

**United States Environmental Protection Agency
Region V
POLLUTION REPORT**

Date: Wednesday, January 23, 2008

From: Steven Renninger

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Subject: Behr VOC Plume - EPA Fund Lead Removal
919 North Keowee Street, Dayton, OH
Latitude: 39.7739250
Longitude: -84.1814060

POLREP No.: 2	Site #: B5FH
Reporting Period: December 18, 2007 through January 17, 2008	D.O. #: 0091
Start Date: 11/2/2007	Response Authority: CERCLA
Mob Date: 11/2/2007	Response Type: Time-Critical
Demob Date:	NPL Status: Non NPL
Completion Date:	Incident Category: Removal Action
CERCLIS ID #:	Contract # 68-S5-03-06
RCRIS ID #:	

Site Description

The Behr VOC Plume (EPA Fund Lead Removal) and the Behr VOC Plume Site (funded by Chrysler) are simultaneous removal actions at the same site. This POLREP is for the Behr VOC Plume (EPA Fund Lead Removal). For further information on the Behr VOC Plume Site (Chrysler funded) see the following link:

"<http://www.epaossc.net/behrvocplume>"

The Behr Dayton Thermal Products Facility (Behr-Dayton facility) is located at 1600 Webster Street, Dayton, Montgomery County, Ohio. The Behr-Dayton facility manufactures vehicle air conditioning and engine cooling systems at the facility. Chrysler Corporation owned and operated the Behr-Dayton facility from at least 1937 until April of 2002.

The groundwater beneath the Behr-Dayton facility is contaminated with volatile organic compounds, including trichloroethene (TCE). Chrysler contracted Earth Tech to design, install, and operate two systems for the remediation of soil and groundwater contamination under the Behr-Dayton facility, with TCE as the main contaminant of concern. Earth Tech installed a Soil Vapor Extraction (SVE) system on the Behr-Dayton facility property for soil remediation and began operation in October 2003. The system was operated through December 2005.

Earth Tech installed a groundwater remediation system on the Behr-Dayton facility property and began

operation in June 2004.

The TCE-contaminated ground water has migrated from the Behr-Dayton facility to the south/southwest through residential, commercial and industrial areas.

Earth Tech has conducted groundwater monitoring on a network of 75 on-site and off-site groundwater monitoring wells since 2001. In 2003, the following monitoring wells were sampled and contained elevated levels of TCE: MW010s (17,000 ppb), MW028s (9,600 ppb), and MW029s (16,000 ppb). These monitoring wells are located along the southern perimeter of the Behr-Dayton facility (MW010s) or in the adjacent neighborhood (MW028s and MW029s).

On September 28, 2006, Earth Tech submitted quarterly groundwater sampling results to Ohio EPA. In the report, Earth Tech stated that one shallow groundwater monitoring well, MW038s, which is located at the intersection of Daniel Street and Lamar Street (residential area south of Behr Dayton facility), contained a TCE concentration of 3,900 parts per billion (ppb). Groundwater in the area of the Behr-Dayton facility is located approximately 20 feet below ground surface.

On October 16, 2006, Ohio EPA installed a total of seven soil gas probes along Daniel Street, Lamar Street and Milburn Avenue to evaluate potential risk posed by vapor intrusion from a VOC groundwater plume. The depth of the soil gas probes were approximately one to two feet above the depth of groundwater, which was determined to be approximately 20 feet below ground surface. Once the soil probes were installed, an air sample was collected and analyzed for VOCs. Ohio EPA soil gas analytical results detected TCE concentrations as high as 160,000 ppb.

On November 6, 2006, Ohio EPA formally requested U.S. EPA to conduct a time-critical removal action to assess whether vapor intrusion was occurring at the site.

Vapor Intrusion is the migration of volatile organic compounds from contaminated shallow groundwater to soil gas to the indoor air of properties. ATSDR and the Ohio Department of Health (ODH) established TCE screening levels for residential and commercial sub-slab and indoor air. The ATSDR and ODH residential indoor air screening level is 0.4 ppb and the residential sub-slab screening level is 4 ppb. The ATSDR and ODH commercial indoor air screening level is 1.7 ppb and the commercial sub-slab screening level is 17 ppb.

