

# FACTSheet

Former Nebraska Ordnance Plant ■ Mead, Nebraska

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For more information or any questions concerning the Mead project, please contact:



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US Army Corps  
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Kansas City District

## Facts About The History Of The Clean-Up Project

The US Army Corps of Engineers (USACE) is responsible for cleaning up the contamination found at the Former Nebraska Ordnance Plant Superfund Site (the Site), located near Mead, Nebraska. The groundwater contamination that is present at the Site is a result of the operations of the Ordnance Plant in the 1940's in support of the World War II war effort and other Department of Defense (DoD) activities that took place after the war to safeguard the United States. The engineers and scientists at the Corps of Engineers started investigation work at the Site in the early 1980's.

The Site was added to the National Priorities List in 1990. In 1997, DoD and the US Environmental Protection Agency (USEPA) jointly signed the *Record of Decision for Operable Unit 2 (ROD)*. A Record of Decision is a binding document between the regulatory agencies and the responsible party that defines what contamination is present, and what clean-up work must be performed.

The ROD for Operable Unit 2 defined seven chemicals that are present in the groundwater that require clean-up. There are two specific chemicals that are the most widespread and require the most work to clean-up. These chemicals are Trichloroethylene (TCE) and RDX. The remedy defined in the ROD is intended to control migration of the contamination by capturing, extracting, and treating the contaminated groundwater. The remedy defined in the ROD also calls for focused extraction of contaminated groundwater in other areas, which will help complete the overall clean-up in a shorter timeframe.

By controlling migration of the contaminant plumes, the Corps of Engineers prevents the

contamination from spreading. In 1998, the Corps of Engineers began construction of a group of groundwater extraction wells which were designed to pump groundwater 24 hours per day, 7 day per week, all year long. Currently, there are 11 extraction wells for containment and 1 extraction well for focused extraction. The contaminated groundwater that is extracted, is treated before it is discharged to Clear Creek, Silver Creek, or is given to nearby neighbors who use the treated water for irrigation. Approximately 4.2 million gallons of groundwater is extracted and treated each day. The Corps of Engineers is currently in the process of designing 3 new extraction wells (EW-14, 15, 16 – see the January and March 2008 Project Updates) which will help with containment and also add more focused extraction to the overall clean-up effort.

Please see the OU2 ROD more information about TCE and RDX and the other chemicals that the Corps of Engineers is responsible for cleaning up. The OU2 ROD can be found at: [http://www.nwk.usace.army.mil/projects/mead/Documents\\_of\\_Public\\_Interest/Mead\\_OU2\\_ROD\\_1997.pdf](http://www.nwk.usace.army.mil/projects/mead/Documents_of_Public_Interest/Mead_OU2_ROD_1997.pdf)

## Facts About The Monitoring Performed By The Corps Of Engineers

Each year the Corps of Engineers performs a large amount of sampling and testing in order to monitor the contamination in the groundwater and support planning for future activities. Samples are collected from several different sources:

- **Monitoring Wells** – Each year the Corps of Engineers, USEPA, and NDEQ decide which wells should be sampled. The

See other side

decision is based on previous sampling results, and consideration is also given to any new information or program goals. In 2008, there are 96 monitoring wells scheduled to be sampled twice and 55 monitoring wells scheduled to be sampled once. Of the wells to be sampled twice, 55 of the monitoring wells are located along the east and south sides of the plume nearest the M.U.D. Platte West Well Field. The Corps of Engineers publishes reports containing the sampling results, and includes these reports in the Mead Public Library and on the project website. M.U.D. owns additional monitoring wells located east of the Site, between the contamination and the Platte West Well Field, that they sample every 6 months. M.U.D. publishes their sampling results on their website.



