United States Environmental Protection Agency
Region V
POLLUTION REPORT

Date: Thursday, March 15, 2007
From: Steven Renninger

To:

David Chung, U.S. EPA	Jason El-Zein, U.S. EPA
Linda Nachowicz, U.S. EPA	Bill Messenger, U.S. EPA
Mike Joyce, U.S. EPA	Mark Johnson, ATSDR - Region 5
Carol Ropski, EPA	Tracy Johnson, EPA
John Maritote, U.S. EPA	Randy Watterworth, Ohio EPA
Brian Tucker, Ohio EPA	Chuck Mellon, OEPA
Scott Shane, OEPA	Kevin Clouse, Ohio EPA
Jim Crawford, OEPA	Dale Farmer, Ohio EPA
Dave Combs, Ohio EPA	Bob Frey, Ohio Department of Health
Greg Stein, ODH	Mark Case, Montgomery County Health Department
Mick Hans, EPA	Donna Winchester, City of Dayton
John Sherrard, Dynamac	Randy Kirkland, Weston
Maria Gonzalez, EPA 5	Stacey Coburn, EPA RPM

Subject: POLREP #2
Behr VOC Plume Site - Chrysler AOC
1600 Webster Street, Dayton, OH
Latitude: 39.7821400
Longitude: -84.1805500

POLREP No.:	2	**Site #:**	B5FH
Reporting Period:	12/25/06-3/15/07	**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. DaimlerChrysler Corporation (DCC) owned and operated the Behr-Dayton facility from 1937 until 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, groundwater monitoring wells were sampled and contained elevated levels of TCE up to 17,000 ppb. These monitoring wells are located along the southern perimeter of the Behr-Dayton facility or in the adjacent neighborhood.

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). The ATSDR residential sub-slab screening level is 4 ppb.

At the request of the Ohio EPA, the U.S. EPA conducted a vapor intrusion investigation in October-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 exceeded 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. On December 19, 2006, an Administrative Order on Consent (AOC) was signed by EPA and DCC to conduct a vapor intrusion investigation and mitigation. EPA approved the DCC Phase 1 work plan in December, 2006. Phase 1 included sampling and mitigation in 21 residences immediately south of the Behr facility.

Current Activities

Week of December 25, 2006

During the week, DCC indicated three homes within the Phase 1 area have expressed interest in having their homes sampled. In addition, DCC mailed out the first round of certified letters to 18 residents requesting access for sampling. The 10-day response time for the first round of certified letters ended on January 10, 2007.

Week of January 1, 2007

During the week, DCC indicated continued problems with achieving access to Phase 1 residents for sampling. The Montgomery County Health Department (MCHD) assisted DCC with obtaining access within the Phase 1 sampling area by knocking on doors and leaving a letter requesting the owner to call DCC and allow access.

On January 5, DCC mailed out the second round of certified letters to 18 residents requesting access for sampling. The 10-day response time for the second round of certified letters ended on January 15, 2007. DCC included the MCHD letter in the second certified letter package.

Week of January 8, 2007

During the week, DCC indicated continued problems with achieving access to Phase 1 residents for

sampling.

Week of January 15, 2007
During the week, DCC achieved progress on obtaining access for sampling. A total of eight residents signed access agreements to allow access for sampling. To date, a total of 11 out of the 21 residents have signed on to allow DCC to sample their residence.

EPA, ODH and DCC attempted to hold two meetings on January 18 with owners who have refused to allow DCC sample their residence. No additional access agreements signed at this time.

EPA sent out certified letters to seven residents which continue to not allow DCC access to their properties. The letters requested the owners to allow DCC access to their properties for sampling purposes. The deadline date to respond was set at January 25, 2007. DCC installed a vapor abatement system on Daniel Street.

Week of January 22, 2007
DCC informed EPA that five residents showed indoor air TCE levels above the screening action level of 0.4 ppb, and recommended a vapor abatement system (also known as a sub-slab depressurization system [SSDS]) be installed.

DCC informed EPA that one residence (Leo St.) showed a sub-slab TCE level greater than the screening action level of 4.0 ppb but had an indoor air TCE level below the 0.4 ppb screening action level. Per the approved work plan, the home will undergo quarterly sampling for further evaluation. MCHD agreed to continue to communicate with three residents (Daniel St) which continued to show no response to DCC or agency efforts to obtain access for sampling. DCC installed a vapor abatement system at Leo Street.

