT PUSH	HP=HYDRO PUNCH
SH=HAZARDOUS SOLID WASTE	WS=SURFACE WATER	LF = LOW FLOW	ST= SHELBY TUBE
SE=SEDIMENT	SW=SWAP/WIPE	MC = MARCO CORE	SS=SPLIT SPOON
		PDB = PASSIVE DIFFUSION BAG	SP=SUBMERSIBLE PUMP
		PP = PERISTALTIC PUMP	
		HYD = HYDRASLEEVE	

FIELD SAMPLING REPORT

LOCATION: Corn Husker AAP	PROJECT: CHAAP RI/FS
SITE: Tract 21B-BPA / BB / DS	PROJECT NUMBER: AT3001.05

SAMPLE INFORMATION

SAMPLE ID: CHAAP-21B- DS-SB02-10	TIME: 1510 DATE: 5-14-18
QC SAMPLE: YES (✓) ~~NO~~ AH	MATRIX: SO
QC SAMPLE ID: CHAAP-EB-051418	FIELD FILTERED: YES ( ) NO (X)
TYPE OF QC SAMPLE: EB 1600	BEGINNING DEPTH: 9 '
GRAB (X) COMPOSITE ( )	END DEPTH: 10 '
QC SAMPLE TYPE CODES: DUPLICATE (DUP), MATRIX SPIKE (MS), MATRIX SPIKE DUP (MSD), EQUIPMENT BLANK (EB), TRIP BLANK (TB), FIELD BLANK (FB)	SAMPLING METHOD: HA or SS SAMPLING EQUIPMENT: HA or DPT

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANAYLSIS	NOTES
8oz Glass	1	-	8330B	Explosives	
		-	6010	Metals	
		~~-~~	~~7196A~~	~~Hex Chrome~~	
4x40mL VOA	1	DI / MEOH	8260	VOCs	
2x1L Amber, 250 Poly, 3x40mL VOA were filled off decanted DPS rod for EB					

NOTABLE OBSERVATIONS

SAMPLE CHARACTERISTICS		MISCELLANEOUS
		Color: light Gray
		Odor: —
		PID: 0.0
		Other: —

Comments:

GENERAL INFORMATION

WEATHER: SUN/CLEAR ____ OVERCAST/RAIN X WIND DIRECTION ____ AMBIENT TEMP 75

SHIPMENT VIA: FedEx X HAND DELIVER ____ COURIER ____ UPS ____

SHIPPED TO: Katahdin Laboratory

TRACKING NUMBER: ____ COC NUMBER: ____

COMMENTS: ____

SAMPLER: AH OBSERVER: CX

MATRIX TYPE CODES		SAMPLING METHOD/EQUIPMENT CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	HA=HAND AUGER
WG=GROUND WATER	SO=SOIL	BP = BLADDER PUMP	HSA=HOLLOW STEM AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	DPT=DIRECT PUSH	HP=HYDRO PUNCH
SH=HAZARDOUS SOLID WASTE	WS=SURFACE WATER	LF = LOW FLOW	ST= SHELBY TUBE
SE=SEDIMENT	SW=SWAP/WIPE	MC = MARCO CORE	SS=SPLIT SPOON
		PDB = PASSIVE DIFFUSION BAG	SP=SUBMERSIBLE PUMP
		PP = PERISTALTIC PUMP	
		HYD = HYDRASLEEVE	

FIELD SAMPLING REPORT

LOCATION: Corn Husker AAP	PROJECT: CHAAP RI/FS
SITE: Tract 21B-BPA / BB / DS	PROJECT NUMBER: AT3001.05

SAMPLE INFORMATION

SAMPLE ID: CHAAP-21B- DS - SS03	TIME: 1115 DATE: 5.14.18
QC SAMPLE: YES (X) NO ( )	MATRIX: SO
QC SAMPLE ID: CHAAP-21B-DS-SS103 @1200	FIELD FILTERED: YES ( ) NO (X)
TYPE OF QC SAMPLE: FD	BEGINNING DEPTH: 0.0'
GRAB (X) COMPOSITE ( )	END DEPTH: 0.5'
QC SAMPLE TYPE CODES: DUPLICATE (DUP), MATRIX SPIKE (MS), MATRIX SPIKE DUP (MSD), EQUIPMENT BLANK (EB), TRIP BLANK (TB), FIELD BLANK (FB)	SAMPLING METHOD: HA or (SS)
	SAMPLING EQUIPMENT: HA or (DPT)

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANAYLSIS	NOTES
8oz Glass	2 ~~1~~	-	8330B	Explosives	
		-	6010	Metals	
		-	7196A	Hex Chrome	
4x40mL VOA	2	DI / MEOH	8260	VOCs	

NOTABLE OBSERVATIONS

SAMPLE CHARACTERISTICS		MISCELLANEOUS
		Color: V. DK Brown
		Odor: —
		PID: 0.0
		Other: Topsoil

Comments:

GENERAL INFORMATION

WEATHER: SUN/CLEAR ____ OVERCAST/RAIN X WIND DIRECTION W AMBIENT TEMP 60

SHIPMENT VIA: FedEx X HAND DELIVER ____ COURIER ____ UPS ____

SHIPPED TO: Katahdin Laboratory

TRACKING NUMBER: ____ COC NUMBER: ____

COMMENTS: ____

SAMPLER: DZ OBSERVER: XC

MATRIX TYPE CODES		SAMPLING METHOD/EQUIPMENT CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	HA=HAND AUGER
WG=GROUND WATER	SO=SOIL	BP = BLADDER PUMP	HSA=HOLLOW STEM AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	DPT=DIRECT PUSH	HP=HYDRO PUNCH
SH=HAZARDOUS SOLID WASTE	WS=SURFACE WATER	LF = LOW FLOW	ST= SHELBY TUBE
SE=SEDIMENT	SW=SWAP/WIPE	MC = MARCO CORE	SS=SPLIT SPOON
		PDB = PASSIVE DIFFUSION BAG	SP=SUBMERSIBLE PUMP
		PP = PERISTALTIC PUMP	
		HYD = HYDRASLEEVE	

FIELD SAMPLING REPORT

LOCATION: Corn Husker AAP	PROJECT: CHAAP RI/FS
SITE: Tract 21B-BPA / BB / DS	PROJECT NUMBER: AT3001.05

SAMPLE INFORMATION

SAMPLE ID: CHAAP-21B- DS-SB03-5	TIME: 1130	DATE: 5.14.14
QC SAMPLE: YES ( ) NO (X)	MATRIX: SO	
QC SAMPLE ID: —	FIELD FILTERED: YES ( ) NO (X)	
TYPE OF QC SAMPLE: —	BEGINNING DEPTH: 4 '	
GRAB (X) COMPOSITE ( )	END DEPTH: 5 '	
QC SAMPLE TYPE CODES: DUPLICATE (DUP), MATRIX SPIKE (MS), MATRIX SPIKE DUP (MSD), EQUIPMENT BLANK (EB), TRIP BLANK (TB), FIELD BLANK (FB)	SAMPLING METHOD: HA or SS	
	SAMPLING EQUIPMENT: HA or DPT	

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANAYLSIS	NOTES
8oz Glass	1	-	8330B	Explosives	
		-	6010	Metals	
		-	7196A	Hex Chrome	
4x40mL VOA	1	DI / MEOH	8260	VOCs	

NOTABLE OBSERVATIONS

SAMPLE CHARACTERISTICS		MISCELLANEOUS
		Color: light Gray
		Odor: —
		PID: 0.0
		Other: —

Comments:

GENERAL INFORMATION

WEATHER: SUN/CLEAR ____ OVERCAST/RAIN X WIND DIRECTION E AMBIENT TEMP 60

SHIPMENT VIA: FedEx X HAND DELIVER ____ COURIER ____ UPS ____

SHIPPED TO: Katahdin Laboratory

TRACKING NUMBER: ____ COC NUMBER: ____

COMMENTS: ____

SAMPLER: AH OBSERVER: XL

MATRIX TYPE CODES		SAMPLING METHOD/EQUIPMENT CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	HA=HAND AUGER
WG=GROUND WATER	SO=SOIL	BP = BLADDER PUMP	HSA=HOLLOW STEM AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	DPT=DIRECT PUSH	HP=HYDRO PUNCH
SH=HAZARDOUS SOLID WASTE	WS=SURFACE WATER	LF = LOW FLOW	ST= SHELBY TUBE
SE=SEDIMENT	SW=SWAP/WIPE	MC = MARCO CORE	SS=SPLIT SPOON
		PDB = PASSIVE DIFFUSION BAG	SP=SUBMERSIBLE PUMP
		PP = PERISTALTIC PUMP	
		HYD = HYDRASLEEVE	

FIELD SAMPLING REPORT

LOCATION: Corn Husker AAP	PROJECT: CHAAP RI/FS
SITE: Tract 21B-BPA / BB / DS	PROJECT NUMBER: AT3001.05

SAMPLE INFORMATION

SAMPLE ID: CHAAP-21B-SB03-10	TIME: 1145	DATE: 5.14.18
QC SAMPLE: YES ( ) NO (✓)	MATRIX: SO	
QC SAMPLE ID: —	FIELD FILTERED: YES ( ) NO (✓)	
TYPE OF QC SAMPLE: —	BEGINNING DEPTH: 9 '	
GRAB (X) COMPOSITE ( )	END DEPTH: 10 '	
QC SAMPLE TYPE CODES: DUPLICATE (DUP), MATRIX SPIKE (MS), MATRIX SPIKE DUP (MSD), EQUIPMENT BLANK (EB), TRIP BLANK (TB), FIELD BLANK (FB)	SAMPLING METHOD: HA or (SS)	
	SAMPLING EQUIPMENT: HA or (DPT)	

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANAYLSIS	NOTES
8oz Glass	1	-	8330B	Explosives	
		-	6010	Metals	
		~~-~~	~~7196A~~	~~Hex Chrome~~	
4x40mL VOA	1	DI / MEOH	8260	VOCs	

NOTABLE OBSERVATIONS

SAMPLE CHARACTERISTICS		MISCELLANEOUS
		Color: light Gray
		Odor: —
		PID: 0.0
		Other: —

Comments:

GENERAL INFORMATION

WEATHER: SUN/CLEAR ____ OVERCAST/RAIN X WIND DIRECTION E AMBIENT TEMP 60

SHIPMENT VIA: FedEx X HAND DELIVER ____ COURIER ____ UPS ____

SHIPPED TO: Katahdin Laboratory

TRACKING NUMBER: ____ COC NUMBER: ____

COMMENTS: ____

SAMPLER: AN OBSERVER: XC

MATRIX TYPE CODES		SAMPLING METHOD/EQUIPMENT CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	HA=HAND AUGER
WG=GROUND WATER	SO=SOIL	BP = BLADDER PUMP	HSA=HOLLOW STEM AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	DPT=DIRECT PUSH	HP=HYDRO PUNCH
SH=HAZARDOUS SOLID WASTE	WS=SURFACE WATER	LF = LOW FLOW	ST= SHELBY TUBE
SE=SEDIMENT	SW=SWAP/WIPE	MC = MARCO CORE	SS=SPLIT SPOON
		PDB = PASSIVE DIFFUSION BAG	SP=SUBMERSIBLE PUMP
		PP = PERISTALTIC PUMP	
		HYD = HYDRASLEEVE	

FIELD SAMPLING REPORT

LOCATION: Corn Husker AAP	PROJECT: CHAAP RI/FS
SITE: Tract 21B-BPA / BB / DS	PROJECT NUMBER: AT3001.05

SAMPLE INFORMATION

SAMPLE ID: CHAAP-21B- DS-SS01	TIME: 1210	DATE: 5.14.18
QC SAMPLE: YES ( ) NO (X)	MATRIX: SO	
QC SAMPLE ID: —	FIELD FILTERED: YES ( ) NO (X)	
TYPE OF QC SAMPLE: —	BEGINNING DEPTH: 0.0'	
GRAB (X) COMPOSITE ( )	END DEPTH: 0.5 '	
QC SAMPLE TYPE CODES: DUPLICATE (DUP), MATRIX SPIKE (MS), MATRIX SPIKE DUP (MSD), EQUIPMENT BLANK (EB), TRIP BLANK (TB), FIELD BLANK (FB)	SAMPLING METHOD: HA or (SS)	
	SAMPLING EQUIPMENT: HA or (DPT)	

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANAYLSIS	NOTES
8oz Glass	1	-	8330B	Explosives	
		-	6010	Metals	
		-	7196A	Hex Chrome	
4x40mL VOA	1	DI / MEOH	8260	VOCs	

NOTABLE OBSERVATIONS

SAMPLE CHARACTERISTICS		MISCELLANEOUS
		Color: Topsoil v Dk brown
		Odor: —
		PID: 0.0
		Other: —

Comments:

GENERAL INFORMATION

WEATHER: SUN/CLEAR X OVERCAST/RAIN ____ WIND DIRECTION ____ AMBIENT TEMP 75

SHIPMENT VIA: FedEx X HAND DELIVER ____ COURIER ____ UPS ____

SHIPPED TO: Katahdin Laboratory

TRACKING NUMBER: ____ COC NUMBER: ____

COMMENTS: ____

SAMPLER: DJ OBSERVER: XC

MATRIX TYPE CODES		SAMPLING METHOD/EQUIPMENT CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	HA=HAND AUGER
WG=GROUND WATER	SO=SOIL	BP = BLADDER PUMP	HSA=HOLLOW STEM AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	DPT=DIRECT PUSH	HP=HYDRO PUNCH
SH=HAZARDOUS SOLID WASTE	WS=SURFACE WATER	LF = LOW FLOW	ST= SHELBY TUBE
SE=SEDIMENT	SW=SWAP/WIPE	MC = MARCO CORE	SS=SPLIT SPOON
		PDB = PASSIVE DIFFUSION BAG	SP=SUBMERSIBLE PUMP
		PP = PERISTALTIC PUMP	
		HYD = HYDRASLEEVE	

FIELD SAMPLING REPORT

LOCATION: Corn Husker AAP	PROJECT: CHAAP RI/FS
SITE: Tract 21B-BPA / BB / DS	PROJECT NUMBER: AT3001.05

SAMPLE INFORMATION

SAMPLE ID: CHAAP-21B- DS-5804-S	TIME: 1215	DATE: 5.14.18
QC SAMPLE: YES ( ) NO (X)	MATRIX: SO	
QC SAMPLE ID: —	FIELD FILTERED: YES ( ) NO (X)	
TYPE OF QC SAMPLE: —	BEGINNING DEPTH: 4 '	
GRAB (X) COMPOSITE ( )	END DEPTH: 5 '	
QC SAMPLE TYPE CODES: DUPLICATE (DUP), MATRIX SPIKE (MS), MATRIX SPIKE DUP (MSD), EQUIPMENT BLANK (EB), TRIP BLANK (TB), FIELD BLANK (FB)	SAMPLING METHOD: HA or (SS)	
	SAMPLING EQUIPMENT: HA or (DPT)	

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANAYLSIS	NOTES
8oz Glass	1	-	8330B	Explosives	
		-	6010	Metals	
		-	7196A	Hex Chrome	
4x40mL VOA	1	DI / MEOH	8260	VOCs	

NOTABLE OBSERVATIONS

SAMPLE CHARACTERISTICS		MISCELLANEOUS
		Color: Light Gray
		Odor: —
		PID: 0.0
		Other: —

Comments:

GENERAL INFORMATION

WEATHER: SUN/CLEAR (X) OVERCAST/RAIN ____ WIND DIRECTION ____ AMBIENT TEMP 75

SHIPMENT VIA: FedEx X HAND DELIVER ____ COURIER ____ UPS ____

SHIPPED TO: Katahdin Laboratory

TRACKING NUMBER: ____ COC NUMBER: ____

COMMENTS: ____

SAMPLER: DN OBSERVER: XC

MATRIX TYPE CODES		SAMPLING METHOD/EQUIPMENT CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	HA=HAND AUGER
WG=GROUND WATER	SO=SOIL	BP = BLADDER PUMP	HSA=HOLLOW STEM AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	DPT=DIRECT PUSH	HP=HYDRO PUNCH
SH=HAZARDOUS SOLID WASTE	WS=SURFACE WATER	LF = LOW FLOW	ST= SHELBY TUBE
SE=SEDIMENT	SW=SWAP/WIPE	MC = MARCO CORE	SS=SPLIT SPOON
		PDB = PASSIVE DIFFUSION BAG	SP=SUBMERSIBLE PUMP
		PP = PERISTALTIC PUMP	
		HYD = HYDRASLEEVE	

FIELD SAMPLING REPORT

LOCATION: Corn Husker AAP	PROJECT: CHAAP RI/FS
SITE: Tract 21B-BPA / BB / DS	PROJECT NUMBER: AT3001.05

SAMPLE INFORMATION

SAMPLE ID: CHAAP-21B- DS-SB04-10	TIME: 1220	DATE: 5.14.18
QC SAMPLE: YES ( ) NO (X)	MATRIX: SO	
QC SAMPLE ID: —	FIELD FILTERED: YES ( ) NO (X)	
TYPE OF QC SAMPLE: —	BEGINNING DEPTH: 9 '	
GRAB (X) COMPOSITE ( )	END DEPTH: 10 '	
QC SAMPLE TYPE CODES: DUPLICATE (DUP), MATRIX SPIKE (MS), MATRIX SPIKE DUP (MSD), EQUIPMENT BLANK (EB), TRIP BLANK (TB), FIELD BLANK (FB)	SAMPLING METHOD: HA or SS	
	SAMPLING EQUIPMENT: HA or DPT	

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANAYLSIS	NOTES
8oz Glass	1	-	8330B	Explosives	
		-	6010	Metals	
		~~-~~	~~7196A~~	~~Hex Chrome~~	
4x40mL VOA		DI / MEOH	8260	VOCs	

NOTABLE OBSERVATIONS

SAMPLE CHARACTERISTICS		MISCELLANEOUS
		Color: light Gray
		Odor: —
		PID: 0.0
		Other: —

Comments:

GENERAL INFORMATION

WEATHER: SUN/CLEAR X OVERCAST/RAIN ____ WIND DIRECTION ____ AMBIENT TEMP 75

SHIPMENT VIA: FedEx X HAND DELIVER ____ COURIER ____ UPS ____

SHIPPED TO: Katahdin Laboratory

TRACKING NUMBER: ____ COC NUMBER: ____

COMMENTS: ____

SAMPLER: AK OBSERVER: XC

MATRIX TYPE CODES		SAMPLING METHOD/EQUIPMENT CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	HA=HAND AUGER
WG=GROUND WATER	SO=SOIL	BP = BLADDER PUMP	HSA=HOLLOW STEM AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	DPT=DIRECT PUSH	HP=HYDRO PUNCH
SH=HAZARDOUS SOLID WASTE	WS=SURFACE WATER	LF = LOW FLOW	ST= SHELBY TUBE
SE=SEDIMENT	SW=SWAP/WIPE	MC = MARCO CORE	SS=SPLIT SPOON
		PDB = PASSIVE DIFFUSION BAG	SP=SUBMERSIBLE PUMP
		PP = PERISTALTIC PUMP	
		HYD = HYDRASLEEVE	

FIELD SAMPLING REPORT

LOCATION: Corn Husker AAP	PROJECT: CHAAP RI/FS
SITE: Tract 21B-DS	PROJECT NUMBER: AT3001.05

SAMPLE INFORMATION

SAMPLE ID: 21B-DS-SS05	TIME: 1020	DATE: 4.10.18
QC SAMPLE: YES (X) NO ( )	MATRIX: SO	
QC SAMPLE ID: CHAAP-TB-041018	FIELD FILTERED: YES ( ) NO (X)	
TYPE OF QC SAMPLE: TB	BEGINNING DEPTH: 0.0'	
GRAB (X) COMPOSITE ( )	END DEPTH: 0.5'	
QC SAMPLE TYPE CODES: DUPLICATE (DUP), MATRIX SPIKE (MS), MATRIX SPIKE DUP (MSD), EQUIPMENT BLANK (EB), TRIP BLANK (TB), FIELD BLANK (FB)	SAMPLING METHOD: HA or SS	
	SAMPLING EQUIPMENT: DPT	

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANAYLSIS	NOTES
4x40 mL VOA	1	-MEOH & DI	8330B	VOCs	
4oz Glass	1	-	8330B	Explosives	
4oz Glass	1	-	6010	Metals	
8oz					

NOTABLE OBSERVATIONS

SAMPLE CHARACTERISTICS				MISCELLANEOUS
pH:		Turbidity (NTU):		Color: Topsoil
Temp. (C°):		Specific Cond. (µS/cm):		Odor: None
DO (mg/L):				PID: 0.0
ORP (mV):				Other:

Comments:

GENERAL INFORMATION

WEATHER: SUN/CLEAR X OVERCAST/RAIN ____ WIND DIRECTION ____ AMBIENT TEMP 40

SHIPMENT VIA: FedEx X HAND DELIVER ____ COURIER ____ UPS ____

SHIPPED TO: Katahdin Laboratory

TRACKING NUMBER: ____ COC NUMBER: ____

COMMENTS: ____

SAMPLER: A.H. OBSERVER: S.G.

MATRIX TYPE CODES		SAMPLING METHOD/EQUIPMENT CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	HA=HAND AUGER
WG=GROUND WATER	SO=SOIL	BP = BLADDER PUMP	HSA=HOLLOW STEM AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	DPT=DIRECT PUSH	HP=HYDRO PUNCH
SH=HAZARDOUS SOLID WASTE	WS=SURFACE WATER	LF = LOW FLOW	ST= SHELBY TUBE
SE=SEDIMENT	SW=SWAP/WIPE	MC = MARCO CORE	SS=SPLIT SPOON
		PDB = PASSIVE DIFFUSION BAG	SP=SUBMERSIBLE PUMP
		PP = PERISTALTIC PUMP	
		HYD = HYDRASLEEVE	

FIELD SAMPLING REPORT

LOCATION: Corn Husker AAP	PROJECT: CHAAP RI/FS
SITE: Tract 21B-DS	PROJECT NUMBER: AT3001.05

SAMPLE INFORMATION

SAMPLE ID: 21B-DS-SB05-5	TIME: 1025 DATE: 9-10-18
QC SAMPLE: YES ( ) NO (X)	MATRIX: SO
QC SAMPLE ID: –	FIELD FILTERED: YES ( ) NO (X)
TYPE OF QC SAMPLE: –	BEGINNING DEPTH: 4'
GRAB (X) COMPOSITE ( )	END DEPTH: 5'
QC SAMPLE TYPE CODES: DUPLICATE (DUP), MATRIX SPIKE (MS), MATRIX SPIKE DUP (MSD), EQUIPMENT BLANK (EB), TRIP BLANK (TB), FIELD BLANK (FB)	SAMPLING METHOD: HA or SS SAMPLING EQUIPMENT: DPT

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANAYLSIS	NOTES
4x40 mL VOA	1	-MEOH & DI	8330B	VOCs	
4oz Glass	1	-	8330B	Explosives	
4oz Glass	1	-	6010	Metals	
8oz					

NOTABLE OBSERVATIONS

SAMPLE CHARACTERISTICS		MISCELLANEOUS
pH:	Turbidity (NTU):	Color: Brownish gray 2.5yr/6/2
Temp. (C°):	Specific Cond. (µS/cm):	Odor: -none
DO (mg/L):		PID: 0.0
ORP (mV):		Other:

Comments:

GENERAL INFORMATION

WEATHER: SUN/CLEAR X OVERCAST/RAIN ____ WIND DIRECTION ____ AMBIENT TEMP 40

SHIPMENT VIA: FedEx X HAND DELIVER ____ COURIER ____ UPS ____

SHIPPED TO: Katahdin Laboratory

TRACKING NUMBER: ____ COC NUMBER: ____

COMMENTS: ____

SAMPLER: A.H. OBSERVER: S.G.

MATRIX TYPE CODES		SAMPLING METHOD/EQUIPMENT CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	HA=HAND AUGER
WG=GROUND WATER	SO=SOIL	BP = BLADDER PUMP	HSA=HOLLOW STEM AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	DPT=DIRECT PUSH	HP=HYDRO PUNCH
SH=HAZARDOUS SOLID WASTE	WS=SURFACE WATER	LF = LOW FLOW	ST= SHELBY TUBE
SE=SEDIMENT	SW=SWAP/WIPE	MC = MARCO CORE	SS=SPLIT SPOON
		PDB = PASSIVE DIFFUSION BAG	SP=SUBMERSIBLE PUMP
		PP = PERISTALTIC PUMP	
		HYD = HYDRASLEEVE	

FIELD SAMPLING REPORT

LOCATION: Corn Husker AAP	PROJECT: CHAAP RI/FS
SITE: Tract 21B-DS	PROJECT NUMBER: AT3001.05

SAMPLE INFORMATION

SAMPLE ID: 21B-DS-SB05-10	TIME: 1030 DATE: 4.10.18
QC SAMPLE: YES ( ) NO (X)	MATRIX: SO
QC SAMPLE ID: —	FIELD FILTERED: YES ( ) NO (X)
TYPE OF QC SAMPLE: —	BEGINNING DEPTH: 9'
GRAB (X) COMPOSITE ( )	END DEPTH: 10'
QC SAMPLE TYPE CODES: DUPLICATE (DUP), MATRIX SPIKE (MS), MATRIX SPIKE DUP (MSD), EQUIPMENT BLANK (EB), TRIP BLANK (TB), FIELD BLANK (FB)	SAMPLING METHOD: HA or (SS)
	SAMPLING EQUIPMENT: DPT

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANAYLSIS	NOTES
4x40 mL VOA	1	-MEOH & DI	8330B	VOCs	
4oz Glass	1	-	8330B	Explosives	
4oz Glass	1	-	6010	Metals	
8oz					

NOTABLE OBSERVATIONS

SAMPLE CHARACTERISTICS		MISCELLANEOUS
pH:	Turbidity (NTU):	Color: light gray 2.5y 7/2
Temp. (C°):	Specific Cond. (µS/cm):	Odor: none
DO (mg/L):		PID: 0.0
ORP (mV):		Other:

Comments:

GENERAL INFORMATION

WEATHER: SUN/CLEAR X OVERCAST/RAIN ____ WIND DIRECTION ____ AMBIENT TEMP 40

SHIPMENT VIA: FedEx X HAND DELIVER ____ COURIER ____ UPS ____

SHIPPED TO: Katahdin Laboratory

TRACKING NUMBER: ____ COC NUMBER: ____

COMMENTS: ____

SAMPLER: A.H. OBSERVER: S.G.

MATRIX TYPE CODES		SAMPLING METHOD/EQUIPMENT CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	HA=HAND AUGER
WG=GROUND WATER	SO=SOIL	BP = BLADDER PUMP	HSA=HOLLOW STEM AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	DPT=DIRECT PUSH	HP=HYDRO PUNCH
SH=HAZARDOUS SOLID WASTE	WS=SURFACE WATER	LF = LOW FLOW	ST= SHELBY TUBE
SE=SEDIMENT	SW=SWAP/WIPE	MC = MARCO CORE	SS=SPLIT SPOON
		PDB = PASSIVE DIFFUSION BAG	SP=SUBMERSIBLE PUMP
		PP = PERISTALTIC PUMP	
		HYD = HYDRASLEEVE	

FIELD SAMPLING REPORT

LOCATION: Corn Husker AAP	PROJECT: CHAAP RI/FS
SITE: Tract 21B-BPA / BB / DS	PROJECT NUMBER: AT3001.05

SAMPLE INFORMATION

SAMPLE ID: CHAAP-21B-DS-5506	TIME: 1430	DATE: 5.14.18
QC SAMPLE: YES ( ) NO (X)	MATRIX: SO	
QC SAMPLE ID: —	FIELD FILTERED: YES ( ) NO (X)	
TYPE OF QC SAMPLE: —	BEGINNING DEPTH: 0.0'	
GRAB (X) COMPOSITE ( )	END DEPTH: 0.5'	
QC SAMPLE TYPE CODES: DUPLICATE (DUP), MATRIX SPIKE (MS), MATRIX SPIKE DUP (MSD), EQUIPMENT BLANK (EB), TRIP BLANK (TB), FIELD BLANK (FB)	SAMPLING METHOD: HA or SS	
	SAMPLING EQUIPMENT: HA or DPT	

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANAYLSIS	NOTES
8oz Glass	1	-	8330B	Explosives	
		-	6010	Metals	
		~~-~~	~~7196A~~	~~Hex Chrome~~	
4x40mL VOA	1	DI / MEOH	8260	VOCs	

NOTABLE OBSERVATIONS

SAMPLE CHARACTERISTICS		MISCELLANEOUS
		Color: Topsoil
		Odor: —
		PID: 0.0
		Other: —

Comments:

GENERAL INFORMATION

WEATHER: SUN/CLEAR X OVERCAST/RAIN ____ WIND DIRECTION ____ AMBIENT TEMP 70

SHIPMENT VIA: FedEx X HAND DELIVER ____ COURIER ____ UPS ____

SHIPPED TO: Katahdin Laboratory

TRACKING NUMBER: ____ COC NUMBER: ____

COMMENTS: ____

SAMPLER: AH OBSERVER: XC

MATRIX TYPE CODES		SAMPLING METHOD/EQUIPMENT CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	HA=HAND AUGER
WG=GROUND WATER	SO=SOIL	BP = BLADDER PUMP	HSA=HOLLOW STEM AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	DPT=DIRECT PUSH	HP=HYDRO PUNCH
SH=HAZARDOUS SOLID WASTE	WS=SURFACE WATER	LF = LOW FLOW	ST= SHELBY TUBE
SE=SEDIMENT	SW=SWAP/WIPE	MC = MARCO CORE	SS=SPLIT SPOON
		PDB = PASSIVE DIFFUSION BAG	SP=SUBMERSIBLE PUMP
		PP = PERISTALTIC PUMP	
		HYD = HYDRASLEEVE	

FIELD SAMPLING REPORT

LOCATION: Corn Husker AAP	PROJECT: CHAAP RI/FS
SITE: Tract 21B-BPA / BB / DS	PROJECT NUMBER: AT3001.05

SAMPLE INFORMATION

SAMPLE ID: CHAAP-21B- DS-SB06-5	TIME: 1435	DATE: 5.14.18
QC SAMPLE: YES ( ) NO (✓)	MATRIX: SO	
QC SAMPLE ID: —	FIELD FILTERED: YES ( ) NO (✓)	
TYPE OF QC SAMPLE: —	BEGINNING DEPTH: 4 '	
GRAB (X) COMPOSITE ( )	END DEPTH: 5 '	
QC SAMPLE TYPE CODES: DUPLICATE (DUP), MATRIX SPIKE (MS), MATRIX SPIKE DUP (MSD), EQUIPMENT BLANK (EB), TRIP BLANK (TB), FIELD BLANK (FB)	SAMPLING METHOD: HA or (SS)	
	SAMPLING EQUIPMENT: HA or (DPT)	

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANAYLSIS	NOTES
8oz Glass	1	-	8330B	Explosives	
		-	6010	Metals	
		~~-~~	~~7196A~~	~~Hex Chrome~~	
4x40mL VOA	1	DI / MEOH	8260	VOCs	

NOTABLE OBSERVATIONS

SAMPLE CHARACTERISTICS		MISCELLANEOUS
		Color: light gray
		Odor: —
		PID: 0.0
		Other: —

Comments:

GENERAL INFORMATION

WEATHER: SUN/CLEAR (✓) OVERCAST/RAIN ____ WIND DIRECTION ____ AMBIENT TEMP 75

SHIPMENT VIA: FedEx X HAND DELIVER ____ COURIER ____ UPS ____

SHIPPED TO: Katahdin Laboratory

TRACKING NUMBER: ____ COC NUMBER: ____

COMMENTS: ____

SAMPLER: AH OBSERVER: KC

MATRIX TYPE CODES		SAMPLING METHOD/EQUIPMENT CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	HA=HAND AUGER
WG=GROUND WATER	SO=SOIL	BP = BLADDER PUMP	HSA=HOLLOW STEM AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	DPT=DIRECT PUSH	HP=HYDRO PUNCH
SH=HAZARDOUS SOLID WASTE	WS=SURFACE WATER	LF = LOW FLOW	ST= SHELBY TUBE
SE=SEDIMENT	SW=SWAP/WIPE	MC = MARCO CORE	SS=SPLIT SPOON
		PDB = PASSIVE DIFFUSION BAG	SP=SUBMERSIBLE PUMP
		PP = PERISTALTIC PUMP	
		HYD = HYDRASLEEVE	

FIELD SAMPLING REPORT

LOCATION: Corn Husker AAP	PROJECT: CHAAP RI/FS
SITE: Tract 21B-BPA / BB / DS	PROJECT NUMBER: AT3001.05

SAMPLE INFORMATION

SAMPLE ID: CHAAP-21B- 05-SB06-10	TIME: 1440	DATE: 5.14.18
QC SAMPLE: YES ( ) NO (X)	MATRIX: SO	
QC SAMPLE ID: —	FIELD FILTERED: YES ( ) NO (X)	
TYPE OF QC SAMPLE: —	BEGINNING DEPTH: 9'	
GRAB (X) COMPOSITE ( )	END DEPTH: 10'	
QC SAMPLE TYPE CODES: DUPLICATE (DUP), MATRIX SPIKE (MS), MATRIX SPIKE DUP (MSD), EQUIPMENT BLANK (EB), TRIP BLANK (TB), FIELD BLANK (FB)	SAMPLING METHOD: HA or (SS)	
	SAMPLING EQUIPMENT: HA or (DPT)	

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANAYLSIS	NOTES
8oz Glass	1	-	8330B	Explosives	
		-	6010	Metals	
			~~7196A~~	~~Hex Chrome~~	
4x40mL VOA	1	DI / MEOH	8260	VOCs	

NOTABLE OBSERVATIONS

SAMPLE CHARACTERISTICS		MISCELLANEOUS
		Color: light Gray
		Odor: —
		PID: 0.0
		Other: —

Comments:

GENERAL INFORMATION

WEATHER: SUN/CLEAR (X) OVERCAST/RAIN ____ WIND DIRECTION ____ AMBIENT TEMP 75

SHIPMENT VIA: FedEx X HAND DELIVER ____ COURIER ____ UPS ____

SHIPPED TO: Katahdin Laboratory

TRACKING NUMBER: ____ COC NUMBER: ____

COMMENTS: ____

SAMPLER: [illegible] OBSERVER: [illegible]

MATRIX TYPE CODES		SAMPLING METHOD/EQUIPMENT CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	HA=HAND AUGER
WG=GROUND WATER	SO=SOIL	BP = BLADDER PUMP	HSA=HOLLOW STEM AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	DPT=DIRECT PUSH	HP=HYDRO PUNCH
SH=HAZARDOUS SOLID WASTE	WS=SURFACE WATER	LF = LOW FLOW	ST= SHELBY TUBE
SE=SEDIMENT	SW=SWAP/WIPE	MC = MARCO CORE	SS=SPLIT SPOON
		PDB = PASSIVE DIFFUSION BAG	SP=SUBMERSIBLE PUMP
		PP = PERISTALTIC PUMP	
		HYD = HYDRASLEEVE	

FIELD SAMPLING REPORT

LOCATION: Corn Husker AAP	PROJECT: CHAAP RI/FS
SITE: Tract 21B-BPA / BB / DS	PROJECT NUMBER: AT3001.05

SAMPLE INFORMATION

SAMPLE ID: CHAAP-21B-AS-5507	TIME: 1400	DATE: 5.14.18
QC SAMPLE: YES (✓) NO ( )	MATRIX: SO	
QC SAMPLE ID: MS/MSD	FIELD FILTERED: YES ( ) NO ( )	
TYPE OF QC SAMPLE: MS/MSD	BEGINNING DEPTH: 00'	
GRAB (X) COMPOSITE ( )	END DEPTH: 0.5 '	
QC SAMPLE TYPE CODES: DUPLICATE (DUP), MATRIX SPIKE (MS), MATRIX SPIKE DUP (MSD), EQUIPMENT BLANK (EB), TRIP BLANK (TB), FIELD BLANK (FB)	SAMPLING METHOD: HA or SS	
	SAMPLING EQUIPMENT: HA or DPT	

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANAYLSIS	NOTES
8oz Glass 3	1	-	8330B	Explosives	
		-	6010	Metals	
			~~7196A~~	~~Hex Chrome~~	
4x40mL VOA	3	DI / MEOH	8260	VOCs	

NOTABLE OBSERVATIONS

SAMPLE CHARACTERISTICS		MISCELLANEOUS
		Color: Topsoil
		Odor: —
		PID: 0.0
		Other: —

Comments:

GENERAL INFORMATION

WEATHER: SUN/CLEAR ✓ OVERCAST/RAIN ____ WIND DIRECTION ____ AMBIENT TEMP 75

SHIPMENT VIA: FedEx X HAND DELIVER ____ COURIER ____ UPS ____

SHIPPED TO: Katahdin Laboratory

TRACKING NUMBER: ____ COC NUMBER: ____

COMMENTS: ____

SAMPLER: AH OBSERVER: XC

MATRIX TYPE CODES		SAMPLING METHOD/EQUIPMENT CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	HA=HAND AUGER
WG=GROUND WATER	SO=SOIL	BP = BLADDER PUMP	HSA=HOLLOW STEM AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	DPT=DIRECT PUSH	HP=HYDRO PUNCH
SH=HAZARDOUS SOLID WASTE	WS=SURFACE WATER	LF = LOW FLOW	ST= SHELBY TUBE
SE=SEDIMENT	SW=SWAP/WIPE	MC = MARCO CORE	SS=SPLIT SPOON
		PDB = PASSIVE DIFFUSION BAG	SP=SUBMERSIBLE PUMP
		PP = PERISTALTIC PUMP	
		HYD = HYDRASLEEVE	

FIELD SAMPLING REPORT

LOCATION: Corn Husker AAP	PROJECT: CHAAP RI/FS
SITE: Tract 21B-BPA / BB / DS	PROJECT NUMBER: AT3001.05

SAMPLE INFORMATION

SAMPLE ID: CHAAP-21B-DS-SB07-S	TIME: 1403	DATE: 5.14.18
QC SAMPLE: YES (X) NO ( )	MATRIX: SO	
QC SAMPLE ID: CHAAP-21B-DS-SB107-S	FIELD FILTERED: YES ( ) NO (X)	
TYPE OF QC SAMPLE: FD e 1206	BEGINNING DEPTH: 4 '	
GRAB (X) COMPOSITE ( )	END DEPTH: 5 '	
QC SAMPLE TYPE CODES: DUPLICATE (DUP), MATRIX SPIKE (MS), MATRIX SPIKE DUP (MSD), EQUIPMENT BLANK (EB), TRIP BLANK (TB), FIELD BLANK (FB)	SAMPLING METHOD: HA or SS	
	SAMPLING EQUIPMENT: HA or DPT	

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANAYLSIS	NOTES
8oz Glass 2	~~1~~	-	8330B	Explosives	
		-	6010	Metals	
			7196A	~~Hex Chrome~~	
4x40mL VOA	2	DI / MEOH	8260	VOCs	

NOTABLE OBSERVATIONS

SAMPLE CHARACTERISTICS		MISCELLANEOUS
		Color: light Gray
		Odor: —
		PID: 0.0
		Other: —

Comments:

GENERAL INFORMATION

WEATHER: SUN/CLEAR (✓) OVERCAST/RAIN ____ WIND DIRECTION ____ AMBIENT TEMP 75

SHIPMENT VIA: FedEx X HAND DELIVER ____ COURIER ____ UPS ____

SHIPPED TO: Katahdin Laboratory

TRACKING NUMBER: ____ COC NUMBER: ____

COMMENTS: ____

SAMPLER: AH OBSERVER: XC

MATRIX TYPE CODES		SAMPLING METHOD/EQUIPMENT CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	HA=HAND AUGER
WG=GROUND WATER	SO=SOIL	BP = BLADDER PUMP	HSA=HOLLOW STEM AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	DPT=DIRECT PUSH	HP=HYDRO PUNCH
SH=HAZARDOUS SOLID WASTE	WS=SURFACE WATER	LF = LOW FLOW	ST= SHELBY TUBE
SE=SEDIMENT	SW=SWAP/WIPE	MC = MARCO CORE	SS=SPLIT SPOON
		PDB = PASSIVE DIFFUSION BAG	SP=SUBMERSIBLE PUMP
		PP = PERISTALTIC PUMP	
		HYD = HYDRASLEEVE	

FIELD SAMPLING REPORT

LOCATION: Corn Husker AAP	PROJECT: CHAAP RI/FS
SITE: Tract 21B-BPA / BB / DS	PROJECT NUMBER: AT3001.05

SAMPLE INFORMATION

SAMPLE ID: CHAAP-21B-DS-SB07-10	TIME: 1405 DATE: 5-12-18
QC SAMPLE: YES ( ) NO (X)	MATRIX: SO
QC SAMPLE ID: —	FIELD FILTERED: YES ( ) NO (X)
TYPE OF QC SAMPLE: —	BEGINNING DEPTH: 9 '
GRAB (X) COMPOSITE ( )	END DEPTH: 10 '
QC SAMPLE TYPE CODES: DUPLICATE (DUP), MATRIX SPIKE (MS), MATRIX SPIKE DUP (MSD), EQUIPMENT BLANK (EB), TRIP BLANK (TB), FIELD BLANK (FB)	SAMPLING METHOD: HA or (SS)
	SAMPLING EQUIPMENT: HA or (DPT)

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANAYLSIS	NOTES
8oz Glass	1	-	8330B	Explosives	
		-	6010	Metals	
		-	7196A	~~Hex Chrome~~	
4x40mL VOA	1	DI / MEOH	8260	VOCs	

NOTABLE OBSERVATIONS

SAMPLE CHARACTERISTICS		MISCELLANEOUS
		Color: light Gray
		Odor: —
		PID: 0.0
		Other: —

Comments:

GENERAL INFORMATION

WEATHER: SUN/CLEAR X OVERCAST/RAIN ____ WIND DIRECTION ____ AMBIENT TEMP 75

SHIPMENT VIA: FedEx X HAND DELIVER ____ COURIER ____ UPS ____

SHIPPED TO: Katahdin Laboratory

TRACKING NUMBER: ____ COC NUMBER: ____

COMMENTS: ____

SAMPLER: DH OBSERVER: KC

MATRIX TYPE CODES		SAMPLING METHOD/EQUIPMENT CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	HA=HAND AUGER
WG=GROUND WATER	SO=SOIL	BP = BLADDER PUMP	HSA=HOLLOW STEM AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	DPT=DIRECT PUSH	HP=HYDRO PUNCH
SH=HAZARDOUS SOLID WASTE	WS=SURFACE WATER	LF = LOW FLOW	ST= SHELBY TUBE
SE=SEDIMENT	SW=SWAP/WIPE	MC = MARCO CORE	SS=SPLIT SPOON
		PDB = PASSIVE DIFFUSION BAG	SP=SUBMERSIBLE PUMP
		PP = PERISTALTIC PUMP	
		HYD = HYDRASLEEVE	

FIELD SAMPLING REPORT

LOCATION: Corn Husker AAP	PROJECT: CHAAP RI/FS
SITE: Tract 21B-BPA / BB / DS	PROJECT NUMBER: AT3001.05

SAMPLE INFORMATION

SAMPLE ID: CHAAP-21B-DS-5508	TIME: 1335	DATE: 5.14.18
QC SAMPLE: YES ( ) NO (X)	MATRIX: SO	
QC SAMPLE ID: —	FIELD FILTERED: YES ( ) NO (X)	
TYPE OF QC SAMPLE: —	BEGINNING DEPTH: 0.0'	
GRAB (X) COMPOSITE ( )	END DEPTH: 0.5 '	
QC SAMPLE TYPE CODES: DUPLICATE (DUP), MATRIX SPIKE (MS), MATRIX SPIKE DUP (MSD), EQUIPMENT BLANK (EB), TRIP BLANK (TB), FIELD BLANK (FB)	SAMPLING METHOD: HA or SS	
	SAMPLING EQUIPMENT: HA or DPT	

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANAYLSIS	NOTES
8oz Glass	1	-	8330B	Explosives	
		-	6010	Metals	
		~~-~~	~~7196A~~	~~Hex Chrome~~	
4x40mL VOA	1	DI / MEOH	8260	VOCs	

NOTABLE OBSERVATIONS

SAMPLE CHARACTERISTICS		MISCELLANEOUS
		Color: Topsoil
		Odor: —
		PID: 0.0
		Other: —

Comments:

GENERAL INFORMATION

WEATHER: SUN/CLEAR X OVERCAST/RAIN ____ WIND DIRECTION ____ AMBIENT TEMP 75

SHIPMENT VIA: FedEx X HAND DELIVER ____ COURIER ____ UPS ____

SHIPPED TO: Katahdin Laboratory

TRACKING NUMBER: ____ COC NUMBER: ____

COMMENTS: ____

SAMPLER: AH OBSERVER: XL

MATRIX TYPE CODES		SAMPLING METHOD/EQUIPMENT CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	HA=HAND AUGER
WG=GROUND WATER	SO=SOIL	BP = BLADDER PUMP	HSA=HOLLOW STEM AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	DPT=DIRECT PUSH	HP=HYDRO PUNCH
SH=HAZARDOUS SOLID WASTE	WS=SURFACE WATER	LF = LOW FLOW	ST= SHELBY TUBE
SE=SEDIMENT	SW=SWAP/WIPE	MC = MARCO CORE	SS=SPLIT SPOON
		PDB = PASSIVE DIFFUSION BAG	SP=SUBMERSIBLE PUMP
		PP = PERISTALTIC PUMP	
		HYD = HYDRASLEEVE	

FIELD SAMPLING REPORT

LOCATION: Corn Husker AAP	PROJECT: CHAAP RI/FS
SITE: Tract 21B-BPA / BB / DS	PROJECT NUMBER: AT3001.05

SAMPLE INFORMATION

SAMPLE ID: CHAAP-21B- DS-SB08-S	TIME: 1340	DATE: 5.14.18
QC SAMPLE: YES ( ) NO (✓)	MATRIX: SO	
QC SAMPLE ID: —	FIELD FILTERED: YES ( ) NO (✓)	
TYPE OF QC SAMPLE: —	BEGINNING DEPTH: 4 '	
GRAB (X) COMPOSITE ( )	END DEPTH: 5 '	
QC SAMPLE TYPE CODES: DUPLICATE (DUP), MATRIX SPIKE (MS), MATRIX SPIKE DUP (MSD), EQUIPMENT BLANK (EB), TRIP BLANK (TB), FIELD BLANK (FB)	SAMPLING METHOD: HA or SS	
	SAMPLING EQUIPMENT: HA or DPT	

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANAYLSIS	NOTES
8oz Glass	1	-	8330B	Explosives	
		-	6010	Metals	
		~~—~~	~~7196A~~	~~Hex Chrome~~	
4x40mL VOA	1	DI / MEOH	8260	VOCs	

NOTABLE OBSERVATIONS

SAMPLE CHARACTERISTICS		MISCELLANEOUS
		Color: light Gray
		Odor: —
		PID: 0.0
		Other: —

Comments:

GENERAL INFORMATION

WEATHER: SUN/CLEAR (X) OVERCAST/RAIN ____ WIND DIRECTION ____ AMBIENT TEMP 75

SHIPMENT VIA: FedEx X HAND DELIVER ____ COURIER ____ UPS ____

SHIPPED TO: Katahdin Laboratory

TRACKING NUMBER: ____ COC NUMBER: ____

COMMENTS: ____

SAMPLER: AH OBSERVER: XC

MATRIX TYPE CODES		SAMPLING METHOD/EQUIPMENT CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	HA=HAND AUGER
WG=GROUND WATER	SO=SOIL	BP = BLADDER PUMP	HSA=HOLLOW STEM AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	DPT=DIRECT PUSH	HP=HYDRO PUNCH
SH=HAZARDOUS SOLID WASTE	WS=SURFACE WATER	LF = LOW FLOW	ST= SHELBY TUBE
SE=SEDIMENT	SW=SWAP/WIPE	MC = MARCO CORE	SS=SPLIT SPOON
		PDB = PASSIVE DIFFUSION BAG	SP=SUBMERSIBLE PUMP
		PP = PERISTALTIC PUMP	
		HYD = HYDRASLEEVE	

FIELD SAMPLING REPORT

LOCATION: Corn Husker AAP	PROJECT: CHAAP RI/FS
SITE: Tract 21B-BPA / BB / DS	PROJECT NUMBER: AT3001.05

SAMPLE INFORMATION

SAMPLE ID: CHAAP-21B-DS-5509	TIME: 1315	DATE: 5.14.18
QC SAMPLE: YES ( ) NO (✓)	MATRIX: SO	
QC SAMPLE ID: —	FIELD FILTERED: YES ( ) NO (✓)	
TYPE OF QC SAMPLE: —	BEGINNING DEPTH: 0.0'	
GRAB (X) COMPOSITE ( )	END DEPTH: 0.5'	
QC SAMPLE TYPE CODES: DUPLICATE (DUP), MATRIX SPIKE (MS), MATRIX SPIKE DUP (MSD), EQUIPMENT BLANK (EB), TRIP BLANK (TB), FIELD BLANK (FB)	SAMPLING METHOD: HA or ~~SS~~	
	SAMPLING EQUIPMENT: HA or ~~DPT~~	

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANAYLSIS	NOTES
8oz Glass	1	-	8330B	Explosives	
		-	6010	Metals	
			~~7196A~~	~~Hex Chrome~~	
4x40mL VOA	1	DI / MEOH	8260	VOCs	

NOTABLE OBSERVATIONS

SAMPLE CHARACTERISTICS		MISCELLANEOUS
		Color: Topsoil
		Odor: —
		PID: 0.0
		Other: —

Comments:

GENERAL INFORMATION

WEATHER: SUN/CLEAR ✓ OVERCAST/RAIN ____ WIND DIRECTION ____ AMBIENT TEMP 75

SHIPMENT VIA: FedEx X HAND DELIVER ____ COURIER ____ UPS ____

SHIPPED TO: Katahdin Laboratory

TRACKING NUMBER: ____ COC NUMBER: ____

COMMENTS: ____

SAMPLER: AN OBSERVER: YC

MATRIX TYPE CODES		SAMPLING METHOD/EQUIPMENT CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	HA=HAND AUGER
WG=GROUND WATER	SO=SOIL	BP = BLADDER PUMP	HSA=HOLLOW STEM AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	DPT=DIRECT PUSH	HP=HYDRO PUNCH
SH=HAZARDOUS SOLID WASTE	WS=SURFACE WATER	LF = LOW FLOW	ST= SHELBY TUBE
SE=SEDIMENT	SW=SWAP/WIPE	MC = MARCO CORE	SS=SPLIT SPOON
		PDB = PASSIVE DIFFUSION BAG	SP=SUBMERSIBLE PUMP
		PP = PERISTALTIC PUMP	
		HYD = HYDRASLEEVE	

FIELD SAMPLING REPORT

LOCATION: Corn Husker AAP	PROJECT: CHAAP RI/FS
SITE: Tract 21B-BPA / BB / DS	PROJECT NUMBER: AT3001.05

SAMPLE INFORMATION

SAMPLE ID: CHAAP-21B- DS-SB09	TIME: 1320	DATE: 5.14.18
QC SAMPLE: YES ( ) NO (✓)	MATRIX: SO	
QC SAMPLE ID: —	FIELD FILTERED: YES ( ) NO (✓)	
TYPE OF QC SAMPLE: —	BEGINNING DEPTH: 4 '	
GRAB (X) COMPOSITE ( )	END DEPTH: 5 '	
QC SAMPLE TYPE CODES: DUPLICATE (DUP), MATRIX SPIKE (MS), MATRIX SPIKE DUP (MSD), EQUIPMENT BLANK (EB), TRIP BLANK (TB), FIELD BLANK (FB)	SAMPLING METHOD: HA or SS	
	SAMPLING EQUIPMENT: HA or DPT	

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANAYLSIS	NOTES
8oz Glass	1	-	8330B	Explosives	
		-	6010	Metals	
			~~7196A~~	~~Hex Chrome~~	
4x40mL VOA	1	DI / MEOH	8260	VOCs	

NOTABLE OBSERVATIONS

SAMPLE CHARACTERISTICS		MISCELLANEOUS
		Color: Light Grey
		Odor: —
		PID: 0.0
		Other: —

Comments:

GENERAL INFORMATION

WEATHER: SUN/CLEAR X OVERCAST/RAIN ____ WIND DIRECTION ____ AMBIENT TEMP 75

SHIPMENT VIA: FedEx X HAND DELIVER ____ COURIER ____ UPS ____

SHIPPED TO: Katahdin Laboratory

TRACKING NUMBER: ____ COC NUMBER: ____

COMMENTS: ____

SAMPLER: DA OBSERVER: XC

MATRIX TYPE CODES		SAMPLING METHOD/EQUIPMENT CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	HA=HAND AUGER
WG=GROUND WATER	SO=SOIL	BP = BLADDER PUMP	HSA=HOLLOW STEM AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	DPT=DIRECT PUSH	HP=HYDRO PUNCH
SH=HAZARDOUS SOLID WASTE	WS=SURFACE WATER	LF = LOW FLOW	ST= SHELBY TUBE
SE=SEDIMENT	SW=SWAP/WIPE	MC = MARCO CORE	SS=SPLIT SPOON
		PDB = PASSIVE DIFFUSION BAG	SP=SUBMERSIBLE PUMP
		PP = PERISTALTIC PUMP	
		HYD = HYDRASLEEVE	

FIELD SAMPLING REPORT

LOCATION: Corn Husker AAP	PROJECT: CHAAP RI/FS
SITE: Tract 21B-BPA / BB / DS	PROJECT NUMBER: AT3001.05

SAMPLE INFORMATION

SAMPLE ID: CHAAP-21B-DS-SS10	TIME: 1230	DATE: 5.14.18
QC SAMPLE: YES ( ) NO (✓)	MATRIX: SO	
QC SAMPLE ID: —	FIELD FILTERED: YES ( ) NO (✓)	
TYPE OF QC SAMPLE: —	BEGINNING DEPTH: 0.0'	
GRAB (X) COMPOSITE ( )	END DEPTH: 0.5 '	
QC SAMPLE TYPE CODES: DUPLICATE (DUP), MATRIX SPIKE (MS), MATRIX SPIKE DUP (MSD), EQUIPMENT BLANK (EB), TRIP BLANK (TB), FIELD BLANK (FB)	SAMPLING METHOD: HA or SS	
	SAMPLING EQUIPMENT: HA or DPT	

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANAYLSIS	NOTES
8oz Glass	1	-	8330B	Explosives	
		-	6010	Metals	
		~~—~~	~~7196A~~	~~Hex Chrome~~	
4x40mL VOA	1	DI / MEOH	8260	VOCs	

NOTABLE OBSERVATIONS

SAMPLE CHARACTERISTICS		MISCELLANEOUS
		Color: Topsoil V. Dk Brown
		Odor: —
		PID: 0.0
		Other: —

Comments:

GENERAL INFORMATION

WEATHER: SUN/CLEAR (X) OVERCAST/RAIN ____ WIND DIRECTION ____ AMBIENT TEMP 75

SHIPMENT VIA: FedEx X HAND DELIVER ____ COURIER ____ UPS ____

SHIPPED TO: Katahdin Laboratory

TRACKING NUMBER: ____ COC NUMBER: ____

COMMENTS: ____

SAMPLER: AH OBSERVER: XC

MATRIX TYPE CODES		SAMPLING METHOD/EQUIPMENT CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	HA=HAND AUGER
WG=GROUND WATER	SO=SOIL	BP = BLADDER PUMP	HSA=HOLLOW STEM AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	DPT=DIRECT PUSH	HP=HYDRO PUNCH
SH=HAZARDOUS SOLID WASTE	WS=SURFACE WATER	LF = LOW FLOW	ST= SHELBY TUBE
SE=SEDIMENT	SW=SWAP/WIPE	MC = MARCO CORE	SS=SPLIT SPOON
		PDB = PASSIVE DIFFUSION BAG	SP=SUBMERSIBLE PUMP
		PP = PERISTALTIC PUMP	
		HYD = HYDRASLEEVE	

FIELD SAMPLING REPORT

LOCATION: Corn Husker AAP	PROJECT: CHAAP RI/FS
SITE: Tract 21B-BPA / BB / DS	PROJECT NUMBER: AT3001.05

SAMPLE INFORMATION

SAMPLE ID: CHAAP-21B- DS-SB10-5	TIME: 1235	DATE: 5.14.18
QC SAMPLE: YES ( ) NO (X)	MATRIX: SO	
QC SAMPLE ID: —	FIELD FILTERED: YES ( ) NO (✓)	
TYPE OF QC SAMPLE: —	BEGINNING DEPTH: 4 '	
GRAB (X) COMPOSITE ( )	END DEPTH: 5 '	
QC SAMPLE TYPE CODES: DUPLICATE (DUP), MATRIX SPIKE (MS), MATRIX SPIKE DUP (MSD), EQUIPMENT BLANK (EB), TRIP BLANK (TB), FIELD BLANK (FB)	SAMPLING METHOD: HA or (SS)	
	SAMPLING EQUIPMENT: HA or (DPT)	

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANAYLSIS	NOTES
8oz Glass	1	-	8330B	Explosives	
		-	6010	Metals	
		~~—~~	~~7196A~~	~~Hex Chrome~~	
4x40mL VOA	1	DI / MEOH	8260	VOCs	

NOTABLE OBSERVATIONS

SAMPLE CHARACTERISTICS		MISCELLANEOUS
		Color: light Gray
		Odor: —
		PID: 0.0
		Other: —

Comments:

GENERAL INFORMATION

WEATHER: SUN/CLEAR (X) OVERCAST/RAIN ____ WIND DIRECTION ____ AMBIENT TEMP 75

SHIPMENT VIA: FedEx X HAND DELIVER ____ COURIER ____ UPS ____

SHIPPED TO: Katahdin Laboratory

TRACKING NUMBER: ____ COC NUMBER: ____

COMMENTS: ____

SAMPLER: DXJ OBSERVER: XC

MATRIX TYPE CODES		SAMPLING METHOD/EQUIPMENT CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	HA=HAND AUGER
WG=GROUND WATER	SO=SOIL	BP = BLADDER PUMP	HSA=HOLLOW STEM AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	DPT=DIRECT PUSH	HP=HYDRO PUNCH
SH=HAZARDOUS SOLID WASTE	WS=SURFACE WATER	LF = LOW FLOW	ST= SHELBY TUBE
SE=SEDIMENT	SW=SWAP/WIPE	MC = MARCO CORE	SS=SPLIT SPOON
		PDB = PASSIVE DIFFUSION BAG	SP=SUBMERSIBLE PUMP
		PP = PERISTALTIC PUMP	
		HYD = HYDRASLEEVE	

FIELD SAMPLING REPORT

LOCATION: Corn Husker AAP	PROJECT: CHAAP RI/FS
SITE: Tract 21B-BPA / BB / DS	PROJECT NUMBER: AT3001.05

SAMPLE INFORMATION

SAMPLE ID: CHAAP-21B-DS-~~SB~~SS11	TIME: 1250	DATE: 5.14.18
QC SAMPLE: YES (✓) NO ( )	MATRIX: SO	
QC SAMPLE ID: CHAAP-21B-DS-~~SB~~SS11	FIELD FILTERED: YES ( ) NO (✓)	
TYPE OF QC SAMPLE: FD	BEGINNING DEPTH: 0.0'	
GRAB (X) COMPOSITE ( )	END DEPTH: 0.5'	
QC SAMPLE TYPE CODES: DUPLICATE (DUP), MATRIX SPIKE (MS), MATRIX SPIKE DUP (MSD), EQUIPMENT BLANK (EB), TRIP BLANK (TB), FIELD BLANK (FB)	SAMPLING METHOD: HA or SS	
	SAMPLING EQUIPMENT: HA or DPT	

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANAYLSIS	NOTES
8oz Glass	2 ~~1~~	-	8330B	Explosives	
		-	6010	Metals	
		-	7196A	Hex Chrome	
4x40mL VOA	2	DI / MEOH	8260	VOCs	

NOTABLE OBSERVATIONS

SAMPLE CHARACTERISTICS		MISCELLANEOUS
		Color: Topsoil
		Odor: —
		PID: 0.0
		Other: —

Comments:

GENERAL INFORMATION

WEATHER: SUN/CLEAR ✓ OVERCAST/RAIN ____ WIND DIRECTION ____ AMBIENT TEMP 75

SHIPMENT VIA: FedEx X HAND DELIVER ____ COURIER ____ UPS ____

SHIPPED TO: Katahdin Laboratory

TRACKING NUMBER: ____ COC NUMBER: ____

COMMENTS: ____

SAMPLER: AH OBSERVER: JC

MATRIX TYPE CODES		SAMPLING METHOD/EQUIPMENT CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	HA=HAND AUGER
WG=GROUND WATER	SO=SOIL	BP = BLADDER PUMP	HSA=HOLLOW STEM AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	DPT=DIRECT PUSH	HP=HYDRO PUNCH
SH=HAZARDOUS SOLID WASTE	WS=SURFACE WATER	LF = LOW FLOW	ST= SHELBY TUBE
SE=SEDIMENT	SW=SWAP/WIPE	MC = MARCO CORE	SS=SPLIT SPOON
		PDB = PASSIVE DIFFUSION BAG	SP=SUBMERSIBLE PUMP
		PP = PERISTALTIC PUMP	
		HYD = HYDRASLEEVE	

FIELD SAMPLING REPORT

LOCATION: Corn Husker AAP	PROJECT: CHAAP RI/FS
SITE: Tract 21B-BPA / BB / DS	PROJECT NUMBER: AT3001.05

SAMPLE INFORMATION

SAMPLE ID: CHAAP-21B- DS-SS11-S	TIME: 1300	DATE: 5.14.18
QC SAMPLE: YES (✓) NO ( )	MATRIX: SO	
QC SAMPLE ID: MS/MSD	FIELD FILTERED: YES ( ) NO (✓)	
TYPE OF QC SAMPLE: MS/MSD	BEGINNING DEPTH: 4 '	
GRAB (X) COMPOSITE ( )	END DEPTH: 5 '	
QC SAMPLE TYPE CODES: DUPLICATE (DUP), MATRIX SPIKE (MS), MATRIX SPIKE DUP (MSD), EQUIPMENT BLANK (EB), TRIP BLANK (TB), FIELD BLANK (FB)	SAMPLING METHOD: HA or SS	
	SAMPLING EQUIPMENT: HA or DPT	

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANAYLSIS	NOTES
8oz Glass 3	x	-	8330B	Explosives	
		-	6010	Metals	
		-	7196A	Hex Chrome	
4x40mL VOA	3	DI / MEOH	8260	VOCs	

NOTABLE OBSERVATIONS

SAMPLE CHARACTERISTICS		MISCELLANEOUS
		Color: light Gray
		Odor: —
		PID: 0.0
		Other: —

Comments:

GENERAL INFORMATION

WEATHER: SUN/CLEAR ✓ OVERCAST/RAIN ____ WIND DIRECTION ____ AMBIENT TEMP 75

SHIPMENT VIA: FedEx X HAND DELIVER ____ COURIER ____ UPS ____

SHIPPED TO: Katahdin Laboratory

TRACKING NUMBER: ____ COC NUMBER: ____

COMMENTS: ____

SAMPLER: AN OBSERVER: XC

MATRIX TYPE CODES		SAMPLING METHOD/EQUIPMENT CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	HA=HAND AUGER
WG=GROUND WATER	SO=SOIL	BP = BLADDER PUMP	HSA=HOLLOW STEM AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	DPT=DIRECT PUSH	HP=HYDRO PUNCH
SH=HAZARDOUS SOLID WASTE	WS=SURFACE WATER	LF = LOW FLOW	ST= SHELBY TUBE
SE=SEDIMENT	SW=SWAP/WIPE	MC = MARCO CORE	SS=SPLIT SPOON
		PDB = PASSIVE DIFFUSION BAG	SP=SUBMERSIBLE PUMP
		PP = PERISTALTIC PUMP	
		HYD = HYDRASLEEVE	

FIELD SAMPLING REPORT

LOCATION: Corn Husker AAP	PROJECT: CHAAP RI/FS
SITE: Tract 21B-DS	PROJECT NUMBER: AT3001.05

SAMPLE INFORMATION

SAMPLE ID: 21B-DS-SS12	TIME: 1045 DATE: 4.10.18
QC SAMPLE: YES ( ) NO (✓)	MATRIX: SO
QC SAMPLE ID: —	FIELD FILTERED: YES ( ) NO (✓)
TYPE OF QC SAMPLE: —	BEGINNING DEPTH: 0.0'
GRAB (X) COMPOSITE ( )	END DEPTH: 0.5'
QC SAMPLE TYPE CODES: DUPLICATE (DUP), MATRIX SPIKE (MS), MATRIX SPIKE DUP (MSD), EQUIPMENT BLANK (EB), TRIP BLANK (TB), FIELD BLANK (FB)	SAMPLING METHOD: HA or SS
	SAMPLING EQUIPMENT: DPT

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANAYLSIS	NOTES
4x40 mL VOA	1	-MEOH & DI	8330B	VOCs	
4oz Glass	1	-	8330B	Explosives	
4oz Glass	1	-	6010	Metals	
4oz Glass	1	-	7196A	Hex Chrome	
8oz					

NOTABLE OBSERVATIONS

SAMPLE CHARACTERISTICS				MISCELLANEOUS
pH:		Turbidity (NTU):		Color: Topsoil
Temp. (C°):		Specific Cond. (µS/cm):		Odor: none
DO (mg/L):				PID: 0.0
ORP (mV):				Other:

Comments:

GENERAL INFORMATION

WEATHER: SUN/CLEAR X OVERCAST/RAIN ____ WIND DIRECTION ____ AMBIENT TEMP 40

SHIPMENT VIA: FedEx X HAND DELIVER ____ COURIER ____ UPS ____

SHIPPED TO: Katahdin Laboratory

TRACKING NUMBER: ____ COC NUMBER: ____

COMMENTS: ____

SAMPLER: A.H. OBSERVER: S.G.

MATRIX TYPE CODES		SAMPLING METHOD/EQUIPMENT CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	HA=HAND AUGER
WG=GROUND WATER	SO=SOIL	BP = BLADDER PUMP	HSA=HOLLOW STEM AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	DPT=DIRECT PUSH	HP=HYDRO PUNCH
SH=HAZARDOUS SOLID WASTE	WS=SURFACE WATER	LF = LOW FLOW	ST= SHELBY TUBE
SE=SEDIMENT	SW=SWAP/WIPE	MC = MARCO CORE	SS=SPLIT SPOON
		PDB = PASSIVE DIFFUSION BAG	SP=SUBMERSIBLE PUMP
		PP = PERISTALTIC PUMP	
		HYD = HYDRASLEEVE	

FIELD SAMPLING REPORT

LOCATION: Corn Husker AAP	PROJECT: CHAAP RI/FS
SITE: Tract 21B-DS	PROJECT NUMBER: AT3001.05

SAMPLE INFORMATION

SAMPLE ID: 21B-DS-SB12-5	TIME: 1050	DATE: 4.10.18
QC SAMPLE: YES ( ) NO (X)	MATRIX: SO	
QC SAMPLE ID: —	FIELD FILTERED: YES ( ) NO (X)	
TYPE OF QC SAMPLE: —	BEGINNING DEPTH: 4'	
GRAB (X) COMPOSITE ( )	END DEPTH: 5'	
QC SAMPLE TYPE CODES: DUPLICATE (DUP), MATRIX SPIKE (MS), MATRIX SPIKE DUP (MSD), EQUIPMENT BLANK (EB), TRIP BLANK (TB), FIELD BLANK (FB)	SAMPLING METHOD: HA or (SS)	
	SAMPLING EQUIPMENT: DPT	

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANAYLSIS	NOTES
4x40 mL VOA	1	-MEOH & DI	8330B	VOCs	
4oz Glass	1	-	8330B	Explosives	
4oz Glass	1	-	6010	Metals	
4oz Glass	1	-	7196A	Hex Chrome	
8oz					

NOTABLE OBSERVATIONS

SAMPLE CHARACTERISTICS				MISCELLANEOUS
pH:		Turbidity (NTU):		Color: Dark grayish Brown 2.5y 4/2
Temp. (C°):		Specific Cond. (μS/cm):		Odor: none
DO (mg/L):				PID: 0.0
ORP (mV):				Other:

Comments:

GENERAL INFORMATION

WEATHER: SUN/CLEAR (X) OVERCAST/RAIN ____ WIND DIRECTION ____ AMBIENT TEMP 40

SHIPMENT VIA: FedEx X HAND DELIVER ____ COURIER ____ UPS ____

SHIPPED TO: Katahdin Laboratory

TRACKING NUMBER: ____ COC NUMBER: ____

COMMENTS: ____

SAMPLER: A.H. OBSERVER: S.G.

