

Bandera Road Ground Water Plume BEXAR COUNTY LEON VALLEY, TEXAS



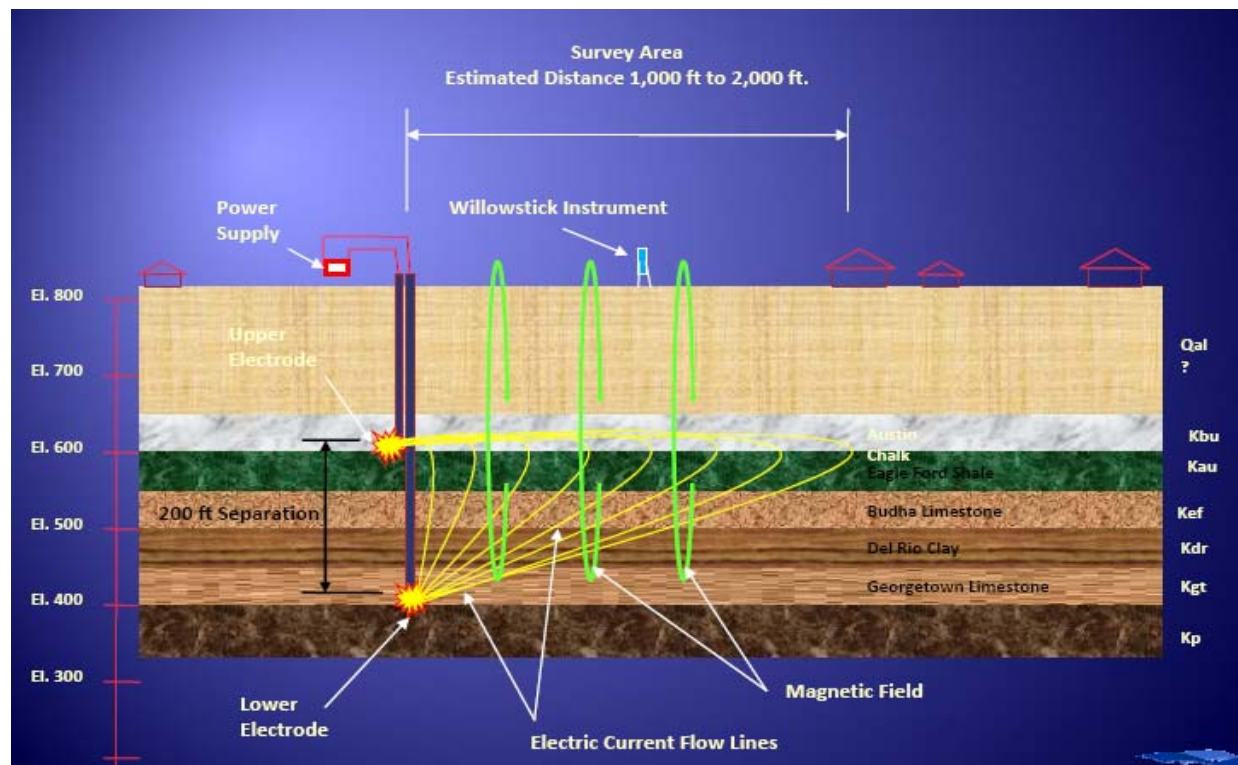
EPA REGION 6
CONGRESSIONAL DISTRICT 20

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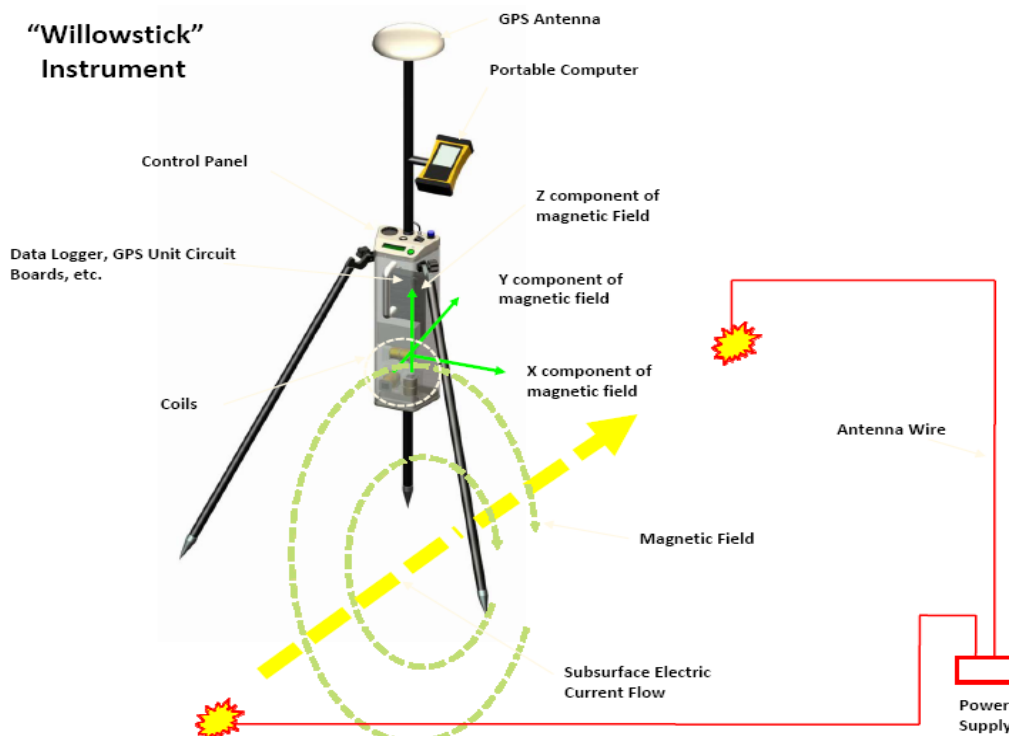
EPA ID# TXN000606565
Site ID: 0606565

