

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

Date: Tuesday, October 27, 2009

From: Steven Renninger, On-Scene Coordinator

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Subject: Completion of Phase II (FINAL)
Delphi VOC Plume Site
2701 Home Avenue, Dayton, OH
Latitude: 39.7474512
Longitude: -84.2382886

POLREP No.: 2	Site #: B5KG
Reporting Period: 11/29/2007 to 10/27/2009	D.O. #:
Start Date: 11/5/2007	Response Authority: CERCLA
Mob Date: 11/5/2007	Response Type: Time-Critical
Demob Date:	NPL Status: Non NPL
Completion Date: 10/27/2009	Incident Category: Removal Action
CERCLIS ID #:	Contract #
RCRIS ID #:	

Site Description

The Delphi VOC Plume Site is located at 2701 Home Avenue, Dayton, Montgomery County, Ohio, including a nearby residential area, approximately 1 mile west of the Downtown Dayton. Delphi Automotive Holdings Group of Delphi Corporation (Delphi) owns and operates the Home Avenue facility. Delphi manufactures vehicle engine mounts and brake products at the facility. The facility was previously owned by General Motors, Corp.

The soil beneath the Delphi facility is contaminated with volatile organic compounds, including Chloroform, trichloroethene (TCE), and tetrachloroethene (PCE). Delphi installed a Soil Vapor Extraction system on the Delphi facility property for soil remediation and began 24-hour operations in 2007.

The TCE, PCE, and Chloroform contaminated ground water has migrated to the Southeast and to the Northeast to a residential area adjacent to the Delphi facility, including but not limited to Cowart Avenue, Bish Avenue, and South Ardmore Avenue.

From April 2005 through September 2006, Delphi installed a total of one hundred twenty-eight soil gas probes along Cowart Avenue, Bish Avenue and South Ardmore Avenue to evaluate the potential risk posed by vapor intrusion from a VOC groundwater plume originating from the UST area. Groundwater was determined to be approximately sixteen to eighteen feet below ground surface. Once the soil probes were installed, an air sample was collected and analyzed for VOCs.

Delphi analytical results documented soil gas with elevated VOC concentrations. Soil gas monitoring indicated chloroform concentrations as high as 11,000 parts per billion by volume (ppbv); PCE concentrations as high as 180,000 ppbv; and TCE concentrations as high as 7,700 ppbv.

On March 5, 2007, the Ohio EPA requested assistance from U.S. EPA Region V to investigate potential vapor intrusion from historic spills (from underground storage tanks containing TCE, PCE, and Chloroform) originating from the Delphi facility on Home Avenue, Dayton, OH.

On March 26, 2007, EPA and the Public Health District for Montgomery County representatives visited the residential area to inform residents of the vapor intrusion investigation and request access to homes for

sampling.

From April 2007 through June 2007, Delphi's environmental consultant, Haley and Aldrich, conducted a vapor intrusion investigation focused on residential sub-slab air without U.S. EPA oversight. Haley and Aldrich collected fourteen sub-slab air samples from twelve residences located east of the Delphi facility, along Bish Avenue and South Ardmere Avenue. The sub-slab air samples were collected using summa canisters over a 24-hour sampling period according to U.S. EPA Environmental Response Team (ERT) sampling procedures.

Of the fourteen sub-slab samples collected:

- eight sub-slab samples showed chloroform concentrations greater than the ATSDR and ODH screening level of 22 ppbv, with a maximum chloroform concentration of 4,700 ppbv;
- thirteen sub-slab samples showed TCE concentrations greater than the ATSDR and ODH screening level of 4 ppbv, with a maximum TCE concentration of 1,300 ppbv; and
- two sub-slab samples showed PCE concentrations greater than the ATSDR and ODH screening level of 120 ppbv, with a maximum PCE concentration of 3,600 ppbv.

Vapor Intrusion is the migration of volatile organic compounds from contaminated shallow groundwater to soil gas to indoor air. The Ohio Department of Health (ODH) has established Chloroform, TCE, and PCE screening and action levels for residential and commercial sub-slab and indoor air. For Chloroform, the ODH residential indoor air screening level is 2.2 parts per billion (ppb) and the action level is 50 ppb. For TCE, the ODH residential indoor air screening level is 0.4 parts per billion (ppb) and the action level is 100 ppb.

From May 2007 - July 2007, Delphi and EPA sampled 15 residential properties for sub-slab and indoor air.