MATRIX TYPE CODES		SAMPLING METHOD/EQUIPMENT CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	HA=HAND AUGER
WG=GROUND WATER	SO=SOIL	BP = BLADDER PUMP	HSA=HOLLOW STEM AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	DPT=DIRECT PUSH	HP=HYDRO PUNCH
SH=HAZARDOUS SOLID WASTE	WS=SURFACE WATER	LF = LOW FLOW	ST= SHELBY TUBE
SE=SEDIMENT	SW=SWAP/WIPE	MC = MARCO CORE	SS=SPLIT SPOON
		PDB = PASSIVE DIFFUSION BAG	SP=SUBMERSIBLE PUMP
		PP = PERISTALTIC PUMP	
		HYD = HYDRASLEEVE	

Tract 21B: Decanting Station – Groundwater Field Sampling Records

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Groundwater Field Sampling Data Sheet

Well No.: 21B- DS-LGIA-MW01	Site: CHAAP	Tract: 21B	Date: 6-2-18
Samplers: S. Cameron		Project No.: 16-027	
Measured Well Depth and Condition of Bottom: 45.15			Sample Time: 14:40
DTW (ft): 13.43	DTP (ft): 40	FedEx: X UPS ___Hand ___Other	
MP Ht. Aboveground/Below Ground Surface:		Sampling Method (G=grab, B=bailer, **SP=submersible pump**):	
Installed Well Depth: 45.15		Type of Pump: QED SampPro Bladder Pump 1.75"	
Screen Interval (ft): 35-45		Weather (sun/clear, overcast/rain, wind direction, ambient temp):	
Well Diameter (in): 2"		Other: Purge Start time at 13:55	
Placement of Pump (ft): 40		Other: Controller Settings - 25PSI	

Field Parameters

Time	Depth to Water (ft)	Flow Rate (ml/min)	Total Volume (L)	pH (± 0.1 units)	Temp (°C) (± 0.5 °C)	Cond (µS/cm) (± 3%)	ORP (mV) (± 10mV)	DO (mg/L) (± 10%)	Turbidity (NTU) (<50 or ± 10%)	Note
1355	ok	ok								
~~1345~~	13.43	100	—	7.65	26.96	0.011	91.6	6.66	27.8	
14:00	13.41	100	0.5	8.78	13.96	2.277	-65.5	0.94	10.77	
14:05	13.41	200	1	6.80	13.61	2.325	-69.9	0.73	8.11	
14:10	13.41	200	2	6.85	13.44	2.330	-70.7	0.70	7.61	
14:15	13.41	200	3	6.63	13.05	2.334	-71.5	0.43	5.91	
14:20	13.41	200	4	6.73	13.01	2.335	-72.8	0.33	6.56	
14:25	13.41	200	5	6.84	13.38	2.340	-76.6	0.31	3.84	
14:30	13.41	200	6	6.85	13.53	2.342	-78.0	0.32	3.34	
14:35	13.41	200	7	6.75	13.13	2.342	-78.2	0.30	4.45	
14:40	13.41	200	8	6.78	13.07	2.341	-78.9	0.31	2.68	

Observations

Color: Clear/Other (describe)

Odor: None/Low/Medium/High/Very Strong/H2S/Fuel-Like

Notes:

Sampled for: VOC's, Explosives, metals

Purge Volume Calculations Well Casing Volume = J $(Rc)^2$ (well depth – static H_2O depth) x (conversion 7.48 gal/ft^3)

Groundwater Field Sampling Data Sheet

Well No.: 21B-DS-LG1A-MW02	Site: CHAAP	Tract: 21B	Date: 6-2-18
Samplers: X. Chagolla	Project No.: 16-027		
Measured Well Depth and Condition of Bottom: 43.00			Sample Time: ~~12:55~~ 13:00
DTW (ft): 13.53	DTP (ft): 38	FedEx: X UPS ___Hand ___Other	
MP Ht. Aboveground/Below Ground Surface:		Sampling Method (G=grab, B=bailer, **SP=submersible pump**):	
Installed Well Depth: 43.00		Type of Pump: QED SampPro Bladder Pump 1.75"	
Screen Interval (ft): 33-43		Weather (sun/clear, overcast/rain, wind direction, ambient temp):	
Well Diameter (in): 2"		Other: Purge Start time at 11:50	
Placement of Pump (ft): 38		Other: Controller Settings - 25 PSI	

Field Parameters

Time	Depth to Water (ft)	Flow Rate (ml/min)	Total Volume (L)	pH (± 0.1 units)	Temp (°C) (± 0.5 °C)	Cond (µS/cm) (± 3%)	ORP (mV) (± 10mV)	DO (mg/L) (± 10%)	Turbidity (NTU) (<50 or ± 10%)	Note
1150	13.53	100	—	—	—	—	—	—	—	
1155	13.53	200	0.5	6.90	13.94	2.221	-54.4	4.44	21.8	
12:00	13.53	200	1.5	6.84	13.73	2.310	-64.4	3.15	46.2	
12:05	13.53	200	2.5	6.86	13.58	2.325	-76.5	2.69	49.1	
12:10	13.53	200	3.5	6.87	13.60	2.327	-81.8	2.42	44.4	
12:15	13.53	200	4.5	6.87	13.64	2.327	-83.5	1.00	33.2	
12:20	13.53	200	5.5	6.89	13.63	2.327	-86.2	0.32	27.3	
12:25	13.53	200	6.5	6.89	13.67	2.328	-87.0	0.27	24.1	
12:30	13.[illegible]53	200	7.5	6.89	13.60	2.329	-87.0	0.24	23.1	
12:35	13.53	200	8.5	6.89	13.73	2.329	-89.0	0.21	19.4	
12:40	13.53	200	9.5	6.90	13.76	2.331	-89.0	0.20	17.9	
12:45	13.53	200	10.5	6.91	13.69	2.333	-90.0	0.18	17.9	
12:50	13.53	200	11.5	6.90	13.79	2.336	-90.6	0.16	11.3	
12:55	13.53	200	12.5	6.92	13.74	2.334	-90.5	0.16	10.85	
13:00	13.53	200	13.5	6.91	13.74	2.336	-90.4	0.16	11.43	

Observations

Color: Clear/Other (describe)

Odor: None/Low/Medium/High/Very Strong/H2S/Fuel-Like

Notes:

Sampled for: VOC's, explosives, metals

Purge Volume Calculations Well Casing Volume = J $(Rc)^2$ (well depth – static H_2O depth) x (conversion 7.48 gal/ft^3)

Groundwater Field Sampling Data Sheet

Well No.: 21B-DS-LGIA-MW03	Site: CHAAP	Tract: 21B-DS	Date: 8/13/18
Samplers: S. Cameron		Project No.: 16-027	
Measured Well Depth and Condition of Bottom: 45.46			Sample Time: 12:30
DTW (ft): 16.84	DTP (ft):	FedEx: X UPS ___Hand ___Other	
MP Ht. Aboveground/Below Ground Surface:		Sampling Method (G=grab, B=bailer, **SP=submersible pump**):	
Installed Well Depth: 45.46		Type of Pump: QED SampPro Bladder Pump 1.75"	
Screen Interval (ft): 35-45		Weather (sun/clear, overcast/rain, wind direction, ambient temp):	
Well Diameter (in): 2		Other:	
Placement of Pump (ft): 40		Other:	

Field Parameters

Time	Depth to Water (ft)	Flow Rate (ml/min)	Total Volume (L)	pH (± 0.1 units)	Temp (°C) (± 0.5 °C)	Cond (mS/cm) (± 3%)	ORP (mV) (± 10mV)	DO (mg/L) (± 10%)	Turbidity (NTU) (<50 or ± 10%)	Note
11:40	16.84	250	—	—	—	—	—	—	—	
11:45	16.84	250	1.25	6.80	12.04	2.062	-79.3	0.66	54.2	
11:50	16.84	250	2.5	6.81	11.97	2.053	-80.3	0.64	123.6	
11:55	16.84	250	3.75	6.81	12.06	2.055	-80.6	0.62	75.2	
12:00	16.84	250	5.0	6.82	12.08	2.058	-81.5	0.61	54.9	
12:05	16.84	250	6.25	6.83	12.07	2.057	-83.5	0.60	37.6	
12:10	16.84	250	7.5	6.83	12.11	2.060	-85.2	0.58	21.4	
12:15	16.84	250	8.75	6.84	12.12	2.062	-86.4	0.58	17.3	
12:20	16.84	250	10.0	6.87	12.17	2.063	-87.6	0.57	14.1	
12:25	16.84	250	11.25	6.89	12.18	2.064	-84.8	0.56	11.6	
12:30	16.84	250	12.5	6.89	12.21	2.068	-84.1	0.55	9.89	
Sampling										

Observations

Color: Clear/Other (describe)

Odor: None/Low/Medium/High/Very Strong/H2S/Fuel-Like

Notes: Duplicate Collected

Sampled for: VOCs, Metals, Explosives, Hexavalent Chromium

Purge Volume Calculations Well Casing Volume = J $(Rc)^2$ (well depth – static H_2O depth) x (conversion 7.48 gal/ft^3)

Groundwater Field Sampling Data Sheet

Well No.: 21B-DS-LG1A-MW04	Site: CHAAP	Tract: 21B	Date: 6-1-18
Samplers: S. Cameron, B. Hylinski		Project No.: 16-027	
Measured Well Depth and Condition of Bottom: 44.63 Clean			Sample Time: 1445
DTW (ft): 13.02	DTP (ft):	FedEx: X UPS ___Hand ___Other	
MP Ht. Aboveground/Below Ground Surface:		Sampling Method (G=grab, B=bailer, **SP=submersible pump**):	
Installed Well Depth: 44.63		Type of Pump: QED SampPro Bladder Pump 1.75''	
Screen Interval (ft): 34-44		Weather (sun/clear, overcast/rain, wind direction, ambient temp):	
Well Diameter (in): 2"		Other: Purge Start time at 13:55	
Placement of Pump (ft): 39		Other: Controller Settings - 25 PSI	

Field Parameters

Time	Depth to Water (ft)	Flow Rate (ml/min)	Total Volume (L)	pH (± 0.1 units)	Temp (°C) (± 0.5 °C)	Cond (µS/cm) (± 3%)	ORP (mV) (± 10mV)	DO (mg/L) (± 10%)	Turbidity (NTU) (<50 or ± 10%)	Note
1355	13.20	100		6.91	13.82	2.343	-93.7	6.78	60.3	
1400	13.20	200	0.5	7.08	13.62	2.532	-93.0	5.49	61.5	
1405	13.20	300	1.5	6.99	13.62	2.351	-92.5	5.31	53.9	
1410	13.20	300	3	6.85	13.47	2.351	-91.4	4.68	41.0	
1415	13.20	300	4.5	6.90	13.49	2.354	-90.7	4.36	34.0	
1420	13.20	300	6	6.89	13.5	2.352	-90.2	4.30	33.6	
1425	13.20	300	7.5	6.97	16.05	2.374	-95.2	4.05	33.6	
1430	13.20	300	9	6.89	14.7	2.374	-96.2	4.04	31.3	
1435	13.20	300	10.5	6.82	13.9	2.355	-93.8	2.12	19.6	
1440	13.20	300	12	6.90	13.87	2.354	-94.2	2.95	21.3	
1445	13.20	300	13.5	6.96	13.91	2.350	-94.9	2.93	20.2	

Observations

Color: Clear/Other (describe)

Odor: None/Low/Medium/High/Very Strong/H2S/Fuel-Like

Notes:

Sampled for: VOC's, explosives, metals

Purge Volume Calculations Well Casing Volume = $\pi (Rc)^2$ (well depth – static H_2O depth) x (conversion 7.48 gal/ft^3)

Groundwater Field Sampling Data Sheet

Well No.: 21B-DS-GIA-MW05	Site: CHAAP	Tract: 21B	Date: 6-13-18
Samplers: B. Hylinski		Project No.: 16-027	
Measured Well Depth and Condition of Bottom: 46.24 clean			Sample Time: 12:00
DTW (ft): 12.78	DTP (ft): 41	FedEx: X UPS ___Hand ___Other	
MP Ht. Aboveground/Below Ground Surface:		Sampling Method (G=grab, B=bailer, SP=submersible pump):	
Installed Well Depth: 46.24		Type of Pump: QED SampPro Bladder Pump 1.75"	
Screen Interval (ft): 36-46		Weather (sun/clear, overcast/rain, wind direction, ambient temp):	
Well Diameter (in): 2"		Other: Purge Start time at 10:55	
Placement of Pump (ft): 41ft		Other: Controller Settings - 25 PSI	

Field Parameters

Time	Depth to Water (ft)	Flow Rate (ml/min)	Total Volume (L)	pH (± 0.1 units)	Temp (°C) (± 0.5 °C)	Cond (µS/cm) (± 3%)	ORP (mV) (± 10mV)	DO (mg/L) (± 10%)	Turbidity (NTU) (<50 or ± 10%)	Note
10:55	12.78	100	-	-	-	-	-	-	-	
11:00	12.76	200	.5	6.95	14.81	2.639	-63.1	4.59	25.9	
11:05	12.76	200	1.5	6.84	14.80	2.632	-59.4	3.57	17.1	
11:10	12.76	200	2.5	6.73	14.59	2.632	-57.3	2.14	9.7	
11:15	12.76	200	3.5	6.80	14.72	2.632	-62.3	1.89	7.91	
11:20	12.76	200	4.5	6.91	14.87	2.626	-68.4	1.83	6.93	
11:25	12.76	200	5.5	6.98	14.97	2.622	-72.6	2.05	6.20	
11:30	12.76	200	6.5	7.02	14.85	2.623	-76.4	2.17	5.52	
11:35	12.76	200	7.5	7.09	14.49	2.622	-77.5	2.17	5.41	
11:40	12.76	200	8.5	7.13	14.40	2.615	-75.9	2.16	5.34	
11:45	12.76	200	9.5	7.10	14.31	2.601	-75	2.16	5.38	
11:50	12.76	200	10.5	7.11	14.31	2.581	-74.8	2.16	5.34	
11:55	12.76	200	11.5	7.12	14.31	2.581	-75.9	2.15	5.27	
12:00	12.76	200	12.5	7.12	14.33	2.579	-76.1	2.12	5.66	

Observations

Color: Clear/Other (describe)
Odor: None/Low/Medium/High/Very Strong/H2S/Fuel-Like
Notes:
Sampled for: VOC's, explosives, metals, hex. chrom
Purge Volume Calculations Well Casing Volume = J $(Rc)^2$ (well depth – static H_2O depth) x (conversion 7.48 gal/ft^3)

Groundwater Field Sampling Data Sheet

Well No.: 21B-DS-LGIAMW06	Site: CHAAP	Tract: 2113	Date: 6-19-18
Samplers: S. Cameron, B. Hylinski		Project No.: 16-027	
Measured Well Depth and Condition of Bottom: 46.30			Sample Time: 14:55
DTW (ft): 12.98	DTP (ft): 41.30	FedEx: X UPS ___Hand ___Other	
MP Ht. Aboveground/Below Ground Surface:		Sampling Method (G=grab, B=bailer, **SP=submersible pump**):	
Installed Well Depth: 46.30		Type of Pump: QED SampPro Bladder Pump 1.75"	
Screen Interval (ft): 36-46'		Weather (sun/clear, overcast/rain, wind direction, ambient temp):	
Well Diameter (in): 2"		Other: Purge Start time at 14:00	
Placement of Pump (ft): ~~40~~ 41.30 ft		Other: Controller Settings - 23 PSI, 5-10 cycle, 4 cpm	

Field Parameters

Time	Depth to Water (ft)	Flow Rate (ml/min)	Total Volume (L)	pH (± 0.1 units)	Temp (°C) (± 0.5 °C)	Cond (µS/cm) (± 3%)	ORP (mV) (± 10mV)	DO (mg/L) (± 10%)	Turbidity (NTU) (<50 or ± 10%)	Note
14:00	12.98	100	—	—	—	—	—	—	—	
14:05	12.98	300	.5	6.96	15.37	1701	-100.4	16.9	97.3	
14:10	12.99	400	2	6.90	15.00	1709	-103.6	14.4	82.1	
14:15	12.98	400	4	6.88	14.47	1720	-109.9	12.0	87.3	
14:20	12.98	400	6	6.89	14.06	1713	-112.4	11.7	76.4	
14:25	12.97	400	8	6.90	13.92	1702	-117.1	11.3	>0.3	
14:30	12.99	400	10	6.90	13.91	1702	-118.6	10.6	68.3	
14:35	12.98	400	12	6.90	13.90	1701	-118.3	10.0	65.8	
14:40	12.99	400	14	6.91	13.87	1700	-119.1	10.1	46.8	
14:45	13.01	400	16	6.92	13.82	1699	-119.7	10.2	40.1	
14:50	13.00	400	18	6.92	13.98	1707	-119.1	10.9	40.8	
14:55	12.98	400	20	6.93	14.10	1710	-120.6	11.3	40.9	

Observations

Color: Clear/Other (describe)

Odor: None/Low/Medium/High/Very Strong/H2S/Fuel-Like

Notes:

Sampled for: VOC, Explosives, & Metals, & Hex chrom

Purge Volume Calculations Well Casing Volume = J $(Rc)^2$ (well depth – static H_2O depth) x (conversion 7.48 gal/ft^3)

Groundwater Field Sampling Data Sheet

Well No.: 21B-DS-LG1A-MW07	Site: CHAAP Tract: 21B	Date: 6-2-18
Samplers: B Hylinski, S Cameron	Project No.: 16-027	
Measured Well Depth and Condition of Bottom: 47.15 clean		Sample Time: 10:35
DTW (ft): 14.05	DTP (ft): 42	FedEx: X UPS ___Hand ___Other
MP Ht. Aboveground/Below Ground Surface:		Sampling Method (G=grab, B=bailer, **SP=submersible pump**):
Installed Well Depth: 47.15		Type of Pump: QED SampPro Bladder Pump 1.75"
Screen Interval (ft): 37-47		Weather (sun/clear, overcast/rain, wind direction, ambient temp):
Well Diameter (in): 2"		Other: Purge Start time at 9:25
Placement of Pump (ft): 42		Other: Controller Settings - 25 PSI

Field Parameters

Time	Depth to Water (ft)	Flow Rate (ml/min)	Total Volume (L)	pH (± 0.1 units)	Temp (°C) (± 0.5 °C)	Cond (µS/cm) (± 3%)	ORP (mV) (± 10mV)	DO (mg/L) (± 10%)	Turbidity (NTU) (<50 or ± 10%)	Note
9:25	14.05	100	–	–	–	–	–	–	–	
9:30	14.01	300	.5	6.97	13.01	1971	9.3	0.37	90.9	
9:35	14.01	300	2.0	6.99	13.34	2001	12.9	0.92	60.4	
9:40	14.01	300	3.5	7.06	13.44	2004	2.8	0.59	51.8	
9:45	14.01	300	5.0	7.00	13.50	2005	-5.1	0.47	46.8	
9:50	14.01	300	6.5	6.99	13.44	2004	-11.3	0.41	38.4	
9:55	1401	300	8.0	6.98	13.47	2003	-18.1	0.37	38.2	
10:00	14.01	300	9.5	6.98	13.50	2002	-22.0	0.35	32.5	
10:05	14.01	300	11.0	6.98	13.46	1998	-26.7	0.28	29.5	
10:10	1401	300	12.5	6.97	13.55	2000	-31.6	0.25	25.7	
10:15	14.01	300	14.0	6.97	13.36	1986	-36.4	0.22	18.9	
10:20	14.01	300	15.5	6.97	13.40	1989	-37.9	0.21	17.1	
10:25	14.01	300	17.0	6.97	13.29	1992	-40.2	0.18	14.8	
10:30	14.01	300	18.5	6.99	13.30	1991	-41.5	0.17	12.5	
10:35	14.01	300	20.0	6.97	13.41	1990	-41.0	0.16	10.1	

Observations

Color: Clear/Other (describe)

Odor: None/Low/Medium/High/Very Strong/H2S/Fuel-Like

Notes: (MS/MSD collected)

Sampled for: VOC's, explosives, metals, ~~[illegible]~~

Purge Volume Calculations Well Casing Volume = J $(Rc)^2$ (well depth – static H_2O depth) x (conversion 7.48 gal/ft^3)

Groundwater Field Sampling Data Sheet

Well No.: 21B-DS-UGIA-MW08	Site: CHAAP	Tract: 21B-DS	Date: 8/10/18
Samplers: S. Cameron		Project No.: 16-027	
Measured Well Depth and Condition of Bottom: 22.54			Sample Time: 11:40
DTW (ft): 16.94	DTP (ft): 18	FedEx: X UPS ___Hand ___Other	
MP Ht. Aboveground/Below Ground Surface:		Sampling Method (G=grab, B=bailer, SP=**submersible pump**):	
Installed Well Depth: 22.5		Type of Pump: QED SampPro Bladder Pump 1.75"	
Screen Interval (ft): 12.5-22.5		Weather (sun/clear, overcast/rain, wind direction, ambient temp):	
Well Diameter (in): 2		Other:	
Placement of Pump (ft): 18		Other:	

Field Parameters

Time	Depth to Water (ft)	Flow Rate (ml/min)	Total Volume (L)	pH (± 0.1 units)	Temp (°C) (± 0.5 °C)	Cond (µS/cm) (± 3%)	ORP (mV) (± 10mV)	DO (mg/L) (± 10%)	Turbidity (NTU) (<50 or ± 10%)	Note
10:40	16.94	250	—	—	—	—	—	—	—	
10:45	16.94	250	1.25	6.72	15.78	2,181	-16.6	9.3	71.4	
10:50	16.94	250	2.5	6.63	15.28	2,176	17.7	9.7	99.5	
10:55	16.94	250	3.75	6.60	15.22	2,179	19.8	9.6	103.4	
11:00	16.94	250	5.0	6.57	15.18	2,181	24.7	9.6	106	
11:05	16.94	250	6.25	6.53	15.20	2,184	27.1	12.6	78.7	
11:10	16.94	250	7.5	6.50	15.23	2,191	29.0	15.7	54.0	
11:15	16.94	250	8.75	6.48	14.99	2,186	30.8	14.3	35.1	
11:20	16.94	250	10.0	6.45	14.92	2,179	32.0	13.7	27.0	
11:25	16.94	250	11.25	6.43	15.13	2,182	32.7	12.6	20.9	
11:30	16.94	250	12.5	6.44	15.64	2,210	30.6	11.8	14.2	
11:35	16.94	250	13.75	6.43	15.73	2,214	31.4	10.5	10.6	
11:40	16.94	250	15	6.42	15.82	2,220	32.2	9.0	7.24	

Observations

Color: Clear/Other (describe)

Odor: None/Low/Medium/High/Very Strong/H2S/Fuel-Like

Notes:

Sampled for Freon-113

Purge Volume Calculations Well Casing Volume = J $(Rc)^2$ (well depth – static H_2O depth) x (conversion 7.48 gal/ft^3)

Groundwater Field Sampling Data Sheet

Well No.: 21B-DS-LGIA-MW08	Site: CHAAP	Tract: 21B-DS	Date: 8/10/18
Samplers: S Cameron		Project No.: 16-027	
Measured Well Depth and Condition of Bottom: 45.83 Hard			Sample Time: 10:30
DTW (ft): 16.94	DTP (ft): 40.5	FedEx: X UPS ___Hand ___Other	
MP Ht. Aboveground/Below Ground Surface:		Sampling Method (G=grab, B=bailer, SP=**submersible pump**):	
Installed Well Depth: 45.5		Type of Pump: QED SampPro Bladder Pump 1.75"	
Screen Interval (ft): 35-45		Weather (sun/clear, overcast/rain, wind direction, ambient temp):	
Well Diameter (in): 2		Other:	
Placement of Pump (ft): 40.5		Other:	

Field Parameters

Time	Depth to Water (ft)	Flow Rate (ml/min)	Total Volume (L)	pH (± 0.1 units)	Temp (°C) (± 0.5 °C)	Cond (µS/cm) (± 3%)	ORP (mV) (± 10mV)	DO (mg/L) (± 10%)	Turbidity (NTU) (<50 or ± 10%)	Note
0945	16.94	250	–	–	–	–	–	–	–	
0950	16.94	250	1.25	6.85	12.19	1.867	45.1	11.2	21.8	
0955	16.94	250	2.5	6.81	11.08	1.934	39.2	10.7	23.5	
1000	16.94	250	3.75	6.71	11.90	2.006	0.7	9.5	25.3	
1005	16.94	250	5.0	6.69	11.82	2.013	-13.5	9.2	22.1	
1010	16.94	250	6.25	6.68	11.87	2.023	-28.5	8.8	19.8	
1015	16.94	250	7.5	6.67	11.89	2.028	-34.7	8.7	14.3	
1020	16.94	250	8.75	6.65	11.92	2.033	-39.5	8.6	12.6	
1025	16.94	250	10.0	6.63	11.97	2.038	-42.1	8.2	11.4	
1030	16.94	250	11.25	6.62	12.03	2.041	-44.2	8.0	9.97	
Sampling										

Observations

Color: Clear/Other (describe)
Odor: None/Low/Medium/High/Very Strong/H2S/Fuel-Like
Notes:

Sampled for Freon-113

Purge Volume Calculations Well Casing Volume = J $(Rc)^2$ (well depth – static H_2O depth) x (conversion 7.48 gal/ft^3)

Groundwater Field Sampling Data Sheet

Well No.: 21B-DS-UGIA-MW10	Site: CHAAP	Tract: 21B-DS	Date: 8/10/18
Samplers: S. Cameron		Project No.: 16-027	
Measured Well Depth and Condition of Bottom: 22.31 Hard			Sample Time: 12:40
DTW (ft): 16.60	DTP (ft): ∅	FedEx: X UPS ___Hand ___Other	
MP Ht. Aboveground/Below Ground Surface:		Sampling Method (G=grab, B=bailer, SP=submersible pump):	
Installed Well Depth: 22.31		Type of Pump: QED SampPro Bladder Pump 1.75"	
Screen Interval (ft): 12-22		Weather (sun/clear, overcast/rain, wind direction, ambient temp):	
Well Diameter (in): 2		Other:	
Placement of Pump (ft): 18		Other:	

Field Parameters

Time	Depth to Water (ft)	Flow Rate (ml/min)	Total Volume (L)	pH (± 0.1 units)	Temp (°C) (± 0.5 °C)	Cond (µS/cm) (± 3%)	ORP (mV) (± 10mV)	DO (mg/L) (± 10%)	Turbidity (NTU) (<50 or ± 10%)	Note
12:10	16.60	250	–	–	–	–	–	–	–	
12:15	16.60	250	1.25	7.16	13.74	2.059	44.3	23.4	232	
12:20	16.60	250	2.5	6.96	11.28	1.910	35.3	14.0	270	
12:25	16.60	250	3.75	6.89	10.94	1.899	12.1	10.5	99.5	
12:30	16.60	250	5.0	6.87	10.89	1.903	4.6	11.7	61.8	
12:35	16.60	250	6.25	6.85	10.85	1.907	-1.6	10.4	13.4	
12:40	16.60	250	7.5	6.84	10.83	1.910	-6.3	9.4	8.80	
Sampling										

Observations

Color: Clear/Other (describe)

Odor: None/Low/Medium/High/Very Strong/H2S/Fuel-Like

Notes:

Sampled for Freon-113

Purge Volume Calculations Well Casing Volume = J $(Rc)^2$ (well depth – static H_2O depth) x (conversion 7.48 gal/ft^3)

Groundwater Field Sampling Data Sheet

Well No.: 21B-DS-UGFA-MW11	Site: CHAAP Tract: 21B-DS	Date: 8/10/2018
Samplers: S. Cameron	Project No.: **16-027**	
Measured Well Depth and Condition of Bottom: 24.18 Hard		Sample Time: 15:20
DTW (ft): 16.50 DTP (ft): 19	FedEx: X UPS ___Hand ___Other	
MP Ht. Aboveground/Below Ground Surface:	Sampling Method (G=grab, B=bailer, SP=**submersible pump**):	
Installed Well Depth: 24.18	Type of Pump: QED SampPro Bladder Pump 1.75"	
Screen Interval (ft): 14 - 24	Weather (sun/clear, overcast/rain, wind direction, ambient temp):	
Well Diameter (in): 2	Other:	
Placement of Pump (ft): 19	Other:	

Field Parameters

Time	Depth to Water (ft)	Flow Rate (ml/min)	Total Volume (L)	pH (± 0.1 units)	Temp (°C) (± 0.5 °C)	Cond (µS/cm) (± 3%)	ORP (mV) (± 10mV)	DO (mg/L) (± 10%)	Turbidity (NTU) (<50 or ± 10%)	Note
14:35	16.50	250	—	—	—	—	—	—	—	
14:40	16.50		1.25	6.82	15.79	2.070	-41.0	7.9	40.3	
14:45	16.50		2.5	6.80	15.52	1.970	-29.7	7.9	64.7	
14:50	16.50		3.75	6.77	15.25	1.968	-28.4	7.7	73.6	
14:55	16.50		5.0	6.75	15.15	1.963	-25.9	7.6	50.6	
15:00	16.50		6.25	6.73	15.10	1.965	-25.0	7.4	37.1	
15:05	16.50		7.5	6.73	15.07	1.964	-24.8	7.3	19.4	
15:10	16.50		8.75	6.72	14.98	1.963	-24.4	7.3	15.8	
15:15	16.50		10.0	6.71	15.15	1.971	-24.4	7.1	11.2	
15:20	16.50		11.25	6.70	15.26	1.974	-24.4	6.9	8.03	
Sampled										

Observations

Color: Clear/Other (describe)

Odor: None/Low/Medium/High/Very Strong/H2S/Fuel-Like

Notes:

Sampled for Freon-113

Purge Volume Calculations Well Casing Volume = J $(Rc)^2$ (well depth – static H_2O depth) x (conversion 7.48 gal/ft^3)

Groundwater Field Sampling Data Sheet

Well No.: 21B-DS-LGIA-MW12	Site: CHAAP Tract: 21B-DS	Date: 8/10/2018
Samplers: S. Cameron	Project No.: **16-027**	
Measured Well Depth and Condition of Bottom: 46.88 Hard		Sample Time: 09:00
DTW (ft): 16.42	DTP (ft): 41.5	FedEx: X UPS ___Hand ___Other
MP Ht. Aboveground/Below Ground Surface:		Sampling Method (G=grab, B=bailer, SP=**submersible pump**):
Installed Well Depth: 46.88		Type of Pump: QED SampPro Bladder Pump 1.75"
Screen Interval (ft): 36.5-46.5		Weather (sun/clear, overcast/rain, wind direction, ambient temp):
Well Diameter (in): 2		Other:
Placement of Pump (ft): 41.5		Other:

Field Parameters

Time	Depth to Water (ft)	Flow Rate (ml/min)	Total Volume (L)	pH (± 0.1 units)	Temp (°C) (± 0.5 °C)	Cond (µS/cm) (± 3%)	ORP (mV) (± 10mV)	DO (mg/L) (± 10%)	Turbidity (NTU) (<50 or ± 10%)	Note
07:40	16.42	250	—	—	—	—	—	—	—	—
07:45	16.42	↓	1.25	7.25	15.85	1.836	-8.7	16.0	129	
07:50	16.42		2.5	7.09	14.05	2.137	-22.4	13.7	327	
07:55	16.42		3.75	6.97	13.90	2.215	-45.2	11.6	482	
08:00	16.42		5.0	6.94	13.64	2.213	-53.7	10.4	397	
08:05	16.42		6.25	6.92	13.41	2.211	-61.4	9.7	324	
08:10	16.42		7.5	6.90	13.22	2.208	-67.1	9.5	214	
08:15	16.42		8.75	6.90	13.24	2.209	-68.4	9.3	153	
08:20	16.42		10.0	6.90	13.26	2.210	-69.0	9.2	118	
08:25	16.42		11.25	6.90	13.04	2.201	-70.3	9.1	78.4	
08:30	16.42		12.5	6.90	12.93	2.195	-71.0	9.0	61.0	
08:35	16.42		13.75	6.88	12.94	2.196	-71.0	9.0	43.9	
08:40	16.42		15.0	6.88	12.97	2.196	-70.6	8.3	37.1	
08:45	16.42		16.25	6.88	12.99	2.196	-70.1	7.9	28.9	
08:50	16.42		17.5	6.87	12.99	2.195	-69.4	7.8	22.4	
08:55	16.42		18.75	6.86	12.98	2.195	-68.2	7.7	21.3	

Observations

Color: Clear/Other (describe)

Odor: None/Low/Medium/High/Very Strong/H2S/Fuel-Like

Notes:

Sampled for Freon-113

Purge Volume Calculations Well Casing Volume = J $(Rc)^2$ (well depth – static H_2O depth) x (conversion 7.48 gal/ft^3)

Groundwater Field Sampling Data Sheet

Well No.: 21B-DS-LGIA-MW12	Site: CHAAP Tract: 21B-DS	Date: 8/10/2018
Samplers: S. Cameron	Project No.: **16-027**	
Measured Well Depth and Condition of Bottom: 46.88		Sample Time: 09:00
DTW (ft): 16.42 DTP (ft): 41.5	FedEx: X UPS ___Hand ___Other	
MP Ht. Aboveground/Below Ground Surface:	Sampling Method (G=grab, B=bailer, SP=**submersible pump**):	
Installed Well Depth: 46.88	Type of Pump: QED SampPro Bladder Pump 1.75"	
Screen Interval (ft): 36.5-46.5	Weather (sun/clear, overcast/rain, wind direction, ambient temp):	
Well Diameter (in): 2	Other:	
Placement of Pump (ft): 41.5	Other:	

Field Parameters

Time	Depth to Water (ft)	Flow Rate (ml/min)	Total Volume (L)	pH (± 0.1 units)	Temp (°C) (± 0.5 °C)	Cond (µS/cm) (± 3%)	ORP (mV) (± 10mV)	DO (mg/L) (± 10%)	Turbidity (NTU) (<50 or ± 10%)	Note
09:00	16.42	250	20.0	6.86	2.195	12.98	-67.4	7.6	20.6	
Sampling										

Observations

Color: Clear/Other (describe)

Odor: None/Low/Medium/High/Very Strong/H2S/Fuel-Like

Notes:

Sampled for Freon-113

Purge Volume Calculations Well Casing Volume = J $(Rc)^2$ (well depth – static H_2O depth) x (conversion 7.48 gal/ft^3)

Groundwater Field Sampling Data Sheet

Well No.: 21B-DS-CG1A-MW-13	Site: CHAAP Tract: 21C	Date: 8-21-18
Samplers: Rois Schumacher	Project No.: 1854040	
Measured Well Depth and Condition of Bottom: 47.04		Sample Time: 11:30
DTW (ft): 16.50 DTP (ft): —	FedEx: X UPS ___Hand ___Other	
MP Ht. Aboveground/Below Ground Surface:	Sampling Method (G=grab, B=bailer, **SP=submersible pump**):	
Installed Well Depth:	Type of Pump: QED SampPro Bladder Pump 1.75"	
Screen Interval (ft):	Weather (sun/clear, overcast/rain, wind direction, ambient temp):	
Well Diameter (in):	Other:	
Placement of Pump (ft):	Other:	

Field Parameters

Time	Depth to Water (ft)	Flow Rate (ml/min)	Total Volume (L)	pH (± 0.1 units)	Temp (°C) (± 0.5 °C)	Cond (µS/cm) (± 3%)	ORP (mV) (± 10mV)	DO (mg/L) (± 10%)	Turbidity (NTU) (<50 or ± 10%)	Note
11:00	16.50	—	—	6.82	15.94	2.713	40.5	0.34	6.14	
11:05	16.50	100	.5	6.83	15.66	2.614	24.7	0.36	3.35	
11:10	16.50	"	1.0	6.83	15.41	2.528	14.7	0.35	4.73	
11:15	16.50	"	1.5	6.84	15.19	2.496	2.3	0.36	5.64	
11:20	16.50	"	2.0	6.85	14.70	2.378	-33.1	0.36	10.3	
11:25	16.50	"	2.5	6.85	14.49	2.351	-43.5	0.36	11.7	
11:30	16.50	"	3.0	6.85	14.33	2.322	-52.2	0.36	9.80	

Observations

Color: Clear/Other (describe) clear

Odor: None/Low/Medium/High/Very Strong/H2S/Fuel-Like None

Notes:

Purge Volume Calculations Well Casing Volume = J $(Rc)^2$ (well depth – static H_2O depth) x (conversion 7.48 gal/ft^3)

Groundwater Field Sampling Data Sheet

Well No.: G0102	Site: CHAAP	Tract: 21B	Date: 6-2-18
Samplers: B. Hylinski		Project No.: 16-027	
Measured Well Depth and Condition of Bottom: 28.22			Sample Time: 15:45
DTW (ft): 14.07	DTP (ft): 23	FedEx: X UPS ___Hand ___Other	
MP Ht. Aboveground/Below Ground Surface:		Sampling Method (G=grab, B=bailer, **SP=submersible pump**):	
Installed Well Depth: 28.22		Type of Pump: QED SampPro Bladder Pump 1.75"	
Screen Interval (ft): 18-28		Weather (sun/clear, overcast/rain, wind direction, ambient temp):	
Well Diameter (in): 2"		Other: Purge Start time at 14:40	
Placement of Pump (ft): 23		Other: Controller Settings - 21 PSI	

Field Parameters

Time	Depth to Water (ft)	Flow Rate (ml/min)	Total Volume (L)	pH (± 0.1 units)	Temp (°C) (± 0.5 °C)	Cond (µS/cm) (± 3%)	ORP (mV) (± 10mV)	DO (mg/L) (± 10%)	Turbidity (NTU) (<50 or ± 10%)	Note
14:40	14.07	100	–	–	–	–	–	–	–	
14:45	14.04	200	0.5	6.92	12.21	1.803	-12.9	3.99	73.7	
14:50	14.09	200	1.5	6.90	12.66	1.862	-26.6	2.89	46.8	
14:55	14.06	200	2.5	6.90	12.95	1.898	-33.6	2.46	36	
15:00	14.06	300	4.0	6.86	12.65	1.888	-38.2	2.05	34.6	
15:05	14.06	300	5.5	6.86	12.56	1.887	-41.6	1.97	28.6	
15:10	14.06	300	7.0	6.84	12.48	1.886	-42.6	1.73	22.7	
15:15	14.06	300	8.5	6.84	12.53	1.884	-43.3	1.40	18.4	
15:20	14.06	300	10	6.84	12.56	1.884	-43.2	1.24	14.4	
15:25	14.06	300	11.5	6.85	12.53	1.881	-43.1	1.11	11.6	
15:30	14.06	300	13	6.85	12.47	1.878	-42.4	1.03	11.0	
15:35	14.06	300	14.5	6.87	12.42	1.883	-41.1	0.89	9.84	
15:40	14.06	300	15	6.87	12.52	1.884	-40.1	0.82	9.82	
15:45	14.06	300	17.5	6.84	12.52	1.884	-40.1	0.82	9.81	

Observations

Color: Clear/Other (describe)

Odor: None/Low/Medium/High/Very Strong/H2S/Fuel-Like

Notes:

Sampled for: VOC's, explosives, metals

Purge Volume Calculations Well Casing Volume = J $(Rc)^2$ (well depth – static H_2O depth) x (conversion 7.48 gal/ft^3)

Groundwater Field Sampling Data Sheet

Well No.: 21B-60063	Site: CHAAP	Tract: 21B	Date: 6-1-18
Samplers: S. Cameron, B. Hylinski		Project No.: 16-027	
Measured Well Depth and Condition of Bottom: 21.06 clean			Sample Time: 14:30
DTW (ft): 12.72	DTP (ft): 18.5	FedEx: X UPS ___Hand ___Other	
MP Ht. Aboveground/Below Ground Surface:		Sampling Method (G=grab, B=bailer, **SP=submersible pump**):	
Installed Well Depth: 21.06		Type of Pump: QED SampPro Bladder Pump 1.75"	
Screen Interval (ft): 11-21		Weather (sun/clear, overcast/rain, wind direction, ambient temp):	
Well Diameter (in): 4"		Other: Purge Start time at 13:50	
Placement of Pump (ft): 18.5		Other: Controller Settings -	

Field Parameters

Time	Depth to Water (ft)	Flow Rate (ml/min)	Total Volume (L)	pH (± 0.1 units)	Temp (°C) (± 0.5 °C)	Cond (µS/cm) (± 3%)	ORP (mV) (± 10mV)	DO (mg/L) (± 10%)	Turbidity (NTU) (<50 or ± 10%)	Note
13:50	12.72	100	–	–	–	–	–	–	–	
13:55	12.72	300	.5	6.75	13.79	1.830	54.3	3.07	2.81	
14:00	12.72	300	2.0	6.74	13.42	1.797	46.8	1.62	2.04	
14:05	12.72	300	3.5	6.74	13.22	1.817	41.1	0.89	1.93	
14:10	12.72	300	5.0	6.75	13.36	1.842	37.7	0.61	1.58	
14:15	12.72	300	6.5	6.74	13:26	1.886	36.2	0.53	1.30	
14:20	12.72	300	8.0	6.74	13:59	1.897	35.9	0.51	1.19	
14:25	12.72	300	9.5	6.74	13.61	1.898	35.8	0.50	1.15	

Observations

Color: Clear/Other (describe)

Odor: None/Low/Medium/High/Very Strong/H2S/Fuel-Like

Notes:

Sampled for: VOC's, explosives, metals

Purge Volume Calculations Well Casing Volume = J $(Rc)^2$ (well depth – static H_2O depth) x (conversion 7.48 gal/ft^3)

Groundwater Field Sampling Data Sheet

Well No.: G0103	Site: CHAAP	Tract: 213	Date: 6-2-18
Samplers: B. Hylinski, S. Cameron		Project No.: 16-027	
Measured Well Depth and Condition of Bottom: 28.22 clean			Sample Time: 13:35
DTW (ft): 14.09	DTP (ft): 19.5	FedEx: X UPS ___Hand ___Other	
MP Ht. Aboveground/Below Ground Surface:		Sampling Method (G=grab, B=bailer, SP=submersible pump):	
Installed Well Depth: 28.22		Type of Pump: QED SampPro Bladder Pump 1.75"	
Screen Interval (ft): 14-24		Weather (sun/clear, overcast/rain, wind direction, ambient temp):	
Well Diameter (in): 4"		Other: Purge Start time at 11:50	
Placement of Pump (ft): 19.5		Other: Controller Settings - 21 PSI	

Field Parameters

Time	Depth to Water (ft)	Flow Rate (ml/min)	Total Volume (L)	pH (± 0.1 units)	Temp (°C) (± 0.5 °C)	Cond (µS/cm) (± 3%)	ORP (mV) (± 10mV)	DO (mg/L) (± 10%)	Turbidity (NTU) (<50 or ± 10%)	Note
11:50	14.09	100	—	—	—	—	—	—	—	
11:55	14.70	200	0.5	6.41	13.95	1596	-297	0.54	28	
12:00	14.97	200	1.5	6.27	12.70	1580	-316.7	0.37	31.5	
12:05	14.98	100	3	6.16	12.23	1577	-324	0.37	63.5	
12:10	14.47	100	3.5	6.13	12.06	1610	-313	0.79	90	
12:15	14.47	100	4	6.10	14.75	1702	-311	0.70	81.4	
12:20	14.47	100	4.5	6.07	15.46	1743	-310	0.72	82.9	
12:25	14.47	100	5	6.07	16.14	1774	-297	0.71	89.4	
12:30	14.47	100	5.5	6.06	16.41	1789	-310	0.72	78.6	
12:35	14.37	100	6	6.04	16.53	1794	-334.9	0.75	74.8	
12:40	14.40	100	6.5	6.05	16.77	1809	-342.4	0.59	65.0	
12:45	14.41	100	7	6.05	16.83	1812	-343.4	0.56	68.1	
12:50	14.41	100	7.5	6.05	16.94	1818	-343.7	0.51	58.5	
12:55	14.41	100	8	6.04	16.88	1817	-345	0.48	58.1	
13:00	14.41	100	8.5	6.04	16.89	1819	-344.1	0.46	54	
13:05	14.41	100	9	6.04	16.92	1820	-343	0.41	45	

Observations

Color: Clear/Other (describe)

Odor: None/Low/Medium/High/Very Strong/H2S/Fuel-Like

Notes:

Sampled for: VOC's, explosives, metals

Purge Volume Calculations Well Casing Volume = J $(Rc)^2$ (well depth – static H_2O depth) x (conversion 7.48 gal/ft^3)

Groundwater Field Sampling Data Sheet

Well No.: G0103	Site: CHAAP	Tract: 21B	Date: 6-2-18
Samplers: B. Hylinski, S. Cameron	Project No.: 16-027		
Measured Well Depth and Condition of Bottom: 28.22 clean			Sample Time: 13:35
DTW (ft): 14.09	DTP (ft): 19.5	FedEx: X UPS ___Hand ___Other	
MP Ht. Aboveground/Below Ground Surface:		Sampling Method (G=grab, B=bailer, **SP=submersible pump**):	
Installed Well Depth: 28.22		Type of Pump: QED SampPro Bladder Pump 1.75"	
Screen Interval (ft): 14-24		Weather (sun/clear, overcast/rain, wind direction, ambient temp):	
Well Diameter (in): 4"		Other: Purge Start time at 11:50	
Placement of Pump (ft): 19.5		Other: Controller Settings - 21PSI	

Field Parameters

Time	Depth to Water (ft)	Flow Rate (ml/min)	Total Volume (L)	pH (± 0.1 units)	Temp (°C) (± 0.5 °C)	Cond (µS/cm) (± 3%)	ORP (mV) (± 10mV)	DO (mg/L) (± 10%)	Turbidity (NTU) (<50 or ± 10%)	Note
13:10	14.41	100	9.5	6.05	16.61	1806	-347.6	0.38	39.1	
13:15	14.41	100	10	6.05	16.67	1812	-334.9	0.33	36	
13:20	14.41	100	10.5	6.05	16.73	1817	-329.5	0.32	35	
13:25	14.41	100	11.0	6.06	17.08	1830	-324.5	0.29	31.9	
13:30	14.41	100	11.5	6.08	17.30	1843	-325	0.28	33.5	
13:35	14.41	100	12	6.08	17.42	1846	-325.3	0.26	32.4	

Observations

Color: Clear/Other (describe)

Odor: None/Low/Medium/High/Very Strong/H2S/Fuel-Like

Notes:

Sampled for: VOC's, explosives, metals

Purge Volume Calculations Well Casing Volume = J $(Rc)^2$ (well depth – static H_2O depth) x (conversion 7.48 gal/ft^3)

Groundwater Field Sampling Data Sheet

Well No.: G0105	Site: CHAAP	Tract: 21B	Date: 6-13-18
Samplers: B.Hylinski		Project No.: 16-027	
Measured Well Depth and Condition of Bottom: 28.17			Sample Time: 13:30
DTW (ft): 13.18	DTP (ft): 23	FedEx: X UPS ___Hand ___Other	
MP Ht. Aboveground/Below Ground Surface:		Sampling Method (G=grab, B=bailer, **SP=submersible pump**):	
Installed Well Depth: 28.17		Type of Pump: QED SampPro Bladder Pump 1.75"	
Screen Interval (ft): 14.6-24.6		Weather (sun/clear, overcast/rain, wind direction, ambient temp):	
Well Diameter (in): 2"		Other: Purge Start time at 12:50	
Placement of Pump (ft): 23		Other: Controller Settings -	

Field Parameters

Time	Depth to Water (ft)	Flow Rate (ml/min)	Total Volume (L)	pH (± 0.1 units)	Temp (°C) (± 0.5 °C)	Cond (µS/cm) (± 3%)	ORP (mV) (± 10mV)	DO (mg/L) (± 10%)	Turbidity (NTU) (<50 or ± 10%)	Note
12:50	13.18	100	–	–	–	–	–	–	–	
12:55	13.19	200	.5	7.60	12.70	2.509	-114.2	1.27	7.44	
13:00	13.19	200	1.5	7.08	12.69	2.486	-87.4	0.91	8.05	
13:05	13.19	200	2.5	7.24	12.47	2.493	-99.1	0.81	7.76	
13:10	13.19	200	3.5	7.39	12.39	2.497	-106.4	0.75	7.58	
13:15	13.19	200	4.5	7.53	12.38	2.504	-128.9	0.70	7.20	
13:20	13.19	200	5.5	7.53	12.38	2.511	-130.1	0.66	7.19	
13:25	13.19	200	6.5	7.54	12.37	2.572	-130.5	0.65	7.18	

Observations

Color: Clear/Other (describe)

Odor: None/Low/Medium/High/Very Strong/H2S/Fuel-Like

Notes:

Sampled for: VOC's, explosives, metals, hex chrom

Purge Volume Calculations Well Casing Volume = J $(Rc)^2$ (well depth – static H_2O depth) x (conversion 7.48 gal/ft^3)

Groundwater Field Sampling Data Sheet

Well No.: G0106	Site: CHAAP	Tract: 21B	Date: 6-2-18
Samplers: X. Chapolla, B. Hylinski		Project No.: 16-027	
Measured Well Depth and Condition of Bottom: 28.09			Sample Time: 9:45
DTW (ft): 14.31	DTP (ft): 23	FedEx: X UPS ___Hand ___Other	
MP Ht. Aboveground/Below Ground Surface:		Sampling Method (G=grab, B=bailer, SP=submersible pump):	
Installed Well Depth: 28.09		Type of Pump: QED SampPro Bladder Pump 1.75"	
Screen Interval (ft): 18-28		Weather (sun/clear, overcast/rain, wind direction, ambient temp):	
Well Diameter (in): 4"		Other: Purge Start time at 8:35	
Placement of Pump (ft): 23		Other: Controller Settings - 21PSI	

Field Parameters

Time	Depth to Water (ft)	Flow Rate (ml/min)	Total Volume (L)	pH (± 0.1 units)	Temp (°C) (± 0.5 °C)	Cond (µS/cm) (± 3%)	ORP (mV) (± 10mV)	DO (mg/L) (± 10%)	Turbidity (NTU) (<50 or ± 10%)	Note
8:35	14.30	100	-	-	-	-	-	-	-	
8:40	14.30	400	0.5	6.85	11.74	2.147	21.2	3.08	79.1	
8:45	14.30	400	2.5	6.83	11.58	2.124	-7.01	2.39	57.3	
8:50	14.30	400	4.5	6.87	11.63	2.121	-18.7	2.49	43.1	
8:55	14.30	400	6.5	6.92	11.67	2.119	-26.9	2.30	36.3	
9:00	14.30	400	8.5	6.96	11.64	2.120	-35.4	0.91	27.9	
9:05	14.30	400	10.5	6.99	11.67	2.123	-39.4	0.66	25.1	
9:10	14.30	400	12.5	7.02	11.67	2.123	-44.1	0.54	23.5	
9:15	14.30	400	14.5	7.05	11.68	2.124	-48.0	0.49	18.20	
9:20	14.30	400	16.5	7.08	11.76	2.123	-52.0	0.43	18.4	
9:25	14.30	400	18.5	7.11	11.67	2.127	-54.6	0.43	12.8	
9:30	14.30	400	20.5	7.12	11.69	2.125	-56.5	0.43	12.0	
9:35	14.30	400	22.5	7.12	11.81	2.126	-58.3	0.44	11.3	
9:40	14.30	400	24.5	7.12	11.79	2.125	-59.1	0.44	11.1	
9:45	14:30	400	26.5	7.12	11.78	2.125	-60.0	0.45	10.9	

Observations

Color: Clear/Other (describe)

Odor: None/Low/Medium/High/Very Strong/H2S/Fuel-Like

Notes:

Sampled for: VOC's, explosives, metals

Purge Volume Calculations Well Casing Volume = J $(Rc)^2$ (well depth – static H_2O depth) x (conversion 7.48 gal/ft^3)

Groundwater Field Sampling Data Sheet

Well No.: G0107	Site: CHAAP	Tract: 21B	Date: 6/2/18
Samplers: S. Cameron		Project No.: 16-027	
Measured Well Depth and Condition of Bottom: 28.26			Sample Time: 11:05
DTW (ft): 13.51	DTP (ft): 19.6	FedEx: X UPS ___Hand ___Other	
MP Ht. Aboveground/Below Ground Surface:		Sampling Method (G=grab, B=bailer, **SP=submersible pump**):	
Installed Well Depth: 28.3'		Type of Pump: QED SampPro Bladder Pump 1.75"	
Screen Interval (ft): 14.6-24.6		Weather (sun/clear, overcast/rain, wind direction, ambient temp):	
Well Diameter (in): 2"		Other: Purge Start time at 10:20	
Placement of Pump (ft): 19.6		Other: Controller Settings - 21 PSI	

Field Parameters

Time	Depth to Water (ft)	Flow Rate (ml/min)	Total Volume (L)	pH (± 0.1 units)	Temp (°C) (± 0.5 °C)	Cond (µS/cm) (± 3%)	ORP (mV) (± 10mV)	DO (mg/L) (± 10%)	Turbidity (NTU) (<50 or ± 10%)	Note
10:20	13.51	100	—	—	—	—	—	—	—	
10:25	13.52	200	0.5	6.92	13.53	2.166	-5.1	3.80	54.0	
10:30	13.52	200	1.5	6.87	12.97	2.128	-1.0	3.08	38.3	
10:35	13.52	200	2.5	6.85	13.02	2.133	-8.5	3.47	36.0	
10:40	13.52	200	3.5	6.87	13.04	2.142	-21.4	0.95	28.3	
10:45	13.52	200	4.5	6.89	13.06	2.153	-30.9	0.66	24.7	
10:50	13.52	200	5.5	6.91	13.05	2.156	-40.6	0.33	22.2	
10:55	13.52	200	6.5	6.91	13.09	2.158	-43.4	0.28	22.0	
11:00	13.52	200	7.5	6.91	13.11	2.160	-46.5	0.26	21.8	
11:05	13.52	200	8.5	6.90	13.06	2.161	-47.4	0.25	21.2	

Observations

Color: Clear/Other (describe)

Odor: None/Low/Medium/High/Very Strong/H2S/Fuel-Like

Notes:

Sampled for: VOCs, explosives, metals

Purge Volume Calculations Well Casing Volume = J $(Rc)^2$ (well depth – static H_2O depth) x (conversion 7.48 gal/ft^3)

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Tract 21C – Direct Push Technology Groundwater Field Sampling Records

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FIELD SAMPLING REPORT

LOCATION: Corn Husker AAP	PROJECT: CHAAP RI/FS
SITE: Tract 21C	PROJECT NUMBER: AT3001.06

SAMPLE INFORMATION

SAMPLE ID: 21C-UGIA-DPT01	TIME: 1235	DATE: 3.17.18
QC SAMPLE: YES ( ) NO (✓)	MATRIX: WG	
QC SAMPLE ID: –	FIELD FILTERED: YES ( ) NO (X)	
TYPE OF QC SAMPLE: –	BEGINNING DEPTH: 14.5' BGS	
GRAB (X) COMPOSITE ( )	END DEPTH: 18' BGS	
QC SAMPLE TYPE CODES: DUPLICATE (DUP), MATRIX SPIKE (MS), MATRIX SPIKE DUP (MSD), EQUIPMENT BLANK (EB), TRIP BLANK (TB), FIELD BLANK (FB)	SAMPLING METHOD: HP	
	SAMPLING EQUIPMENT: DPT	

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANAYLSIS	NOTES
3x40mL VOA	1	HCl	8260B	VOCs	
1 L Amber	2		8330B	Explosives	

NOTABLE OBSERVATIONS

SAMPLE CHARACTERISTICS				MISCELLANEOUS
pH:	6.47	Turbidity (NTU):	424	Color: light brown
Temp. (C°):	11.53	Specific Cond. (μS/cm):	2,163	Odor: –
DO (mg/L):	6.01			PID: –
ORP (mV):	90.1			Other: –

Comments:

GENERAL INFORMATION

WEATHER: SUN/CLEAR ____ OVERCAST/RAIN ✓ WIND DIRECTION ____ AMBIENT TEMP 35

SHIPMENT VIA: FedEx X HAND DELIVER ____ COURIER ____ UPS ____

SHIPPED TO: Katahdin Laboratory

TRACKING NUMBER: ____ COC NUMBER: ____

COMMENTS: ____

SAMPLER: AH OBSERVER: KW

MATRIX TYPE CODES		SAMPLING METHOD/EQUIPMENT CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	HA=HAND AUGER
WG=GROUND WATER	SO=SOIL	BP = BLADDER PUMP	HSA=HOLLOW STEM AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	DPT=DIRECT PUSH	HP=HYDRO PUNCH
SH=HAZARDOUS SOLID WASTE	WS=SURFACE WATER	LF = LOW FLOW	ST= SHELBY TUBE
SE=SEDIMENT	SW=SWAP/WIPE	MC = MARCO CORE	SS=SPLIT SPOON
		PDB = PASSIVE DIFFUSION BAG	SP=SUBMERSIBLE PUMP
		PP = PERISTALTIC PUMP	
		HYD = HYDRASLEEVE	

FIELD SAMPLING REPORT

LOCATION: Corn Husker AAP	PROJECT: CHAAP RI/FS
SITE: Tract 21C	PROJECT NUMBER: AT3001.06

SAMPLE INFORMATION

SAMPLE ID: 21C-LGIA-DPT02	TIME: 1130	DATE: 3.17.18
QC SAMPLE: YES (✓) NO ( )	MATRIX: WG	
QC SAMPLE ID: CHAAP-21C-TB-031718	FIELD FILTERED: YES ( ) NO (X)	
TYPE OF QC SAMPLE: TB ⊖ 0000	BEGINNING DEPTH: 34.5' BGS	
GRAB (X) COMPOSITE ( )	END DEPTH: 38' BGS	
QC SAMPLE TYPE CODES: DUPLICATE (DUP), MATRIX SPIKE (MS), MATRIX SPIKE DUP (MSD), EQUIPMENT BLANK (EB), TRIP BLANK (TB), FIELD BLANK (FB)	SAMPLING METHOD: HP	
	SAMPLING EQUIPMENT: DPT	

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANAYLSIS	NOTES
3x40mL VOA	2	HCl	8260B	VOCs	
1 L Amber	2		8330B	Explosives	

NOTABLE OBSERVATIONS

SAMPLE CHARACTERISTICS		MISCELLANEOUS
pH: 10.91	Turbidity (NTU): 113	Color: Cloudy
Temp. (C°): 10.84	Specific Cond. (µS/cm): 3.011	Odor: –
DO (mg/L): 2.64		PID: –
ORP (mV): -231.5		Other: –

Comments:

GENERAL INFORMATION

WEATHER: SUN/CLEAR ____ OVERCAST/RAIN ✓ WIND DIRECTION ____ AMBIENT TEMP 35

SHIPMENT VIA: FedEx X HAND DELIVER ____ COURIER ____ UPS ____

SHIPPED TO: Katahdin Laboratory

TRACKING NUMBER: ____ COC NUMBER: ____

COMMENTS: ____

SAMPLER: AH OBSERVER: KW

MATRIX TYPE CODES		SAMPLING METHOD/EQUIPMENT CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	HA=HAND AUGER
WG=GROUND WATER	SO=SOIL	BP = BLADDER PUMP	HSA=HOLLOW STEM AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	DPT=DIRECT PUSH	HP=HYDRO PUNCH
SH=HAZARDOUS SOLID WASTE	WS=SURFACE WATER	LF = LOW FLOW	ST= SHELBY TUBE
SE=SEDIMENT	SW=SWAP/WIPE	MC = MARCO CORE	SS=SPLIT SPOON
		PDB = PASSIVE DIFFUSION BAG	SP=SUBMERSIBLE PUMP
		PP = PERISTALTIC PUMP	
		HYD = HYDRASLEEVE	

FIELD SAMPLING REPORT

LOCATION: Corn Husker AAP	PROJECT: CHAAP RI/FS
SITE: Tract 21C	PROJECT NUMBER: AT3001.06

SAMPLE INFORMATION

SAMPLE ID: 21C-UGIA-DPT03	TIME: AH ~~1500~~ 1510 DATE: 3.27.18
QC SAMPLE: YES (✓) AH NO (X)	MATRIX: WG
QC SAMPLE ID: ~~CHAAP-21C-DPT03-MS/MSD~~	FIELD FILTERED: YES ( ) NO (✓)
TYPE OF QC SAMPLE: AH ~~MS/MSD~~	BEGINNING DEPTH:
GRAB (X) COMPOSITE ( )	END DEPTH: 18' BGS
QC SAMPLE TYPE CODES: DUPLICATE (DUP), MATRIX SPIKE (MS), MATRIX SPIKE DUP (MSD), EQUIPMENT BLANK (EB), TRIP BLANK (TB), FIELD BLANK (FB)	SAMPLING METHOD: HP SAMPLING EQUIPMENT: DPT

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANAYLSIS	NOTES
3x40mL VOA	1	HCl	8260B	VOCs	
1 L Amber	2		8330B	Explosives	

NOTABLE OBSERVATIONS

SAMPLE CHARACTERISTICS				MISCELLANEOUS
pH:	6.59	Turbidity (NTU):	212	Color: light grey
Temp. (C°):	11.43	Specific Cond. (µS/cm):	1.833	Odor: —
DO (mg/L):	0.96			PID: —
ORP (mV):	-27.3			Other: —

Comments:

GENERAL INFORMATION

WEATHER: SUN/CLEAR ____ OVERCAST/RAIN X WIND DIRECTION ____ AMBIENT TEMP 35

SHIPMENT VIA: FedEx X HAND DELIVER ____ COURIER ____ UPS ____

SHIPPED TO: Katahdin Laboratory

TRACKING NUMBER: ____ COC NUMBER: ____

COMMENTS: ____

SAMPLER: AH OBSERVER: KW

MATRIX TYPE CODES		SAMPLING METHOD/EQUIPMENT CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	HA=HAND AUGER
WG=GROUND WATER	SO=SOIL	BP = BLADDER PUMP	HSA=HOLLOW STEM AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	DPT=DIRECT PUSH	HP=HYDRO PUNCH
SH=HAZARDOUS SOLID WASTE	WS=SURFACE WATER	LF = LOW FLOW	ST= SHELBY TUBE
SE=SEDIMENT	SW=SWAP/WIPE	MC = MARCO CORE	SS=SPLIT SPOON
		PDB = PASSIVE DIFFUSION BAG	SP=SUBMERSIBLE PUMP
		PP = PERISTALTIC PUMP	
		HYD = HYDRASLEEVE	

FIELD SAMPLING REPORT

LOCATION: Corn Husker AAP	PROJECT: CHAAP RI/FS
SITE: Tract 21C	PROJECT NUMBER: AT3001.06

SAMPLE INFORMATION

SAMPLE ID: 21C-LGIA-DPT04	TIME: 1500	DATE: 3.17.18
QC SAMPLE: YES (x) NO ( )	MATRIX: WG	
QC SAMPLE ID: CHAAP-21C-DPT04 MS/MSD	FIELD FILTERED: YES ( ) NO (✓)	
TYPE OF QC SAMPLE: MS/MSD	BEGINNING DEPTH: 34.5' bgs	
GRAB (X) COMPOSITE ( )	END DEPTH: 38' bgs	
QC SAMPLE TYPE CODES: DUPLICATE (DUP), MATRIX SPIKE (MS), MATRIX SPIKE DUP (MSD), EQUIPMENT BLANK (EB), TRIP BLANK (TB), FIELD BLANK (FB)	SAMPLING METHOD: HP	
	SAMPLING EQUIPMENT: DPT	

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANAYLSIS	NOTES
3x40mL VOA 3	X	HCl	8260B	VOCs	
1 L Amber 6	2 DW		8330B	Explosives	

NOTABLE OBSERVATIONS

SAMPLE CHARACTERISTICS				MISCELLANEOUS
pH:	6.29	Turbidity (NTU):	341	Color: light brown
Temp. (C°):	10.39	Specific Cond. (µS/cm):	1.503	Odor: –
DO (mg/L):	1.89			PID: –
ORP (mV):	45.6			Other: –

Comments:

GENERAL INFORMATION

WEATHER: SUN/CLEAR ____ OVERCAST/RAIN ✓ WIND DIRECTION ____ AMBIENT TEMP 35°

SHIPMENT VIA: FedEx X HAND DELIVER ____ COURIER ____ UPS ____

SHIPPED TO: Katahdin Laboratory

TRACKING NUMBER: ____ COC NUMBER: ____

COMMENTS: ____

SAMPLER: DH OBSERVER: KN

MATRIX TYPE CODES		SAMPLING METHOD/EQUIPMENT CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	HA=HAND AUGER
WG=GROUND WATER	SO=SOIL	BP = BLADDER PUMP	HSA=HOLLOW STEM AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	DPT=DIRECT PUSH	HP=HYDRO PUNCH
SH=HAZARDOUS SOLID WASTE	WS=SURFACE WATER	LF = LOW FLOW	ST= SHELBY TUBE
SE=SEDIMENT	SW=SWAP/WIPE	MC = MARCO CORE	SS=SPLIT SPOON
		PDB = PASSIVE DIFFUSION BAG	SP=SUBMERSIBLE PUMP
		PP = PERISTALTIC PUMP	
		HYD = HYDRASLEEVE	

FIELD SAMPLING REPORT

LOCATION: Corn Husker AAP	PROJECT: CHAAP RI/FS
SITE: Tract 21C	PROJECT NUMBER: AT3001.06

SAMPLE INFORMATION

SAMPLE ID: 21C-UGIA-DPT05	TIME: 1415	DATE: 3.17.18
QC SAMPLE: YES ( ) NO (X)	MATRIX: WG	
QC SAMPLE ID: —	FIELD FILTERED: YES ( ) NO (X)	
TYPE OF QC SAMPLE: —	BEGINNING DEPTH: 14.5'	
GRAB (X) COMPOSITE ( )	END DEPTH: 18' bgs	
QC SAMPLE TYPE CODES: DUPLICATE (DUP), MATRIX SPIKE (MS), MATRIX SPIKE DUP (MSD), EQUIPMENT BLANK (EB), TRIP BLANK (TB), FIELD BLANK (FB)	SAMPLING METHOD: HP	
	SAMPLING EQUIPMENT: DPT	

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANAYLSIS	NOTES
3x40mL VOA	1	HCl	8260B	VOCs	
1 L Amber	2		8330B	Explosives	

NOTABLE OBSERVATIONS

SAMPLE CHARACTERISTICS				MISCELLANEOUS
pH:	6.51	Turbidity (NTU):	337	Color: cloudy brown
Temp. (C°):	11.42	Specific Cond. (µS/cm):	1.912	Odor: —
DO (mg/L):	5.32			PID: —
ORP (mV):	115.5			Other: —

Comments:

GENERAL INFORMATION

WEATHER: SUN/CLEAR X OVERCAST/RAIN ____ WIND DIRECTION ____ AMBIENT TEMP 30

SHIPMENT VIA: FedEx X HAND DELIVER ____ COURIER ____ UPS ____

SHIPPED TO: Katahdin Laboratory

TRACKING NUMBER: ____ COC NUMBER: ____

COMMENTS: ____

SAMPLER: AH OBSERVER: KW

MATRIX TYPE CODES		SAMPLING METHOD/EQUIPMENT CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	HA=HAND AUGER
WG=GROUND WATER	SO=SOIL	BP = BLADDER PUMP	HSA=HOLLOW STEM AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	DPT=DIRECT PUSH	HP=HYDRO PUNCH
SH=HAZARDOUS SOLID WASTE	WS=SURFACE WATER	LF = LOW FLOW	ST= SHELBY TUBE
SE=SEDIMENT	SW=SWAP/WIPE	MC = MARCO CORE	SS=SPLIT SPOON
		PDB = PASSIVE DIFFUSION BAG	SP=SUBMERSIBLE PUMP
		PP = PERISTALTIC PUMP	
		HYD = HYDRASLEEVE	

FIELD SAMPLING REPORT

LOCATION: Corn Husker AAP	PROJECT: CHAAP RI/FS
SITE: Tract 21C	PROJECT NUMBER: AT3001.06

SAMPLE INFORMATION

SAMPLE ID: 21C-LGIA-DPT06	TIME: 1305	DATE: 3-17-18
QC SAMPLE: YES (X) NO ( )	MATRIX: WG	
QC SAMPLE ID: CHAAP-21C - DPT106	FIELD FILTERED: YES ( ) NO (X)	
TYPE OF QC SAMPLE: FD @ 1200	BEGINNING DEPTH:	
GRAB (X) COMPOSITE ( )	END DEPTH: 38' bgs	
QC SAMPLE TYPE CODES: DUPLICATE (DUP), MATRIX SPIKE (MS), MATRIX SPIKE DUP (MSD), EQUIPMENT BLANK (EB), TRIP BLANK (TB), FIELD BLANK (FB)	SAMPLING METHOD: HP	
	SAMPLING EQUIPMENT: DPT	

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANAYLSIS	NOTES
3x40mL VOA 2	1/	HCl	8260B	VOCs	
1 L Amber 4	2 AH		8330B	Explosives	

NOTABLE OBSERVATIONS

SAMPLE CHARACTERISTICS				MISCELLANEOUS
pH:	6.48	Turbidity (NTU):	139	Color: light gray
Temp. (C°):	9.31	Specific Cond. (µS/cm):	1.632	Odor: —
DO (mg/L):	3.60			PID: —
ORP (mV):	26.1			Other: —

Comments:

