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Bandera Road Ground Water Plume Superfund Site: *January 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 fifth 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: http://www.leonvalleytexas.gov/EPA.htm.

CAG Meetings Scheduled for 2011

- CAG meetings are planned for the following Thursdays: January 20, April 21, July 21 and October 20.
- Meetings begin at 5:30 p.m. and are typically held at the Leon Valley Conference Center.
- Meeting notices are posted at the City of Leon Valley City Hall 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) on the "City Calendar" link.

Site Background

The Bandera Road Superfund site area is currently estimated to be approximately one mile long by one-half mile wide. The site is centered between Poss Road and Grissom Road, southwest of Bandera Road. The site consists of ground water 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. In 2007, the site was placed on EPA's National Priorities List (NPL), qualifying the site for long-term cleanup under the Superfund program.

Site Update (July – December 2010)

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 November 1, 2010. No VOCs were detected. Trace levels of VOCs were detected in July but none were detected in August, September or October. The most recent sampling of the Leon Valley public water supply wells occurred on December 6, 2010. The validated sample results are routinely provided by the laboratory to EPA within 30 to 40 days of sample collection.

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

In October, EPA completed a study in partnership with the Edwards Aquifer Authority (EAA) to assess ground water flow and related ground water characteristics to better understand the nature of the ground water contamination and potential cleanup options.

EPA conducted a soil vapor extraction (SVE) pilot test in mid-October to evaluate how effective SVE is in removing harmful chemicals from the soils present at the site.

EPA is continuing on-going vapor intrusion evaluation work in areas where vapor intrusion issues had previously been identified and mitigation systems are currently operating. EPA is also evaluating other potential areas where vapor intrusion might create risks to human health.

EPA anticipates issuing a proposed cleanup plan for the site in May 2011. The public will have an opportunity to comment on EPA's preferred approach for site cleanup. These as well as additional activities are discussed in more detail in this information update.

Key Contact Information:

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Recent and Upcoming EPA Activities

Continued Ground Water Monitoring to Ensure Public Safety

Figure 1. SVE Test. In October, EPA conducted an SVE test near suspected contamination sources. (Source: EPA)

EPA continues to regularly collect samples from both public and private wells and analyze them for contaminants. EPA has sampled the Leon Valley municipal water supply wells regularly since September 2008. The most recent sampling results are from the water samples collected on November 1, 2010. No contaminants were detected in August, September, October or November in the municipal water supply wells. Trace levels of VOCs were detected in both wells in July. The trace levels were far below EPA's Maximum Contaminant Levels (MCLs) of 5.0 parts per billion (or µg/L) and are common for urban areas located above ground water. 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 MCL. Residences previously served by wells contaminated at levels above federal drinking water standards have been connected to a public water supply. Edwards Aquifer wells that were found to be impacted by PCE contamination have been properly plugged and abandoned.

Soil Vapor Extraction Test

EPA conducted a soil vapor extraction (SVE) pilot test in mid-October to evaluate how effective SVE is in removing harmful chemicals from the soils present at the site. SVE is the process of removing harmful chemicals, in the form of vapors, from the soil above the water table. Special SVE equipment was attached to five wells and two shallow soil vapor monitoring stations located near the suspected source areas. Vapors were then pulled from the ground and separated. Harmful vapors were collected in carbon canisters and then properly disposed. Results suggest that SVE may be an effective means for removing soil contamination from the suspected source areas.

