

## New Contractor Has Joined the Former Nebraska Ordnance Plant Project

As of January 2014, the former Nebraska Ordnance Plant project is now being managed by a new operating contractor, HydroGeoLogic, Inc. (HGL). The familiar faces of Toby Hinz, Vince Stallbaumer, and Jesse Phillips are now members of the HGL project team and remain at the site in their current roles.

## Main Groundwater Treatment Plant Taken Offline in April

Several pilot studies have been conducted at the former Nebraska Ordnance Plant over the past two years investigating the use of AOP (Advanced Oxidation Process) UV (ultraviolet) photolysis to treat explosives-contaminated groundwater at the wellhead of five extraction wells. The overall objective of these pilot studies and the AOP UV treatment systems were to reduce or eliminate the use of granular activated carbon treatment at the Main Groundwater Treatment Plant (GTP) and take the Main GTP offline in the future. That objective was successfully met late last year when the results of the pilot studies showed that the AOP UV treatment systems could achieve consistent destruction of RDX at all five extraction well locations. As a result, the AOP UV treatment systems were fully implemented at extraction wells EW-4, EW-7, EW-9, and at focused extraction wells FEW-11 and FEW-14 to treat the explosives-contaminated groundwater directly at the wellhead in January 2014.



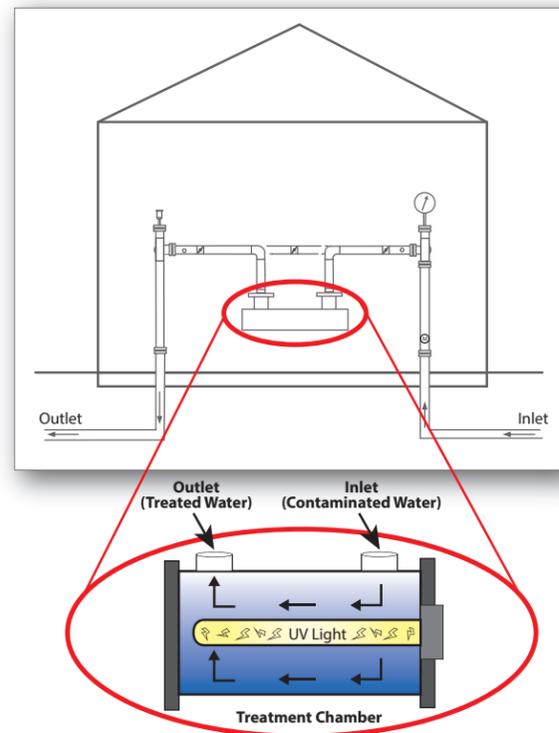
UV Treatment System

Analytical results have shown that the AOP UV treatment systems effectively treat explosives-contaminated groundwater from the extraction wells to below the site groundwater cleanup goals and below the criteria

required to discharge the treated groundwater water directly to surface water (Wahoo Creek or Clear Creek) without requiring additional treatment at the Main GTP. A technical memorandum was prepared and submitted to the regulators outlining the results of the pilot tests, the plan to taking the Main GTP offline, and the activities that needed to be completed prior to taking it offline. Some of those activities included installing exterior piping and isolation valves so that the treated groundwater from the individual extraction wells could be directly discharged to either Wahoo Creek or Clear Creek. The regulators approved the memorandum and the site operators began working to complete the necessary tasks to take the Main GTP offline. After all activities were completed and all systems were checked, the Main GTP was taken offline on April 30, 2014. The treated groundwater from the five extraction wells with AOP UV treatment systems is now directly discharged to either Wahoo Creek or Clear Creek.

Although the Main GTP effectively treated contaminated groundwater at the site for over 10 years, taking the plant offline will provide cost savings for the project by lowering the overall site energy usage, reducing material costs, and reducing maintenance requirements. The Main GTP building will remain in place and will still house the main control room for the other treatment plants and extraction well systems. The building will also remain the primary offices for the site operators and on-site staff.

### Side View of Well Pump House and UV Treatment System



## Open House Meeting

The U.S. Army Corps of Engineers will host the annual Site Tour and Open House on Wednesday, June 11, 2014. Please come join us at the Main Groundwater Treatment Plant at the junction of County Road 6 and County Road F, in Ashland, Nebraska. The open house will be from 4:30-5:30 PM and a Site Tour from 5:30 PM until approximately 7:30 PM. Representatives from the U.S. Environmental Protection Agency and Nebraska Department of Environmental Quality are expected to attend as well.

Please plan on attending our Open House and Site Tour for handouts, light refreshments and a demonstration at 5:00 PM on how ultraviolet light treats explosives contamination in groundwater. Project personnel will be available to provide and interpret water sampling results and other site data from 4:30-5:30 PM. Neighbors and local residents are welcome to join us for a guided bus tour starting at 5:30 PM that will introduce you to many parts of the groundwater clean-up project.

The tour will begin at the Main Groundwater Treatment Plant and we will then take the bus to the following locations: Load Line 4 and Advanced Oxidation Process Groundwater Treatment Plants, EW-5 pump house, the former Atlas Missile Area, and focused extraction well FEW-15. The tour will end at approximately 7:30 PM at the Main Groundwater Treatment Plant. See site tour map on the following page.

## Open House Meeting (continued)

For further information regarding the meeting, contact the U.S. Army Corps of Engineers Project Manager at (816) 389-3172.

## Operations and Maintenance Summary

Operation of the Main, Load Line 1, Advanced Oxidation Process, and Load Line 4 Groundwater Treatment Plants have resulted in removal of the following amounts of contaminants of concern from groundwater as of May 22, 2014 since their respective startup:

- TCE (trichloroethene) total removed – 29,624 pounds
- Main Groundwater Treatment Plant – 383 pounds
- Load Line 1 Groundwater Treatment Plant - 624 pounds
- Advanced Oxidation Process Treatment Plant - 25,400 pounds
- Load Line 4 Groundwater Treatment Plant – 3,217 pounds
- RDX (hexahydro-1,3,5-trinitro-1,3,5-triazine) total removed from the Main Groundwater Treatment Plant – 271 pounds

Total gallons of water treated:

- Main Groundwater Treatment Plant - 12,531,596,000 gallons
- Load Line 1 Groundwater Treatment Plant - 1,396,785,200 gallons
- Advanced Oxidation Process Treatment Plant - 1,466,483,000 gallons
- Load Line 4 Groundwater Treatment Plant - 890,952,400 gallons

## June 2014

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

Project Manager  
U.S. Army  
Corps of Engineers  
Kansas City District  
601 E. 12th Street  
Kansas City, Missouri 64106  
Phone (816) 389-3172

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:

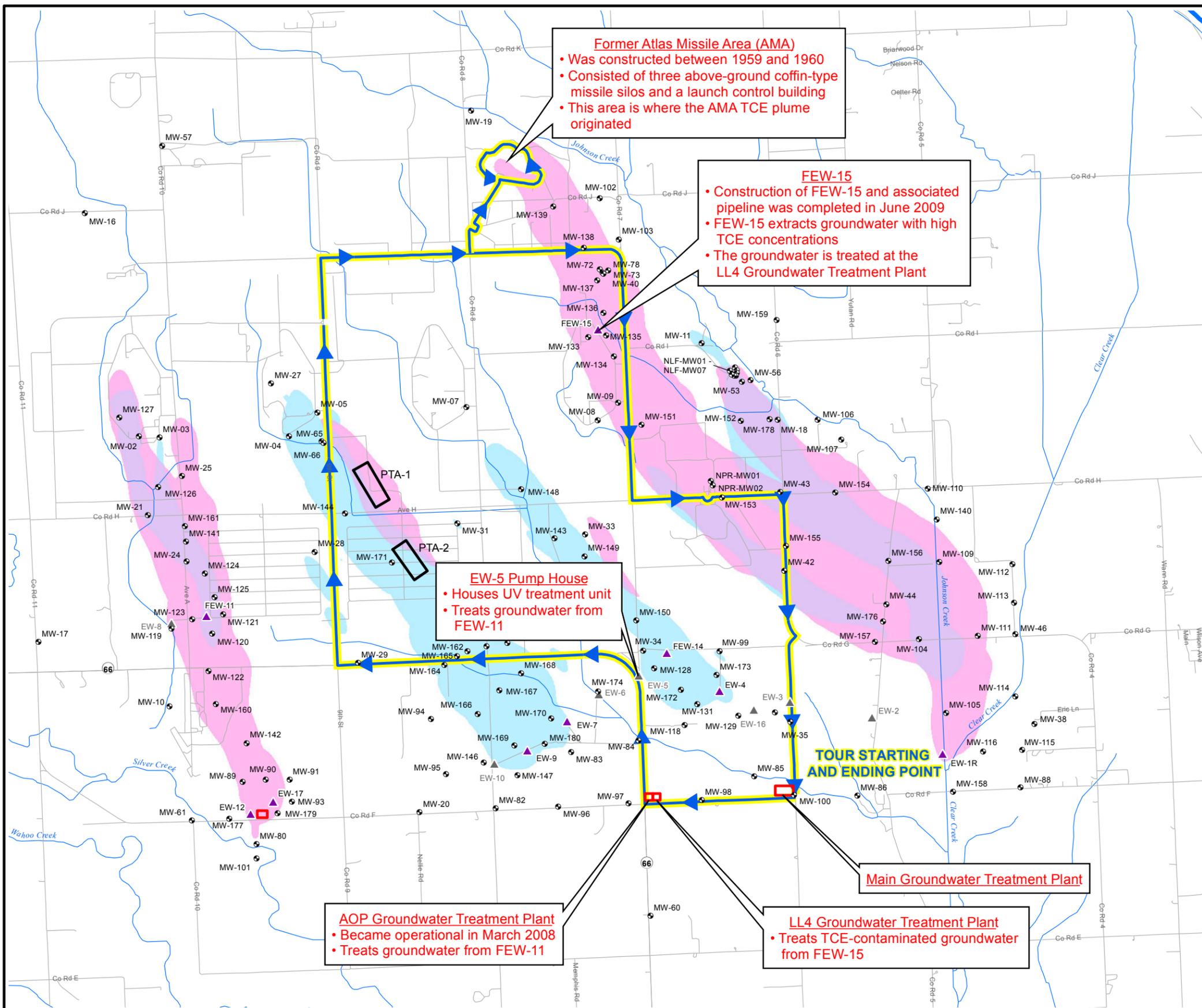
**Mead Public Library**  
316 South Vine Street  
Mead, Nebraska 68041  
(402) 624-6605

## Hours

Tuesday: 10 AM - 1 PM and 2-6 PM  
Wednesday: 4-8 PM  
Thursday: 10-11 AM, and 2-6 PM  
Saturday: 10 AM - 2 PM



**US Army Corps of Engineers** ®

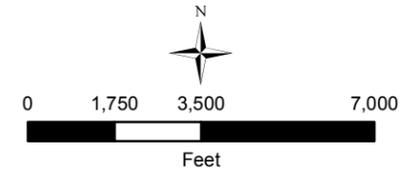


## Legend

- USACE Groundwater Monitoring Well/ Well Cluster
  - Groundwater Extraction Well
  - Groundwater Extraction Well (Inactive)
  - Groundwater Treatment Plant
- Contaminant Plume**
- Approximate Area of TCE at a Concentration of 5 µg/L or Greater (2013)
  - Approximate Area of RDX at a Concentration of 2 µg/L or Greater (2013)
  - 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 (2013)
  - Tour Route
- Main Groundwater Treatment Plant    Tour Stop

### NOTES:

- AOP = Advanced Oxidation Process
- EW = Extraction Well
- FEW = Focused Extraction Well
- LL = Load Line
- MW = Monitoring Well
- PTA = Preliminary Treatment Area
- TCE = trichloroethene
- UV = ultraviolet
- RDX = hexahydro-1,3,5-trinitro-1,3,5-triazine
- µg/L = micrograms per liter



Former Nebraska Ordnance Plant  
Mead, Nebraska  
Open House

## June 2014 Annual Site Tour Map

Drawn by: RR	Reviewed by: LT	Source: HGL, ECC, NAIP (2012)
Date: 04/16/2014	Date: 04/16/2014	Projection: NAD 1983
Version: 2	Revision Date / Initials: 04/17/2014 RR	Nebraska State Plane
		Units: Feet

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