



76 Broadway  
Sacramento, California 95818

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*By loprojectop at 8:24 am, Apr 28, 2006*

April 27, 2006

Mr. Don Hwang  
Alameda County Health Agency  
1131 Harbor Bay Parkway  
Alameda, California 94502

Re: **Report Transmittal  
Quarterly Report  
First Quarter – 2006  
76 Service Station #0746  
3943 Broadway  
Oakland, CA**

Dear Mr. Hwang:

I declare under penalty of perjury that to the best of my knowledge the information and/or recommendations contained in the attached report is/are true and correct.

If you have any questions or need additional information, please contact

Shelby S. Lathrop (Contractor)  
ConocoPhillips  
Risk Management & Remediation  
76 Broadway  
Sacramento, CA 95818  
Phone: 916-558-7609  
Fax: 916-558-7639

Sincerely,

Thomas Kosel  
Risk Management & Remediation

Attachment



April 27, 2006

TRC Project No. 42016309

Mr. Don Hwang  
Alameda County Health Services  
1131 Harbor Bay Parkway  
Alameda, California 94502-6577

**RECEIVED**

*By loprojectop at 8:25 am, Apr 28, 2006*

**RE: Quarterly Status Report and Recommendation for Remedial Pilot Testing  
First Quarter 2006  
76 Station #0746, 3943 Broadway, Oakland, California  
Alameda County**

Dear Mr. Hwang:

On behalf of ConocoPhillips Company (ConocoPhillips), TRC is submitting the First Quarter 2006 Status Report for the subject site.

#### **PREVIOUS ASSESSMENTS**

The subject site is situated on the western corner of the intersection of Broadway and 40th Street in Oakland, California. Station facilities include two 12,000-gallon double-wall glasteel gasoline underground storage tanks (USTs) in a common pit, one 520-gallon double-wall glasteel waste oil UST, two dispenser islands, one station building, and a car wash building.

August 1989: Two 10,000-gallon steel gasoline USTs and one 280-gallon steel waste oil UST were removed and replaced with the current USTs. A total of approximately 350 cubic yards of soil was removed from the site during UST removal activities. The confirmatory soil sample was reported as non-detect for all constituents. The product piping was also removed. Confirmation soil sampling beneath piping and the waste oil tank contained low levels of petroleum hydrocarbons. During the tank removal activities, approximately 6,500-gallons of groundwater were pumped from the UST cavity. Concentrations of total petroleum hydrocarbons as gasoline (TPH-g) and benzene were reported as 1,200 micrograms per liter ( $\mu\text{g/l}$ ) and 12  $\mu\text{g/l}$ , respectively.

October 1989: Three monitoring wells were installed at the site to depths ranging from 20 to 22.5 feet below ground surface (bgs).

January 1990: Two additional monitoring wells were installed at the site to a depth of 20 feet bgs.

October 1990: Four additional monitoring wells were installed at and in the vicinity of the site at depths ranging from 20 to 22 feet bgs. Groundwater recovery tests were performed on four wells to determine potential locations for placement of recovery wells.

January 1992: Two offsite monitoring wells were installed in the vicinity of the site at depths ranging from 19 to 22 feet bgs.

June 1992: One recovery well and one additional offsite monitoring well were installed at the site to depths of 17.5 feet bgs.

February 1998: The product piping and associated dispenser islands were replaced at the site. Four soil samples were collected from beneath the dispenser islands. Petroleum hydrocarbons were reported at low to moderate levels. A total of 30.20 tons of stockpiled soil was transported from the site to the Forward Inc. Landfill in Stockton, California.

October 2003: Site environmental consulting responsibilities were transferred to TRC.

### **SENSITIVE RECEPTORS**

A sensitive receptor survey has not been performed for this site.

### **MONITORING AND SAMPLING**

Currently, eight onsite and five offsite groundwater wells are monitored and sampled semi-annually. All eight onsite and five offsite wells were gauged and sampled during the fourth quarter 2005. The groundwater gradient flow direction is toward the southwest at a calculated hydraulic gradient of 0.07 feet per foot. This is consistent with historical trends.

### **CHARACTERIZATION STATUS**

Total purgeable petroleum hydrocarbons (TPPH) were detected in six of twelve wells sampled with a maximum concentration of 27,000 micrograms per liter ( $\mu\text{g/l}$ ) in well MW-5. Benzene was detected in three of twelve wells sampled with a maximum concentration of 130 micrograms per liter ( $\mu\text{g/l}$ ) in well MW-5. MTBE was detected in nine of twelve wells sampled, at a concentration of 1,000  $\mu\text{g/l}$  in well MW-8.

### **REMEDIATION STATUS**

In 1989, approximately 350 cubic yards of soil was removed from the site during UST removal activities. During the tank removal activities, approximately 6,500-gallons of groundwater were pumped from the UST cavity.

In 1990, groundwater recovery tests were performed on four wells to determine potential locations for placement of recovery wells.

In 1993, a pilot vapor extraction test was performed at the site on well RW-1. A maximum concentration of 8.6  $\mu\text{g/l}$  TPH-g was reported in the influent vapor stream. The calculated maximum hydrocarbon extraction rate during the test was 0.00049 lbs/hr. Based on the low

extraction rate, high groundwater levels, and fine-grained soil beneath the site, vapor extraction was determined to not be a feasible remedial option. Well RW-1 was initially installed to perform a groundwater recovery test, but due to lack of groundwater recharge, the test was not performed.

In 1998, the product piping and associated dispenser islands were replaced at the site. Denbeste Transportation, Inc. of Windsor, California transported a total of 30.20 tons of stockpiled soil from the site to the Forward Inc. Landfill in Stockton, California for disposal on March 3, 1998.

### RECENT CORRESPONDENCE

No correspondence this quarter.

### CURRENT QUARTER ACTIVITIES

No gauging or sampling was performed this quarter. The next monitoring and sampling event is scheduled for the third quarter 2006.

### CONCLUSIONS AND RECOMMENDATIONS

TRC recommends continuing semi-annual monitoring and sampling to assess plume stability and concentration trends at key wells. In addition, TRC recommends conducting remedial pilot testing to determine the feasibility of in-situ chemical oxidation or possibly ozone sparging for treating residual hydrocarbons in groundwater in the vicinity of monitoring well MW-5 and offsite monitoring well MW-8.

A formal work plan for the proposed remedial pilot testing will be submitted under separate cover, and may include recommendations for revision of the monitoring schedule in addition to proposed testing.

If you have any questions regarding this report, please call me at (925) 688-2488.

Sincerely,  
*TRC*



Keith Woodburne, P.G.  
Senior Project Geologist



#### Attachments:

Historical Groundwater Flow Directions – November 2002 – December 2005

cc: Shelby Lathrop, ConocoPhillips (electronic upload only, without attachment)

**Historical Groundwater Flow Directions  
for Tosco (76) Service Station No. 0746  
November 2002 through December 2005**

