



# California Regional Water Quality Control Board

## San Francisco Bay Region

Linda S. Adams  
Secretary for  
Environmental Protection

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### Corrective Action Plan Proposed for 76 Service Station No. 3713 1503 Carlson Boulevard Richmond, California

Fact Sheet: February 2009

The Regional Water Quality Control Board (Water Board) is issuing this fact sheet to notify the community about the on-going and proposed environmental investigation and cleanup activities associated with 76 Service Station No. 3713 (site), located at 1503 Carlson Boulevard in Richmond, California, and to invite public comment on the Corrective Action Plan (CAP) for the subject site.

The 30-day comment period runs from February 17 to March 18, 2009. Written comments may be sent, post-marked no later than March 18, 2009, to the following address:

Regional Water Quality Control Board  
Attention: Barbara Sieminski  
1515 Clay Street, Suite 1400  
Oakland, California 94612  
Email: [bsieminski@waterboards.ca.gov](mailto:bsieminski@waterboards.ca.gov)

The site is an active service station located on the southern corner of Carlson Boulevard and Imperial Avenue in Richmond (see attached figure). Soil and groundwater beneath the site have been impacted by fuel leaks from underground storage tanks. A brief description of the release, interim actions, proposed cleanup measures, and site information sources is attached to this notification letter.

**Problem Description:**

An environmental assessment completed at the site in May 2005 revealed the presence of gasoline in subsurface soils and dissolved in groundwater. Contaminant levels found beneath the site were above Water Board standards. Additional investigations were conducted between 2006 and 2008 to determine distribution of gasoline contamination in the soil and groundwater onsite and offsite, assess potential health risks from vapor intrusion to indoor air, and evaluate potential technologies to cleanup the site. The investigations included, advancing soil borings, installing several on-site and off-site groundwater monitoring wells, conducting soil vapor surveys and groundwater pumping and ozone injection tests, and performing quarterly groundwater monitoring and sampling.

Results of these investigations indicate that soil and groundwater beneath the site have been impacted by fuel leaks from station operations. The most impacted areas are located south, southeast, and east (down-gradient) of the dispenser islands. The dissolved hydrocarbon plume extends offsite following the predominant groundwater flow direction (to the south and east) toward adjacent residential properties and Forty Flags Motel.

**Previous Cleanup Action:**

The primary sources of contamination, leaking tanks and product lines, have been removed from the site. A used oil tank was removed in July 1993. The former fuel tanks and product lines were removed in March 1997, and replaced with new fiberglass tanks, along with new product piping and dispensers.

Groundwater extraction feasibility testing was performed at the site in November 2007 to evaluate potential use of groundwater extraction for site remediation. The results indicated that groundwater extraction was not a viable cleanup method for the site due to dominance of clay in the upper saturated zone resulting in low groundwater yields.

In December 2007, an ozone injection well was installed at the site, and the ozone injection feasibility testing was performed. The test results indicated that ozone injection is likely to be a successful method for groundwater remediation.

**Proposed Cleanup Action:**

In January 2009, the Revised Corrective Action Plan and Results of Additional Site Assessment report has been submitted to the Water Board. The report describes the most recent site assessment work at the site, summarizes previous site investigations and cleanup actions, evaluates potential site cleanup methods, recommends a preferred remedial alternative, and provides a CAP for the site.

The CAP proposes to implement a combination of ozone and air sparge/soil vapor extraction for the site remediation. Five to seven ozone injection points will be installed along the eastern property boundary. A 100-foot long and 2-foot wide shallow trench filled with permeable materials and containing horizontal air/ozone injection/vapor recovery lines will be installed along the southern property boundary to act as a

barrier to prevent further offsite migration of gasoline containing groundwater and soil vapors. Groundwater passing through the trench will be sparged with air to strip off the volatile gasoline hydrocarbons and oxygenate water to enhance natural hydrocarbon biodegradation. Hydrocarbon vapors stripped from the water will be captured in the soil vapor extraction piping and treated with thermal or catalytic oxidizer prior to discharging to atmosphere under the Air Quality Management District's permit. Ozone addition to the air stream in the trench may be considered as a contingency measure for the future to increase the rate of gasoline destruction/removal, and if proposed will be submitted as an addendum to this CAP. Also, if an opportunity arises for remedial excavation to be conducted during any future station upgrades or land use changes, plans to pursue soil excavation will be submitted as an addendum to this CAP.

### **For More Information:**

If you have questions, please contact:

Regional Water Quality Control Board  
Barbara Sieminski  
telephone: (510) 622-2423  
email: [bsieminski@waterboards.ca.gov](mailto:bsieminski@waterboards.ca.gov)

Delta Environmental Consultants Inc. (Project Consultant)  
R. Lee Dooley  
telephone: (916) 638-2085  
email: [ldooley@deltaenv.com](mailto:ldooley@deltaenv.com)

### Information Repositories

The documents related to the site are available for public review at the following locations:

Regional Water Quality Control Board  
San Francisco Bay Region  
1515 Clay Street, Suite 1400  
Oakland, California  
Telephone: 510-622-2430

Regional Water Quality Control Board Website:  
<http://www.waterboards.ca.gov/sanfranciscobay>  
or Geotracker database:  
<http://geotracker.waterboards.ca.gov>  
Case # 07-0522  
Global Identification Number (ID): T0601300483

Site Plan

