

# CORNHUSKER ARMY AMMUNITION PLANT FIVE-YEAR REVIEW ADDENDUM

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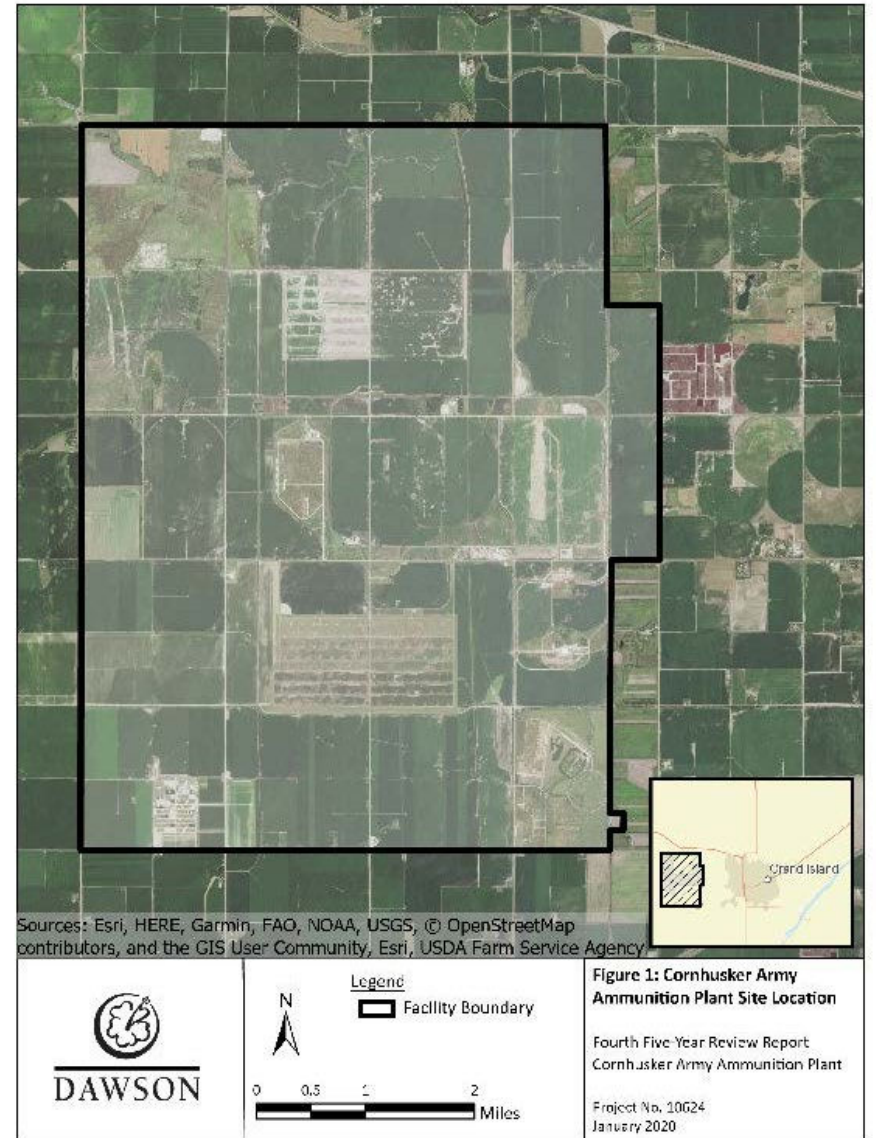
# CORNHUSKER ARMY AMMUNITION PLANT FIVE-YEAR REVIEW ADDENDUM



The Final Fourth Five-Year Review for Cornhusker Army Ammunition Plant was signed September 18, 2020.

Upcoming work:

- Sample groundwater for perchlorate
- Update the Ecological Risk Assessment
- Address and resolve EPA comments on remedy protectiveness for Operable Units (OUs) 1, 2, 3, and 4 from the Draft Final Fourth Five-Year Review Report with submittal of the Five-Year Review Addendum





# PERCHLORATE SAMPLING



- OU 1 includes contaminated groundwater on-site and off-site resulting from operations at Load Lines 1 through 5.
- In August 2016, EPA collected groundwater samples from 15 groundwater monitoring wells for perchlorate analysis at Cornhusker AAP.
- Perchlorate concentrations exceeded the EPA tap water Regional Screening Level (RSL) of 1.4 µg/L in two groundwater samples, from monitoring well G0087 (2.03 µg/L) northeast of Load Line 1 and monitoring well G0103 (44.9 µg/L) north of Load Line 4. Perchlorate in monitoring well G0103 also exceeded the EPA Maximum Contaminant Level Goal (MCLG) of 15 µg/L.

