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Bandera Road Ground Water Plume Superfund Site: Information Update (January 2009)

About this Document

At the request of the Bandera Road Community Advisory Group (CAG), this document was prepared to provide information to residents and workers of Leon Valley on the status of the Bandera Road Ground Water Plume (Bandera Road) Superfund site.

The Bandera Road CAG includes individuals and organizational representatives from the Leon Valley area. The CAG was organized to provide input to the U.S. Environmental Protection Agency (EPA) on issues regarding the site's investigation and cleanup.

Inside the Information Update

Discovery of the Bandera Road Superfund Site

In 2004, the Texas Commission on Environmental Quality (TCEQ) found a nearby contaminated drinking water well while conducting an investigation at the Savings Square Shopping Center in Leon Valley. This led to the discovery of the site's contaminated ground water plume. TCEQ then conducted intensive sampling in the area to begin identifying the extent of the plume as well as the sources of contamination. In August 2004, TCEQ installed granulated activated charcoal water filtration systems on five private wells with levels of contamination exceeding federal standards.

Recent Activity at the Bandera Road Superfund Site

In early 2007, the site was placed on EPA's National Priorities List, qualifying the site for long-term cleanup under the Superfund program. In May 2007, EPA began connecting residences with private wells having contaminant levels above Federal Drinking Water Standards to a public water supply. This action was completed in February 2008.

EPA is continuing efforts to locate the source(s) of the site's contamination and is preparing for an in-depth site investigation. EPA is also sampling the two City of Leon Valley public water supply wells located within one mile of the plume's center on a monthly basis.

Site Location and Surroundings

The center of the known contaminated ground water plume is located in a business area between Grissom Road and Poss Road, approximately 590 feet from Bandera Road.

Land uses in the vicinity of the site include residences and light commercial/industrial land uses. Parks, playgrounds, schools, and day care facilities are also located nearby. Several dozen private water wells are located in or near the area containing the plume. Six of these wells are contaminated at levels above Federal Drinking Water Standards. Two City of Leon Valley public water supply wells are located within one mile of the center of the plume. To date, these wells have not been affected by contamination.

The site's surrounding area has a complex sub-surface geology and hydrogeology. The movement of contaminated ground water at the site is directly influenced by the interaction among three aquifers: the Quaternary Alluvium aquifer, the Austin Chalk aquifer and the Edwards Aquifer, which is the primary drinking water source for a large portion of south-central Texas. Contamination may be entering the Edwards Aquifer through minor geologic faults and fractures and/or through improperly constructed or deteriorated water wells.

In total, approximately 70 different wells have been sampled, many repeatedly, between mid-2004 and mid-2008. The contaminated ground water plume is approximately one mile long by one-half mile wide; its estimated size may change in the future based on updated site findings.

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

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THE BANDERA ROAD SUPERFUND SITE: FREQUENTLY ASKED QUESTIONS (FAQs)

What Are the Main Contaminants of Concern?

Chlorinated solvents and toluene are the primary chemicals of concern at the site. Of these chemicals, chlorinated solvents are more widespread and have been more consistently identified in ground water samples from six of the 70 wells sampled at levels that exceed their associated Federal Drinking Water Standards.

The chlorinated solvents which exceeded their respective Federal Drinking Water Standards are tetrachloroethene (PCE), trichloroethene (TCE), cis-1,2-dichloroethene (cis- 1,2-DCE) and vinyl chloride. PCE is the most frequently detected compound.

Where Are the Main Sources of Contamination Located?

The main source of chlorinated solvents contamination is located around monitoring well USGS-42 (near the Grissom Road-Bandera Road intersection). A former dry cleaning facility once operated in the area. Figure 1 shows the most current understanding of the extent of the PCE plume.

The main source of toluene contamination is likely located upgradient (northwest) of monitoring well DW-31 (near the intersection of El Verde Road and Jeff Loop toward Bandera Road). Figure 2 shows the most current understanding of the extent of the toluene plume.

