United States Environmental Protection Agency
Region V
POLLUTION REPORT

Date: Monday, October 24, 2005
From: Kevin Turner and Steven Faryan

To: Brian Schlieger, U.S. EPA Jason El-Zein, U.S. EPA
Kevin McCormack, U. S. Coast Guard

Subject: Investigation Ongoing
Hartford Area Hydrocarbon Plume Site
N. Olive Street, Hartford, IL
Latitude: 38.8361210
Longitude: -90.0951620

POLREP No.:	8	**Site #:**	524
Reporting Period:		**D.O. #:**	
Start Date:	10/20/2003	**Response Authority:**	CERCLA/OPA
Mob Date:		**Response Type:**	Non-Time-Critical
Demob Date:		**NPL Status:**	Non NPL
Completion Date:		**Incident Category:**	Removal Assessment
CERCLIS ID #:		**Contract #**	
RCRIS ID #:		**Reimbursable Account #**	
FPN#	E04503		

Site Description
Please refer to POLREP's #1 and #4 for details.

Current Activities
Response activities to date

After a series of meetings with the Hartford Work Group (HWG) respondents in the Summer/Fall of 2003, the U.S. EPA requested that Work Plans be submitted and site activities commence during negotiations of a final Administrative Order of Consent (AOC).

Representatives from U.S. EPA and Illinois EPA continue to meet with the HWG technical committee and or have teleconferences every month .

Vapor Related Activities

- Determined the status of current operations and maintenance activities regarding the existing soil vapor extraction (SVE) system including a series of vacuum tests to determine the vacuum influence exerted upon the vapor control boring's and corresponding vapor probes. (Completed - May 2004)

- Continue to conduct investigation for petroleum pipelines and utility lines contaminant migration pathways and how they relate to the Mississippi River. (Ongoing)

- Oversee the pilot testing for interim control of petroleum vapors from an internally and externally installed sub-slab de-pressurization systems. Oversee HWG conducted tracer gas studies for in-home vapor protection systems effectiveness. Provided control of vapors into selected residential living spaces by interim protection measures. (Ongoing)

- Due to vapor intrusion into the Village of Hartford Community Center, an investigation to determine the cause, a series of vapor probes were installed adjacent to the Community Center. Additional vapor sampling wells and use of Gore-Sorber™ screening capabilities to measure the extent of petroleum vapors will be utilized. (Completed - March 2004)

- U. S. EPA stipulated that elevated levels related to lower explosive limits must be ventilated to mitigate the potential of explosive vapor concentrations invading into the Village of Hartford sanitary sewer system. (Ongoing)

- A portion of a deteriorated sanitary sewer line along Watkins Street was replaced in April, 2004. This street has previously experienced a high frequency of residential vapor complaints. START observed and recorded oil impacted residuals from the deteriorated municipal sewer line. This documented observation further demonstrates actual or potential impacts to the Mississippi River. (Ongoing)

- The U.S. EPA requested revisions upon the needs assessment procedures so as to greatly improved the manor by which information is collected on individuals homes and the speed at which interim response measures are to be provided. (Completed - October 2004)

- The HWG has completed the replacement of the 12 vapor extraction wells that were plugged. The HWG has submitted a conceptual design for expansion of the existing soil vapor extraction system. Three additional vapor extraction wells were installed along East Watkins Street related to the future expansion of the vapor extraction system. To date, a combined total of 17 vapor extraction wells, 12 of which were part of the system installed in 1993, have been installed as part of the planned expansion of the existing SVE system. (Completed - September 2004)

- The HWG has committed to capital improvements related to the thermal treatment unit used to destroy the collected petroleum vapors. Furthermore, the HWG has initiated connections to the new SVE wells and construction of the manifold pipe network related to the phased SVE expansion program. (Ongoing)

- Expansion of the existing SVE system will occur in various stages over a longer time frame. While this effort was initiated in 2004, the phase construction schedule approach will continue during the remedy selection process. Three new thermal oxidizers became operational during the week of May 2, 2005. These units continue to be manipulated during the early stages of the planned SVE system expansion program. A fourth new thermal oxidizer was delivered and is expected to initiate a shake-down test evaluation sometime late in 2005. The extra thermal capacity will better accommodate the planned expansion of SVE system requirements for the plume area located in northwest corner of North Hartford which includes the Hartford Community Center. (Ongoing)

- Immediate measures were been taken to deploy an SVE extraction well adjacent to the Hartford Community Center. This temporary system will remain operational until such time the vapors collected near the Center can be safely delivered to the thermal oxidizers on the Premcor property. (Ongoing)

- START has assisted in the development of a passive soil gas pilot study to assist with the future placement of HWG installed active monitoring ports. (Completed - May - 2004)

- Oversee installation of various active vapor monitoring ports within the free-phase (LNAPL) plume. (Completed - July 2005)

- To date, a total of 140 homes have been inspected for “needs assessment” purposes with 97 homes having some form of interim measures performed out of 134 design packages completed at this time. (Ongoing)

Groundwater Related Activities

- Install 5 sentinel wells for Village of Hartford drinking water wellhead protection purposes. These wells have been sampled in 2004 and 2005 on the schedule of January, April, and September with no impact discovered. Quarterly monitoring will occur with a reduced list of testing parameters. (Ongoing)

- Investigate the lateral extent of free product hydrocarbons with the HWG recommended random optical screening tool (ROST™). Review ROST™ data and evaluate the lateral extent of the free phase hydrocarbon plume. (Completed twice - January 2004 and September 2005)
- Oversee the pilot tests for free product hydrocarbon removal and “bio-slurping” hydrocarbon removal. Oversee the ongoing pilot testing of a multi-phase hydrocarbon pumping system utilizing “bio-slurping” technology which started on May 17, 2004 and completed on July 30, 2004. Two locations were evaluated. (Completed)