GENERAL INFORMATION

WEATHER: SUN/CLEAR ____ OVERCAST/RAIN X WIND DIRECTION ____ AMBIENT TEMP 35

SHIPMENT VIA: FedEx X HAND DELIVER ____ COURIER ____ UPS ____

SHIPPED TO: Katahdin Laboratory

TRACKING NUMBER: ____ COC NUMBER: ____

COMMENTS: ____

SAMPLER: ____ OBSERVER: ____

MATRIX TYPE CODES		SAMPLING METHOD/EQUIPMENT CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	HA=HAND AUGER
WG=GROUND WATER	SO=SOIL	BP = BLADDER PUMP	HSA=HOLLOW STEM AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	DPT=DIRECT PUSH	HP=HYDRO PUNCH
SH=HAZARDOUS SOLID WASTE	WS=SURFACE WATER	LF = LOW FLOW	ST= SHELBY TUBE
SE=SEDIMENT	SW=SWAP/WIPE	MC = MARCO CORE	SS=SPLIT SPOON
		PDB = PASSIVE DIFFUSION BAG	SP=SUBMERSIBLE PUMP
		PP = PERISTALTIC PUMP	
		HYD = HYDRASLEEVE	

FIELD SAMPLING REPORT

LOCATION: Corn Husker AAP	PROJECT: CHAAP RI/FS
SITE: Tract 21C	PROJECT NUMBER: AT3001.06

SAMPLE INFORMATION

SAMPLE ID: 21C-UGIA-DPT07	TIME:	DATE: 3.17.18
QC SAMPLE: YES (✓) NO (✓)	MATRIX: WG	
QC SAMPLE ID: CHAAD-21C-EB-031718	FIELD FILTERED: YES ( ) NO (✓)	
TYPE OF QC SAMPLE: EB @1630	BEGINNING DEPTH: 14.5' bgs	
GRAB (X) COMPOSITE ( )	END DEPTH: 18' bgs	
QC SAMPLE TYPE CODES: DUPLICATE (DUP), MATRIX SPIKE (MS), MATRIX SPIKE DUP (MSD), EQUIPMENT BLANK (EB), TRIP BLANK (TB), FIELD BLANK (FB)	SAMPLING METHOD: HP	
	SAMPLING EQUIPMENT: DPT	

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANAYLSIS	NOTES
3x40mL VOA 2	✗	HCl	8260B	VOCs	
1 L Amber 4	✗		8330B	Explosives	

NOTABLE OBSERVATIONS

SAMPLE CHARACTERISTICS				MISCELLANEOUS	
pH:	6.51	Turbidity (NTU):	186	Color:	light Gray
Temp. (C°):	10.69	Specific Cond. (µS/cm):	2.701	Odor:	—
DO (mg/L):	1.72			PID:	—
ORP (mV):	64.9			Other:	—

Comments:

GENERAL INFORMATION

WEATHER: SUN/CLEAR ____ OVERCAST/RAIN ✓ WIND DIRECTION ____ AMBIENT TEMP 35

SHIPMENT VIA: FedEx X HAND DELIVER ____ COURIER ____ UPS ____

SHIPPED TO: Katahdin Laboratory

TRACKING NUMBER: ____ COC NUMBER: ____

COMMENTS: ____

SAMPLER: AH OBSERVER: KL

MATRIX TYPE CODES		SAMPLING METHOD/EQUIPMENT CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	HA=HAND AUGER
WG=GROUND WATER	SO=SOIL	BP = BLADDER PUMP	HSA=HOLLOW STEM AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	DPT=DIRECT PUSH	HP=HYDRO PUNCH
SH=HAZARDOUS SOLID WASTE	WS=SURFACE WATER	LF = LOW FLOW	ST= SHELBY TUBE
SE=SEDIMENT	SW=SWAP/WIPE	MC = MARCO CORE	SS=SPLIT SPOON
		PDB = PASSIVE DIFFUSION BAG	SP=SUBMERSIBLE PUMP
		PP = PERISTALTIC PUMP	
		HYD = HYDRASLEEVE	

FIELD SAMPLING REPORT

LOCATION: Corn Husker AAP	PROJECT: CHAAP RI/FS
SITE: Tract 21C	PROJECT NUMBER: AT3001.06

SAMPLE INFORMATION

SAMPLE ID: 21C-LGIA-DPT08	TIME: 1615	DATE: 3.17.18
QC SAMPLE: YES ( ) NO (✓)	MATRIX: WG	
QC SAMPLE ID: —	FIELD FILTERED: YES ( ) NO (✓)	
TYPE OF QC SAMPLE: —	BEGINNING DEPTH: 34.5' bgs	
GRAB (X) COMPOSITE ( )	END DEPTH: 38' bgs	
QC SAMPLE TYPE CODES: DUPLICATE (DUP), MATRIX SPIKE (MS), MATRIX SPIKE DUP (MSD), EQUIPMENT BLANK (EB), TRIP BLANK (TB), FIELD BLANK (FB)	SAMPLING METHOD: HP	
	SAMPLING EQUIPMENT: DPT	

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANAYLSIS	NOTES
3x40mL VOA	1	HCl	8260B	VOCs	
1 L Amber	2		8330B	Explosives	

NOTABLE OBSERVATIONS

SAMPLE CHARACTERISTICS				MISCELLANEOUS
pH:	~~6.29~~ 6.73	Turbidity (NTU):	62.4	Color: slight cloudy
Temp. (C°):	11.82	Specific Cond. (μS/cm):	2.322	Odor: —
DO (mg/L):	1.46			PID: —
ORP (mV):	54.3			Other: —

Comments:

GENERAL INFORMATION

WEATHER: SUN/CLEAR ____ OVERCAST/RAIN X WIND DIRECTION ____ AMBIENT TEMP 35

SHIPMENT VIA: FedEx X HAND DELIVER ____ COURIER ____ UPS ____

SHIPPED TO: Katahdin Laboratory

TRACKING NUMBER: ____ COC NUMBER: ____

COMMENTS: ____

SAMPLER: AH OBSERVER: KW

MATRIX TYPE CODES		SAMPLING METHOD/EQUIPMENT CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	HA=HAND AUGER
WG=GROUND WATER	SO=SOIL	BP = BLADDER PUMP	HSA=HOLLOW STEM AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	DPT=DIRECT PUSH	HP=HYDRO PUNCH
SH=HAZARDOUS SOLID WASTE	WS=SURFACE WATER	LF = LOW FLOW	ST= SHELBY TUBE
SE=SEDIMENT	SW=SWAP/WIPE	MC = MARCO CORE	SS=SPLIT SPOON
		PDB = PASSIVE DIFFUSION BAG	SP=SUBMERSIBLE PUMP
		PP = PERISTALTIC PUMP	
		HYD = HYDRASLEEVE	

FIELD SAMPLING REPORT

LOCATION: Corn Husker AAP	PROJECT: CHAAP RI/FS
SITE: Tract 21C	PROJECT NUMBER: AT3001.06

SAMPLE INFORMATION

SAMPLE ID: 21C-UGIA-DPT09	TIME: 1405	DATE: 3.18.18
QC SAMPLE: YES (X) NO ( ) AH	MATRIX: WG	
QC SAMPLE ID: CHAAP-21C-UG1A-DP9109	FIELD FILTERED: YES ( ) NO (✓)	
TYPE OF QC SAMPLE: FD @1200	BEGINNING DEPTH: 14.5' bgs	
GRAB (X) COMPOSITE ( )	END DEPTH: 18' bgs	
QC SAMPLE TYPE CODES: DUPLICATE (DUP), MATRIX SPIKE (MS), MATRIX SPIKE DUP (MSD), EQUIPMENT BLANK (EB), TRIP BLANK (TB), FIELD BLANK (FB)	SAMPLING METHOD: HP	
	SAMPLING EQUIPMENT: DPT	

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANAYLSIS	NOTES
3x40mL VOA 2	~~1~~	HCl	8260B	VOCs	
1 L Amber 4	~~2~~	AH	8330B	Explosives	

NOTABLE OBSERVATIONS

SAMPLE CHARACTERISTICS				MISCELLANEOUS	
pH:	6.62	Turbidity (NTU):	829	Color:	light brown
Temp. (C°):	10.02	Specific Cond. (µS/cm):	2.613	Odor:	—
DO (mg/L):	1.27			PID:	—
ORP (mV):	52.0			Other:	—

Comments:

GENERAL INFORMATION

WEATHER: SUN/CLEAR ____ OVERCAST/RAIN ✓ WIND DIRECTION ____ AMBIENT TEMP 40

SHIPMENT VIA: FedEx X HAND DELIVER ____ COURIER ____ UPS ____

SHIPPED TO: Katahdin Laboratory

TRACKING NUMBER: ____ COC NUMBER: ____

COMMENTS: ____

SAMPLER: AH OBSERVER: ____

MATRIX TYPE CODES		SAMPLING METHOD/EQUIPMENT CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	HA=HAND AUGER
WG=GROUND WATER	SO=SOIL	BP = BLADDER PUMP	HSA=HOLLOW STEM AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	DPT=DIRECT PUSH	HP=HYDRO PUNCH
SH=HAZARDOUS SOLID WASTE	WS=SURFACE WATER	LF = LOW FLOW	ST= SHELBY TUBE
SE=SEDIMENT	SW=SWAP/WIPE	MC = MARCO CORE	SS=SPLIT SPOON
		PDB = PASSIVE DIFFUSION BAG	SP=SUBMERSIBLE PUMP
		PP = PERISTALTIC PUMP	
		HYD = HYDRASLEEVE	

FIELD SAMPLING REPORT

LOCATION: Corn Husker AAP	PROJECT: CHAAP RI/FS
SITE: Tract 21C	PROJECT NUMBER: AT3001.06

SAMPLE INFORMATION

SAMPLE ID: 21C-LGIA-DPT10	TIME: 1400	DATE: 3.18.18
QC SAMPLE: YES ( ) NO (✓)	MATRIX: WG	
QC SAMPLE ID: —	FIELD FILTERED: YES ( ) NO (✓)	
TYPE OF QC SAMPLE: —	BEGINNING DEPTH: 34.5' bgs	
GRAB (X) COMPOSITE ( )	END DEPTH: 38' bgs	
QC SAMPLE TYPE CODES: DUPLICATE (DUP), MATRIX SPIKE (MS), MATRIX SPIKE DUP (MSD), EQUIPMENT BLANK (EB), TRIP BLANK (TB), FIELD BLANK (FB)	SAMPLING METHOD: HP	
	SAMPLING EQUIPMENT: DPT	

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANAYLSIS	NOTES
3x40mL VOA	1	HCl	8260B	VOCs	
1 L Amber	2		8330B	Explosives	

NOTABLE OBSERVATIONS

SAMPLE CHARACTERISTICS				MISCELLANEOUS
pH:	6.43	Turbidity (NTU):	203	Color: light gray
Temp. (C°):	11.10	Specific Cond. (µS/cm):	1.987	Odor: —
DO (mg/L):	1.18			PID: —
ORP (mV):	48.1			Other: —

Comments:

GENERAL INFORMATION

WEATHER: SUN/CLEAR ____ OVERCAST/RAIN X WIND DIRECTION ____ AMBIENT TEMP 40

SHIPMENT VIA: FedEx X HAND DELIVER ____ COURIER ____ UPS ____

SHIPPED TO: Katahdin Laboratory

TRACKING NUMBER: ____ COC NUMBER: ____

COMMENTS: ____

SAMPLER: AH OBSERVER: ____

MATRIX TYPE CODES		SAMPLING METHOD/EQUIPMENT CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	HA=HAND AUGER
WG=GROUND WATER	SO=SOIL	BP = BLADDER PUMP	HSA=HOLLOW STEM AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	DPT=DIRECT PUSH	HP=HYDRO PUNCH
SH=HAZARDOUS SOLID WASTE	WS=SURFACE WATER	LF = LOW FLOW	ST= SHELBY TUBE
SE=SEDIMENT	SW=SWAP/WIPE	MC = MARCO CORE	SS=SPLIT SPOON
		PDB = PASSIVE DIFFUSION BAG	SP=SUBMERSIBLE PUMP
		PP = PERISTALTIC PUMP	
		HYD = HYDRASLEEVE	

FIELD SAMPLING REPORT

LOCATION: Corn Husker AAP	PROJECT: CHAAP RI/FS
SITE: Tract 21C	PROJECT NUMBER: AT3001.06

SAMPLE INFORMATION

SAMPLE ID: 21C-UGIA-DPT11	TIME: 1105	DATE: 3.18.18
QC SAMPLE: YES ( ) NO (✓)	MATRIX: WG	
QC SAMPLE ID: —	FIELD FILTERED: YES ( ) NO (✓)	
TYPE OF QC SAMPLE: —	BEGINNING DEPTH: 14.5' bgs	
GRAB (X) COMPOSITE ( )	END DEPTH: 18' bgs	
QC SAMPLE TYPE CODES: DUPLICATE (DUP), MATRIX SPIKE (MS), MATRIX SPIKE DUP (MSD), EQUIPMENT BLANK (EB), TRIP BLANK (TB), FIELD BLANK (FB)	SAMPLING METHOD: HP	
	SAMPLING EQUIPMENT: DPT	

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANAYLSIS	NOTES
3x40mL VOA	1	HCl	8260B	VOCs	
1 L Amber	2		8330B	Explosives	

NOTABLE OBSERVATIONS

SAMPLE CHARACTERISTICS				MISCELLANEOUS
pH:	6.73	Turbidity (NTU):	499	Color: Gray
Temp. (C°):	9.95	Specific Cond. (μS/cm):	2.245	Odor: —
DO (mg/L):	1.65			PID: —
ORP (mV):	187.3			Other: —

Comments:

GENERAL INFORMATION

WEATHER: SUN/CLEAR ____ OVERCAST/RAIN X WIND DIRECTION ____ AMBIENT TEMP 40

SHIPMENT VIA: FedEx X HAND DELIVER ____ COURIER ____ UPS ____

SHIPPED TO: Katahdin Laboratory

TRACKING NUMBER: ____ COC NUMBER: ____

COMMENTS: ____

SAMPLER: AH OBSERVER: ____

MATRIX TYPE CODES		SAMPLING METHOD/EQUIPMENT CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	HA=HAND AUGER
WG=GROUND WATER	SO=SOIL	BP = BLADDER PUMP	HSA=HOLLOW STEM AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	DPT=DIRECT PUSH	HP=HYDRO PUNCH
SH=HAZARDOUS SOLID WASTE	WS=SURFACE WATER	LF = LOW FLOW	ST= SHELBY TUBE
SE=SEDIMENT	SW=SWAP/WIPE	MC = MARCO CORE	SS=SPLIT SPOON
		PDB = PASSIVE DIFFUSION BAG	SP=SUBMERSIBLE PUMP
		PP = PERISTALTIC PUMP	
		HYD = HYDRASLEEVE	

FIELD SAMPLING REPORT

LOCATION: Corn Husker AAP	PROJECT: CHAAP RI/FS
SITE: Tract 21C	PROJECT NUMBER: AT3001.06

SAMPLE INFORMATION

SAMPLE ID: 21C-LGIA-DPT12	TIME: 1105	DATE: 3.18.18
QC SAMPLE: YES ( ) NO (✓)	MATRIX: WG	
QC SAMPLE ID: —	FIELD FILTERED: YES ( ) NO (✓)	
TYPE OF QC SAMPLE: —	BEGINNING DEPTH: 34.5' bgs	
GRAB (X) COMPOSITE ( )	END DEPTH: 38' bgs	
QC SAMPLE TYPE CODES: DUPLICATE (DUP), MATRIX SPIKE (MS), MATRIX SPIKE DUP (MSD), EQUIPMENT BLANK (EB), TRIP BLANK (TB), FIELD BLANK (FB)	SAMPLING METHOD: HP	
	SAMPLING EQUIPMENT: DPT	

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANAYLSIS	NOTES
3x40mL VOA	1	HCl	8260B	VOCs	
1 L Amber	2		8330B	Explosives	

NOTABLE OBSERVATIONS

SAMPLE CHARACTERISTICS		MISCELLANEOUS
pH: 6.98 ~~11.40~~ AH	Turbidity (NTU): 403	Color: grey blue
Temp. (C°): 11.40	Specific Cond. (µS/cm): 1.981	Odor: —
DO (mg/L): 2.23		PID: —
ORP (mV): 159.3		Other: —

Comments:

GENERAL INFORMATION

WEATHER: SUN/CLEAR ____ OVERCAST/RAIN X WIND DIRECTION ____ AMBIENT TEMP 40

SHIPMENT VIA: FedEx X HAND DELIVER ____ COURIER ____ UPS ____

SHIPPED TO: Katahdin Laboratory

TRACKING NUMBER: ____ COC NUMBER: ____

COMMENTS: ____

SAMPLER: AH OBSERVER: ____

MATRIX TYPE CODES		SAMPLING METHOD/EQUIPMENT CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	HA=HAND AUGER
WG=GROUND WATER	SO=SOIL	BP = BLADDER PUMP	HSA=HOLLOW STEM AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	DPT=DIRECT PUSH	HP=HYDRO PUNCH
SH=HAZARDOUS SOLID WASTE	WS=SURFACE WATER	LF = LOW FLOW	ST= SHELBY TUBE
SE=SEDIMENT	SW=SWAP/WIPE	MC = MARCO CORE	SS=SPLIT SPOON
		PDB = PASSIVE DIFFUSION BAG	SP=SUBMERSIBLE PUMP
		PP = PERISTALTIC PUMP	
		HYD = HYDRASLEEVE	

FIELD SAMPLING REPORT

LOCATION: Corn Husker AAP	PROJECT: CHAAP RI/FS
SITE: Tract 21C	PROJECT NUMBER: AT3001.06

SAMPLE INFORMATION

SAMPLE ID: 21C-UGIA-DPT13	TIME: 1225	DATE: 3.18.18
QC SAMPLE: YES ( ) NO (✓)	MATRIX: WG	
QC SAMPLE ID: —	FIELD FILTERED: YES ( ) NO (✓)	
TYPE OF QC SAMPLE: —	BEGINNING DEPTH: 14.5' bgs	
GRAB (X) COMPOSITE ( )	END DEPTH: 18' bgs	
QC SAMPLE TYPE CODES: DUPLICATE (DUP), MATRIX SPIKE (MS), MATRIX SPIKE DUP (MSD), EQUIPMENT BLANK (EB), TRIP BLANK (TB), FIELD BLANK (FB)	SAMPLING METHOD: HP	
	SAMPLING EQUIPMENT: DPT	

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANAYLSIS	NOTES
3x40mL VOA	1	HCl	8260B	VOCs	
1 L Amber	2		8330B	Explosives	

NOTABLE OBSERVATIONS

SAMPLE CHARACTERISTICS				MISCELLANEOUS
pH:	6.45 9-AH	Turbidity (NTU):	790	Color: gray
Temp. (C°):	9.81	Specific Cond. (µS/cm):	1.820	Odor: —
DO (mg/L):	1.41			PID: —
ORP (mV):	217.3			Other: —

Comments:

GENERAL INFORMATION

WEATHER: SUN/CLEAR ____ OVERCAST/RAIN X WIND DIRECTION ____ AMBIENT TEMP 40

SHIPMENT VIA: FedEx X HAND DELIVER ____ COURIER ____ UPS ____

SHIPPED TO: Katahdin Laboratory

TRACKING NUMBER: ____ COC NUMBER: ____

COMMENTS: ____

SAMPLER: AH OBSERVER: ____

MATRIX TYPE CODES		SAMPLING METHOD/EQUIPMENT CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	HA=HAND AUGER
WG=GROUND WATER	SO=SOIL	BP = BLADDER PUMP	HSA=HOLLOW STEM AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	DPT=DIRECT PUSH	HP=HYDRO PUNCH
SH=HAZARDOUS SOLID WASTE	WS=SURFACE WATER	LF = LOW FLOW	ST= SHELBY TUBE
SE=SEDIMENT	SW=SWAP/WIPE	MC = MARCO CORE	SS=SPLIT SPOON
		PDB = PASSIVE DIFFUSION BAG	SP=SUBMERSIBLE PUMP
		PP = PERISTALTIC PUMP	
		HYD = HYDRASLEEVE	

FIELD SAMPLING REPORT

LOCATION: Corn Husker AAP	PROJECT: CHAAP RI/FS
SITE: Tract 21C	PROJECT NUMBER: AT3001.06

SAMPLE INFORMATION

SAMPLE ID: 21C-LGIA-DPT14	TIME: 1220	DATE: 3.18.18
QC SAMPLE: YES ( ) NO (✓)	MATRIX: WG	
QC SAMPLE ID: —	FIELD FILTERED: YES ( ) NO (✓)	
TYPE OF QC SAMPLE: —	BEGINNING DEPTH: 34.5' bgs	
GRAB (X) COMPOSITE ( )	END DEPTH: 38' bgs	
QC SAMPLE TYPE CODES: DUPLICATE (DUP), MATRIX SPIKE (MS), MATRIX SPIKE DUP (MSD), EQUIPMENT BLANK (EB), TRIP BLANK (TB), FIELD BLANK (FB)	SAMPLING METHOD: HP SAMPLING EQUIPMENT: DPT	

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANAYLSIS	NOTES
3x40mL VOA	1	HCl	8260B	VOCs	
1 L Amber	2		8330B	Explosives	

NOTABLE OBSERVATIONS

SAMPLE CHARACTERISTICS				MISCELLANEOUS
pH:	6.36	Turbidity (NTU):	349	Color: gray
Temp. (C°):	10.42	Specific Cond. (μS/cm):	1.996	Odor: —
DO (mg/L):	1.50			PID: —
ORP (mV):	164.6			Other: —

Comments:

GENERAL INFORMATION

WEATHER: SUN/CLEAR ____ OVERCAST/RAIN X WIND DIRECTION ____ AMBIENT TEMP 40

SHIPMENT VIA: FedEx X HAND DELIVER ____ COURIER ____ UPS ____

SHIPPED TO: Katahdin Laboratory

TRACKING NUMBER: ____ COC NUMBER: ____

COMMENTS: ____

SAMPLER: AA OBSERVER: ____

MATRIX TYPE CODES		SAMPLING METHOD/EQUIPMENT CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	HA=HAND AUGER
WG=GROUND WATER	SO=SOIL	BP = BLADDER PUMP	HSA=HOLLOW STEM AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	DPT=DIRECT PUSH	HP=HYDRO PUNCH
SH=HAZARDOUS SOLID WASTE	WS=SURFACE WATER	LF = LOW FLOW	ST= SHELBY TUBE
SE=SEDIMENT	SW=SWAP/WIPE	MC = MARCO CORE	SS=SPLIT SPOON
		PDB = PASSIVE DIFFUSION BAG	SP=SUBMERSIBLE PUMP
		PP = PERISTALTIC PUMP	
		HYD = HYDRASLEEVE	

FIELD SAMPLING REPORT

LOCATION: Corn Husker AAP	PROJECT: CHAAP RI/FS
SITE: Tract 21C	PROJECT NUMBER: AT3001.06

SAMPLE INFORMATION

SAMPLE ID: 21C-UGIA-DPT15	TIME: 1745	DATE: 3.18.18
QC SAMPLE: YES (✓) NO (✓) AH	MATRIX: WG	
QC SAMPLE ID: CHAAP-21C-EB-031818	FIELD FILTERED: YES ( ) NO (✓)	
TYPE OF QC SAMPLE: RN @ 1800	BEGINNING DEPTH: 14.5' bgs	
GRAB (X) COMPOSITE ( )	END DEPTH: 18' bgs	
QC SAMPLE TYPE CODES: DUPLICATE (DUP), MATRIX SPIKE (MS), MATRIX SPIKE DUP (MSD), EQUIPMENT BLANK (EB), TRIP BLANK (TB), FIELD BLANK (FB)	SAMPLING METHOD: HP	
	SAMPLING EQUIPMENT: DPT	

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANAYLSIS	NOTES
3x40mL VOA 2	4	HCl	8260B	VOCs	
1 L Amber 4	2		8330B	Explosives	

NOTABLE OBSERVATIONS

SAMPLE CHARACTERISTICS				MISCELLANEOUS
pH:	7.34	Turbidity (NTU):	572	Color: light brown
Temp. (C°):	9.07	Specific Cond. (µS/cm):	2.909	Odor: –
DO (mg/L):	3.21			PID: –
ORP (mV):	-15.0			Other: –

Comments:

GENERAL INFORMATION

WEATHER: SUN/CLEAR ____ OVERCAST/RAIN X WIND DIRECTION ____ AMBIENT TEMP 40

SHIPMENT VIA: FedEx X HAND DELIVER ____ COURIER ____ UPS ____

SHIPPED TO: Katahdin Laboratory

TRACKING NUMBER: ____ COC NUMBER: ____

COMMENTS: ____

SAMPLER: AH OBSERVER: ____

MATRIX TYPE CODES		SAMPLING METHOD/EQUIPMENT CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	HA=HAND AUGER
WG=GROUND WATER	SO=SOIL	BP = BLADDER PUMP	HSA=HOLLOW STEM AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	DPT=DIRECT PUSH	HP=HYDRO PUNCH
SH=HAZARDOUS SOLID WASTE	WS=SURFACE WATER	LF = LOW FLOW	ST= SHELBY TUBE
SE=SEDIMENT	SW=SWAP/WIPE	MC = MARCO CORE	SS=SPLIT SPOON
		PDB = PASSIVE DIFFUSION BAG	SP=SUBMERSIBLE PUMP
		PP = PERISTALTIC PUMP	
		HYD = HYDRASLEEVE	

FIELD SAMPLING REPORT

LOCATION: Corn Husker AAP	PROJECT: CHAAP RI/FS
SITE: Tract 21C	PROJECT NUMBER: AT3001.06

SAMPLE INFORMATION

SAMPLE ID: 21C-LGIA-DPT16	TIME: 1740	DATE: 3.18.18
QC SAMPLE: YES ( ) NO (✓)	MATRIX: WG	
QC SAMPLE ID: —	FIELD FILTERED: YES ( ) NO (✓)	
TYPE OF QC SAMPLE: —	BEGINNING DEPTH: 34.5' bgs	
GRAB (X) COMPOSITE ( )	END DEPTH: 38' bgs	
QC SAMPLE TYPE CODES: DUPLICATE (DUP), MATRIX SPIKE (MS), MATRIX SPIKE DUP (MSD), EQUIPMENT BLANK (EB), TRIP BLANK (TB), FIELD BLANK (FB)	SAMPLING METHOD: HP SAMPLING EQUIPMENT: DPT	

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANAYLSIS	NOTES
3x40mL VOA	1	HCl	8260B	VOCs	
1 L Amber	2		8330B	Explosives	

NOTABLE OBSERVATIONS

SAMPLE CHARACTERISTICS		MISCELLANEOUS
pH: 7.43	Turbidity (NTU): 689	Color: light brown
Temp. (C°): 10.80	Specific Cond. (µS/cm): 2.601	Odor: —
DO (mg/L): 1.45		PID: —
ORP (mV): -42.6		Other: —

Comments:

GENERAL INFORMATION

WEATHER: SUN/CLEAR ____ OVERCAST/RAIN ✓ WIND DIRECTION ____ AMBIENT TEMP 40

SHIPMENT VIA: FedEx X HAND DELIVER ____ COURIER ____ UPS ____

SHIPPED TO: Katahdin Laboratory

TRACKING NUMBER: ____ COC NUMBER: ____

COMMENTS: ____

SAMPLER: AH OBSERVER: ____

MATRIX TYPE CODES		SAMPLING METHOD/EQUIPMENT CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	HA=HAND AUGER
WG=GROUND WATER	SO=SOIL	BP = BLADDER PUMP	HSA=HOLLOW STEM AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	DPT=DIRECT PUSH	HP=HYDRO PUNCH
SH=HAZARDOUS SOLID WASTE	WS=SURFACE WATER	LF = LOW FLOW	ST= SHELBY TUBE
SE=SEDIMENT	SW=SWAP/WIPE	MC = MARCO CORE	SS=SPLIT SPOON
		PDB = PASSIVE DIFFUSION BAG	SP=SUBMERSIBLE PUMP
		PP = PERISTALTIC PUMP	
		HYD = HYDRASLEEVE	

FIELD SAMPLING REPORT

LOCATION: Corn Husker AAP	PROJECT: CHAAP RI/FS
SITE: Tract 21C	PROJECT NUMBER: AT3001.06

SAMPLE INFORMATION

SAMPLE ID: 21C-UGIA-DPT17	TIME: 1635	DATE: 3.18.18
QC SAMPLE: YES ( ) NO (✓)	MATRIX: WG	
QC SAMPLE ID: —	FIELD FILTERED: YES ( ) NO (✓)	
TYPE OF QC SAMPLE: —	BEGINNING DEPTH: 14.5' bgs	
GRAB (X) COMPOSITE ( )	END DEPTH: 18' bgs	
QC SAMPLE TYPE CODES: DUPLICATE (DUP), MATRIX SPIKE (MS), MATRIX SPIKE DUP (MSD), EQUIPMENT BLANK (EB), TRIP BLANK (TB), FIELD BLANK (FB)	SAMPLING METHOD: HP SAMPLING EQUIPMENT: DPT	

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANAYLSIS	NOTES
3x40mL VOA	1	HCl	8260B	VOCs	
1 L Amber	2		8330B	Explosives	

NOTABLE OBSERVATIONS

SAMPLE CHARACTERISTICS				MISCELLANEOUS
pH:	8.03	Turbidity (NTU):	613	Color: light brown
Temp. (C°):	10.58	Specific Cond. (μS/cm):	2.675	Odor: —
DO (mg/L):	3.50			PID: —
ORP (mV):	-34.6			Other: —

Comments:

GENERAL INFORMATION

WEATHER: SUN/CLEAR ____ OVERCAST/RAIN ✓ WIND DIRECTION ____ AMBIENT TEMP 40

SHIPMENT VIA: FedEx X HAND DELIVER ____ COURIER ____ UPS ____

SHIPPED TO: Katahdin Laboratory

TRACKING NUMBER: ____ COC NUMBER: ____

COMMENTS: ____

SAMPLER: DH OBSERVER: ____

MATRIX TYPE CODES		SAMPLING METHOD/EQUIPMENT CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	HA=HAND AUGER
WG=GROUND WATER	SO=SOIL	BP = BLADDER PUMP	HSA=HOLLOW STEM AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	DPT=DIRECT PUSH	HP=HYDRO PUNCH
SH=HAZARDOUS SOLID WASTE	WS=SURFACE WATER	LF = LOW FLOW	ST= SHELBY TUBE
SE=SEDIMENT	SW=SWAP/WIPE	MC = MARCO CORE	SS=SPLIT SPOON
		PDB = PASSIVE DIFFUSION BAG	SP=SUBMERSIBLE PUMP
		PP = PERISTALTIC PUMP	
		HYD = HYDRASLEEVE	

FIELD SAMPLING REPORT

LOCATION: Corn Husker AAP	PROJECT: CHAAP RI/FS
SITE: Tract 21C	PROJECT NUMBER: AT3001.06

SAMPLE INFORMATION

SAMPLE ID: 21C-LGIA-DPT18	TIME: 1630	DATE: 3.18.18
QC SAMPLE: YES ( ) NO (✓)	MATRIX: WG	
QC SAMPLE ID: —	FIELD FILTERED: YES ( ) NO (✗)	
TYPE OF QC SAMPLE: —	BEGINNING DEPTH: 34.5' bgs	
GRAB (X) COMPOSITE ( )	END DEPTH: 38' bgs	
QC SAMPLE TYPE CODES: DUPLICATE (DUP), MATRIX SPIKE (MS), MATRIX SPIKE DUP (MSD), EQUIPMENT BLANK (EB), TRIP BLANK (TB), FIELD BLANK (FB)	SAMPLING METHOD: HP	
	SAMPLING EQUIPMENT: DPT	

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANAYLSIS	NOTES
3x40mL VOA	1	HCl	8260B	VOCs	
1 L Amber	2		8330B	Explosives	

NOTABLE OBSERVATIONS

SAMPLE CHARACTERISTICS				MISCELLANEOUS
pH:	7.69	Turbidity (NTU):	548	Color: light brown
Temp. (C°):	11.96	Specific Cond. (μS/cm):	2-294	Odor: —
DO (mg/L):	1.33			PID: —
ORP (mV):	-78.1			Other: —

Comments:

GENERAL INFORMATION

WEATHER: SUN/CLEAR ____ OVERCAST/RAIN ✓ WIND DIRECTION ____ AMBIENT TEMP 40

SHIPMENT VIA: FedEx X HAND DELIVER ____ COURIER ____ UPS ____

SHIPPED TO: Katahdin Laboratory

TRACKING NUMBER: ____ COC NUMBER: ____

COMMENTS: ____

SAMPLER: AH OBSERVER: ____

MATRIX TYPE CODES		SAMPLING METHOD/EQUIPMENT CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	HA=HAND AUGER
WG=GROUND WATER	SO=SOIL	BP = BLADDER PUMP	HSA=HOLLOW STEM AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	DPT=DIRECT PUSH	HP=HYDRO PUNCH
SH=HAZARDOUS SOLID WASTE	WS=SURFACE WATER	LF = LOW FLOW	ST= SHELBY TUBE
SE=SEDIMENT	SW=SWAP/WIPE	MC = MARCO CORE	SS=SPLIT SPOON
		PDB = PASSIVE DIFFUSION BAG	SP=SUBMERSIBLE PUMP
		PP = PERISTALTIC PUMP	
		HYD = HYDRASLEEVE	

FIELD SAMPLING REPORT

LOCATION: Corn Husker AAP	PROJECT: CHAAP RI/FS
SITE: Tract 21C	PROJECT NUMBER: AT3001.06

SAMPLE INFORMATION

SAMPLE ID: 21C-UGIA-DPT19	TIME: 1525	DATE: 3.18.18
QC SAMPLE: YES ( ) NO (✓)	MATRIX: WG	
QC SAMPLE ID: —	FIELD FILTERED: YES ( ) NO (✓)	
TYPE OF QC SAMPLE: —	BEGINNING DEPTH: 14.5' bgs	
GRAB (X) COMPOSITE ( )	END DEPTH: 18' bgs	
QC SAMPLE TYPE CODES: DUPLICATE (DUP), MATRIX SPIKE (MS), MATRIX SPIKE DUP (MSD), EQUIPMENT BLANK (EB), TRIP BLANK (TB), FIELD BLANK (FB)	SAMPLING METHOD: HP	
	SAMPLING EQUIPMENT: DPT	

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANAYLSIS	NOTES
3x40mL VOA	1	HCl	8260B	VOCs	
1 L Amber	2		8330B	Explosives	

NOTABLE OBSERVATIONS

SAMPLE CHARACTERISTICS				MISCELLANEOUS
pH:	8.12	Turbidity (NTU):	864	Color:
Temp. (C°):	10.62	Specific Cond. (µS/cm):	3397	Odor: —
DO (mg/L):	1.51			PID: —
ORP (mV):	-44.8			Other: —

Comments:

GENERAL INFORMATION

WEATHER: SUN/CLEAR ____ OVERCAST/RAIN ✓ WIND DIRECTION ____ AMBIENT TEMP 40

SHIPMENT VIA: FedEx X HAND DELIVER ____ COURIER ____ UPS ____

SHIPPED TO: Katahdin Laboratory

TRACKING NUMBER: ____ COC NUMBER: ____

COMMENTS: ____

SAMPLER: AH OBSERVER: ____

MATRIX TYPE CODES		SAMPLING METHOD/EQUIPMENT CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	HA=HAND AUGER
WG=GROUND WATER	SO=SOIL	BP = BLADDER PUMP	HSA=HOLLOW STEM AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	DPT=DIRECT PUSH	HP=HYDRO PUNCH
SH=HAZARDOUS SOLID WASTE	WS=SURFACE WATER	LF = LOW FLOW	ST= SHELBY TUBE
SE=SEDIMENT	SW=SWAP/WIPE	MC = MARCO CORE	SS=SPLIT SPOON
		PDB = PASSIVE DIFFUSION BAG	SP=SUBMERSIBLE PUMP
		PP = PERISTALTIC PUMP	
		HYD = HYDRASLEEVE	

FIELD SAMPLING REPORT

LOCATION: Corn Husker AAP	PROJECT: CHAAP RI/FS
SITE: Tract 21C	PROJECT NUMBER: AT3001.06

SAMPLE INFORMATION

SAMPLE ID: 21C-LGIA-DPT20	TIME: 1520	DATE: 3.18.18
QC SAMPLE: YES ( ) NO (✓)	MATRIX: WG	
QC SAMPLE ID: —	FIELD FILTERED: YES ( ) NO (✓)	
TYPE OF QC SAMPLE: —	BEGINNING DEPTH: 34.5' bgs	
GRAB (X) COMPOSITE ( )	END DEPTH: 38' bgs	
QC SAMPLE TYPE CODES: DUPLICATE (DUP), MATRIX SPIKE (MS), MATRIX SPIKE DUP (MSD), EQUIPMENT BLANK (EB), TRIP BLANK (TB), FIELD BLANK (FB)	SAMPLING METHOD: HP	
	SAMPLING EQUIPMENT: DPT	

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANAYLSIS	NOTES
3x40mL VOA	1	HCl	8260B	VOCs	
1 L Amber	2		8330B	Explosives	

NOTABLE OBSERVATIONS

SAMPLE CHARACTERISTICS				MISCELLANEOUS
pH:	7.37	Turbidity (NTU):	264	Color:
Temp. (C°):	11.87	Specific Cond. (µS/cm):	2.425	Odor: —
DO (mg/L):	1.47			PID: —
ORP (mV):	-63.2			Other: —

Comments:

GENERAL INFORMATION

WEATHER: SUN/CLEAR ____ OVERCAST/RAIN ✓ WIND DIRECTION ____ AMBIENT TEMP 40

SHIPMENT VIA: FedEx X HAND DELIVER ____ COURIER ____ UPS ____

SHIPPED TO: Katahdin Laboratory

TRACKING NUMBER: ____ COC NUMBER: ____

COMMENTS: ____

SAMPLER: AU OBSERVER: ____

MATRIX TYPE CODES		SAMPLING METHOD/EQUIPMENT CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	HA=HAND AUGER
WG=GROUND WATER	SO=SOIL	BP = BLADDER PUMP	HSA=HOLLOW STEM AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	DPT=DIRECT PUSH	HP=HYDRO PUNCH
SH=HAZARDOUS SOLID WASTE	WS=SURFACE WATER	LF = LOW FLOW	ST= SHELBY TUBE
SE=SEDIMENT	SW=SWAP/WIPE	MC = MARCO CORE	SS=SPLIT SPOON
		PDB = PASSIVE DIFFUSION BAG	SP=SUBMERSIBLE PUMP
		PP = PERISTALTIC PUMP	
		HYD = HYDRASLEEVE	

Tract 21C – Monitoring Well Groundwater Field Sampling Records

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Groundwater Field Sampling Data Sheet

Well No.: 21C-UGIA-MW01	Site: CHAAP	Tract: 21C	Date: 5.21.18
Samplers: A. Hechepath		Project No.: AT3001	
Measured Well Depth and Condition of Bottom: Hard 23.9'			Sample Time: 1020
DTW (ft): 13.11'	DTP (ft): 19'	FedEx: X UPS ___Hand ___Other	
MP Ht. Aboveground/Below Ground Surface: 2.3 Above gs		Sampling Method (G=grab, B=bailer, SP=submersible pump):	
Installed Well Depth: BOS 23.5'		Type of Pump: QED SampPro Bladder Pump 1.75''	
Screen Interval (ft): TOS 13.5'		Weather (sun/clear, overcast/rain, wind direction, ambient temp): South 75	
Well Diameter (in): 2"		Other: purge start @ 925	
Placement of Pump (ft): 19' BTOC		Other: 20 psi 10/5 cycle, 4 cpm	

Field Parameters

Time	Depth to Water (ft)	Flow Rate (ml/min)	Total Volume (L)	pH (± 0.1 units)	Temp (°C) (± ~~0.5~~ 1.0 °C)	Spec. Cond (µS/cm) (± 3% or .01)	ORP (mV) (± 10mV or ± 10%)	DO (mg/L) (± 10% ± .3)	Turbidity (NTU) (<5 10 or ± 10%)	Note
930	13.11	100	.5	7.76	12.69	2,449	39.6	3.44	24.5	
935	13.11		1.0	7.79	12.49	2,436	20.0	3.49	22.6	
940	13.11		1.5	7.86	12.56	3,200	6.6	2.07	21.7	
945	13.11		2.0	7.94	12.60	3194	3.8	1.58	22.8	
950	13.11		2.5	8.02	12.77	3194	-2.2	1.22	21.6	
955	13.11		3.0	8.08	12.58	3197	-5.1	1.03	21.1	
1000	13.11		3.5	7.68	12.47	3192	-9.4	0.96	20.9	
1005	13.11		4.0	7.49	12.49	3188	-12.2	0.88	18.9	
1010	13.11		4.5	7.23	12.44	3185	-15.9	0.79	17.4	
1015	13.11		5.0	7.19	12.42	3183	-16.5	0.76	17.2	
1020	13.11		5.5	7.21	12.40	3182	-16.7	0.71	16.8	

Observations

Color: Clear/Other (describe)

Odor: None/Low/Medium/High/Very Strong/H2S/Fuel-Like

Notes: Sampled for VOCs & Explosives

Purge Volume Calculations Well Casing Volume = J $(Rc)^2$ (well depth – static H_2O depth) x (conversion 7.48 gal/ft^3)

Groundwater Field Sampling Data Sheet

Well No.: LG2A-MW02	Site: CHAAP	Tract: 21C	Date: 5-21-18
Samplers: A. Hedgepeth		Project No.: AT3061	
Measured Well Depth and Condition of Bottom: Hard 44.8			Sample Time: 1125
DTW (ft): 12.99'	DTP (ft): 39'	FedEx: X UPS ___Hand ___Other	
MP Ht. Aboveground/Below Ground Surface: 2.3 AGS		Sampling Method (G=grab, B=bailer, SP=submersible pump):	
Installed Well Depth: 44.5 BOS		Type of Pump: QED SampPro Bladder Pump 1.75''	
Screen Interval (ft): 34.5 TOS		Weather (sun/clear, overcast/rain, wind direction, ambient temp): Sunr 75	
Well Diameter (in): 2''		Other: purge started at 1045	
Placement of Pump (ft): 39'		Other: 35 psi 10/5 cycle 4/min	

Field Parameters

Time	Depth to Water (ft)	Flow Rate (ml/min)	Total Volume (L)	pH (± 0.1 units)	Temp (°C) (± 0.5 °C)	Cond (µS/cm) (± 3%) 0. .01	ORP (mV) (± 10mV)	DO (mg/L) (± 10%)	Turbidity (NTU) (<~~50~~ 10 or ± 10%)	Note
1050								No readings taken		
1055	12.99	100	1.0	6.75	13.93	2866	-8.0	2.88	8.86	
1100	12.99		1.5	6.72	13.87	2958	-18.7	1.28	6.29	
1105	12.99		2.0	7.03	13.89	2977	-22.9	1.13	11.7	
1110	12.99		2.5	6.96	13.91	2987	-26.3	0.87	14.2	
1115	12.99		3.0	6.94	13.88	2990	-28.6	0.78	13.1	
1120	12.99		3.5	6.92	13.82	2991	-30.3	0.75	12.7	
1125	12.99		4.0	6.98	13.81	2991	-30.4	0.72	12.2	

Observations

Color: Clear/Other (describe)

Odor: None/Low/Medium/High/Very Strong/H2S/Fuel-Like

Notes: Sampled for VOCs/Explosives; Collected Sample Volume for MS/MSD

Purge Volume Calculations Well Casing Volume = J $(Rc)^2$ (well depth – static H_2O depth) x (conversion 7.48 gal/ft^3)

Groundwater Field Sampling Data Sheet

Well No.: 21C-U621A-MW03	Site: CHAAP	Tract: 21C	Date: 5.21.18
Samplers: A. Hodgepath		Project No.: A53001	
Measured Well Depth and Condition of Bottom: Hard 23.0			Sample Time: 1245
DTW (ft): 12.79	DTP (ft): 18'	FedEx: X UPS ___Hand ___Other	
MP Ht. Aboveground/Below Ground Surface: 2.1 AGS		Sampling Method (G=grab, B=bailer, SP=submersible pump):	
Installed Well Depth: 23' BOS		Type of Pump: QED SampPro Bladder Pump 1.75''	
Screen Interval (ft): 13' TOS		Weather (sun/clear, overcast/rain, wind direction, ambient temp): Sunny 75	
Well Diameter (in): 2"		Other: purge started at 1210	
Placement of Pump (ft): 18' BTOC		Other: 20 psi 10/5 cycle 4 cpm	

Field Parameters

Time	Depth to Water (ft)	Flow Rate (ml/min)	Total Volume (L)	pH (± 0.1 units)	Temp (°C) (± ~~0.5~~ °C) 1.8	S. Cond (µS/cm) (± 3%) 0-.01	ORP (mV) (± 10mV) 0-10%	DO (mg/L) (± 10%) 0-.3	Turbidity (NTU) (~~<50~~ 75 or ± 10%)	Note
1215					No Readings taken					
1220	12.79	100	1.0	6.30	13.70	2680	-13.7	2.76	12.4	
1225	12.79		1.5	6.92	13.31	2712	-19.9	1.46	11.4	
1230	12.79		2.0	7.03	13.75	2725	-24.0	1.22	11.7	
1235	12.79		2.5	6.97	14.22	2726	-26.7	1.11	11.9	
1240	12.79		3.0	6.97	14.28	2731	-27.0	1.10	11.7	
1245	12.79		3.5	6.90	14.63	2728	-28.2	1.06	11.2	

Observations

Color: Clear/Other (describe)

Odor: None/Low/Medium/High/Very Strong/H2S/Fuel-Like

Notes: Sampled for VOCs / Explosives

Purge Volume Calculations Well Casing Volume = J $(Rc)^2$ (well depth – static H_2O depth) x (conversion 7.48 gal/ft^3)

Groundwater Field Sampling Data Sheet

Well No.: 21C-LGIA-MW04	Site: CHAAP	Tract: 21C	Date: 5-21-18
Samplers: A. Hedzepath		Project No.: AT3001	
Measured Well Depth and Condition of Bottom: Hard 46.7 BTOC			Sample Time: 1350
DTW (ft): 12.65	DTP (ft): 41'	FedEx: X UPS ___Hand ___Other	
MP Ht. Aboveground/Below Ground Surface: 2.1 AGS		Sampling Method (G=grab, B=bailer, **SP=submersible pump**):	
Installed Well Depth: 46.5 BOS		Type of Pump: QED SampPro Bladder Pump 1.75''	
Screen Interval (ft): 36.5 TOS		Weather (sun/clear, overcast/rain, wind direction, ambient temp): South 75	
Well Diameter (in): 2"		Other: purge started at 1310	
Placement of Pump (ft): 41' BTOC		Other: 10/5 cycle 30psi 4cpm	

Field Parameters

Time	Depth to Water (ft)	Flow Rate (ml/min)	Total Volume (L)	pH (± 0.1 units)	Temp (°C) (± ~~0.5~~ 1.0 °C)	Sp. Cond (µS/cm) (± 3%) 0.01	ORP (mV) (± 10mV) 10%	DO (mg/L) (± 10%) 0.3	Turbidity (NTU) (<~~50~~ 10 or ± 10%)	Note
1315	No Readings Taken									
1320	12.65	100	1.0	6.64	14.42	3005	-15.3	1.18	8.74	
1325	12.65		1.5	6.61	14.30	3029	-21.4	1.06	9.17	
1330	12.65		2.0	6.58	14.41	3031	-25.1	0.86	8.74	
1335	12.65		2.5	6.57	14.54	3035	-29.5	0.79	9.44	
1340	12.65		3.0	6.58	14.54	3043	-32.6	0.73	8.69	
1345	12.65		3.5	6.61	14.48	3044	-34.6	0.66	9.03	
1350	12.65		4.0	6.62	14.45	3045	-35.9	0.71	8.81	

Observations

Color: Clear/Other (describe)

Odor: None/Low/Medium/High/Very Strong/H2S/Fuel-Like

Notes: Sampled for VOCs / Explosives

Purge Volume Calculations Well Casing Volume = J $(Rc)^2$ (well depth – static H_2O depth) x (conversion 7.48 gal/ft^3)

Groundwater Field Sampling Data Sheet

Well No.: 21C-UG2A-MW05	Site: CHAAP	Tract: 21C	Date: 5.21.18
Samplers: A. Hedgepeth		Project No.: AT3001	
Measured Well Depth and Condition of Bottom: HARD 22.8' BTOC			Sample Time: 1515
DTW (ft): 12.62	DTP (ft): 17.5'	FedEx: X UPS ___Hand ___Other	
MP Ht. Aboveground/Below Ground Surface: 2.3 AGS		Sampling Method (G=grab, B=bailer, SP=submersible pump):	
Installed Well Depth: 22.5 BOS		Type of Pump: QED SampPro Bladder Pump 1.75''	
Screen Interval (ft): 12.5 TOS		Weather (sun/clear, overcast/rain, wind direction, ambient temp): West 80F	
Well Diameter (in): 2"		Other: purge started at 1420	
Placement of Pump (ft): 17.5' BTOC		Other: 10/5 cycle, 20 psi, 4 gpm	

Field Parameters

Time	Depth to Water (ft)	Flow Rate (ml/min)	Total Volume (L)	pH (± 0.1 units)	Temp (°C) (± ~~0.5~~ °C) 1.0	S. Cond (µS/cm) (± 3%) 0.01	ORP (mV) (± 10mV) 10%	DO (mg/L) (± 10%) 0.3	Turbidity (NTU) (<~~50~~ 10 or ± 10%)	Note
1425	12.62	100	.5	7.15	13.03	3445	-0.9	1.24	24.8	
1430	12.62	100	1.0	7.14	12.98	3447	-4.1	0.96	22.2	
1435	12.62	100	1.5	7.11	12.93	3447	-9.9	0.82	21.6	
1440	12.62		2.0	7.10	12.98	3444	-11.5	0.77	23.9	
1445	12.62		2.5	6.81	12.98	3437	-12.1	0.69	18.2	
1450	12.62		3.0	6.85	13.00	3434	-14.8	0.63	15.9	
1455	12.62		3.5	6.89	13.07	3432	-16.2	0.61	13.4	
1500	12.62		4.0	7.02	13.08	3438	-14.0	0.58	15.3	
1505	12.62		4.5	7.03	13.13	3435	-12.8	0.52	14.6	
1510	12.62		5.0	7.01	13.19	3434	-13.2	0.56	15.8	
1515	12.62		5.5	7.01	13.22	3436	-12.1	0.51	15.2	

Observations

Color: Clear/Other (describe)

Odor: None/Low/Medium/High/Very Strong/H2S/Fuel-Like

Notes: Sampled for VOCs & Explosives; EB collected after sampling/decon

Purge Volume Calculations Well Casing Volume = J $(Rc)^2$ (well depth – static H_2O depth) x (conversion 7.48 gal/ft^3)

Groundwater Field Sampling Data Sheet

Well No.: LGSA-MW06	Site: CHAAP	Tract: 21C	Date: 5.23.18
Samplers: A. Hedgepeth		Project No.: A53001	
Measured Well Depth and Condition of Bottom: 47.2 Hard			Sample Time: 805
DTW (ft): 11.94'	DTP (ft): 42' BTOC	FedEx: X UPS ___Hand ___Other	
MP Ht. Aboveground/Below Ground Surface: 2.2' AGS		Sampling Method (G=grab, B=bailer, SP=submersible pump):	
Installed Well Depth: 47 BOS		Type of Pump: QED SampPro Bladder Pump 1.75''	
Screen Interval (ft): 37 TOS		Weather (sun/clear, overcast/rain, wind direction, ambient temp): East 70°	
Well Diameter (in): 2''		Other: purge started @ 725	
Placement of Pump (ft): 42' BTOC		Other: 10/s cycle, 30 psi, 4cpm	

Field Parameters

Time	Depth to Water (ft)	Flow Rate (ml/min)	Total Volume (L)	pH (± 0.1 units)	Temp (°C) (± 0.5 °C)	S.Cond (µS/cm) (± 3%)	ORP (mV) (± 10mV)	DO (mg/L) (± 10%)	Turbidity (NTU) (<50 or ± 10%)	Note
730	11.94	100	0.5	7.03	14.98	2799	179.3	5.42	86	
735	11.94		1.0	6.99	14.21	2786	161.5	1.40	25.5	
740	11.94		1.5	6.91	14.57	2817	116.4	1.84	14.2	
745	11.94		2.0	6.91	14.83	2821	70.7	1.06	13.3	
750	11.94		2.5	6.89	14.79	2823	52.1	0.96	6.40	
755	11.94		3.0	6.88	14.85	2826	19.9	0.76	7.90	
800	11.94		3.5	6.88	14.83	2826	15.4	0.75	7.03	
805	11.94		4.0	6.89	14.88	2826	13.2	0.73	6.85	
~~810~~			~~4.5~~						AH	

Observations

Color: Clear/Other (describe)

Odor: None/Low/Medium/High/Very Strong/H2S/Fuel-Like

Notes: Sampled for VOCs/Explosives & collected "CHAAP-21C-LGSA-MW06" @1200

Purge Volume Calculations Well Casing Volume = J $(Rc)^2$ (well depth – static H_2O depth) x (conversion 7.48 gal/ft^3)

Groundwater Field Sampling Data Sheet

Well No.: UGZA-MW07	Site: CHAAP	Tract: ZIC	Date: 5.22.18
Samplers: A. Hedgepeth		Project No.: A53001	
Measured Well Depth and Condition of Bottom: Hard 24.2 BSOC			Sample Time: 1030
DTW (ft): 12.48'	DTP (ft): 19'	FedEx: X UPS ___Hand ___Other	
MP Ht. Aboveground/Below Ground Surface: 2.5' AGS		Sampling Method (G=grab, B=bailer, SP=submersible pump):	
Installed Well Depth: 24' BOS		Type of Pump: QED SampPro Bladder Pump 1.75''	
Screen Interval (ft): 14' TOS		Weather (sun/clear, overcast/rain, wind direction, ambient temp): Sun 75	
Well Diameter (in): 2"		Other: Purge started @ 950	
Placement of Pump (ft): 19' BSOC		Other: 10/5 cycle, 20psi, 4gpm	

Field Parameters

Time	Depth to Water (ft)	Flow Rate (ml/min)	Total Volume (L)	pH (± 0.1 units)	Temp (°C) (± ~~0.5~~ 1.0 °C)	S. Cond (µS/cm) (± 3%) 0.01	ORP (mV) (± 10mV) or 10%	DO (mg/L) (± 10%) 0.03	Turbidity (NTU) (<~~50~~ 19 or ± 10%)	Note
955	12.48	100	.5	6.82	14.58	3246	176.5	1.46	17.6	
1000	12.48		1.0	6.80	14.52	3248	170.0	1.33	14.9	
1005	12.48		1.5	6.80	14.64	3240	166.5	0.94	13.6	
1010	12.48		2.0	6.81	14.71	3237	160.3	0.79	12.5	
1015	12.48		2.5	6.78	14.94	3233	154.7	0.74	10.38	
1020	12.48		3.0	6.84	15.06	3231	148.5	0.71	10.88	
1025	12.48		3.5	6.81	15.25	3226	142.1	0.69	10.89	
1030	12.48		4.0	6.82	15.29	3225	139.9	0.67	10.41	

Observations

Color: Clear/Other (describe)

Odor: None/Low/Medium/High/Very Strong/H2S/Fuel-Like

Notes: Sampled for VOCs / Explosives

Purge Volume Calculations Well Casing Volume = J $(Rc)^2$ (well depth – static H_2O depth) x (conversion 7.48 gal/ft^3)

Groundwater Field Sampling Data Sheet

Well No.: ZIC-LGSA-MW08	Site: CHAAP	Tract: ZIC	Date: 5.22.18
Samplers: A. Hedgepeth		Project No.: AT3001	
Measured Well Depth and Condition of Bottom: 47.7' Hard			Sample Time: 1205
DTW (ft): 12.42	DTP (ft): 42.5'	FedEx: X UPS ___Hand ___Other	
MP Ht. Aboveground/Below Ground Surface: 2.4 AGS		Sampling Method (G=grab, B=bailer, **SP=submersible pump**):	
Installed Well Depth: 47.5 BOS		Type of Pump: QED SampPro Bladder Pump 1.75''	
Screen Interval (ft): 37.5 50S		Weather (sun/clear, overcast/rain, wind direction, ambient temp): South 75	
Well Diameter (in): 2''		Other: purge started at 1055	
Placement of Pump (ft): 42.5' BTOC		Other: 10/5 cycle, 30 psi, 4 cpm	

Field Parameters

Time	Depth to Water (ft)	Flow Rate (ml/min)	Total Volume (L)	pH (± 0.1 units)	Temp (°C) (± 0.5 °C)	Cond (µS/cm) (± 3%)	ORP (mV) (± 10mV)	DO (mg/L) (± 10%)	Turbidity (NTU) (<50 or ± 10%)	Note
1100	12.42	100	.5	6.88	15.66	2844	99.2	1.63	30.2	
1105	12.42		1.0	6.86	14.98	2925	88.9	1.26	42.8	
1110	12.42		1.5	6.85	14.75	2997	86.5	0.95	51.0	
1115	12.42		2.0	6.83	14.80	2998	78.9	0.78	~~62.~~ AH → 62	
~~1120~~			~~2.5~~							
~~1125~~		AH	~~3.0~~	Drained Flow through cell incase that was Turb. issue						*
1125	12.42	100	3.0	6.88	14.95	3002	68.8	0.99	113	
1130	12.42		3.5	6.89	14.65	3006	68.9	0.76	692	
1135	12.42		4.0	6.90	14.66	3005	53.8	0.65	96	
1140	12.42		4.5	6.90	14.67	3003	51.6	0.59	89	
1145	12.42		5.0	6.91	14.69	3001	49.9	0.57	83	
1150	12.42		5.5	6.91	14.84	3002	42.8	0.56	49.7	
1155	12.42		6.0	6.91	14.90	3003	39.9	0.56	38.6	
1200	12.42		6.5	6.90	14.83	3005	36.6	0.55	39.5	
1205	12.42		7.0	6.90	14.79	3006	38.8	0.53	36.1	
		AH								

Observations

Color: Clear/Other (describe)

Odor: None/Low/Medium/High/Very Strong/H2S/Fuel-Like

Notes: Sampled for VOCs / Explosives

*- Turb was 85 NTU collected directly from tubing

- During MW Dev, Turb was 4.75 at end of ~2h- pump/surge on 4.7.18

Purge Volume Calculations Well Casing Volume = J $(Rc)^2$ (well depth – static H_2O depth) x (conversion 7.48 gal/ft^3)

Groundwater Field Sampling Data Sheet

Well No.: VG2A-MW09	Site: CHAAP	Tract: 21C	Date: 5.23.18
Samplers: A. Hedgepeth		Project No.: A53001	
Measured Well Depth and Condition of Bottom: 23.9 Hard			Sample Time: 935
DTW (ft): 12.68	DTP (ft): 18' BTOC	FedEx: X UPS ___Hand ___Other	
MP Ht. Aboveground/Below Ground Surface: 2.3 AGS		Sampling Method (G=grab, B=bailer, SP=submersible pump):	
Installed Well Depth: 23.5' BOS		Type of Pump: QED SampPro Bladder Pump 1.75''	
Screen Interval (ft): 13.5' TOS		Weather (sun/clear, overcast/rain, wind direction, ambient temp): S 75°	
Well Diameter (in): 2''		Other: purge started @ 855	
Placement of Pump (ft): 18' BTOC		Other: 10/5 cycle, 20 psi, 4 gpm	

Field Parameters

Time	Depth to Water (ft)	Flow Rate (ml/min)	Total Volume (L)	pH (± 0.1 units)	Temp (°C) (± ~~0.5~~ 1.0 °C)	S. Cond (µS/cm) (± 3%) 0.01	ORP (mV) (± 10mV) or 10%	DO (mg/L) (± 10%) or 0.3	Turbidity (NTU) (<~~50~~ 40 or ± 10%)	Note
900	12.68	100	0.5	7.02	14.41	2949	27.6	0.71	11.5	
905	12.68		1.0	7.06	14.50	2955	23.6	0.68	10.32	
910	12.68		1.5	7.10	14.50	2960	18.9	0.65	9.86	
915	12.68		2.0	7.15	14.53	2983	12.2	0.60	8.41	
920	12.68		2.5	7.11	14.69	2999	7.9	0.54	7.29	
925	12.68		3.0	7.09	14.75	3010	3.5	0.52	6.85	
930	12.68		3.5	7.07	14.86	3017	2.8	0.51	6.52	
935	12.68		4.0	7.05	14.91	3019	0.9	0.49	5.98	

Observations

Color: Clear/Other (describe)

Odor: None/Low/Medium/High/Very Strong/H2S/Fuel-Like

Notes: Sampled for VOCs / Explosives

Purge Volume Calculations Well Casing Volume = J $(Rc)^2$ (well depth – static H_2O depth) x (conversion 7.48 gal/ft^3)

Groundwater Field Sampling Data Sheet

Well No.: LGSA-MW10	Site: CHAAP	Tract: 21C	Date: 5.23.18
Samplers: A. Hedgepeth		Project No.: AT3001	
Measured Well Depth and Condition of Bottom: 47.8' Hard			Sample Time: 1035
DTW (ft): 12.54	DTP (ft): 43'	FedEx: X UPS ___Hand ___Other	
MP Ht. Aboveground/Below Ground Surface: 2.4 AGS		Sampling Method (G=grab, B=bailer, SP=submersible pump):	
Installed Well Depth: 47.5 BOS		Type of Pump: QED SampPro Bladder Pump 1.75''	
Screen Interval (ft): 37.5 TOS		Weather (sun/clear, overcast/rain, wind direction, ambient temp): South 75	
Well Diameter (in): 2"		Other: purge started at 1005	
Placement of Pump (ft): 43' BTOC		Other: 10/5 cycle, 30 psi, 4 gpm	

Field Parameters

Time	Depth to Water (ft)	Flow Rate (ml/min)	Total Volume (L)	pH (± 0.1 units)	Temp (°C) (± 0.5 °C)	S. Cond (µS/cm) (± 3%)	ORP (mV) (± 10mV)	DO (mg/L) (± 10%)	Turbidity (NTU) (<50 or ± 10%)	Note
1010	12.54	100	0.5	6.78	16.98	2786	22.5	1.28	48.8	
1015	12.54		1.0	6.77	17.03	2801	13.4	0.99	49.6	
1020	12.54		1.5	6.76	17.06	2830	9.7	0.88	47.7	
1025	12.54		2.0	6.77	17.32	2832	1.2	0.85	47.0	
1030	12.54		2.5	6.78	17.47	2833	-0.6	0.81	~~6~~ 46.9	
1035	12.54		3.0	6.79	17.56	2835	-4.6	0.78	45.2	

Observations

Color: Clear/Other (describe)

Odor: None/Low/Medium/High/Very Strong/H2S/Fuel-Like

Notes: Sampled for VOCs/Explosives

Purge Volume Calculations Well Casing Volume = J $(Rc)^2$ (well depth – static H_2O depth) x (conversion 7.48 gal/ft^3)

Calibration Logs

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Calibration Log

Project Name: CHAAP

Equipment Description: Hanna 08537192 / PID U654872

Project Number: AT3001

Equipment Description ~~Serial Number~~: YSI - 49025

Activity: Groundwater Sampling/Soil Sampling/Monitoring well Installation/Development

Date	Time	Calibrated By	Standard Concentration	Lot Control No./ Expiration Date	Post Calibration Reading	Comments
3.14.18	740	AH	0.1 15	C690745 8/18 C796560 8/18	0.38 14.9	Hanna
			100 750	C796294 8/18 C690772 8/18	100 752	
	750		100	18-6165	100	PID
	750	KW	DO ORP	N/A 7710089 7/18	220	YSI
			Cond pH	7710519 3/18 7709097 9/19	1.409 7.01 10.00 3.98	
3.15.18	830	AH	100	18-6165	100	~~PID~~
3.16.18	900	AH	100	18-6165	100	PID
3.17.18	715	AH	0.1 15		0.24 14.9	Hanna
			100 750		100 747	
	725		DO ORP		99.9 ~~AH240~~ 220	YSI
			Cond pH		1409 4.01/7.00/10.0	
	900		100		100	PID

Calibration Log

Project Name: CHAAP

Equipment Description: PID Mini RAE

Project Number: AT3001

Serial Number: SN592-912120

Activity: Groundwater Sampling/Soil Sampling/Monitoring well Installation/Development

Date	Time	Calibrated By	Standard Concentration	Lot Control No./ Expiration Date	Post Calibration Reading	Comments
3/14/18	7:40	Alex	100	7/24/19	100	
3/15/18	8:03	Alex	" "	" "	100	
3/16/18	8:30	Alex	" "	" "	100	
3/17/18	9:05	Brant	" "	" "	100	
3/18/18	9:01	Brant	" "	" "	100	
3/19/18	11:25	Brant	" "	" "	100	
3/20/18	9:00	Brant	" "	" "	100	
3/21/18	7:45	Brant	" "	" "	100	
3/26/18	10:37	Brant	" "	" "	100	
3/27/18	8:34	Brant	" "	" "	100	
3/28/18	9:45	Brant	" "	" "	100	
3/29/18	9:10	Brant	" "	" "	100	
3/30/18	8:57	Brant	" "	" "	100	

Calibration Log

Project Name: CHAAP

Equipment Description: Hanna Turb / YSI 556

Project Number: AT3001

Serial Number: 08537192 / 55972

Activity: Groundwater Sampling/Soil Sampling/Monitoring well Installation/Development

Date	Time	Calibrated By	Standard Concentration	Lot Control No./ Expiration Date	Post Calibration Reading	Comments
3.18.18	630	AH	0.1 15.0	C690745 C796560	0.19 15.2	Hanna Turb.
			100 750	C796294 C690772 8/18	99 749	
	635		pH 7/10/4 Cond. 1.409	77809097 9/19 7710519 3/18	4.00/7.01/10.00 1.409	YSI 556
			O.p 220.0 D.O. -	7710089 7/18 NA	220.3 100.1	

Calibration Log

Project Name: CHAAP

Equipment Description: YSI 556 / Hanna Turb

Project Number: AT3001

Serial Number: 55972 / U69116X

Activity: Groundwater Sampling/Soil Sampling/Monitoring well Installation/Development

Date	Time	Calibrated By	Standard Concentration	Lot Control No./ Expiration Date	Post Calibration Reading	Comments
3.21.18	700	AH	Cond. 1.409	7710519 11/19	1.409	NA
		YSI	pH 4/7/10	6053-13 3/19	4.01/7.00/9.99	
			O.P 220	7710089 7/18	220.2	
		YSI	D.O. 100%	—	100.1	
			0.1	C690745 8/18	0.21	
		Hanna	15	C796560 8/18	14.9	
			100	C796294 8/18	102	
		Hanna	750	C690772 8/18	749	

Calibration Log

Project Name: CHAAP

Equipment Description: **PID MiniRAE**

Project Number: AT3001

Serial Number: SN592-912120

Activity: Groundwater Sampling/Soil Sampling/Well Installation/Development

Date	Time	Calibrated By	Standard Concentration	Lot Control No./ Expiration Date	Post Calibration Reading	Comments
3/31/18	0830	Brant	100	7/24/19	100	

Calibration Log

Project Name: CHAAP

Equipment Description: **YSI/ Turbidity Meter**

Project Number: AT3001

Serial Number: 49025/08537192

Activity: Groundwater Well Development

Date	Time	Calibrated By	Standard Concentration	Lot Control No./ Expiration Date	Post Calibration Reading	Comments
4/1/18	0830	Brant	0.1/15/100/750	C690745/Aug18; C796560/Aug18; C796294/Aug18; C690772/Aug18	0.1/15/100/750	Turb. Meter
4/1/18	0830	S. Cameron	PH (4/7/10) Cond. (1409)	7709097/Sep19; 7710519/Mar18	PH (4/7/10) Cond. (1409)	YSI
4/2/18	0830	Brant	0.1/15/100/750	C690745/Aug18; C796560/Aug18; C796294/Aug18; C690772/Aug18	0.1/15/100/750	Turb. Meter
4/2/18	0830	S. Cameron	PH (4/7/10) Cond. (1409)	7709097/Sep19; 7710519/Mar18	PH (4/7/10) Cond. (1409)	YSI
4/3/18	0830	Brant	0.1/15/100/750	C690745/Aug18; C796560/Aug18; C796294/Aug18; C690772/Aug18	0.1/15/100/750	Turb. Meter
4/3/18	0830	S. Cameron	PH (4/7/10) Cond. (1409)	7709097/Sep19; 7710519/Mar18	PH (4/7/10) Cond. (1409)	YSI
4/4/18	0830	Brant	0.1/15/100/750	C690745/Aug18; C796560/Aug18; C796294/Aug18; C690772/Aug18	0.1/15/100/750	Turb. Meter
4/4/18	0830	S. Cameron	PH (4/7/10) Cond. (1409)	7709097/Sep19; 7710519/Mar18	PH (4/7/10) Cond. (1409)	YSI

Calibration Log

Project Name: CHAAP

Equipment Description: PID - MiniRAE 3000

Project Number: AT3001

Serial Number: 592-912120

Activity: Groundwater Sampling/Soil Sampling/Monitoring well Installation/Development

