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Bandera Road Ground Water Plume Superfund Site: *January 2010 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 third in a series of updates that will be prepared approximately every six months.

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. Meeting notices are posted at the City of Leon Valley City Hall at 6400 El Verde Road. Meeting notices are also presented in the City of Leon Valley's community newsletter "The Lion's Roar" and on the City's web page at www.leonvalleytexas.gov by clicking on the link titled "City Calendar."

Information updates may be viewed on the City web page at www.leonvalleytexas.gov by clicking on the link titled "EPA News – Bandera Road Superfund Site."

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Site Background

The Bandera Road Superfund site is located in the City of Leon Valley, Texas, in the northwestern section of the City of San Antonio. The site area is currently estimated to be approximately one mile long by one half-mile wide.

The site consists of ground water contaminated with chlorinated solvents tetrachloroethene (PCE), trichloroethene (TCE), and cis-1,2-dichloroethene (cis-1,2,-DCE or DCE). PCE is the most frequently detected compound.

The Texas Commission on Environmental Quality (TCEQ) identified the site in 2004 while conducting an investigation at the Savings Square Shopping Center, near the intersection of Grissom Road and Bandera Road. In early 2007, the site was placed on EPA's National Priorities List, qualifying the site for long-term cleanup under the Superfund program.

Site Update (July – December 2009)

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 11, 2009. No compounds were detected in these samples. The most recent sampling of the Leon Valley public water supply wells occurred on December 7, 2009. The validated sample results are routinely provided by the laboratory to EPA within 30 to 40 days of sample collection.

EPA is continuing to assess ground water flow and related ground water characteristics to better understand the nature of the ground water contamination and potential cleanup options. Most recently, EPA conducted a geophysical survey to help identify, map and model pathways for preferential ground water flow in the Austin Chalk aquifer.

EPA is continuing its investigation to identify specific sources of ground water contamination. A contaminant source near the Savings Square Shopping Center was confirmed in April 2009. In October, EPA used passive soil gas sampling to evaluate other potential nearby source locations, including an operating dry cleaner located southeast of the Savings Square Shopping Center on the opposite side of Bandera Road.

EPA recently initiated a reuse assessment process to help inform EPA's Remedial Investigation/Feasibility Study. The assessment process will identify stakeholder reuse goals for the site so that EPA's risk assessment will adequately assess potential future risk.

EPA anticipates completing the cleanup plan for the site by January 2011. These as well as additional activities are discussed in more detail in this information update.

For More Information about the Bandera Road Superfund Site, Please Contact:

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Recent and Upcoming EPA Activities

Continued Ground Water Monitoring to Ensure Public Safety

To ensure public safety, EPA continues to regularly collect samples from both public and private wells and analyze them for contaminants. EPA has sampled the two Leon Valley public water wells 19 times since November 2007 and monthly since September 2008. Sampling was most recently conducted the week of December 7, 2009. EPA's next sampling event is planned for the week of January 4, 2010.

As of October 2009, ten wells have been identified that were contaminated with PCE and/or TCE above EPA's Maximum Contaminant Levels. Four of these wells located near the Savings Square Shopping Center and along Grissom Road have been plugged and abandoned; the remaining six wells are completed in formations above the Edwards Aquifer. Residences previously served by wells contaminated at levels above federal drinking water standards have been connected to a public water supply. If you discover or are aware of an improperly closed or abandoned well, contact the Edwards Aquifer Authority (EAA) at 800-292-1047 or EPA Region 6 immediately. You may also call EPA's Superfund Hot Line at 800-533-3508. EAA or EPA will then work with the well owner and discuss opportunities for properly closing the well.



Figure 1. Location of Wells Sampled as Part of October 2009 EPA Monitoring Activities. Wells USGS-18 and USGS-50 are Leon Valley public water supply wells. (Source: EPA)

Continued Ground Water Studies

EPA is continuing its review and analysis of ground water data and related characteristics to better understand the nature and extent of ground water contamination and potential cleanup options. For example, using well data-loggers; water level, temperature and conductivity readings are being collected every five minutes to better understand how the area's ground water responds to storm events.

In July 2009, EPA collected water samples for Compound Specific Isotope Analysis to help identify whether the contaminated ground water plume may be the result of two or more releases at different locations and at different times. Indicators from this analysis suggested there may be two or more contaminant sources.

In October 2009, EPA conducted a geophysical survey in a 162-acre area around the Grissom and Bandera Road intersection to identify, map and model pathways of preferential ground water flow in the Austin Chalk aquifer. This involved placing a pair of electrodes in an Austin Chalk well and in a nearby Edwards Aquifer well, connecting the electrodes to a low-amperage alternating current power supply to create an electric circuit in the subsurface between the two electrodes, and then measuring magnetic field strength, magnitude and direction at the ground surface. Over 600 measurements were collected.

Results from the geophysical survey are currently being evaluated. The results will help the EPA and EAA in planning a Dye Tracer Study scheduled for early 2010. The Dye Tracer Study will involve injecting a nontoxic, fluorescence dye into the Austin Chalk ground water to determine how long the dye takes to move between wells. All dyes used are approved by the Food and Drug Administration and are used as colorants in medical procedures, drugs and/or cosmetics. With assistance from the EAA, the Dye Tracer Study may help EPA measure ground water flow velocity and identify ground water flow directions, hydraulic connections and the pattern of water movement.

