



The Former Memphis Depot
2241 Truitt Street
Memphis, TN 38114

PRSRT STD
U.S. POSTAGE
PAID
OMAHA, NE
PERMIT NO. 196

DATED MATERIALS - PLEASE DELIVER THIS IMMEDIATELY

For Your Information

Former Memphis Depot Information Repository

Tennessee Department of Environment
and Conservation (TDEC)
8383 Wolf Lake Dr.
Bartlett, TN 38133-4119
(901) 371-3900

Please call ahead for an appointment!
The TDEC staff will assist you in viewing documents.

Information Repository

New Documents

- Remedial Action Work Plan Addendum, Main Installation
- Third Five-Year Review
- Site Management Plan – 2013
- Annual Long-Term Monitoring Report – 2012
- Off-Depot Air Sparge – Soil Vapor Extraction System Annual Operations Report, Year Three

How to reach us...

If you have any questions or comments about the former Memphis Depot's environmental cleanup program, please feel free to contact any one of the following:

Joan Hutton

CALIBRE
The Former Memphis Depot
2241 Truitt St.
Memphis, TN 38114
(901) 774-3683
joan.hutton@calibresys.com

Julie Corkran

United States Environmental
Protection Agency
Atlanta Federal Center
61 Forsyth St. SW
Atlanta, GA 30303
(404) 562-8547
corkran.julie@epa.gov

Jamie Woods

Tennessee Department of
Environment and Conservation
8383 Wolf Lake Dr.
Bartlett, TN 38133-4119
(901) 371-3041
jamie.woods@tn.gov



EnviroNews is published by the former Memphis Depot to update the public on the environmental cleanup program. If you have comments, questions or suggestions for future articles, please call the Community Involvement Line at (901) 774-3683.

EnviroNews

Winter 2013/2014



AR 1406

Success of Cleanup Continues

The environmental cleanup systems maintained by the Department of Army at the former Memphis Depot continue to bring down contaminant levels in the groundwater and make progress towards the required cleanup goals. Results of long term monitoring (LTM) of groundwater show that chlorinated volatile organic compound (CVOC) levels continue to come down because of the remedial actions (RAs) at the Off Depot Groundwater area, Dunn Field Source Areas, and Main Installation (MI).

Off Depot Groundwater Area

The Off Depot Groundwater area west of Dunn Field is being treated by the Air Sparge-Soil Vapor Extraction (AS-SVE) system that started in 2009. System monitoring from April 2013 shows that about 81 pounds of CVOCs have been removed from the groundwater since the system started.

The groundwater passing through the AS-SVE area continues to meet the cleanup objective. The AS-SVE system will operate until levels in the groundwater that have not yet passed through the AS-SVE system meet the cleanup objective to reduce levels of each CVOC to below 50 parts per billion. Naturally occurring processes are expected to bring down CVOC levels to the required cleanup goals, which are the Safe Drinking Water Act maximum contaminant levels (MCLs).

The April 2013 LTM sampling results show that only one well in the Off Depot Groundwater area is above the cleanup objective. The AS-SVE system is scheduled to operate for five years, through 2014. The groundwater contamination being treated by the AS-SVE system began in the Dunn Field Source Areas and treatment by the Fluvial SVE (FSVE) system reduced the amount of groundwater that must be cleaned up.

During the summer of 2013, environmental contractors performed several repair and maintenance projects. One of the two AS-SVE blowers was removed for repairs in July. Repairs were completed, and the blower started operating again in November 2013. The system only uses one blower for normal operations, and there was no impact on the cleanup during the repair. Also over the summer, environmental contractors repaired eight air sparge wells with broken air line connections. Details of these activities will be included in the Off Depot Groundwater AS-SVE annual operations report



Environmental cleanup at the former Memphis Depot is performed at three locations: the Off-Depot Groundwater area, Dunn Field Source Areas and the Main Installation.

that will be available to the public in the Information Repository.