Date	Time	Calibrated By	Standard Concentration	Lot Control No./ Expiration Date	Post Calibration Reading	Comments
4/3/18	730	SG	100 PPM Isobutylene	Lot # 18-60165	100.8 ppm	Regulator V61301X
4/4/18	730	↓	↓	↓	101.2 ppm	↓
4/5/18	730	↓	↓	↓	100.7 ppm	↓
4/6/18	730	↓	↓	↓	100.3 ppm	↓
4/7/18	730	↓	0.1 NTU	C690745 8/2018 C690745 8/2018	0.1	SN 08537192 HI 98703 08393434
↓	↓	↓	15 NTU	C796560 8/2018 C796560 8/2018	15	↓
↓	↓	↓	100 NTU	C796294 8/2018 C796294 8/2018	100	↓
↓	↓	↓	750 NTU	C690772 8/2018 C690772 8/2018	750	↓
4/7/18	730	AH	4.0 pH	7710071 10/19	4.00	Unit Probe 08C101612 077879X YSI 556 MPS 15K100402 82111
↓	↓	↓	7.0 pH	G250-02 9/19	7.00	↓
↓	↓	↓	Cond 1409 uS/cm	G166-09 12/18	1409	↓
↓	↓	↓	DO 100%	—	100%	↓

Calibration Log

Project Name: CHAAP

Equipment Description: See Comments

Project Number: AT3001

Serial Number: See Comments

Activity: Groundwater Sampling/Soil Sampling/Monitoring well Installation/Development

Date	Time	Calibrated By	Standard Concentration	Lot Control No./ Expiration Date	Post Calibration Reading	Comments
4/10/18	730 ~~745~~ 56	SG	Turb 0.1 NTU	C690745 8/18	0.1	HI 98703 08393434
			15 NTU	C796560 8/18	15	
			100 NTU	C796294 8/18	100	
			750 NTU	C690772 8/18	750	
			Cond 1.409 mS/cm	G166-09 12/18	1.409	YSI 556 MPS 13K100402 - Unit + 62111 - Probe
			pH 4.0	7710071 10/19	4.00	
			pH 7.0	G250-02 9/19	7.00	

Calibration Log

Project Name: CHAAP

Equipment Description: MiniRae 3000

Project Number: AT3001

Serial Number: U76112X

Activity: Groundwater Sampling/Soil Sampling/Monitoring well Installation/Development

Date	Time	Calibrated By	Standard Concentration	Lot Control No./ Expiration Date	Post Calibration Reading	Comments
4.16.18	800	AH	100% Isobutylene in Oxygen	18-6165	0.0	
4.17.18	800	AH			0.0	
4.18.18	800	AH			0.0	
4.19.18	745	AH			0.0	
4.20.18	740	AH			0.0	
4.21.18	800	AH			0.0	
4.22.18	810	AH			0.0	

Calibration Log

Project Name: CHAAP

Equipment Description: MiniRAE PID

Project Number: AT3001

Serial Number: SN592-912120

Activity: Soil Boring

Date	Time	Calibrated By	Standard Concentration	Lot Control No./ Expiration Date	Post Calibration Reading	Comments
4-17	8:00	Hylinski	100	7/24/19	100	
4-18	8:10	Hylinski			100	
4-19	8:00	Hylinski			100	
4-20	8:00	Hylinski			100	
4-21	8:05	Hylinski			100	
4-22	8:15	Hylinski			100	
4-30	8:10	Hylinski			100	
5-3	8:30	Cameron			100	
5-4	8:36	Cameron			100	
5-5	8:35	Cameron			100	
5-6	8:35	Cameron			100	
5-7	8:40	Cameron			100	
5-8	8:35	Cameron			100	

Calibration Log

Project Name: CHAAP

Equipment Description: See comments

Project Number: AT3001

Serial Number: See comments

Activity: Groundwater Sampling/Soil Sampling/Monitoring well Installation/Development

Date	Time	Calibrated By	Standard Concentration	Lot Control No./ Expiration Date	Post Calibration Reading	Comments
4/8/18	745	SG	Turb 0.1 NTU	C690745 8/18	0.1	HI98703 080393434
↓	↓	↓	15 NTU	C796560 8/18	15	↓
↓	↓	↓	100 NTU	C796294 8/18	100	↓
↓	↓	↓	750 NTU	C690772 8/18	750	↓
↓	↓	↓	Conductivity 1409 µS/cm	G166-09 12/18	1.409	YSI 556 MPS 82111-Probe 13K100402 -unit
↓	↓	↓	pH 4.0	7710071 10/19	4.00	↓
↓	↓	↓	pH 7.0	G250-02 9/19	7.00	↓
4.9.18	750	SG	0.1 15	↓	.12 14.9	↓
↓	↓	↓	100 750 NTU	↓	100 753	↓
↓	↓	↓	Cond 1.409 µ/cm	↓	1.409	↓
↓	↓	↓	pH 4.0 pH 7.0	↓	4.0 7.0	↓

Calibration Log

Project Name: CHAAP

Equipment Description: YSI 556 03C0005AC / U8239AX

Project Number: AT3001

Serial Number: LaMotte Turb - 65444

Activity: Groundwater Sampling/Soil Sampling/Monitoring well Installation/Development

Date	Time	Calibrated By	Standard Concentration	Lot Control No./ Expiration Date	Post Calibration Reading	Comments
4.30.18	715	AH	PID-076112X 100% Isobutylene	07	✓	PID
5.1.18	730	⊥	⊥		✓	PID
5.2.18	700	⊥	Cond. 1409µ/cm DO 100% O-p 220mV	G006-15 1.17.19 — 7710089 7/18	1.409 99.9 221.1	YSI
⊥	⊥	⊥	pH 4.0 7.0	771007 10.30.19 7709097 9.30.19	4.01 7.00	⊥
⊥	⊥	⊥	0.0 NTU 10.0 NTU	C800048 9/18 C796783 9/18	0.1 10.01	LaMotte
5.3.18	700	⊥	⊥	⊥	1.409 100.1 219.8	⊥
⊥	⊥	⊥	⊥	⊥	4.00 6.99	⊥
⊥	⊥	⊥	⊥	⊥	0.21 9.99	⊥
5.4.18	710	⊥	⊥	⊥	1.409 99.8 220.2	⊥
⊥	⊥	⊥	⊥	⊥	3.99 7.00	⊥
⊥	⊥	⊥	⊥	⊥	-0.03 9.98	⊥
5.5.18	715	⊥	⊥	⊥	1.409 100.6 220.0	⊥
⊥	⊥	⊥	⊥	⊥	4.00 7.00	⊥
⊥	⊥	⊥	⊥	⊥	0.19 9.96	⊥

AH 5.5.18

Calibration Log

Project Name: CHAAP

~~Equipment Description~~: YSI 556 - 03C0005AC / U82394X

Project Number: AT3001

~~Serial Number~~: La Motte Turb - 65444

Activity: Groundwater Sampling/Soil Sampling/Monitoring well Installation/Development

Date	Time	Calibrated By	Standard Concentration	Lot Control No./ Expiration Date	Post Calibration Reading	Comments
5.6	710	AH	Cond 1409 µS/cm DO 100% ORP 220mV	See page 1	1.409 100.6 220.1	YSI
			pH 4.0 7.0		4.00 7.02	
			0.0 NTU 10.0 NTU		0.1 9.99	LAmotte
				5.6.18		

Calibration Log

Project Name: CHAAP

Equipment Description: YSI 556 03C000SAC/U82394X

Project Number: AT3001

Serial Number: LaMotte 65444

Activity: Groundwater Sampling/Soil Sampling/Monitoring well Installation/Development

Date	Time	Calibrated By	Standard Concentration	Lot Control No./ Expiration Date	Post Calibration Reading	Comments
5.6.18	730	AN	Cond. 1409 µS/cm DO 100% O-P 220mV	6006-15 1/19 — 7710089 7/18	1409 99.8 220.2	YSI
			pH 4.0 7.0	771007 10/19 7709097 9/19	4.00 7.01	
			0.0 NTU 10.0 NTU	C800048 9/18 C796783 9/18	0.13 9.96	LaMotte

Calibration Log

Project Name: CHAAP

Project Number: AT3001

Activity: Groundwater Well Development

Equipment Description: YSI/ Turbidity Meter

Serial Number: 1494/9334

Date	Time	Calibrated By	Standard Concentration	Lot Control No./ Expiration Date	Post Calibration Reading	Comments
5-9	8:00	Hylinski	0.1/15/100/750	C690745/8/18 C796560/8/18 C796294/8/18 C690772/8/18	0.1/15/100/750	Turbimeter
5-19	8:00	Hylinski	PH 4/7/10 Cond 1.409	7709097/ 9/19 7710519/ 3/18	PH 4/7/10 Cond 1.409	YSI
5-19	8:45	Hylinski				
5-19	8:50	Cameron				
5-20	7:45	Cameron				
5-20	7:50	Cameron				
5-21	7:50	Hylinski				
5-21	7:55	Hylinski				
5-30	10:50	Hylinski				
5-30	10:50	Hylinski				

Calibration Log

Project Name: CHAAP

Equipment Description: MiniRAE PID

Project Number: AT3001

Serial Number: SN592-912120

Activity: Soil Boring

Date	Time	Calibrated By	Standard Concentration	Lot Control No./ Expiration Date	Post Calibration Reading	Comments
5-14	8:06	Hylinski	100	7/24/19	100	
5-15	7:50	Hylinski	↓	↓	100	
5-16	7:50	Hylinski	↓	↓	100	
5-17	8:00	Hylinski	↓	↓	100	

Calibration Log

Project Name: CHAAP

Equipment Description: PID Minirae

Project Number: AT3001

Serial Number: U~~76~~ 73689X AH

Activity: Groundwater Sampling/Soil Sampling/Monitoring well Installation/Development

Date	Time	Calibrated By	Standard Concentration	Lot Control No./ Expiration Date	Post Calibration Reading	Comments
5.14.18	710	AH	100 Isobutylene	18-6165 1	99.8	NA
5.15.18	815	⊥	⊥	⊥	99.3	NA
5.21.18	800	AH	4.0 pH 7.0 pH	7710071 10/19 7709016 9/18	4.01 7.00	YSI 556 13D100205 17M08
⊥	⊥	⊥	1.409 ysicm 220 mv 100%	600615 1/19 7710089 7/18	1.409 220.6 99.9	⊥
⊥	⊥	⊥	0.0 10.0	C800048 9/18 C796783 9/18	0.16 10.21	Lamotte 65444
5.22.18	920	⊥	⊥	⊥	4.00 6.99	⊥
⊥	⊥	⊥	⊥	⊥	1.409 219.8 100.1	⊥
⊥	⊥	⊥	⊥	⊥	0.11 10.03	⊥
5.23.18	640	⊥	⊥	⊥	4.00 7.00	⊥
⊥	⊥	⊥	⊥	⊥	1.409 219.6 99.9	⊥
⊥	⊥	⊥	⊥	⊥	0.18 9.99	⊥

Calibration Log

Project Name: CHAAP

Equipment Description: YSI 556 Handheld

Project Number: AT3001

Serial Number: 473179X

Activity: Groundwater Sampling/Soil Sampling/Monitoring well Installation/Development

Date	Time	Calibrated By	Standard Concentration	Lot Control No./ Expiration Date	Post Calibration Reading	Comments
5/30	10:50	Hylinski	PH 4.34, 6.94, 9.79	4/9053-13 3/14/19 7/9086-14 3-30-19 10/7708378 8-30-19	4, 7, 10	
5/31	8:57	Chagolla	PH 4.06, 6.93, 10.01		4, 7, 10	
6/1	7:30	Hylinski	PH SC 1444 4.12, 6.96, 9.96. ORP 318 → 320.		4, 7, 10	
6/2	6:20	Hylinski	PH ORP 197 SC 1.430 4.13, 6.97, 10.09			
6/4	8:50	Hylinski	PH SC 3.91, 7.01, 10.17 1.336 ORP 231.3			
6/5	8:00	Hylinski	PH SC 3.91, 7.01, 10.18 1.349 ORP 229			

Calibration Log

Project Name: CHAAP

Project Number: AT3001

~~Equipment Description~~: YSI 556 13D100205/17M08

~~Serial Number~~: LaMotte Turb 65444

Activity: Groundwater Sampling/Soil Sampling/Monitoring well Installation/Development

Date	Time	Calibrated By	Standard Concentration	Lot Control No./ Expiration Date	Post Calibration Reading	Comments
5.31.18	715	AH	4.0 pH 7.0 pH	7710071 10/19 7709016 9/18	3.99 7.01	—
—	—	—	1.409 mS/cm 100% 220 mV	600615 1/19 7710089 7/18	1.409 mS/cm 100.1% 219.9 mV	—
—	—	—	0.0 10.0	C800048 9/18 C796783 9/18	0.11 NTU 10.05 NTU	—
6.1.18	650	AH	—	—	4.01 7.00	—
—	—	—	—	—	1.409 99.9 220.0	—
—	—	—	—	—	-0.11 10.01	—
6.2.18	550	AH	—	—	4.00 7.00	—
—	—	—	—	—	1.409 100.3 219.3	—
—	—	—	—	—	0.13 9.88	—
6.3.18	545	AH	—	—	4.02 6.99	—
—	—	—	—	—	1.409 100.6 218.9	—
—	—	—	—	—	0.22 9.90	—

KH

Calibration Log

Project Name: CHAAP

Equipment Description: YSI 556 Handheld

Project Number: AT3001

Serial Number: 1843

Activity: Groundwater Sampling/Soil Sampling/Monitoring well Installation/Development

Date	Time	Calibrated By	Standard Concentration	Lot Control No./ Expiration Date	Post Calibration Reading	Comments
5/31	8:50	Hylinski	PH ORP 217.2 SC 1.401 4.46, 6.82, 10.05	4 → 7710358 11/30/19 7 7710071 10/31/19 16 7710177 10/31/19	1.409 4, 7, 10 220mV	
6/1	7:45	Hylinski	PH ORP 214 3.97, 7.02, 9.95 SC 1.456	ORP 7802432 11/19 SC 7 710519 11/30/19		
6/2	6:20		ORP 216 SC 1.421 PH 4.13, 6.97, 10.09			
6/4	8:50		ORP 222 SC 1.478 PH 3.81, 6.91, 10.56			
6/5	8:00		ORP 223 SC 1.444 PH 3.71, 7.30, 9.98			
6/6	8:10		ORP 227.1 SC 1.508 PH 3.90, 7.05, 10.10			
6/13	8:15		ORP 231.1 SC 3.025 PH 3.66, 6.91, 10.01			
6/14	9:05		ORP 210.5 SC 1.608 PH 4.31, 6.99, 9.97			
6/16	8:55		ORP 215 SC 1.358 PH 3.89, 7.09, 9.87			

Calibration Log

Project Name: CHAAP

Equipment Description: From page 1

Project Number: AT3001

Serial Number: From page 1

Activity: Groundwater Sampling/Soil Sampling/Monitoring well Installation/Development

Date	Time	Calibrated By	Standard Concentration	Lot Control No./ Expiration Date	Post Calibration Reading	Comments
6.4.18	715	AH	From page 1	From page 1	4.00 7.00	
					1.409 99.9 220.3	
					0.13 9.97	
6.5.18	800	AH			4.00 7.00	
					1.409 100.0 220.1	
					0.40 10.06	
6.6.18	705				3.98 7.00	
					1.410 99.8 218.9	
					0.22 10.03	

Calibration Log

Project Name: CHAAP

Equipment Description: Minirae PID

Project Number: AT3001

Serial Number: 592-917115

Activity: Groundwater Sampling/Soil Sampling/Monitoring well Installation/Development

Date	Time	Calibrated By	Standard Concentration	Lot Control No./ Expiration Date	Post Calibration Reading	Comments
6.13.18	610	AH	100ppm Isobutylene	18-6165 7-24.18	good	

Calibration Log

Project Name: CHAAP

Equipment Description: YSI 556 Hand held

Project Number: AT3001

Serial Number: YSI ~~[illegible]~~X22119

Activity: Groundwater Sampling/Soil Sampling/Monitoring well Installation/Development

Date	Time	Calibrated By	Standard Concentration	Lot Control No./ Expiration Date	Post Calibration Reading	Comments
6/16	8:55	Hylinski	ORP 218.5 SC 1.358 PH 3.95, 7.11, 9.87	4 F337-13 12/14/18 7 F364-06 11/10/18 10 G250-21 3/13/19 SC G006-15 11/7/18 ORP 780 2432 1/19	PH ORP 220 4, 7, 10 SC 1.409	

Calibration Log

Project Name: CHAAP

Equipment Description: Mini RAE 3000 PID 10.6eV lamp

Project Number: AT3001

Serial Number: U64116X

Activity: Well Installation / Soil Sampling

Date	Time	Calibrated By	Standard Concentration	Lot Control No./ Expiration Date	Post Calibration Reading	Comments
7/16	16:05	Hylinski	100	18-6165	100	
7/17	7:30	Hylinski			100	
7/18	7:45	Hylinski			100	
7/19	8:00	Hylinski			100	
7/20	8:00	Hylinski			100	
7/21	7:45	Hylinski			100	
7/23	8:30	Hylinski			100	
7/24	8:15	Hylinski			100	
7/25	6:45	Hylinski			100	
8/13	7:30	Cameron			100	
			SPL			

Calibration Log

Project Name: CHAAP

Equipment Description: YSI 556 Handheld / Hanna Turbidity meter

Project Number: AT3001

Serial Number: 11F100175 / H198703

Activity: Well development

Date	Time	Calibrated By	Standard Concentration	Lot Control No./ Expiration Date	Post Calibration Reading	Comments
7/22	9:25	Hylinski	Cond. 1.409 PH. 4.0	900645/ 1/17/19 7710071/ 10/30/19	1.499 PH 4.31	YSI
↓	↓	↓	PH. 7.0 PH. 10.0	9086-14/ 3/30/19 7802157/ 2-2020	PH 6.97 PH 9.93	↓
↓	↓	↓	0.1 NTU 15.0 NTU	C690745/ 08/2018 C796560/ 08/2018	0.13 10.1	Hanna
7/23	7:50	Hylinski	Cond 1.409 PH 4.0		1.458 PH 4.19	YSI
↓	↓	↓	PH 7.0 PH 10.0		PH 7.03 PH 9.89	↓
↓	↓	↓	0.1 NTU 15.0 NTU		0.1 14.7	Hanna
7/24	7:40	Hylinski	Cond. 1.409 PH 4.0		1.398 PH 4.03	YSI
↓	↓	↓	PH 7.0 PH 10.0		PH 7.06 PH 9.88	↓
↓	↓	↓	0.1 NTU 15 NTU	↓	0.12 15.2	Hanna

Calibration Log

Project Name: CHAAP

Equipment Description: **YSI/ Turbidity Meter**

Project Number: 16-027

Serial Number: 11F100175/H198703

Activity: Groundwater Well Development and Sampling

Date	Time	Calibrated By	Standard Concentration	Lot Control No./ Expiration Date	Post Calibration Reading	Comments
8/6/18	0830	S. Cameron	0.1/15/100/750	C690745/Aug18; C796560/Aug18	0.1/15/100/750	Turb. Meter
8/6/18	0830	S. Cameron	PH (4/7/10) Cond. (1409)	900645/Jan19; 7710071/Oct19; 9086-14/Mar19; 7802157/Feb20	PH (4/7/10) Cond. (1409)	YSI
8/7/18	0830	S. Cameron	0.1/15/100/750	C690745/Aug18; C796560/Aug18	0.1/15/100/750	Turb. Meter
8/7/18	0830	S. Cameron	PH (4/7/10) Cond. (1409)	900645/Jan19; 7710071/Oct19; 9086-14/Mar19; 7802157/Feb20	PH (4/7/10) Cond. (1409)	YSI
8/8/18	0745	S. Cameron	0.1/15/100/750	C690745/Aug18; C796560/Aug18	0.1/15/100/750	Turb. Meter
8/8/18	0745	S. Cameron	PH (4/7/10) Cond. (1409)	900645/Jan19; 7710071/Oct19; 9086-14/Mar19; 7802157/Feb20	PH (4/7/10) Cond. (1409)	YSI
8/9/18	0800	S. Cameron	0.1/15/100/750	C690745/Aug18; C796560/Aug18	0.1/15/100/750	Turb. Meter
8/9/18	0800	S. Cameron	PH (4/7/10) Cond. (1409)	900645/Jan19; 7710071/Oct19; 9086-14/Mar19; 7802157/Feb20	PH (4/7/10) Cond. (1409)	YSI
8/10/18	0700	S. Cameron	0.1/15/100/750	C690745/Aug18; C796560/Aug18	0.1/15/100/750	Turb. Meter
8/10/18	0700	S. Cameron	PH (4/7/10) Cond. (1409)	900645/Jan19; 7710071/Oct19; 9086-14/Mar19; 7802157/Feb20	PH (4/7/10) Cond. (1409)	YSI
8/12/18	0800	S. Cameron	0.1/15/100/750	C690745/Aug18; C796560/Aug18	0.1/15/100/750	Turb. Meter
8/12/18	0800	S. Cameron	PH (4/7/10) Cond. (1409)	900645/Jan19; 7710071/Oct19; 9086-14/Mar19; 7802157/Feb20	PH (4/7/10) Cond. (1409)	YSI

Calibration Log

Project Name: CHAAP

Equipment Description: **YSI/ Turbidity Meter**

Project Number: 16-027

Serial Number: 11F100175/H198703

Activity: Groundwater Well Development and Sampling

Date	Time	Calibrated By	Standard Concentration	Lot Control No./ Expiration Date	Post Calibration Reading	Comments
8/13/18	0730	S. Cameron	0.1/15/100/750	C690745/Aug18; C796560/Aug18	0.1/15/100/750	Turb. Meter
8/13/18	0730	S. Cameron	PH (4/7/10) Cond. (1409)	900645/Jan19; 7710071/Oct19; 9086-14/Mar19; 7802157/Feb20	PH (4/7/10) Cond. (1409)	YSI
8/14/18	0730	S. Cameron	0.1/15/100/750	C690745/Aug18; C796560/Aug18	0.1/15/100/750	Turb. Meter
8/14/18	0730	S. Cameron	PH (4/7/10) Cond. (1409)	900645/Jan19; 7710071/Oct19; 9086-14/Mar19; 7802157/Feb20	PH (4/7/10) Cond. (1409)	YSI

Calibration Log

Project Name: CHAAP

Equipment Description: **YSI/ Turbidity Meter**

Project Number: 16-027

Serial Number: 11F100175/H198703

Activity: Groundwater Well Development and Sampling

Date	Time	Calibrated By	Standard Concentration	Lot Control No./ Expiration Date	Post Calibration Reading	Comments
8/21/18	0900	R. Schumacher	0.1/15/100/750	C690745/Aug18; C796560/Aug18	0.1/15/100/750	Turb. Meter
8/21/18	0900	R. Schumacher	PH (4/7/10) Cond. (1409)	900645/Jan19; 7710071/Oct19; 9086-14/Mar19; 7802157/Feb20	PH (4/7/10) Cond. (1409)	YSI
10/1/18	1030	R. Schumacher	0.1/15/100/750	C690745/Aug18; C796560/Aug18	0.1/15/100/750	Turb. Meter
10/1/18	1030	R. Schumacher	PH (4/7/10) Cond. (1409)	900645/Jan19; 7710071/Oct19; 9086-14/Mar19; 7802157/Feb20	PH (4/7/10) Cond. (1409)	YSI
10/2/18	0930	R. Schumacher	0.1/15/100/750	C690745/Aug18; C796560/Aug18	0.1/15/100/750	Turb. Meter
10/2/18	0930	R. Schumacher	PH (4/7/10) Cond. (1409)	900645/Jan19; 7710071/Oct19; 9086-14/Mar19; 7802157/Feb20	PH (4/7/10) Cond. (1409)	YSI

Calibration Log

Project Name: CHAAP

Equipment Description: **PID MiniRAE**

Project Number: AT3001

Serial Number: SN592-912120

Activity: Groundwater Well Installation/Development

Date	Time	Calibrated By	Standard Concentration	Lot Control No./ Expiration Date	Post Calibration Reading	Comments
9/24/18	0830	S. Cameron	100	7/24/19	100	
9/25/18	0730	S. Cameron	100	7/24/19	100	
9/26/18	0800	S. Cameron	100	7/24/19	100	
9/27/18	0730	S. Cameron	100	7/24/19	100	

Calibration Log

Project Name: CHAAP

Equipment Description: Hach Turb / YSI 556

Project Number: AT3001

Serial Number: 2100Q01 / 36522

Activity: Groundwater Sampling/Soil Sampling/Monitoring well Installation/Development

Date	Time	Calibrated By	Standard Concentration	Lot Control No./ Expiration Date	Post Calibration Reading	Comments
11/5	9:30am	B Hylinski	SC 1.413 PH 4.0 PH 7.0 PH 10.0	8GH534 / Aug. 2019 8GC956 / 03/20 8GH706 / Aug 2020 8GD394 / April 2020	SC 1.253 PH 4.29 PH 6.66 PH 10.10	
↓	↓	↓	10 NTU ORP 240	2340 / 12/2022	9.76 NTU ORP 248.3	
11/6	8:15am		SC 1.413 PH 4.0 PH 7.0 10 NTU ORP 240		SC 1.463 PH 4.18 PH 7.73 10 NTU → 9.81	
↓	↓	↓	PH 10		ORP 239.4 PH 9.86	
11-7	7:45		SC 1.413 PH 4.0 PH 7.0 PH 10.0 10 NTU ORP 240	↓	SC 1.356 PH 4.09 PH 6.82 PH 10.10 10 NTU → 9.56 ORP 241.3	
11/8	7:20		SC 1.413 PH 4.0 PH 7.0 PH 10 10 NTU ORP 240		SC 1.472 PH 4.32 PH 6.63 PH 10.15 10 NTU 9.81 ORP 239.3	

Background Groundwater Field Sampling Records

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Groundwater Field Sampling Data Sheet

Well No.: BKRD-UGI1-MW01	Site: CHAAP	Tract: BKRD-1	Date: 6-6-18
Samplers: S. Cameron		Project No.: 16-027	
Measured Well Depth and Condition of Bottom: 31.85			Sample Time: 12:00
DTW (ft): 17.70	DTP (ft): 26	FedEx: X UPS ___Hand ___Other	
MP Ht. Aboveground/Below Ground Surface:		Sampling Method (G=grab, B=bailer, **SP=submersible pump**):	
Installed Well Depth: 31.85		Type of Pump: QED SampPro Bladder Pump 1.75"	
Screen Interval (ft): 21-31		Weather (sun/clear, overcast/rain, wind direction, ambient temp):	
Well Diameter (in): 2"		Other: Purge Start time at 10:15	
Placement of Pump (ft): 26		Other: Controller Settings - 21 PSI	

Field Parameters

Time	Depth to Water (ft)	Flow Rate (ml/min)	Total Volume (L)	pH (± 0.1 units)	Temp (°C) (± 0.5 °C)	Cond (µS/cm) (± 3%)	ORP (mV) (± 10mV)	DO (mg/L) (± 10%)	Turbidity (NTU) (<50 or ± 10%)	Note
11:35	17.7	200	15	6.98	15.32	5.611	-57.1	.40	35.3	
11:40	17.7	200	16	6.98	15.40	5.610	-55.3	.37	33.9	
11:45	17.7	200	17	6.96	15.47	5.597	-54.0	.36	32.9	
11:50	17.7	200	18	6.84	16.35	5.596	-58.4	.31	24.8	
11:55	17.7	200	19	6.85	16.60	5.605	-59.6	.31	23.7	
12:00	17.7	200	20	6.99	16.92	5.616	-63.2	.27	21.6	

Observations

Color: Clear/Other (describe)

Odor: None/Low/Medium/High/Very Strong/H2S/Fuel-Like

Notes:

Sampled for: VOC's, explosives, metals, dissolved metals, hex. chrom, PAHs

Purge Volume Calculations Well Casing Volume = J $(Rc)^2$ (well depth – static H_2O depth) x (conversion 7.48 gal/ft^3)

Groundwater Field Sampling Data Sheet

Well No.: BKRO-UGIA-MW02	Site: CHAAP	Tract: BKRO-1	Date: 6-6-18
Samplers: S. Cameron		Project No.: 16-027	
Measured Well Depth and Condition of Bottom: 31.54			Sample Time: 1400
DTW (ft): 17.57	DTP (ft): 26	FedEx: X UPS ___Hand ___Other	
MP Ht. Aboveground/Below Ground Surface:		Sampling Method (G=grab, B=bailer, SP=submersible pump):	
Installed Well Depth: 31.54		Type of Pump: QED SampPro Bladder Pump 1.75"	
Screen Interval (ft): 21-31		Weather (sun/clear, overcast/rain, wind direction, ambient temp):	
Well Diameter (in): 2"		Other: Purge Start time at 13:00	
Placement of Pump (ft): 26		Other: Controller Settings - 21 PSI	

Field Parameters

Time	Depth to Water (ft)	Flow Rate (ml/min)	Total Volume (L)	pH (± 0.1 units)	Temp (°C) (± 0.5 °C)	Cond (µS/cm) (± 3%)	ORP (mV) (± 10mV)	DO (mg/L) (± 10%)	Turbidity (NTU) (<50 or ± 10%)	Note
13:00	17.57	100	—	—	—	—	—	—	—	—
13:05	17.55	100	0.5	7.37	19.38	5.294	-84.0	9.27	42.1	
13:10	17.55	200	1	7.05	16.43	5.328	-77.7	6.53	68.3	
13:15	17.55	200	2	7.00	16.08	5.293	-74.8	6.25	97.4	
13:20	17.55	200	3	6.95	16.12	6.793	-65.4	3.60	100.1	
13:25	17.55	200	4	6.87	14.26	5.552	-65.6	3.14	104	
13:30	17.55	200	5	6.85	15.53	5.411	-64.5	2.09	93.1	
13:35	17.55	200	6	6.85	15.12	5.416	-65.2	1.94	87.8	
13:40	17.55	200	7	6.84	14.94	5.431	-65.9	1.75	70.4	
13:45	17.55	200	8	6.86	14.98	5.429	-66.0	1.68	63.8	
13:50	17.55	200	9	6.86	14.51	5462	-66.4	1.45	43.4	
13:55	17.55	200	10	6.82	14.21	5448	-66.1	1.34	39.6	
14:00	17.55	200	11	6.85	14.18	5441	-65.8	1.31	38.7	

Observations

Color: Clear/Other (describe)

Odor: None/Low/Medium/High/Very Strong/H2S/Fuel-Like

Notes: Duplicated Collected

Sampled for: VOC's, explosives, metals, dissolved metals, hex chrom, PAHs

Purge Volume Calculations Well Casing Volume = J $(Rc)^2$ (well depth – static H_2O depth) x (conversion 7.48 gal/ft^3)

Groundwater Field Sampling Data Sheet

Well No.: BKRD-UG1A-MW03	Site: CHAAP	Tract: BKRD	Date: 6-5-18
Samplers: BHylinski		Project No.: 16-027	
Measured Well Depth and Condition of Bottom: 30.18			Sample Time: 15:10
DTW (ft): 18.60	DTP (ft): 25	FedEx: X UPS ___Hand ___Other	
MP Ht. Aboveground/Below Ground Surface:		Sampling Method (G=grab, B=bailer, **SP=submersible pump**):	
Installed Well Depth: 30.18		Type of Pump: QED SampPro Bladder Pump 1.75"	
Screen Interval (ft): 20-30		Weather (sun/clear, overcast/rain, wind direction, ambient temp):	
Well Diameter (in): 2"		Other: Purge Start time at 13:25	
Placement of Pump (ft): 25		Other: Controller Settings - 21 PSI	

Field Parameters

Time	Depth to Water (ft)	Flow Rate (ml/min)	Total Volume (L)	pH (± 0.1 units)	Temp (°C) (± 0.5 °C)	Cond (µS/cm) (± 3%)	ORP (mV) (± 10mV)	DO (mg/L) (± 10%)	Turbidity (NTU) (<50 or ± 10%)	Note
13:25	18.60	100	–	–	–	–	–	–	–	
13:30	18.65	200	.5	7.04	15.02	1.009	-79.6	1.50	657	
13:35	18.62	200	1.5	6.96	14.72	1.012	-89.7	1.01	588	
13:40	18.62	200	2.5	6.97	14.60	1.009	-88.7	0.77	541	
13:45	18.62	200	3.5	6.88	14.71	1.015	-88.0	0.69	416	
13:50	18.62	200	4.5	6.87	14.79	1.019	-87.5	0.59	330	
13:55	18.62	200	5.5	6.81	14.87	1.031	-87.4	0.46	223	
14:00	18.62	200	6.5	6.83	14.85	1.023	-89.0	0.43	178	
14:05	18.62	200	7.5	6.84	14.89	1.023	-89.5	0.40	141	
14:10	18.62	200	8.5	6.89	14.92	1.024	-90.3	0.38	116	
14:15	18.62	200	9.5	6.90	14.96	1.032	-91.4	0.32	78	
14:20	18.62	200	10.5	6.92	14.94	1.042	-92.1	0.30	56.6	
14:25	18.62	200	11.5	6.92	14.90	1.042	-92.9	0.28	41.9	
14:30	18.62	200	12.5	6.93	14.89	1.043	-93.1	0.25	38.6	
14:35	18.62	200	13.5	6.98	14.99	1.049	-93.5	0.24	27.1	
14:40	18.62	200	14.5	7.01	15.03	1.058	-93.6	0.21	25.4	

Observations

Color: Clear/Other (describe)

Odor: None/Low/Medium/High/Very Strong/H2S/Fuel-Like

Notes:

Sampled for: VOCs, explosives, metals, dissolved metals, hex. chrom, PAHs

Purge Volume Calculations Well Casing Volume = J $(Rc)^2$ (well depth – static H_2O depth) x (conversion 7.48 gal/ft^3)

Groundwater Field Sampling Data Sheet

Well No.: BKRD-UG1A-MW03	Site: CHAAP	Tract: BKRD	Date: 6-5-18
Samplers: B. Hylinski, S Cameron		Project No.: 16-027	
Measured Well Depth and Condition of Bottom: 30.18 clean			Sample Time: 15:10
DTW (ft): 18.60	DTP (ft): 25	FedEx: X UPS ___Hand ___Other	
MP Ht. Aboveground/Below Ground Surface:		Sampling Method (G=grab, B=bailer, **SP=submersible pump**):	
Installed Well Depth: 30.18		Type of Pump: QED SampPro Bladder Pump 1.75"	
Screen Interval (ft): 20-30		Weather (sun/clear, overcast/rain, wind direction, ambient temp):	
Well Diameter (in): 2"		Other: Purge Start time at 13:25	
Placement of Pump (ft): 25		Other: Controller Settings - 21 PSI	

Field Parameters

Time	Depth to Water (ft)	Flow Rate (ml/min)	Total Volume (L)	pH (± 0.1 units)	Temp (°C) (± 0.5 °C)	Cond (µS/cm) (± 3%)	ORP (mV) (± 10mV)	DO (mg/L) (± 10%)	Turbidity (NTU) (<50 or ± 10%)	Note
14:45	18.62	200	15.5	6.92	14.92	1.072	-93	0.18	21	
14:50	18.62	200	16.5	6.97	15.01	1.064	-92.9	0.18	19.3	
14:55	18.62	200	17.5	6.96	14.98	1.059	-92.1	0.17	16.4	
15:00	18.62	200	18.5	6.93	15.07	1.046	-91.8	0.15	11.3	
15:05	18.62	200	19.5	6.94	14.99	1.053	-91.4	0.14	11.1	
15:10	18.62	200	20.5	6.94	14.99	1.054	-91.0	0.14	11.0	
15										

Observations

Color: Clear/Other (describe)

Odor: None/Low/Medium/High/Very Strong/H2S/Fuel-Like

Notes:

Sampled for: VOC's, explosives, metals, dissolved metals, PAHs, hex. chrom.

Purge Volume Calculations Well Casing Volume = J $(Rc)^2$ (well depth – static H_2O depth) x (conversion 7.48 gal/ft^3)

Groundwater Field Sampling Data Sheet

Well No.: BKRD-UGTA-MW04	Site: CHAAP	Tract: BKRD1	Date: 06/05/18
Samplers: X. Chapolla		Project No.: 16-027	
Measured Well Depth and Condition of Bottom: 28.50			Sample Time: 1205
DTW (ft): 17.07	DTP (ft): 23	FedEx: X UPS ___Hand ___Other	
MP Ht. Aboveground/Below Ground Surface:		Sampling Method (G=grab, B=bailer, SP=submersible pump):	
Installed Well Depth: 28.50		Type of Pump: QED SampPro Bladder Pump 1.75"	
Screen Interval (ft): 18-28		Weather (sun/clear, overcast/rain, wind direction, ambient temp):	
Well Diameter (in): 2"		Other: Purge Start time at 11:00	
Placement of Pump (ft): 23		Other: Controller Settings - 21 PSI	

Field Parameters

Time	Depth to Water (ft)	Flow Rate (ml/min)	Total Volume (L)	pH (± 0.1 units)	Temp (°C) (± 0.5 °C)	Cond (µS/cm) (± 3%)	ORP (mV) (± 10mV)	DO (mg/L) (± 10%)	Turbidity (NTU) (<50 or ± 10%)	Note
1100	17.07	100								
1105	17.07	200	0.5	6.96	15.80	2398	58.7	5.92	688	
1110	17.07	200	1	7.01	15.52	2370	55.2	5.93	653	
1115	17.07	200	2	7.04	14.90	2306	40.4	6.21	620	
1120	17.07	200	3	7.04	14.52	2284	27.7	6.56	86	
1125	17.07	200	4	7.06	14.48	2290	23.5	6.57	59	
1130	17.07	200	5	7.07	14.37	2272	22.1	6.63	51	
1135	17.07	200	6	7.08	14.35	2272	20.7	6.90	64	
1140	17.07	200	7	7.08	14.33	2268	20.1	6.91	63	
1145	17.07	200	8	7.08	14.75	2296	18.9	7.09	50	
1150	17.07	200	9	7.00	14.62	2285	19.8	6.95	52	
1155	17.07	200	10	7.06	14.54	2278	20.4	7.10	48	
1200	17.07	200	11	7.05	14.43	2388	18.8	7.24	32	

Observations

Color: Clear/Other (describe)

Odor: None/Low/Medium/High/Very Strong/H2S/Fuel-Like

Notes:

Sampled for: VOC's, explosives, metal, dissolved metals, PAHs, hex. chrom

Purge Volume Calculations Well Casing Volume = J $(Rc)^2$ (well depth – static H_2O depth) x (conversion 7.48 gal/ft^3)

Groundwater Field Sampling Data Sheet

Well No.: BKRD-UGIA-MW05	Site: CHAAP	Tract: BKRD-1	Date: 6-4-18
Samplers: S. Cameron		Project No.: 27-016	
Measured Well Depth and Condition of Bottom: 24.68			Sample Time: 14:45
DTW (ft): 12.77	DTP (ft): 20 ft	FedEx: X UPS ___Hand ___Other	
MP Ht. Aboveground/Below Ground Surface:		Sampling Method (G=grab, B=bailer, **SP=submersible pump**):	
Installed Well Depth: 24.68 ft		Type of Pump: QED SampPro Bladder Pump 1.75"	
Screen Interval (ft): 14-24		Weather (sun/clear, overcast/rain, wind direction, ambient temp):	
Well Diameter (in): 2"		Other: Purge Start time at 13:45	
Placement of Pump (ft): 20 ft		Other: Controller Settings -	

Field Parameters

Time	Depth to Water (ft)	Flow Rate (ml/min)	Total Volume (L)	pH (± 0.1 units)	Temp (°C) (± 0.5 °C)	Cond (µS/cm) (± 3%)	ORP (mV) (± 10mV)	DO (mg/L) (± 10%)	Turbidity (NTU) (<50 or ± 10%)	Note
1345	12.77	100	—	—	—	—	—	—	—	
1350	12.80	100	0.5	7.14	14.86	1829	48.6	4.91	77.4	
1355	12.80	200	1	7.06	14.63	1837	30.5	4.39	84.2	
1400	12.80	200	2	7.02	14.23	1842	27.4	3.77	96.7	
1405	12.80	200	3	6.94	13.24	1826	5.6	1.75	30.5	
1410	12.80	200	4	6.97	13.26	1972	-9.8	1.81	17.9	
1415	12.80	200	5	6.97	13.20	1975	-11.7	1.71	13.6	
1420	12.80	200	6	6.99	13.24	1984	-17.5	1.54	12.3	
1425	12.80	200	7	6.99	13.31	1998	-25.2	1.47	11.8	
1430	12.80	200	8	6.98	13.19	1996	-27.6	1.48	11.71	
1435	12.80	200	9	6.99	13.25	2002	-32.7	1.47	11.8	
1440	12.80	200	10	6.99	13.29	2008	-34.8	1.48	11.8	
1445	12.80	200	11	6.99	13.43	2023	-37.5	1.48	11.7	

Observations

Color: Clear/Other (describe)

Odor: None/Low/Medium/High/Very Strong/H2S/Fuel-Like

Notes:

Sampled for: VOC's, explosives, metals, dissolved metals, hex chrom, PAHs

Purge Volume Calculations Well Casing Volume = J $(Rc)^2$ (well depth – static H_2O depth) x (conversion 7.48 gal/ft^3)

Groundwater Field Sampling Data Sheet

Well No.: BKRD-UGIA-MW06	Site: CHAAP	Tract: BKRD3	Date: 5-31-18
Samplers: B. Hylinski		Project No.: 16-027	
Measured Well Depth and Condition of Bottom: 23.58 ft, Clear			Sample Time: 13:10
DTW (ft): 8.62	DTP (ft): 18	FedEx: X UPS ___Hand ___Other	
MP Ht. Aboveground/Below Ground Surface:		Sampling Method (G=grab, B=bailer, SP=submersible pump):	
Installed Well Depth: 23.58		Type of Pump: QED SampPro Bladder Pump 1.75''	
Screen Interval (ft): 13-23		Weather (sun/clear, overcast/rain, wind direction, ambient temp):	
Well Diameter (in): 2"		Other: Purge Start time at 11:30	
Placement of Pump (ft): 18		Other: Controller Settings - 21 PSI	

Field Parameters

Time	Depth to Water (ft)	Flow Rate (ml/min)	Total Volume (L)	pH (± 0.1 units)	Temp (°C) (± 0.5 °C)	Cond (µS/cm) (± 3%)	ORP (mV) (± 10mV)	DO (mg/L) (± 10%)	Turbidity (NTU) (<50 or ± 10%)	Note
1130	8.62	100	—	—	—	—	—	—	—	
1135	8.62	100	.5	7.25	14.21	1111	67.9	14.8	699	
11:40	8.62	400	1	7.07	13.07	1144	54.5	0.75	619	
11:45	8.63	400	3	6.98	12.80	1386	36.5	0.84	375	
11:50	8.62	400	5	6.97	12.76	1533	20.8	0.77	236	
11:55	8.62	400	7	6.98	12.88	1621	9.5	0.65	182	
12:00	8.62	400	9	6.99	12.82	1660	4.7	0.51	164	
12:05	8.62	400	11	7.01	12.80	1697	-9.1	0.41	122	
12:10	8.62	400	13	7.02	12.79	1715	-19.4	0.38	93	
12:15	8.62	400	15	7.02	12.79	1726	-28.6	0.33	74	
12:20	8.62	400	17	7.00	12.83	1730	-33.1	0.29	66.3	
12:25	8.62	400	19	6.98	12.68	1736	-38.9	0.25	54.3	
12:30	8.62	400	21	6.99	12.81	1747	-44.4	0.21	44.1	
12:35	8.62	400	23	7.01	12.83	1756	-47.6	0.19	33.2	
12:40	8.62	400	25	7.02	12.86	1756	-51.2	0.20	29.8	
12:45	8.62	400	27	7.03	12.89	1757	-54.3	0.15	26.6	

Observations

Color: Clear/Other (describe)

Odor: None/Low/Medium/High/Very Strong/H2S/Fuel-Like

Notes:

Sampled for: VOC's, explosives, metals, dissolved metals, hex. chrom, PAHs

Purge Volume Calculations Well Casing Volume = J $(Rc)^2$ (well depth – static H_2O depth) x (conversion 7.48 gal/ft^3)

Groundwater Field Sampling Data Sheet

Well No.: BKRD-11GIA-MW06	Site: CHAAP	Tract: BKRD 3	Date: 5-31-18
Samplers: B. Hylinski		Project No.: 16-027	
Measured Well Depth and Condition of Bottom:			Sample Time: 13:10
DTW (ft): 8.62	DTP (ft): 18	FedEx: X UPS ___Hand ___Other	
MP Ht. Aboveground/Below Ground Surface:		Sampling Method (G=grab, B=bailer, **SP=submersible pump**):	
Installed Well Depth: 23.58		Type of Pump: QED SampPro Bladder Pump 1.75''	
Screen Interval (ft): 13-23		Weather (sun/clear, overcast/rain, wind direction, ambient temp):	
Well Diameter (in): 2"		Other: Purge Start time at 11:30	
Placement of Pump (ft): 18		Other: Controller Settings - 21 PSI	

Field Parameters

Time	Depth to Water (ft)	Flow Rate (ml/min)	Total Volume (L)	pH (± 0.1 units)	Temp (°C) (± 0.5 °C)	Cond (µS/cm) (± 3%)	ORP (mV) (± 10mV)	DO (mg/L) (± 10%)	Turbidity (NTU) (<50 or ± 10%)	Note
12:50	8.62	400	29	7.03	12.89	1764	-56.1	0.15	21.5	
12:55	8.62	400	31	7.03	12.96	1771	-59.3	0.15	19.1	
13:00	8.62	400	33	7.03	12.92	1768	-61.5	0.15	15.8	
13:05	8.62	400	35	7.03	12.84	1767	-62.4	0.14	9.6	

Observations

Color: Clear/Other (describe)

Odor: None/Low/Medium/High/Very Strong/H2S/Fuel-Like

Notes:

Sampled for: VOCs, explosives, metals, dissolved metals, hex chrom, PAHs

Purge Volume Calculations Well Casing Volume = J $(Rc)^2$ (well depth – static H_2O depth) x (conversion 7.48 gal/ft^3)

Groundwater Field Sampling Data Sheet

Well No.: VGSA-MW07	Site: CHAAP	Tract: BKRD-3	Date: 6.5.18
Samplers: A. Hedgepeth		Project No.: A53001	
Measured Well Depth and Condition of Bottom: 24.3' Hard			Sample Time: 1515
DTW (ft): 8.95'	DTP (ft): 19'	FedEx: X UPS ___Hand ___Other	
MP Ht. Aboveground/Below Ground Surface: ~2.5 AGS		Sampling Method (G=grab, B=bailer, **SP=submersible pump**):	
Installed Well Depth: ~24.3'		Type of Pump: QED SampPro Bladder Pump 1.75''	
Screen Interval (ft): ~14.3'		Weather (sun/clear, overcast/rain, wind direction, ambient temp): 80°F Sunny South	
Well Diameter (in): 2"		Other: Purge Start time at 1425	
Placement of Pump (ft): 19' BTOC		Other: Controller Settings - 10/5 cycle, 4 gpm, 22 psi	

Field Parameters

Time	Depth to Water (ft)	Flow Rate (ml/min)	Total Volume (L)	pH (± 0.1 units)	Temp (°C) (± 0.5 °C)	S. Cond (µS/cm) (± 3%)	ORP (mV) (± 10mV)	DO (mg/L) (± 10%)	Turbidity (NTU) (<50 or ± 10%)	Note
1430	8.95	150	0.75	7.27	15.24	2530	-109.3	0.87	44.9	
1435	8.95		1.5	7.18	14.56	2589	-130.1	0.79	34.6	
1440	8.95		2.25	7.07	13.97	2637	-144.2	0.72	21.1	
1445	8.95		3.0	7.03	13.97	2746	-155.2	0.60	12.4	
1450	8.95		3.75	7.00	13.97	2807	-161.1	0.48	9.86	
1455	8.95		4.5	7.00	13.64	2825	-169.9	0.44	8.46	
1500	8.95		5.25	7.01	13.52	2857	-172.2	0.41	7.41	
1505	8.95		6.0	7.00	13.51	2863	-184.4	0.37	7.07	
1510	8.95		6.75	6.98	13.50	2865	-187.7	0.36	6.49	
1515	8.95		7.5	6.94	13.52	2869	-191.8	0.35	6.06	

Observations

Color: Clear/Other (describe)

Odor: None/Low/Medium/High/Very Strong/H2S/Fuel-Like

Notes:

Sampled for: VOCs, Explosives, PAHs, Cr VI, & Filtered/unfiltered metals
-collected on GB off decanned pump

Purge Volume Calculations Well Casing Volume = J $(Rc)^2$ (well depth – static H_2O depth) x (conversion 7.48 gal/ft^3)

Groundwater Field Sampling Data Sheet

Well No.: VGSA-MW08	Site: CHAAP	Tract: BKRD-3	Date: 6.6.18
Samplers: A. Hedgepeth		Project No.: AT3001	
Measured Well Depth and Condition of Bottom: 23.2' Hard			Sample Time: 1240
DTW (ft): 8.02	DTP (ft): 18'	FedEx: X UPS ___Hand ___Other	
MP Ht. Aboveground/Below Ground Surface: ~2.5' AGS		Sampling Method (G=grab, B=bailer, **SP=submersible pump**):	
Installed Well Depth: ~23.2' BGOC		Type of Pump: QED SampPro Bladder Pump 1.75''	
Screen Interval (ft): ~13.2' BGOC		Weather (sun/clear, overcast/rain, wind direction, ambient temp): 80°F, Partly, South	
Well Diameter (in): 2"		Other: Purge Start time at 1140	
Placement of Pump (ft): 18' BGOC		Other: Controller Settings - 10/5 cycle, 4 cpm, 24 psi	

Field Parameters

Time	Depth to Water (ft)	Flow Rate (ml/min)	Total Volume (L)	pH (± 0.1 units)	Temp (°C) (± 0.5 °C)	S. Cond (µS/cm) (± 3%)	ORP (mV) (± 10mV)	DO (mg/L) (± 10%)	Turbidity (NTU) (<50 or ± 10%)	Note
1145	8.02	150	.75	6.85	12.51	2201	-40.4	3.52	39.5	
1150	8.02		1.5	6.89	12.65	2222	-66.5	2.08	32.6	
1155	8.02		2.25	6.92	12.78	2259	-89.9	1.09	18.9	
1200	8.02		3.0	6.96	12.92	2287	-101.1	0.78	10.42	
1205	8.02		3.75	6.89	12.98	2299	-120.8	0.70	8.80	
1210	8.02		4.5	6.84	13.05	2307	-129.9	0.63	6.54	
1215	8.02		5.25	6.70	13.10	2318	-160.4	0.58	5.89	
1220	8.02		6.0	6.60	13.14	2322	-178.1	0.51	5.21	
1225	8.02		6.75	6.61	13.08	2322	-163.2	0.49	5.05	
1230	8.02		7.5	6.62	12.99	2324	-158.6	0.46	4.86	
1235	8.02		8.25	6.62	13.01	2324	-157.1	0.45	5.54	
1240	8.02		9.0	6.62	13.02	2324	-156.0	0.42	5.03	

Observations

Color: Clear/Other (describe)

Odor: None/Low/Medium/High/Very Strong/H2S/Fuel-Like

Notes:

Sampled for: VOCs, Explosives, PAHs, Cr VI, Filtered/unfiltered metals
Collected triple volume for MS/MSD

Purge Volume Calculations Well Casing Volume = J $(Rc)^2$ (well depth – static H_2O depth) x (conversion 7.48 gal/ft^3)

Groundwater Field Sampling Data Sheet

Well No.: BKRD-VGIA-MW09	Site: CHAAP	Tract: BACKGROUND 3	Date: 5/30/18
Samplers: S. Cameron, B. Hylinski		Project No.: 16-027	
Measured Well Depth and Condition of Bottom: 23.34			Sample Time: 15:20
DTW (ft): 8.89	DTP (ft): 18	FedEx: X UPS ___Hand ___Other	
MP Ht. Aboveground/Below Ground Surface:		Sampling Method (G=grab, B=bailer, **SP=submersible pump**): SP	
Installed Well Depth: 23.34		Type of Pump: QED SampPro Bladder Pump 1.75''	
Screen Interval (ft): 13-23		Weather (sun/clear, overcast/rain, wind direction, ambient temp): sun/clear	
Well Diameter (in): 2"		Other: Purge Start time at 14:05	
Placement of Pump (ft): 18ft		Other: Controller Settings - 21psi	

Field Parameters

Time	Depth to Water (ft)	Flow Rate (ml/min)	Total Volume (L)	pH (± 0.1 units)	Temp (°C) (± 0.5 °C)	Cond (µS/cm) (± 3%)	ORP (mV) (± 10mV)	DO (mg/L) (± 10%)	Turbidity (NTU) (<50 or ± 10%)	Note
14:05	8.89	100	–	–	–	–	–	–	–	
14:10	8.91	200	.5	6.90	13.39	2353	-11.5	0.88	192	
14:15	8.91	200	1.5	6.90	13.21	2341	-20.1	0.84	147	
14:20	8.91	200	2.5	6.91	13.05	2328	-29.3	0.79	114	
14:25	8.91	200	3.5	6.92	13.13	2324	-33.2	0.56	94.7	
14:30	8.91	200	4.5	6.92	13.26	2322	-37.6	0.47	79.5	
14:35	8.91	200	5.5	6.90	13.22	2315	-43.1	0.42	70.5	
14:40	8.91	200	6.5	6.90	13.01	2298	-46.0	0.40	51.8	
14:45	8.91	200	7.5	6.92	13.00	2293	-48.2	0.34	47.3	
14:50	8.91	200	8.5	6.92	13.03	2291	-48.5	0.32	41.0	
14:55	8.91	200	9.5	6.92	12.94	2280	-49.1	0.27	37.4	
15:00	8.92	200	10.5	6.93	13.05	2286	-50.5	0.25	28.7	
15:05	8.92	200	11.5	6.93	13.06	2284	-51.5	0.22	29.1	
15:10	8.92	200	12.5	6.93	12.96	2282	-53.2	0.20	23.1	
15:15	8.92	200	13.5	6.92	12.95	2276	-53.7	0.20	22.7	
15:20	8.92	200	14.5	6.93	13.04	2276	-55.4	0.18	21.8	

Observations

Color: Clear/Other (describe)

Odor: None/Low/Medium/High/Very Strong/H2S/Fuel-Like

Notes:

Sampled for: VOCs, explosives, metals, dissolved metals, hex. chrom, PAHs

Purge Volume Calculations Well Casing Volume = J $(Rc)^2$ (well depth – static H_2O depth) x (conversion 7.48 gal/ft^3)

Groundwater Field Sampling Data Sheet

Well No.: VGSA-MW10	Site: CHAAP	Tract: BKRD-3	Date: 6.5.18
Samplers: A. Hedgepeth		Project No.: AT3001	
Measured Well Depth and Condition of Bottom: 23.2' Hard			Sample Time: 1200
DTW (ft): 8.98	DTP (ft): 18' BTOC	FedEx: X UPS ___Hand ___Other	
MP Ht. Aboveground/Below Ground Surface: ~2.5' AGS		Sampling Method (G=grab, B=bailer, **SP=submersible pump**):	
Installed Well Depth: ~23.2'		Type of Pump: QED SampPro Bladder Pump 1.75''	
Screen Interval (ft): ~13.2'		Weather (sun/clear, overcast/rain, wind direction, ambient temp): 75°F Sunny Smoke	
Well Diameter (in): 2''		Other: Purge Start time at 1115	
Placement of Pump (ft): 18' BTOC		Other: Controller Settings - 10/5 cycle, 4gpm, 22psi	

Field Parameters

Time	Depth to Water (ft)	Flow Rate (ml/min)	Total Volume (L)	pH (± 0.1 units)	Temp (°C) (± 0.5 °C)	S. Cond (µS/cm) (± 3%)	ORP (mV) (± 10mV)	DO (mg/L) (± 10%)	Turbidity (NTU) (<50 or ± 10%)	Note
1120	8.98	150	.75	5.75	14.11	2436	-15.8	5.14	40.3	
1125	8.98		1.5	6.96	14.18	2480	-40.4	1.99	41.8	
1130	8.98		2.25	6.75	14.21	2499	-59.5	1.28	42.7	
1135	8.98		3.0	6.83	14.40	2526	-70.4	0.91	30.4	
1140	8.98		3.75	6.89	14.53	2544	-81.6	0.78	22.8	
1145	8.98		4.5	7.04	14.75	2553	-90.4	0.67	21.1	
1150	8.98		5.25	7.11	14.86	2557	-94.9	0.62	20.0	
1155	8.98		6.0	7.13	14.88	2562	-96.6	0.62	19.2	
1200	8.98		6.75	7.18	14.90	2568	-100.1	0.61	18.3	

Observations

Color: Clear/Other (describe)

Odor: None/Low/Medium/High/Very Strong/H2S/Fuel-Like

Notes:

Sampled for: VOCs, Explosives, PAHs, C-VI, Filtered/unfiltered metals.

Purge Volume Calculations Well Casing Volume = J $(Rc)^2$ (well depth – static H_2O depth) x (conversion 7.48 gal/ft^3)

Groundwater Field Sampling Data Sheet

Well No.: BKRD-LGIA-MW11	Site: CHAAP	Tract: BKR01	Date: 6-5-18
Samplers: S. Cameron		Project No.: 16-027	
Measured Well Depth and Condition of Bottom:		51.99	Sample Time: 1440
DTW (ft): 19.78	DTP (ft): 46.5	FedEx: _X_ UPS ___ Hand ___ Other	
MP Ht. Aboveground/Below Ground Surface:		Sampling Method (G=grab, B=bailer, SP=submersible pump):	
Installed Well Depth: 51.99		Type of Pump: QED SampPro Bladder Pump 1.75"	
Screen Interval (ft): 41.5-51.5		Weather (sun/clear, overcast/rain, wind direction, ambient temp):	
Well Diameter (in): 2"		Other: Purge Start time at 13:30	
Placement of Pump (ft): 46.5		Other: Controller Settings - 25 PSI	

Field Parameters

Time	Depth to Water (ft)	Flow Rate (ml/min)	Total Volume (L)	pH (± 0.1 units)	Temp (°C) (± 0.5 °C)	Cond (µS/cm) (± 3%)	ORP (mV) (± 10mV)	DO (mg/L) (± 10%)	Turbidity (NTU) (<50 or ± 10%)	Note
1330	19.78	100	—	—	—	—	—	—	—	
1335	19.74	100	0.5	7.12	17.49	2008	-11.8	2.64	11	
1340	19.74	200	1.0	7.06	16.59	2052	-25.3	1.17	9	
1345	19.74	200	2.0	7.05	16.35	2053	-29.1	.93	5	
1350	19.74	200	3.0	7.05	16.19	2051	-33.9	1.17	5	
1355	19.74	200	4.0	7.06	16.17	2050	-35.9	1.54	61.9	
1400	19.74	200	5.0	7.07	16.15	2054	-36.8	1.58	59.6	
1405	19.74	200	6.0	7.09	15.95	2039	-38.2	1.52	52	
1410	19.74	200	7.0	7.09	16.06	2044	-40.7	1.45	45.8	
1415	19.74	200	8.0	7.09	16.12	2053	-42.5	1.42	42.1	
1420	19.78	200	9.0	7.09	15.95	2049	-42.1	1.43	37.2	
1425	19.78	200	10.0	7.08	16.03	2055	-42.8	1.45	31.6	
1430	19.78	200	11.0	7.09	15.15	2048	-43.3	1.49	27.5	
1435	19.78	200	12.0	7.09	15.97	2054	-43.3	1.53	27.3	
1440	19.78	200	13.0	7.09	15.94	2052	-43.0	1.53	28.8	≤28.8

Observations

Color: Clear/Other (describe)

Odor: None/Low/Medium/High/Very Strong/H2S/Fuel-Like

Notes:

Sampled for: VOCs, explosives, metals, dissolved metals, hex chrom, PAHs

Purge Volume Calculations Well Casing Volume = J $(Rc)^2$ (well depth – static H_2O depth) x (conversion 7.48 gal/ft^3)

Groundwater Field Sampling Data Sheet

Well No.: BKRD-LGA-MW12	Site: CHAAP	Tract: BKRD1	Date: 6-5-18
Samplers: B. Hylinski, S. Cameron		Project No.: 16-027	
Measured Well Depth and Condition of Bottom: 43.70			Sample Time: 12:00
DTW (ft): 16.96	DTP (ft): 38	FedEx: X UPS ___Hand ___Other	
MP Ht. Aboveground/Below Ground Surface:		Sampling Method (G=grab, B=bailer, **SP=submersible pump**):	
Installed Well Depth: 43.70		Type of Pump: QED SampPro Bladder Pump 1.75"	
Screen Interval (ft): 33-43		Weather (sun/clear, overcast/rain, wind direction, ambient temp):	
Well Diameter (in): 2"		Other: Purge Start time at 10:35	
Placement of Pump (ft): 38		Other: Controller Settings - 25 PSI	

Field Parameters

Time	Depth to Water (ft)	Flow Rate (ml/min)	Total Volume (L)	pH (± 0.1 units)	Temp (°C) (± 0.5 °C)	Cond (µS/cm) (± 3%)	ORP (mV) (± 10mV)	DO (mg/L) (± 10%)	Turbidity (NTU) (<50 or ± 10%)	Note
10:35	16.96	100	–	–	–	–	–	–	–	
10:40	17.00	200	.5	6.93	8.94	1.277	-33.9	3.03	38.8	
10:45	17.00	200	1.5	6.83	10.32	1.187	-51.3	0.99	57	
10:50	17.00	200	2.5	6.96	10.44	1.172	-60.6	0.73	30.6	
10:55	17.00	200	3.5	7.03	11.10	1.151	-68.2	0.57	26	
11:00	17.00	200	4.5	7.09	11.25	1.146	-74.5	0.53	22.4	
11:05	17.00	200	5.5	7.13	11.39	1.145	-78.2	0.51	18.2	
11:10	17.00	200	6.5	7.17	11.25	1.144	-79.5	0.50	15.5	
11:15	17.00	200	7.5	7.21	11.25	1.147	-82.5	0.50	18.1	
11:20	17.00	200	8.5	7.00	11.10	1.135	-81.9	0.49	15.8	
11:25	17.00	200	9.5	6.99	10.84	1.157	-84.0	0.47	14.1	
11:30	17.00	200	10.5	6.99	10.77	1.154	-86.0	0.46	14.4	
11:35	17.00	200	11.5	6.99	10.74	1.169	-87.5	0.42	12.3	
11:40	17.00	200	12.5	7.03	10.67	1.182	-89.0	0.38	11.0	
11:45	17.00	200	13.5	7.03	10.72	1.189	-89.5	0.39	10.8	
11:50	17.00	200	14.5	7.05	9.84	1.208	-89.4	0.39	10.1	

Observations

Color: Clear/Other (describe)

Odor: None/Low/Medium/High/Very Strong/H2S/Fuel-Like

Notes:

Sampled for: VOCs, explosives, metals, dissolved metals, hex. chrom, PAHs

Purge Volume Calculations Well Casing Volume = J $(Rc)^2$ (well depth – static H_2O depth) x (conversion 7.48 gal/ft^3)

Groundwater Field Sampling Data Sheet

Well No.: BKRD-GW-MW2	Site: CHAAP	Tract: BKRD7	Date: 6-5-18
Samplers: B. Hrylinski		Project No.: 16-027	
Measured Well Depth and Condition of Bottom: 43.70			Sample Time: 1200
DTW (ft): 16.96	DTP (ft): 38	FedEx: X UPS ___Hand ___Other	
MP Ht. Aboveground/Below Ground Surface:		Sampling Method (G=grab, B=bailer, **SP=submersible pump**):	
Installed Well Depth: 43.70		Type of Pump: QED SampPro Bladder Pump 1.75"	
Screen Interval (ft): 33-43		Weather (sun/clear, overcast/rain, wind direction, ambient temp):	
Well Diameter (in): 2"		Other: Purge Start time at 10:35	
Placement of Pump (ft): 38		Other: Controller Settings - 25 PSI	

Field Parameters

Time	Depth to Water (ft)	Flow Rate (ml/min)	Total Volume (L)	pH (± 0.1 units)	Temp (°C) (± 0.5 °C)	Cond (µS/cm) (± 3%)	ORP (mV) (± 10mV)	DO (mg/L) (± 10%)	Turbidity (NTU) (<50 or ± 10%)	Note
11:55	17.06	200	15.5	7.08	9.80	1.208	-69.0	-0.37	9.9	
12:00	17.00	200	16.5	7.09	9.81	1.262	-89.4	0.37	9.5	

Observations

Color: Clear/Other (describe)

Odor: None/Low/Medium/High/Very Strong/H2S/Fuel-Like

Notes:

Sampled for: VOC's, explosives, metals, dissolved metals, hex. chrom, PAHs

Purge Volume Calculations Well Casing Volume = J $(Rc)^2$ (well depth – static H_2O depth) x (conversion 7.48 gal/ft^3)

Groundwater Field Sampling Data Sheet

Well No.: BKRD-LGIA-MW13	Site: CHAAP Tract: BKRD-1	Date: 6-4-18
Samplers: B. Hylinski	Project No.: 16-027	
Measured Well Depth and Condition of Bottom: 54.65		Sample Time: 15:40
DTW (ft): 21.30 DTP (ft): 49 ft	FedEx: X UPS ___Hand ___Other	
MP Ht. Aboveground/Below Ground Surface:	Sampling Method (G=grab, B=bailer, **SP=submersible pump**): G	
Installed Well Depth: 54.65	Type of Pump: QED SampPro Bladder Pump 1.75"	
Screen Interval (ft): 44-54	Weather (sun/clear, overcast/rain, wind direction, ambient temp):	
Well Diameter (in): 2"	Other: Purge Start time at 14:15	
Placement of Pump (ft): 49 ft	Other: Controller Settings - 25 PSI	

Field Parameters

Time	Depth to Water (ft)	Flow Rate (ml/min)	Total Volume (L)	pH (± 0.1 units)	Temp (°C) (± 0.5 °C)	Cond (µS/cm) (± 3%)	ORP (mV) (± 10mV)	DO (mg/L) (± 10%)	Turbidity (NTU) (<50 or ± 10%)	Note
14:15	21.30	100	–	–	–	–	–	–	–	
14:20	21.28	200	.5	6.86	16.47	2.640	-59.6	-0.56	186	
14:25	21.28	200	1.5	6.89	15.65	2.649	-73.5	-0.15	163	
14:30	21.28	200	2.5	6.90	15.33	2.703	-79.2	-0.10	148	
14:35	21.28	200	3.5	6.91	15.28	2.709	-82.7	-0.08	141	
14:40	21.28	200	4.5	6.91	15.24	2.711	-84.4	-0.07	135	
14:45	21.28	200	5.5	6.92	15.20	2.714	-86.0	-0.07	130	
14:50	21.28	200	6.5	6.92	15.22	2.714	-87.7	-0.07	119	
14:55	21.28	200	7.5	6.92	15.20	2.715	-88.1	-0.07	99	
15:00	21.28	200	8.5	6.93	15.17	2.715	-89.4	-0.06	93	
15:05	21.28	200	9.5	6.93	15.13	2.715	-90.2	-0.04	85	
15:10	21.28	200	10.5	6.94	15.08	2.724	-91.0	-0.04	68.2	
15:15	21.28	200	11.5	6.94	15.09	2.725	-91.0	-0.04	60.4	
15:20	21.28	200	12.5	6.94	15.17	2.727	-91.2	-0.04	55.7	
15:25	21.28	200	13.5	6.94	15.15	2.728	-91.3	-0.04	51.3	
15:30	21.28	200	14.5	6.94	15.16	2.724	-91.5	-0.05	48	

Observations

Color: Clear/Other (describe)

Odor: None/Low/Medium/High/Very Strong/H2S/Fuel-Like

Notes:

Sampled for: VOCs, ~~explosives~~, metals, dissolved metals, hex chrom, PAHs

Purge Volume Calculations Well Casing Volume = J $(Rc)^2$ (well depth – static H_2O depth) x (conversion 7.48 gal/ft^3)

Groundwater Field Sampling Data Sheet

Well No.: BKRD-LGIA-MW13	Site: CHAAP	Tract: BKRD-1	Date: 6-4-18
Samplers: B. Hylinski		Project No.: 16-027	
Measured Well Depth and Condition of Bottom: 54.65			Sample Time: 15:40
DTW (ft): 21.30	DTP (ft): 49ft	FedEx: _X_ UPS ___ Hand ___ Other	
MP Ht. Aboveground/Below Ground Surface:		Sampling Method (G=grab, B=bailer, SP=**submersible pump**):	
Installed Well Depth: 54.65		Type of Pump: QED SampPro Bladder Pump 1.75"	
Screen Interval (ft): 44-54		Weather (sun/clear) overcast/rain, wind direction, ambient temp):	
Well Diameter (in): 2"		Other: Purge Start time at 14:15	
Placement of Pump (ft): 49ft		Other: Controller Settings - 25 PSI	

Field Parameters

Time	Depth to Water (ft)	Flow Rate (ml/min)	Total Volume (L)	pH (± 0.1 units)	Temp (°C) (± 0.5 °C)	Cond (µS/cm) (± 3%)	ORP (mV) (± 10mV)	DO (mg/L) (± 10%)	Turbidity (NTU) (<50 or ± 10%)	Note
15:35	21.28	200	15.5	6.94	15.16	2.724	-91.5	0.05	46	
15:40										

