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Alameda County
Environmental Health

FACT SHEET
Status of Environmental Investigation and Cleanup
B&C Gas Mini Mart, Former Desert Petroleum
2008 First Street
Livermore, California

August 31, 2011

Introduction

This fact sheet has been prepared to inform the community about soil and groundwater cleanup activities at the B&C Gas Mini Mart [Valley Gas] (site) located at 2008 1st Street, Livermore, California. It describes site background, past work to investigate and clean up site contamination, next steps, the County's oversight process for the site, and how you can obtain more information. Alameda County Environmental Health Services is the lead regulatory agency overseeing the investigation and clean-up activities.

Site Description

The site is located at 2008 First Street in downtown Livermore (Figure 1). The site is an active gasoline station and mini market and is currently operating under the name: Valley Gas. . From at least 1988 until 1994, Desert Petroleum (DP) owned and operated the site. In January 1994, DP sold the site to the current owner. Petroleum hydrocarbons released from underground storage tanks at the site have entered groundwater and moved northwest beneath adjacent properties. Mitigation measures are underway to reduce the potential risk to human health.

Site Investigations

The soil and groundwater beneath the site are impacted with petroleum hydrocarbons associated with leaking underground gasoline storage tanks. The releases occurred at the site over multiple years with documented releases in 1994 and 1995. At that time, groundwater levels were near historic lows of approximately 60 feet below ground surface. Groundwater rose approximately 30 to 35 feet over the next three to five years smearing the gasoline across the soil within this depth range (30 to 60 feet). The gasoline released from the site included the following components: benzene, toluene, ethylbenzene, and total xylenes (BTEX); and fuel additives such as methyl tert-butyl ether (MTBE), an oxygenate added to gasoline to reduce air pollution.

By the late 1990's, it was determined that the MTBE component of the dissolved gasoline plume had extended approximately 1,500 feet downgradient of the site. The BTEX components of the plume were generally limited to about 600 to 800 feet downgradient of the site. The difference in the extents of the plumes is expected due to the differences in water solubility and degradation rates between MTBE and the BTEX components. The primary location of the majority of the contamination was determined to be between approximately 30 to 45 feet below ground surface, below the current surface of the groundwater table, and was estimated to extend about 150 to 200 feet west of the site.

Investigations have been conducted on and off-site to assess the magnitude and extent of the gasoline and gasoline components released from the underground storage tanks at the site and to assess the potential risks posed to human health and the environment. Beginning with the initial assessment in September 1988, several soil borings, fifteen groundwater monitoring wells, and four multi-level groundwater monitoring wells have been installed. In 2006 a source zone investigation was performed that included the installation of 24 borings and two soil vapor monitoring wells. The information from the source zone investigation was used to identify the extent of the source zone, assess risks to human health from the intrusion of gasoline vapors, and evaluate remediation options.

Cleanup activities performed have included the removal of leaking underground storage tanks, hydraulic lifts, 725 cubic yards of contaminated soil, and the installation of a new double-walled underground

fueling system with automated leak detection. Gasoline found floating on water in an onsite groundwater monitoring well was also removed.

The following summarizes important findings:

- The northwest extent of the dissolved contaminant plume is generally defined and shown not to have reached municipal water supply wells.
- At approximately 70 feet below ground surface a generally impervious layer of clay exists that protects the underlying drinking water aquifer from the gasoline and gasoline components released at the site.
- Concentrations of MTBE and BTEX have been declining throughout the plume since 1995. Declining concentrations appear to be due primarily to natural attenuation.
- The source zone area is estimated to be approximately 250 feet long, extending from the northwest portion of the site toward the northwest, beneath South L Street and the Groth Brothers showroom and property. The source zone is estimated to be approximately 80 to 120 feet wide and from 36 to 48 feet below ground surface.
- Soil vapor sampling results indicate that soil vapor at 5 feet below ground surface does not exceed state of California regulatory, health-based concentration thresholds, indicating that there is no current threat to human health.

Summary

Remedial measures are underway to mitigate the smeared gasoline and reduce dissolved groundwater concentrations in the source zone.

The current and proposed corrective action at the site is in-situ chemical oxidation (ISCO) with ozone to remove the smeared gasoline and reduce dissolved groundwater concentrations in the source zone. The term "in-situ" refers to the treatment of soil and groundwater in-place without soil excavation and/or groundwater pumping. Ozone is delivered to the subsurface through wells installed beneath the water table in the source zone (between 36 and 48 feet below ground surface). Ozone is a powerful oxidizer and breaks down gasoline and its components to harmless carbon dioxide and water. After the oxidizer is spent, natural processes usually return the groundwater to its previous state. Groundwater monitoring will be performed during the corrective action to assess impacts to groundwater quality as well as the performance of the remediation. Post-remediation groundwater monitoring will also be performed to confirm that groundwater quality returns to an acceptable state.

Next Steps

The responsible party is working with Alameda County Environmental Health (ACEH) to implement cleanup of the site. The proposed cleanup consisting of in-situ chemical oxidation is described in the documents entitled, "Corrective Action Plan," dated January 21, 2009 and "Corrective Action Plan Addendum," dated June 20, 2011. The public is invited to review and comment on the proposed cleanup action. The cleanup plan documents can be viewed over the Internet on the ACEH website (<http://www.acgov.org/aceh/lop/ust.htm>) or the State Water Board GeoTracker website (http://www.swrcb.ca.gov/ust/cleanup/electronic_reporting). Please send written comments to Jerry Wickham at the address below. Comments received within 30 days of the date of this Fact Sheet will be considered and responded to prior to a final determination on the proposed cleanup. If you have any questions or comments regarding the ongoing soil and groundwater cleanup at the site, please contact Jerry Wickham at the address below.

For Further Information:

If you have questions or comments about this case, you may contact the Alameda County Environmental Health Department project manager Jerry Wickham at (510)567-6791 (E-mail jerry.wickham@acgov.org).

You may also access site information online at the State GeoTracker web site: <http://geotracker.waterboards.ca.gov/> . Under "Tools", click on "Advanced Search". Under "Case ID/Global ID", type T0600100930 and click on "Search".
Or the County web site: <http://ehgis.acgov.org/dehpublic/dehpublic.jsp>

**Figure 1 – Site Location Map
2008 First Street, Livermore, CA**