- The HWG has presented a portion of the raw data for conceptual site groundwater modeling (CSM) purposes. The CSM will be updated as data is collected and will help determine and measure the impacts to the area wide regional groundwater and Mississippi River. (Ongoing)

- Responding to previous comments from the agencies, the HWG submitted the revised Dissolved Phase Investigation Work Plan on May 24, 2005. Furthermore, HWG re-mobilized the Rapid Optical Screening Tool (ROST) technology to collect data that will assist with future installation of dissolved phase groundwater monitoring wells. (Completed)

- The U.S. EPA has a standing request for data and awaits updates to visual information depicting the vertical extent of the dissolved phase hydrocarbon plume. This conceptual site model (CSM) information is to be updated as new geotechnical and groundwater plume data becomes available. (Ongoing)

- Dissolved phase well installations were completed in September, 2005. As groundwater data was developed, new step-out well locations have been installed and may require additional well installations in the future. (Completed until further notice and review of data)

General Project Activities

- U.S. EPA has participated in the development of a formal program with the local fire department to prepare for and respond to vapor intrusions through the 911 emergency notification system. (Completed - April 2004)

- U.S. EPA Headquarter's Office of Superfund Remediation and Technology Innovation (ORSTI) provided a comprehensive report that included critical information regarding project geotechnical and geochemical requirements. The report also identified existing data gaps with the plume investigation including recommendations how to optimize the overall nature of the PRP conducted investigation activities, data objectives, and for both short-term and long-term project goals. (Completed Draft Report in 2004 with Final Report due late 2005)

- Pipelines related to active petroleum barge loading operations along the Mississippi River will continue to perform annual tracer gas leak detection studies in addition to various past upgrades according to Department of Transportation regulated guidelines. (Ongoing)

- Daily Mississippi River gauge data is collected and compared with site groundwater monitoring transducers to better understand the hydraulic connection of impacted waters of the State with the River. In addition, this data will help better understand the potential threats to the Mississippi River via active and abandoned sewers and pipeline corridors leading to the Mississippi River and surrounding surface water bodies. Water gauge data is used to understand the groundwater flow and migration towards the Mississippi River in comparison to the influences upon the regional groundwater pumping/consumption usage. (Ongoing)

- The schedule of work tasks stipulated in the AOC is being adjusted with approval by the U.S. EPA at this time. (Ongoing)

Community Relations Activities

- U. S. EPA has issued a response to public comments obtained during and after the public meeting held on March 19, 2004. As a result of comments provided during the public meeting, the U.S. EPA has committed to a more active role in the implementation of the required needs assessments. (Completed)

- A second public availability session was held on July 8, 2004 to communicate the HWG offer for the planned basement ventilation fan installation offer. (Completed)

- U. S. EPA met with many homeowners and their attorney on January 19, 2005, to discuss the needs assessment process and answer questions prepared by the attorney in addition to any questions raised by the homeowners. (Completed)

- During the week of May 23, 2005, U. S. EPA went door-to-door to meet with homeowners who have yet to opt into the needs assessment program. U.S. EPA acknowledges that all new participants were identified by that effort and that little more can be done to increase homeowner participation beyond what is already being conducted by HWG agents. (Completed - May 2005)

- A U. S. EPA sponsored press release was conducted on May 25, 2005, in cooperation with the HWG community relations spokesperson. (Completed - May 2005)

Planned Removal Actions

Vapor Related Activities

- Future actions will include continued vapor removal utilizing the existing SVE system.

- Oversee hi-vacuum pilot testing activities which remove LNAPL hydrocarbons from various monitoring and removal well locations.

- Expansion of the existing SVE system will occur in various stages over a longer time frame. A phased construction schedule will continue at this time.

Groundwater Related Activities

- Oversee petroleum pipeline and utility line investigation activities and continue to assess their interactions upon fate and transport of vapors and free-phase hydrocarbons in the shallow subsurface.

Next Steps

Vapor Related Activities

- Future actions will include continued vapor removal utilizing the existing SVE system. (Ongoing)

- Oversee vapor migration pathway assessment and related investigations. (Ongoing)

Groundwater Related Activities

- Oversee petroleum pipeline and utility line investigation activities and continue to assess their interactions upon fate and transport of vapors and free-phase hydrocarbons in the shallow subsurface. (Ongoing)

- A pilot test using high vacuum extraction technologies to remove free-phase floating oil from groundwater monitoring wells continues at this time. (Ongoing)

- Remedy selection discussions with the regulators will occur as data is provided from both the free phase and dissolved phase investigation results. (Ongoing)

C. Enforcement:

- The Administrative Order on Consent (AOC) was signed on March 17, 2004 and became effective on June 24, 2004. (Completed)

- Another former owner/operator of past refinery operations, Sinclair Oil Company, has enjoined the collaboration of the HWG and agreed to participate with past cost and future investigation work activities. (Completed - August 2005)

Key Issues

- Residents represented by counsel have recently allowed oil company agents into the homes to perform the required initial needs assessment. Unfortunately, their counsel has not allowed the installation of vapor mitigation activities at all residences and is subject to future notification. (Ongoing)

- The current ceiling using OPA funds is $ 1,138,262.00. As the project progresses, additional reimbursable monies will be needed from the oil pollution fund in order to maintain current level of effort. (Ongoing)

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