Observations

Color: Clear/Other (describe)

Odor: None/Low/Medium/High/Very Strong/H2S/Fuel-Like

Notes:

Sampled for: VOCs, explosives, metals, dissolved metals, hex. chrom, PAHs

Purge Volume Calculations Well Casing Volume = J $(Rc)^2$ (well depth – static H_2O depth) x (conversion 7.48 gal/ft^3)

Groundwater Field Sampling Data Sheet

Well No.: BKRD-L61A-MW14	Site: CHAAP	Tract:	Date: 6-4-18
Samplers: S. Cameron		Project No.: 16-027	
Measured Well Depth and Condition of Bottom: 49.84			Sample Time: 1300
DTW (ft): 13.07	DTP (ft): 44	FedEx: X UPS ___Hand ___Other	
MP Ht. Aboveground/Below Ground Surface:		Sampling Method (G=grab, B=bailer, **SP=submersible pump**):	
Installed Well Depth: 49.84		Type of Pump: QED SampPro Bladder Pump 1.75"	
Screen Interval (ft): 39-49		Weather (sun/clear, overcast/rain, wind direction, ambient temp):	
Well Diameter (in): 2"		Other: Purge Start time at 11:55	
Placement of Pump (ft): 44		Other: Controller Settings - 25 PSI	

Field Parameters

Time	Depth to Water (ft)	Flow Rate (ml/min)	Total Volume (L)	pH (± 0.1 units)	Temp (°C) (± 0.5 °C)	Cond (µS/cm) (± 3%)	ORP (mV) (± 10mV)	DO (mg/L) (± 10%)	Turbidity (NTU) (<50 or ± 10%)	Note
11:55	13.07	100	—	—	—	—	—	—	—	
12:00	13.07	300	0.5	7.03	13.18	2586	31.3	3.07	12	
12:05	13.07	400	2	6.99	13.04	2037	16.6	1.86	62.1	
12:10	13.07	400	4	7.00	13.01	2039	7.2	1.61	57.1	
1215	13.07	400	6	7.01	12.93	2044	1.9	1.35	53.4	
1220	13.07	400	8	7.01	12.92	2044	-13.8	1.25	33.3	
1225	13.07	400	10	6.98	13.01	2051	-25.8	1.81	25.5	
1230	13.07	400	12	6.98	13.05	2053	-29.9	1.85	21.2	
1235	13.07	400	14	6.97	13.01	2053	-35.6	1.83	14.9	
1240	13.07	400	16	6.98	13.04	2057	-40.2	1.78	12.8	
1245	13.07	400	18	7.00	13.33	2063	-44.4	1.79	14.0	
1250	13.07	400	20	7.01	13.48	2078	-48.9	1.77	9.97	
1255	13.07	400	22	7.01	13.46	2081	-49.8	1.77	8.65	
1300	13.07	400	24	7.02	13.39	2078	-51.4	1.80	9.53	

Observations

Color: Clear/Other (describe)

Odor: None/Low/Medium/High/Very Strong/H2S/Fuel-Like

Notes:

Sampled for: VOCs, explosives, metals, dissolved metals, hex.chrom, PAHs

Purge Volume Calculations Well Casing Volume = J $(Rc)^2$ (well depth – static H_2O depth) x (conversion 7.48 gal/ft^3)

Groundwater Field Sampling Data Sheet

Well No.: BKRD-LG1A-MW15	Site: CHAAP	Tract: BKRD 2	Date: 6-4-18
Samplers: B. Hylinski		Project No.: 16-027	
Measured Well Depth and Condition of Bottom: 49.65 clean			Sample Time: 13:20
DTW (ft): 12.87	DTP (ft): 44	FedEx: X UPS ___Hand ___Other	
MP Ht. Aboveground/Below Ground Surface:		Sampling Method (G=grab, B=bailer, **SP=submersible pump**):	
Installed Well Depth: 49.65		Type of Pump: QED SampPro Bladder Pump 1.75"	
Screen Interval (ft): 39 - 49		Weather (sun/clear/overcast/rain, wind direction, ambient temp):	
Well Diameter (in): 2"		Other: Purge Start time at 12:00	
Placement of Pump (ft): 44		Other: Controller Settings - 25 PSI	

Field Parameters

Time	Depth to Water (ft)	Flow Rate (ml/min)	Total Volume (L)	pH (± 0.1 units)	Temp (°C) (± 0.5 °C)	Cond (µS/cm) (± 3%)	ORP (mV) (± 10mV)	DO (mg/L) (± 10%)	Turbidity (NTU) (<50 or ± 10%)	Note
12:00	12.87	100	–	–	–	–	–	–	–	
12:05	12.87	200	0.5	7.23	13.96	2.478	-11.2	-1.12	94.9	
12:10	12.87	200	1.5	7.06	13.12	2.647	-43.6	-0.37	108	
12:15	12.87	200	2.5	7.05	12.88	2.644	-57	-0.17	104	
12:20	12.87	200	3.5	7.07	12.84	2.648	-63	-0.13	81.7	
12:25	12.87	200	4.5	7.13	12.95	2.656	-72.2	-0.09	69.1	
12:30	12.87	200	5.5	7.15	12.98	2.657	-75.2	-0.09	68.2	
12:35	12.87	200	6.5	7.16	12.95	2.658	-75.7	-0.10	51.3	
12:40	12.87	200	7.5	7.18	12.93	2.656	-78.8	-0.08	46.1	
12:45	12.87	200	8.5	7.21	13.16	2.662	-81.5	-0.07	37.3	
12:50	12.87	200	9.5	7.24	13.13	2.660	-84.5	-0.07	28.1	
12:55	12.87	200	10.5	7.26	13.23	2.657	-86	-0.07	25	
13:00	12.87	200	11.5	7.27	13.27	2.655	-87.3	-0.05	20	
13:05	12.87	200	12.5	7.30	13.19	2.660	-87.7	-0.05	16	
13:10	12.87	200	13.5	7.29	13.03	2.659	-87.6	-0.05	15	
13:15	12.87	200	14.5	7.29	13.16	2.657	-87.9	-0.05	9.7	

Observations

Color: Clear/Other (describe)

Odor: None/Low/Medium/High/Very Strong/H2S/Fuel-Like

Notes:

Sampled for: VOCs, metals, dissolved metals, explosives, hex chrom, PAHs

Purge Volume Calculations Well Casing Volume = J $(Rc)^2$ (well depth – static H_2O depth) x (conversion 7.48 gal/ft^3)

Groundwater Field Sampling Data Sheet

Well No.: BKRD-LGH-MW16	Site: CHAAP	Tract: BKRD3	Date: 5-31-18
Samplers: S. Cameron		Project No.: 16-027	
Measured Well Depth and Condition of Bottom: 39.81, Clean			Sample Time: 12:45
DTW (ft): 8.71	DTP (ft): 33.20	FedEx: X UPS ___Hand ___Other	
MP Ht. Aboveground/Below Ground Surface:		Sampling Method (G=grab, B=bailer, **SP=submersible pump**): SP	
Installed Well Depth: 39.81		Type of Pump: QED SampPro Bladder Pump 1.75''	
Screen Interval (ft): 29.5-39.5		Weather (sun/clear, overcast/rain, wind direction, ambient temp): sun/clear	
Well Diameter (in): 2"		Other: Purge Start time at 11:55	
Placement of Pump (ft): 34.5		Other: Controller Settings - 25 PSI	

Field Parameters

Time	Depth to Water (ft)	Flow Rate (ml/min)	Total Volume (L)	pH (± 0.1 units)	Temp (°C) (± 0.5 °C)	Cond (µS/cm) (± 3%)	ORP (mV) (± 10mV)	DO (mg/L) (± 10%)	Turbidity (NTU) (<50 or ± 10%)	Note
11:55	8.71	100	—	~~7.08~~	—	—	—	—	—	
1200	8.72	100	0.5	7.08	13.54	2.482	-38.0	4.43	756	
1205	8.72	200	1	6.62	13.43	2.579	-30.6	2.26	878	
1210	8.72	200	2	6.53	13.38	2.637	-41.9	1.16	785	
1215	8.72	200	3	6.71	13.34	2.655	-70.8	.77	57	
1220	8.72	200	4	6.72	13.38	2.658	-74.5	.77	48	
1225	8.72	200	5	6.78	13.51	2.657	-79.7	.74	41	
1230	8.72	200	6	6.84	13.35	2.657	-81.5	.77	35	
1235	8.72	200	7	6.89	13.33	2.654	-83.4	.74	15	
1240	8.72	200	8	6.95	13.45	2.653	-85.5	.71	3	
1245	8.72	200	9	7.00	13.40	2.652	-87.3	.74	3	

Observations

Color: Clear/Other (describe)

Odor: None/Low/Medium/High/Very Strong/H2S/Fuel-Like

Notes:

Sampled for: VOCs, explosives, metals, dissolved metals, hex chrom, PAHs

Purge Volume Calculations Well Casing Volume = J $(Rc)^2$ (well depth – static H_2O depth) x (conversion 7.48 gal/ft^3)

Groundwater Field Sampling Data Sheet

Well No.: BKRD-A61A-MW07	Site: CHAAP	Tract: BKRD3	Date: 5-31-18
Samplers: S. Carroll		Project No.: 16-027	
Measured Well Depth and Condition of Bottom: 37.84			Sample Time: 15:20
DTW (ft): 8.45	DTP (ft): 32 ft	FedEx: X UPS ___Hand ___Other	
MP Ht. Aboveground/Below Ground Surface:		Sampling Method (G=grab, B=bailer, **SP=submersible pump**):	
Installed Well Depth: 37.5		Type of Pump: QED SampPro Bladder Pump 1.75''	
Screen Interval (ft): 27-37		Weather (sun/clear, overcast/rain, wind direction, ambient temp):	
Well Diameter (in): 2"		Other: Purge Start time at 1400	
Placement of Pump (ft): 32 ft		Other: Controller Settings - 25PSI	

Field Parameters

Time 1400	Depth to Water (ft)	Flow Rate (ml/min)	Total Volume (L)	pH (± 0.1 units)	Temp (°C) (± 0.5 °C)	Cond (µS/cm) (± 3%)	ORP (mV) (± 10mV)	DO (mg/L) (± 10%)	Turbidity (NTU) (<50 or ± 10%)	Note
~~8.45~~	8.45	100	—	—	—	—	—	—	—	
1405	8.43	150	0.5	7.45	16.05	2.594	-81.7	9.09	22	
1410	8.44	200	1.25	7.22	14.63	2.600	-93.9	5.54	9	
14:15	8.44	200	2.25	6.98	14.12	2.658	-105.6	3.48	5	
1420	8.44	200	3.25	6.96	14.07	2.659	-106.8	3.70	48.6	
14:25	8.44	200	4.25	6.92	14.02	2.660	-107.0	3.27	38.9	
14:30	8.44	200	5.25	6.92	14.09	2.662	-107.4	2.76	42.4	
1435	8.44	200	6.25	6.91	13.99	2.662	-107.0	2.46	35.8	
1440	8.44	200	7.25	6.93	13.94	2.660	-107.5	1.97	36.2	
1445	8.44	200	8.25	6.93	14.02	2.661	-105.6	1.74	29.1	
1450	8.44	200	9.25	6.94	14.03	2.661	-104.6	1.61	26.7	
1455	8.44	200	10.25	6.94	14.09	2.668	-102.9	1.33	24.4	
1500	8.44	200	11.25	6.95	14.09	2.670	-102.2	1.23	18.0	
1505	8.44	200	12.25	6.96	14.03	2.670	-103.5	.96	18.5	
1510	8.44	200	13.25	6.96	14.13	2.669	-102.2	.85	15.2	
1515	8.44	200	14.25	6.97	14.12	2.674	-105.2	.63	13.3	

Observations

Color: Clear/Other (describe)

Odor: None/Low/Medium/High/Very Strong/H2S/Fuel-Like

Notes:

Sampled for: VOC's, explosives, metals, dissolved metals, hex. chrom. PAHs

Purge Volume Calculations Well Casing Volume = J $(Rc)^2$ (well depth – static H_2O depth) x (conversion 7.48 gal/ft^3)

Groundwater Field Sampling Data Sheet

Well No.: BKRD-LGIA-MW17	Site: CHAAP	Tract: BKRD3	Date: 5-31-18
Samplers: S. Cameron		Project No.: 16-027	
Measured Well Depth and Condition of Bottom: 37.84			Sample Time: 15:20
DTW (ft): 8.45	DTP (ft): 32	FedEx: X UPS ___Hand ___Other	
MP Ht. Aboveground/Below Ground Surface:		Sampling Method (G=grab, B=bailer, SP=submersible pump):	
Installed Well Depth: 37.5		Type of Pump: QED SampPro Bladder Pump 1.75''	
Screen Interval (ft): 27-37		Weather (sun/clear, overcast/rain, wind direction, ambient temp):	
Well Diameter (in): 2		Other: Purge Start time at 1400	
Placement of Pump (ft): 32 ft		Other: Controller Settings - 25PSI	

Field Parameters

Time	Depth to Water (ft)	Flow Rate (ml/min)	Total Volume (L)	pH (± 0.1 units)	Temp (°C) (± 0.5 °C)	Cond (µS/cm) (± 3%)	ORP (mV) (± 10mV)	DO (mg/L) (± 10%)	Turbidity (NTU) (<50 or ± 10%)	Note
1520	8.44	200	15.25	6.98	14.20	2.676	-102.4	.63	8.7	

Observations

Color: Clear/Other (describe)

Odor: None/Low/Medium/High/Very Strong/H2S/Fuel-Like

Notes:

Sampled for: VOCs, explosives, metals, dissolved metals, hex. chrom. PAHs

Purge Volume Calculations Well Casing Volume = J $(Rc)^2$ (well depth – static H_2O depth) x (conversion 7.48 gal/ft^3)

Groundwater Field Sampling Data Sheet

Well No.: BKRD-LGIA-MW18	Site: CHAAP	Tract: BKRD3	Date: 5-30-18
Samplers: S. Cameron B. Hylinski X. Chagolla		Project No.: 16-027	
Measured Well Depth and Condition of Bottom:			Sample Time: 13:00
DTW (ft):	DTP (ft):	FedEx: X UPS ___Hand ___Other	
MP Ht. Aboveground/Below Ground Surface:		Sampling Method (G=grab, B=bailer, SP=**submersible pump**): SP	
Installed Well Depth: 35.73		Type of Pump: QED SampPro Bladder Pump 1.75''	
Screen Interval (ft): 25-35		Weather (sun/clear, overcast/rain, wind direction, ambient temp):	
Well Diameter (in): 2"		Other: Purge Start time at 11:55	
Placement of Pump (ft): 30		Other: Controller Settings - 25 PSI	

Field Parameters

Time	Depth to Water (ft)	Flow Rate (ml/min)	Total Volume (L)	pH (± 0.1 units)	Temp (°C) (± ~~0.5~~ 1 °C)	Cond (µS/cm) (± 3%)	ORP (mV) (± 10mV)	DO (mg/L) (± 10%)	Turbidity (NTU) (<50 or ± 10%)	Note
11:55	9.18	100	0	—	—	—	—	—	—	
12:00	9.23	100	~~0.5~~ 47m	6.97	12.58	2.193	34.7	0.53	129	
12:05	9.21	400	2.5	6.97	12.57	2.210	15.3	0.45	115	
12:10	9.23	400	4.5	6.97	12.51	2.202	1.1	0.43	87.4	
12:15	9.23	400	6.5	6.97	12.49	2.200	-1.2	0.66	64.2	
12:20	9.23	400	8.5	6.98	12.45	2.195	-15.9	0.68	32.2	
12:25	9.23	400	10.5	6.97	12.46	2.191	-23.4	0.52	23.7	
12:30	9.23	400	12.5	6.97	12.48	2.191	-26.1	0.48	19.7	
12:35	9.19	400	14.5	6.97	12.44	2.192	-30.5	0.43	16.2	
12:40	9.19	400	16.5	6.97	12.43	2.192	-37.1	0.36	11	
12:45	9.19	400	18.5	6.98	12.47	2.199	-42.2	0.35	3.58	
12:50	9.19	400	20.5	6.98	12.49	2.197	-47.1	0.32	6.89	
12:55	9.19	400	22.5	6.99	12.46	2.195	-50.9	0.30	9.99	
13:00	9.19	400	24.5	6.99	12.48	2.200	-53.5	0.28	11.2	

Observations

Color: Clear/Other (describe)

Odor: None/Low/Medium/High/Very Strong/H2S/Fuel-Like

Notes:

Sampled for: VOCs, explosives, metals, dissolved metals, hex. chrom, PAHs

Purge Volume Calculations Well Casing Volume = J $(Rc)^2$ (well depth – static H_2O depth) x (conversion 7.48 gal/ft^3)

Groundwater Field Sampling Data Sheet

Well No.: BKRD-L6A-MW19	Site: CHAAP	Tract: BKRD 3	Date: 5-31-18
Samplers: B. Hylinski, S. Cameron		Project No.: 16-027	
Measured Well Depth and Condition of Bottom: 35.15			Sample Time: 16:10
DTW (ft): 9.55	DTP (ft): 30	FedEx: X UPS ___Hand ___Other	
MP Ht. Aboveground/Below Ground Surface:		Sampling Method (G=grab, B=bailer, SP=submersible pump):	
Installed Well Depth: 35.15		Type of Pump: QED SampPro Bladder Pump 1.75''	
Screen Interval (ft): 25-35		Weather (sun/clear, overcast/rain, wind direction, ambient temp):	
Well Diameter (in): 2"		Other: Purge Start time at 14:40	
Placement of Pump (ft): 30ft		Other: Controller Settings - 25 PSI	

Field Parameters

Time	Depth to Water (ft)	Flow Rate (ml/min)	Total Volume (L)	pH (± 0.1 units)	Temp (°C) (± 0.5 °C)	Cond (µS/cm) (± 3%)	ORP (mV) (± 10mV)	DO (mg/L) (± 10%)	Turbidity (NTU) (<50 or ± 10%)	Note
14:40	9.55	100	.5	–	–	–	–	–	–	
14:45	9.52	400	2.5	7.12	13.64	2182	-23.4	0.89	166	
14:50	9.52	400	4.5	7.10	13.38	2182	-49.7	0.51	120	
14:55	9.53	400	6.5	7.08	13.30	2183	-50.1	0.60	115	
15:00	9.52	400	8.5	7.08	13.36	2190	-68.4	0.52	83.6	
15:05	9.52	400	10.5	7.08	13.17	2182	-70.3	0.47	90.3	
15:10	9.52	400	12.5	7.08	13.23	2184	-73.1	0.39	77.4	
15:15	9.52	400	14.5	7.07	13.16	2177	-75.6	0.36	67.5	
15:20	9.52	400	16.5	7.07	13.17	2176	-77.7	0.33	55.5	
15:25	9.52	400	18.5	7.07	13.16	2180	-78.8	0.30	54.2	
15:30	9.52	400	20.5	7.07	13.17	2179	-79.3	0.27	40.8	
15:35	9.52	400	22.5	7.07	13.08	2176	-78.1	0.26	39.1	
15:40	9.52	400	24.5	7.08	13.11	2179	-78.9	0.23	28.3	
15:45	9.52	400	26.5	7.07	13.20	2185	-79.2	0.21	23.1	
15:50	9.52	400	28.5	7.06	13.15	2195	-80.6	0.17	20.7	
15:55	9.52	400	30.5	7.06	13.21	2197	-82.0	0.17	16.9	

Observations

Color: Clear/Other (describe)

Odor: None/Low/Medium/High/Very Strong/H2S/Fuel-Like

Notes:

Sampled for: VOCs, explosives, metals, dissolved metals, hex. chrom PAHs

Purge Volume Calculations Well Casing Volume = J $(Rc)^2$ (well depth – static H_2O depth) x (conversion 7.48 gal/ft^3)

Groundwater Field Sampling Data Sheet

Well No.: BKRD-L6A-MW19	Site: CHAAP	Tract: BKRD 3	Date: 5-31-18
Samplers: B. Wylinski / S. Cameron		Project No.: 16-027	
Measured Well Depth and Condition of Bottom: 35.15			Sample Time: 16:10
DTW (ft): 9.55	DTP (ft):	FedEx: X UPS ___Hand ___Other	
MP Ht. Aboveground/Below Ground Surface:		Sampling Method (G=grab, B=bailer, SP=**submersible pump**):	
Installed Well Depth: 35.15		Type of Pump: QED SampPro Bladder Pump 1.75''	
Screen Interval (ft): 25-35		Weather (sun/clear, overcast/rain, wind direction, ambient temp):	
Well Diameter (in): 2''		Other: Purge Start time at 1440	
Placement of Pump (ft): 30		Other: Controller Settings - 25 PSI	

Field Parameters

Time	Depth to Water (ft)	Flow Rate (ml/min)	Total Volume (L)	pH (± 0.1 units)	Temp (°C) (± 0.5 °C)	Cond (µS/cm) (± 3%)	ORP (mV) (± 10mV)	DO (mg/L) (± 10%)	Turbidity (NTU) (<50 or ± 10%)	Note
16:00	9.52	400	32.5	7.06	13.07	2188	-82.9	0.16	15.3	
16:05	9.52	400	34.5	7.07	13.18	2190	-84.2	0.15	10	

Observations

Color: Clear/Other (describe)

Odor: None/Low/Medium/High/Very Strong/H2S/Fuel-Like

Notes:

Sampled for: VOCs, explosives, metals, dissolved metals, hex. chrom, PAHs

Purge Volume Calculations Well Casing Volume = J $(Rc)^2$ (well depth – static H_2O depth) x (conversion 7.48 gal/ft^3)

Groundwater Field Sampling Data Sheet

Well No.: LGSA-MW20	Site: CHAAP	Tract: BKRD-3	Date: 6.5.18
Samplers: A. Hedgepeth		Project No.: D53081	
Measured Well Depth and Condition of Bottom: ~~34~~ 39.3' Hard			Sample Time: 1330
DTW (ft): 8.83	DTP (ft): ~~34'~~ ~~34.3~~ AH	FedEx: X UPS ___Hand ___Other	
MP Ht. Aboveground/Below Ground Surface: ~2.5' AGS		Sampling Method (G=grab, B=bailer, **SP=submersible pump**):	
Installed Well Depth: ~39.3'		Type of Pump: QED SampPro Bladder Pump 1.75''	
Screen Interval (ft): ~29.3'		Weather (sun/clear, overcast/rain, wind direction, ambient temp): 80 °F, Sunny, South	
Well Diameter (in): 2''		Other: Purge Start time at 1250	
Placement of Pump (ft): 34' BGOC		Other: Controller Settings - 10/5 cycle, 4cpm, 24 psi	

Field Parameters

Time	Depth to Water (ft)	Flow Rate (ml/min)	Total Volume (L)	pH (± 0.1 units)	Temp (°C) (± 0.5 °C)	S.Cond (µS/cm) (± 3%)	ORP (mV) (± 10mV)	DO (mg/L) (± 10%)	Turbidity (NTU) (<50 or ± 10%)	Note
1255	8.83	150	.75	7.30	15.07	2967	-93.8	1.16	56.3	
1300	8.83		1.5	7.23	15.11	2988	-112.4	0.94	38.9	
1305	8.83		2.25	7.18	15.17	2998	-129.0	0.82	29.1	
1310	8.83		3.0	7.09	14.62	3021	-128.8	0.65	20.4	
1315	8.83		3.75	7.00	14.41	3026	-125.5	0.62	11.03	
1320	8.83		4.5	6.99	14.48	3033	-126.6	0.50	11.86	
1325	883		5.25	6.98	14.52	3037	-128.9	0.48	11.21	
1330	8.83		6.0	6.93	14.55	3039	-134.1	0.47	10.96	

Observations

Color: Clear/Other (describe)

Odor: None/Low/Medium/High/Very Strong/H2S/Fuel-Like

Notes:

Sampled for: VOCs, Explosives, PAHs, CrVI, & Filtered/unfiltered metals

Purge Volume Calculations Well Casing Volume = J $(Rc)^2$ (well depth – static H_2O depth) x (conversion 7.48 gal/ft^3)

APPENDIX E

MONITORING WELL CONSTRUCTION/DEVELOPMENT FORMS

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WELL DEVELOPMENT RECORD

WELL/PIEZOMETER ID BKRD UG1A-MW01
PAGE 1 of 2

PROJECT NAME: CHAAP PROJECT NO.: 16-027 DATE: 5-8-18

LOCATION: BKRD-UG1A-MW01 DATE INSTALLED: 5-4-18

TOTAL DEPTH (FTOC) 31.85 CASING DIAMETER 2"

MEASURING POINT HEIGHT ABOVE/BELOW GROUND LEVEL 2ft.

METHODS OF DEVELOPMENT

☐ Swabbing ☐ Bailing ☑ Pumping ☑ Surge ☐ Describe _____

Equipment decontaminated prior to development ☐ Yes ☐ No

Describe _____

EQUIPMENT NUMBERS:

pH Meter _____ EC Meter _____ Thermometer _____ Turbidity Meter _____

CASING VOLUME INFORMATION:

Casing ID (inch)	1.0	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (A) (gal/ft)	0.04	0.09	0.16	0.2	0.37	0.65	0.75	1.0	1.5	2.0	2.6

PURGING INFORMATION:

Measured Well Depth Prior to Development (B) 31.85 ft.

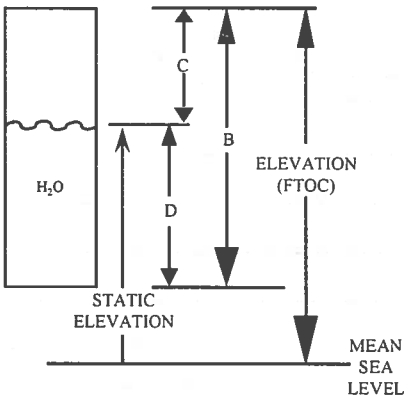
Measured Water Level Depth (C) 18.24 ft.

Length of Static Water Column (D) 31.85 (B) - 18.24 (C) = 13.61 ft. Pumping

Casing Water Volume .16 (A) x 13.61 (D) = 2.1776 gal

Total Purge Volume = 207.35 (gal)

Measured Well Depth After Development (B) 31.85 ft.



Time	DTW (feet btoc)	Flow Rate (gpm or lpm)	Gallons Removed	pH	Cond. (mS/cm)	Temp. (deg C)	Turbidity (NTU)	Notes
14:05		Surging vigourously	Started Surged	- throughout	—	— Screened	— interval	—
15:55	19.19	1.43gpm	157.3	6.88	3.057	15.42	>1000	
16:00	19.23		164.45	6.90	3.055	15.44	>1000	
16:05	19.22		171.6	6.91	3.057	14.59	836	
16:10	19.21		178.75	6.91	3.068	14.64	54	
16:15	19.22		185.9	6.90	3.066	14.73	21	
16:20	19.21		193.05	6.90	3.067	14.81	15.6	
16:25	19.22		200.2	6.90	3.072	14.82	13.3	
16:30	19.21	1.43gpm	207.35	6.90	3.072	14.82	10.7	

WELL DEVELOPMENT RECORD

HGL HydroGeoLogic, Inc. Exceeding Expectations

WELL/PIEZOMETER ID BKRD-UGIA-MW02
PAGE 1 of 2

PROJECT NAME: CHAAP PROJECT NO. : 16-027 DATE: 5-8-18

LOCATION: BKRD-UGIA-MW02 DATE INSTALLED: 5-4-18

TOTAL DEPTH (FTOC) 30.16 CASING DIAMETER 2"

MEASURING POINT HEIGHT ABOVE/BELOW GROUND LEVEL 2ft.

METHODS OF DEVELOPMENT

☐ Swabbing ☐ Bailing ☑ Pumping ☑ Surge ☐ Describe _____

Equipment decontaminated prior to development ☐ Yes ☐ No

Describe _____

EQUIPMENT NUMBERS:

pH Meter _____ EC Meter _____ Thermometer _____ Turbidity Meter _____

CASING VOLUME INFORMATION:

Casing ID (inch)	1.0	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (A) (gal/ft)	0.04	0.09	0.16	0.2	0.37	0.65	0.75	1.0	1.5	2.0	2.6

PURGING INFORMATION:

Measured Well Depth Prior to Development (B) 30.16 ft.

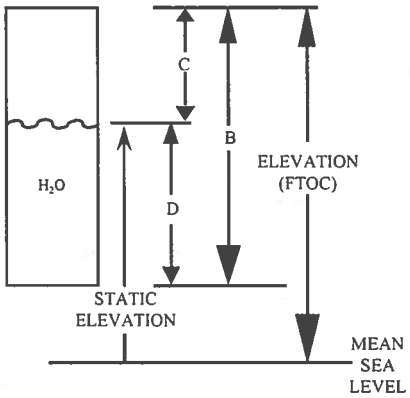
Measured Water Level Depth (C) 19.21 ft.

Length of Static Water Column (D) 30.16 (B) - 19.21 (C) = 10.95 ft. Pumping

Casing Water Volume .16 (A) x 10.95 (D) = 1.752 gal

Total Purge Volume = 44.1 (gal)

Measured Well Depth After Development (B) 30.15 ft.



Time	DTW (feet btoc)	Flow Rate (gpm or lpm)	Gallons Removed	pH	Cond. (mS/cm)	Temp. (deg C)	Turbidity (NTU)	Notes
13:20		Surging begins			—	—	—	—
	Vigorously surged throughout screened interval							
14:20	19.21	.98gpm		7.46	2.464	12.99	641	
14:25	19.14			7.46	2.461	13.02	628	
14:30	19.19			7.44	2.460	13.06	660	
14:35	19.20			7.42	2.489	12.96	46.1	
14:40	19.19			7.46	2.488	12.95	57.5	
14:45	19.19			7.42	2.491	12.92	49.5	
14:50	19.23			7.49	2.493	13.00	19.8	
14:55	19.20			7.50	2.503	12.95	13.3	
15:00	19.20	.98gpm		7.51	2.513	12.94	16.4	

HGL HydroGeoLogic, Inc Exceeding Expectations

WELL DEVELOPMENT RECORD

WELL/PIEZOMETER ID BKRD-UG1A-MW03
PAGE 1 of 2

PROJECT NAME: CHAAP PROJECT NO.: 16-027 DATE: 5-8-18

LOCATION: BKRD-UG1A-MW03 DATE INSTALLED: 5-4-18

TOTAL DEPTH (FTOC) _____ CASING DIAMETER 2"

MEASURING POINT HEIGHT ABOVE/BELOW GROUND LEVEL 2ft.

METHODS OF DEVELOPMENT

☐ Swabbing ☐ Bailing ☑ Pumping ☑ Surge ☐ Describe _____

Equipment decontaminated prior to development ☐ Yes ☐ No

Describe _____

EQUIPMENT NUMBERS:

pH Meter _____ EC Meter _____ Thermometer _____ Turbidity Meter _____

CASING VOLUME INFORMATION:

Casing ID (inch)	1.0	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (A) (gal/ft)	0.04	0.09	0.16	0.2	0.37	0.65	0.75	1.0	1.5	2.0	2.6

PURGING INFORMATION:

Measured Well Depth Prior to Development (B) 30.16 ft.

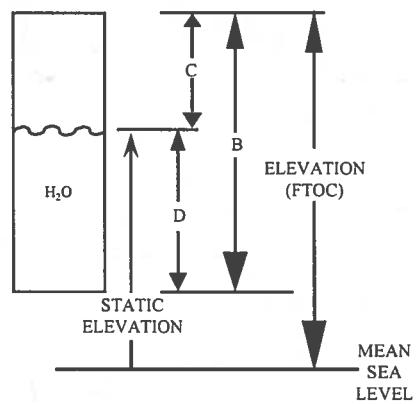
Measured Water Level Depth (C) 20.32 ft.

Length of Static Water Column (D) 30.16 (B) - 20.32 (C) = 9.84 ft. Pumping

Casing Water Volume .16 (A) x 9.84 (D) = 1.574 gal

Total Purge Volume = 144.2 (gal)

Measured Well Depth After Development (B) 30.15 ft.



Time	DTW (feet btoc)	Flow Rate (gpm or lpm)	Gallons Removed	pH	Cond. (mS/cm)	Temp. (deg C)	Turbidity (NTU)	Notes
8:28		1.03gpm						Surged
8:35	Well purge dry, wait for recharge			7.71	1.115	14.51	>1000	
8:40			use Surge block					
9:40	20.32	1.03gpm	5.15	6.74	3.240	12.83	>1000	Surged
9:45	20.32		10.3	6.76	2.926	13.17	>1000	
9:50	20.34		15.45	6.65	3.270	12.79		
9:55	20.35		20.6	6.71	3.116	13.14		
10:00	20.35		25.75	6.68	3.187	12.97		
10:05	20.55		30.9	6.67	3.168	12.85		
10:10	20.37		36.05	6.65	3.168	12.84	943	No
10:15	20.51		41.2	6.78	2.732	12.93	>1000	Surged

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WELL DEVELOPMENT RECORD (con't)

WELL/PIEZOMETER ID BKRD ~~HGLA~~-MW03
PAGE 2 of 2

Time	DTW (feet btoc)	Flow Rate (gpm or lpm)	Gallons Removed	pH	Cond. (mS/cm	Temp. (deg C)	Turbidity (NTU)	Notes
10:20	20.50	1.03gpm	46.35	6.83	2.801	13.00	>1000	Surged
10:25	20.56		51.5	6.84	3.072	13.01	>1000	
10:30	20.59		56.55	6.81	3.214	12.81	>1000	
10:35	20.57		61.8	6.79	3.205	12.77	900	No
10:40	20.58		66.95	6.78	3.213	12.84	651	No
10:45	20.52		72.1	6.82	3.285	12.90	>1000	Surged
10:50	20.51		77.25	6.87	3.262	12.82	>1000	
10:55	20.52		82.4	6.90	3.233	12.90	>1000	
11:00	20.51		87.55	6.89	3.230	12.89	>1000	No
11:05	20.41		92.7	6.88	3.227	12.85	758	Surged
11:10	20.42		97.85	6.88	3.283	12.91	800	No
11:15	20.42		103	6.88	3.232	12.98	34	Surged
11:20	20.42		108.15	6.85	3.267	12.99	934	Surged
11:25	20.44		113.3	6.87	2.967	13.05	>1000	Surged
11:30	20.42		118.45	6.85	3.233	12.85	849	No
11:35	20.42		123.6	6.84	3.213	12.78	45	Surged
11:40	20.44		128.75	6.83	3.226	12.77	22	Surged
11:45	20.42		133.9	6.82	3.210	12.74	12	
11:50	20.42		139.05	6.82	3.214	12.77	15	
11:55	20.42		144.2	6.81	3.222	12.76	12	

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HGL HydroGeoLogic, Inc
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WELL DEVELOPMENT RECORD

WELL/PIEZOMETER ID BKRD UGIA-MW04
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PROJECT NAME: CHAAP PROJECT NO.: 16-027 DATE: 5-7-18

LOCATION: BKRD-UGIA-MW04 DATE INSTALLED: 5-3-18

TOTAL DEPTH (FTOC) 30.64 CASING DIAMETER 2"

MEASURING POINT HEIGHT ABOVE/BELOW GROUND LEVEL 2ft.

METHODS OF DEVELOPMENT

☐ Swabbing ☐ Bailing ☑ Pumping ☑ Surge ☐ Describe

Equipment decontaminated prior to development ☐ Yes ☐ No

Describe

EQUIPMENT NUMBERS:

pH Meter EC Meter Thermometer Turbidity Meter

CASING VOLUME INFORMATION:

Casing ID (inch)	1.0	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (A) (gal/ft)	0.04	0.09	0.16	0.2	0.37	0.65	0.75	1.0	1.5	2.0	2.6

PURGING INFORMATION:

Measured Well Depth Prior to Development (B) 30.64 ft.

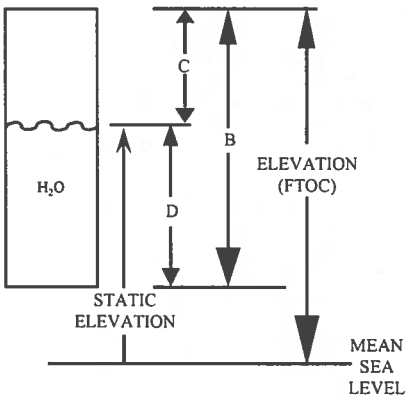
Measured Water Level Depth (C) 19.34 ft.

Length of Static Water Column (D) 30.64 (B) - 19.34 (C) = 11.3 ft. Pumping

Casing Water Volume .16 (A) x 11.3 (D) = 1.808 gal

Total Purge Volume = 119 (gal)

Measured Well Depth After Development (B) 30.64 ft.



Time	DTW (feet btoc)	Flow Rate (gpm or lpm)	Gallons Removed	pH	Cond. (mS/cm)	Temp. (deg C)	Turbidity (NTU)	Notes
16:10	19.34	1.4gpm	7	6.89	2.707	13.58	>1000	Surged
16:15	19.07		14	6.92	2.643	13.89		
16:20	19.04		21	6.93	2.665	13.74		
16:25	19.03		28	6.83	2.952	13.64		
16:30	19.03		35	6.90	2.605	13.71		
16:35	18.90		42	6.83	2.968	13.58		
16:40	18.84		49	6.84	2.866	13.76		
16:45	18.80		56	6.82	3.031	13.50		
16:50	18.81		63	6.82	2.992	13.55		
16:55	18.77		70	6.83	2.997	13.51		
17:00	18.76		77	6.84	3.024	13.57		

HGL HydroGeoLogic, Inc
Exceeding Expectations

WELL DEVELOPMENT RECORD (con't)

WELL/PIEZOMETER ID BKRD ~~UGIA~~-MW04
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Time	DTW (feet btoc)	Flow Rate (gpm or lpm)	Gallons Removed	pH	Cond. (mS/cm	Temp. (deg C)	Turbidity (NTU)	Notes
17:05	18.76	1.4 gpm	84	6.96	3.144	13.44	42	
17:10	18.76		91	6.81	3.141	13.53	24	
17:15	18.76		98	6.82	3.168	13.24	38.7	
17:20	18.76		105	6.77	3.173	13.40	19.7	
17:25	18.76		112	6.81	3.187	13.25	15	
17:30	18.76		119	6.81	3.208	13.40	12.3	

HGL HydroGeoLogic, inc Exceeding Expectations

WELL DEVELOPMENT RECORD

WELL/PIEZOMETER ID BKRD ~~UG1A~~-MW05
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PROJECT NAME: CHAAP PROJECT NO.: 16-027 DATE: 5-9-18

LOCATION: BKRD-UG1A-MW05 DATE INSTALLED: 5-2-18

TOTAL DEPTH (FTOC) 24.69 CASING DIAMETER 2"

MEASURING POINT HEIGHT ABOVE/BELOW GROUND LEVEL 2ft

METHODS OF DEVELOPMENT

☐ Swabbing ☐ Bailing ☐ Pumping ☑ Surge ☑ Describe

Equipment decontaminated prior to development ☐ Yes ☐ No

Describe

EQUIPMENT NUMBERS:

pH Meter EC Meter Thermometer Turbidity Meter

CASING VOLUME INFORMATION:

Casing ID (inch)	1.0	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (A) (gal/ft)	0.04	0.09	0.16	0.2	0.37	0.65	0.75	1.0	1.5	2.0	2.6

PURGING INFORMATION:

Measured Well Depth Prior to Development (B) 24.69 ft.

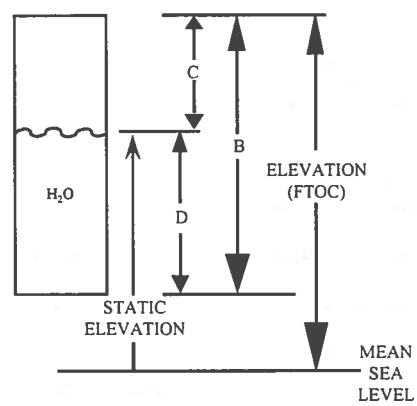
Measured Water Level Depth (C) 13.73 ft.

Length of Static Water Column (D) 24.69 (B) - 13.73 (C) = 10.96 ft. Pumping

Casing Water Volume 1.6 (A) x 10.96 (D) = 17.53 gal

Total Purge Volume = 71.25 (gal)

Measured Well Depth After Development (B) 13.75 ft.



Time	DTW (feet btoc)	Flow Rate (gpm or lpm)	Gallons Removed	pH	Cond. (mS/cm)	Temp. (deg C)	Turbidity (NTU)	Notes
8:35		Surging begins			—	—	—	—
	Vigorously Surged throughout Screened Interval							
9:15	13.96	.95gpm	38	7.59	2.331	11.27	59.6	
9:20	13.96		42.75	7.59	2.329	11.25	24.7	
9:25	13.97		47.5	7.60	2.332	11.26	44.6	
9:30	13.97		52.25	7.59	2.330	11.25	22.3	
9:35	13.97		57	7.60	2.336	11.28	32.3	
9:40	13.97		61.75	7.59	2.232	11.28	14.1	
9:45	13.97		66.5	7.59	2.337	11.28	15.6	
9:50	13.97	.95gpm	71.25	7.59	2.337	11.29	9.59	

HGL HydroGeoLogic, Inc. Exceeding Expectations

WELL DEVELOPMENT RECORD

WELL/PIEZOMETER ID BKRD-UGIA-MW06
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PROJECT NAME: CHAAP PROJECT NO.: 16-027 DATE: 4-3-18

LOCATION: BKRD-UGIA-MW06 DATE INSTALLED: 3/26/18

TOTAL DEPTH (FTOC) 23.73 CASING DIAMETER 2 inches

MEASURING POINT HEIGHT ABOVE/BELOW GROUND LEVEL 2.5 ft

METHODS OF DEVELOPMENT

☐ Swabbing ☐ Bailing ☒ Pumping ☒ Surge ☐ Describe

Equipment decontaminated prior to development ☐ Yes ☐ No

Describe

EQUIPMENT NUMBERS:

pH Meter YSI 556 EC Meter YSI 556 Thermometer YSI 556 Turbidity Meter Hanna

CASING VOLUME INFORMATION:

Casing ID (inch)	1.0	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (A) (gal/ft)	0.04	0.09	0.16	0.2	0.37	0.65	0.75	1.0	1.5	2.0	2.6

PURGING INFORMATION:

Measured Well Depth Prior to Development (B) 23.73 ft.

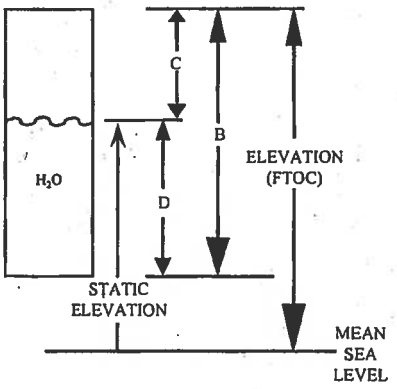
Measured Water Level Depth (C) 9.18 ft.

Length of Static Water Column (D) 23.73 (B) - 9.18 (C) = 14.55 ft. Pumping

Casing Water Volume 0.16 (A) x 14.55 (D) = 2.33 gal

Total Purge Volume = 149.5 (gal)

Measured Well Depth After Development (B) 23.73 ft.



Time	DTW (feet btoc)	Flow Rate (gpm or lpm)	Gallons Removed	pH	Cond. (mS/cm)	Temp. (deg C)	Turbidity (NTU)	Notes
1125	9.18	1.3	6.5	7.21	1.951	9.28	>1000	Surged
1130	10.65	1.3	13	7.21	1.963	9.15	216	
1135	10.64	1.3	19.5	7.2	1.987	9.07	106	Surged
1140	10.63	1.3	26	7.17	1.994	9.42	78.9	
1145	10.65	1.3	32.5	7.14	2.041	9.72	>1000	Surged
1150	10.65	1.3	39	7.14	2.036	9.65	672	
1155	10.65	1.3	45.5	7.13	2.022	9.51	218	
1200	10.63	1.3	52	7.13	2.022	9.56	136	
1205	10.61	1.3	58.5	7.1	2.022	9.67	63.9	
1210	10.62	1.3	65	7.09	2.165	10.05	>1000	Surged
1215	10.62	1.3	71.5	7.1	2.104	10.34	>1000	Surged

HGL HydroGeoLogic, Inc
Exceeding Expectations

WELL DEVELOPMENT RECORD (con't)

WELL/PIEZOMETER ID PKRD-UGIA-MW06
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Time	DTW (feet btoc)	Flow Rate (gpm or lpm)	Gallons Removed	pH	Cond. (mS/cm	Temp. (deg C)	Turbidity (NTU)	Notes
1220	~~78~~ 10.63	1.3	78	7.16	1.992	10.67	781	
1225	~~84~~, 10.61	1.3	84.5	7.10	1.983	10.70	98.1	
1230	10.61	1.3	91	7.09	1.981	10.71	46.8	
1235	10.62	1.3	97.5	7.09	1.979	10.71	205	Surged
1240	10.62	1.3	104	7.08	1.977	10.72	153	
1245	10.61	1.3	110.5	7.07	1.975	10.73	67.3	
1250	10.6	1.3	117	7.07	1.972	10.74	40.1	
1255	10.61	1.3	123.5	7.07	1.970	10.74	21.8	
1300	16.60	1.3	136.5	7.06	1.969	10.75	16.3	
1305	16.60	1.3	~~142.2~~ 143	7.05	1.967	10.76	14.2	
1310	16.60	1.3	149.5	7.05	1.967	10.76	13.5	

HGL HydroGeologic, Inc
Exceeding Expectations

WELL DEVELOPMENT RECORD

WELL/PIEZOMETER ID BKRD-UGIA-MW07
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PROJECT NAME: CHAAP PROJECT NO.: 16-027 DATE: 4-1-18

LOCATION: BKRD-UGIA-MW07 DATE INSTALLED: 3/27/18

TOTAL DEPTH (FTOC) 24.32 ft CASING DIAMETER 2"

MEASURING POINT HEIGHT ABOVE/BELOW GROUND LEVEL 2.5 ft

METHODS OF DEVELOPMENT

☐ Swabbing ☐ Bailing ☒ Pumping ☒ Surge ☐ Describe

Equipment decontaminated prior to development ☒ Yes ☐ No

Describe

EQUIPMENT NUMBERS:

pH Meter YSI 556 EC Meter YSI 556 Thermometer YSI 556 Turbidity Meter Hanna

CASING VOLUME INFORMATION:

Casing ID (inch)	1.0	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (A) (gal/ft)	0.04	0.09	0.16	0.2	0.37	0.65	0.75	1.0	1.5	2.0	2.6

PURGING INFORMATION:

Measured Well Depth Prior to Development (B) 24.32 ft.

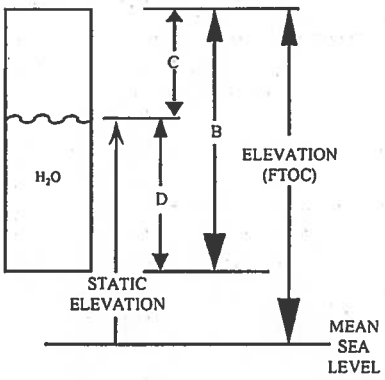
Measured Water Level Depth (C) 9.64 ft.

Length of Static Water Column (D) 34.32 (B) - 9.64 (C) = 14.68 ft. Pumping

Casing Water Volume 0.16 (A) x 14.68 - 2.35 (D) gal

Total Purge Volume = 7.5 (gal)

Measured Well Depth After Development (B) 24.32 ft.



Time	DTW (feet btoc)	Flow Rate (gpm or lpm)	Gallons Removed	pH	Cond. (mS/cm)	Temp. (deg C)	Turbidity (NTU)	Notes
11:40	9.64	1gpm	5	7.04	2.264	9.04	>1000	Surged
11:45	9.77	1gpm	10	7.09	2.245	8.72	401	
11:50	9.77	1gpm	15	7.14	2.261	8.92	167	
11:55	9.75	1gpm	20	7.15	2.281	8.95	63.9	Surged
12:00	9.76	1gpm	25	7.20	2.288	9.32	563	Surged
12:05	9.76	1gpm	30	7.17	2.279	9.41	857	
12:10	9.76	1gpm	35	7.17	2.249	9.06	277	
12:15	9.76	1gpm	40	7.20	2.268	9.66	127	
12:20	9.76	1gpm	45	7.22	2.276	9.71	61.9	
12:25	9.76	1gpm	50	7.26	2.275	9.63	44.4	
12:30	9.76	1gpm	55	7.20	2.262	9.57	30.5	

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WELL DEVELOPMENT RECORD (con't)

BKPD-UG1A-

WELL/PIEZOMETER ID MW07

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Time	DTW (feet btoc)	Flow Rate (gpm or lpm)	Gallons Removed	pH	Cond. (mS/cm	Temp. (deg C)	Turbidity (NTU)	Notes
12:35	9.76	1gpm	60	7.22	2.258	9.52	23.5	
12:40	9.76	1gpm	65	7.23	2.255	9.51	11.7	
12:45	9.77	1gpm	70	7.24	2.251	9.50	11.4	
12:50	9.76	1gpm	75	7.26	2.247	9.49	11.1	

HGL HydroGeoLogic, Inc. Exceeding Expectations

WELL DEVELOPMENT RECORD

WELL/PIEZOMETER ID BKRD-UG1A-MW08

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PROJECT NAME: CHAAP PROJECT NO.: 16-027 DATE: 4-1-18

LOCATION: BKRD-UG1A-MW08 DATE INSTALLED: 3/28/18

TOTAL DEPTH (FTOC) 23.20ft CASING DIAMETER 2"

MEASURING POINT HEIGHT ABOVE/BELOW GROUND LEVEL 2.5 ft

METHODS OF DEVELOPMENT

☐ Swabbing ☐ Bailing ☒ Pumping ☒ Surge ☐ Describe

Equipment decontaminated prior to development ☒ Yes ☐ No

Describe

EQUIPMENT NUMBERS:

pH Meter YSI 556 EC Meter YSI 556 Thermometer YSI 556 Turbidity Meter Hanna

CASING VOLUME INFORMATION:

Casing ID (inch)	1.0	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (A) (gal/ft)	0.04	0.09	0.16	0.2	0.37	0.65	0.75	1.0	1.5	2.0	2.6

PURGING INFORMATION:

Measured Well Depth Prior to Development (B) 23.20 ft.

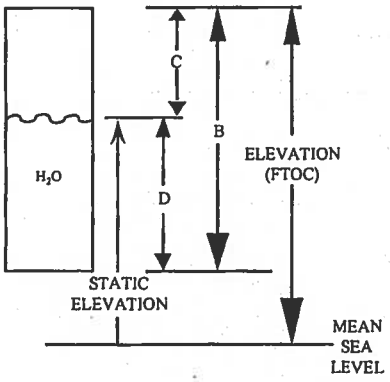
Measured Water Level Depth (C) 8.79 ft.

Length of Static Water Column (D) 23.2 (B) - 8.79 (C) = 14.41 ft. Pumping

Casing Water Volume 0.16 (A) x 14.41 (D) = 2.31 gal

Total Purge Volume = 104.5 (gal)

Measured Well Depth After Development (B) 23.20 ft.



Time	DTW (feet btoc)	Flow Rate (gpm or lpm)	Gallons Removed	pH	Cond. (mS/cm)	Temp. (deg C)	Turbidity (NTU)	Notes
9:55	8.84	1.1gpm	5.5	7.07	1.965	8.85	3.27	
10:00	8.83	1.1gpm	11	7.05	1.988	9.31	2.14	
10:05	8.87	1.1gpm	16.5	7.22	1.936	7.93	>1000	Surged
10:10	8.85	1.1gpm	22	7.06	1.947	7.97	565	
10:15	8.84	1.1gpm	27.5	7.05	1.951	7.99	167	
10:20	8.83	1.1gpm	33	7.04	1.962	8.02	70.4	
10:25	8.83	1.1gpm	38.5	7.02	1.990	8.19	211	
10:30	8.76	1.1gpm	44	7.03	1.974	7.92	106	
10:35	8.78	1.1gpm	49.5	7.02	1.966	7.80	58.2	
10:40	8.76	1.1gpm	55	7.00	1.966	7.52	103	
10:45	8.76	1.1gpm	60.5	6.99	1.974	7.62	23.7	

HGL HydroGeoLogic, Inc Exceeding Expectations

WELL DEVELOPMENT RECORD (con't)

BKRD-
VGIA-

WELL/PIEZOMETER ID MW08

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Time	DTW (feet btoc)	Flow Rate (gpm or lpm)	Gallons Removed	pH	Cond. (mS/cm	Temp. (deg C)	Turbidity (NTU)	Notes
10:50	8.84	1.1gpm	66	6.98	1.965	7.66	130	Surged
10:55	8.85	1.1gpm	71.5	7.01	2.023	8.23	322	
11:00	8.84	1.1gpm	77	7.04	2.022	8.17	114	
11:05	8.84	1.1gpm	82.5	7.06	2.026	8.15	66.6	
11:10	8.84	1.1gpm	88	7.08	2.034	8.19	14.1	
11:15	8.84	1.1gpm	93.5	7.08	2.044	8.28	15.5	
11:20	8.84	1.1gpm	99	7.07	2.046	8.15	15.9	
11:25	8.84	1.1gpm	104.5	7.07	2.045	8.16	12.7	

HGL HydroGeoLogic, Inc. Exceeding Expectations

WELL DEVELOPMENT RECORD

WELL/PIEZOMETER ID BKRD UGIA MW09
PAGE 1 of 2

PROJECT NAME: CHAAP PROJECT NO.: 16-027 DATE: 4-3-18

LOCATION: BKRD-UGIA-MW09 DATE INSTALLED: 3/29/18

TOTAL DEPTH (FTOC) ____ CASING DIAMETER 2"

MEASURING POINT HEIGHT ABOVE/BELOW GROUND LEVEL 2.5ft

METHODS OF DEVELOPMENT

☐ Swabbing ☐ Bailing ☑ Pumping ☑ Surge ☐ Describe ____

Equipment decontaminated prior to development ☑ Yes ☐ No

Describe ____

EQUIPMENT NUMBERS:

pH Meter YSI 556 EC Meter YSI 556 Thermometer YSI 556 Turbidity Meter Hach

CASING VOLUME INFORMATION:

Casing ID (inch)	1.0	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (A) (gal/ft)	0.04	0.09	0.16	0.2	0.37	0.65	0.75	1.0	1.5	2.0	2.6

PURGING INFORMATION:

Measured Well Depth Prior to Development (B) 23.32 ft.

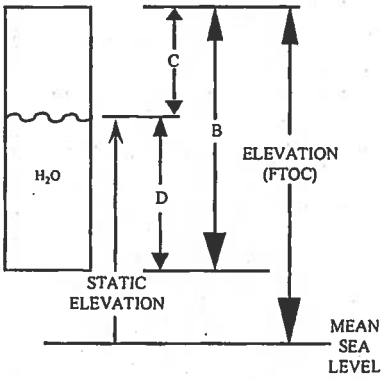
Measured Water Level Depth (C) 9.41 ft.

Length of Static Water Column (D) 23.32 (B) - 9.41 (C) = 13.91 ft. Pumping

Casing Water Volume 0.16 (A) x 13.91 (D) = 2.23 gal

Total Purge Volume = 115.2 (gal)

Measured Well Depth After Development (B) 23.32 ft.



Time	DTW (feet btoc)	Flow Rate (gpm or lpm)	Gallons Removed	pH	Cond. (mS/cm)	Temp. (deg C)	Turbidity (NTU)	Notes
0940	9.41	1.28	—	—	—	—	—	—
0945	9.65	1.28	6.4	7.03	2.271	8.62	>1000	Surged
0950	9.66	1.28	12.8	7.05	2.265	8.51	586	
0955	9.66	1.28	19.2	7.08	2.297	8.53	364	
1000	9.65	1.28	25.6	7.12	2.141	8.69	202	
1005	9.65	1.28	32	7.06	2.168	8.53	185	Surged
1010	9.64	1.28	38.4	7.04	2.269	8.50	>1000	
1015	9.64	1.28	44.8	7.05	2.273	8.48	511	
1020	9.65	1.28	51.2	7.06	2.288	8.45	376	
1025	9.64	1.28	57.6	7.05	2.183	8.32	>1000	Surged
1030	9.65	1.28	64	7.04	2.169	8.24	225	

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WELL DEVELOPMENT RECORD (con't)

WELL/PIEZOMETER ID BKRD-VORA-MW09

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Time	DTW (feet btoc)	Flow Rate (gpm or lpm)	Gallons Removed	pH	Cond. (mS/cm	Temp. (deg C)	Turbidity (NTU)	Notes
1035	9.65	1.28	70.4	7.04	2.277	7.14	726	Surged
1040	9.66	1.28	76.8	7.05	2.287	8.42	581	Surged
1045	9.66	1.28	83.2	7.03	2.306	9.04	360	
1050	9.65	1.28	89.6	7.04	2.288	9.89	143	Surged
1055	9.65	1.28	96	7.04	2.290	9.47	10.5	
1100	9.66	1.28	102.4	7.04	2.291	9.42	17.2	
1105	9.65	1.28	108.8	7.04	2.293	9.40	15.8	
1110	9.65	1.28	115.2	7.04	2.306	9.19	19.1	

HGL HydroGeologic, Inc. Exceeding Expectations

WELL DEVELOPMENT RECORD

WELL/PIEZOMETER ID BKRD-UGIA-MW10
PAGE 1 of 2

PROJECT NAME: CHAAP PROJECT NO.: 16.027 DATE: 4-1-18

LOCATION: BKRD-UGIA-MW10 DATE INSTALLED: 3/28/18

TOTAL DEPTH (FTOC) 23.2ft. CASING DIAMETER 2"

MEASURING POINT HEIGHT ABOVE/BELOW GROUND LEVEL 2.5 ft

METHODS OF DEVELOPMENT

☐ Swabbing ☐ Bailing ☒ Pumping ☒ Surge ☐ Describe

Equipment decontaminated prior to development ☒ Yes ☐ No

Describe

EQUIPMENT NUMBERS:

pH Meter YSI 556 EC Meter YSI 556 Thermometer YSI 556 Turbidity Meter Hanna

CASING VOLUME INFORMATION:

Casing ID (inch)	1.0	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (A) (gal/ft)	0.04	0.09	0.16	0.2	0.37	0.65	0.75	1.0	1.5	2.0	2.6

PURGING INFORMATION:

Measured Well Depth Prior to Development (B) 23.2 ft.

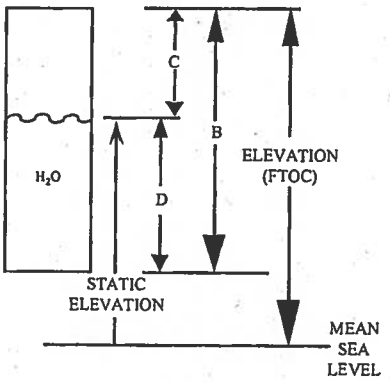
Measured Water Level Depth (C) 9.86 ft.

Length of Static Water Column (D) 23.2 (B) - 9.86 (C) = 13.34 ft. Pumping

Casing Water Volume 0.16 (A) x 13.34 (D) = 2.13 gal

Total Purge Volume = 90 (gal)

Measured Well Depth After Development (B) 23.2 ft.



Time	DTW (feet btoc)	Flow Rate (gpm or lpm)	Gallons Removed	pH	Cond. (mS/cm)	Temp. (deg C)	Turbidity (NTU)	Notes
12:55	9.86	1gpm	5	7.42	1.944	8.42	668	
13:00	9.86	1gpm	10	7.15	1.985	9.59	86.9	
13:05	9.88	1gpm	15	7.08	1.989	9.48	89.1	Surged
13:10	9.86	1gpm	20	7.00	1.965	9.24	424	
13:15	9.85	1gpm	25	7.02	1.993	9.71	145	
13:20	9.85	1gpm	30	7.05	2.016	9.90	85.3	
13:25	9.85	1gpm	35	7.10	2.029	9.75	53.5	
13:30	9.86	1gpm	40	7.11	2.025	9.78	31.6	
13:35	9.86	1gpm	45	7.11	2.032	9.69	14.8	
13:40	9.86	1gpm	50	7.12	2.019	9.62	62.9	Surged
13:45	9.86	1gpm	55	7.09	2.026	9.63	138	

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WELL DEVELOPMENT RECORD (con't)

RLRD-UGIA-

WELL/PIEZOMETER ID MW 10

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Time	DTW (feet btoc)	Flow Rate (gpm or lpm)	Gallons Removed	pH	Cond. (mS/cm	Temp. (deg C)	Turbidity (NTU)	Notes
13:50	9.86	1gpm	60	7.10	2.029	9.60	61.6	
13:55	9.86	1gpm	65	7.11	2.033	9.59	35.2	
14:00	9.86	1gpm	70	7.11	2.026	9.28	39.2	
14:05	9.85	1gpm	75	7.10	2.033	9.20	20.3	
14:10	9.85	1gpm	80	7.11	2.034	9.16	7.41	
14:15	9.85	1gpm	85	7.11	2.035	9.14	8.63	
14:20	9.86	1gpm	90	7.11	2.034	9.11	10.11	

HGL HydroGeoLogic, Inc
Exceeding Expectations

WELL DEVELOPMENT RECORD

WELL/PIEZOMETER ID BKRD LGIA-MW11
PAGE 1 of 2

PROJECT NAME: CHAAP PROJECT NO.: 16-027 DATE: 5-7-18

LOCATION: BKRD-LGIA-MW11 DATE INSTALLED: 5-5-18

TOTAL DEPTH (FTOC) 50.86 ft CASING DIAMETER 2"

MEASURING POINT HEIGHT ABOVE/BELOW GROUND LEVEL 2 ft.

METHODS OF DEVELOPMENT

☐ Swabbing ☐ Bailing ☑ Pumping ☑ Surge ☐ Describe _____

Equipment decontaminated prior to development ☐ Yes ☐ No

Describe _____

EQUIPMENT NUMBERS:

pH Meter _____ EC Meter _____ Thermometer _____ Turbidity Meter _____

CASING VOLUME INFORMATION:

Casing ID (inch)	1.0	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (A) (gal/ft)	0.04	0.09	0.16	0.2	0.37	0.65	0.75	1.0	1.5	2.0	2.6

PURGING INFORMATION:

Measured Well Depth Prior to Development (B) 50.86 ft.

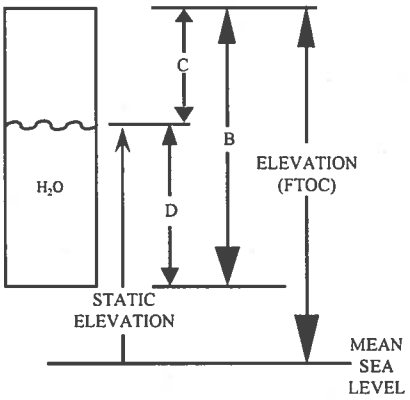
Measured Water Level Depth (C) 20.78 ft.

Length of Static Water Column (D) 50.86 (B) - 20.78 (C) = 30.08 ft. Pumping

Casing Water Volume .16 (A) x 30.08 (D) = 4.8128 gal

Total Purge Volume = 193 (gal)

Measured Well Depth After Development (B) 20.79 ft.



Time	DTW (feet btoc)	Flow Rate (gpm or lpm)	Gallons Removed	pH	Cond. (mS/cm)	Temp. (deg C)	Turbidity (NTU)	Notes
11:10	20.78	1.93 gpm	9.65	6.93	2.426	13.13	>1000	Surged
11:15	21.09	↓	19.3	7.00	2.427	13.42	↓	↓
11:20	21.07		28.95	7.09	2.516	13.25		
11:25	21.04		38.6	7.15	2.536	13.40		
11:30	21.05		48.25	7.15	2.546	13.31		
11:35	21.04		57.9	7.18	2.519	13.40		
11:40	21.01		67.55	7.17	2.760	13.19		
11:45	21.00		77.2	6.98	2.774	13.46		
11:50	20.96		86.85	6.94	2.823	13.17		
11:55	20.96		96.5	6.97	2.709	13.39		
12:00	20.95		106.15	6.95	2.825	13.12		

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WELL DEVELOPMENT RECORD (con't)

WELL/PIEZOMETER ID BKRD LGLA-MW11

PAGE 2 of 2

Time	DTW (feet btoc)	Flow Rate (gpm or lpm)	Gallons Removed	pH	Cond. (mS/cm	Temp. (deg C)	Turbidity (NTU)	Notes
12:05	20.94	193 gpm	115.8	6.95	2.863	13.12	>1000	Surged
12:10	20.93		125.45	6.95	2.855	13.11	>1000	Surged
12:15	20.94		135.1	6.96	2.854	13.05	740	
12:20	20.92		144.75	6.97	2.853	13.05	31.6	
12:25	20.92		154.4	6.98	2.867	13.11	884	Surged
12:30	20.92		164.05	6.98	2.863	13.07	37.6	Surged
12:35	20.92		173.7	6.99	2.865	13.10	19.6	
12:40	20.92		183.35	7.04	2.867	13.10	16.7	
12:45	20.92		193	7.00	2.861	13.10	13.4	

HGL HydroGeoLogic, Inc
Exceeding Expectations

WELL DEVELOPMENT RECORD

WELL/PIEZOMETER ID BKRD-LGIA-MW12
PAGE 1 of 2

PROJECT NAME: CHAAP PROJECT NO.: 16-027 DATE: 5-7-18

LOCATION: BKRD-LGIA-MW12 DATE INSTALLED: 5-3-18

TOTAL DEPTH (FTOC) _____ CASING DIAMETER 2"

MEASURING POINT HEIGHT ABOVE/BELOW GROUND LEVEL 2ft.

METHODS OF DEVELOPMENT

☐ Swabbing ☐ Bailing ☑ Pumping ☑ Surge ☐ Describe _____

Equipment decontaminated prior to development ☐ Yes ☐ No

Describe _____

EQUIPMENT NUMBERS:

pH Meter _____ EC Meter _____ Thermometer _____ Turbidity Meter _____

CASING VOLUME INFORMATION:

Casing ID (inch)	1.0	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (A) (gal/ft)	0.04	0.09	0.16	0.2	0.37	0.65	0.75	1.0	1.5	2.0	2.6

PURGING INFORMATION:

Measured Well Depth Prior to Development (B) 44.24 ft.

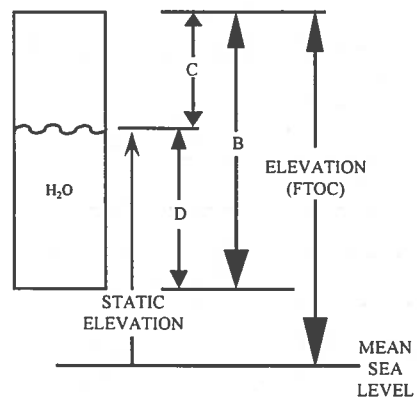
Measured Water Level Depth (C) 18.07 ft.

Length of Static Water Column (D) 44.24 (B) - 18.07 (C) = 26.17 ft. Pumping

Casing Water Volume .16 (A) x 26.17 (D) = 4.1872 gal

Total Purge Volume = 154.4 (gal)

Measured Well Depth After Development (B) 18.07 ft.



Time	DTW (feet btoc)	Flow Rate (gpm or lpm)	Gallons Removed	pH	Cond. (mS/cm)	Temp. (deg C)	Turbidity (NTU)	Notes
14:25	18.11	1.93gpm	9.65	7.14	2.764	13.24	>1000	Surged
14:30	18.13		19.3	7.06	2.799	13.49		
14:35	18.17		28.95	6.94	2.799	13.60		
14:40	18.19		38.6	6.88	2.697	13.64		
14:45	18.14		48.25	6.86	2.822	13.40		
14:50	18.12		57.9	6.87	2.893	13.33		
14:55	18.09		67.55	6.86	2.926	13.23		
15:00	18.10		77.2	6.86	2.927	13.29	656	No
15:05	18.11		86.85	6.87	2.934	13.40	32	No
15:10	18.12		96.5	6.88	2.923	13.44	>1000	Surged
15:15	18.06		106.15	6.88	2.943	13.30	904	

HGL HydroGeoLogic, Inc Exceeding Expectations

WELL DEVELOPMENT RECORD (con't)

WELL/PIEZOMETER ID BKRD LGIA-MW12

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Time	DTW (feet btoc)	Flow Rate (gpm or lpm)	Gallons Removed	pH	Cond. (mS/cm	Temp. (deg C)	Turbidity (NTU)	Notes
15:20	18.08	1.93gpm	115.8	7.03	2.981	14.27	743	
15:25	18.06		125.45	6.89	2.962	13.37	32.8	
15:30	18.07		135.1	6.88	2.960	13.34	19.2	
15:35	18.07		144.75	6.88	2.961	13.34	15.7	
15:40	18.07		154.4	6.89	2.960	13.35	14.1	

HGL HydroGeoLogic, Inc
Exceeding Expectations

WELL DEVELOPMENT RECORD

WELL/PIEZOMETER ID BKRD LGIA-MW13
PAGE 1 of 2

PROJECT NAME: CHAAP PROJECT NO.: 16-027 DATE: 5-8-18

LOCATION: BKRD-LGIA-MW13 DATE INSTALLED: 5-2-18

TOTAL DEPTH (FTOC) 54.72 CASING DIAMETER 2"

MEASURING POINT HEIGHT ABOVE/BELOW GROUND LEVEL 2ft

METHODS OF DEVELOPMENT

☐ Swabbing ☐ Bailing ☑ Pumping ☑ Surge ☐ Describe _____

Equipment decontaminated prior to development ☐ Yes ☐ No

Describe _____

EQUIPMENT NUMBERS:

pH Meter _____ EC Meter _____ Thermometer _____ Turbidity Meter _____

CASING VOLUME INFORMATION:

Casing ID (inch)	1.0	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (A) (gal/ft)	0.04	0.09	0.16	0.2	0.37	0.65	0.75	1.0	1.5	2.0	2.6

PURGING INFORMATION:

Measured Well Depth Prior to Development (B) 54.72 ft.

