

## When Does the U.S. Corps of Engineers Sample Water Supply Wells?

As part of the U.S. Corps of Engineers commitment to public safety, water supply wells that are within one mile from the delineated groundwater contamination plumes are sampled on a regular basis. Water supply wells located less than one mile from the delineated groundwater contamination plumes are in the "One-Mile Buffer Zone" and are sampled once a year. Water supply wells located less than one-half mile away from the delineated groundwater contamination plumes are in the "Half-Mile Buffer Zone" and are sampled twice a year. If at any point the water supply well is confirmed to contain TCE and/or RDX above their respective action levels, then a whole house granular activated carbon unit will be installed to treat the water and maintained by the U.S. Corps of Engineers at no cost to the landowner. Water supply wells that have a whole house granular activated carbon unit installed are sampled at the inlet and outlet of the treatment unit during each sampling event to monitor the effectiveness of treatment. The results of all water supply well testing are sent directly to each landowner.



Granular Activated Carbon Unit



Extraction Well Screen Before and After Cleaning with Sonar Jet™



Sonar Jet™ Cleaning Device Being Lowered into an Extraction Well

## Extraction Well Cleaning

As part of the operation and maintenance program at the former Nebraska Ordnance Plant, extraction wells are evaluated annually to determine whether they require cleaning. In October 2015, two extraction wells (EW-12 and EW-17) were cleaned using an alternative cleaning method called Sonar Jet™ instead of the traditional cleaning methods that include scrubbing, bailing, surging, purging, jetting, and chemical addition. This new method uses a detonation cord lowered into the well that emits shockwaves to break up debris on the well screen and within the surrounding aquifer. The debris within the well was air lifted out using compressed air. Downhole video inspections and pumping tests were performed after the cleaning which confirmed the effectiveness of this new method. Sonar Jet™ proved to be a faster and less expensive cleaning method than traditional cleaning methods that use brushes, water jets, and chemicals. This cleaning method will be used again in the future when extraction wells need to be cleaned.

Former Nebraska Ordnance Plant ■ Mead, Nebraska

## Open House Meeting

The U.S. Army Corps of Engineers will host the annual Site Tour and Open House on Wednesday, May 18, 2016. 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 p.m. and a Site Tour from 5:30 p.m. until approximately 7:30 p.m. 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 poster presentations at 5:00 p.m. on the Assessment of the Groundwater Containment System on the Omadi Formation, the Water Supply Well Sampling Program, and Cleaning Extraction Wells with Sonar Jet™. Project personnel will be available to provide and interpret water sampling results and other site data from 4:30-5:30 p.m. Neighbors and local residents are welcome to join us for a guided bus tour starting at 5:30 p.m. 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 p.m. 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) 389-3563.

## Operations and Maintenance Summary

Operation of the Ultraviolet treatment systems and the 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 March 31, 2016, since their respective startup.

TCE (trichloroethene) removed:

- Load Line 1 Groundwater Treatment Plant – 1,286 pounds
- Advanced Oxidation Process Treatment Plant – 32,235 pounds
- Load Line 4 Groundwater Treatment Plant – 4,853 pounds

RDX (hexahydro-1,3,5-trinitro-1,3,5-triazine) removed:

- Ultraviolet Treatment Systems – 86 pounds

Gallons of water treated since startup:

- Load Line 1 Groundwater Treatment Plant – 1,901,361,000 gallons
- Advanced Oxidation Process Treatment Plant – 1,916,431,000 gallons
- Load Line 4 Groundwater Treatment Plant – 1,525,943,000 gallons
- Ultraviolet Treatment Systems – 1,587,200,000 gallons

May 2016

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

**Edwin Louis**

Project Manager

U.S. Army Corps of Engineers

Kansas City District

601 East 12th Street

Kansas City, Missouri 64106

Phone: (816) 389-3563

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.

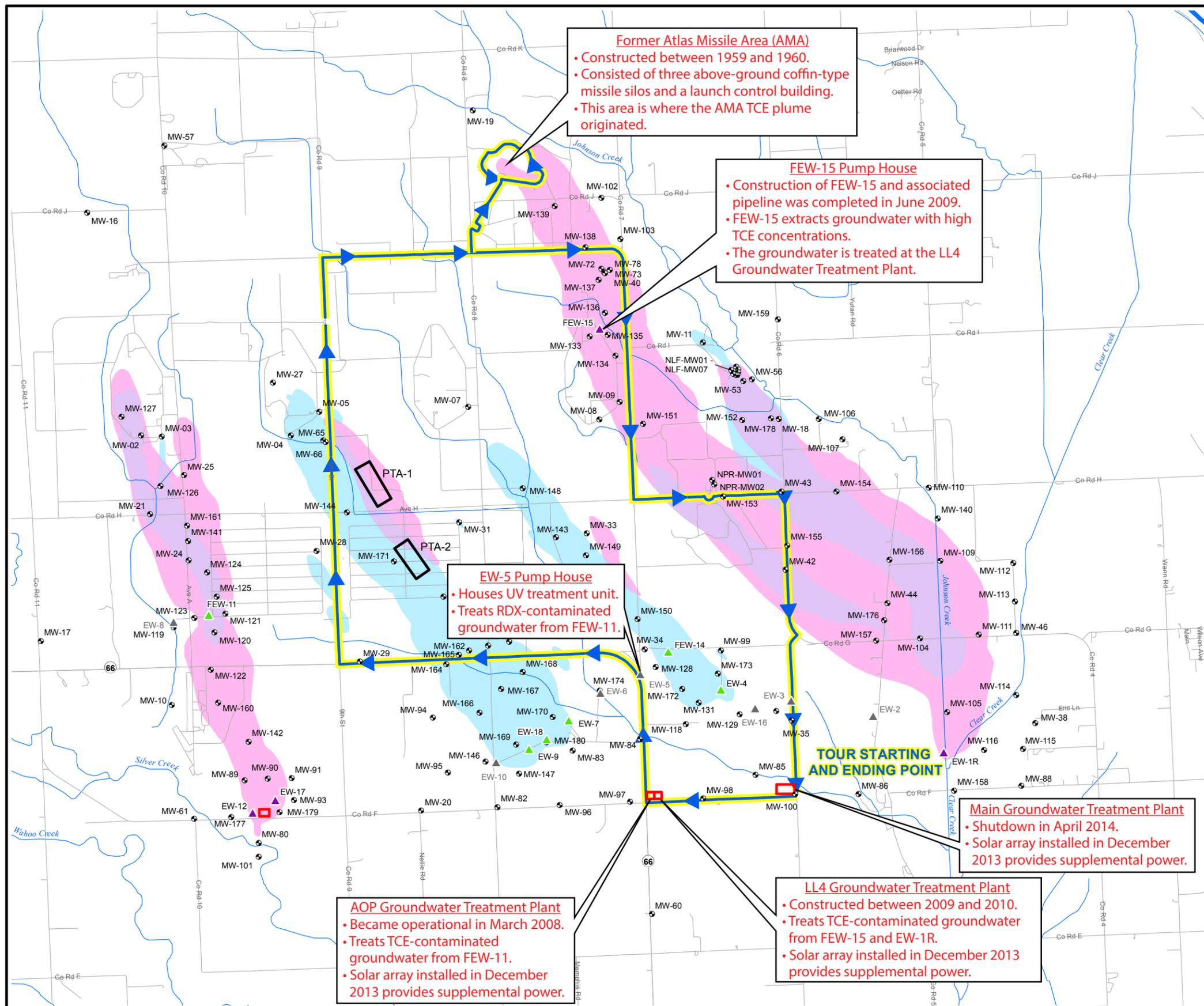
Wednesday: 4-8 p.m.

Thursday: 10-11 a.m. and 2-6 p.m.

Saturday: 10 a.m. - 2 p.m.



**US Army Corps of Engineers**®



### Legend

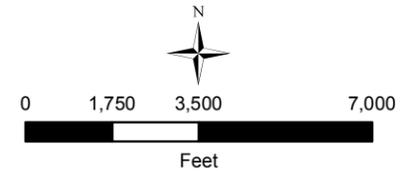
- USACE Groundwater Monitoring Well/ Well Cluster
- Groundwater Extraction Well
- Groundwater Extraction Well with AOP UV Treatment Unit
- Groundwater Extraction Well (Inactive)
- Groundwater Treatment Plant

#### Contaminant Plume

- Approximate Area of TCE at a Concentration of 5 µg/L or Greater (2014)
- Approximate Area of RDX at a Concentration of 2 µg/L or Greater (2014)
- 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 (2014)
- 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

## May 2016 Annual Site Tour Map

Drawn by: RR	Reviewed by: AS	Source: HGL, ECC
Date: 04/25/2015	Date: 04/27/2016	Projection: NAD 1983
Version: 2	Revision Date / Initials: 04/27/2016 RR	Units: Feet

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