The U.S. Environmental Protection Agency (EPA) is conducting an investigation to identify, map and model pathways of preferential ground water flow in the Austin Chalk formation. Previous ground water investigations have identified chlorinated solvents exceeding ground water standards in the Austin Chalk formation which extends to a depth of approximately 175 feet below ground surface in the area. The top of the Edwards Aquifer formation is present around 300 feet below ground surface. The study area is centered near the intersection of Bandera Road and Grissom Roads and includes an area of approximately 162 acres. A pair of electrodes was placed in an Austin Chalk well and in a nearby Edwards Aquifer well. The electrodes were connected to a low-amperage alternating current power supply so that an electric circuit was created in the subsurface between the two electrodes (see figure below). There was no harmful effects to the environment or to the public as a result of the investigation.



As the electric current flows through the subsurface, it gathered and flowed in conductive features and

generate a magnetic field. Groundwater is normally the most conductive feature in the subsurface. The magnetic field strength, magnitude and direction was measured at the ground surface with a specialized instrument (see figure below).



The collection of over 600 measurements was required as part of this investigation. Measurement stations were located using a large grid pattern. The time required to collect measurements was approximately three per station. In collecting the measurements, nothing but footprints was left as the contractor moved from one measurement station to the next. The information collected is currently being evaluated. Results of the investigation will be available later this year.

Earlier this year, the EPA had six Austin Chalk ground water monitoring wells installed in the area. The six Austin Chalk wells were installed to a depth of approximately 175 feet below ground surface. Two Edward Aquifer wells were also installed. These wells are being used to further define the extent of groundwater contamination in the area. The location and elevations of all new wells were surveyed. Well data-loggers were also installed in the wells to collect water level, temperature and conductivity readings. During the first week of May, the Edwards Aquifer Authority conducted geophysical logging of the newly installed wells. This information is being evaluated to obtain a better understanding of the geology and hydrology in the area.

In August, September, and October, water samples from wells in the Bandera Road /Grissom Road/ El Verde Road Area were collected. In addition, the two Leon Valley municipal water wells and newly installed Austin Chalk and Edward Aquifer wells were also sampled. The Leon Valley municipal water supply wells have been sampled by the EPA on a monthly basis since last September 2008, to ensure public safety. The next water sampling event is planned for the second week in November. In addition to the water samples, soil gas samples were collected around the site of a current dryer cleaner in October.

In April, four private wells were plugged and abandoned. Three of these wells were determined to be acting as pathways for contaminants to migrate from overlying water bearing formations into the Edwards Aquifer.

EPA Enforcement Activities:

- CERCLA 104(e) information request letters were sent to gather information regarding potential contaminant sources.
- Continue efforts to identify source(s) of contamination.
- Field Consent Order issued to owner of former dry cleaner to address vapor intrusion.

Benefits

The purpose of EPA's remedial investigation is to identify the nature and extent of ground water contamination and potential vapor intrusion exposure pathways. This information will be used in developing remediation strategies to address potential risks posed by the impacted soils and ground water.

National Priorities Listing (NPL) History

NPL Inclusion Proposal Date: September 26, 2006

NPL Inclusion Final Date: March 7, 2007

Site Description

The Bandera Road Groundwater Plume site is situated in Bexar County, in the City of Leon Valley, in the northwestern section of the City of San Antonio, Texas. The current estimated site area is approximately one mile long by one-half mile wide. The plume is centered in a business area, with some homes nearby, between Poss Road and Grissom Road, southwest of Bandera Road. Ongoing sampling and investigation may affect the estimated plume extent.

The site consists of a groundwater plume contaminated with PCE, trichloroethene (TCE), and cis-1,2-Dichloroethene (cis-1,2-DCE). The site was identified through assessment activities conducted by the TCEQ Voluntary Cleanup Program. The investigation identified the presence of PCE and/or TCE concentrations above the Federal Drinking Water Standard of 5.0 parts per billion (ppb). Two City of Leon Valley public water supply wells are within one mile of the center of the contamination plume. These two public water supply wells are being sampled by EPA on a monthly basis to ensure public safety.

