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Bandera Road Ground Water Plume Superfund Site: *July 2011 Information Update*

About this Document

At the request of the Bandera Road Community Advisory Group (CAG), this document provides information to Leon Valley residents and workers on the status of the Bandera Road Ground Water Plume (Bandera Road) Superfund site. This information update is the sixth in a series of updates that are prepared approximately every six months.

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The Bandera Road CAG includes individuals and organizational representatives from the Leon Valley area. The CAG was formed in 2007 to provide input to the U.S. Environmental Protection Agency (EPA) on issues regarding the site's investigation and cleanup. The Bandera Road CAG meets quarterly. Meetings are open to the public. Learn more about CAG activities here: www.leonvalleytexas.gov/EPA.htm.

Upcoming CAG Meetings for 2011-2012

- CAG meetings are planned for the following Thursdays: July 21 and October 20, 2011 and January 19 and April 19, 2012.
- Meetings begin at 5:30 p.m. and are typically held at the Leon Valley Conference Center.
- Meeting notices are posted at Leon Valley City Hall, located at 6400 El Verde Road, in the City of Leon Valley's community newsletter "The Lion's Roar" and on the city's Web page (www.leonvalleytexas.gov), accessed from the "City Calendar" link.

Site Background

The Bandera Road site is centered between Poss Road and Grissom Road, southwest of Bandera Road. The site consists of ground water and soil contaminated with chlorinated solvents, tetrachloroethene (PCE), trichloroethene (TCE) and cis-1,2-dichlorethene (cis-1,2,-DCE or DCE), which are commonly referred to as volatile organic compounds (VOCs). PCE is the most frequently detected compound at the site. The area of ground water contamination at the site is currently estimated to be approximately one mile long by one half-mile wide. In 2007, EPA placed the site on the National Priorities List (NPL).

Site Update (January – July 2011)

EPA continues to monitor the two Leon Valley public water supply wells located within one mile of the center of the site. The most recent sampling results are from the water samples collected on April 13, 2011. Trace levels of PCE were detected at an estimated concentration of 0.21 parts per billion. The Federal Drinking Water Standard for PCE is 5.0 parts per billion. The most recent sampling of the Leon Valley public water supply wells occurred on July 13, 2011. The validated sample results are routinely provided by the laboratory to EPA within 30 to 40 days of sample collection.

EPA continues to monitor contamination levels in private wells included as part of its ground water monitoring network.

EPA completed a report summarizing the findings of a soil vapor extraction (SVE) pilot test and determined that SVE is effective in removing harmful chemicals from site soils.

Soil vapor extraction testing at the Savings Square Shopping Center. (Source: EPA)

EPA is continuing a bioremediation study to evaluate its effectiveness in removing harmful chemicals present at the site.

EPA recently completed a draft remedial investigation/feasibility study. The reports will be used by EPA to inform a Proposed Plan to guide the long-term cleanup of the site. EPA anticipates the Proposed Plan will be issued in July 2011. These activities are discussed in more detail on the following pages of this information update.

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Recent and Upcoming EPA Activities

Continued Ground Water Monitoring to Ensure Public Safety

EPA continues to collect samples regularly from both public and private wells and analyze them for contaminants. EPA has sampled the Leon Valley municipal water supply wells since September 2008. The most recent results are from the water samples collected on April 13, 2011. Trace levels of PCE were detected at an estimated concentration of 0.21 parts per billion. The Federal Drinking Water Standard for PCE is 5.0 parts per billion. No contaminants were detected in the public water supply wells in December 2010 or in January, February or March 2011. Sampling results from some private wells located near source areas included in EPA's ground water monitoring network continue to show concentration levels of PCE that exceed EPA's federal drinking water standards. Residences previously served by wells contaminated at levels above federal drinking water standards have been connected to the public water supply. Five Edwards Aquifer wells impacted by PCE contamination have been properly plugged and abandoned.