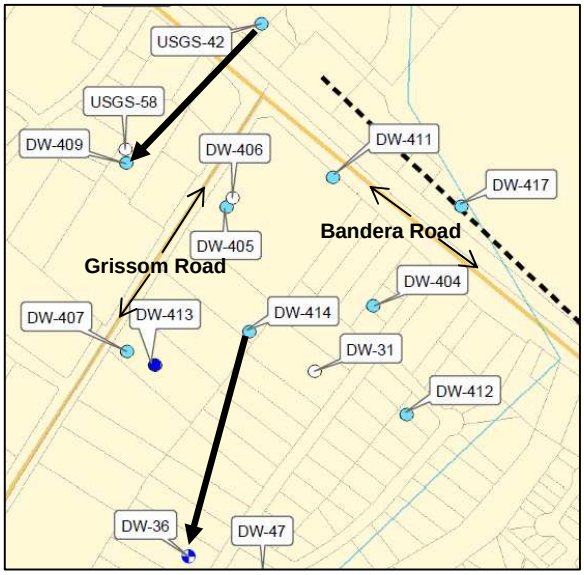

Figure 2. Dye Tracer Study. Dye injected in wells USGS-42 and DW-414 was detected in wells DW-409 and DW-36, showing the direction of ground water flow. (Source: EPA)

Dye Tracer Study

In October, EPA completed a study in partnership with EAA to assess ground water flow and related ground water characteristics to better understand the nature of the ground water contamination and potential cleanup options. In late July, EAA injected fluorescent dye into two wells (USGS-42 and DW-414) that have yielded historically high levels of PCE. These wells are located near the areas along Bandera Road that are suspected to be the main sources of ground water contamination. Using EPA's 28-well monitoring network, EAA investigated whether dye from these two wells flowed to other nearby wells. After injecting the dye, dye was detected in two nearby wells (DW-409 and DW-36) completed in the Austin Chalk aquifer. No dye was detected in the five monitoring wells completed in the Edwards Aquifer. The summary report recommended additional monitoring or conducting additional dye tracer tests to more thoroughly assess potential connections between the Austin Chalk and Edwards aquifers.

Ongoing Vapor Intrusion Assessment and Mitigation

Figure 3. Vapor Intrusion Assessment. EPA continues to monitor indoor air quality of buildings near suspected sources. (Source: EPA)

Certain types of contaminants found in soil or ground water, including VOCs, can release harmful vapors that may migrate from below ground into air spaces of overlying buildings. EPA continues to sample indoor air quality in occupied buildings near areas where contamination is suspected. If EPA determines that indoor air quality may pose a human health risk for residents, EPA works with the building owner to undertake vapor mitigation efforts. Last year, the property owner of the Savings Square Shopping Center installed exterior sub-slab vapor mitigation systems and performed related efforts, such as sealing utility holes in the slab of the affected offices. Indoor air concentrations of harmful vapors have since been reduced by 94 percent.

Continued Passive Soil Gas Sampling

Passive soil gas sampling involves the placement of small tubes near the ground surface. As contaminants evaporate, they attach to material contained in the tubes. The tubes are then shipped to a laboratory for analysis. EPA continues to conduct passive soil gas sampling in areas along Bandera Road to determine whether there may be other significant sources of ground water contamination in addition to the two main suspected source areas.

Planned Field Pilot Tests to Evaluate On-Site Biostimulation

Bioremediation is the use of natural processes to clean up harmful chemicals in the environment. When microscopic organisms consume certain harmful chemicals, they change them into water and harmless gases such as carbon dioxide. Biostimulation is a type of bioremediation that involves adding nutrients to enhance growth of microorganisms that are local to the particular area and are capable of breaking down the contaminants. EPA is preparing to conduct field tests to evaluate whether biostimulation is an effective approach for breaking down the ground water contamination within the Austin Chalk aquifer.

Upcoming Remedial Investigation and Feasibility Study

In late 2010, EPA plans to release a draft of its Remedial Investigation (RI) Report. This report will summarize EPA's site investigation activities underway since 2007 and document the human and ecological health threats associated with the site. In early 2011, EPA plans to release a draft of its Feasibility Study (FS) which will identify cleanup objectives and options. If you are interested in receiving a copy of either document, contact the site's RPM, Chris Villarreal (see contact information on first page). The Bandera Road CAG intends to review drafts of the RI and FS reports. If you would like to learn more about the CAG's work, contact CAG chairman John Hoyt (see contact information on first page).