Wastes and Volumes

The site is being evaluated as a groundwater plume containing PCE, TCE and cis-1,2-dichloroethene (cis-1,2-DCE). To date, ten wells were found to be contaminated with PCE and/or TCE at or above the 5.0 parts per billion. Three of these wells were Edwards Aquifer wells which have been plugged and abandoned. An additional well which was located at an automotive repair facility was also plugged and abandoned. The remaining six wells are completed in formations above the Edwards Aquifer.

The most impacted well is an Austin Chalk monitoring well located by a former dry cleaning facility in which PCE concentrations as high as 11,700 ppb have been detected.

Health Considerations

Human exposure to contaminated ground water is currently prevented by providing access to a public water supply for residences whose wells were found to be contaminated with PCE/TCE above the Federal drinking water standards. Water well sampling is continuing to ensure additional wells are not being impacted. As discussed previously, vapor mitigation efforts are being taken to address vapor intrusion in

the area around a former dry cleaning facility.

Record of Decision (ROD)

A Record of Decision will be issued following completion of the Remedial Investigation/Feasibility Study. There will be an opportunity for the community and interested parties to review the data and comment on the preferred remedy identified by the EPA.

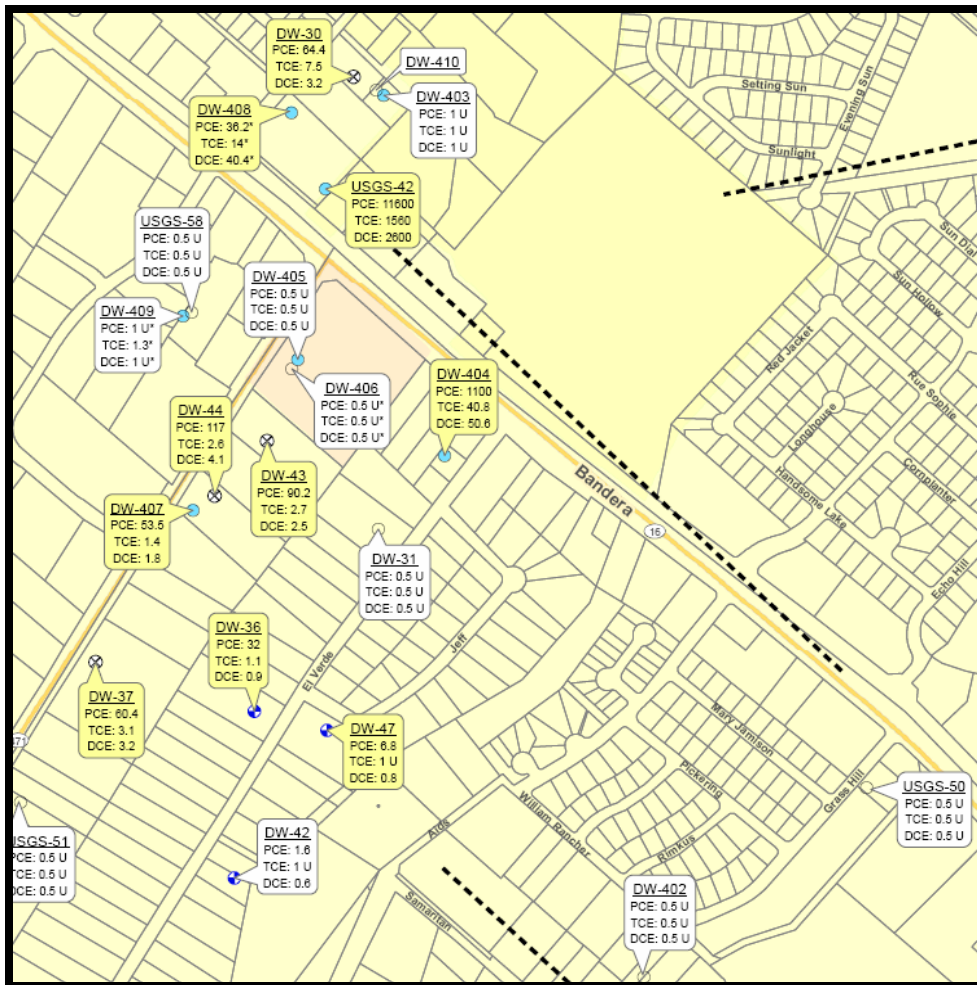
Site Contacts

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





EPA Superfund Region 6 Toll-Free Number: 1-800-533-3508

Site Figure

Figure 1 shows the maximum PCE/TCE/Cis-1,2-Dichloroethene detections in ground water for 2009.



Legend

Austin	
Edwards	
Austin/Buda	
Wells Plugged and Abandoned in April 2009	
Potential Fracture Traces	
Parcels	

Notes:

- 1) All concentrations shown in micrograms per liter ($\mu\text{g/L}$)
- 2) * Denotes preliminary data
- 3) Shaded cells denote maximum contaminant level exceedences

Acronyms:

PCE - Tetrachloroethene
TCE - Trichloroethene
DCE - cis-1,2-Dichloroethene