- ▶ **Private Residential Supply Wells** – Each year the Corps of Engineers samples private residential supply wells that are located east and south, and within one mile of the contamination. The results of all residential supply well testing are sent directly to each landowner. This testing started in 2004 in anticipation of the start of pumping at the M.U.D. Platte West Well Field (MUD PWWF) – and also in response to community requests. Since the time the Corps of Engineers started testing the residential supply wells within one mile, none of the contaminants that DoD is responsible for have been detected in any well at levels above the defined safe drinking water levels established by USEPA and NDEQ. Any new residence that is built within the one mile radius of the contamination will be added to the testing program. If any private residential supply well becomes contaminated by any of the DoD related contaminants, at levels above the safe drinking water standards, the Corps of Engineers will provide a household treatment system (carbon filtration system and/or provide bottled water) at no cost to the landowner.

- ▶ **Surface Water** – Each year, the Corps of Engineers collects samples from Johnson Creek, Clear Creek and Silver Creek on a regular basis. The testing results show that there is a small amount of contamination present in Johnson Creek at a few specific locations. However, upstream and downstream of these locations, the concentration drops to below the required clean-up levels or is not detectable. Monitoring of the surface water will continue in the future.



- ▶ **Alternate Water Supply Program** – Each year the Corps of Engineers samples a specific set of residential water supply wells that have been previously impacted by contamination above clean-up goals. These residences have been provided alternate water (carbon filtration system and/or bottled water), and the Corps of Engineers continues to monitor groundwater supplied by these wells. There are 5 private residential supply wells in this program.
- ▶ **Other Sampling** – Periodically, the Corps of Engineers, USEPA, and NDEQ develop plans to supplement the monitoring program with additional investigation sampling. These additional investigation efforts (i.e., direct-push groundwater sampling) are used to gather very specific data on the plumes in support of groundwater modeling or other project planning (such as the placement of new focused extraction wells).

Testing of the private residential water supply wells within one mile of the contamination, has been incorporated into the overall monitoring program as a supplement to the robust monitoring program already in place, and to provide assurances to the neighboring landowners that their own private wells have not become contaminated by any of the seven DoD related chemicals at levels above the defined safe drinking water levels.

Each year the Corps of Engineers publishes a Groundwater Monitoring Program report that summarizes all of the analytical testing that was performed during that year. Maps updated with the latest information are included in this document. This document is added to the Mead Public Library and the project website each year.

## Facts About The Effectiveness Of The Clean-Up Work

In addition to the annual Groundwater Monitoring Program report, the Corps of Engineers publishes an annual Containment Evaluation report that evaluates whether or not the extraction wells are effectively capturing the leading edge of the groundwater contamination. This document summarizes the chemical and hydraulic data collected each year and presents a conclusion about containment. This document is submitted to USEPA and NDEQ for their review and comment. This document is added to the Mead Public Library and the project website each year.

The evaluation of nearby irrigation wells and other production wells in the area, has always been, and will continue to be, a part of the groundwater modeling and containment evaluation at the Site. The evaluation of the MUD PWWF with regard to the Site has been developed and reviewed by engineers, geologists and hydrologists at both the Corps of Engineers and M.U.D. The computer models developed by the Corps of Engineers and M.U.D. have been reviewed multiple times by different reviewers (including USACE, M.U.D., USEPA, NDEQ, USGS, and the Lower Platte North NRD). All of the comments produced by these different reviewers are addressed and changes are made to the models where needed. In fact, during the development of the 2007 Containment Evaluation report, an error was detected in the modeling that was used in the 2006 Containment Evaluation report. In 2006, this error resulted in the conclusion that the easternmost side of the contaminant plume was not being properly contained. However, now that this error has been corrected, the 2007 Containment Evaluation report concludes that the easternmost side of the plume is being properly contained by the extraction wells.

Based on operation of the MUD PWWF under permitted conditions, the model indicates that the Corps of Engineers will be able to maintain containment of the contaminated groundwater at the Site. Under the unlikely scenario that the MUD PWWF would be operated above its permitted limit for many years (concurrent with several other unusual

events over the same period, such as the Platte River going “dry” and remaining “dry” year after year), the current system operated by the Corps of Engineers would need to be adjusted or modified, in order to maintain containment of the contamination per the requirements of the ROD.