In November 2006, U.S. EPA conducted a site assessment in the residential neighborhood immediately south of the Behr-Dayton facility. U.S. EPA tasked WESTON START to collect sub-slab vapor probe and indoor air samples from eight residences. Analytical results indicated that eight sub-slab vapor probe air samples had TCE vapor levels greater than the ATSDR and ODH screening level of 4 ppb, and five sub-slab vapor probe air samples have a TCE vapor level greater than the ATSDR immediate action level of 1,000 ppb, with a maximum TCE concentration of 62,000 ppb.

Analytical results indicated all eight residences which were sampled showed TCE vapor levels greater than the ATSDR screening level of 0.4 ppb, and three residences with an indoor air sample having a TCE vapor level greater than the ATSDR immediate action level of 100 ppb, with a maximum TCE vapor level of 260 ppb.

Based on analytical results and conditions during the 2006 Site Assessment, the Site met the criteria for a removal action as outlined in 40 CFR 300.415(b)(2). The chemicals detected at the Site pose an imminent health threat and present a danger to individuals occupying the residential structures at the Site.

In December 2006, Chrysler signed an Administrative Order on Consent (AOC) to conduct a removal action at the site. The removal action involves conducting a vapor intrusion investigation and installing vapor abatement systems in residential, commercial and industrial facilities that have indoor and sub-slab air concentrations greater than the ATSDR and ODH screening levels of 0.4 and 4 ppb, respectively.

From January through December 2007, Chrysler has sampled over 80 residential, commercial and industrial locations. Chrysler has submitted two work plans (Phase I and Phase II) to summarize and detail removal activities. A total of 22 vapor abatement systems have been installed in a combination of residential and commercial structures. Chrysler will continue to conduct vapor intrusion sampling in the areas outlined in the Phase I and II work plans. For further information on the Behr VOC Plume Site (Chrysler funded) see the following link:

"<http://www.epaosc.net/behrvocplume>"

In August 2007, U.S. EPA issued a letter to Chrysler requesting Chrysler to conduct vapor intrusion

sampling in an area of the McCook Field Neighborhood bordered to the north by Protzman Street, to the east by Kiser Street and to the south by State Route 4. 2007 groundwater and soil gas data indicated the potential for vapor intrusion in the area where additional removal work was required.

In October 2007, Chrysler issued a letter to U.S. EPA formally stating that they do not intend to conduct vapor intrusion sampling in the area U.S. EPA requested in August 2007.

Following a dispute resolution, on November 8, 2007, the U.S. EPA submitted a letter to Chrysler indicating that U.S. EPA would be initiating a fund-lead removal action within the McCook Field Neighborhood including residential sampling and mitigation.

On November 15, 2007, a U.S. EPA public meeting was conducted at Kiser Elementary School to update the community on the upcoming U.S. EPA-funded vapor intrusion investigation sampling within the McCook Field Neighborhood. Approximately 140 people attended the public meeting.

Current Activities

Week of December 17, 2007

U.S. EPA collected 17 indoor air samples and 16 sub-slab air samples from 17 residential locations within the southern McCook Field Neighborhood. Samples are being collected and analyzed by an off-site commercial laboratory.

During the week, U.S. EPA installed five residential vapor abatement systems.

As of December 21, 2007, U.S. EPA has collected 95 indoor air samples and 78 sub-slab air samples from 95 residential locations within the McCook Field Neighborhood.

Week of December 24, 2007

The U.S. EPA Command Post was closed for the holiday break.

On December 27, U.S. EPA collected the 3rd round of quarterly indoor and sub-slab air sampling at Kiser Elementary School.

Week of December 31, 2007

U.S. EPA collected 5 indoor air samples and 5 sub-slab air samples from 5 residential locations within the southern McCook Field Neighborhood. Samples are being collected and analyzed by an off-site commercial laboratory.

During the week, U.S. EPA installed 3 residential vapor abatement mitigation systems. To date, U.S. EPA has installed 8 vapor abatement mitigation systems.

As of January 4, 2008, U.S. EPA has collected 100 indoor air samples and 100 sub-slab air samples from 100 residential locations within the McCook Field Neighborhood.

