



DNREC/EPA Fact Sheet #11 August 29, 2003



Metachem Products, LLC Remedial Design and Removal Program Update

Remedial Design Update

The EPA Remedial Program continues to move forward with the remedial design activities related to the cleanup of past spills and releases at the Metachem site. As part of the on-going remedial design activities over the last few months, EPA and DNREC have tested the soil, sediment, and groundwater at the site. New alternatives to clean up the site-related soil, sediment, and groundwater contamination have also been evaluated.

EPA's current cleanup plan, which is documented in the 1995 Record of Decision (ROD – this document is available on the web at <http://cfpub.epa.gov/superrods/rodinfo.cfm?mRod=03000581995ROD193>), consists of two components; a final action for soil and sediment, and an interim action for groundwater.

The ROD selected either bioremediation or low temperature thermal desorption (LTTD) as the recommended remediation for soils and sediments on the site. Studies showed that bioremediation would not be effective because of the concentrations of the contaminants at the site. Although LTTD would be an effective method of treatment, EPA has evaluated newer technologies and determined that there might be other remedies better suited for this site.

The interim action selected in 1995 for groundwater includes: (1) further investigation of the extent of contamination which was recently completed in Spring 2003; (2) groundwater pump-and-treat using the existing wastewater treatment plant; (3) the construction of a barrier to contain the groundwater (which is currently under design); and (4) further evaluation of the cleanup goals for the groundwater.

An update of recent remedial design activities for the soil/sediment and groundwater cleanup components follows.

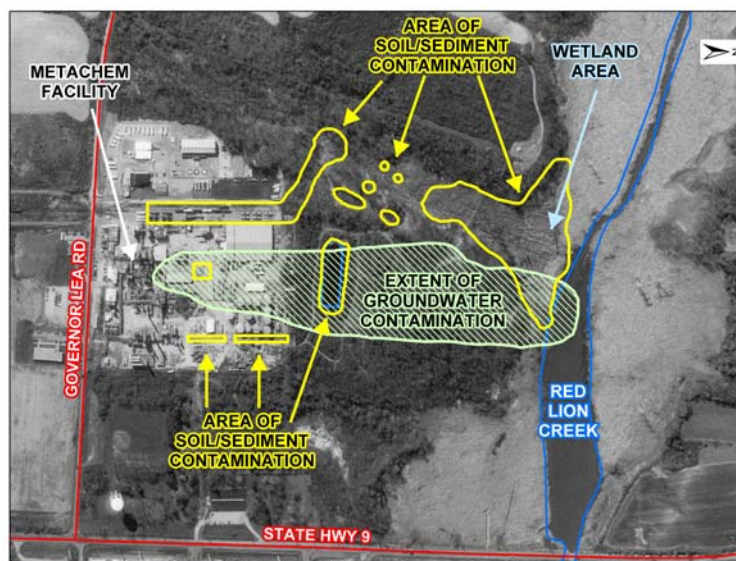
Soil/Sediment

Additional soil and sediment data were collected to update the 1993 study of the impacted areas at the Metachem site. The recent sampling results are summarized in the *Soil/Sediment Design Comparison Study* (this document is available on the web at www.epa.gov/reg3hwmd/super/DE/standard-chlorine-de/). The 2003 study shows that the chlorinated benzene compound (CBC) contamination in the soil piles and upland areas around the facility has not spread to adjacent areas since 1993. However, the study concludes that contamination in the nearby wetlands has spread nearly 6 feet downward and as much as 100 feet laterally in the sediments since 1993.

This new area of contamination does not pose any additional impacts to human health. The adjacent figure shows the current area of contamination. The current estimate of contaminated soil and sediment is approximately 126,300 cubic yards, exceeding the original 1993 estimate of 32,400 cubic yards.

EPA's current cleanup plan calls for treatment of the soils and sediment by LTTD. However, newer and more efficient technologies have provided additional options to be considered.

After evaluating several options to complete the soil and sediment cleanup, EPA is currently studying the use of In-Situ Chemical Oxidation (ISCO). In-situ chemical oxidation is a proven technology that uses the injection of oxidants (such as permanganate, hydrogen peroxide, or ozone) just below ground level to break down and clean up the contamination.



EPA is undertaking a Focused Feasibility Study (FFS) to confirm that chemical oxidation will work at the site. This FFS will be completed sometime in Spring 2004. If the study shows that the process will work, EPA will propose an amendment to the current ROD, which will then be open to public comment. The current schedule to complete the amendment, which includes a formal public comment period, is late 2004.

Ground Water

EPA and DNREC have also tested the groundwater at the site over the last several months. The data show the groundwater plume is stable and not expanding in the shallow Columbia aquifer system (see location on the site map), and that the Potomac aquifer remains unaffected. Groundwater samples collected from Columbia aquifer wells, located across Red Lion Creek (north of the site) and across the unnamed tributary (west of the site), also show no contamination.

The 1995 ROD selected a containment barrier system as the proposed remedy for the groundwater in the Columbia aquifer. Based on the recent analysis of groundwater data, EPA is confident this remedy will work as planned and is preparing to build the containment barrier system in 2004. EPA will monitor the system and will continue to work to remove the source of groundwater contamination. After measuring the success of the barrier system, EPA will have a public comment period and issue a final ROD for groundwater.

EPA and DNREC also plan to install a new Potomac aquifer monitoring well to further investigate the water quality in this important water supply aquifer. In addition, DNREC and EPA are now working with the Delaware Geological Survey (DGS) to evaluate any impacts from the Metachem site on a regional scale. The DGS will be working with DNREC and EPA to collect soil core data from the aquifer that will aid in further evaluation of the Potomac aquifer system in the area.

Removal Program Update - Chlorobenzene Removal and Separation Project (CR/SP) Operations

The CR/SP began 24 hour per day/7 day per week operations on July 17, 2003. On-going analytical and monitoring data continue to confirm that the chlorinated benzene compound (CBC) mixture is being properly distilled and separated into trichlorobenzene and dichlorobenzene at the top of the column, and pentachlorobenzene, tetrachlorobenzene, and polychlorinated biphenyls (PCBs) at the bottom of the column. Constant routine air monitoring has not revealed any significant chemical releases during the CR/SP, and the project is safely and successfully proceeding as planned.



The CBC liquid mixture separated at the top of the column is being placed into secure storage tanks pending off-site disposal.

The CBC/PCB mixture collected at the bottom of the column is being loaded into high-density polyethylene storage totes, and is allowed to solidify before storage in the on-site warehouse (see photograph).

As of August 27, 2003, over 675,000 gallons of CBC mixture has been separated into (1) 470,000 gallons of liquid CBC mixture, and (2) 205,000 gallons of CBC/PCB mixture that has been solidified in nearly 640 totes. The operation continues to separate nearly 10,000 pounds of CBC mixture per hour, and is expected to continue for the next 6 months.

Daily updates on the progress of the CR/SP can be found on the EPA On-Scene Coordinator (OSC) web site at: http://www.epaosc.net/doc_list.asp?site_id=03H6

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For additional information about the project, visit the following websites:

EPA's web sites: www.epaosc.net/Metachem and www.epa.gov/reg3hwmd/super/DE/standard-chlorine-de/
DNREC's web site: www.dnrec.state.de.us/DNREC2000/Divisions/AWM/do/metachem.asp