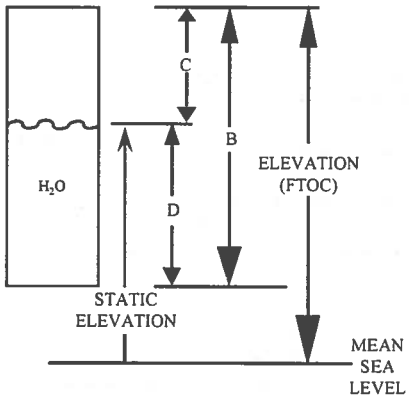
Measured Water Level Depth (C) 22.11 ft.

Length of Static Water Column (D) 54.72 (B) - 22.11 (C) = 32.61 ft. Pumping

Casing Water Volume .16 (A) x 32.61 (D) = 5.2176 gal

Total Purge Volume = _____ (gal)

Measured Well Depth After Development (B) 54.72 ft.



Time	DTW (feet btoc)	Flow Rate (gpm or lpm)	Gallons Removed	pH	Cond. (mS/cm)	Temp. (deg C)	Turbidity (NTU)	Notes
12:15	22.21	1.93gpm	9.65					Surged
12:20	22.22		19.3	6.89	2.891	13.02	>1000	
12:25	22.26		28.95	6.90	2.911	13.21	>1000	
12:30	22.27		38.6	6.93	2.748	13.28	>1000	
12:35	22.25		48.25	6.91	2.891	12.99		
12:40	22.26		57.9	6.92	2.888	12.95		
12:45	22.26		67.55	6.92	2.944	12.94		
12:50	22.26		77.2	6.92	2.918	12.91		
12:55	22.27		86.85	6.96	2.810	13.07		
13:00	22.26		96.5	6.98	2.828	13.14		
13:05	22.27		106.15	7.00	2.876	13.17		

HGL HydroGeoLogic, Inc Exceeding Expectations

WELL DEVELOPMENT RECORD (con't)

WELL/PIEZOMETER ID ~~LGIA~~ BKRD-MW13
PAGE 2 of 2

Time	DTW (feet btoc)	Flow Rate (gpm or lpm)	Gallons Removed	pH	Cond. (mS/cm	Temp. (deg C)	Turbidity (NTU)	Notes
13:10	20.26	1.93 gpm	115.8	6.98	2.952	13.12	>1000	Surged
13:15	20.24		125.45	6.98	2.970	12.90	634	No
13:20	20.24		135.1	6.97	2.957	12.91	13	No
13:25	20.22		144.75	6.97	2.958	12.90	36	Surged
13:30	20.22		154.4	6.96	2.962	12.99	10	
13:35	20.22		164.05	6.96	2.957	12.93	16.9	
13:40	20.22		173.7	6.96	2.957	12.97	16.4	

HGL HydroGeoLogic, Inc Exceeding Expectations

WELL DEVELOPMENT RECORD

WELL/PIEZOMETER ID BKRD LGIA-MW14
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PROJECT NAME: CHAAP PROJECT NO.: 16-027 DATE: 5-8-18

LOCATION: BKRD-LGIA-MW14 DATE INSTALLED: 5-3-18

TOTAL DEPTH (FTOC) _____ CASING DIAMETER 2"

MEASURING POINT HEIGHT ABOVE/BELOW GROUND LEVEL 2ft.

METHODS OF DEVELOPMENT

☐ Swabbing ☐ Bailing ☑ Pumping ☑ Surge ☐ Describe _____

Equipment decontaminated prior to development ☐ Yes ☐ No

Describe _____

EQUIPMENT NUMBERS:

pH Meter _____ EC Meter _____ Thermometer _____ Turbidity Meter _____

CASING VOLUME INFORMATION:

Casing ID (inch)	1.0	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (A) (gal/ft)	0.04	0.09	0.16	0.2	0.37	0.65	0.75	1.0	1.5	2.0	2.6

PURGING INFORMATION:

Measured Well Depth Prior to Development (B) _____ ft.

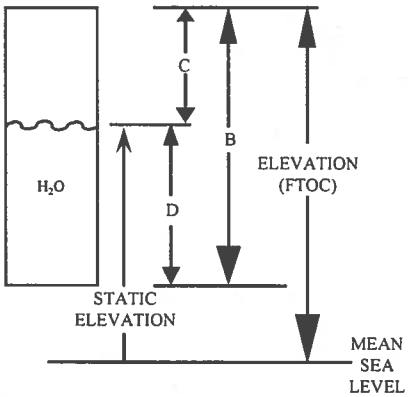
Measured Water Level Depth (C) 14.32 ft.

Length of Static Water Column (D) _____ (B) - _____ (C) = _____ ft. Pumping

Casing Water Volume .16 (A) x _____ (D) = _____ gal

Total Purge Volume = _____ (gal)

Measured Well Depth After Development (B) _____ ft.



Time	DTW (feet btoc)	Flow Rate (gpm or lpm)	Gallons Removed	pH	Cond. (mS/cm)	Temp. (deg C)	Turbidity (NTU)	Notes
16:50	14.32	.94gpm						Surged
16:55	14.30		4.7	6.89	2.870	13.66	>1000	
17:00	14.25		9.4	6.89	2.840	13.58		
17:05	14.21		14.1	6.88	2.869	13.74		
17:10	14.16		18.8	6.89	2.898	13.49		No
17:15	14.15		23.5	6.91	2.914	13.24	979	No
17:20	14.16		28.2	6.88	2.915	13.53	>1000	Surged
17:25	14.15		32.9	6.91	2.886	13.60	>1000	
17:30	14.11		37.6	7.01	2.915	13.42	>1000	
17:35	14.12		42.3	6.94	2.911	13.36	895	No
17:40	14.12		47	6.95	2.909	13.37	48	

HGL HydroGeoLogic, Inc Exceeding Expectations

WELL DEVELOPMENT RECORD (con't)

WELL/PIEZOMETER ID BKRD-LGIA-MW14

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Time	DTW (feet btoc)	Flow Rate (gpm or lpm)	Gallons Removed	pH	Cond. (mS/cm	Temp. (deg C)	Turbidity (NTU)	Notes
17:45	14.11	.94 gpm	51.7	6.97	2.914	13.10	33	
17:50	14.10	↓	56.4	6.96	2.916	13.09	36	
17:55	14.08	↓	61.1	6.93	2.919	13.22	31	
18:00	14.09	.94	65.8	6.97	2.907	13.40	20	
18:05	14.10	.94	70.5	6.96	2.910	13.35	17	
18:10	14.09	.94	75.2	6.95	2.914	13.27	13	

HGL HydroGeoLogic, Inc Exceeding Expectations

WELL DEVELOPMENT RECORD

WELL/PIEZOMETER ID BKRD-LGIA-MW15
PAGE 1 of 2

PROJECT NAME: CHAAP PROJECT NO.: 16027 DATE: 5-9-18

LOCATION: BKRD-LGIA-MW15 DATE INSTALLED: 5-3-14

TOTAL DEPTH (FTOC) 24.69 CASING DIAMETER 2"

MEASURING POINT HEIGHT ABOVE/BELOW GROUND LEVEL 2ft.

METHODS OF DEVELOPMENT

☐ Swabbing ☐ Bailing ☑ Pumping ☑ Surge ☐ Describe

Equipment decontaminated prior to development ☐ Yes ☐ No

Describe

EQUIPMENT NUMBERS:

pH Meter EC Meter Thermometer Turbidity Meter

CASING VOLUME INFORMATION:

Casing ID (inch)	1.0	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (A) (gal/ft)	0.04	0.09	0.16	0.2	0.37	0.65	0.75	1.0	1.5	2.0	2.6

PURGING INFORMATION:

Measured Well Depth Prior to Development (B) 49.95 ft.

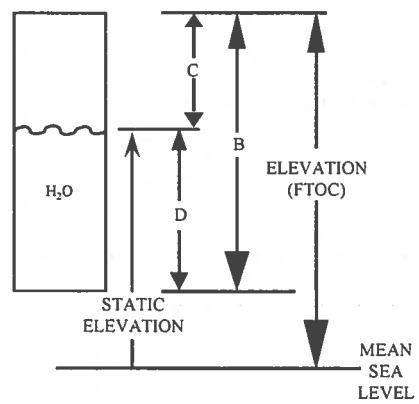
Measured Water Level Depth (C) 13.73 ft.

Length of Static Water Column (D) 49.95 (B) - 13.73 (C) = 36.33 ft. Pumping

Casing Water Volume .16 (A) x 36.33 (D) = 5.7952 gal

Total Purge Volume = 123.2 (gal)

Measured Well Depth After Development (B) 49.95 ft.



Time	DTW (feet btoc)	Flow Rate (gpm or lpm)	Gallons Removed	pH	Cond. (mS/cm)	Temp. (deg C)	Turbidity (NTU)	Notes
0835	13.73	-	-	-	-	-	-	-
Continuous Surging 1.12gpm								
0930	13.85		61.6	6.69	2.879	12.91	>1000	Surged
0935	13.85		67.2	6.65	2.893	13.15	>1000	Surged
0940	13.86		72.8	6.68	2.883	13.15	>1000	Surged
0945	13.87		78.4	6.71	2.871	13.15	>1000	Surged
0955	13.85		84	6.81	2.930	12.72	>1000	Surged
1000	13.85		89.6	6.78	2.908	13.55	>1000	Surged
10:05	13.85		95.2	6.80	2.925	12.80	>1000	Surged
10:10	13.85		100.8	6.78	2.926	12.60	15	
10:15	13.86	1.12gpm	106.4	6.76	2.927	12.69	608	

HGL HydroGeoLogic, Inc Exceeding Expectations

WELL DEVELOPMENT RECORD (con't)

WELL/PIEZOMETER ID BKRD-LGIAMW15

PAGE 2 of 2

Time	DTW (feet btoc)	Flow Rate (gpm or lpm)	Gallons Removed	pH	Cond. (mS/cm	Temp. (deg C)	Turbidity (NTU)	Notes
10:20	13.85	1.12gpm	112	6.76	2.941	12.73	16	
10:25	13.85		117.6	6.74	2.937	12.61	16.5	
10:30	13.85		123.2	6.74	2.936	12.69	15	

HGL HydroGeoLogic, Inc Exceeding Expectations

WELL DEVELOPMENT RECORD

WELL/PIEZOMETER ID BKRD LGIA MW16
PAGE 1 of 1

PROJECT NAME: CHAAP PROJECT NO.: 16-027 DATE: 4-3-18

LOCATION: BKRD-LGIA-MW16 DATE INSTALLED: 3-26-18

TOTAL DEPTH (FTOC) 39.76 CASING DIAMETER 2"

MEASURING POINT HEIGHT ABOVE/BELOW GROUND LEVEL 2.54

METHODS OF DEVELOPMENT

☐ Swabbing ☐ Bailing ☑ Pumping ☑ Surge ☐ Describe

Equipment decontaminated prior to development ☑ Yes ☐ No

Describe

EQUIPMENT NUMBERS:

pH Meter YSI 556 EC Meter YSI 556 Thermometer YSI 556 Turbidity Meter Hach

CASING VOLUME INFORMATION:

Casing ID (inch)	1.0	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (A) (gal/ft)	0.04	0.09	0.16	0.2	0.37	0.65	0.75	1.0	1.5	2.0	2.6

PURGING INFORMATION:

Measured Well Depth Prior to Development (B) 39.76 ft.

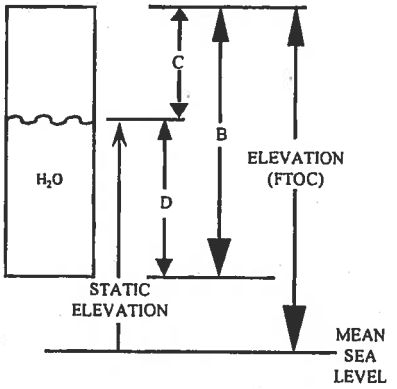
Measured Water Level Depth (C) 9.19 ft.

Length of Static Water Column (D) 39.76 (B) - 9.19 (C) = 30.57 ft. Pumping

Casing Water Volume .16 (A) x 30.57 (D) = 4.8912 gal

Total Purge Volume = 210 (gal)

Measured Well Depth After Development (B) 39.76 ft.



Time	DTW (feet btoc)	Flow Rate (gpm or lpm)	Gallons Removed	pH	Cond. (mS/cm)	Temp. (deg C)	Turbidity (NTU)	Notes
11:45	9.50	2.47 gpm	12.35	6.64	2.024	9.29	>1000	Surged
11:50	9.48	2.47 gpm	24.7	6.84	2.048	9.78	>1000	
11:55	9.49	2.47 gpm	37.05	6.86	2.052	9.93	219	
12:00	9.48	2.47 gpm	49.4	6.84	2.057	9.81	>1000	Surged
12:05	9.50	2.47 gpm	61.75	6.85	2.047	9.76	>1000	
12:10	9.50	2.47 gpm	74.1	6.85	2.038	9.56	300	
12:15	9.49	2.47 gpm	86.45	6.86	2.033	9.39	105	
12:20	9.48	2.47	98.8	6.85	2.030	9.64	>1000	Surged
12:25	9.49	2.47	111.15	6.85	2.059	10.00	>1000	Surged
12:30	9.49	2.47	123.5	6.87	2.057	9.87	669	
12:35	9.50	2.47 gpm	135.85	6.88	2.061	9.98	152	

HGL HydroGeoLogic, Inc Exceeding Expectations

WELL DEVELOPMENT RECORD (con't)

WELL/PIEZOMETER ID BKRD L614 MW16

PAGE 2 of 2

Time	DTW (feet btoc)	Flow Rate (gpm or lpm)	Gallons Removed	pH	Cond. (mS/cm	Temp. (deg C)	Turbidity (NTU)	Notes
12:40	9.48	2.47gpm	148.2	6.87	2.057	9.77	90.5	
12:45	9.46	2.47gpm	160.55	6.88	2.053	9.69	59.5	
12:50	9.48	2.47gpm	172.9	6.87	2.057	9.82	23.6	
12:55	9.47	2.47gpm	185.25	6.87	2.057	9.76	17.4	
13:00	9.46	2.47gpm	197.6	6.88	2.055	9.73	10.4	
13:05	9.47	2.47	209.95	6.88	2.054	9.77	9.62	

HGL HydroGeoLogic, Inc
Exceeding Expectations

WELL DEVELOPMENT RECORD

WELL/PIEZOMETER ID BKRD LGIA MW17
PAGE ____ of ____

PROJECT NAME: CHAAP PROJECT NO.: 16-027 DATE: 4-3-18

LOCATION: BKRD-LGIA-MW17 DATE INSTALLED: 3-27-18

TOTAL DEPTH (FTOC) 37.84 CASING DIAMETER 2"

MEASURING POINT HEIGHT ABOVE/BELOW GROUND LEVEL 2.5ft

METHODS OF DEVELOPMENT

☐ Swabbing ☐ Bailing ☑ Pumping ☑ Surge ☐ Describe ____

Equipment decontaminated prior to development ☑ Yes ☐ No

Describe ____

EQUIPMENT NUMBERS:

pH Meter YSI 556 EC Meter YSI 556 Thermometer YSI 556 Turbidity Meter Hach

CASING VOLUME INFORMATION:

Casing ID (inch)	1.0	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (A) (gal/ft)	0.04	0.09	0.16	0.2	0.37	0.65	0.75	1.0	1.5	2.0	2.6

PURGING INFORMATION:

Measured Well Depth Prior to Development (B) 37.84 ft.

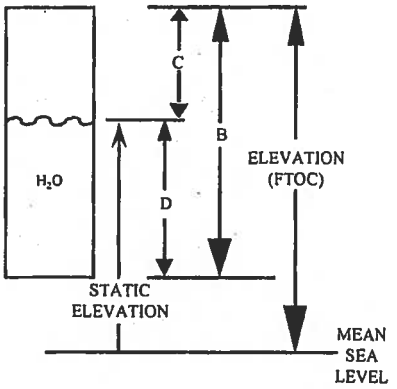
Measured Water Level Depth (C) 9 ft.

Length of Static Water Column (D) 37.84 (B) - 9 (C) = 28.84 ft. Pumping

Casing Water Volume .16 (A) x 28.84 (D) = 4.6144 gal

Total Purge Volume = 210 (gal)

Measured Well Depth After Development (B) 37.84 ft.



Time	DTW (feet btoc)	Flow Rate (gpm or lpm)	Gallons Removed	pH	Cond. (mS/cm)	Temp. (deg C)	Turbidity (NTU)	Notes
13:20	9.15	2.47gpm	12.35	6.84	2.129	10.95	268	Surged
13:25	9.16	2.47gpm	24.7	6.87	2.135	11.21	39.3	
13:30	9.14	2.47gpm	37.05	6.86	2.083	11.05	>1000	
13:35	9.14	2.47gpm	49.4	6.89	2.094	11.26	181	
13:40	9.15	2.47gpm	61.75	6.91	2.042	11.18	>1000	Surged
13:45	9.14	2.47gpm	[illegible]	6.88	2.086	11.40	170	
13:50	9.15	2.47gpm	86.45	6.90	2.099	11.21	589	Surged
13:55	9.14	2.47gpm	98.8	6.88	2.093	11.22	336	
14:00	9.14	2.47gpm	111.15	6.89	2.088	10.96	137	Surged
14:05	9.14	2.47gpm	123.5	6.85	2.084	10.96	314	Surged
14:10	9.14	2.47gpm	135.85	6.89	2.074	11.08	219	Surged

HGL HydroGeoLogic, Inc. Exceeding Expectations

WELL DEVELOPMENT RECORD (con't)

WELL/PIEZOMETER ID BERD LGIA MW17

PAGE 2 of 2

Time	DTW (feet btoc)	Flow Rate (gpm or lpm)	Gallons Removed	pH	Cond. (mS/cm	Temp. (deg C)	Turbidity (NTU)	Notes
14:15	9.14	2.47gpm	148.2	6.88	2.076	10.96	166	
14:20	9.15	2.47gpm	160.55	6.88	2.095	10.95	51.7	
14:25	9.16	2.47gpm	172.9	6.87	2.081	11.01	200	Surged
14:30	9.16	2.47gpm	185.25	6.88	2.105	11.07	6.43	
14:35	9.16	2.47gpm	197.6	6.88	2.100	10.97	12.3	
14:40	9.16	2.47gpm	209.95	6.88	2.096	10.94	7.18	

HGL HydroGeologic, Inc
Exceeding Expectations

WELL DEVELOPMENT RECORD

WELL/PIEZOMETER ID BKRD LGIA MW18
PAGE 1 of 2

PROJECT NAME: CHAAP PROJECT NO.: 16-027 DATE: 4-3-18

LOCATION: BKRD-LGIA-MW18 DATE INSTALLED: 3-29-18

TOTAL DEPTH (FTOC) 35.72 CASING DIAMETER 2"

MEASURING POINT HEIGHT ABOVE/BELOW GROUND LEVEL 2.5ft

METHODS OF DEVELOPMENT

☐ Swabbing ☐ Bailing ☑ Pumping ☑ Surge ☐ Describe

Equipment decontaminated prior to development ☑ Yes ☐ No

Describe

EQUIPMENT NUMBERS:

pH Meter YSI 556 EC Meter YSI 556 Thermometer YSI 556 Turbidity Meter None

CASING VOLUME INFORMATION:

Casing ID (inch)	1.0	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (A) (gal/ft)	0.04	0.09	0.16	0.2	0.37	0.65	0.75	1.0	1.5	2.0	2.6

PURGING INFORMATION:

Measured Well Depth Prior to Development (B) 35.72 ft.

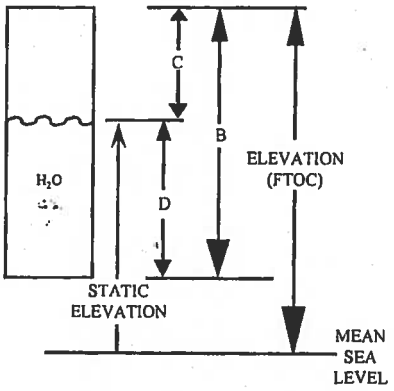
Measured Water Level Depth (C) 9.67 ft.

Length of Static Water Column (D) 35.72 (B) - 9.67 (C) = 26.05 ft. Pumping

Casing Water Volume .16 (A) x 26.05 (D) = 4.168 gal

Total Purge Volume = 172.9 (gal)

Measured Well Depth After Development (B) 35.73 ft.



Time	DTW (feet btoc)	Flow Rate (gpm or lpm)	Gallons Removed	pH	Cond. (mS/cm)	Temp. (deg C)	Turbidity (NTU)	Notes
10:00	9.87	2.47gpm	12.35	6.82	2.118	10.12	>1000	Surged
10:05	9.89	2.47gpm	24.7	6.82	2.129	10.02	248	
10:10	9.87	2.47gpm	37.05	6.80	2.122	9.98	37.5	
10:15	9.82	2.47	49.4	6.79	2.123	10.03	360	Surged
10:20	9.86	2.47	61.75	6.78	2.115	9.96	200	
10:25	9.89	2.47	74.1	6.79	2.106	9.85	51.2	Surged
10:30	9.88	2.47	86.45	6.78	2.114	10.04	191	Surged
10:35	9.87	2.47	98.8	6.79	2.114	10.06	42.2	
10:40	9.89	2.47	111.15	6.80	2.112	9.81	33.3	Surged
10:45	9.88	2.47	123.5	6.79	2.113	9.95	60.5	
10:50	9.88	2.47	135.85	6.78	2.114	9.94	13.9	

HGL HydroGeoLogic, Inc Exceeding Expectations

WELL DEVELOPMENT RECORD (con't)

WELL/PIEZOMETER ID BKRD-CCFA-MW-08

PAGE 2 of 2

Time	DTW (feet btoc)	Flow Rate (gpm or lpm)	Gallons Removed	pH	Cond. (mS/cm	Temp. (deg C)	Turbidity (NTU)	Notes
10:55	9.88	2.47	148.2	6.77	2.114	9.93	8.52	
11:00	9.88	2.47	160.55	6.78	2.113	9.91	7.36	
11:05	9.87	2.47	172.9	6.76	2.114	9.90	5.45	

HGL HydroGeoLogic, Inc. Exceeding Expectations

WELL DEVELOPMENT RECORD

WELL/PIEZOMETER ID BKRD-LGIA-MW19
PAGE 1 of 2

PROJECT NAME: CHAAP PROJECT NO.: 16-027 DATE: 4-3-18

LOCATION: BKRD-LGIA-MW19 DATE INSTALLED: 3-27-18

TOTAL DEPTH (FTOC) 36.15 CASING DIAMETER 2"

MEASURING POINT HEIGHT ABOVE/BELOW GROUND LEVEL 2.5 ft

METHODS OF DEVELOPMENT

☐ Swabbing ☐ Bailing ☒ Pumping ☒ Surge ☐ Describe _____

Equipment decontaminated prior to development ☐ Yes ☐ No

Describe _____

EQUIPMENT NUMBERS:

pH Meter YSI 556 EC Meter YSI 556 Thermometer YSI 556 Turbidity Meter Hanna

CASING VOLUME INFORMATION:

Casing ID (inch)	1.0	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (A) (gal/ft)	0.04	0.09	0.16	0.2	0.37	0.65	0.75	1.0	1.5	2.0	2.6

PURGING INFORMATION:

Measured Well Depth Prior to Development (B) 36.15 ft.

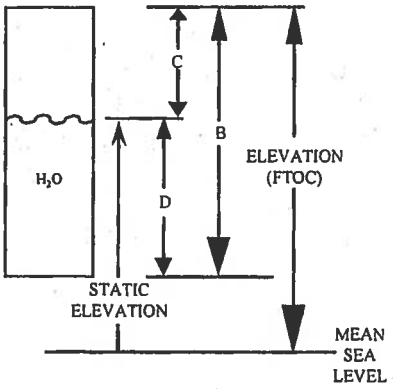
Measured Water Level Depth (C) 10.16 ft.

Length of Static Water Column (D) 36.15 (B) - 10.16 (C) = 25.99 ft. Pumping

Casing Water Volume 25.99 (A) x 0.16 (D) = 4.16 gal

Total Purge Volume = 14.3 (gal)

Measured Well Depth After Development (B) 36.15 ft.



Time	DTW (feet btoc)	Flow Rate (gpm or lpm)	Gallons Removed	pH	Cond. (mS/cm)	Temp. (deg C)	Turbidity (NTU)	Notes
1400	10.16	1.3	6.5	7.09	2.218	10.25	65.8	Surged
1405	10.22	1.3	13	7.16	2.212	10.6	>1000	
1410	10.21	1.3	19.5	7.15	2.215	10.69	246	
1415	10.22	1.3	26	7.13	2.295	11.38	135	
1420	10.23	1.3	32.5	7.08	2.299	11.12	861	Surged
1425	10.21	1.3	39	7.05	2.302	10.94	749	Surged
1430	10.22	1.3	45.5	7.05	2.305	11.00	645	
1435	10.22	1.3	52	7.04	2.311	11.05	218	
1440	10.23	1.3	58.5	7.03	2.309	11.03	326	Surged
1445	10.21	1.3	65	7.03	2.316	10.54	263	
1450	10.21	1.3	71.5	7.03	2.331	10.61	156	Surged

HGL HydroGeoLogic, Inc Exceeding Expectations

WELL DEVELOPMENT RECORD (con't)

WELL/PIEZOMETER ID BKRD-LGIA-MW19

PAGE 2 of 2

Time	DTW (feet btoc)	Flow Rate (gpm or lpm)	Gallons Removed	pH	Cond. (mS/cm	Temp. (deg C)	Turbidity (NTU)	Notes
1455	10.21	1.3	78	7.03	2.293	10.22	389	Surged
1500	10.21	1.3	84.5	7.03	2.297	10.51	270	
1505	10.22	1.3	91	7.03	2.301	10.19	126	
1510	10.21	1.3	97.5	7.03	2.301	10.37	207	Surged
1515	10.22	1.3	104	7.03	2.300	10.42	146	
1520	10.22	1.3	110.5	7.03	2.297	10.55	117	Surged
1525	10.21	1.3	117	7.03	2.287	10.33	42.0	
1530	10.21	1.3	123.5	7.02	2.290	10.74	23.6	
1535	10.21	1.3	130	7.02	2.293	10.76	17.5	
1540	10.22	1.3	136.5	7.01	2.290	10.77	12.7	
1545	10.22	1.3	143	7.02	2.290	10.76	9.43	

HGL HydroGeoLogic, Inc
Exceeding Expectations

WELL DEVELOPMENT RECORD

WELL/PIEZOMETER ID BKRD LG1A MW20
PAGE 1 of 2

PROJECT NAME: CHAAP PROJECT NO.: 16-027 DATE: 4-3-18

LOCATION: BKRD-LG1A-MW20 DATE INSTALLED: 3-28-18

TOTAL DEPTH (FTOC) 39.65 CASING DIAMETER 2"

MEASURING POINT HEIGHT ABOVE/BELOW GROUND LEVEL 2.56

METHODS OF DEVELOPMENT

☐ Swabbing ☐ Bailing ☑ Pumping ☑ Surge ☐ Describe

Equipment decontaminated prior to development ☑ Yes ☐ No

Describe

EQUIPMENT NUMBERS:

pH Meter YSI 556 EC Meter YSI 556 Thermometer YSI 556 Turbidity Meter Hanna

CASING VOLUME INFORMATION:

Casing ID (inch)	1.0	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (A) (gal/ft)	0.04	0.09	0.16	0.2	0.37	0.65	0.75	1.0	1.5	2.0	2.6

PURGING INFORMATION:

Measured Well Depth Prior to Development (B) 39.65 ft.

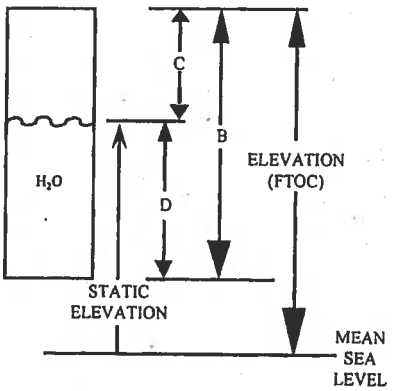
Measured Water Level Depth (C) 9.56 ft.

Length of Static Water Column (D) 39.65 (B) - 9.56 (C) = 30.09 ft. Pumping

Casing Water Volume .16 (A) x 30.09 (D) = 4.8144 gal

Total Purge Volume = 247 (gal)

Measured Well Depth After Development (B) 39.65 ft.



Time	DTW (feet btoc)	Flow Rate (gpm or lpm)	Gallons Removed	pH	Cond. (mS/cm)	Temp. (deg C)	Turbidity (NTU)	Notes
15:10	9.73	2.47gpm	12.35	6.82	2.185	11.09	>1000	Surged
15:15	9.79	2.47	24.7	6.84	2.210	11.19	310	Surged
15:20	9.77	2.47	37.05	6.81	2.215	11.19	>1000	
15:25	9.75	2.47	49.4	6.80	2.209	11.32	>1000	
15:30	9.75	2.47	61.75	6.82	2.211	11.42	306	
15:35	9.76	2.47gpm	74.1	6.84	2.214	11.26	74.8	Surged
15:40	9.75	2.47gpm	86.45	6.81	2.203	11.05	>1000	
15:45	9.75	2.47gpm	98.8	6.80	2.199	11.07	289	Surged
15:50	9.74	2.47gpm	111.15	6.80	2.209	11.15	>1000	
15:55	9.74	2.47gpm	123.5	6.80	2.205	11.26	260	
16:00	9.74	2.47gpm	135.85	6.81	2.209	11.40	>1000	Surged

HGL HydroGeoLogic, Inc Exceeding Expectations

WELL DEVELOPMENT RECORD (con't)

WELL/PIEZOMETER ID BKRD LGIA MW20

PAGE 2 of 2

Time	DTW (feet btoc)	Flow Rate (gpm or lpm)	Gallons Removed	pH	Cond. (mS/cm	Temp. (deg C)	Turbidity (NTU)	Notes
16:05	9.76	2.47gpm	148.2	6.80	2.201	11.24	467	
16:10	9.75	2.47gpm	160.55	6.82	2.200	11.34	53.3	
16:15	9.76	2.47gpm	172.9	6.82	2.196	11.20	>1000	Surged
16:20	9.76	2.47gpm	185.25	6.80	2.197	11.17	176	
16.25	9.77	2.47gpm	197.6	6.81	2.196	11.19	40.2	
16:30	9.76	2.47gpm	209.95	6.81	2.196	11.12	18.6	
16:35	9.76	2.47gpm	222.3	6.81	2.195	11.10	15.4	
16:40	9.76	2.47gpm	234.65	6.80	2.196	11.08	10.6	
16:45	9.76	2.47gpm	247	6.81	2.195	11.07	9.64	

WELL CONSTRUCTION FORM
(STANDARD WELL)

FIELD REPRESENTATIVE: Stuart Cameron

DRILLING CONTRACTOR: GSI Engineering

DRILLING TECHNIQUE: Hollow Stem Auger
AUGER SIZE AND TYPE: 4.5" ID / 8" OD Hollow Stem

BOREHOLE IDENTIFICATION: BKRD-UGIA-MW01
BOREHOLE DIAMETER: 8"
WELL IDENTIFICATION: BKRD-UGIA-MW01

WELL CONSTRUCTION START DATE: 5/4/18
WELL CONSTRUCTION COMPLETE DATE: _____

SCREEN MATERIAL: 0.010 Slotted PVC
SCREEN DIAMETER: 2"
STRATUM-SCREENED INTERVAL (FT): 10

CASING MATERIAL: PVC
CASING DIAMETER: 2"

TYPE OF FILTER PACK: Silica Sand-Pack
GRADIATION: #16/30
AMOUNT OF FILTER PACK USED: 250 lbs

TYPE OF BENTONITE: Bentonite Chips
AMOUNT BENTONITE USED: 150 lbs

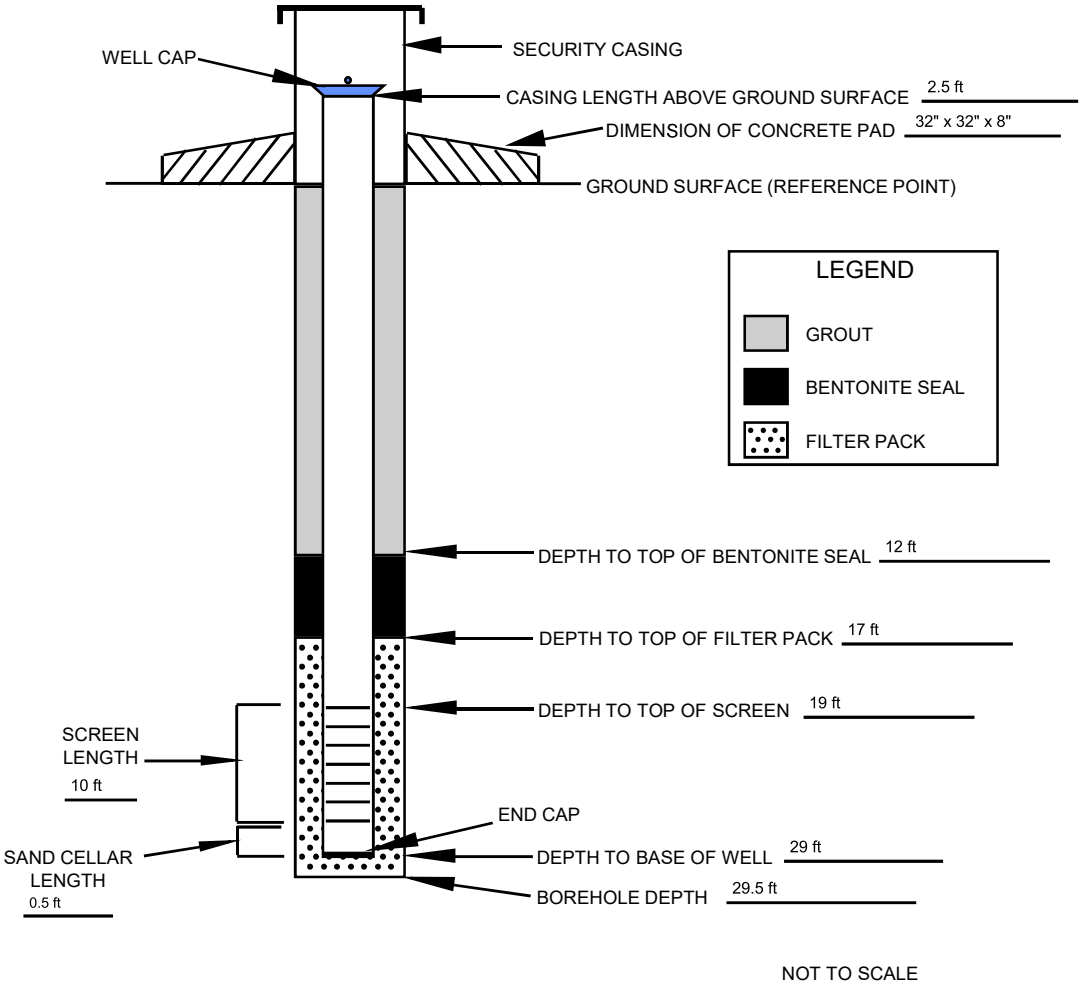
TYPE OF CEMENT: Portland
AMOUNT CEMENT USED: 5 lbs
GROUT MATERIALS USED: Portland (95%) and Bentonite (5%)

DIMENSIONS OF SECURITY CASING: 4" x 4" x 2.5 ft

TYPE OF WELL CAP: 2" compression plug
TYPE OF END CAP: 2" PVC End Cap

COMMENTS:

SPECIAL CONDITIONS
(describe and draw)



NOT TO SCALE

INSTALLED BY: Matt Wold (GSI)

INSTALLATION OBSERVED BY: Stuart Cameron (ATI)

DISCREPANCIES: _____

WELL CONSTRUCTION FORM
(STANDARD WELL)

FIELD REPRESENTATIVE: Stuart Cameron

DRILLING CONTRACTOR: GSI Engineering

DRILLING TECHNIQUE: Hollow Stem Auger
AUGER SIZE AND TYPE: 4.5" ID / 8" OD Hollow Stem

BOREHOLE IDENTIFICATION: BKRD-UGIA-MW02
BOREHOLE DIAMETER: 8"
WELL IDENTIFICATION: BKRD-UGIA-MW02

WELL CONSTRUCTION START DATE: 5/4/18
WELL CONSTRUCTION COMPLETE DATE: _____

SCREEN MATERIAL: 0.010 Slotted PVC
SCREEN DIAMETER: 2"
STRATUM-SCREENED INTERVAL (FT): 10

CASING MATERIAL: PVC
CASING DIAMETER: 2"

TYPE OF FILTER PACK: Silica Sand-Pack
GRADIATION: #16/30
AMOUNT OF FILTER PACK USED: 250 lbs

TYPE OF BENTONITE: Bentonite Chips
AMOUNT BENTONITE USED: 150 lbs

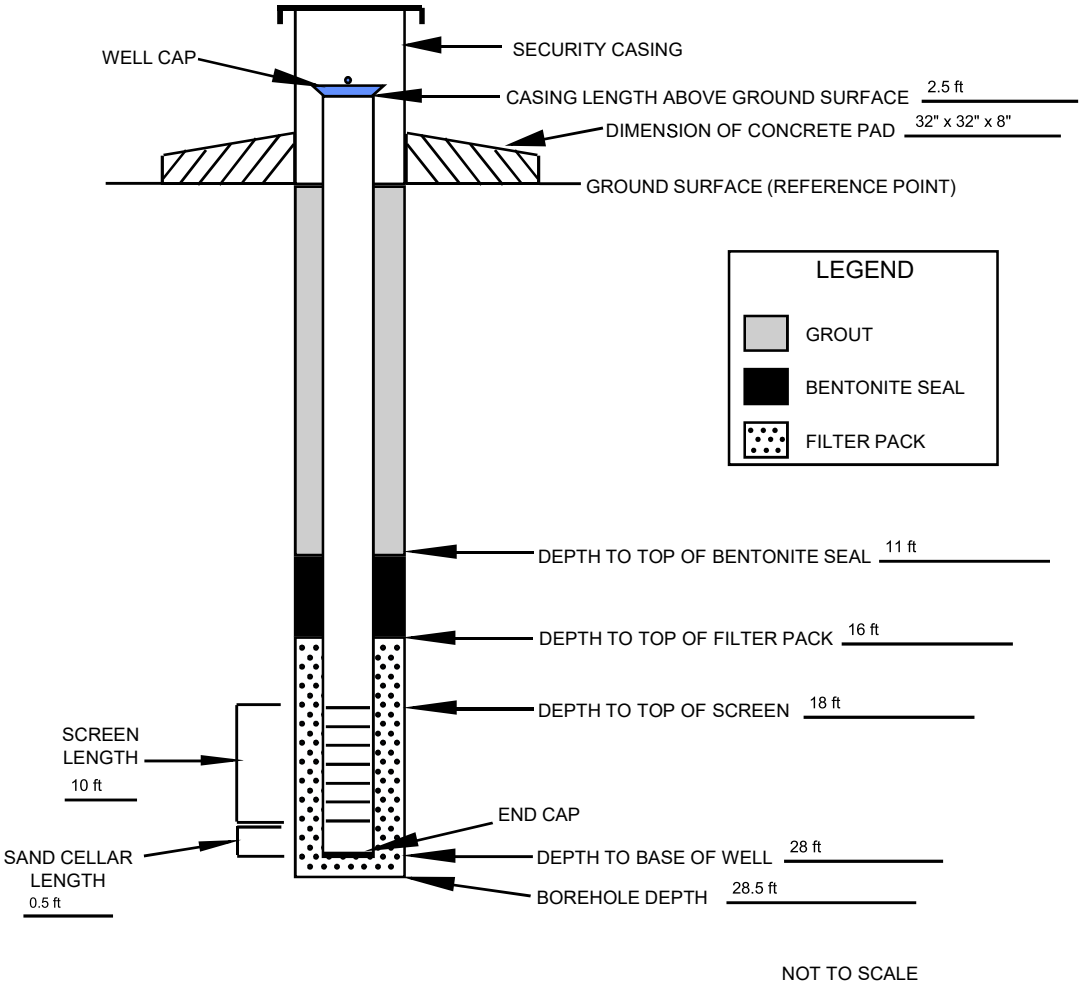
TYPE OF CEMENT: Portland
AMOUNT CEMENT USED: 5 lbs
GROUT MATERIALS USED: Portland (95%) and Bentonite (5%)

DIMENSIONS OF SECURITY CASING: 4" x 4" x 2.5 ft

TYPE OF WELL CAP: 2" compression plug
TYPE OF END CAP: 2" PVC End Cap

COMMENTS:

SPECIAL CONDITIONS
(describe and draw)



NOT TO SCALE

INSTALLED BY: Matt Wold (GSI)

INSTALLATION OBSERVED BY: Stuart Cameron (ATI)

DISCREPANCIES: _____

WELL CONSTRUCTION FORM
(STANDARD WELL)

FIELD REPRESENTATIVE: Stuart Cameron

DRILLING CONTRACTOR: GSI Engineering

DRILLING TECHNIQUE: Hollow Stem Auger
AUGER SIZE AND TYPE: 4.5" ID / 8" OD Hollow Stem

BOREHOLE IDENTIFICATION: BKRD-UGIA-MW03
BOREHOLE DIAMETER: 8"
WELL IDENTIFICATION: BKRD-UGIA-MW03

WELL CONSTRUCTION START DATE: 5/4/18
WELL CONSTRUCTION COMPLETE DATE: _____

SCREEN MATERIAL: 0.010 Slotted PVC
SCREEN DIAMETER: 2"
STRATUM-SCREENED INTERVAL (FT): 10

CASING MATERIAL: PVC
CASING DIAMETER: 2"

TYPE OF FILTER PACK: Silica Sand-Pack
GRADIATION: #16/30
AMOUNT OF FILTER PACK USED: 250 lbs

TYPE OF BENTONITE: Bentonite Chips
AMOUNT BENTONITE USED: 150 lbs

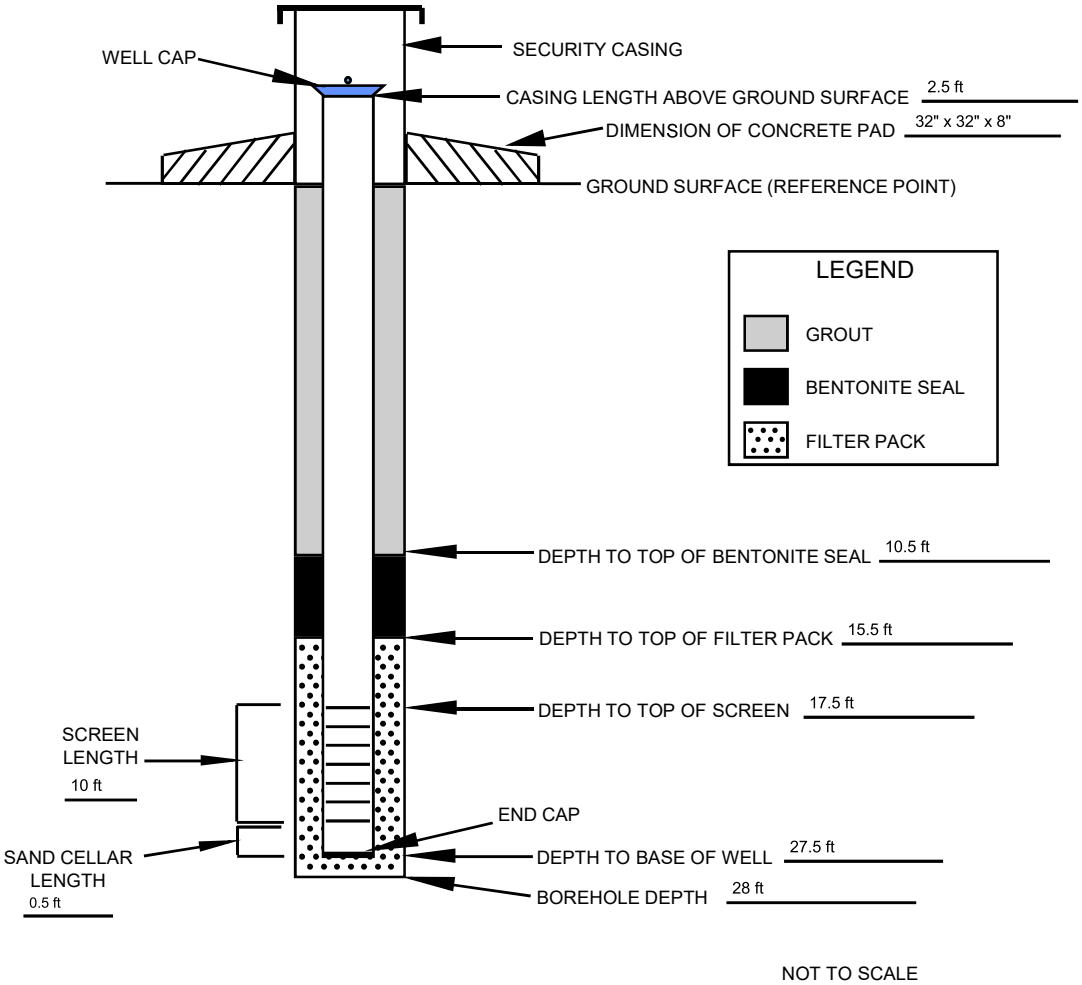
TYPE OF CEMENT: Portland
AMOUNT CEMENT USED: 5 lbs
GROUT MATERIALS USED: Portland (95%) and Bentonite (5%)

DIMENSIONS OF SECURITY CASING: 4" x 4" x 2.5 ft

TYPE OF WELL CAP: 2" compression plug
TYPE OF END CAP: 2" PVC End Cap

COMMENTS:

SPECIAL CONDITIONS
(describe and draw)



NOT TO SCALE

INSTALLED BY: Matt Wold (GSI)

INSTALLATION OBSERVED BY: Stuart Cameron (ATI)

DISCREPANCIES: _____

WELL CONSTRUCTION FORM
(STANDARD WELL)

FIELD REPRESENTATIVE: Stuart Cameron

DRILLING CONTRACTOR: GSI Engineering

DRILLING TECHNIQUE: Hollow Stem Auger
AUGER SIZE AND TYPE: 4.5" ID / 8" OD Hollow Stem

BOREHOLE IDENTIFICATION: BKRD-UGIA-MW04
BOREHOLE DIAMETER: 8"
WELL IDENTIFICATION: BKRD-UGIA-MW04

WELL CONSTRUCTION START DATE: 5/3/18
WELL CONSTRUCTION COMPLETE DATE: _____

SCREEN MATERIAL: 0.010 Slotted PVC
SCREEN DIAMETER: 2"
STRATUM-SCREENED INTERVAL (FT): 10

CASING MATERIAL: PVC
CASING DIAMETER: 2"

TYPE OF FILTER PACK: Silica Sand-Pack
GRADIATION: #16/30
AMOUNT OF FILTER PACK USED: 250 lbs

TYPE OF BENTONITE: Bentonite Chips
AMOUNT BENTONITE USED: 150 lbs

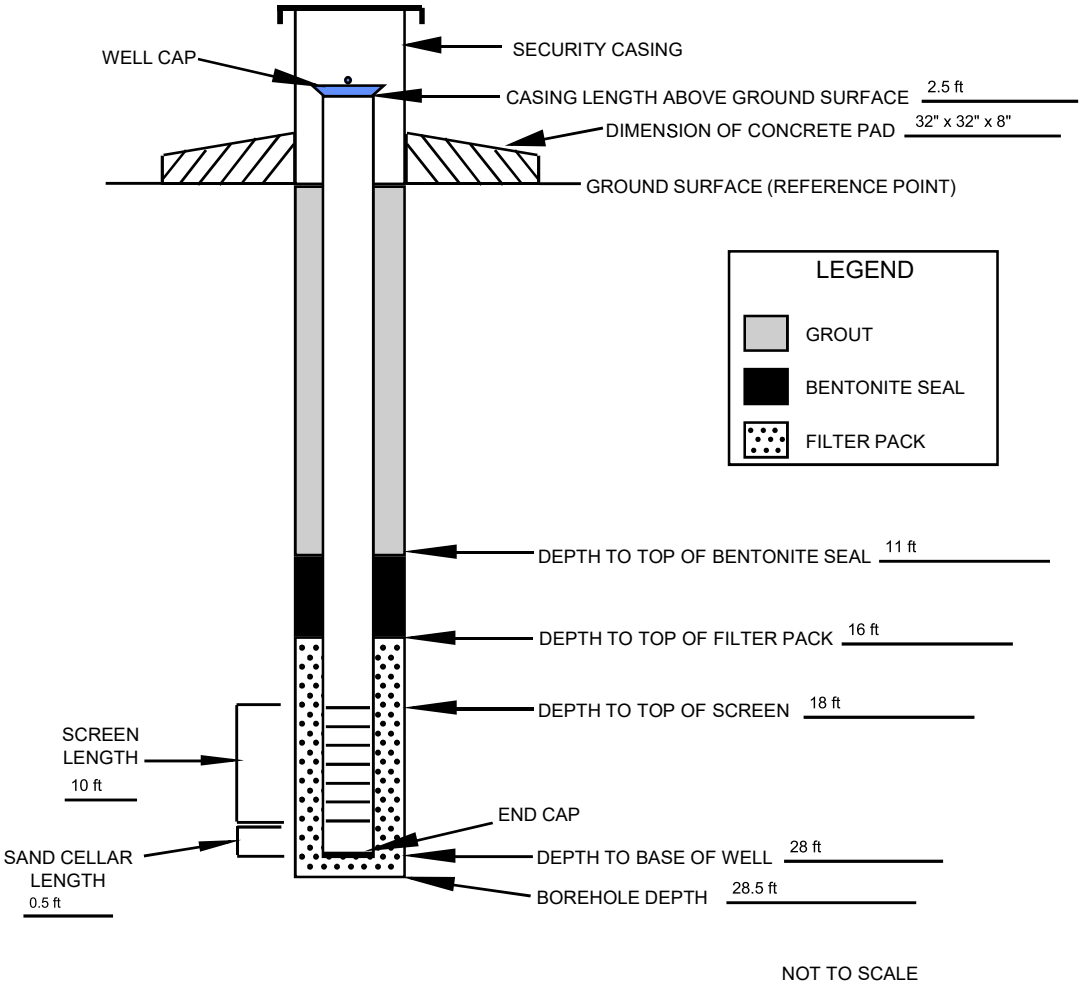
TYPE OF CEMENT: Portland
AMOUNT CEMENT USED: 5 lbs
GROUT MATERIALS USED: Portland (95%) and Bentonite (5%)

DIMENSIONS OF SECURITY CASING: 4" x 4" x 2.5 ft

TYPE OF WELL CAP: 2" compression plug
TYPE OF END CAP: 2" PVC End Cap

COMMENTS:

SPECIAL CONDITIONS
(describe and draw)



INSTALLED BY: Matt Wold (GSI)

INSTALLATION OBSERVED BY: Stuart Cameron (ATI)

DISCREPANCIES: _____

WELL CONSTRUCTION FORM
(STANDARD WELL)

FIELD REPRESENTATIVE: Stuart Cameron

DRILLING CONTRACTOR: GSI Engineering

DRILLING TECHNIQUE: Hollow Stem Auger
AUGER SIZE AND TYPE: 4.5" ID / 8" OD Hollow Stem

BOREHOLE IDENTIFICATION: BKRD-UGIA-MW05
BOREHOLE DIAMETER: 8"
WELL IDENTIFICATION: BKRD-UGIA-MW05

WELL CONSTRUCTION START DATE: 5/2/18
WELL CONSTRUCTION COMPLETE DATE: _____

SCREEN MATERIAL: 0.010 Slotted PVC
SCREEN DIAMETER: 2"
STRATUM-SCREENED INTERVAL (FT): 10

CASING MATERIAL: PVC
CASING DIAMETER: 2"

TYPE OF FILTER PACK: Silica Sand-Pack
GRADIATION: #16/30
AMOUNT OF FILTER PACK USED: 250 lbs

TYPE OF BENTONITE: Bentonite Chips
AMOUNT BENTONITE USED: 150 lbs

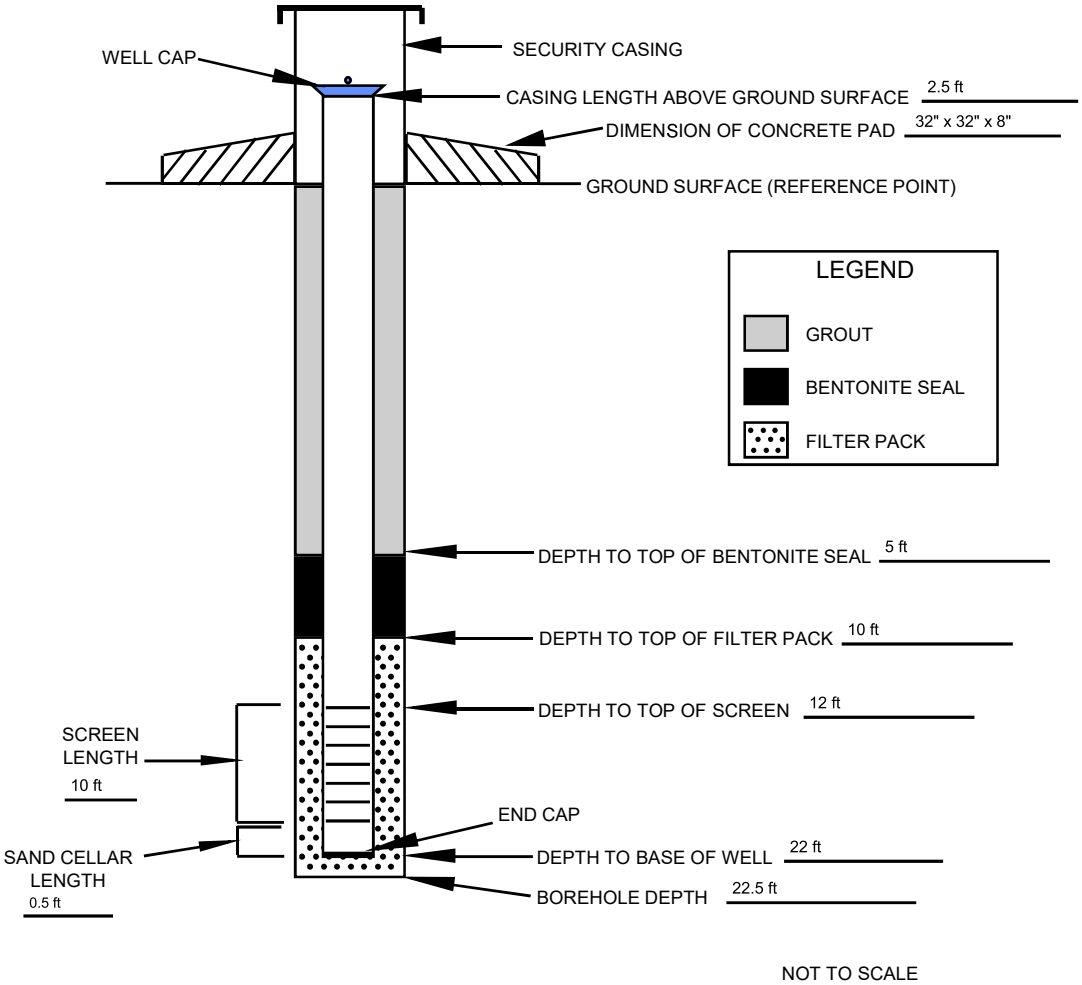
TYPE OF CEMENT: Portland
AMOUNT CEMENT USED: 5 lbs
GROUT MATERIALS USED: Portland (95%) and Bentonite (5%)

DIMENSIONS OF SECURITY CASING: 4" x 4" x 2.5 ft

TYPE OF WELL CAP: 2" compression plug
TYPE OF END CAP: 2" PVC End Cap

COMMENTS:

SPECIAL CONDITIONS
(describe and draw)



NOT TO SCALE

INSTALLED BY: Matt Wold (GSI)

INSTALLATION OBSERVED BY: Stuart Cameron (ATI)

DISCREPANCIES: _____

WELL CONSTRUCTION FORM
(STANDARD WELL)

FIELD REPRESENTATIVE: Stuart Cameron

DRILLING CONTRACTOR: GSI Engineering

DRILLING TECHNIQUE: Hollow Stem Auger
AUGER SIZE AND TYPE: 4.5" ID / 8" OD Hollow Stem

BOREHOLE IDENTIFICATION: BKRD-UGIA-MW06
BOREHOLE DIAMETER: 8"
WELL IDENTIFICATION: BKRD-UGIA-MW06

WELL CONSTRUCTION START DATE: 3/26/18
WELL CONSTRUCTION COMPLETE DATE: 4/2/18

SCREEN MATERIAL: 0.010 Slotted PVC
SCREEN DIAMETER: 2"
STRATUM-SCREENED INTERVAL (FT): 10

CASING MATERIAL: PVC
CASING DIAMETER: 2"

TYPE OF FILTER PACK: Silica Sand-Pack
GRADIATION: #16/30
AMOUNT OF FILTER PACK USED: 250 lbs

TYPE OF BENTONITE: Bentonite Chips
AMOUNT BENTONITE USED: 150 lbs

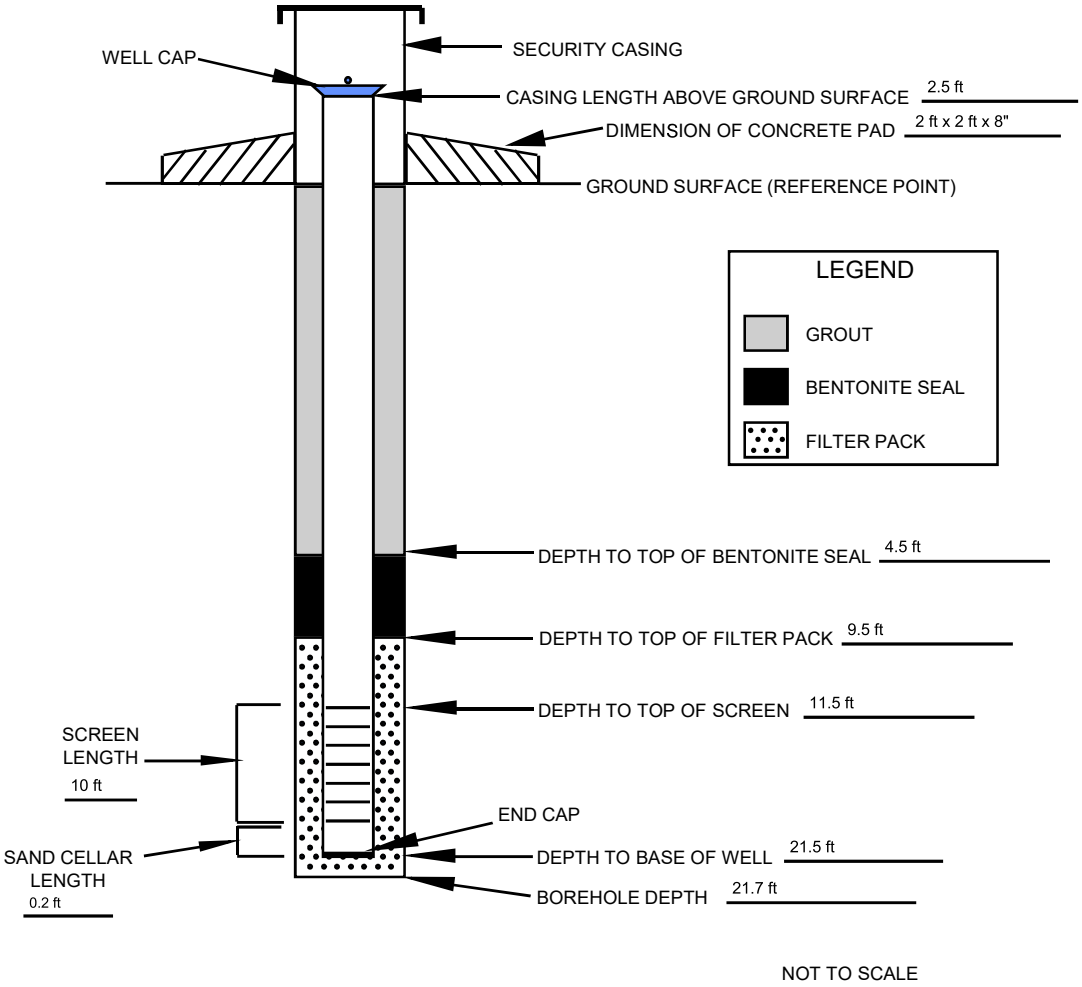
TYPE OF CEMENT: Portland
AMOUNT CEMENT USED: 5 lbs
GROUT MATERIALS USED: Portland (95%) and Bentonite (5%)

DIMENSIONS OF SECURITY CASING: 4" x 4" x 2.5 ft

TYPE OF WELL CAP: 2" compression plug
TYPE OF END CAP: 2" PVC End Cap

COMMENTS:

SPECIAL CONDITIONS
(describe and draw)



INSTALLED BY: James Tinnell (GSI)

INSTALLATION OBSERVED BY: Stuart Cameron (ATI)

DISCREPANCIES:

WELL CONSTRUCTION FORM
(STANDARD WELL)

FIELD REPRESENTATIVE: Stuart Cameron

DRILLING CONTRACTOR: GSI Engineering

DRILLING TECHNIQUE: Hollow Stem Auger
AUGER SIZE AND TYPE: 4.5" ID / 8" OD Hollow Stem

BOREHOLE IDENTIFICATION: BKRD-UGIA-MW07
BOREHOLE DIAMETER: 8"
WELL IDENTIFICATION: BKRD-UGIA-MW07

WELL CONSTRUCTION START DATE: 3/27/18
WELL CONSTRUCTION COMPLETE DATE: 4/2/18

SCREEN MATERIAL: 0.010 Slotted PVC
SCREEN DIAMETER: 2"
STRATUM-SCREENED INTERVAL (FT): 10

CASING MATERIAL: PVC
CASING DIAMETER: 2"

TYPE OF FILTER PACK: Silica Sand-Pack
GRADIATION: #16/30
AMOUNT OF FILTER PACK USED: 250 lbs

TYPE OF BENTONITE: Bentonite Chips
AMOUNT BENTONITE USED: 150 lbs

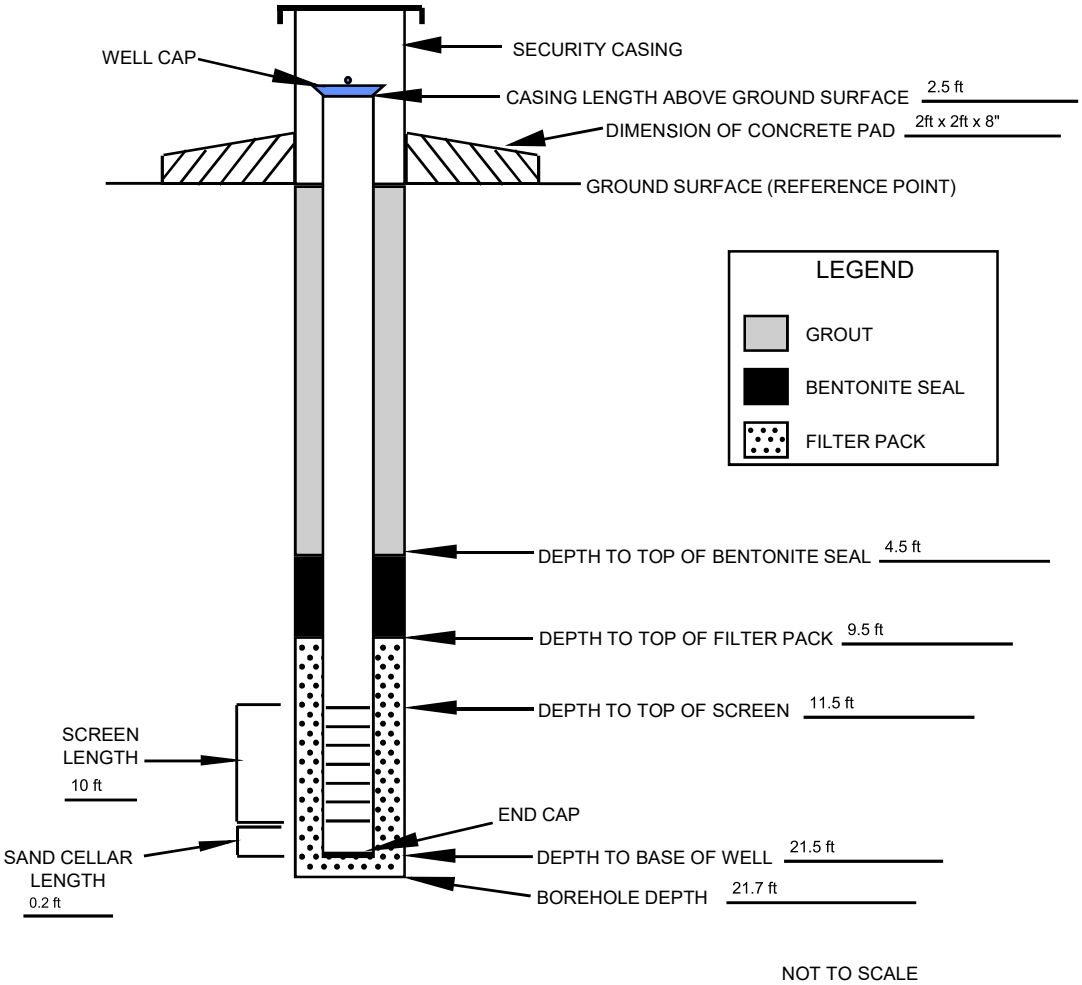
TYPE OF CEMENT: Portland
AMOUNT CEMENT USED: 5 lbs
GROUT MATERIALS USED: Portland (95%) and Bentonite (5%)

DIMENSIONS OF SECURITY CASING: 4" x 4" x 2.5 ft

TYPE OF WELL CAP: 2" compression plug
TYPE OF END CAP: 2" PVC End Cap

COMMENTS:

SPECIAL CONDITIONS
(describe and draw)



NOT TO SCALE

INSTALLED BY: James Tinnell (GSI)

INSTALLATION OBSERVED BY: Stuart Cameron (ATI)

DISCREPANCIES:

WELL CONSTRUCTION FORM
(STANDARD WELL)

FIELD REPRESENTATIVE: Stuart Cameron

DRILLING CONTRACTOR: GSI Engineering

DRILLING TECHNIQUE: Hollow Stem Auger
AUGER SIZE AND TYPE: 4.5" ID / 8" OD Hollow Stem

BOREHOLE IDENTIFICATION: BKRD-UGIA-MW08
BOREHOLE DIAMETER: 8"
WELL IDENTIFICATION: BKRD-UGIA-MW08

WELL CONSTRUCTION START DATE: 3/28/18
WELL CONSTRUCTION COMPLETE DATE: 4/2/18

SCREEN MATERIAL: 0.010 Slotted PVC
SCREEN DIAMETER: 2"
STRATUM-SCREENED INTERVAL (FT): 10

CASING MATERIAL: PVC
CASING DIAMETER: 2"

TYPE OF FILTER PACK: Silica Sand-Pack
GRADIATION: #16/30
AMOUNT OF FILTER PACK USED: 250 lbs