Week of January 7, 2008

U.S. EPA collected 16 indoor air samples and 13 sub-slab air samples from 16 residential locations within the southern McCook Field Neighborhood. Samples are being collected and analyzed by an off-site commercial laboratory.

During the week, U.S. EPA installed 5 residential vapor abatement mitigation systems. To date, U.S. EPA has installed 13 vapor abatement mitigation systems.

As of January 11, 2008, U.S. EPA has collected 116 indoor air samples and 96 sub-slab air samples from 116 residential locations within the McCook Field Neighborhood.

Week of January 14, 2008

U.S. EPA collected 11 indoor air samples and 8 sub-slab air samples from 11 residential locations within the southern McCook Field Neighborhood. In addition, U.S. EPA collected vapor abatement mitigation system 30-day proficiency air samples (indoor and sub-slab samples) from 5 residential homes. Samples are being collected and analyzed by an off-site commercial laboratory.

During the week, U.S. EPA installed 6 vapor abatement mitigation systems. To date, U.S. EPA has installed 19 vapor abatement mitigation systems.

As of January 18, 2008, U.S. EPA has collected 127 indoor air samples and 104 sub-slab air samples

from 127 residential locations within southern McCook Field Neighborhood.

U.S. EPA has received analytical data showing that 57 residences require a vapor abatement system, 15 residence to be placed on a quarterly sampling monitoring program, 35 residences require "No Further Action", and 11 residences have "Denied Access" within McCook Field Neighborhood.

Planned Removal Actions

1. U.S. EPA to continue installing residential vapor abatement mitigation systems in residential locations within southern McCook Field Neighborhood that show indoor and sub-slab TCE concentrations greater than the screening levels established by the Ohio Department of Health.
2. U.S. EPA to continue vapor intrusion sampling in residential locations within southern McCook Field Neighborhood.

Next Steps

1. U.S. EPA to continue obtaining signed access agreements and scheduling indoor and sub-slab air sampling at residential locations within the southern McCook Field Neighborhood.
2. U.S. EPA to continue meeting with residents that require a vapor abatement system. The meeting explains, in full detail, U.S. EPA sub-slab and/or indoor air sampling, air sample results and an explanation of how U.S. EPA intends to solve the problem of vapor intrusion.

Key Issues

1. TCE-contaminated groundwater is causing elevated levels of TCE vapors to migrate via soil gas into structures (vapor intrusion).
2. U.S. EPA has established a command post located at 919 North Keowee Street, Dayton, Ohio, 45404. Residents within the southern McCook Field Neighborhood can call 937-262-7919 to arrange for free air sampling by January 31, 2008.
3. On November 13 and 14, 2007, Ohio EPA collected soil gas and groundwater samples from residential areas in and around Hillrose Avenue, Hall Avenue and Helena Street to evaluate the risk posed by vapor intrusion of VOCs associated with the Behr Dayton Thermal Products LLC facility located at 1600 Webster Street. TCE concentrations in soil gas were as high as 8,000 to 12,000 ppbv in Ohio EPA samples. Groundwater TCE concentrations were as high as 368 ppb. On December 12, 2007, Ohio EPA formally requested U.S. EPA assistance in determining if vapor intrusion is occurring within residential structures in and around the above-mentioned streets.

Estimated Costs *

	Budgeted	Total To Date	Remaining	% Remaining
Extramural Costs				
ERRS - Cleanup Contractor	\$300,000.00	\$178,167.00	\$121,833.00	40.61%
RST/START	\$90,000.00	\$81,695.00	\$8,305.00	9.23%
Intramural Costs				
USEPA - Direct (Region, HQ)	\$20,000.00	\$12,000.00	\$8,000.00	40.00%
Total Site Costs	\$410,000.00	\$271,862.00	\$138,138.00	33.69%

* The above accounting of expenditures is an estimate based on figures known to the OSC at the time this report was written. The OSC does not necessarily receive specific figures on final payments made to any contractor(s). Other financial data which the OSC must rely upon may not be entirely up-to-date. The cost accounting provided in this report does not necessarily represent an exact monetary figure which the government may include in any claim for cost recovery.

response.epa.gov/behrvocplumeepafundleadremoval