US EPA Region 7 - ROC  
October 2016

Summary Report – Site Wide Groundwater Split Sampling  
Cornhusker Army Ammunition Plant, Grand Island, NE

Table 4 – Sample Perchlorate Analytical Results

Sample Number	External Sample Number	EPA Tapwater RSL	EPA MCLG	California MCL	Result
1	CHAPP-GW-PZ005-08-16-01	1.4	15	6	<2
2	CHAPP-GW-G0017-08-16-01	1.4	15	6	<2
3	CHAPP-GW-G0045-08-16-01	1.4	15	6	<2
4	CHAPP-GW-G0066R-08-16-02	1.4	15	6	<2
4	CHAPP-GW-G0066R-08-16-01	1.4	15	6	<2
6	CHAPP-GW-G0097-08-16-01	1.4	15	6	<2
9	CHAPP-GW-G0084-08-16-01	1.4	15	6	<2
10	CHAPP-GW-G0108-08-16-01	1.4	15	6	<2
11	CHAAP-GW-G0103-08-16-01	1.4	15	6	44.9
12	CHAAP-GW-G0044-08-16-01	1.4	15	6	<2
13	CHAAP-GW-PZ011-08-16-02	1.4	15	6	<2
13	CHAAP-GW-PZ011-08-16-01	1.4	15	6	<2
15	CHAAP-GW-PZ012-08-16-01	1.4	15	6	<2
16	CHAAP-GW-G0089-08-16-01	1.4	15	6	<2
17	CHAAP-GW-PZ017R-08-16-01	1.4	15	6	<2
20	CHAAP-GW-G0087-08-16-01	1.4	15	6	2.03
21	CHAAP-GW-G0077-08-16-01	1.4	15	6	<2

**Notes:**

Units in µg/l

RSL – Regional Screening Level

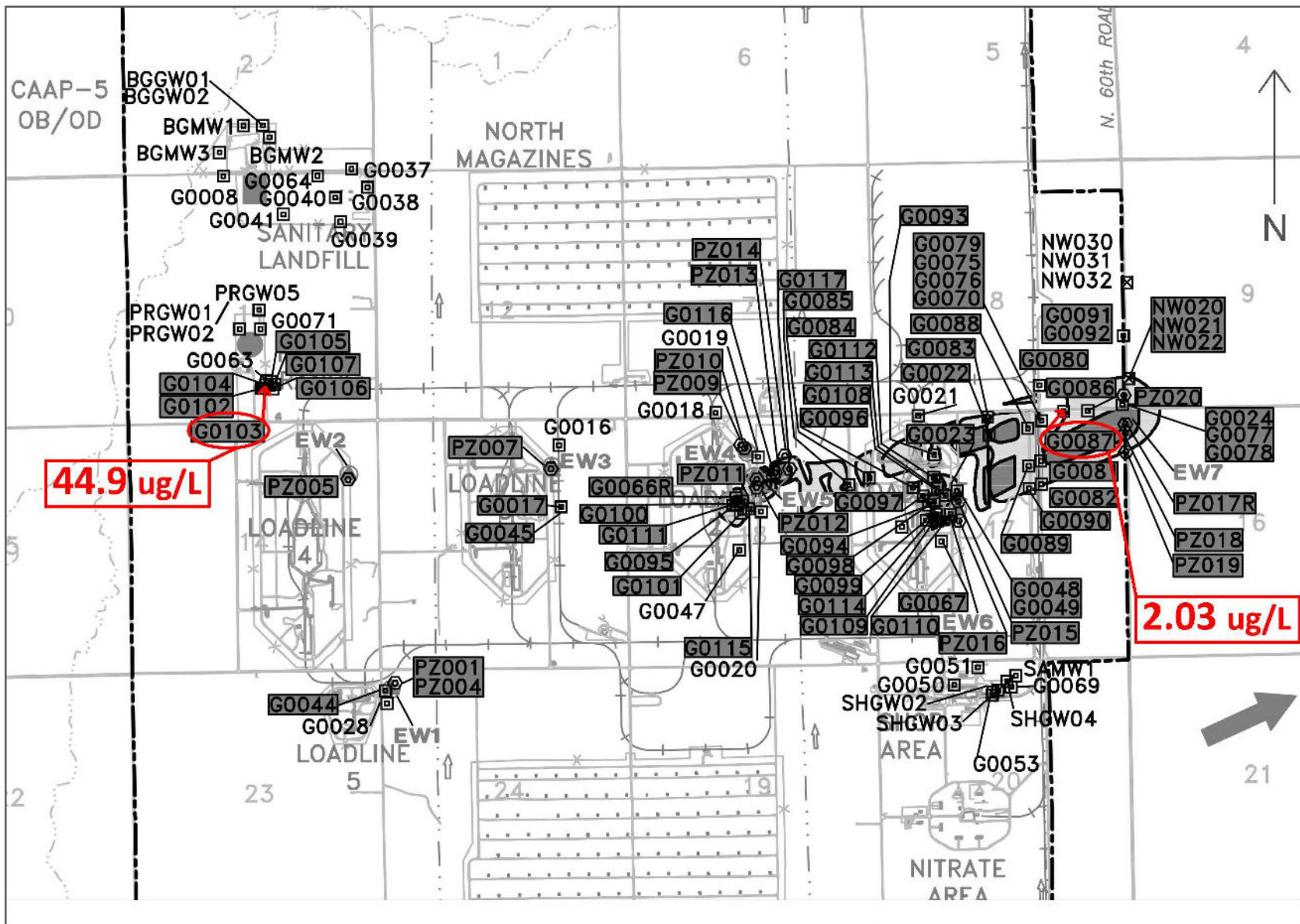
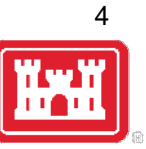
MCL – Maximum Contaminant Level

MCLG – Maximum Contaminant Level Goal

Yellow shading denotes a screening value that has been exceeded

Orange denotes a concentration that exceeds a screening level





44.9 ug/L

2.03 ug/L



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 Well With  
 Detection  
 Above RSL

Figure 2  
 CHAPP  
 Perchlorate Detections  
 023.02.003



## PERCHLORATE SAMPLING (CONTINUED)



- Groundwater samples from select OU 1 monitoring wells will be analyzed for perchlorate to address EPA comments regarding perchlorate as a potential contaminant of concern at Cornhusker Army Ammunition Plant.
- Perchlorate results will be reported in a Technical Memorandum to be included in the Fourth Five-Year Review Addendum.



# UPDATE TO ECOLOGICAL RISK ASSESSMENT



- The previous Ecological Risk Assessment (ERA) for OUs 2, 3, and 4 was completed in 1996.
- The ERA Update will provide a more thorough evaluation of ecological risk necessitated by the passage of 24 years and the issuance of updated guidance.
- The 1996 ERA concluded that:
  - Polycyclic aromatic hydrocarbons (PAHs) in sediment and inorganics in surface water at the Nitrate Ponds present risk to aquatic receptors; however, habitat quality is limited.
  - Cyanide in sediment and atrazine in surface water of Silver Creek and atrazine and surface water have the potential for adverse effects to aquatic receptors.
  - The greatest potential for adverse effects is to terrestrial plants and earthworms from exposure to 2,4,6-Trinitrotoluene, aluminum, lead, silver, and thallium in surface soil. However, considering habitat limitations in the Remedial Investigation areas and better-quality habitat nearby, risks to terrestrial populations are probably less than estimated.
  - Metals in surface soil at multiple sites were elevated at levels presenting the potential for adverse effects to terrestrial plants and earthworms.



# FIVE-YEAR REVIEW ADDENDUM



- The results of the perchlorate sampling and ERA Update will be reported in an Addendum to the Fourth Five-Year Review for Cornhusker Army Ammunition Plant.
- The Addendum will provide a comprehensive review and summary of the perchlorate results and ERA Update to address EPA comments provided in their correspondence dated November 8, 2020 and November 18, 2020.
- The Addendum will be similar in style and format to the Fourth Five-Year Review signed on September 18, 2020.



# QUESTIONS AND DISCUSSION