TYPE OF BENTONITE: Bentonite Chips
AMOUNT BENTONITE USED: 150 lbs

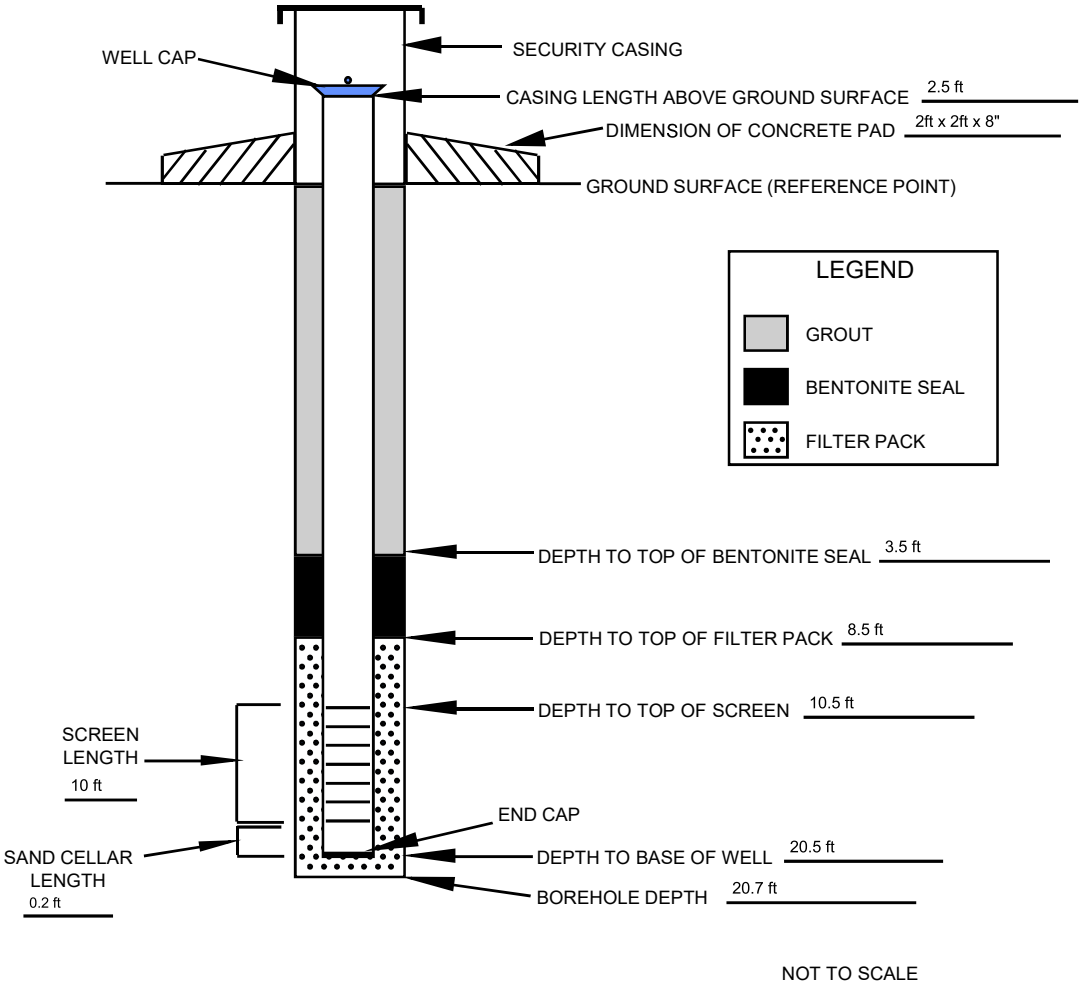
TYPE OF CEMENT: Portland
AMOUNT CEMENT USED: 5 lbs
GROUT MATERIALS USED: Portland (95%) and Bentonite (5%)

DIMENSIONS OF SECURITY CASING: 4" x 4" x 2.5 ft

TYPE OF WELL CAP: 2" compression plug
TYPE OF END CAP: 2" PVC End Cap

COMMENTS:

SPECIAL CONDITIONS
(describe and draw)



NOT TO SCALE

INSTALLED BY: James Tinnell (GSI)

INSTALLATION OBSERVED BY: Stuart Cameron (ATI)

DISCREPANCIES:

WELL CONSTRUCTION FORM
(STANDARD WELL)

FIELD REPRESENTATIVE: Stuart Cameron

DRILLING CONTRACTOR: GSI Engineering

DRILLING TECHNIQUE: Hollow Stem Auger
AUGER SIZE AND TYPE: 4.5" ID / 8" OD Hollow Stem

BOREHOLE IDENTIFICATION: BKRD-UGIA-MW09
BOREHOLE DIAMETER: 8"
WELL IDENTIFICATION: BKRD-UGIA-MW09

WELL CONSTRUCTION START DATE: 3/29/18
WELL CONSTRUCTION COMPLETE DATE: 4/2/18

SCREEN MATERIAL: 0.010 Slotted PVC
SCREEN DIAMETER: 2"
STRATUM-SCREENED INTERVAL (FT): 10

CASING MATERIAL: PVC
CASING DIAMETER: 2"

TYPE OF FILTER PACK: Silica Sand-Pack
GRADIATION: #16/30
AMOUNT OF FILTER PACK USED: 250 lbs

TYPE OF BENTONITE: Bentonite Chips
AMOUNT BENTONITE USED: 150 lbs

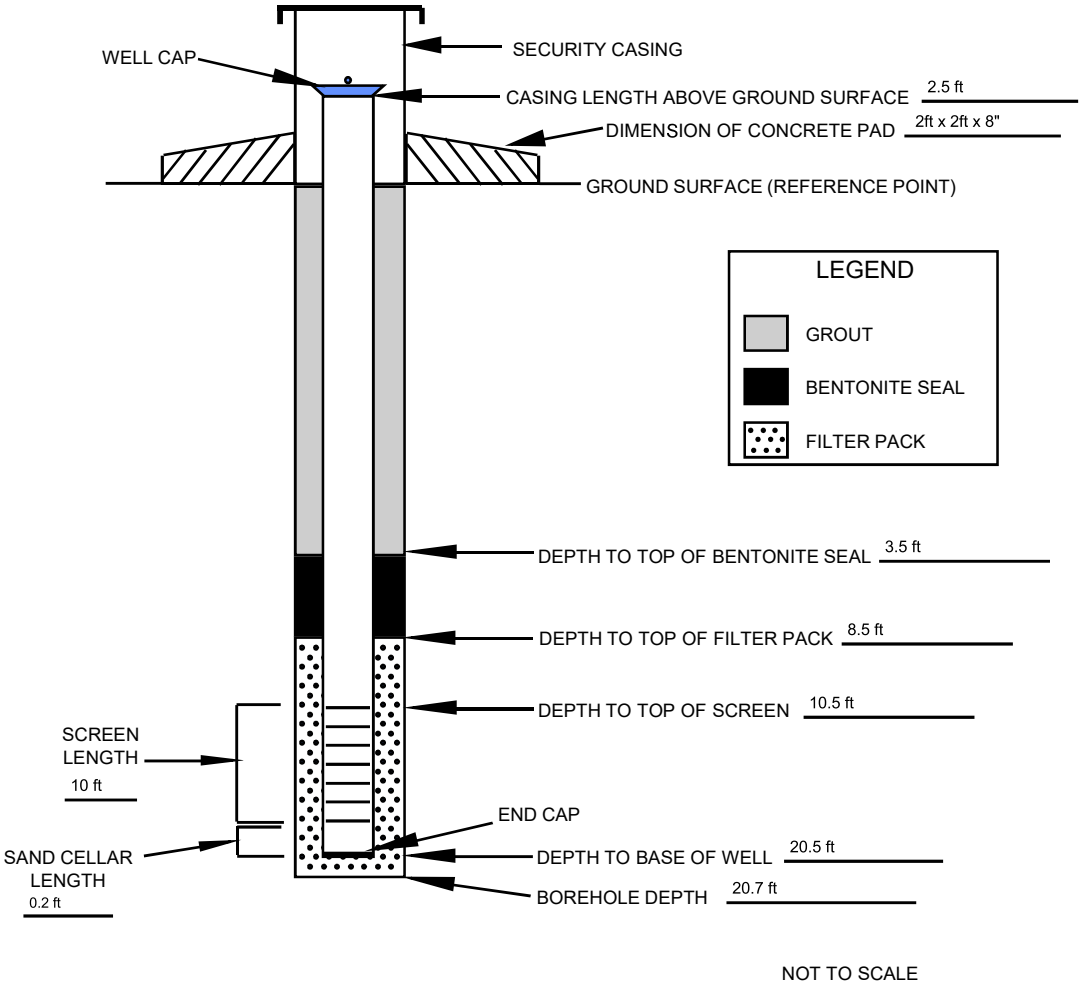
TYPE OF CEMENT: Portland
AMOUNT CEMENT USED: 5 lbs
GROUT MATERIALS USED: Portland (95%) and Bentonite (5%)

DIMENSIONS OF SECURITY CASING: 4" x 4" x 2.5 ft

TYPE OF WELL CAP: 2" compression plug
TYPE OF END CAP: 2" PVC End Cap

COMMENTS:

SPECIAL CONDITIONS
(describe and draw)



NOT TO SCALE

INSTALLED BY: James Tinnell (GSI)

INSTALLATION OBSERVED BY: Stuart Cameron (ATI)

DISCREPANCIES:

WELL CONSTRUCTION FORM
(STANDARD WELL)

FIELD REPRESENTATIVE: Stuart Cameron

DRILLING CONTRACTOR: GSI Engineering

DRILLING TECHNIQUE: Hollow Stem Auger
AUGER SIZE AND TYPE: 4.5" ID / 8" OD Hollow Stem

BOREHOLE IDENTIFICATION: BKRD-UGIA-MW10
BOREHOLE DIAMETER: 8"
WELL IDENTIFICATION: BKRD-UGIA-MW10

WELL CONSTRUCTION START DATE: 3/28/18
WELL CONSTRUCTION COMPLETE DATE: 4/2/18

SCREEN MATERIAL: 0.010 Slotted PVC
SCREEN DIAMETER: 2"
STRATUM-SCREENED INTERVAL (FT): 10

CASING MATERIAL: PVC
CASING DIAMETER: 2"

TYPE OF FILTER PACK: Silica Sand-Pack
GRADIATION: #16/30
AMOUNT OF FILTER PACK USED: 250 lbs

TYPE OF BENTONITE: Bentonite Chips
AMOUNT BENTONITE USED: 150 lbs

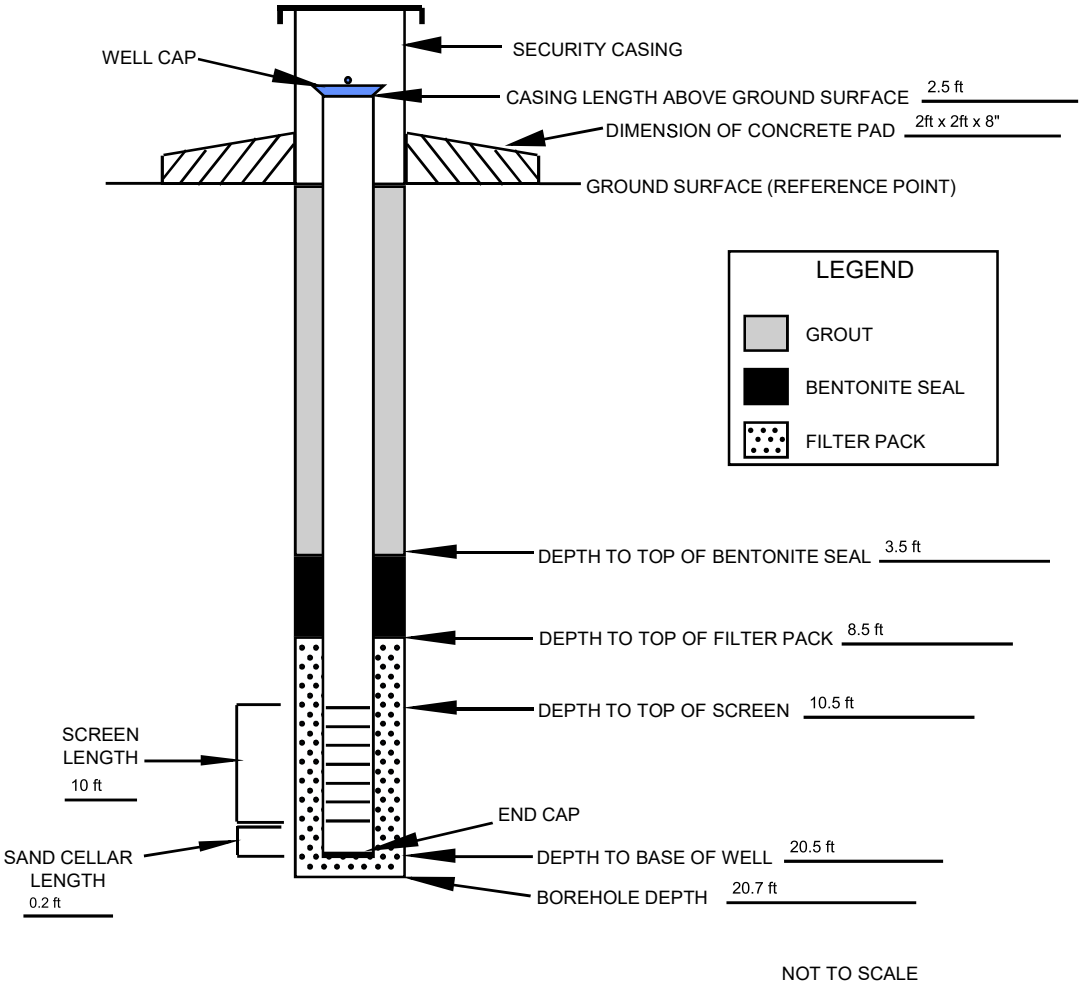
TYPE OF CEMENT: Portland
AMOUNT CEMENT USED: 5 lbs
GROUT MATERIALS USED: Portland (95%) and Bentonite (5%)

DIMENSIONS OF SECURITY CASING: 4" x 4" x 2.5 ft

TYPE OF WELL CAP: 2" compression plug
TYPE OF END CAP: 2" PVC End Cap

COMMENTS:

SPECIAL CONDITIONS
(describe and draw)



NOT TO SCALE

INSTALLED BY: James Tinnell (GSI)

INSTALLATION OBSERVED BY: Stuart Cameron (ATI)

DISCREPANCIES:

WELL CONSTRUCTION FORM
(STANDARD WELL)

FIELD REPRESENTATIVE: Stuart Cameron

DRILLING CONTRACTOR: GSI Engineering

DRILLING TECHNIQUE: Hollow Stem Auger
AUGER SIZE AND TYPE: 4.5" ID / 8" OD Hollow Stem

BOREHOLE IDENTIFICATION: BKRD-LGIA-MW11
BOREHOLE DIAMETER: 8"
WELL IDENTIFICATION: BKRD-LGIA-MW11

WELL CONSTRUCTION START DATE: 5/5/18
WELL CONSTRUCTION COMPLETE DATE: _____

SCREEN MATERIAL: 0.010 Slotted PVC
SCREEN DIAMETER: 2"
STRATUM-SCREENED INTERVAL (FT): 10

CASING MATERIAL: PVC
CASING DIAMETER: 2"

TYPE OF FILTER PACK: Silica Sand-Pack
GRADIATION: #16/30
AMOUNT OF FILTER PACK USED: 250 lbs

TYPE OF BENTONITE: Bentonite Chips
AMOUNT BENTONITE USED: 150 lbs

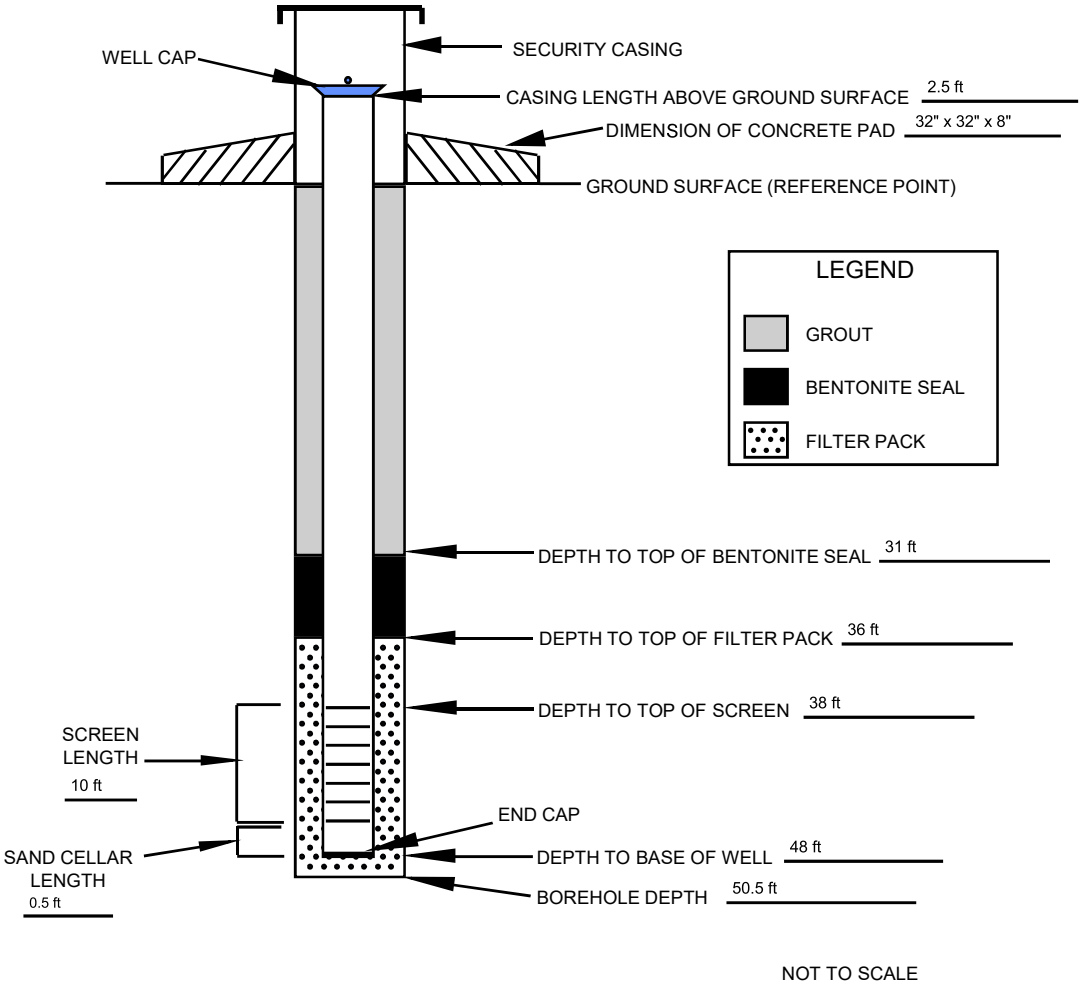
TYPE OF CEMENT: Portland
AMOUNT CEMENT USED: 50 lbs
GROUT MATERIALS USED: Portland (95%) and Bentonite (5%)

DIMENSIONS OF SECURITY CASING: 4" x 4" x 2.5 ft

TYPE OF WELL CAP: 2" compression plug
TYPE OF END CAP: 2" PVC End Cap

COMMENTS:

SPECIAL CONDITIONS
(describe and draw)



NOT TO SCALE

INSTALLED BY: Matt Wold (GSI)

INSTALLATION OBSERVED BY: Stuart Cameron (ATI)

DISCREPANCIES: _____

WELL CONSTRUCTION FORM
(STANDARD WELL)

FIELD REPRESENTATIVE: Stuart Cameron

DRILLING CONTRACTOR: GSI Engineering

DRILLING TECHNIQUE: Hollow Stem Auger
AUGER SIZE AND TYPE: 4.5" ID / 8" OD Hollow Stem

BOREHOLE IDENTIFICATION: BKRD-LGIA-MW12
BOREHOLE DIAMETER: 8"
WELL IDENTIFICATION: BKRD-LGIA-MW12

WELL CONSTRUCTION START DATE: 5/5/18
WELL CONSTRUCTION COMPLETE DATE: _____

SCREEN MATERIAL: 0.010 Slotted PVC
SCREEN DIAMETER: 2"
STRATUM-SCREENED INTERVAL (FT): 10

CASING MATERIAL: PVC
CASING DIAMETER: 2"

TYPE OF FILTER PACK: Silica Sand-Pack
GRADIATION: #16/30
AMOUNT OF FILTER PACK USED: 250 lbs

TYPE OF BENTONITE: Bentonite Chips
AMOUNT BENTONITE USED: 150 lbs

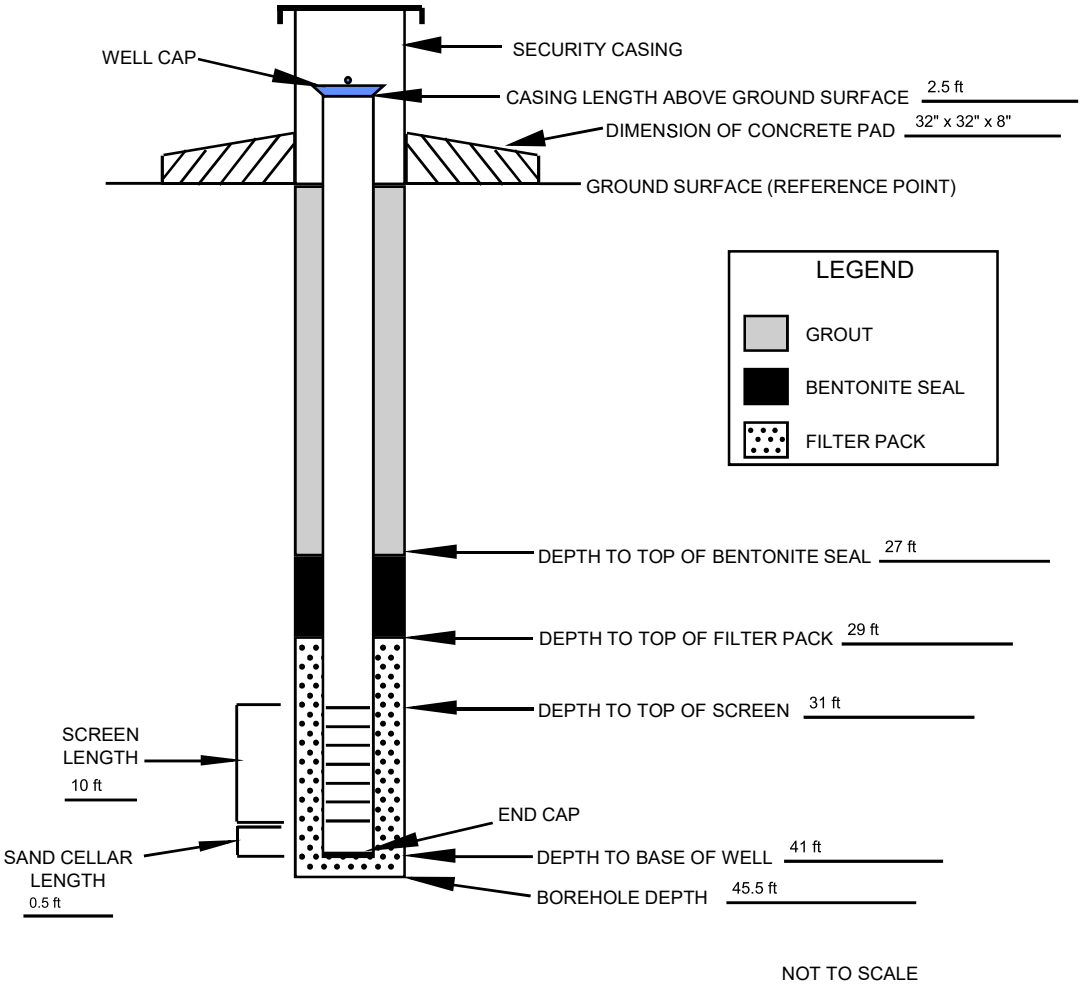
TYPE OF CEMENT: Portland
AMOUNT CEMENT USED: 50 lbs
GROUT MATERIALS USED: Portland (95%) and Bentonite (5%)

DIMENSIONS OF SECURITY CASING: 4" x 4" x 2.5 ft

TYPE OF WELL CAP: 2" compression plug
TYPE OF END CAP: 2" PVC End Cap

COMMENTS:

SPECIAL CONDITIONS
(describe and draw)



NOT TO SCALE

INSTALLED BY: Matt Wold (GSI)

INSTALLATION OBSERVED BY: Stuart Cameron (ATI)

DISCREPANCIES: _____

WELL CONSTRUCTION FORM
(STANDARD WELL)

FIELD REPRESENTATIVE: Stuart Cameron

DRILLING CONTRACTOR: GSI Engineering

DRILLING TECHNIQUE: Hollow Stem Auger
AUGER SIZE AND TYPE: 4.5" ID / 8" OD Hollow Stem

BOREHOLE IDENTIFICATION: BKRD-LGIA-MW13
BOREHOLE DIAMETER: 8"
WELL IDENTIFICATION: BKRD-LGIA-MW13

WELL CONSTRUCTION START DATE: 5/6/18
WELL CONSTRUCTION COMPLETE DATE: _____

SCREEN MATERIAL: 0.010 Slotted PVC
SCREEN DIAMETER: 2"
STRATUM-SCREENED INTERVAL (FT): 10

CASING MATERIAL: PVC
CASING DIAMETER: 2"

TYPE OF FILTER PACK: Silica Sand-Pack
GRADIATION: #16/30
AMOUNT OF FILTER PACK USED: 250 lbs

TYPE OF BENTONITE: Bentonite Chips
AMOUNT BENTONITE USED: 150 lbs

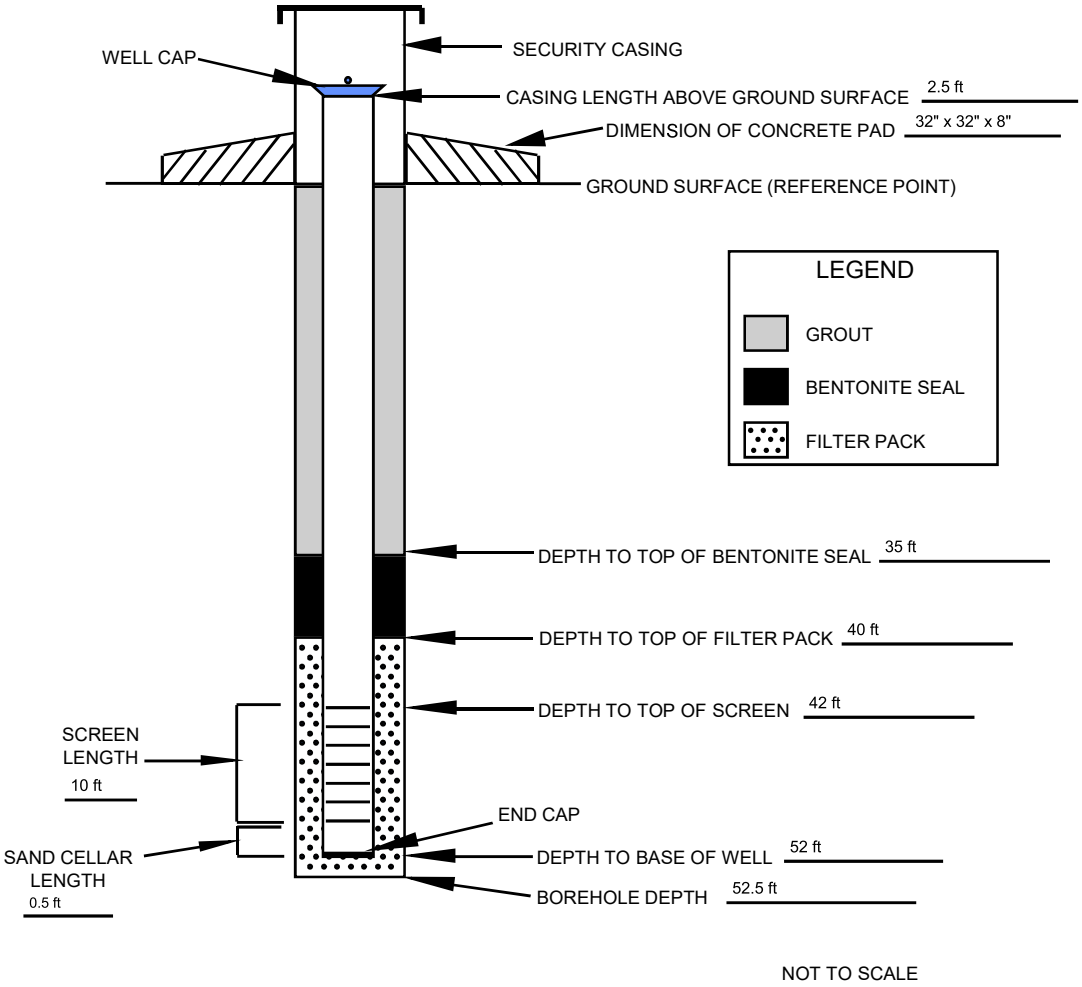
TYPE OF CEMENT: Portland
AMOUNT CEMENT USED: 50 lbs
GROUT MATERIALS USED: Portland (95%) and Bentonite (5%)

DIMENSIONS OF SECURITY CASING: 4" x 4" x 2.5 ft

TYPE OF WELL CAP: 2" compression plug
TYPE OF END CAP: 2" PVC End Cap

COMMENTS:

SPECIAL CONDITIONS
(describe and draw)



NOT TO SCALE

INSTALLED BY: Matt Wold (GSI)

INSTALLATION OBSERVED BY: Stuart Cameron (ATI)

DISCREPANCIES: _____

WELL CONSTRUCTION FORM
(STANDARD WELL)

FIELD REPRESENTATIVE: Stuart Cameron

DRILLING CONTRACTOR: GSI Engineering

DRILLING TECHNIQUE: Hollow Stem Auger
AUGER SIZE AND TYPE: 4.5" ID / 8" OD Hollow Stem

BOREHOLE IDENTIFICATION: BKRD-LGIA-MW14
BOREHOLE DIAMETER: 8"
WELL IDENTIFICATION: BKRD-LGIA-MW14

WELL CONSTRUCTION START DATE: 5/3/18
WELL CONSTRUCTION COMPLETE DATE: _____

SCREEN MATERIAL: 0.010 Slotted PVC
SCREEN DIAMETER: 2"
STRATUM-SCREENED INTERVAL (FT): 10

CASING MATERIAL: PVC
CASING DIAMETER: 2"

TYPE OF FILTER PACK: Silica Sand-Pack
GRADIATION: #16/30
AMOUNT OF FILTER PACK USED: 250 lbs

TYPE OF BENTONITE: Bentonite Chips
AMOUNT BENTONITE USED: 150 lbs

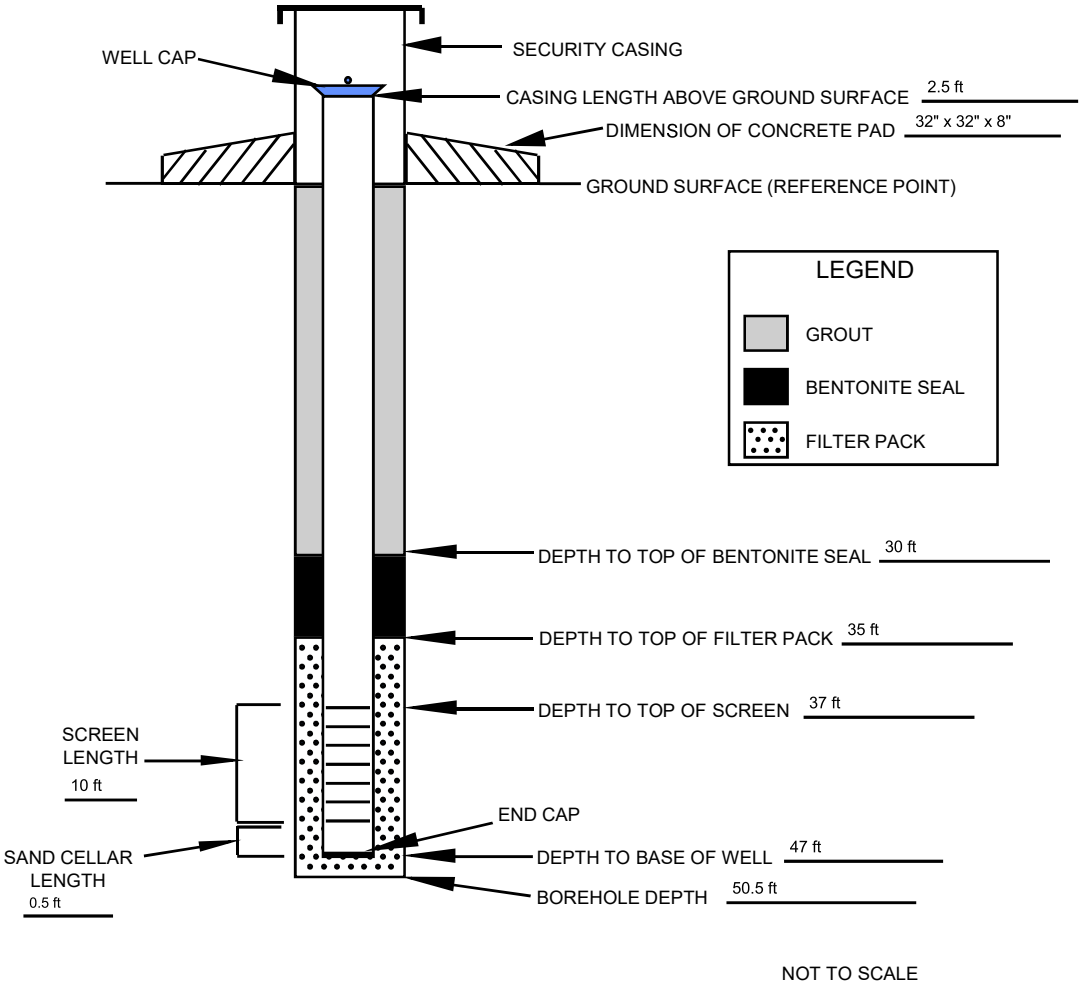
TYPE OF CEMENT: Portland
AMOUNT CEMENT USED: 50 lbs
GROUT MATERIALS USED: Portland (95%) and Bentonite (5%)

DIMENSIONS OF SECURITY CASING: 4" x 4" x 2.5 ft

TYPE OF WELL CAP: 2" compression plug
TYPE OF END CAP: 2" PVC End Cap

COMMENTS:

SPECIAL CONDITIONS
(describe and draw)



NOT TO SCALE

INSTALLED BY: Matt Wold (GSI)

INSTALLATION OBSERVED BY: Stuart Cameron (ATI)

DISCREPANCIES: _____

WELL CONSTRUCTION FORM
(STANDARD WELL)

FIELD REPRESENTATIVE: Stuart Cameron

DRILLING CONTRACTOR: GSI Engineering

DRILLING TECHNIQUE: Hollow Stem Auger
AUGER SIZE AND TYPE: 4.5" ID / 8" OD Hollow Stem

BOREHOLE IDENTIFICATION: BKRD-LGIA-MW15
BOREHOLE DIAMETER: 8"
WELL IDENTIFICATION: BKRD-LGIA-MW15

WELL CONSTRUCTION START DATE: 5/2/18
WELL CONSTRUCTION COMPLETE DATE: _____

SCREEN MATERIAL: 0.010 Slotted PVC
SCREEN DIAMETER: 2"
STRATUM-SCREENED INTERVAL (FT): 10

CASING MATERIAL: PVC
CASING DIAMETER: 2"

TYPE OF FILTER PACK: Silica Sand-Pack
GRADIATION: #16/30
AMOUNT OF FILTER PACK USED: 250 lbs

TYPE OF BENTONITE: Bentonite Chips
AMOUNT BENTONITE USED: 150 lbs

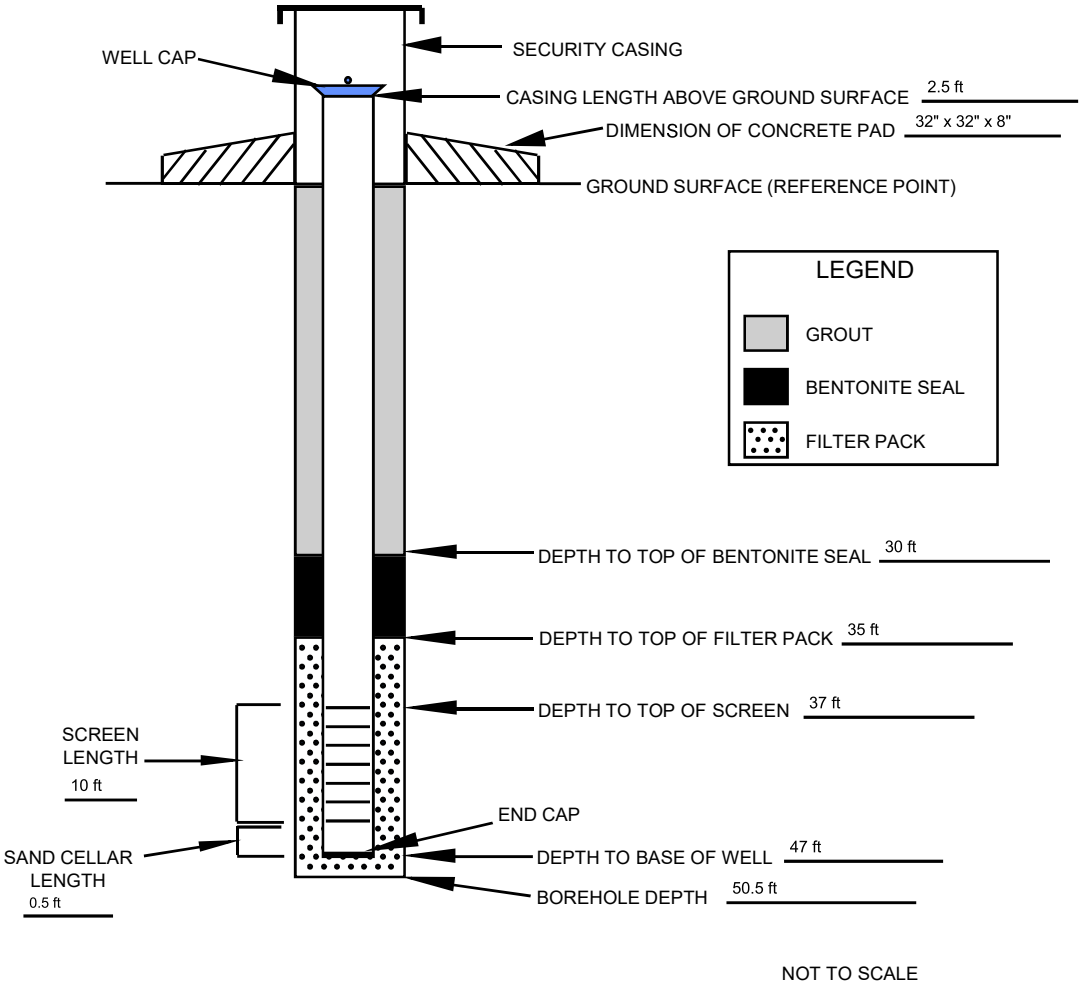
TYPE OF CEMENT: Portland
AMOUNT CEMENT USED: 50 lbs
GROUT MATERIALS USED: Portland (95%) and Bentonite (5%)

DIMENSIONS OF SECURITY CASING: 4" x 4" x 2.5 ft

TYPE OF WELL CAP: 2" compression plug
TYPE OF END CAP: 2" PVC End Cap

COMMENTS:

SPECIAL CONDITIONS
(describe and draw)



NOT TO SCALE

INSTALLED BY: Matt Wold (GSI)

INSTALLATION OBSERVED BY: Stuart Cameron (ATI)

DISCREPANCIES: _____

WELL CONSTRUCTION FORM
(STANDARD WELL)

FIELD REPRESENTATIVE: Stuart Cameron

DRILLING CONTRACTOR: GSI Engineering

DRILLING TECHNIQUE: Hollow Stem Auger
AUGER SIZE AND TYPE: 4.5" ID / 8" OD Hollow Stem

BOREHOLE IDENTIFICATION: BKRD-LGIA-MW16
BOREHOLE DIAMETER: 8"
WELL IDENTIFICATION: BKRD-LGIA-MW16

WELL CONSTRUCTION START DATE: 3/26/18
WELL CONSTRUCTION COMPLETE DATE: 4/2/18

SCREEN MATERIAL: 0.010 Slotted PVC
SCREEN DIAMETER: 2"
STRATUM-SCREENED INTERVAL (FT): 10

CASING MATERIAL: PVC
CASING DIAMETER: 2"

TYPE OF FILTER PACK: Silica Sand-Pack
GRADIATION: #16/30
AMOUNT OF FILTER PACK USED: 250 lbs

TYPE OF BENTONITE: Bentonite Chips
AMOUNT BENTONITE USED: 150 lbs

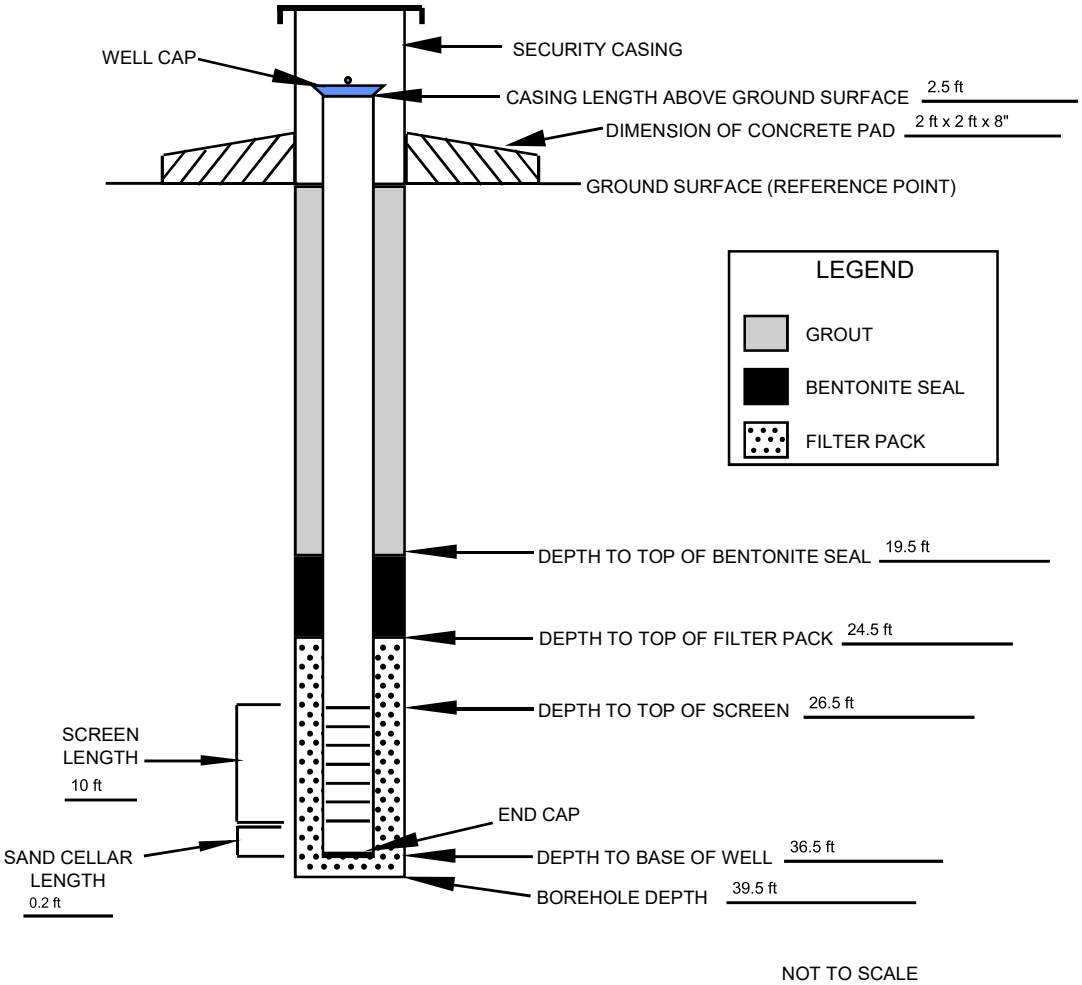
TYPE OF CEMENT: Portland
AMOUNT CEMENT USED: 50 lbs
GROUT MATERIALS USED: Portland (95%) and Bentonite (5%)

DIMENSIONS OF SECURITY CASING: 4" x 4" x 2.5 ft

TYPE OF WELL CAP: 2" compression plug
TYPE OF END CAP: 2" PVC End Cap

COMMENTS:

SPECIAL CONDITIONS
(describe and draw)



INSTALLED BY: James Tinnell (GSI)

INSTALLATION OBSERVED BY: Stuart Cameron (ATI)

DISCREPANCIES:

WELL CONSTRUCTION FORM
(STANDARD WELL)

FIELD REPRESENTATIVE: Stuart Cameron

DRILLING CONTRACTOR: GSI Engineering

DRILLING TECHNIQUE: Hollow Stem Auger
AUGER SIZE AND TYPE: 4.5" ID / 8" OD Hollow Stem

BOREHOLE IDENTIFICATION: BKRD-LGIA-MW17
BOREHOLE DIAMETER: 8"
WELL IDENTIFICATION: BKRD-LGIA-MW18

WELL CONSTRUCTION START DATE: 3/27/18
WELL CONSTRUCTION COMPLETE DATE: 4/2/18

SCREEN MATERIAL: 0.010 Slotted PVC
SCREEN DIAMETER: 2"
STRATUM-SCREENED INTERVAL (FT): 10

CASING MATERIAL: PVC
CASING DIAMETER: 2"

TYPE OF FILTER PACK: Silica Sand-Pack
GRADIATION: #16/30
AMOUNT OF FILTER PACK USED: 250 lbs

TYPE OF BENTONITE: Bentonite Chips
AMOUNT BENTONITE USED: 150 lbs

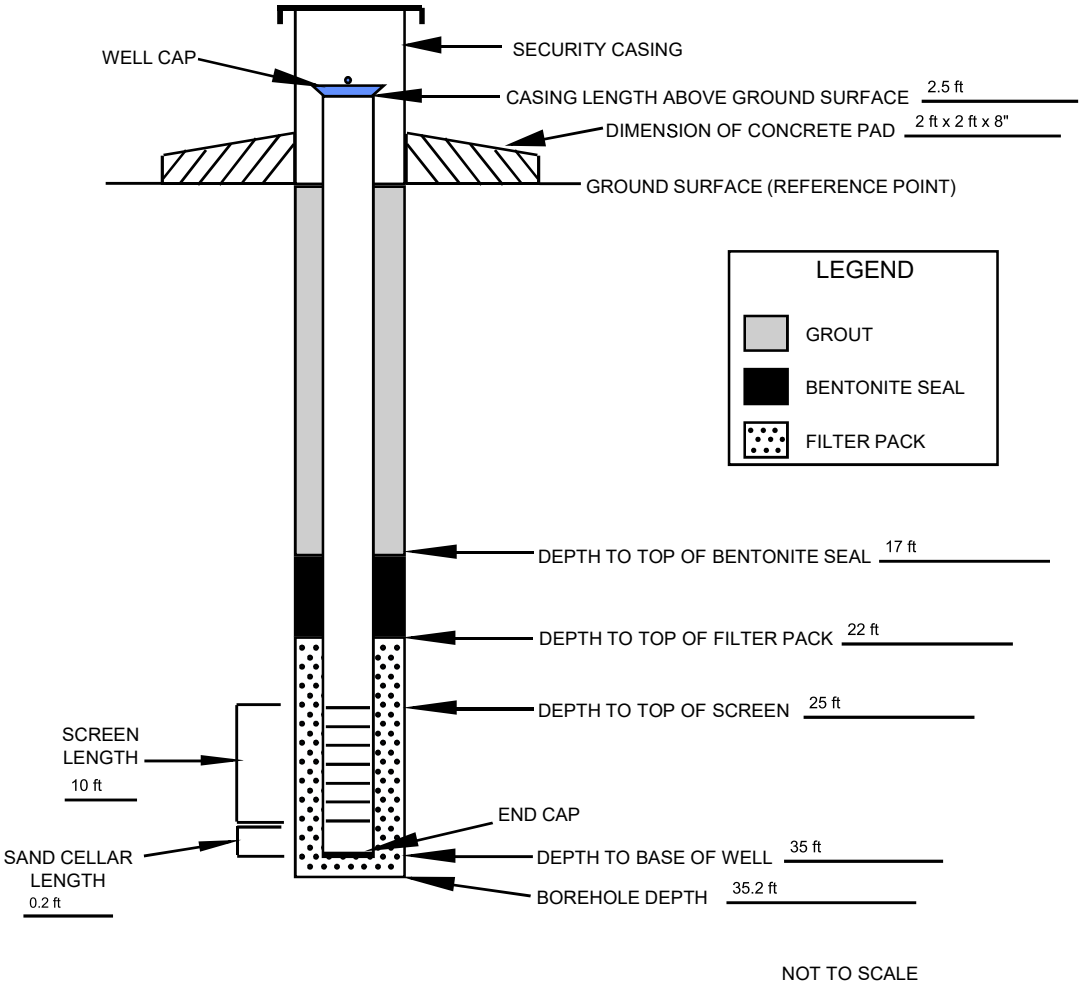
TYPE OF CEMENT: Portland
AMOUNT CEMENT USED: 50 lbs
GROUT MATERIALS USED: Portland (95%) and Bentonite (5%)

DIMENSIONS OF SECURITY CASING: 4" x 4" x 2.5 ft

TYPE OF WELL CAP: 2" compression plug
TYPE OF END CAP: 2" PVC End Cap

COMMENTS:

SPECIAL CONDITIONS
(describe and draw)



NOT TO SCALE

INSTALLED BY: James Tinnell (GSI)

INSTALLATION OBSERVED BY: Stuart Cameron (ATI)

DISCREPANCIES:

WELL CONSTRUCTION FORM
(STANDARD WELL)

FIELD REPRESENTATIVE: Stuart Cameron

DRILLING CONTRACTOR: GSI Engineering

DRILLING TECHNIQUE: Hollow Stem Auger
AUGER SIZE AND TYPE: 4.5" ID / 8" OD Hollow Stem

BOREHOLE IDENTIFICATION: BKRD-LGIA-MW18
BOREHOLE DIAMETER: 8"
WELL IDENTIFICATION: BKRD-LGIA-MW18

WELL CONSTRUCTION START DATE: 3/29/18
WELL CONSTRUCTION COMPLETE DATE: 4/2/18

SCREEN MATERIAL: 0.010 Slotted PVC
SCREEN DIAMETER: 2"
STRATUM-SCREENED INTERVAL (FT): 10

CASING MATERIAL: PVC
CASING DIAMETER: 2"

TYPE OF FILTER PACK: Silica Sand-Pack
GRADIATION: #16/30
AMOUNT OF FILTER PACK USED: 250 lbs

TYPE OF BENTONITE: Bentonite Chips
AMOUNT BENTONITE USED: 150 lbs

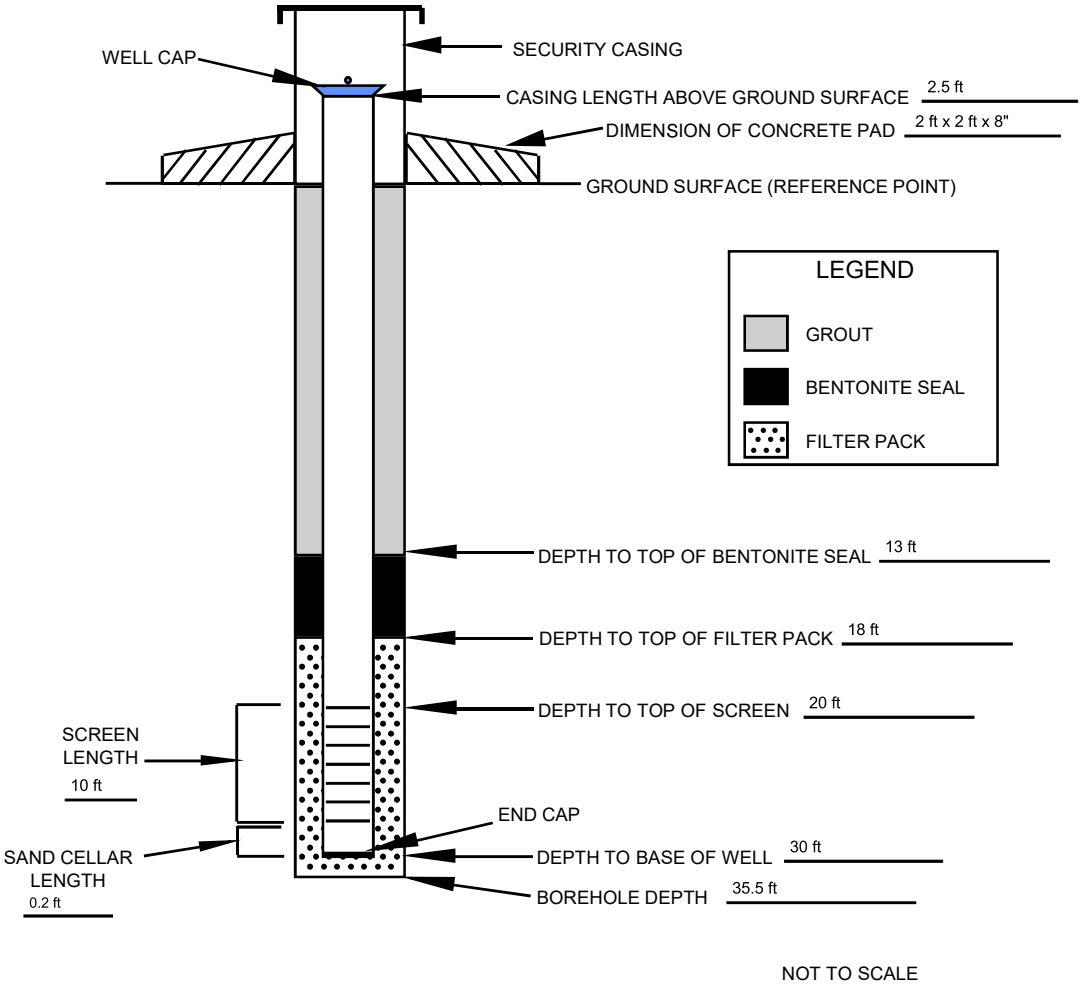
TYPE OF CEMENT: Portland
AMOUNT CEMENT USED: 50 lbs
GROUT MATERIALS USED: Portland (95%) and Bentonite (5%)

DIMENSIONS OF SECURITY CASING: 4" x 4" x 2.5 ft

TYPE OF WELL CAP: 2" compression plug
TYPE OF END CAP: 2" PVC End Cap

COMMENTS:

SPECIAL CONDITIONS
(describe and draw)



NOT TO SCALE

INSTALLED BY: James Tinnell (GSI)

INSTALLATION OBSERVED BY: Stuart Cameron (ATI)

DISCREPANCIES:

WELL CONSTRUCTION FORM
(STANDARD WELL)

FIELD REPRESENTATIVE: Stuart Cameron

DRILLING CONTRACTOR: GSI Engineering

DRILLING TECHNIQUE: Hollow Stem Auger
AUGER SIZE AND TYPE: 4.5" ID / 8" OD Hollow Stem

BOREHOLE IDENTIFICATION: BKRD-LGIA-MW19
BOREHOLE DIAMETER: 8"
WELL IDENTIFICATION: BKRD-LGIA-MW19

WELL CONSTRUCTION START DATE: 3/27/18
WELL CONSTRUCTION COMPLETE DATE: 4/2/18

SCREEN MATERIAL: 0.010 Slotted PVC
SCREEN DIAMETER: 2"
STRATUM-SCREENED INTERVAL (FT): 10

CASING MATERIAL: PVC
CASING DIAMETER: 2"

TYPE OF FILTER PACK: Silica Sand-Pack
GRADIATION: #16/30
AMOUNT OF FILTER PACK USED: 250 lbs

TYPE OF BENTONITE: Bentonite Chips
AMOUNT BENTONITE USED: 150 lbs

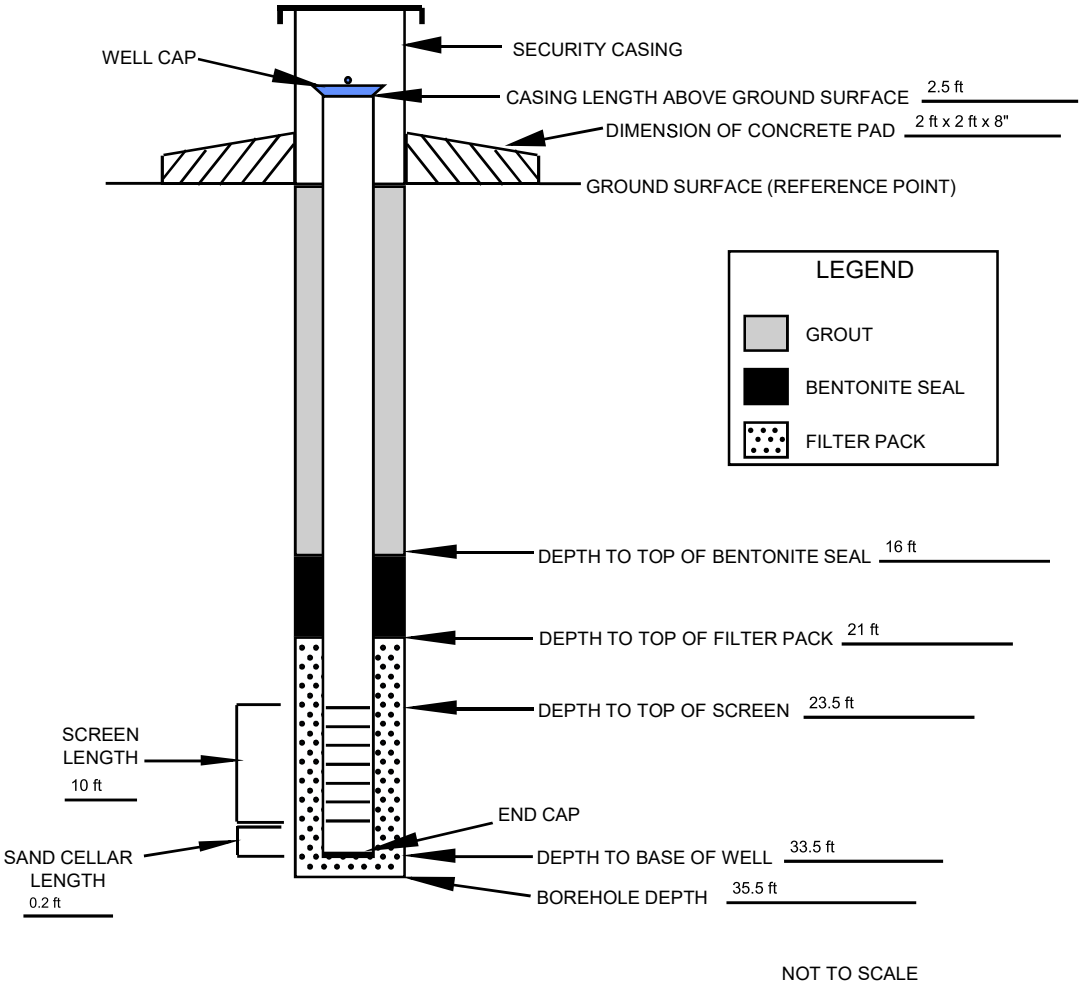
TYPE OF CEMENT: Portland
AMOUNT CEMENT USED: 50 lbs
GROUT MATERIALS USED: Portland (95%) and Bentonite (5%)

DIMENSIONS OF SECURITY CASING: 4" x 4" x 2.5 ft

TYPE OF WELL CAP: 2" compression plug
TYPE OF END CAP: 2" PVC End Cap

COMMENTS:

SPECIAL CONDITIONS
(describe and draw)



INSTALLED BY: James Tinnell (GSI)

INSTALLATION OBSERVED BY: Stuart Cameron (ATI)

DISCREPANCIES:

WELL CONSTRUCTION FORM
(STANDARD WELL)

FIELD REPRESENTATIVE: Stuart Cameron

DRILLING CONTRACTOR: GSI Engineering

DRILLING TECHNIQUE: Hollow Stem Auger
AUGER SIZE AND TYPE: 4.5" ID / 8" OD Hollow Stem

BOREHOLE IDENTIFICATION: BKRD-LGIA-MW20
BOREHOLE DIAMETER: 8"
WELL IDENTIFICATION: BKRD-LGIA-MW20

WELL CONSTRUCTION START DATE: 3/28/18
WELL CONSTRUCTION COMPLETE DATE: 4/2/18

SCREEN MATERIAL: 0.010 Slotted PVC
SCREEN DIAMETER: 2"
STRATUM-SCREENED INTERVAL (FT): 10

CASING MATERIAL: PVC
CASING DIAMETER: 2"

TYPE OF FILTER PACK: Silica Sand-Pack
GRADIATION: #16/30
AMOUNT OF FILTER PACK USED: 250 lbs

TYPE OF BENTONITE: Bentonite Chips
AMOUNT BENTONITE USED: 150 lbs

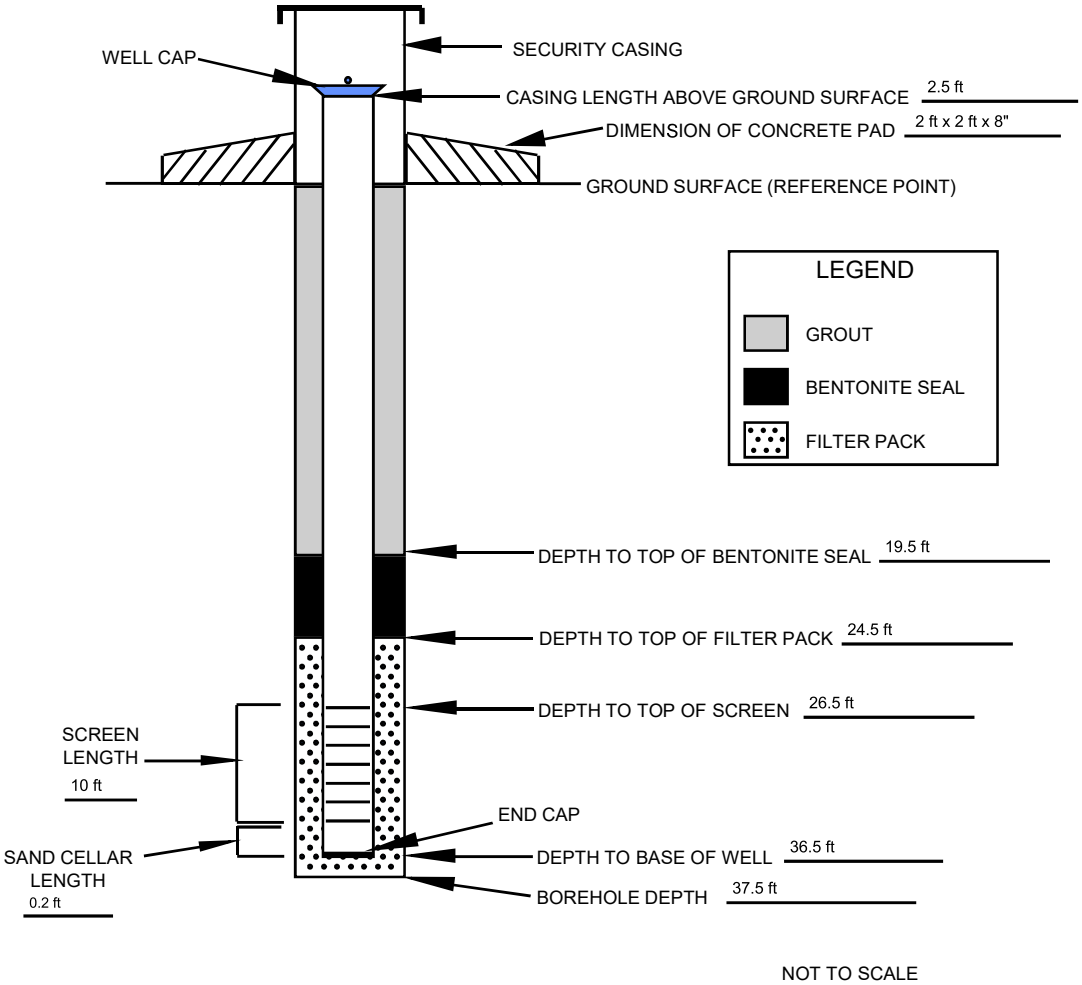
TYPE OF CEMENT: Portland
AMOUNT CEMENT USED: 50 lbs
GROUT MATERIALS USED: Portland (95%) and Bentonite (5%)

DIMENSIONS OF SECURITY CASING: 4" x 4" x 2.5 ft

TYPE OF WELL CAP: 2" compression plug
TYPE OF END CAP: 2" PVC End Cap

COMMENTS:

SPECIAL CONDITIONS
(describe and draw)



INSTALLED BY: James Tinnell (GSI)

INSTALLATION OBSERVED BY: Stuart Cameron (ATI)

DISCREPANCIES:

HGL HydroGeologic, Inc. Exceeding Expectations

WELL DEVELOPMENT RECORD

WELL/PIEZOMETER ID 19BUG1A-MW-1
PAGE 1 of 1

PROJECT NAME: CHAAP PROJECT NO.: 1851009 DATE: 10-1-18

LOCATION: Tract 19B DATE INSTALLED: 9/24/18

TOTAL DEPTH (FTOC) JRC ~~19.70~~ 22.05 CASING DIAMETER 2"

MEASURING POINT HEIGHT ABOVE/BELOW GROUND LEVEL 2.5 ft

METHODS OF DEVELOPMENT

☐ Swabbing ☐ Bailing ☑ Pumping ☑ Surge ☐ Describe

Equipment decontaminated prior to development ☑ Yes ☐ No

Describe

EQUIPMENT NUMBERS:

pH Meter ✓ EC Meter Thermometer Turbidity Meter ✓

CASING VOLUME INFORMATION:

Casing ID (inch)	1.0	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (A) (gal/ft)	0.04	0.09	0.16	0.2	0.37	0.65	0.75	1.0	1.5	2.0	2.6

PURGING INFORMATION:

Measured Well Depth Prior to Development (B) 22.05 ft.

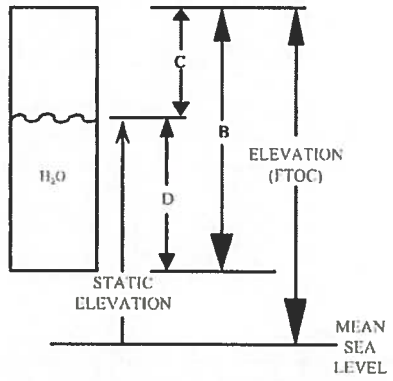
Measured Water Level Depth (C) 12.35 ft.

Length of Static Water Column (D) _____ (B) - _____ (C) = 9.7 ft. Pumping

Casing Water Volume .16 (A) x 9.7 (D) = 1.6 gal

Total Purge Volume = 230 (gal)

Measured Well Depth After Development (B) ~~[illegible]~~ 22.07 ft.



Time	DTW (feet btoc)	Flow Rate (gpm or lpm)	Gallons Removed	pH	Cond. (mS/cm)	Temp. (deg C)	Turbidity (NTU)	Notes
11:05	12.35	1.0	20.0	6.57	2.031	12.45	181	
11:10		"	25.0	6.53	2.030	12.48	188	
11:15		"	30.0					
~~[illegible]~~								
1400			~~[illegible]~~ 200	7.12	2.132	13.30	161	
1405			~~[illegible]~~ 205	6.96	2.104	13.48	164	
1410			~~[illegible]~~ 210	6.89	2.085	12.90	172	
1415			~~[illegible]~~ 215	7.14	2.099	12.92	184	
1420			~~[illegible]~~ 220	7.01	2.100	12.87	142	
1425			~~[illegible]~~ 225	7.14	2.103	12.88	121	
1430			~~[illegible]~~ 230	7.14	2.103	12.89	101	

low flow pump stopped working, took readings from water

4 hrs development

HGL HydroGeoLogic, Inc. Exceeding Expectations

WELL DEVELOPMENT RECORD

WELL/PIEZOMETER ID 19B-LG1A-MW-2
PAGE 1 of 1

PROJECT NAME: CHAAP PROJECT NO.: 185 1009 DATE: 10-1-18

LOCATION: Tract 19B DATE INSTALLED: 9/24/18

TOTAL DEPTH (FTOC) 40.20 CASING DIAMETER 2"

MEASURING POINT HEIGHT ABOVE/BELOW GROUND LEVEL 2.5 ft

METHODS OF DEVELOPMENT

☐ Swabbing ☐ Bailing ☑ Pumping ☑ Surge ☐ Describe

Equipment decontaminated prior to development ☐ Yes ☐ No

Describe

EQUIPMENT NUMBERS:

pH Meter ✓ EC Meter Thermometer Turbidity Meter ✓

CASING VOLUME INFORMATION:

Casing ID (inch)	1.0	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (A) (gal/ft)	0.04	0.09	0.16	0.2	0.37	0.65	0.75	1.0	1.5	2.0	2.6

PURGING INFORMATION:

Measured Well Depth Prior to Development (B) 40.20 ft.

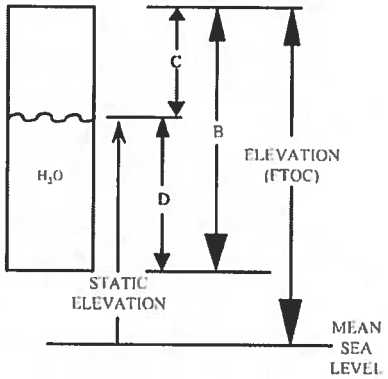
Measured Water Level Depth (C) 12.50 ft.

Length of Static Water Column (D) ____ (B) - ____ (C) = 27.7 ft. Pumping

Casing Water Volume .16 (A) x 27.7 (D) = 4.4 gal

Total Purge Volume = 70 (gal)

Measured Well Depth After Development (B) 40.24 ft.