Soil Vapor Extraction Test

EPA conducted a soil vapor extraction (SVE) pilot test in October 2010 to evaluate its effectiveness in removing harmful chemicals from site soils. SVE is the process of removing harmful chemicals, in the form of vapors, from soil using a vacuum. The performance of SVE was evaluated in soil directly below the surface as well as in karst bedrock approximately 10-to-80 feet below the ground surface. In order for SVE to be effective, the area below ground must be porous enough to allow air to flow freely. EPA completed its report in March 2011; it was included as an appendix in the site's Remedial Investigation Report. Results suggest that SVE may be an effective means for removing soil contamination from suspected source areas.

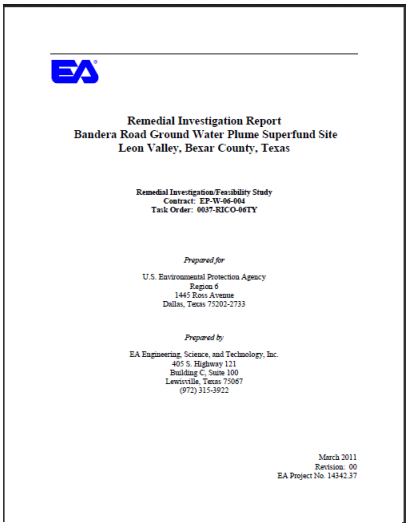
Bioremediation test conducted on site in January 2011. (Source: EPA)

On-Site Bioremediation Testing

Bioremediation is the use of living organisms to break down contamination. In January 2011, EPA conducted an on-site bioremediation study to evaluate its effectiveness in removing harmful chemicals present at the site. To conduct the test, EPA applied a specialized material to well DW-404 near Pilgrim Cleaners that added hydrogen to ground water to increase anaerobic microbes; these microbes naturally degrade contaminants to ethane, ethene and other harmless end products. Results suggest that the material applied was successful in breaking down contaminants. In January 2011, the level of PCE in well DW-404 measured 1,570 micrograms per liter (µg/L). One month later, the level of PCE in the well measured 428 µg/L.

Remedial Investigation and Identified Risks

The remedial investigation (RI) is the process for collecting data to characterize site conditions, determine the nature of the waste, assess risks to human health and the environment, and conduct testing to determine how contamination could be treated. A draft RI Report for the site was completed in April 2011. The report summarizes site information and data; identifies potential source areas (areas where hazardous substances may have been deposited, stored, disposed of, or placed); defines the type of contamination present and how far it has spread; and evaluates how people could come in contact with contamination and the threat posed by the contamination to human health and the environment.



Remedial Investigation Report
Bandera Road Ground Water Plume Superfund Site
Leon Valley, Bexar County, Texas

Remedial Investigation/Feasibility Study
Contract: EP-W-06-004
Task Order: 0037-RICO-06TY

Prepared for

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March 2011
Revision: 00
EA Project No. 14342.37

RI Report for the Bandera Road site.

As part of the RI, five areas of interest along or near Bandera Road were identified, including the former location of a dry cleaning facility (Area of Interest (AOI) 1), which is considered to be a primary contamination source (Source Area 1) and the location of an active dry cleaning facility (AOI 2), which is also considered to be a primary contamination source (Source Area 2). The three additional areas of interest include: a group of industrial businesses (e.g., machine and automotive repair shops) (AOI 3), the area in the vicinity of a former dry cleaning facility and an active laundry facility (AOI 4), and the area in the vicinity of a former dry cleaning facility (AOI 5). These areas are shown in the figure below. Potential cancer and non-cancer risks resulting from exposure to contamination in soil and vapor in AOI 1 and AOI 2 as well as to ground water contamination in underlying aquifers were identified. Cleanup options were considered in the site's feasibility study (see below).

Feasibility Study and Potential Cleanup Alternatives

A feasibility study (FS) is an analysis of potential cleanup approaches (remedial alternatives) for a site, given a range of factors. In the Superfund process, the FS usually starts as soon as the RI is underway. EPA completed a draft FS Report in May 2011. The report identified preliminary cleanup goals and approaches and compared them against three preliminary screening criteria (effectiveness, implementability and cost). Cleanup approaches passing this initial screening were then evaluated against nine criteria, including protection of human health and the environment.