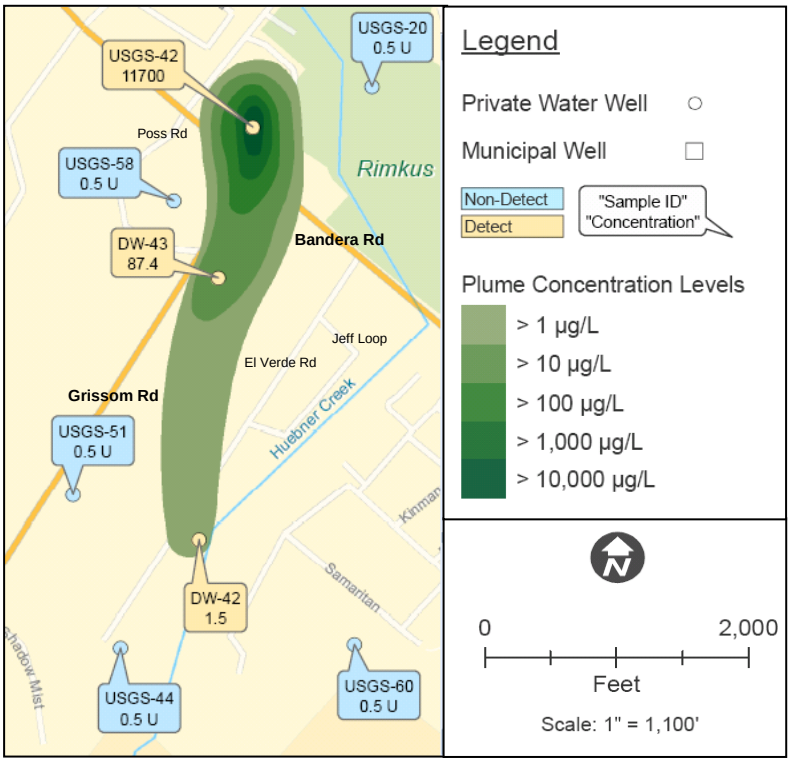

Figure 1. Tetrachloroethene (PCE) Ground Water Sampling Results (July 2008). The maximum concentrations from samples are shown above. Sample results and chemical concentration amounts are presented in micrograms per liter (µg/L). These samples were collected in July 2008. EPA's Maximum Contaminant Level (MCL) for PCE is 5 µg/L. A "non-detect" sample, identified above with a "U", indicates that no concentration of PCE was detected above the lowest-level that could be detected by laboratory analytical equipment (i.e., 0.5 µg/L). A "detect" sample indicates that some level of PCE was present in the sample collected detectable by laboratory analytical equipment.

Has EPA Identified the Contaminated Soil that Is Likely Causing the Ground Water Contamination?

Specific contaminated soil locations have not yet been found. EPA has identified numerous potential sources within a two-mile radius of the site, including 21 dry cleaners, 26 automobile-related service facilities, and four light industrial sites.

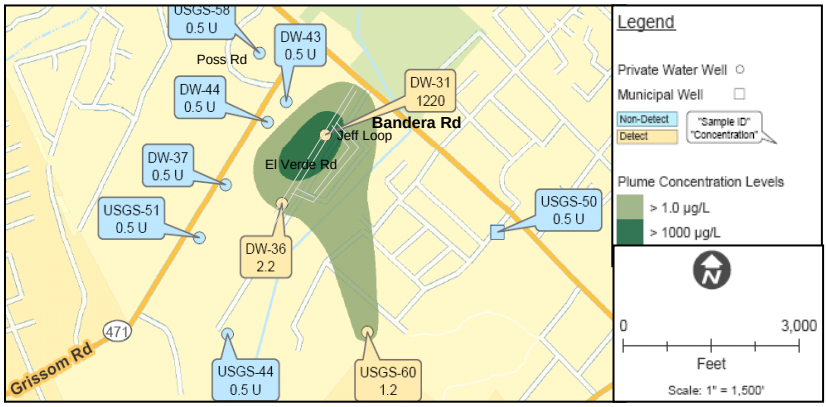

Figure 2. Toluene Ground Water Sampling Results (January 2008). The maximum concentrations from samples are shown above. These samples were collected in January 2008. EPA's MCL for toluene is 1,000 µg/L.