Time	DTW (feet btoc)	Flow Rate (gpm or lpm)	Gallons Removed	pH	Cond. (mS/cm)	Temp. (deg C)	Turbidity (NTU)	Notes
12:30	12.5	1	50	7.11	2.557	13.19	53.5	
12:35	↓	↓	55	6.84	2.546	12.7	41.8	
12:40			60	7.04	2.541	12.76	37.6	
12:45			65	7.02	2.544	12.84	30.2	
12:50			70	7.08	2.541	12.79	24.8	

1.5 hrs to develop

HGL HydroGeoLogic, Inc

WELL DEVELOPMENT RECORD

WELL/PIEZOMETER ID 19BLG1A-MW-3
PAGE 1 of 1

PROJECT NAME: CHAAP PROJECT NO.: 185 1009 DATE: 10-1-18

LOCATION: Tract 19B DATE INSTALLED: 9/26/18

TOTAL DEPTH (FTOC) 41.69 CASING DIAMETER 2"

MEASURING POINT HEIGHT ABOVE/BELOW GROUND LEVEL 2.5 ft

METHODS OF DEVELOPMENT

☐ Swabbing ☐ Bailing ☑ Pumping ☑ Surge ☐ Describe

Equipment decontaminated prior to development ☐ Yes ☐ No

Describe

EQUIPMENT NUMBERS:

pH Meter ✓ EC Meter Thermometer Turbidity Meter ✓

CASING VOLUME INFORMATION:

Casing ID (inch)	1.0	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (A) (gal/ft)	0.04	0.09	0.16	0.2	0.37	0.65	0.75	1.0	1.5	2.0	2.6

PURGING INFORMATION:

Measured Well Depth Prior to Development (B) 41.69 ft.

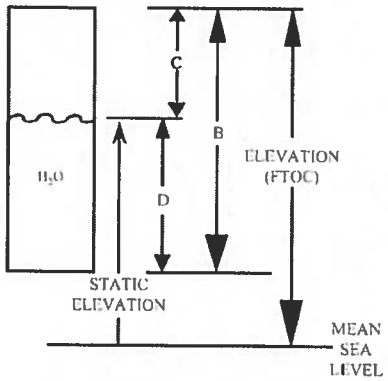
Measured Water Level Depth (C) 12.59 ft.

Length of Static Water Column (D) ___ (B) - ___ (C) = 29.1 ft. Pumping

Casing Water Volume .16 (A) x 29.1 (D) = 4.7 gal

Total Purge Volume = 112 (gal)

Measured Well Depth After Development (B) 41.70 ft.



Time	DTW (feet btoc)	Flow Rate (gpm or lpm)	Gallons Removed	pH	Cond. (mS/cm)	Temp. (deg C)	Turbidity (NTU)	Notes
1515	12.6	10	72	7.14	2.476	13.29	65.8	
1520	↓	↓	82	7.14	2.475	12.84	41.0	
1525			92		2.474	12.64	31.5	
1530			102	7.14	2.467	12.67	22.2	
1535			112	7.13	2.469	12.67	19.8	

1 hr to develop

HGL HydroGeologic, Inc. Exceeding Expectations

WELL DEVELOPMENT RECORD

WELL/PIEZOMETER ID 19BUG1A - MW-4 ~~19BUG1A-MW-4~~
PAGE 1 of 1

PROJECT NAME: CHAAP PROJECT NO.: 1851009 DATE: ~~10-1-18~~ 10-2-18

LOCATION: Tract 19B DATE INSTALLED: 9/26/18

TOTAL DEPTH (FTOC) 21.32 CASING DIAMETER 2"

MEASURING POINT HEIGHT ABOVE/BELOW GROUND LEVEL 2.5 ft

METHODS OF DEVELOPMENT

☐ Swabbing ☐ Bailing ☑ Pumping ☑ Surge ☐ Describe

Equipment decontaminated prior to development ☐ Yes ☐ No

Describe

EQUIPMENT NUMBERS:

pH Meter ✓ EC Meter Thermometer Turbidity Meter ✓

CASING VOLUME INFORMATION:

Casing ID (inch)	1.0	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (A) (gal/ft)	0.04	0.09	0.16	0.2	0.37	0.65	0.75	1.0	1.5	2.0	2.6

PURGING INFORMATION:

Measured Well Depth Prior to Development (B) 21.32 ft.

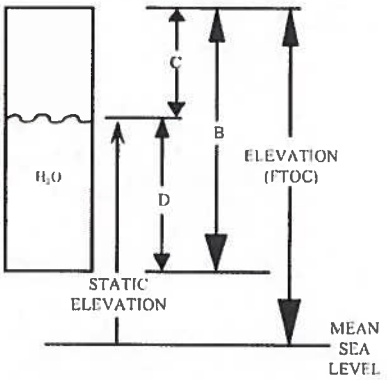
Measured Water Level Depth (C) 12.66 ft.

Length of Static Water Column (D) _____ (B) - _____ (C) = 8.66 ft. Pumping

Casing Water Volume .16 (A) x 8.66 (D) = 1.4 gal

Total Purge Volume = 220 (gal)

Measured Well Depth After Development (B) 21.36 ft.



Time	DTW (feet btoc)	Flow Rate (gpm or lpm)	Gallons Removed	pH	Cond. (mS/cm)	Temp. (deg C)	Turbidity (NTU)	Notes
9:45	12.66	3	115	6.90	2.318	12.87	65.6	
9:50	↓	↓	130	7.00	2.254	12.75	51.7	
9:55			145	7.04	2.257	12.80	41.4	
10:00			160	7.06	2.255	12.80	35.6	
10:05			175	7.06	2.256	12.79	31.6	
10:10			190	7.07	2.255	12.79	27.6	
10:15			205	7.08	2.253	12.78	25.5	
10:20			220	7.07	2.254	12.76	22.4	

1.5 hr development

HGL HydroGeoLogic, Inc. Exceeding Expectations

WELL DEVELOPMENT RECORD

WELL/PIEZOMETER ID 19BLG1A-MW-5
PAGE 1 of 1

PROJECT NAME: CHAAP PROJECT NO.: 1851009 DATE: 10-2-18

LOCATION: Tract 19B DATE INSTALLED: 9/27/18

TOTAL DEPTH (FTOC) 40.75 CASING DIAMETER 2"

MEASURING POINT HEIGHT ABOVE/BELOW GROUND LEVEL 2.5 ft

METHODS OF DEVELOPMENT

☐ Swabbing ☐ Bailing ☑ Pumping ☑ Surge ☐ Describe

Equipment decontaminated prior to development ☑ Yes ☐ No

Describe

EQUIPMENT NUMBERS:

pH Meter ✓ EC Meter Thermometer Turbidity Meter ✓

CASING VOLUME INFORMATION:

Casing ID (inch)	1.0	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (A) (gal/ft)	0.04	0.09	0.16	0.2	0.37	0.65	0.75	1.0	1.5	2.0	2.6

PURGING INFORMATION:

Measured Well Depth Prior to Development (B) 40.75 ft.

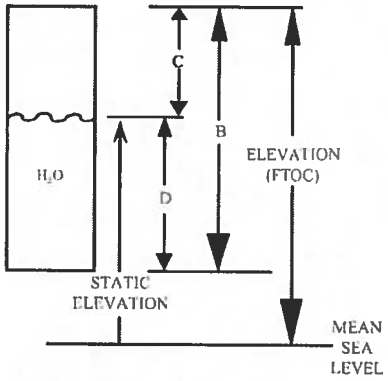
Measured Water Level Depth (C) 12.51 ft.

Length of Static Water Column (D) _____ (B) - _____ (C) = 28.24 ft. Pumping

Casing Water Volume .16 (A) x 28.24 (D) = 4.5 gal

Total Purge Volume = 410 (gal)

Measured Well Depth After Development (B) 40.75 ft.



Time	DTW (feet btoc)	Flow Rate (gpm or lpm)	Gallons Removed	pH	Cond. (mS/cm)	Temp. (deg C)	Turbidity (NTU)	Notes
11:20	12.51	6	200	7.00	2.566	12.45	55.3	
11:25	↓	↓	230	7.09	2.574	12.44	39.0	
11:30			260	7.10	2.580	12.41	35.8	
11:35			290	7.10	2.585	12.41	32.9	
11:40			320	7.10	2.587	12.40	30.7	
11:45			350	7.09	2.591	12.40	26.8	
11:50			380	7.10	2.591	12.40	23.6	
11:55			410	7.10	2.591	12.40	22.0	

1.25 hrs development

HGL HydroGeoLogic, Inc. Exceeding Expectations

WELL DEVELOPMENT RECORD

WELL/PIEZOMETER ID 19BUG1A-MW-6
PAGE 1 of 1

PROJECT NAME: CHAAP PROJECT NO.: 1851009 DATE: 10-2-18

LOCATION: Tract 19B DATE INSTALLED: 9/26/18

TOTAL DEPTH (FTOC) 21.75 CASING DIAMETER 2"

MEASURING POINT HEIGHT ABOVE/BELOW GROUND LEVEL 2.5 ft

METHODS OF DEVELOPMENT

☐ Swabbing ☐ Bailing ☑ Pumping ☑ Surge ☐ Describe

Equipment decontaminated prior to development ☑ Yes ☐ No

Describe

EQUIPMENT NUMBERS:

pH Meter ✓ EC Meter Thermometer Turbidity Meter ✓

CASING VOLUME INFORMATION:

Casing ID (inch)	1.0	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (A) (gal/ft)	0.04	0.09	0.16	0.2	0.37	0.65	0.75	1.0	1.5	2.0	2.6

PURGING INFORMATION:

Measured Well Depth Prior to Development (B) 21.75 ft.

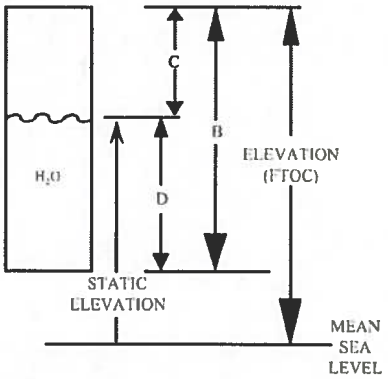
Measured Water Level Depth (C) 12.52 ft.

Length of Static Water Column (D) ____ (B) - ____ (C) = 9.23 ft. Pumping

Casing Water Volume .16 (A) x 9.23 (D) = 1.5 gal

Total Purge Volume = 300 (gal)

Measured Well Depth After Development (B) 21.75 ft.



Time	DTW (feet btoc)	Flow Rate (gpm or lpm)	Gallons Removed	pH	Cond. (mS/cm)	Temp. (deg C)	Turbidity (NTU)	Notes
1300	12.52	4	140	7.03	2.685	13.18	70.0	
1305	↓	↓	160	7.03	2.684	13.18	56.6	
1310			180	7.03	2.693	13.17	37.7	
1315			200	7.02	2.690	13.18	35.2	
1320			220	7.02	2.695	13.19	31.9	
1325			240	7.02	2.693	13.19	28.8	
1330			260	7.02	2.697	13.19	27.9	
1335			280	7.02	2.694	13.20	25.6	
1340			300	7.02	2.696	13.21	24.2	

1.75 hrs to develop

WELL CONSTRUCTION FORM
(STANDARD WELL)

FIELD REPRESENTATIVE: Stuart Cameron

DRILLING CONTRACTOR: GSI Engineering

DRILLING TECHNIQUE: Hollow Stem Auger
AUGER SIZE AND TYPE: 4.5" ID / 8" OD Hollow Stem

BOREHOLE IDENTIFICATION: 19B-UGIA-MW01
BOREHOLE DIAMETER: 8"
WELL IDENTIFICATION: 19B-UGIA-MW01

WELL CONSTRUCTION START DATE: 9/24/18
WELL CONSTRUCTION COMPLETE DATE: 9/27/18

SCREEN MATERIAL: 0.010 Slotted PVC
SCREEN DIAMETER: 2"
STRATUM-SCREENED INTERVAL (FT): 10

CASING MATERIAL: PVC
CASING DIAMETER: 2"

TYPE OF FILTER PACK: Silica Sand-Pack
GRADIATION: #16/30
AMOUNT OF FILTER PACK USED: 250 lbs

TYPE OF BENTONITE: Bentonite Chips
AMOUNT BENTONITE USED: 150 lbs

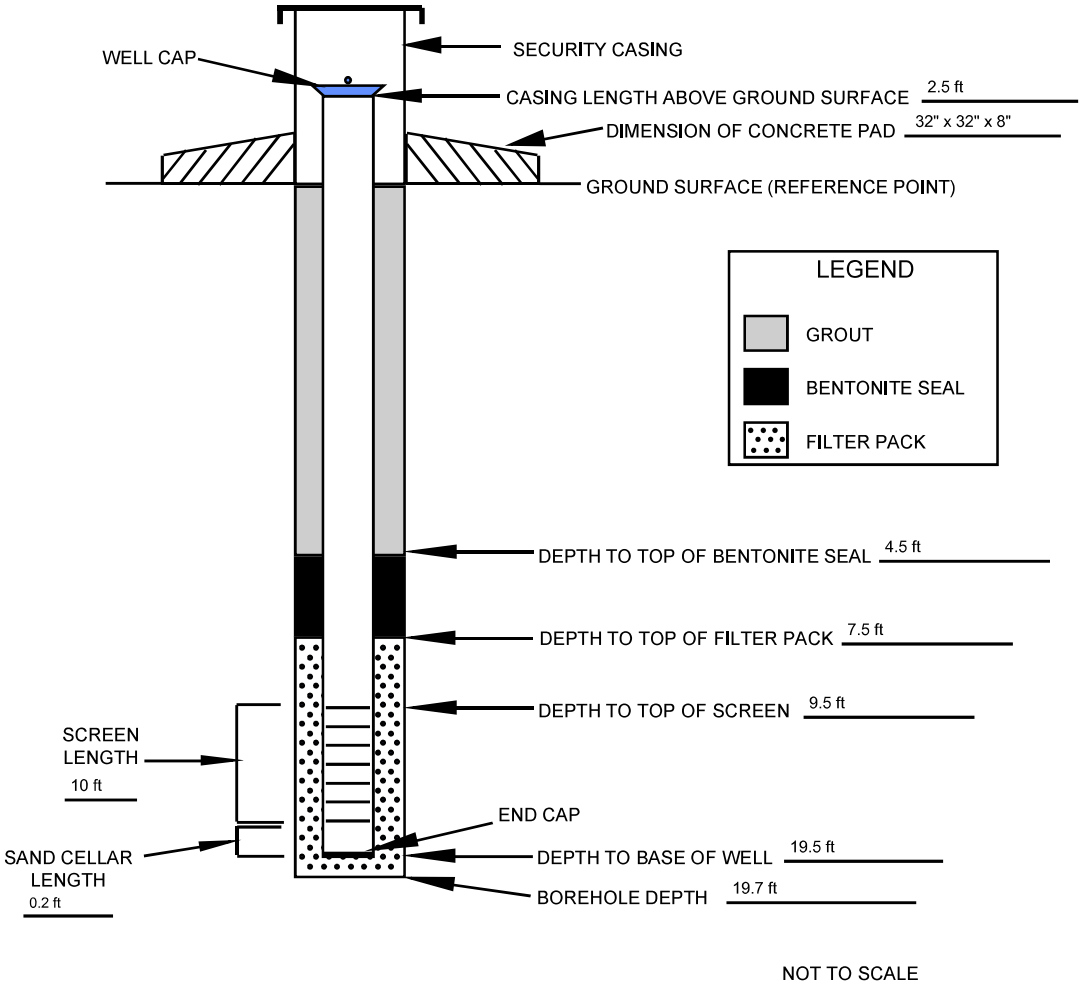
TYPE OF CEMENT: Portland
AMOUNT CEMENT USED: 5 lbs
GROUT MATERIALS USED: Portland (95%) and Bentonite (5%)

DIMENSIONS OF SECURITY CASING: 4" x 4" x 2.5 ft

TYPE OF WELL CAP: 2" compression plug
TYPE OF END CAP: 2" PVC End Cap

COMMENTS:

SPECIAL CONDITIONS
(describe and draw)



INSTALLED BY: Matt Wold (GSI)

INSTALLATION OBSERVED BY: Stuart Cameron (ATI)

DISCREPANCIES:

WELL CONSTRUCTION FORM
(STANDARD WELL)

FIELD REPRESENTATIVE: Stuart Cameron

DRILLING CONTRACTOR: GSI Engineering

DRILLING TECHNIQUE: Hollow Stem Auger
AUGER SIZE AND TYPE: 4.5" ID / 8" OD Hollow Stem

BOREHOLE IDENTIFICATION: 19B-LGIA-MW02
BOREHOLE DIAMETER: 8"
WELL IDENTIFICATION: 19B-LGIA-MW02

WELL CONSTRUCTION START DATE: 9/24/18
WELL CONSTRUCTION COMPLETE DATE: 9/27/18

SCREEN MATERIAL: 0.010 Slotted PVC
SCREEN DIAMETER: 2"
STRATUM-SCREENED INTERVAL (FT): 10

CASING MATERIAL: PVC
CASING DIAMETER: 2"

TYPE OF FILTER PACK: Silica Sand-Pack
GRADIATION: #16/30
AMOUNT OF FILTER PACK USED: 250 lbs

TYPE OF BENTONITE: Bentonite Chips
AMOUNT BENTONITE USED: 150 lbs

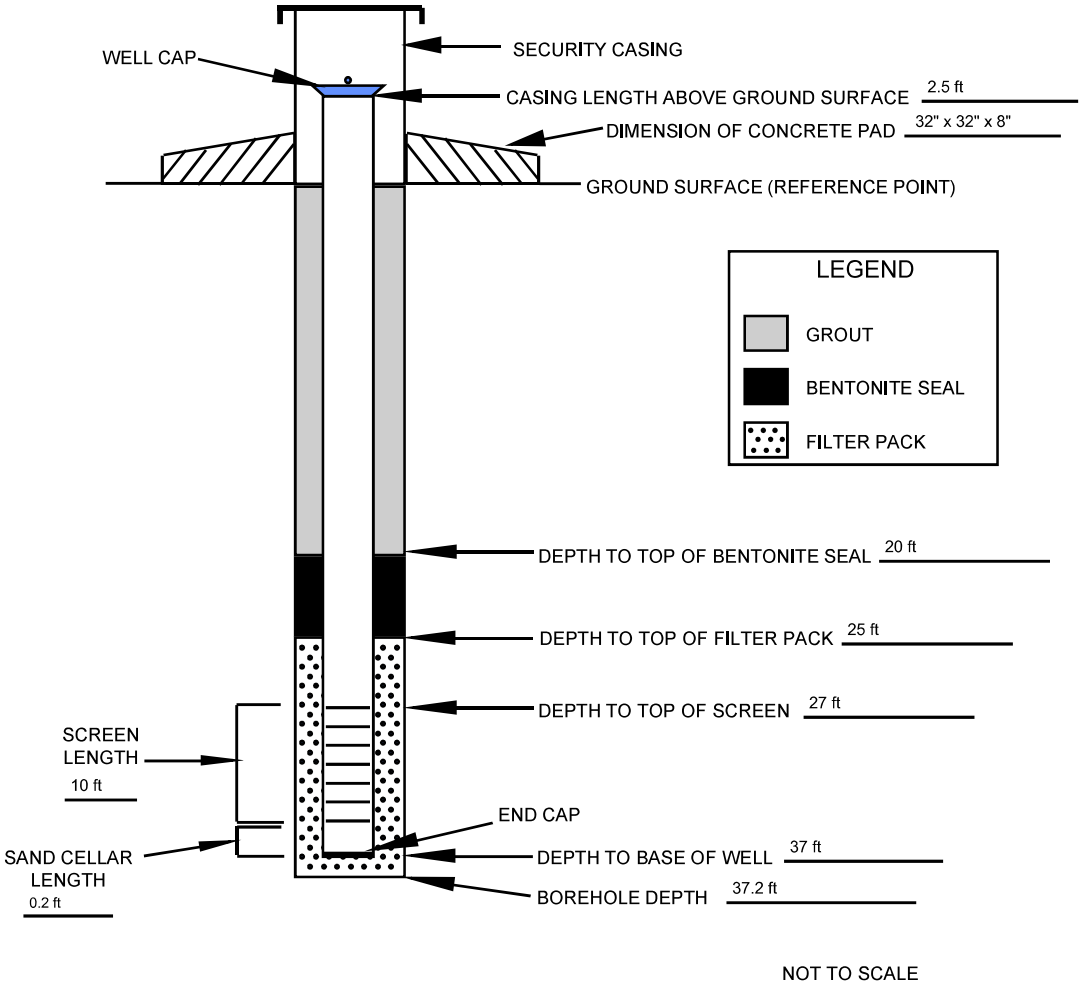
TYPE OF CEMENT: Portland
AMOUNT CEMENT USED: 50 lbs
GROUT MATERIALS USED: Portland (95%) and Bentonite (5%)

DIMENSIONS OF SECURITY CASING: 4" x 4" x 2.5 ft

TYPE OF WELL CAP: 2" compression plug
TYPE OF END CAP: 2" PVC End Cap

COMMENTS:

SPECIAL CONDITIONS
(describe and draw)



NOT TO SCALE

INSTALLED BY: Matt Wold (GSI)

INSTALLATION OBSERVED BY: Stuart Cameron (ATI)

DISCREPANCIES:

WELL CONSTRUCTION FORM
(STANDARD WELL)

FIELD REPRESENTATIVE: Stuart Cameron

DRILLING CONTRACTOR: GSI Engineering

DRILLING TECHNIQUE: Hollow Stem Auger
AUGER SIZE AND TYPE: 4.5" ID / 8" OD Hollow Stem

BOREHOLE IDENTIFICATION: 19B-UGIA-MW03
BOREHOLE DIAMETER: 8"
WELL IDENTIFICATION: 19B-UGIA-MW03

WELL CONSTRUCTION START DATE: 9/26/18
WELL CONSTRUCTION COMPLETE DATE: 9/27/18

SCREEN MATERIAL: 0.010 Slotted PVC
SCREEN DIAMETER: 2"
STRATUM-SCREENED INTERVAL (FT): 10

CASING MATERIAL: PVC
CASING DIAMETER: 2"

TYPE OF FILTER PACK: Silica Sand-Pack
GRADIATION: #16/30
AMOUNT OF FILTER PACK USED: 250 lbs

TYPE OF BENTONITE: Bentonite Chips
AMOUNT BENTONITE USED: 150 lbs

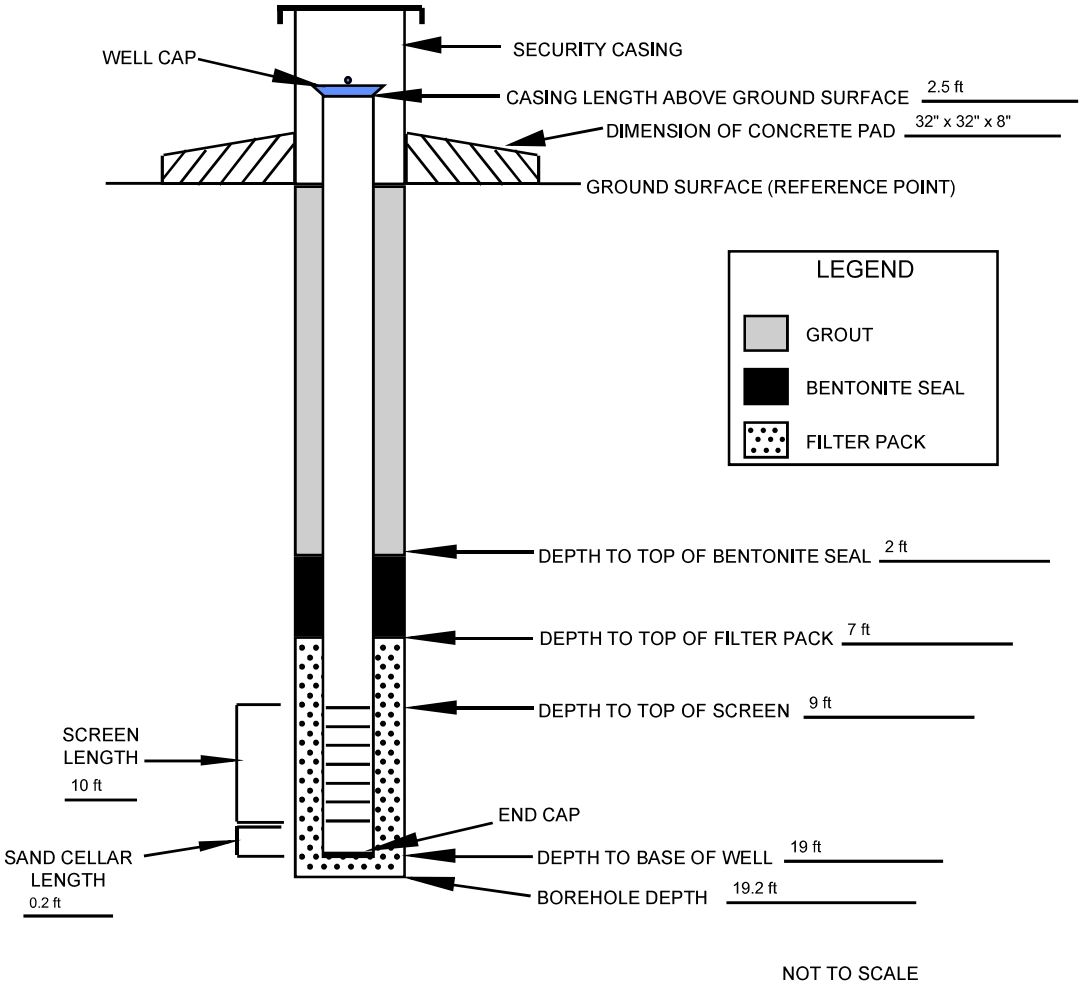
TYPE OF CEMENT: Portland
AMOUNT CEMENT USED: 5 lbs
GROUT MATERIALS USED: Portland (95%) and Bentonite (5%)

DIMENSIONS OF SECURITY CASING: 4" x 4" x 2.5 ft

TYPE OF WELL CAP: 2" compression plug
TYPE OF END CAP: 2" PVC End Cap

COMMENTS:

SPECIAL CONDITIONS
(describe and draw)



NOT TO SCALE

INSTALLED BY: James Tinnell (GSI)

INSTALLATION OBSERVED BY: Stuart Cameron (ATI)

DISCREPANCIES:

WELL CONSTRUCTION FORM
(STANDARD WELL)

FIELD REPRESENTATIVE: Stuart Cameron

DRILLING CONTRACTOR: GSI Engineering

DRILLING TECHNIQUE: Hollow Stem Auger
AUGER SIZE AND TYPE: 4.5" ID / 8" OD Hollow Stem

BOREHOLE IDENTIFICATION: 19B-LGIA-MW04
BOREHOLE DIAMETER: 8"
WELL IDENTIFICATION: 19B-LGIA-MW04

WELL CONSTRUCTION START DATE: 9/26/18
WELL CONSTRUCTION COMPLETE DATE: 9/27/18

SCREEN MATERIAL: 0.010 Slotted PVC
SCREEN DIAMETER: 2"
STRATUM-SCREENED INTERVAL (FT): 10

CASING MATERIAL: PVC
CASING DIAMETER: 2"

TYPE OF FILTER PACK: Silica Sand-Pack
GRADIATION: #16/30
AMOUNT OF FILTER PACK USED: 250 lbs

TYPE OF BENTONITE: Bentonite Chips
AMOUNT BENTONITE USED: 150 lbs

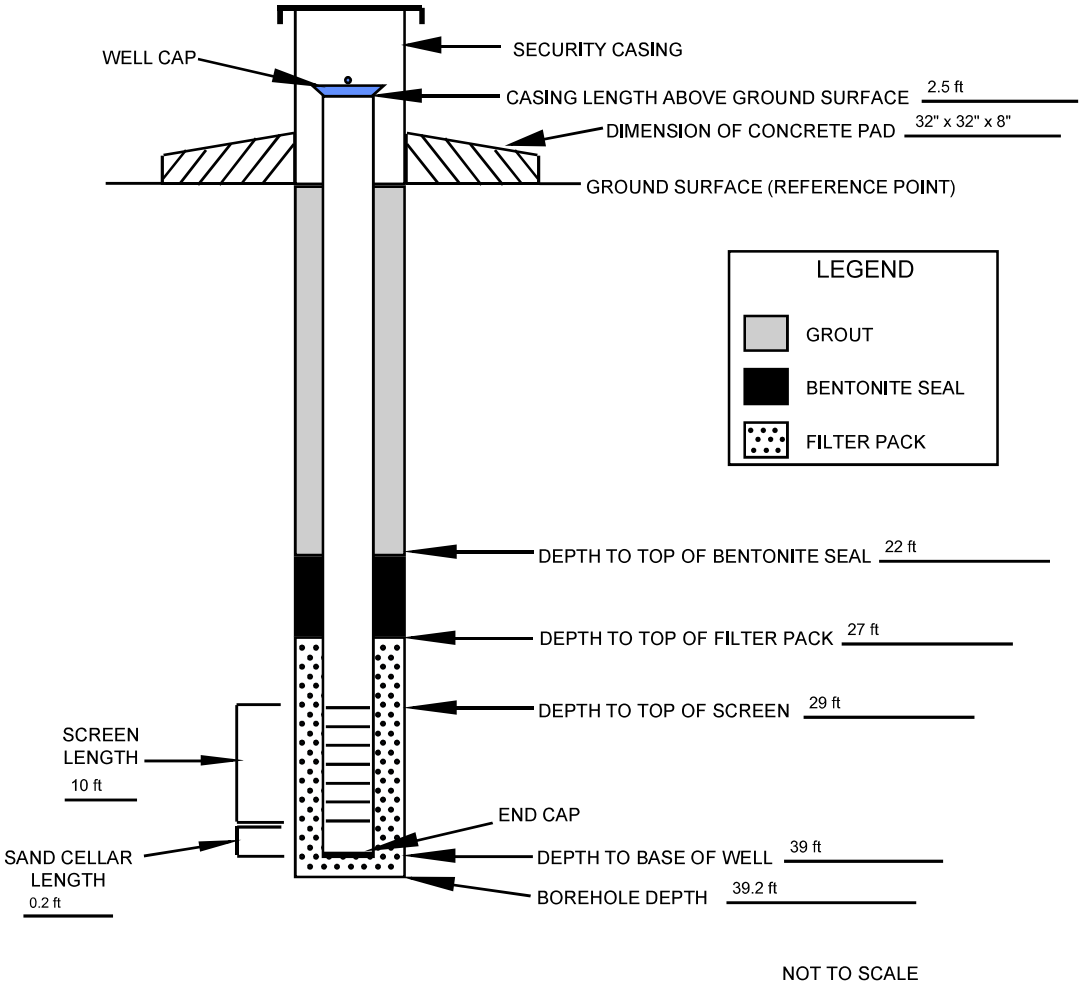
TYPE OF CEMENT: Portland
AMOUNT CEMENT USED: 50 lbs
GROUT MATERIALS USED: Portland (95%) and Bentonite (5%)

DIMENSIONS OF SECURITY CASING: 4" x 4" x 2.5 ft

TYPE OF WELL CAP: 2" compression plug
TYPE OF END CAP: 2" PVC End Cap

COMMENTS:

SPECIAL CONDITIONS
(describe and draw)



NOT TO SCALE

INSTALLED BY: James Tinnell (GSI)

INSTALLATION OBSERVED BY: Stuart Cameron (ATI)

DISCREPANCIES:

WELL CONSTRUCTION FORM
(STANDARD WELL)

FIELD REPRESENTATIVE: Stuart Cameron

DRILLING CONTRACTOR: GSI Engineering

DRILLING TECHNIQUE: Hollow Stem Auger
AUGER SIZE AND TYPE: 4.5" ID / 8" OD Hollow Stem

BOREHOLE IDENTIFICATION: 19B-UGIA-MW05
BOREHOLE DIAMETER: 8"
WELL IDENTIFICATION: 19B-UGIA-MW05

WELL CONSTRUCTION START DATE: 9/27/18
WELL CONSTRUCTION COMPLETE DATE: 9/27/18

SCREEN MATERIAL: 0.010 Slotted PVC
SCREEN DIAMETER: 2"
STRATUM-SCREENED INTERVAL (FT): 10

CASING MATERIAL: PVC
CASING DIAMETER: 2"

TYPE OF FILTER PACK: Silica Sand-Pack
GRADIATION: #16/30
AMOUNT OF FILTER PACK USED: 250 lbs

TYPE OF BENTONITE: Bentonite Chips
AMOUNT BENTONITE USED: 150 lbs

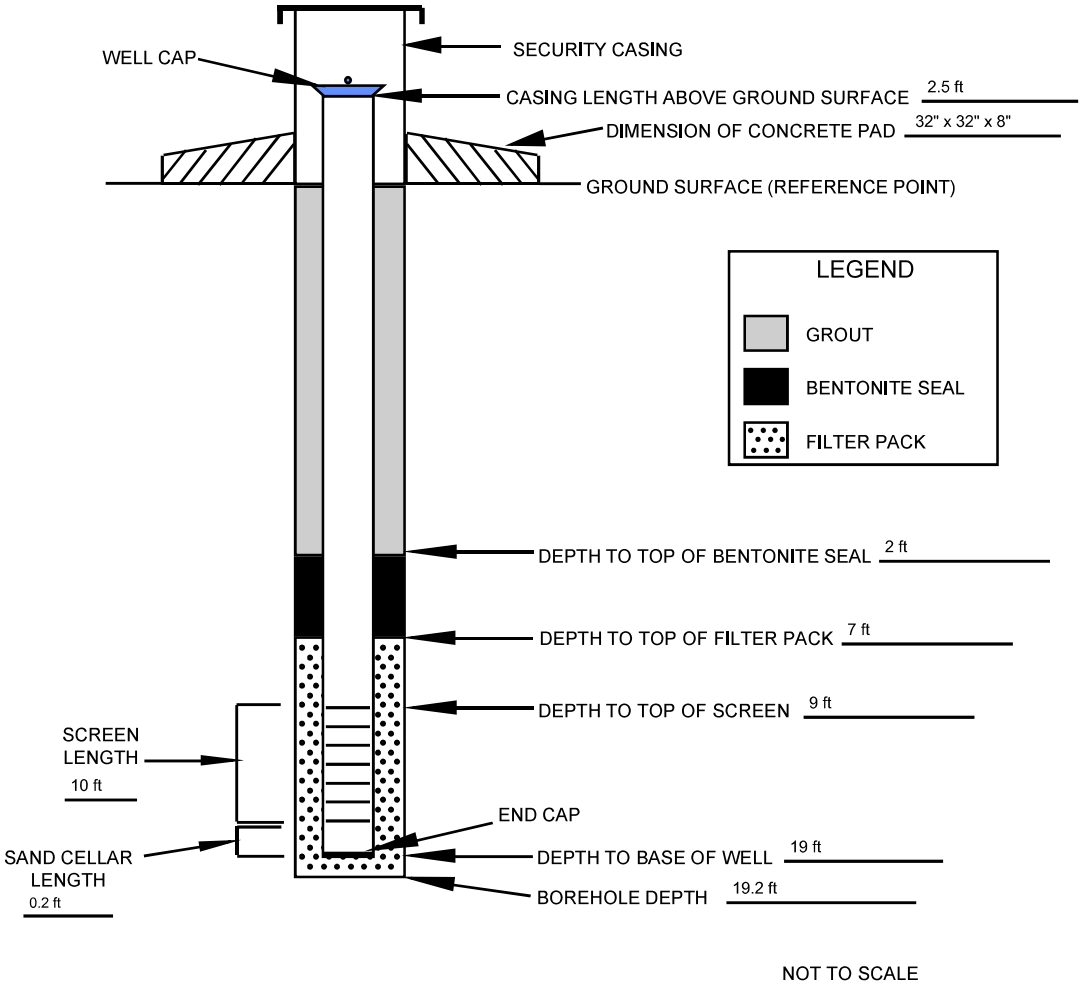
TYPE OF CEMENT: Portland
AMOUNT CEMENT USED: 5 lbs
GROUT MATERIALS USED: Portland (95%) and Bentonite (5%)

DIMENSIONS OF SECURITY CASING: 4" x 4" x 2.5 ft

TYPE OF WELL CAP: 2" compression plug
TYPE OF END CAP: 2" PVC End Cap

COMMENTS:

SPECIAL CONDITIONS
(describe and draw)



NOT TO SCALE

INSTALLED BY: James Tinnell (GSI)

INSTALLATION OBSERVED BY: Stuart Cameron (ATI)

DISCREPANCIES:

WELL CONSTRUCTION FORM
(STANDARD WELL)

FIELD REPRESENTATIVE: Stuart Cameron

DRILLING CONTRACTOR: GSI Engineering

DRILLING TECHNIQUE: Hollow Stem Auger
AUGER SIZE AND TYPE: 4.5" ID / 8" OD Hollow Stem

BOREHOLE IDENTIFICATION: 19B-LGIA-MW06
BOREHOLE DIAMETER: 8"
WELL IDENTIFICATION: 19B-LGIA-MW06

WELL CONSTRUCTION START DATE: 9/26/18
WELL CONSTRUCTION COMPLETE DATE: 9/27/18

SCREEN MATERIAL: 0.010 Slotted PVC
SCREEN DIAMETER: 2"
STRATUM-SCREENED INTERVAL (FT): 10

CASING MATERIAL: PVC
CASING DIAMETER: 2"

TYPE OF FILTER PACK: Silica Sand-Pack
GRADIATION: #16/30
AMOUNT OF FILTER PACK USED: 250 lbs

TYPE OF BENTONITE: Bentonite Chips
AMOUNT BENTONITE USED: 150 lbs

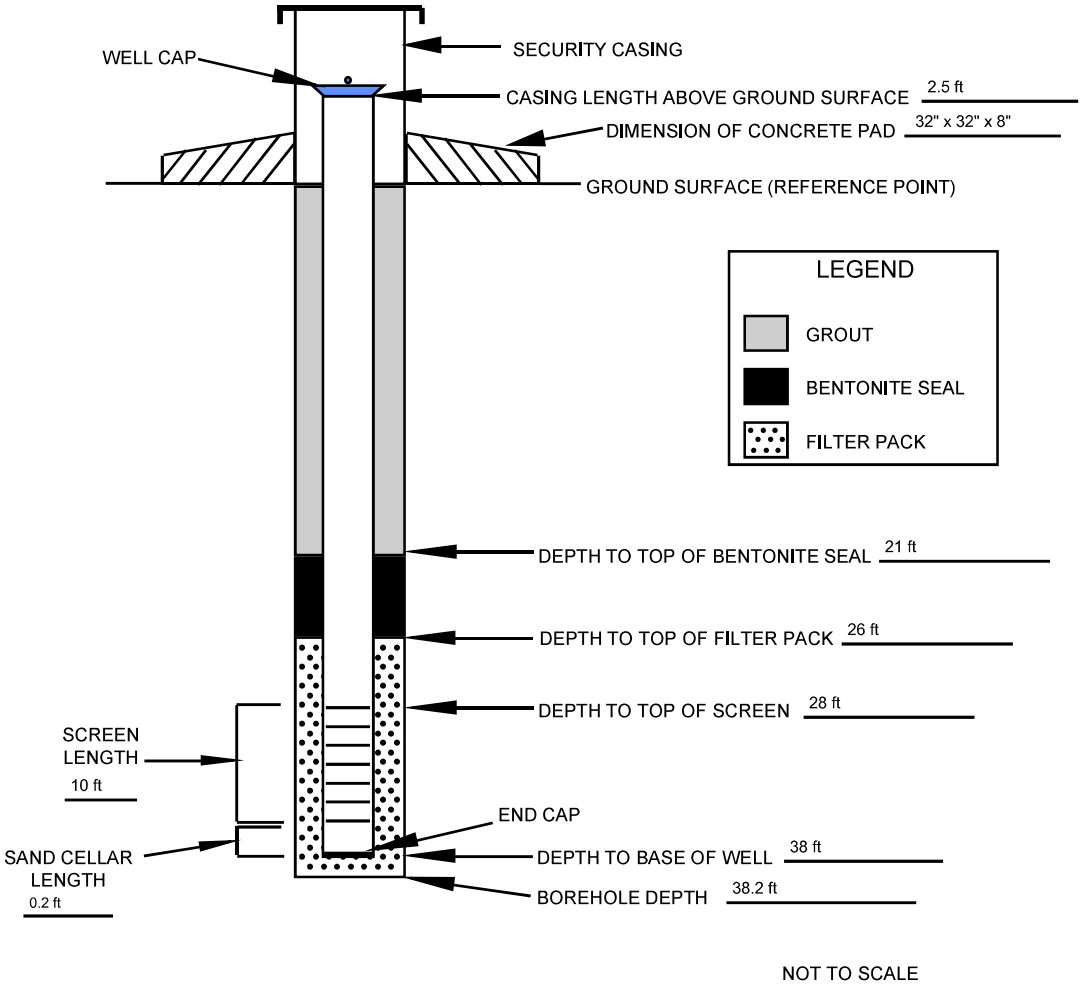
TYPE OF CEMENT: Portland
AMOUNT CEMENT USED: 50 lbs
GROUT MATERIALS USED: Portland (95%) and Bentonite (5%)

DIMENSIONS OF SECURITY CASING: 4" x 4" x 2.5 ft

TYPE OF WELL CAP: 2" compression plug
TYPE OF END CAP: 2" PVC End Cap

COMMENTS:

SPECIAL CONDITIONS
(describe and draw)



INSTALLED BY: James Tinnell (GSI)

INSTALLATION OBSERVED BY: Stuart Cameron (ATI)

DISCREPANCIES:

HGL HydroGeoLogic, Inc Exceeding Expectations

WELL DEVELOPMENT RECORD

WELL/PIEZOMETER ID 19C-UGIA-MW01
PAGE 1 of 1

PROJECT NAME: CHAAP PROJECT NO.: 16-027 DATE: 6-16-18

LOCATION: 19C-UGIA-MW01 DATE INSTALLED: 6-14-18

TOTAL DEPTH (FTOC) 23.67 CASING DIAMETER 2"

MEASURING POINT HEIGHT ABOVE/BELOW GROUND LEVEL 2ft

METHODS OF DEVELOPMENT

☐ Swabbing ☐ Bailing ☐ Pumping ☑ Surge ☐ Describe _____

Equipment decontaminated prior to development ☐ Yes ☐ No

Describe _____

EQUIPMENT NUMBERS:

pH Meter _____ EC Meter _____ Thermometer _____ Turbidity Meter _____

CASING VOLUME INFORMATION:

Casing ID (inch)	1.0	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (A) (gal/ft)	0.04	0.09	0.16	0.2	0.37	0.65	0.75	1.0	1.5	2.0	2.6

PURGING INFORMATION:

Measured Well Depth Prior to Development (B) 23.67 ft.

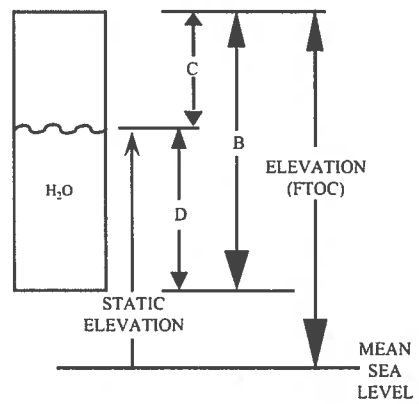
Measured Water Level Depth (C) 10.63 ft.

Length of Static Water Column (D) 23.67 (B) - 10.63 (C) = 13.04 ft. Pumping

Casing Water Volume .16 (A) x 13.04 (D) = 2.0864 gal

Total Purge Volume = 29.25 (gal)

Measured Well Depth After Development (B) 23.67 ft.



Time	DTW (feet btoc)	Flow Rate (gpm or lpm)	Gallons Removed	pH	Cond. (mS/cm)	Temp. (deg C)	Turbidity (NTU)	Notes
14:55	Vigorously surged at 1ft. interval throughout screen							
15:40	10.87	0.45gpm	18	6.95	2.888	11.73	45.2	
15:45	10.87	0.45gpm	20.25	6.95	2.892	11.77	19	
15:50	10.87	0.45gpm	22.5	6.93	2.897	11.72	21.1	
15:55	10.87	0.45gpm	24.75	6.97	2.900	11.77	23.7	
16:00	10.87	0.45gpm	27	6.97	2.902	11.70	24.5	
16:05	10.87	0.45gpm	29.25	6.97	2.963	11.60	15.2	

HGL HydroGeoLogic, Inc Exceeding Expectations

WELL DEVELOPMENT RECORD

WELL/PIEZOMETER ID 19C-LGIA-MW02
PAGE 1 of 1

PROJECT NAME: CHAAP PROJECT NO.: 16-027 DATE: 6-16-18

LOCATION: 19C-LGIA-MW02 DATE INSTALLED: 6-14-18

TOTAL DEPTH (FTOC) 38.73 CASING DIAMETER 2"

MEASURING POINT HEIGHT ABOVE/BELOW GROUND LEVEL 2ft

METHODS OF DEVELOPMENT

☐ Swabbing ☐ Bailing ☐ Pumping ☑ Surge ☐ Describe _____

Equipment decontaminated prior to development ☐ Yes ☐ No

Describe _____

EQUIPMENT NUMBERS:

pH Meter _____ EC Meter _____ Thermometer _____ Turbidity Meter _____

CASING VOLUME INFORMATION:

Casing ID (inch)	1.0	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (A) (gal/ft)	0.04	0.09	0.16	0.2	0.37	0.65	0.75	1.0	1.5	2.0	2.6

PURGING INFORMATION:

Measured Well Depth Prior to Development (B) 38.73 ft.

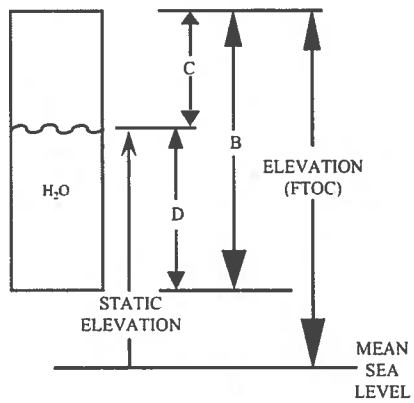
Measured Water Level Depth (C) 10.51 ft.

Length of Static Water Column (D) 38.73 (B) - 10.51 (C) = 28.22 ft. Pumping

Casing Water Volume .16 (A) x 28.22 (D) = 4.515 gal

Total Purge Volume = 81 (gal)

Measured Well Depth After Development (B) 38.73 ft.



Time	DTW (feet btoc)	Flow Rate (gpm or lpm)	Gallons Removed	pH	Cond. (mS/cm)	Temp. (deg C)	Turbidity (NTU)	Notes
14:55	Vigorously surged at 1ft interval throughout screen							
15:40	10.65	.90gpm	40.5	6.94	2.689	14.10	32.0	
15:45	10.65	.90gpm	45	6.92	2.683	14.23	31	
15:50	10.65	.90gpm	49.5	6.88	2.631	14.39	28.6	
15:55	10.65	.90gpm	54	6.85	2.632	13.31	27.1	
16:00	10.65	.90gpm	58.5	6.87	2.633	13.18	26.9	
16:05	10.65	.90gpm	63	6.91	2.634	13.19	25.7	
16:10	10.65	.90gpm	67.5	6.97	2.637	13.29	24.5	
16:15	10.65	.90gpm	72	7.09	2.637	13.50	23.2	
16:20	10.65	.90gpm	76.5	7.08	2.639	13.52	21.1	
16:25	10.65	.90gpm	81	7.08	2.640	13.52	20.3	

HGL HydroGeoLogic, Inc Exceeding Expectations

WELL DEVELOPMENT RECORD

WELL/PIEZOMETER ID 19C-UG1A-MW03
PAGE 1 of 2

PROJECT NAME: CHAAP PROJECT NO.: 16-027 DATE: 6-16-18

LOCATION: 19C-UG1A-MW03 DATE INSTALLED: 6-12-18

TOTAL DEPTH (FTOC) 23.02 CASING DIAMETER 2"

MEASURING POINT HEIGHT ABOVE/BELOW GROUND LEVEL 2ft.

METHODS OF DEVELOPMENT

☐ Swabbing ☐ Bailing ☐ Pumping ☑ Surge ☐ Describe _____

Equipment decontaminated prior to development ☐ Yes ☐ No

Describe _____

EQUIPMENT NUMBERS:

pH Meter _____ EC Meter _____ Thermometer _____ Turbidity Meter _____

CASING VOLUME INFORMATION:

Casing ID (inch)	1.0	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (A) (gal/ft)	0.04	0.09	0.16	0.2	0.37	0.65	0.75	1.0	1.5	2.0	2.6

PURGING INFORMATION:

Measured Well Depth Prior to Development (B) 23.02 ft.

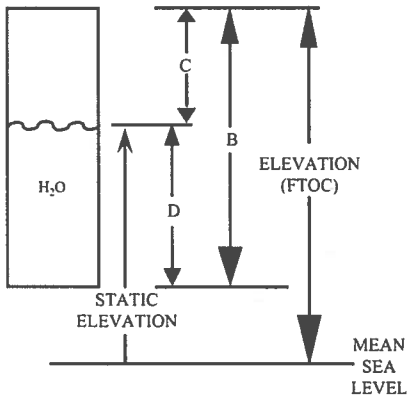
Measured Water Level Depth (C) 5.87 ft.

Length of Static Water Column (D) 23.02 (B) - 5.87 (C) = 17.15 ft. Pumping

Casing Water Volume .16 (A) x 17.15 (D) = _____ gal

Total Purge Volume = 45 (gal)

Measured Well Depth After Development (B) 23.02 ft.



Time	DTW (feet btoc)	Flow Rate (gpm or lpm)	Gallons Removed	pH	Cond. (mS/cm)	Temp. (deg C)	Turbidity (NTU)	Notes
9.25		Vigorously	surged	2ft. intervals	throughout	screen		
10:20	6.07	0.45	22.5	6.85	2.874	11.23	113	
10:25	6.07	0.45	24.75	6.86	2.870	11.23	40.6	
10:30	6.07	0.45	27	6.87	2.719	11.24	30.5	
10:35	6.07	0.45	29.25	6.87	2.700	11.24	29.8	
10:40	6.07	0.45	31.5	6.87	2.698	11.24	29.1	
10:45	6.07	0.45	33.75	6.87	2.699	11.24	26.5	
10:50	6.07	0.45	36	6.87	2.658	11.24	25.9	
10:55	6.07	0.45	38.25	6.88	2.680	11.22	25.1	
11:00	6.07	0.45	40.5	6.88	2.600	11.28	19.9	
11:05	6.07	0.45	42.75	6.88	2.605	11.31	18.4	

HGL HydroGeoLogic, Inc Exceeding Expectations

WELL DEVELOPMENT RECORD (con't)

WELL/PIEZOMETER ID 19C-UG1A-MW03

Time	DTW (feet btoc)	Flow Rate (gpm or lpm)	Gallons Removed	pH	Cond. (mS/cm	Temp. (deg C)	Turbidity (NTU)	Notes
11:10	6.07	0.45gpm	45	6.88	2.611	11.30	18	

HGL HydroGeoLogic, Inc Exceeding Expectations

WELL DEVELOPMENT RECORD

WELL/PIEZOMETER ID MC-LGIA-MW04
PAGE 1 of 2

PROJECT NAME: CHAAP PROJECT NO.: 16-027 DATE: 06/16/18

LOCATION: MC-LGIA-MW04 DATE INSTALLED: 6-12-18

TOTAL DEPTH (FTOC) 36.88 CASING DIAMETER 2 in.

MEASURING POINT HEIGHT ABOVE/BELOW GROUND LEVEL 2 ft.

METHODS OF DEVELOPMENT

☐ Swabbing ☐ Bailing ☐ Pumping ☑ Surge ☐ Describe _____

Equipment decontaminated prior to development ☐ Yes ☐ No

Describe _____

EQUIPMENT NUMBERS:

pH Meter _____ EC Meter _____ Thermometer _____ Turbidity Meter _____

CASING VOLUME INFORMATION:

Casing ID (inch)	1.0	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (A) (gal/ft)	0.04	0.09	0.16	0.2	0.37	0.65	0.75	1.0	1.5	2.0	2.6

PURGING INFORMATION:

Measured Well Depth Prior to Development (B) 36.89 ft.

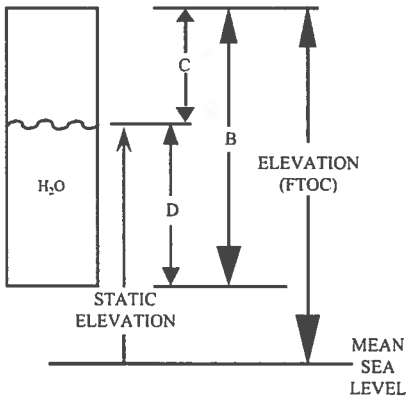
Measured Water Level Depth (C) 6.77 ft.

Length of Static Water Column (D) 36.84 (B) - 6.77 (C) = 30.07 ft. Pumping

Casing Water Volume .16 (A) x 30.07 (D) = 4.8112 gal

Total Purge Volume = 144 (gal)

Measured Well Depth After Development (B) 36.87 ft.



Time	DTW (feet btoc)	Flow Rate (gpm or lpm)	Gallons Removed	pH	Cond. (mS/cm)	Temp. (deg C)	Turbidity (NTU)	Notes
9:10	vigorously	surged	at 1ft.	intervals	throughout	screen		
10:20	6.02	0.90gpm	63	5.68	2.806	14.25	328	
10:25	6.02	0.90gpm	67.5	5.92	2.806	14.67	228	
10:30	6.02	0.90gpm	72	6.20	2.810	14.53	219	
10:35	6.02	0.90gpm	76.5	5.74	2.811	14.86	201	
10:40	6.02	0.90gpm	81	6.08	2.811	14.91	196	
10:45	6.02	0.90gpm	85.5	6.16	2.811	14.97	188	
10:50	6.02	0.90gpm	90	5.90	2.811	14.11	191	
10:55	6.02	0.90gpm	94.5	5.90	2.810	13.94	201	
11:00	6.02	0.90gpm	99	6.01	2.817	15.11	206	
11:05	6.02	0.90gpm	103.5	6.43	2.834	18.90	212	

HGL HydroGeoLogic, Inc Exceeding Expectations

WELL DEVELOPMENT RECORD (con't)

WELL/PIEZOMETER ID 19C-LG1A-MW04

Time	DTW (feet btoc)	Flow Rate (gpm or lpm)	Gallons Removed	pH	Cond. (mS/cm	Temp. (deg C)	Turbidity (NTU)	Notes
11:10	6.02	0.90	108	6.10	2.813	14.72	206	
11:15	6.02	0.90	112.5	6.31	2.817	15.04	152	
11:20	6.02	0.90	117	6.30	2.812	14.25	125	
11:25	6.02	0.90	121.5	6.08	2.817	14.97	86.2	
11:30	6.02	0.90	126	6.36	2.818	15.02	52.2	
11:35	6.02	0.90	130.5	6.25	2.818	14.94	32.7	
11:40	6.02	0.90	135	6.11	2.810	15.20	23.5	
11:45	6.02	0.90	139.5	6.18	2.814	15.05	19.4	
11:50	6.02	0.90	144	6.31	2.814	15.14	19.0	

HGL HydroGeoLogic, Inc Exceeding Expectations

WELL DEVELOPMENT RECORD

WELL/PIEZOMETER ID 19C-UGIA-MW05
PAGE 1 of

PROJECT NAME: CHAAP PROJECT NO.: 16-027 DATE: 6-16-18

LOCATION: 19C-UGIA-MW05 DATE INSTALLED: 6-13-18

TOTAL DEPTH (FTOC) _____ CASING DIAMETER 2"

MEASURING POINT HEIGHT ABOVE/BELOW GROUND LEVEL 2ft

METHODS OF DEVELOPMENT

☐ Swabbing ☐ Bailing ☐ Pumping ☑ Surge ☐ Describe _____

Equipment decontaminated prior to development ☐ Yes ☐ No

Describe _____

EQUIPMENT NUMBERS:

pH Meter _____ EC Meter _____ Thermometer _____ Turbidity Meter _____

CASING VOLUME INFORMATION:

Casing ID (inch)	1.0	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (A) (gal/ft)	0.04	0.09	0.16	0.2	0.37	0.65	0.75	1.0	1.5	2.0	2.6

PURGING INFORMATION:

Measured Well Depth Prior to Development (B) 20.20 ft.

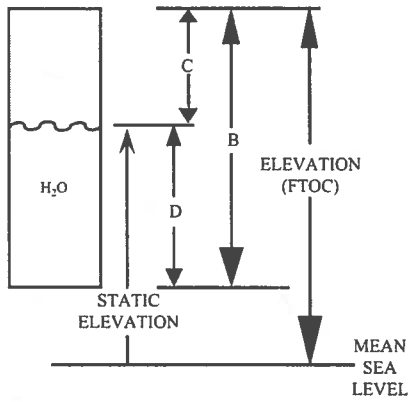
Measured Water Level Depth (C) 5.79 ft.

Length of Static Water Column (D) 20.20 (B) - 5.79 (C) = 14.41 ft. Pumping

Casing Water Volume .16 (A) x 14.41 (D) = 2.305 gal

Total Purge Volume = 56.25 (gal)

Measured Well Depth After Development (B) 20.20 ft.



Time	DTW (feet btoc)	Flow Rate (gpm or lpm)	Gallons Removed	pH	Cond. (mS/cm)	Temp. (deg C)	Turbidity (NTU)	Notes
12:00	6.09	Vigorously surged at 1ft intervals throughout screen						
13:20	6.09	0.45 gpm	36	6.96	1.965	11.38	63.4	
13:25	6.09	0.45 gpm	38.25	6.96	2.061	11.40	121	
13:30	6.09	0.45 gpm	40.5	6.96	2.062	11.44	98	
13:35	6.09	0.45 gpm	42.75	6.96	2.069	11.42	70.1	
13:40	6.09	0.45 gpm	45	6.96	2.074	11.42	31.8	
13:45	6.09	0.45 gpm	47.25	6.98	2.077	11.41	19.8	
13:50	6.09	0.45 gpm	49.5	6.95	2.075	11.41	19.2	
13:55	6.09	0.45 gpm	51.75	6.96	2.088	11.44	18.4	
14:00	6.09	0.45 gpm	54	6.96	2.081	11.47	17.9	
14:05	6.09	0.45	56.25	6.96	2.081	11.48	15.1	

HGL HydroGeoLogic, Inc
Exceeding Expectations

WELL DEVELOPMENT RECORD

WELL/PIEZOMETER ID 19C-LG1A-MW06
PAGE 1 of 1

PROJECT NAME: CHAAP PROJECT NO.: 16-027 DATE: 6-16-18

LOCATION: 19C-LG1A-MW06 DATE INSTALLED: 6-13-18

TOTAL DEPTH (FTOC) 32.75 CASING DIAMETER 2"

MEASURING POINT HEIGHT ABOVE/BELOW GROUND LEVEL 2ft.

METHODS OF DEVELOPMENT

☐ Swabbing ☐ Bailing ☐ Pumping ☑ Surge ☐ Describe _____

Equipment decontaminated prior to development ☐ Yes ☐ No

Describe _____

EQUIPMENT NUMBERS:

pH Meter _____ EC Meter _____ Thermometer _____ Turbidity Meter _____

CASING VOLUME INFORMATION.

Casing ID (inch)	1.0	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (A) (gal/ft)	0.04	0.09	0.16	0.2	0.37	0.65	0.75	1.0	1.5	2.0	2.6

PURGING INFORMATION:

Measured Well Depth Prior to Development (B) 32.75 ft.

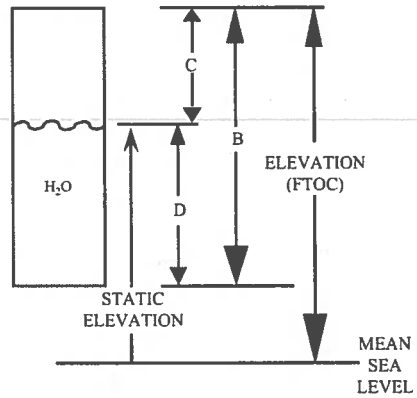
Measured Water Level Depth (C) 5.46 ft.

Length of Static Water Column (D) 32.75 (B) - 5.46 (C) = 27.29 ft. Pumping

Casing Water Volume .16 (A) x 27.29 (D) = 4.366 gal

Total Purge Volume = 81 (gal)

Measured Well Depth After Development (B) 32.75 ft.



Time	DTW (feet btoc)	Flow Rate (gpm or lpm)	Gallons Removed	pH	Cond. (mS/cm)	Temp. (deg C)	Turbidity (NTU)	Notes
12:10	–	vigorously	surged	at 1ft.	intervals	throughout	screen	
13:20	5.67	0.90gpm	63	7.08	2.887	13.72	12.8	
13:25	5.67	0.90gpm	67.5	7.03	2.862	13.24	11.7	
13:30	5.67	0.90gpm	72	7.03	2.860	13.25	9.53	
13:35	5.67	0.90gpm	76.5	7.03	2.871	13.22	9.27	
13:40	5.67	0.90gpm	81	7.02	2.882	13.21	9.16	

HGL HydroGeoLogic, Inc Exceeding Expectations

WELL DEVELOPMENT RECORD

WELL/PIEZOMETER ID 19C-LGIA-MW07
PAGE 1 of 1

PROJECT NAME: CHAP PROJECT NO.: 16-027 DATE: 7-23-18

LOCATION: 19C-LGIA-MW07 DATE INSTALLED: 7-18-18

TOTAL DEPTH (FTOC) 39.85ft. CASING DIAMETER 2"

MEASURING POINT HEIGHT ABOVE/BELOW GROUND LEVEL 2.5ft.

METHODS OF DEVELOPMENT

☐ Swabbing ☐ Bailing ☐ Pumping ☑ Surge ☐ Describe

Equipment decontaminated prior to development ☐ Yes ☐ No

Describe

EQUIPMENT NUMBERS:

pH Meter EC Meter Thermometer Turbidity Meter

CASING VOLUME INFORMATION:

Casing ID (inch)	1.0	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (A) (gal/ft)	0.04	0.09	0.16	0.2	0.37	0.65	0.75	1.0	1.5	2.0	2.6

PURGING INFORMATION:

Measured Well Depth Prior to Development (B) 39.85ft. ft.

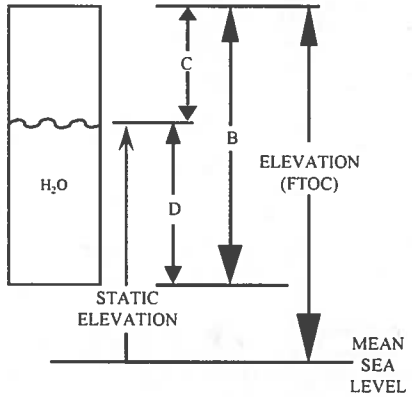
Measured Water Level Depth (C) 11.07 ft.

Length of Static Water Column (D) 39.85 (B) - 11.07 (C) = 28.78 ft. Pumping

Casing Water Volume .16 (A) x 28.78 (D) = 4.604 gal

Total Purge Volume = ~~26.4~~ 39.6 (gal) SGL

Measured Well Depth After Development (B) 39.80 ft.



Time	DTW (feet btoc)	Flow Rate (gpm or lpm)	Gallons Removed	pH	Cond. (mS/cm)	Temp. (deg C)	Turbidity (NTU)	Notes
12:05	11.07	-	Surged vigorously throughout screen interval					
13:30	11.13	0.66gpm	13.5	6.68	2.258	12.23	57.2	
13:35	11.13	0.66gpm	19.8	6.61	2.251	12.05	44.7	
13:40	11.13	0.66gpm	19.8 23.1	6.61	2.231	11.67	38.5	
13:45	11.13	0.66gpm	13.2 26.4	6.65	2.220	11.50	25.9	
13:50	11.13	0.66gpm	16.5 29.7	6.69	2.237	11.75	18.1	
13:55	11.13	0.66gpm	19.8 33	6.70	2.239	11.72	14.9	
14:00	11.13	0.66gpm	23.1 36.3	6.70	2.241	11.73	12.5	
14:05	11.13	0.66gpm	26.4 39.6	6.70	2.240	11.73	13.6	

WELL CONSTRUCTION FORM
(STANDARD WELL)

FIELD REPRESENTATIVE: Stuart Cameron

DRILLING CONTRACTOR: GSI Engineering

DRILLING TECHNIQUE: Hollow Stem Auger
AUGER SIZE AND TYPE: 4.5" ID / 8" OD Hollow Stem

BOREHOLE IDENTIFICATION: 19C-UGIA-MW01
BOREHOLE DIAMETER: 8"
WELL IDENTIFICATION: 19C-UGIA-MW01

WELL CONSTRUCTION START DATE: 6/14/18
WELL CONSTRUCTION COMPLETE DATE: 6/18/18

SCREEN MATERIAL: 0.010 Slotted PVC
SCREEN DIAMETER: 2"
STRATUM-SCREENED INTERVAL (FT): 10

CASING MATERIAL: PVC
CASING DIAMETER: 2"

TYPE OF FILTER PACK: Silica Sand-Pack
GRADIATION: #16/30
AMOUNT OF FILTER PACK USED: 250 lbs

TYPE OF BENTONITE: Bentonite Chips
AMOUNT BENTONITE USED: 150 lbs

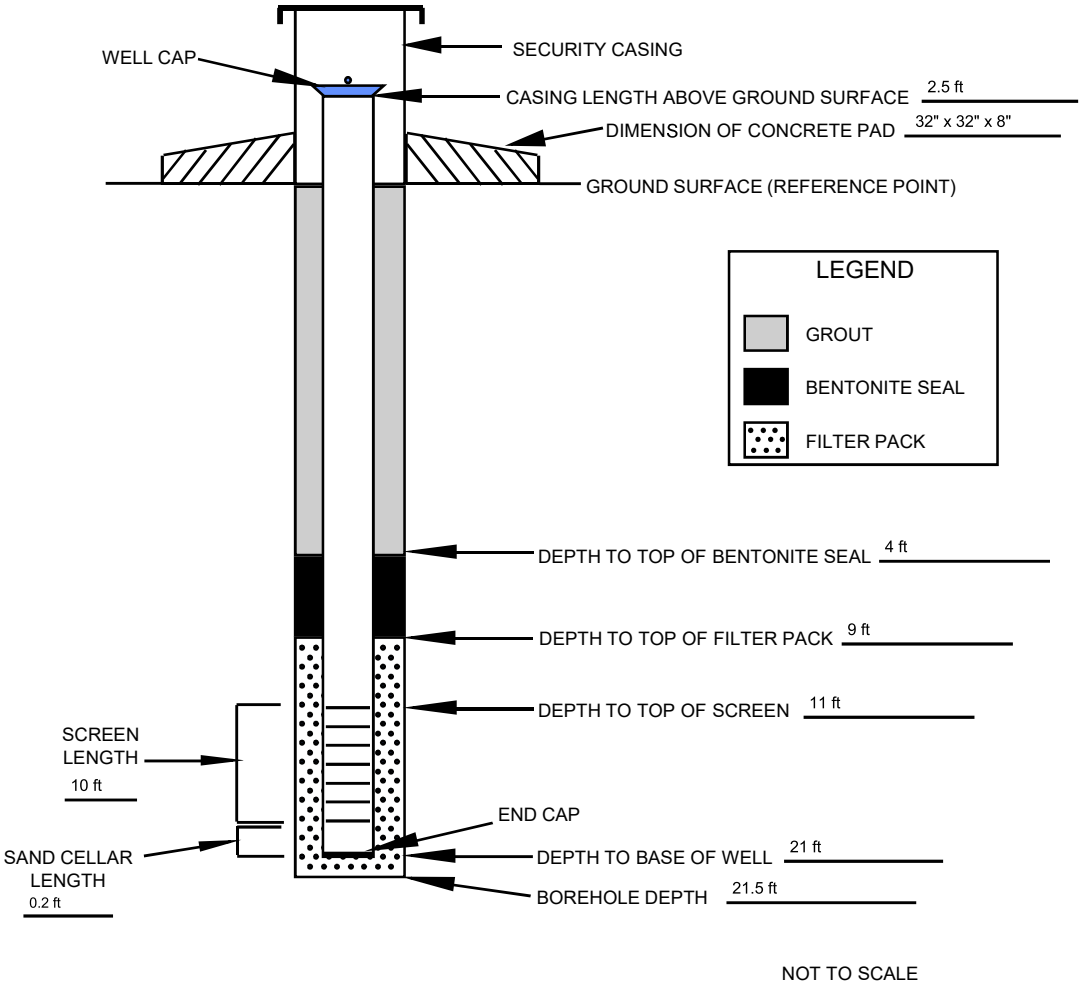
TYPE OF CEMENT: Portland
AMOUNT CEMENT USED: 5 lbs
GROUT MATERIALS USED: Portland (95%) and Bentonite (5%)

DIMENSIONS OF SECURITY CASING: 4" x 4" x 2.5 ft

TYPE OF WELL CAP: 2" compression plug
TYPE OF END CAP: 2" PVC End Cap

COMMENTS:

SPECIAL CONDITIONS
(describe and draw)



NOT TO SCALE

INSTALLED BY: James Tinnell (GSI)

INSTALLATION OBSERVED BY: Stuart Cameron (ATI)

DISCREPANCIES: