

# NEWS Letter

Former Nebraska Ordnance Plant ■ Mead, Nebraska

## Open House Meeting

The U.S. Army Corps of Engineers will host the Fall Open House on Wednesday October 17, 2012 at the Yutan VFW Country Club in Yutan, Nebraska. The Yutan VFW Country Club is located south of Highway 92 at 1581 Yutan Road. The open house meeting is from 4:00 p.m. to 8:00 p.m. with technical staff in attendance to answer specific questions regarding the former Nebraska Ordnance Plant. Representatives from the U.S. Environmental Protection Agency and Nebraska Department of Environmental Quality are expected to attend as well. A variety of handouts and displays will be available along with refreshments. Additionally, a brief informational presentation will be given on the 2011 Containment Evaluation. The presentation will be given hourly at 5:00, 6:00, and 7:00 p.m. For further information regarding the meeting, contact the U.S. Army Corps of Engineers Project Manager at (816) 389-3172.

## Project Website

The U.S. Army Corps of Engineers has recently gone through a restructuring of all District websites causing all pages to have a new look and new links. Please use <http://www.nwk.usace.army.mil/Missions/Environmental/EnvironmentalProjects/NOP.aspx> to get to the new former Nebraska Ordnance Plant page. Keep checking back as it will continue to be updated over the next few months.

## 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 September 30, 2012 since their respective startup:

TCE (trichloroethene) total removed – 24,077 pounds

- Main Groundwater Treatment Plant – 376 pounds
- Load Line 1 Groundwater Treatment Plant - 284 pounds
- Advanced Oxidation Process Treatment Plant - 20,943 pounds
- Load Line 4 Groundwater Treatment Plant – 2,474 pounds

RDX (hexahydro-1,3,5-trinitro-1,3,5-triazine) total removed from the Main Groundwater Treatment Plant – 242 pounds

Total gallons of water treated:

- Main Groundwater Treatment Plant - 11,352,596,000 gallons
- Load Line 1 Groundwater Treatment Plant - 1,027,926,000 gallons
- Advanced Oxidation Process Treatment Plant - 1,111,119,000 gallons
- Load Line 4 Groundwater Treatment Plant - 553,949,000 gallons

The treated water from the Advanced Oxidation Process Groundwater Treatment Plant is sent to the Main Groundwater Treatment Plant for further polishing; therefore the amount of contaminated groundwater treated from the Advanced Oxidation Process Groundwater Treatment Plant is included in the Main Groundwater Treatment Plant discharge quantity. Focused Extraction Wells 11 and 15, which pump groundwater to the Advanced Oxidation Process Groundwater Treatment Plant and Load Line 4 Groundwater Treatment Plant respectively, are installed in high contaminant concentration areas which result in high mass removal.

## October 2012

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

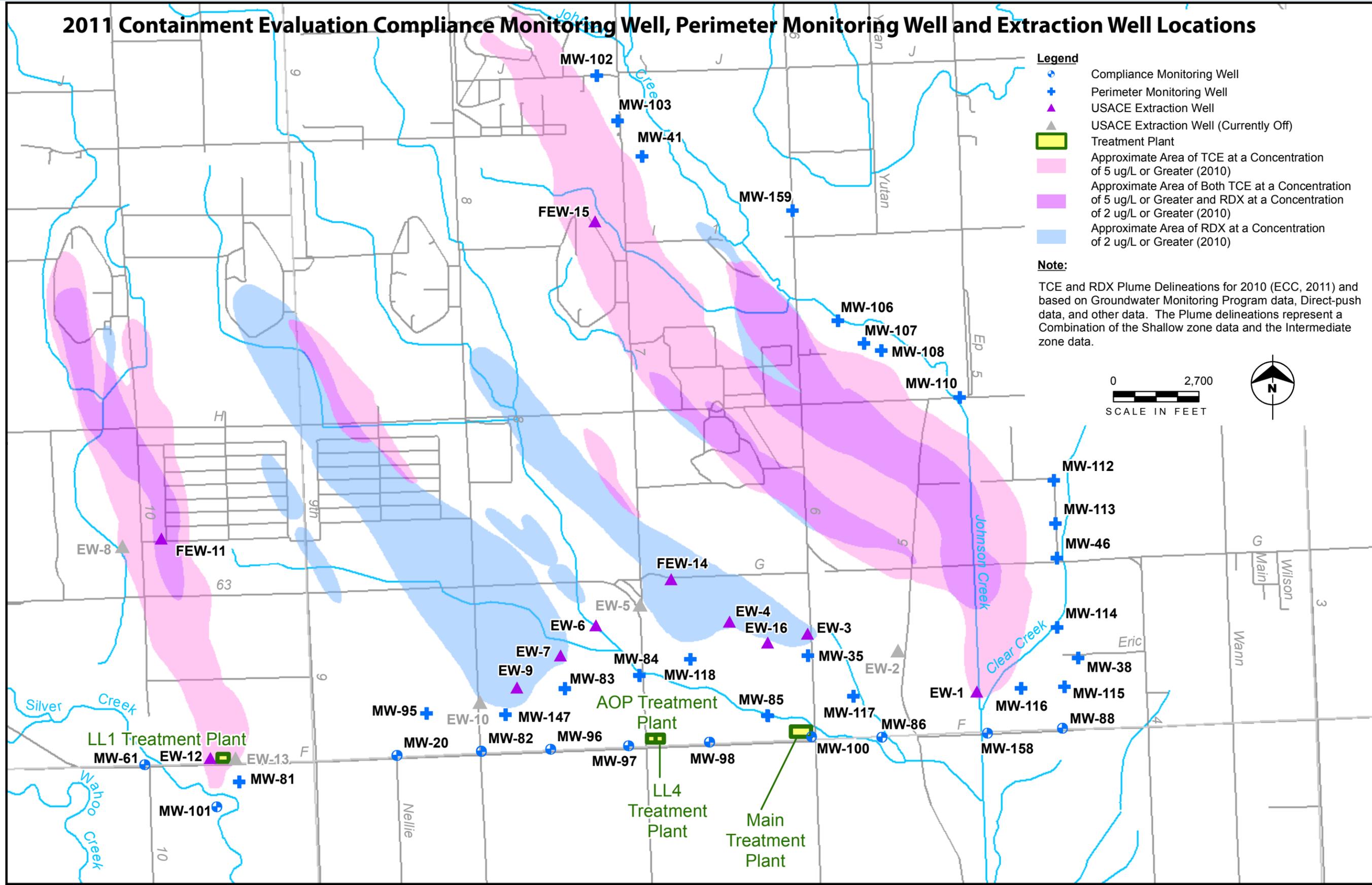
### Hours

Tuesday: 9 - 11 AM and 2-7 PM  
Wednesday 3-5 PM  
Thursday: 9-11 AM, and 2-7 PM  
Saturday: 9-1 PM



US Army Corps  
of Engineers ®

### 2011 Containment Evaluation Compliance Monitoring Well, Perimeter Monitoring Well and Extraction Well Locations



**Legend**

- Compliance Monitoring Well
- ⊕ Perimeter Monitoring Well
- ▲ USACE Extraction Well
- ▲ USACE Extraction Well (Currently Off)
- ▭ Treatment Plant
- Approximate Area of TCE at a Concentration of 5 ug/L or Greater (2010)
- Approximate Area of Both TCE at a Concentration of 5 ug/L or Greater and RDX at a Concentration of 2 ug/L or Greater (2010)
- Approximate Area of RDX at a Concentration of 2 ug/L or Greater (2010)

**Note:**  
TCE and RDX Plume Delineations for 2010 (ECC, 2011) and 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.

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## 2011 Containment Evaluation

The U.S. Army Corps of Engineers conducts an annual assessment of the Operable Unit 2 hydraulic containment system which consists of a series of extraction wells that contain the groundwater contaminant plumes. This assessment is used by the Corps, Nebraska Department of Environmental Quality, and the Environmental Protection Agency to determine whether the hydraulic containment system is containing Operable Unit 2 Record of Decision contaminants of concern that are above Final Target Groundwater Cleanup Goals. Additionally, this assessment is used to evaluate the effectiveness of the current groundwater extraction system. The Final Target Groundwater Cleanup Goals are listed below.

Contaminants of Concern	Final Target Groundwater Cleanup Goals (micrograms per liter)
methylene chloride	5
1,2-dichloropropane	5
trichloroethene (TCE)	5
1,3,5-trinitrobenzene (TNB)	0.778
2,4-dinitrotoluene (2,4-DNT)	1.24
hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	2
2,4,6-trinitrotoluene (TNT)	2

The 2011 Containment Evaluation is complete and can be found in the Information Repository at the Mead Library.

Hydraulic containment is evaluated based on chemical data collected from a network of compliance monitoring wells located downgradient of the groundwater extraction system. If contaminants were to get past the containment system, they would be detected in the compliance monitoring wells. These compliance wells are sampled every six months. During the evaluation period of 2011, no Record of Decision contaminants of concern were detected above Final Target Groundwater Cleanup Goals in the compliance wells and the hydraulic containment system is operating successfully at the Site.

The Containment Evaluation also includes a review of the general performance of the hydraulic containment system. The hydraulic containment system consists of a series of extraction wells that function together to contain groundwater contaminant plumes that have contaminant levels greater than the Final Target Groundwater Cleanup Goals. An evaluation of how these extraction wells function both alone and together is an important process in measuring the continuing effectiveness of the system.

The Containment Evaluation includes collection of water levels and analysis of groundwater chemical data. This information is used to evaluate the effectiveness of the extraction well capture of groundwater. A computer groundwater model is also used for this evaluation and uses various types of information including the 2011 sampling data from monitoring wells located throughout the Site and regional water level data measured from wells. Based on the 2011 Containment Evaluation report, the hydraulic containment system continues to maintain a sufficient capture zone for the groundwater and associated contamination.

Although the evaluation of the hydraulic containment system is an annual review, the compliance wells, along with a significant number of monitoring wells located throughout the Site and residential water supply wells within one mile of the contaminant plumes, are sampled throughout the year. This monitoring data is reviewed and evaluated following each sampling event. If an Operable Unit 2, Record of Decision contaminant of concern is detected above Final Target Groundwater Cleanup Goals in a residential water supply well or compliance well, immediate action by the Corps will be undertaken to evaluate and address the issue.

Trichloroethene was detected above the Final Target Groundwater Cleanup Goal in Perimeter Monitoring Well MW-116A during the January and April 2011 sampling events, as discussed in the July 2011 Fact Sheet. In response, the following tasks were performed: 1) a preliminary assessment of pumping EW-1 capture zone using computer simulations was conducted, 2) data loggers that electronically measure and record water levels in the well and nearby wells were installed, and 3) two aquifer pumping tests and recovery tests at EW-1 were conducted in June and July 2011. The results of these actions and the Fourth Quarter 2011 detection, which was below the Final Target Groundwater Cleanup Goals, indicated no further response action was needed.

The figure on the inside of this newsletter shows the locations of the perimeter, compliance and extraction well locations.