

## June 2021

For more information or any questions concerning the former Nebraska Ordnance Plant project, please contact:

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or go to the project website at:

<http://www.nwk.usace.army.mil/Missions/Environmental/EnvironmentalProjects/NOP.aspx>

Information repository documents are available for review at:

### Mead Public Library

316 South Vine Street  
Mead, Nebraska 68041  
Phone: (402) 624-6605

### Hours

Tuesday: 10 a.m. - 1 p.m. and 2-6 p.m.  
Wednesday: 4 - 7 p.m.  
Thursday: 12 - 6 p.m.  
Saturday: 9 a.m. - 1 p.m.



## Omadi Bedrock Formation Phase III Assessment

The Omadi Formation (Omadi) is a bedrock layer consisting of sandstone with thin layers of shale that underlies the Todd Valley and Platte Valley sands and gravels. The top of the Omadi is found at a depth of approximately 100 feet below ground surface. The main purpose of the Phase III Omadi Assessment was to assess the depth of contamination into the Omadi from the plumes found in the overlying sands and gravels.

In the spring and summer of 2019, the Phase III Omadi Assessment consisted of installing a total of 69 monitoring wells in the Omadi at 26 locations across the site. New monitoring wells were installed in the Omadi at two or three depths per location. The number of wells installed at each location was determined by the vertical groundwater profiling data and the thickness of the Omadi at that location. Groundwater samples have been collected from all newly installed Omadi monitoring wells since November 2019.

Based on Phase III Omadi Assessment results, the northern extent of Load Line (LL) 1 TCE contamination in the Omadi was not defined. To address this data gap, three additional soil borings were advanced into the Omadi upgradient (i.e., north) of previous LL1 Omadi Phase III soil borings. Vertical profiling of the Omadi was completed at all three locations by collecting and analyzing groundwater samples every 10 feet in the Omadi at each location. As a result of these efforts, the northern extent of TCE contamination in LL1 was defined. Two new monitoring well clusters, consisting of two wells placed at two different depths, were installed at two of the three locations (four new wells total). Groundwater samples will be collected and analyzed in the future to monitor concentration trends over time.

## Pre-Design of New Focused Extraction Well-19

USACE is planning a new focused extraction well, (FEW)-19, within the Load Line 4 plume. The area near monitoring well MW-153 was determined the

most effective location based on modeling. In fall 2020, an initial test well (TH-FEW-19) was installed in a localized area of finer grained material and analysis of pump test data determined that an extraction well would not sustain the required pumping rate. Consequently, in early 2021, two offset test holes were installed east and west of the initial test well to identify a location that contained more coarse-grained material. The new test hole located west of MW-153 was selected for the installation of a new test well (TH-FEW-19R2). This location contained a thicker zone of coarse-grained material and a greater aquifer thickness than the original test well location, which will improve well yield. A pump test was performed at the new test well and analysis of data collected during the pump test has begun. Once this analysis is complete, design of FEW-19 will begin including the extraction well; conveyance piping; architectural, structural, mechanical, electrical, the treatment process, and instrumentation/control elements. Construction of FEW-19 will follow.

## 2021 Groundwater Profiling Investigation

Groundwater profiling activities to refine the horizontal and vertical extent of TCE contamination within the Load Line (LL)2 and LL3 plumes began in April of this year. Profiling activities are also being performed to refine the horizontal and vertical extent of RDX contamination near monitoring well MW-11 near LL4. At each direct push location, groundwater samples are being collected every 10 feet vertically through the water column and sampled for TCE and RDX.

The groundwater samples are analyzed by an on-site laboratory to allow for real time decisions in the field. In some instances, additional direct push borings are advanced and additional groundwater samples collected, until project objectives are obtained. It is anticipated that more than 80 direct push borings will be advanced along 19 different transects, with over 500 groundwater samples collected and analyzed. Based on groundwater analytical results, additional monitoring wells may be installed as part of the groundwater profiling effort.

## Open House Meeting

The U.S. Army Corps of Engineers will host the Spring Open House on Wednesday, June 16, 2021, from 6:00 p.m. to 7:00 p.m. The Open House will be conducted virtually. USACE technical staff will participate to answer specific questions regarding the former Nebraska Ordnance Plant. Representatives from the U.S. Environmental Protection Agency and Nebraska Department of Environment and Energy are expected to participate as well. The virtual Open House will include a brief informational presentation on the 2020 Containment Evaluation and an update on recent field work. To learn more about the former Nebraska Ordnance Plant, please plan on attending our virtual Open House via the following WebEx link:

<https://baywestllc.my.webex.com/baywestllc.my/j.php?MTID=md7675f9e6a28bc5a325055f694cd67d8>

Meeting number (access code): 182 211 1279

Meeting Password: xRj3NwXhq25 (97536994 from phones and video systems)

Or, join by phone: +1-415-655-0001 US Toll

Access code: 182 211 1279

For those unable to participate in person, the virtual Open House will be recorded and posted to the project website at:

<http://www.nwk.usace.army.mil/Missions/Environmental/EnvironmentalProjects/NOP.aspx>.

For further information regarding the meeting, contact the U.S. Army Corps of Engineers Project Manager at (816) 389-3307.