The Corps of Engineers is confident that the operation of the MUD PWWF will not have a negative effect on our ability to clean-up the groundwater at the Site as required by the ROD. In order to confirm that the extraction well system is effective in capturing the groundwater contamination, the Corps of Engineers will continue to monitor operations and make adjustments to operations as needed. The extensive groundwater sampling program will continue and the Corps of Engineers will make this data readily available to the USEPA, NDEQ, and the public.

## Facts About Corps' Efforts To Communicate With The Community

The Corps of Engineers Project Manager serves as one of the two Co-Chairs of the Restoration Advisory Board (RAB or Board) for this Site. The Board was established with the purpose of providing a forum for discussion of the overall clean-up project. The Board also has a Community Co-Chair. By working together, the two Co-Chairs plan and conduct Board meetings so that relevant information about the clean-up work can be shared with the local community. The Corps of Engineers has received feedback that indicates some community members no longer attend Board meetings due mostly to the way the Board meetings have been conducted. The Corps of Engineers has been in contact with the Community Co-Chair in an effort to resolve this issue and return the Board meetings to productive, meaningful meetings. There has not been a formal meeting of the Board since October 2007. Board meetings will continue when operating procedures are agreed upon to facilitate more productive meetings. Since that time, the Corps of Engineers has:

1. Provided Site information in 3 different Fact Sheets or Newsletters (January, March, & June 2008), which were mailed (paper copies and e-mail) to over 130 separate addresses on the project mailing list.
2. Published more information on the project website, including new sampling results every 3 to 4 months.

3. Held Open House meetings, open to the public, in January, April, and June 2008. The purpose of these Open House meetings is to provide an informal and open forum where community members can meet with representatives of the Corps of Engineers. The Corps of Engineers is available for questions, shares the latest sampling results and takes comments on restoration activities. Representatives from USEPA and NDEQ are always invited, and have attended each of the three meetings so far this year.

In addition to reviewing the Fact Sheets, Newsletters, website, and attending Open House meetings, anyone who is interested in the clean-up project is encouraged to contact the Corps of Engineers. It is important to the Corps of Engineers that you be provided the opportunity to ask questions and that your questions receive answers. All questions received will be answered and all requests for information will be considered and fulfilled as best as possible.

All major documents and reports published each year are made available to the public, in the Mead Public Library or on the project website. Short summaries of new sampling results are available every 3 to 4 months. If you have questions about the clean-up project, please attend the Open House meetings or feel free to contact the Corps of Engineers, USEPA or NDEQ.



The next Open House meeting will be October 9, 2008, at the VFW Hall in Ashland. The meeting time will be from 4:00 to 8:00 pm. This is not a formal meeting and there will be no presentations or speeches. Representatives from the Corps of Engineers will be available to talk with community members, face-to-face, and will answer questions. The Corps of Engineers representatives will have maps and new sampling results available for the taking. Representatives from USEPA and NDEQ will also be invited. If you have specific questions about the clean-up work, or just want a general update on what has happened recently, please stop by, anytime between 4:00 to 8:00 pm.

This Fact Sheet was prepared by the  
Kansas City District Corps of Engineers

## Visit The Project Website

Please visit our project web page to find site background information, documents of public interest, maps, fact sheets, Restoration Advisory Board updates, and quarterly water sampling results. One of the best features is an interactive spreadsheet that contains historic well sampling data for TCE and RDX in monitoring wells, water supply wells, and surface water. Users can choose a specific well or contaminant to find the data they need. The web page address is:

<http://www.nwk.usace.army.mil/projects/mead/projectindex.html>



Information repository documents are available for review at the Mead Public Library.

Hours:

**Monday:** 2 pm - 7 pm  
(2 pm - 8 pm June through August)  
**Thursday:** 9:30 am - 11:30 am  
and 2 pm - 7 pm  
(2 pm - 8 pm June through August)  
**Saturday:** 9 am to 12 noon

The Mead Library also has a dedicated computer that has electronic versions of the documents in the Repository. Users are free to download documents onto their own electronic media (CD or flash drive).