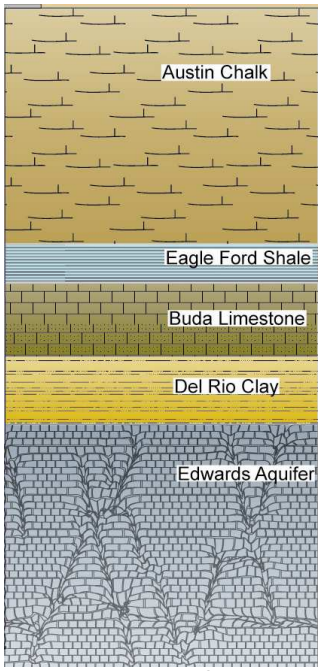

Figure 4. Leon Valley Geologic Formations Considered in EPA RI and FS Studies. EPA's biostimulation pilot test will focus on the Austin Chalk aquifer. (Source: EAA)

Upcoming Proposed Plan and Record of Decision

In spring 2011, EPA anticipates issuing the Proposed Plan, the Agency's preferred approach for site cleanup. EPA will include an announcement in the local newspaper when it is released. The public will have an opportunity to comment on the plan and EPA will host a public meeting to discuss it. A copy of the plan will be made available for public review in the administrative record file at the Leon Valley Public Library, located at 6425 Evers Road. The plan will also be available for download from EPA's website. After considering public input, EPA will finalize its cleanup plan in the site's Record of Decision (ROD).

Completed Site Reuse Assessment

In 2010, EPA completed a reuse assessment process for the Bandera Road Superfund site. The assessment considered reasonable future land uses in Leon Valley and how Superfund site cleanup might impact these uses. The assessment also identified short-term revitalization strategies that the city can use in response to potential local concerns about the Superfund site. The reuse assessment will be incorporated into the RI report. In addition, EPA presented the reuse assessment to the City of Leon Valley City Council at the December 7, 2010 Leon Valley City Council meeting. The Mayor and City Council members expressed support for the green infrastructure revitalization strategies presented and described examples of how the City of Leon Valley is moving forward on some of the action steps recommended in the assessment. A copy of the reuse assessment is available for download here: http://www.leonvalleytexas.gov/EPA.htm.

EPA Efforts to Revise National Primary Drinking Water Regulations

The Safe Drinking Water Act requires EPA to review each National Primary Drinking Water Regulation (NPDWR) at least once every six years and revise, if appropriate. NPDWRs are commonly referred to as Maximum Contaminant Levels (MCLs). EPA completed its second Six-Year Review in March 2010. EPA determined that MCLs for 67 contaminants remain appropriate but four are candidates for revision. These include two contaminants associated with the Bandera Road site's ground water contamination: PCE and TCE. EPA found that revisions to the MCLs for both PCE and TCE may provide a meaningful opportunity for health risk reduction. EPA is considering lowering the MCLs for both PCE and TCE from 5.0 parts per billion to 0.5 parts per billion. The process for revising these MCLs is underway. As part of this process, EPA is considering much more extensive information related to these contaminants. Information about EPA's Six-Year Review is available here: http://water.epa.gov/lawsregs/rulesregs/regulatingcontaminants/sixyearreview/index.cfm.

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

What Cleanup Phase Is the Bandera Road Superfund Site in Now?

The Bandera Road site is currently in the Remedial Investigation /Feasibility Study (RI/FS) phase of the Superfund cleanup process. The RI/FS will help inform EPA's Proposed Plan for the site. When completed, the Plan will describe the various cleanup options that could potentially be used to remediate site contamination and identify EPA's preferred cleanup option(s) for the site. After EPA gathers public comment on the Proposed Plan, EPA will publish a Record of Decision (ROD), which describes how EPA plans to clean up the site. During the subsequent remedial design phase, EPA will develop a final design to guide the implementation of the cleanup option(s) selected in the ROD. The remedial design includes a series of documents, drawings, specifications and engineering reports that specify the steps to be taken during the remedial action phase to achieve the goals outlined in the ROD, remediate the site, and ultimately enable the site's deletion from the National Priorities List. The timeline below illustrates major past, current and planned Superfund activities for the Bandera Road site.