Dunn Field Source Areas

The Dunn Field Source Areas FSVE system was installed to remove CVOCs from soil that is 30 to 70 feet below ground surface. The system began operating in July 2007 and was shut down in July 2012 with approval from the U.S. Environmental Protection Agency (U.S. EPA) and the Tennessee Department of Environment and Conservation (TDEC). The FSVE system removed more than 4,000 pounds of CVOCs while operating.

Monitoring wells around the FSVE system are included in the Dunn Field LTM program. If concentrations increase above cleanup objectives, further cleanup action will be taken. If levels do not increase, the FSVE equipment will be removed to promote reuse of the property. LTM sample results from April 2013 show that CVOC levels have not increased since the system was shut down.

As the cleanup progresses, the project team looks for ways to reduce the number of monitoring wells being maintained and monitored. Some wells have not contained contaminants above MCLs for several consecutive samples, others are near other wells and do not provide useful information, and others were damaged and recommended for abandonment.

(continued at top of next page)

(continued from front page)

Following approval from the U.S. EPA and TDEC and obtaining a permit from the Shelby County Health Department (SCHD), environmental contractors abandoned 28 monitoring wells in the Dunn Field/Off Depot Groundwater area following SCHD requirements. In addition, manholes and well pads were replaced at 12 LTM wells to improve their security.

Details of these activities will be included in the annual LTM report for 2013 that will be available to the public in the Information Repository.

Main Installation Enhanced Bioremediation Treatment

In November 2012, environmental contractors started additional enhanced bioremediation treatment (EBT) injections on the MI because of an increase of CVOCs in groundwater at the former EBT treatment areas. Sodium lactate was injected into the groundwater again in February, May, August, and November 2013. Groundwater monitoring to evaluate performance of EBT was begun in February 2013 and is conducted just before each quarterly injection.

The CVOC increase was observed in LTM sample results and confirmed by groundwater samples from the EBT areas in December 2011. The Army's proactive response to the increase is intended to improve progress toward groundwater cleanup, decrease the time required for monitoring, and reduce the potential for impacts to the deeper Memphis Aquifer.

EBT injections from September 2006 to February 2009 brought down CVOC levels over 80 percent in wells with high initial levels. In 2010, U.S. EPA and TDEC approved the Interim Remedial Action Completion Report that described the initial EBT activities and determined that EBT was successful at reducing groundwater contaminant levels on the MI. EBT speeds up a natural cleanup process by injecting an organic nutrient, called sodium lactate, into the groundwater to increase the ability of naturally occurring organisms present in the environment to break down CVOCs in groundwater turning them into safe, natural compounds.

Prior to re-starting EBT injections, the Army prepared an addendum to the previous MI Remedial Action Work Plan that was approved by U.S. EPA and TDEC. The addendum describes the additional EBT to be performed at five locations: Building 835 area, Target Treatment Area (TTA)-1 North Area, TTA-1 South Area, West-Central Area and TTA-2 Area. It is available to the public at the Information Repository.

The most recent LTM sample results for the MI, collected in April 2013, show some contaminant decreases in the EBT areas. The Army will continue LTM for the MI until contaminant levels in groundwater reach the cleanup goals.

Review of LTM results at the MI also led to the recommended installation of two more monitoring wells. Following approval from the regulators, environmental contractors installed the two wells in July 2013. In addition, manholes and well pads were replaced at 19 wells to improve security, and improvements were made at 13 EBT wells to aid injection activities.

The Army will document the progress toward meeting the cleanup goals in annual EBT operations reports, and groundwater monitoring results will be provided in annual LTM reports. The reports will be available to the public in the Information Repository.

Final Third Five-Year Review Approved

The final Third Five-Year Review report was approved by the Army and the U.S. EPA in January 2013, and a copy was placed in the Information Repository. A notice about the signed report was published in the Commercial Appeal on February 6, 2013.

The Army conducted the third Five-Year Review at the former Memphis Depot in 2012 and U.S. EPA agreed that the cleanup remedies for the Main Installation (MI) and Dunn Field protect human health and the environment.