On May 31, 2007, U.S. EPA, ODH, City of Dayton, Ohio EPA, and Delphi conducted a public meeting to discuss the initiation of a vapor intrusion investigation with the area residents.

On October 3, 2007, U.S. EPA, ODH, City of Dayton, Ohio EPA, and Delphi conducted individual meetings with residents sampled during Phase I. Meetings included residents sampled by U.S. EPA and/or Delphi that either require being placed in a quarterly monitoring program or a sub-slab depressurization system (SSDS). A total of five residential locations will be placed in the quarterly monitoring program and a total of five residential locations will require a SSDS be installed. Five other residential locations require no further action and property owners were sent a letter via certified mail informing them of their sample results.

On October 16, 2007, U.S. EPA, Montgomery County Health Dept, and Delphi briefed the Southwest Priority Board on the status of the vapor intrusion investigation to date and Phase 1 plans (Sampling and Mitigation).

On November 5, 2007, U.S. EPA approved the Phase 1 Work Plan submitted by Delphi. Delphi will continue to sample and mitigate homes as described in the Phase 1 Work Plan.

An Administrative Order on Consent signed by U.S. EPA and Delphi, with an effective date of November 6, 2007.

On November 14, 2007 U.S. EPA, ODH, City of Dayton, and Delphi conducted a public meeting to discuss the current status of the Delphi VOC Plume project and the upcoming Phase 2 Work Plan.

Current Activities

December 2007 through March 2008, Delphi continued to conduct vapor intrusion sampling in homes as stated in the Phase I Work Plan and the Phase II Work Plan. The Phase II Work Plan was approved by U.S. EPA on February 14, 2008. Delphi conducted baseline sampling at 12 residential locations. Laboratory analysis of the baseline air samples collected were reviewed by U.S. EPA and resulted in 9 locations receiving No Further Action (NFA) status, 1 location receiving placement in the Quarterly Monitoring (QM) program, and 2 locations requiring a Sub-Slab Depressurization System (SSDS). Delphi installed SSDSs in 5 locations on South Ardmere Ave based on Phase I sampling results. Delphi conducted QM program sampling at 3 locations. U.S. EPA conducted vapor intrusion QM program sampling at 1 location. Analytical results from all QM program sampling locations were reviewed by U.S. EPA and did not exceed the established screening levels. Delphi conducted SSDS proficiency sampling at 5 locations. Analytical results from all SSDS proficiency sampling locations were reviewed by U.S. EPA and did not exceed the established screening levels. Periodic technical meetings

were held with U.S. EPA, ODH, OEPA, START, City of Dayton Representatives, and Delphi and its contractors to discuss project progress. Monthly Progress and Soil Vapor Extraction (SVE) System Reports were submitted to and reviewed by U.S. EPA.

April 2008 through June 2008, Delphi continued to conduct vapor intrusion sampling in homes as stated in the Phase I Work Plan and the Phase II Work Plan. Delphi conducted baseline sampling at 5 residential locations. Laboratory analysis of the baseline air samples collected were reviewed by U.S. EPA and resulted in 4 locations receiving NFA status and 1 location receiving placement in the QM program. Delphi installed SSDSs in 2 locations on South Ardmere Ave based on Phase II sampling results. Delphi conducted QM program sampling at 5 locations. Analytical results from all QM program sampling locations were reviewed by U.S. EPA and did not exceed the established screening levels. The QM program was completed at 4 locations and resulted in NFA status being given to each location. Delphi conducted SSDS proficiency sampling at 5 locations. Analytical results from all SSDS proficiency sampling locations were reviewed by U.S. EPA and did not exceed the established screening levels. Periodic technical meetings were held with U.S. EPA, ODH, OEPA, START, City of Dayton Representatives, and Delphi and its contractors to discuss project progress. Monthly Progress and SVE System Reports were submitted to and reviewed by U.S. EPA.