Week of January 29, 2007
DCC indicated to EPA that three residents (Daniel Street) have not cooperated with DCC to sample their homes. Previous EPA sampling has indicated indoor air TCE levels greater than 0.4 ppb. MCHD stated they would assist in communicating to the residents of those three homes.

Two additional residents (Leo Street) showed a sub-slab TCE level greater than the screening action level of 4.0 ppb but had an indoor air TCE level below the 0.4 ppb screening action level. Per the approved work plan, the two homes will undergo quarterly sampling. On February 2, 2007, DCC submitted a Draft Phase 2 Work Plan. DCC installed a two vapor abatement systems on Daniel Street.

Week of February 5, 2007
EPA mailed out a second certified letter to seven residents who continue to not allow DCC access for sampling. The certified letter included an access agreement with a line for the owner to sign indicating "access denied". If no communication is heard from the seven residents by February 16, DCC will state that "Best Efforts" to obtain access are achieved.

EPA conducted a public meeting on February 8 to inform the public on the status of the project. Approximately 80 people attended the public meeting at Kiser Elementary School. Three of the seven residents who had not allowed DCC access to their property, signed access agreements to allow DCC access for sampling.

MCHD mailed follow-up letters to five residents (Milburn, Daniel Streets), which EPA showed through its 2006 site assessment of having indoor air TCE levels greater than 0.4 ppb, to request allowing DCC access for sampling. DCC installed a vapor abatement system at 930 Leo Street.

Week of February 12, 2007
DCC submitted a second draft version of the Phase 2 Work Plan to EPA. DCC installed a vapor abatement system on Milburn Avenue.

On February 20, a technical meeting was conducted between EPA, Ohio EPA, and ODH to discuss the Phase 2 Work Plan. On February 21, DCC submitted a third draft version of the Phase 2 Work Plan to EPA.

On February 22, a technical meeting was conducted between EPA, Ohio EPA, ODH and DCC to discuss the Phase 2 Work Plan. Phase 2 will include a widespread vapor intrusion investigation. DCC installed a vapor abatement system on Milburn Avenue, and four on Daniel Street.

Week of March 5, 2007
On March 9, DCC submitted a fourth draft version of the Phase 2 Work Plan to EPA for review.

A total of 14 vapor abatement systems have been installed in the 21 Phase 1 Work Plan locations. Three residents are under a quarterly sampling program, one residence has no further action due to sub-slab and indoor air levels below the screening action levels, two residents have "Best Efforts" achieved and one resident is awaiting results from the pre-mitigation sampling.

Week of March 12, 2007
On March 12, a technical meeting was conducted between EPA, Ohio EPA, ODH and DCC to discuss the Phase 2 Work Plan. The fifth version of the draft Phase 2 Work Plan is due on March 15, 2007 for EPA review.

Planned Removal Actions
1. DCC to continue vapor abatement verification sampling in the 14 residences which contain a vapor abatement system to ensure the system is operating effectively according to the schedule outlined in the approved Phase 1 Work Plan.
2. DCC will collect quarterly samples from the three residents that showed sub-slab TCE levels greater than 4.0 ppbv but indoor air TCE levels less than 0.4 ppbv.
3. DCC to begin sampling commercial businesses in the Phase 1 Work Plan area.

Next Steps
1. Finalize Phase 2 Work Plan. The Phase 2 investigation area will include at a minimum further residential sampling to the east and south of the Behr facility.

Key Issues
1. TCE-contaminated groundwater at the Behr VOC Plume Site is causing elevated levels of TCE vapors to migrate via soil gas into structures (vapor intrusion).
2. A total of 14 vapor abatement systems have been installed in residences along Daniel Street, Leo Street and Milburn Avenue, Dayton, Ohio. Vapor abatement verification indoor air sampling has showed that TCE levels have significantly decreased with the installation of vapor abatement systems in homes which had indoor air TCE levels greater than 0.4 ppbv.
3. Phase 2 of the work will involve additional vapor intrusion investigation (& mitigation) east and south of the Behr facility.
4. Indoor air and sub-slab TCE levels observed as high as 230 ppbv and 67,000 ppbv, respectively.

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	$7,000.00	$8,000.00	53.33%
Total Site Costs	$86,000.00	$45,500.00	$40,500.00	47.09%

* 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

POLREP #2 Last Updated 3/15/2007