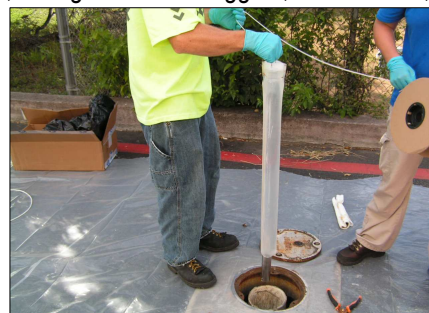


Figure 2. Examples of water well sampling activity using the Hydrasleeve™ sampling technique. (Source: EPA)

Continued Soil Sampling

EPA is working to identify additional source areas in surface and subsurface soils that may be contributing to the ground water contamination. Soil sampling conducted earlier this year confirmed that the Savings Square Shopping Center is a source of chlorinated solvents. This sampling identified volatile chemicals present in soil, particularly around the location of a former dry cleaning facility that had previously operated in the shopping center. In October 2009, EPA collected soil gas samples from other potential sources, including the site of an operating dry cleaner located southeast of the Savings Square Shopping Center on the opposite side of Bandera Road. Results are currently being evaluated.



Figure 3. Drilling of holes to place soil gas collector tubes near the Savings Square Shopping Center. (Source: EPA)

Ongoing Soil Vapor Mitigation

In March 2009, in cooperation with the affected property owner in the Savings Square Shopping Center, an exterior vapor mitigation system was installed. The system pulls vapor from underneath the building foundation and discharges it to open air; the system has been operating since March 2009. Follow-up indoor vapor intrusion sampling conducted in April 2009 found a substantial reduction in the concentration of PCE from the January 2009 sampling. Vapor mitigation efforts are continuing.

Initiation of Site Reuse Assessment

In September, EPA initiated a reuse assessment process for the Bandera Road Superfund site. The purpose of the effort is to inform EPA's Remedial Investigation/Feasibility Study (RI/FS) and the Record of Decision, which is expected in early 2011 (see below). The reuse assessment will identify stakeholder reuse goals for the site. Anticipating reasonable future use can help inform the baseline risk assessment, the development of cleanup objectives and alternatives and the selection of a cleanup approach that ensures the protection of human health and the environment. A reuse assessment team contracted by EPA is currently gathering community and stakeholder input regarding future use options. A first draft of the reuse assessment is scheduled to be presented to the CAG in April 2010. To learn more about the reuse assessment effort, contact EPA Region 6 Superfund Redevelopment Coordinator Casey Luckett Snyder at 214-665-7393.

Major EPA Activities for 2010

In 2010, EPA anticipates the development of several important documents that will inform the Superfund cleanup process for the site. In the summer, EPA expects to issue the site's draft RI/FS. The document will summarize the results of EPA's site investigation activities underway since 2007, document the human and ecological health threats associated with the site, and identify cleanup objectives and options. In the fall, EPA anticipates issuing the site's Proposed Plan, which will identify EPA's preferred approach for site cleanup. The public will have an opportunity to comment on EPA's preferred cleanup approach. EPA will also host a public meeting to discuss the Proposed Plan. After considering public input, EPA will finalize its cleanup plan in the site's Record of Decision (ROD). EPA anticipates issuing the ROD in early 2011.

Getting to Know Superfund Terms and Phrases

Tetrachlorethene (PCE) - PCE is a solvent most commonly used in the textile industry, and as a component of aerosol dry-cleaning products. Other names for the chemical are PERC, tetrachloroethylene, and perchloroethylene. Ground water can become contaminated if PCE is improperly dumped or if it has leaked into the ground. PCE has been found at approximately half of all National Priorities List sites. EPA's maximum permissible amount of PCE in drinking water (i.e., the Maximum Contaminant Level) established under the federal Safe Drinking Water Act is 5 micrograms per liter ($\mu\text{g/L}$) or 5 parts per billion (ppb). EPA's MCL Goal (MCLG) for PCE is zero. The PCE MCLG is the maximum level of PCE in drinking water at which no known or anticipated adverse effect on the health of persons would occur, and allows for an adequate margin of safety. MCLGs are non-enforceable public health goals.

For More Information

EPA Basic Information about Tetrachloroethylene in Drinking Water (<http://www.epa.gov/safewater/contaminants/>)

Agency for Toxic Substances and Disease Registry ToxFAQs™ (<http://www.atsdr.cdc.gov/toxfaq.html>)

EPA Region 6 Bandera Road Ground Water Plume Site Summary (<http://www.epa.gov/region6/6sf/pdf/files/0606565.pdf>)

Phases of the Superfund Cleanup Process

1. Preliminary Assessment and Site Investigation
2. National Priorities List (NPL) Listing
- 3. Remedial Investigation and Feasibility Study (RI/FS)**
4. Proposed Plan – Record of Decision
5. Remedial Design / Remedial Action
6. Construction Completion
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 (RD) phase, EPA will develop a final design to guide the implementation of the cleanup option(s) selected in the ROD. The RD includes a series of documents, drawings, specifications and engineering reports that specify the steps to be taken during the remedial action (RA) phase to achieve the goals outlined in the ROD, remediate the site, and ultimately enable the site's deletion from the NPL. The timeline below illustrates major past, current and planned Superfund activities for the Bandera Road site.