July 2008 through September 2008, Delphi continued to conduct vapor intrusion sampling in homes as stated in the Phase I Work Plan and the Phase II Work Plan. Delphi conducted baseline sampling at 1 residential location. Laboratory analysis of the baseline air samples collected were reviewed by U.S. EPA and resulted in the 1 location receiving NFA status. Delphi conducted QM program sampling at 3 locations. Analytical results from all QM program sampling locations were reviewed by U.S. EPA and did not exceed the established screening levels. Delphi conducted SSDS proficiency sampling at 3 locations. Analytical results from all SSDS proficiency sampling locations were reviewed by U.S. EPA and did not exceed the established screening levels. U.S. EPA sampled 3 soil vapor monitoring wells located adjacent to the east boundary of the area of concern. Analytical results of the soil vapor well samples indicated an indoor air concern would not likely be present at the three locations. Periodic technical meetings were held with U.S. EPA, ODH, OEPA, START, City of Dayton Representatives, and Delphi and its contractors to discuss project progress. A public meeting was conducted on August 20, 2008 at the Ellison Senior Center to update the community on the vapor intrusion investigation and provide the results the cancer study conducted by ODH. Approximately 50 people attended the public meeting. Monthly Progress and SVE System Reports were submitted to and reviewed by U.S. EPA.

October 2008 through December 2008, Delphi continued to conduct vapor intrusion sampling in homes as stated in the Phase I Work Plan and the Phase II Work Plan. Delphi conducted QM program sampling at 3 locations. Analytical results from all QM program sampling locations were reviewed by U.S. EPA and did not exceed the established screening levels. The QM program was completed at 1 location and resulted in NFA status being given. Delphi conducted SSDS proficiency sampling at 7 locations. Analytical results from all SSDS proficiency sampling locations were reviewed by U.S. EPA and did not exceed the established screening levels. Periodic technical meetings were held with U.S. EPA, ODH, OEPA, START, City of Dayton Representatives, and Delphi and its contractors to discuss project progress. Monthly Progress and SVE System Reports were submitted to and reviewed by U.S. EPA.

January 2009 through March 2009, Delphi continued to conduct vapor intrusion sampling in homes as stated in the Phase I Work Plan and the Phase II Work Plan. Delphi conducted QM program sampling at 2 locations. Analytical results from all QM program sampling locations were reviewed by U.S. EPA and did not exceed the established screening levels. The QM program was completed at 1 location and resulted in NFA status being given. Periodic technical meetings were held with U.S. EPA, ODH, OEPA, START, City of Dayton Representatives, and Delphi and its contractors to discuss project progress. Monthly Progress and SVE System Reports were submitted to and reviewed by U.S. EPA.

April 2009 through June 2009, Delphi continued to conduct vapor intrusion sampling in homes as stated in the Phase I Work Plan and the Phase II Work Plan. Delphi conducted QM program sampling at 1 location. Analytical results from the QM program sampling location did not exceed the established screening levels. The QM program was completed at 1 location and resulted in NFA status being given. Delphi conducted SSDS proficiency sampling at 2 locations. Analytical results from all SSDS proficiency sampling locations were reviewed by U.S. EPA and did not exceed the established screening levels. Periodic technical meetings were held with U.S. EPA, ODH, OEPA, START, City of Dayton Representatives, and Delphi and its contractors to discuss project progress. Monthly Progress and SVE System Reports were submitted to and reviewed by U.S. EPA.

On July 16, 2009, a technical meeting was held with U.S. EPA, ODH, OEPA, START, City of Dayton Representatives, and Delphi and its contractors to discuss project progress. Delphi presented U.S. EPA with data showing all homes within the QM Program have completed the required sampling and have been

given NFA Status. All SSDS proficiency sampling required during the first 360 days has been completed and results did not exceed the established screening levels. All subsequent SSDS proficiency sampling will be conducted on an annual basis unless established standards are exceeded. A total of 15 locations were given Best Efforts status due to denial of sampling, unresponsiveness of owners, or structures deemed uninhabitable. Delphi is willing to sample any new locations within the area of investigation not previously sampled upon the signing of an access agreement. Subsequent periodic technical meetings will be conducted quarterly with the next meeting scheduled for October 2009. Monthly Progress and SVE System Reports were submitted to and reviewed by U.S. EPA.

October 27, 2009: Quarterly meeting conducted with U.S. EPA, Delphi, ODH, Mont Co HD, OEPA, City of Dayton. 7 residences have rec'd an SSDS and are currently in the annual performance monitoring program that will be conducted annually starting in February, 2010. Annual inspections will include air sampling and inspection of the SSDS system to confirm operation.

Planned Removal Actions

Annual SSDS inspections at 7 residences starting in February 2010.

Next Steps

Annual SSDS inspections at 7 residences starting in February 2010.

Key Issues

U.S. EPA and Delphi combined have sampled 34 out of 46 residential locations within the area of concern. Of the 34 properties sampled, 7 residential locations received a vapor abatement system (SSDS).

Disposition of Wastes

N/A Vapor Intrusion Site

response.epa.gov/delphivocsite