The next five-year review for the former Memphis Depot will take place in 2017.

Steps to Site Closure

The selected cleanup remedies for the former Memphis Depot are moving the program closer to reaching the groundwater remedial action goals and providing support for eventual site closure and deletion from the National Priorities List (NPL).

Soil cleanup standards have been met where applicable. The Dunn Field remedial actions (RAs) are progressing well with continued reduction in groundwater levels and are currently expected to meet cleanup levels by or before 2021. Groundwater CVOC levels on the MI are generally stable, and EBT has been re-started to address the CVOC increase and to improve progress toward the cleanup objectives.

The remaining requirement for site closure is that groundwater concentrations for the contaminants of concern are below the Safe Drinking Water Act maximum contaminant levels (MCLs). CVOC levels in groundwater have been reduced due to the RAs, but remain above MCLs.

The timeline for continuing cleanup activities to meet site closure requirements are:

- Additional MI EBT from November 2012 to August 2014
- MI LTM through 2015, with final quarterly compliance monitoring in 2016 (to be re-evaluated per the Third Five-Year Review)
- MI Remedial Action Completion Report in 2017
- Operate Off Depot Groundwater AS-SVE through December 2014
- Off Depot LTM through 2019, with final quarterly compliance monitoring in 2020
- Dunn Field Remedial Action Completion Report in 2021

Turpin Ballard – In Memory

The former Memphis Depot environmental cleanup team lost a valuable member in April 2013 when U.S. EPA Remedial Project Manager (RPM), Mr. Turpin Ballard, died at the age of 58 after a short illness.

Mr. Ballard joined the team in 1998, and played a vital role in achieving the environmental cleanup and property reuse successes at the former Memphis Depot. Mr. Ballard was a certified Professional Geologist, whose knowledge of groundwater systems enabled the team to better understand the unique groundwater conditions at the former Memphis Depot.

“Turpin’s experience, determination, and sense of humor proved to be great assets on the Memphis Depot cleanup project. He worked well with everyone – from project managers to members of the community,” said Mr. Jamie Woods, TDEC RPM. “We will miss him both professionally and personally.”

With his guidance and expertise, Mr. Ballard helped move the former Memphis Depot from a closed facility with environmental contamination requiring cleanup to an award-winning example of environmental restoration and reuse. His work with Department of Defense and TDEC RPMs, as well as environmental contractors and the community, led to the selection and implementation of all required remedies, an upgrade in NPL status to Construction Complete, and approval of all government property for transfer and reuse.



At the 1998 ribbon cutting for the Dunn Field Groundwater Pump and Discharge System, former Memphis Depot environmental cleanup project team members (from left) Mr. Jordan English, TDEC; Mr. Turpin Ballard, U.S. EPA; Mr. Mondale Williams, Restoration Advisory Board; and Mr. Shawn Phillips, former Memphis Depot. Mr. Ballard died at the age of 58 after a short illness.

Mr. Ballard, who lived in Roswell, GA, was born November 17, 1954 in Chicago, IL. He enjoyed Celtic and Scottish music and traditions, and was known for hand crafting fine leather sporrans (front pouch to kilts). He is survived by his four children and a large extended family including his four siblings.

Newly Appointed Remedial Project Manager

In June 2013, the U.S. EPA appointed Ms. Julie L. Corkran, Ph.D., as their remedial project manager (RPM) on the former Memphis Depot project team. “I want to express my deep appreciation for the transitional help provided to me by the Memphis Depot team, and I look forward to working with the team to complete the cleanup activities quickly,” Ms. Corkran said.

She has worked as an RPM in the U.S. EPA Region 4 Federal Facilities Branch cleanup program since 1998, supporting Department of Energy, Army, Navy, and Air Force Superfund projects.



Dr. Julie Corkran has been appointed as the U.S. EPA remedial project manager on the former Memphis Depot project team.