How Can Individuals Come into Contact with Site Contamination?

Individuals may potentially be exposed to site contaminants through breathing contaminated air, skin contact, eating or accidently ingesting contaminated soil, or accidentally ingesting contaminated ground water. Now that residents with private wells that tested above Federal Drinking Water Standards have been connected to a public water supply, the chances for community contact with contaminated ground water are greatly reduced.

What Is the Most Likely Way That Individuals May Come into Contact with Site Contamination?

Currently, the most likely way individuals may come into contact with site contamination is by breathing in vapor generated from contaminated soil located in the vicinity of the Grissom Road-Bandera Road intersection. See Figure 3. The concern is that vapor generated from contaminated soil may accumulate in indoor air in nearby buildings. Vapor sampling will be conducted to fully understand potential human health threats. If it is determined that threats exist to human health, EPA will notify the likely affected residents and businesses and advise on appropriate courses of action.

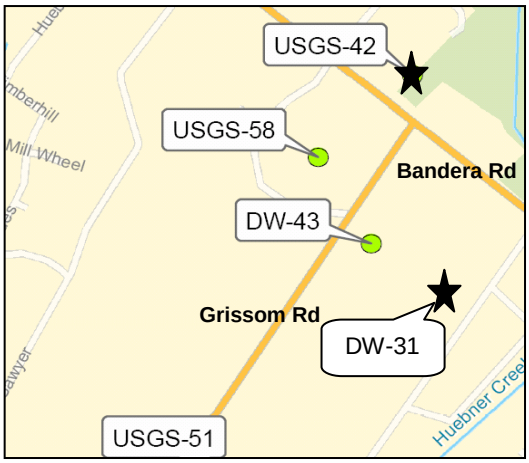

Figure 3. Bandera Road-Grissom Road Intersection.

What Are the Specific Risks Associated with Exposure to Site Contamination?

The Agency for Toxic Substances and Disease Registry (ATSDR) concluded in its 2006-07 public health assessment for the site that because community exposure to chemicals via the air, soil, and surface water would be minimal, the Agency did not expect these exposure routes to pose a public health hazard.

Regarding drinking water exposure, ATSDR concluded that past exposures to contaminants in private water wells pose an indeterminate public health hazard because data were not available on how long residents using private wells had been exposed to contaminants in their drinking water or at what levels these exposures had occurred. ATSDR also noted that negative health effects would not be expected even if residents had been exposed to drinking water with contaminant concentrations similar to the highest level of contaminant concentrations detected in ground water samples from private water wells. The ATSDR report can be accessed online at: http://www.atsdr.cdc.gov/hac/pha/index.asp.

EPA is preparing to conduct a human health risk assessment. Superfund risk assessments determine how threatening a hazardous waste site is to human health and the environment. This assessment will closely examine health risks associated with all potential ways residents and workers may be exposed to contamination, utilizing new data collected since the ATSDR report was published. EPA is also sampling the two City of Leon Valley public water supply wells located within one mile of the plume's center on a monthly basis. To date, these wells have not been affected by contamination.

Figure 4. The top photograph is a well with corroded surface casing and broken concrete slab. The bottom photograph is of a secured well with a new surface completion (i.e., concrete slab) and locking well cap.

What Should I Do If I Discover an Improperly Closed or Abandoned Well?

Contact the Edwards Aquifer Authority (EAA) at 800-292-1047 or EPA Region 6 immediately. EAA or EPA will then work with the well owner and discuss opportunities for properly closing the well.

How Can I Learn More about the Site?

The site's information repository is located in the Leon Valley Public Library. Information on the site is also available through the EPA Region 6 Web site at: http://www.epa.gov/region6/6sf/6sf-tx.htm.

When Do Bandera CAG and EPA Informational Meetings Take Place?

The Bandera CAG typically meets on a quarterly basis. Contact CAG chairman Rudy Garcia for more information at rudy0711@sbcglobal.net or 210-287-8273. EPA Region 6 typically holds public information sessions twice a year. Contact the Bandera CAG or EPA Region 6 regarding these sessions.