Preliminary cleanup goals (remedial action objectives) identified in the draft FS Report include:

- Preventing exposure to site contaminants in surface soil, subsurface soil, ground water and indoor air above acceptable human health cleanup levels.
- Preventing migration of site contaminants in surface soil, subsurface soil, underlying bedrock and ground water above acceptable human health cleanup levels.
- Preventing further harm to ground water from site contaminants above human health cleanup levels.
- Cleaning ground water contamination to levels that allow beneficial use (i.e., drinking water).

Areas of Interest (AOIs) identified as part of the site's remedial investigation and feasibility study (RI/FS). (Source: EPA)

Cleanup alternatives were then considered for the purposes of cleaning up soil, subsurface soil and underlying bedrock in AOIs 1 and 2, ground water in the Austin Chalk and Edwards aquifers and an unknown aquifer near well DW-47, and indoor air in Building 1, which is located in AOI 1. Cleanup options considered for contaminated soil include soil excavation and off-site disposal and SVE (discussed on the previous page). Cleanup options considered for underlying bedrock area include SVE and on-site thermal desorption, which involves heating bedrock in place. Cleanup options considered for contaminated ground water include on-site bioremediation (discussed on the previous page) and a "pump-and-treat" procedure that would withdraw contaminated ground water, treat it and place it back below ground or discharge it to a water treatment system or creek. Cleanup options for indoor air in Building 1 include retrofitting or installing a system that brings in more outside air and pressurizes the building (known as a positive pressure system) and depressurizing the area underneath the building's concrete foundation and redirecting harmful vapors to an exhaust vent located above the roof line (known as a sub-slab depressurization system). Information on the various cleanup alternatives will be used to inform EPA's Proposed Plan for cleanup (see below).

Please contact EPA's Remedial Project Manager for copies of the Final RI Report (July 2011) and the Final FS Report (July 2011). Electronic copies of these documents will be included with the administrative record which will be available at the Leon Valley Public Library starting on July 18th. TASC also completed a review of the RI Report in April 2011 and the FS Report in May 2011. Please contact EPA's TASC Coordinator for copies of these reviews.

Proposed Plan and Record of Decision

In July, EPA anticipates issuing the site's Proposed Plan, which will identify EPA's preferred approach for site cleanup. Once issued, the public will have 30 days to comment on EPA's preferred cleanup approach. EPA may also host a public meeting to discuss the Proposed Plan and take comments. After considering public input, EPA will then will develop a Responsiveness Summary to formally respond to all public comments received. Once all comments have been addressed, EPA will finalize its cleanup plan in the site's Record of Decision (ROD). The ROD describes the cleanup approaches selected for the site and provides related in-depth site information. The ROD will be available on EPA's website as well as in the site's Information Repository, which is located at the Leon Valley Public Library. EPA anticipates issuing the ROD in late 2011.

Phases of the Superfund Cleanup Process

1. Preliminary Assessment and Site Investigation (PA/SI)
2. National Priorities List (NPL) Listing
3. Remedial Investigation and Feasibility Study (RI/FS)
4. **Proposed Plan – Record of Decision (ROD)**
5. Remedial Design / Remedial Action
6. Construction Completion (CC)
7. Post-Construction Completion
8. NPL Deletion

Current Status of the Bandera Road Superfund Site

In July 2011, EPA anticipates issuing the site's Proposed Plan. The Plan will describe the cleanup approaches that could be used to remediate the site's contamination and identify EPA's preferred cleanup approach for the site. After EPA gathers public comments on the Proposed Plan, EPA will publish a ROD outlining the site's final cleanup plan in late 2011.

During the subsequent remedial design phase, EPA will develop a final design to guide the implementation of the site's cleanup. The remedial design includes a series of documents, drawings, specifications and engineering reports. These materials specify the steps to be taken during the remedial action phase to achieve goals outlined in the ROD, clean up the site, and ultimately enable the site's deletion from the NPL.