United States Environmental Protection Agency
Region V
POLLUTION REPORT

Date: Thursday, December 21, 2006
From: Steven Renninger

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Subject: Initial
Behr VOC Plume Site - Chrysler AOC
1600 Webster Street, Dayton, OH
Latitude: 39.7821400
Longitude: -84.1805500

POLREP No.:	1	**Site #:**	B5FH
Reporting Period:	Oct-Dec 21, 2006	**D.O. #:**	
Start Date:	12/21/2006	**Response Authority:**	CERCLA
Mob Date:		**Response Type:**	Time-Critical
Demob Date:		**NPL Status:**	Non NPL
Completion Date:		**Incident Category:**	Removal Action
CERCLIS ID #:		**Contract #**	
RCRIS ID #:			

Site Description

The Behr VOC Plume Site is located at 1600 Webster Street, Dayton, Montgomery County, Ohio, including a nearby residential area, approximately 1 mile north of the Downtown Dayton. Behr-Dayton Thermal Systems LLC owns and operates the Behr-Dayton facility. Behr Dayton Thermal Systems LLC manufactures vehicle air conditioning and engine cooling systems at the facility. Daimler Chrysler Corporation (DCC) 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). DCC 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. Based on the extracted air concentrations, the SVE system removed a total of 900 pounds of VOCs.

Earth Tech installed a groundwater remediation system on the Behr-Dayton facility property and began operation in June 2004. Through December 2005, the groundwater system had removed a total of 1031 pounds of VOCs, and dechlorinated 325 pounds of VOCs.

The TCE contaminated ground water has migrated to the South to a residential area located across Leo Street from the Behr-Dayton facility, including but not limited to Daniel Street, Lamar Street, and Milburn Avenue.

Earth Tech has conducted quarterly 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 the most recent 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 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.

Vapor Intrusion is the migration of volatile organic compounds from contaminated shallow groundwater to soil gas to indoor air. ATSDR and the Ohio Department of Health (ODH) have established TCE screening and action levels for residential and commercial sub-slab and indoor air. The ATSDR residential indoor air screening level is 0.4 parts per billion (ppb) and the action level is 100 ppb. The ATSDR residential sub-slab screening level is 4 ppb and the action level is 1,000 ppb.

Current Activities

At the request of the Ohio EPA, the U.S. EPA conducted a vapor intrusion investigation. In October and November 2006, the U.S. EPA collected sub-slab air samples from eight residences located south of the Behr-Dayton facility along Milburn Avenue, Daniel Street and Leo Street. TCE residential sub-slab concentrations were detected as high as 62,000 ppb.

The results of the EPA sub-slab testing indicated that eight samples exceed the ATSDR residential TCE sub-slab screening level of 4 parts per billion by volume (ppbv) and four samples exceed the ATSDR residential TCE sub-slab immediate action level of 1,000 ppbv.

Based on ATSDR and ODH recommendations, the U.S. EPA followed sub-slab air sampling with indoor air sampling at eight locations in November 2006. TCE residential indoor air concentrations were detected at a range of 0.4-260 ppb. The results of the EPA indoor air sampling indicated that eight samples exceed the ATSDR residential TCE indoor air screening level of 0.4 ppbv and three samples exceed the ATSDR residential TCE indoor air immediate action level of 100 ppbv.

In a letter dated November 6, 2006, the Ohio EPA formally requested U.S. EPA assistance in conducting a time-critical removal action at the Behr VOC Plume Site. Ohio EPA made the following reference as the basis for its referral letter: "TCE concentrations in soil gas were as high as 160,000 ppbv. U.S. EPA sub-slab samples collected from October 11 to October 23 contained TCE at concentrations up to 62,000 ppbv. TCE concentrations in ground water samples collected by DaimlerChrysler in March 2006 were as high as 3,900 ppb beneath the residential area."

On November 17, 2006, a meeting was conducted between EPA and DCC. The purpose of the meeting was to discuss the scope of work for a two phase time critical removal action and the Administrative Order by Consent (AOC). The Phase 1 Work Plan will focus on installing a Sub-Slab Depressurization System (SSDS) in each of the eight residences EPA documented with indoor air TCE concentrations greater than 0.4 ppb. The Phase 2 Work Plan will focus on conducting a vapor intrusion investigation around the Behr Thermal Treatment facility. The Phase 1 Work Plan will be due 3 days after the AOC effective date (Dec 22, 2006), the Phase 2 Work Plan will be due 45 days after the AOC effective date (Feb 3, 2007).

On November 21, 2006, a technical Phase 1 Work Plan meeting was conducted at the OEPA Dayton office between EPA, OEPA, START, DCC and Earth Tech. The technical meeting outlined EPA's expectations for the Phase 1 work plan.

During the weeks of December 4 and December 11, 2006, EPA and DCC continued development of the Phase I Work Plan. DCC indicated that the Phase 1 Work Plan would not only focus on installing a SSDS in the 8 residences but also to sample up to 14 additional residences within the neighborhood south

of the Behr Thermal Treatment facility and bounded by the following geographic area: Leo Street to the north, Lamar Street to the south, Webster Street to the west, and Milburn Street to the east.

On December 19, 2006, an AOC was signed by EPA and DCC to conduct a vapor intrusion investigation and mitigation. December 19, 2006 is the AOC effective date. DCC submitted a draft Phase 1 work plan for EPA review.

On December 21, 2006, EPA approved the DCC Phase 1 Work Plan. Residential SSDS installation has been completed at three Phase 1 locations as of December 21, 2006.

Planned Removal Actions

Phase 1 Plans:
1. DCC to obtain access to conduct sub-slab vapor probe and indoor air sampling within up to 14 residences which were not initially sampled by EPA. Montgomery County Health Dept will assist with access agreement visits.
2. DCC will install a SSDS in the remaining 5 residences which were initially sampled by EPA.
3. DCC will install a SSDS within a residence that shows an indoor air TCE concentration greater than 0.4 ppb. This includes up to 14 additional Phase 1 locations beyond the initial 8 locations identified by EPA sampling (up to 22 total Phase 1 locations).
4. DCC will conduct post-mitigation confirmatory air monitoring to ensure the SSDS is operating effectively at the following time periods after the SSDS is installed: 10 days, 30 days, 180 days, 1 year and annually after the first year.
5. EPA will schedule a public meeting in January 2007.

Next Steps

Public meeting will be scheduled for January, 2007.

DCC to submit a Phase 2 Work Plan by February 3, 2007.

Key Issues

TCE contaminated groundwater at the Behr VOC Plume Site is causing elevated levels of TCE vapors to migrate via soil gas into residences (vapor intrusion).

Phase 1 of the work will include sub-slab and indoor air sampling at up to 22 residences along Daniel Street and Milburn Avenue, Dayton, Ohio

Phase 2 of the work will involve a vapor intrsusion investigation (and mitigation) north, west, east, and south of the Behr Dayton Thermal facility.

Estimated Costs *

	Budgeted	Total To Date	Remaining	% Remaining
Extramural Costs				
START	$71,000.00	$38,500.00	$32,500.00	45.77%
Intramural Costs				
USEPA - Direct (Region, HQ)	$15,000.00	$3,000.00	$12,000.00	80.00%
Total Site Costs	$86,000.00	$41,500.00	$44,500.00	51.74%

* 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/behrvocplume

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