Focused Extraction Well FEW-14 Solar Array

## Operation and Maintenance Summary

USACE conducts groundwater remediation in accordance with the 1997 Record of Decision for Operable Unit 2. Operation of the groundwater treatment system has removed the following from groundwater, as of April 30, 2021:

TCE removed

• Load Line 1 groundwater treatment plant – 3,274 lb

• Advanced Oxidation Process treatment plant – 45,374 lb

• Load Line 4 groundwater treatment plant – 6,286 lb

RDX removed

• Ultraviolet treatment systems – 234 lb

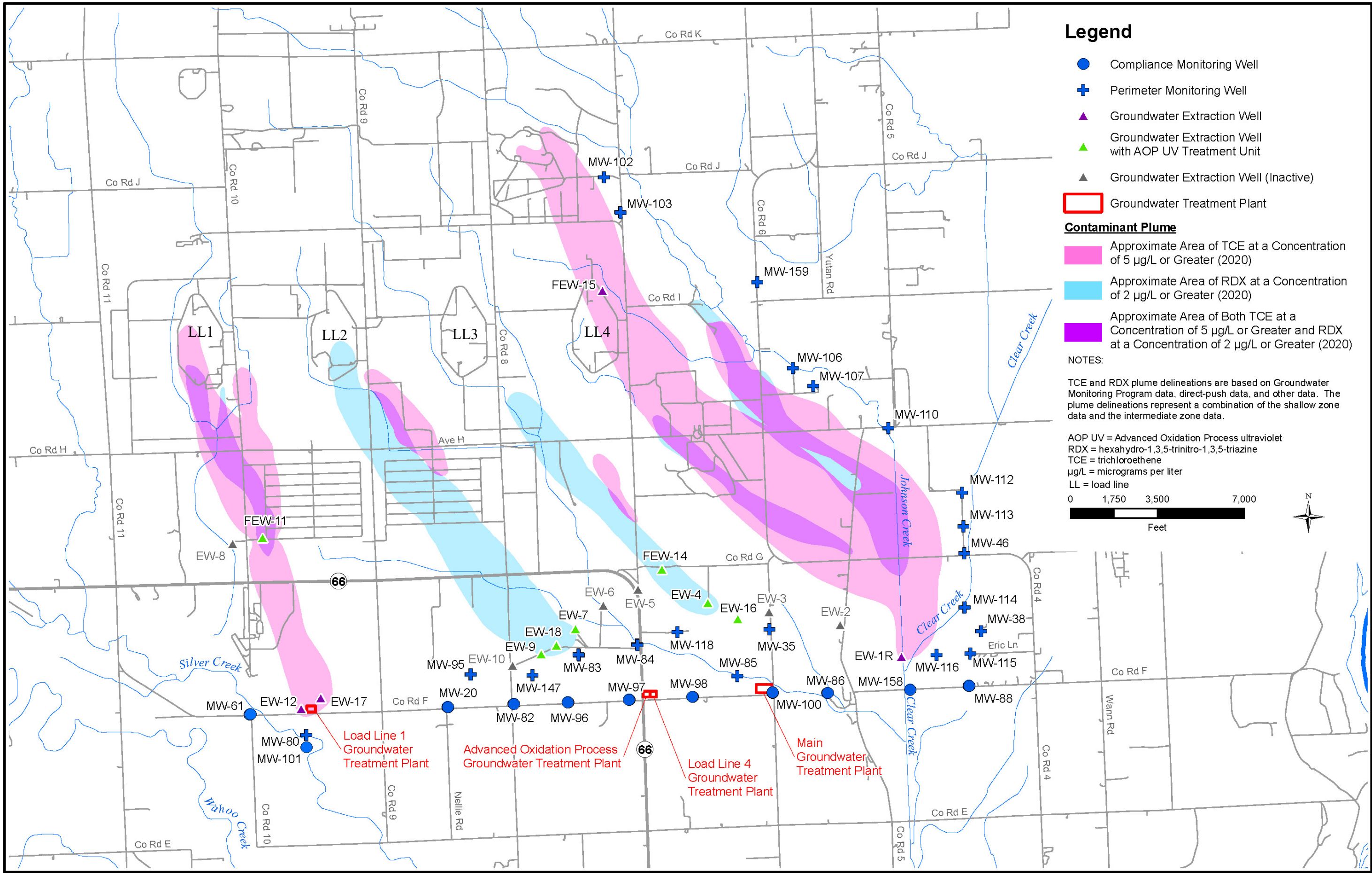
Gallons of water treated since startup:

• Load Line 1 groundwater treatment plant – 3.25 billion gallons

• Advanced Oxidation Process treatment plant – 2.97 billion gallons

• Load Line 4 groundwater treatment plant – 3.16 billion gallons

• Ultraviolet treatment systems – 6.20 billion gallons



**Legend**

- Compliance Monitoring Well
- ⊕ Perimeter Monitoring Well
- ▲ Groundwater Extraction Well
- ▲ Groundwater Extraction Well with AOP UV Treatment Unit
- ▲ Groundwater Extraction Well (Inactive)

□ Groundwater Treatment Plant

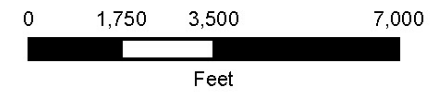
**Contaminant Plume**

- Approximate Area of TCE at a Concentration of 5 µg/L or Greater (2020)
- Approximate Area of RDX at a Concentration of 2 µg/L or Greater (2020)
- Approximate Area of Both TCE at a Concentration of 5 µg/L or Greater and RDX at a Concentration of 2 µg/L or Greater (2020)

**NOTES:**

TCE and RDX plume delineations are based on Groundwater Monitoring Program data, direct-push data, and other data. The plume delineations represent a combination of the shallow zone data and the intermediate zone data.

AOP UV = Advanced Oxidation Process ultraviolet  
 RDX = hexahydro-1,3,5-trinitro-1,3,5-triazine  
 TCE = trichloroethene  
 µg/L = micrograms per liter  
 LL = load line



Load Line 1 Groundwater Treatment Plant  
 Advanced Oxidation Process Groundwater Treatment Plant  
 Load Line 4 Groundwater Treatment Plant  
 Main Groundwater Treatment Plant

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