



76 Broadway
Sacramento, California 95818

January 17, 2012

Ms. Barbara Jakub
Alameda County Health Care Services Agency
1131 Harbor Bay Parkway
Alameda, California 94502-6577

**Re: Quarterly Status Report – Fourth Quarter 2011
76 Service Station No. 1028
5300 Broadway
Oakland, California
Alameda County LOP Case #: RO0002967
Antea Group Project No. I40251028**

Dear Ms. Jakub:

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 call Ms. Lia Holden at (408) 826-1863.

Sincerely,

Eric G. Hetrick
Site Manager
Risk Management & Remediation

RECEIVED

9:44 am, Jan 23, 2012

Alameda County
Environmental Health

Quarterly Status Report

Fourth Quarter 2011

*76 Service Station No. 1028
5300 Broadway
Oakland, California
Alameda County Health Care Services Agency
File Case #: R00002967*

*Antea Group Project No. I40251028
January 17, 2012*

Prepared for:
Barbara Jakub
Hazardous Materials Specialist
Alameda County Health Care Services Agency
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

Prepared by:
Antea™Group
312 Piercy Road
San Jose, CA 95138
+1 800 477 7411

Quarterly Status Report

Fourth Quarter 2011

*76 Service Station No. 1028
5300 Broadway
Oakland, California
Alameda County Health Care Services Agency
Case #: RO0002967*

*Antea Group Project No. I40251028
January 17, 2012*

Prepared for:
Barbara Jakub
Hazardous Materials Specialist
Alameda County Health Care Services Agency
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

Prepared by:
AnteaTMGroup
312 Piercy Road
San Jose, CA 95138
+1 800 477 7411

Table of Contents

1.0	SITE DESCRIPTION	1
1.1	Work Performed in the Fourth Quarter 2011	1
1.2	Work Proposed for the First Quarter 2012	1
2.0	CURRENT PROJECT STATUS.....	1
2.1	Regulatory Correspondence	2
2.2	Groundwater Monitoring.....	2
2.2.1	Groundwater Quality Data	2
2.2.2	Waste Disposal Summary.....	3
3.0	CONCLUSIONS AND RECOMMENDATIONS	3
4.0	LIMITATIONS	4

Figures

- Figure 1 Site Location Map
- Figure 2 Site Map

Appendices

- Appendix A Summary of Previous Investigations

Quarterly Monitoring Report

Fourth Quarter 2011

76 Service Station No. 1028

5300 Broadway, Oakland, California

Alameda County Health Care Services Agency Case# RO0002967

1.0 SITE DESCRIPTION

The subject site is an active service station located on the northeast corner of the intersection of Broadway and Broadway Terrace in Oakland, California (**Figure 1**). Aboveground facilities consist of two dispenser islands and repair shop. Two gasoline underground storage tanks (USTs) share a common pit located in the southwest corner of the property. One waste oil tank is located in front of the station building (**Figure 2**). The site is bordered to the north and east by residential buildings. Commercial properties are located to the west of the site across Broadway and to the south across Broadway Terrace.

1.1 Work Performed in the Fourth Quarter 2011

- No groundwater monitoring or sampling was conducted this quarter.
- Antea Group prepared and submitted a Quarterly Monitoring Report

1.2 Work Proposed for the First Quarter 2012

- Antea Group to submit the Quarterly Monitoring Report, Fourth Quarter 2011 (contained herein) to the Alameda County Department of Environmental Health (ACEH).
- No groundwater monitoring or sampling is scheduled for next quarter.
- Antea Group will decommission all site associated wells, following regulatory concurrence for case closure.

2.0 CURRENT PROJECT STATUS

Current phase of project:	Case Closure Evaluation
Local Oversight Program (LOP) - Lead Agency for Cleanup Oversight:	Alameda County Environmental Health Department (ACEH)
Secondary Agency(s):	San Francisco Bay Regional Water Quality Control Board

Monitoring well gauging schedule:	Gauging suspended. *Prior to 4Q 2011, all wells were gauged quarterly.
Monitoring well sampling schedule:	Sampling suspended. *Prior to 4Q11 well sampled quarterly: MW-1,



	MW-2, MW-3
Total number of monitoring/remediation wells:	Three monitoring wells (MW-1, MW-2, MW-3)
Total depths of wells (feet below ground surface):	All wells are 12 feet deep
Wells with historical measurable LNAPL (light non-aqueous phase liquid):	None
Generalized site geology:	Upper 1 to 5 feet of subsurface is weathered shale and clay deposits with cobbles of chert and shale. Shale bedrock below to total depth explored.
Nearby Sensitive Receptors:	None (Delta 2008) (Appendix A)
Current remediation technique	None

2.1 Regulatory Correspondence

In an email dated September 26, 2011, ACEH concurred with Antea Group's request to discontinue monitoring while the case is being evaluated for closure.

2.2 Groundwater Monitoring

Groundwater monitoring was not performed during the fourth quarter 2011. The most recent groundwater monitoring for the subject site occurred during the third quarter 2011. The third quarter 2011 was the final sampling event for the site prior to Agency concurrence to discontinue monitoring while the site is reviewed for case closure. Details of this final sampling event were submitted in Antea Group's Quarterly Monitoring Report – Third Quarter 2011, date September 16, 2011.

2.2.1 Groundwater Quality Data

The following groundwater quality data summary is from the third quarter 2011 sampling event, as sampling has been discontinued while the ACEH reviews the case for closure.

During the third quarter 2011 event, Groundwater samples were analyzed for the following:

- Gasoline Range Organics (GRO) by Environmental Protection Agency (EPA) Method 8260B;
- Benzene, toluene, ethylbenzene, xylenes (BTEX Compounds) by EPA Method 8260B.
- Fuel oxygenates: methyl tertiary butyl ether (MTBE), di-isopropyl ether (DIPE), tertiary amyl methyl ether (TAME), tertiary butyl alcohol (TBA), ethyl tertiary butyl ether (ETBE) and ethanol by EPA Method 8260B.
- Lead scavengers: 1, 2-dichloroethane (1, 2-DCA) and ethylene dibromide (EDB) by EPA Method 8260B.

Only MTBE was reported above laboratory reporting limits, at a concentration of 1.2 µg/l in MW-3. No other analytes were reported above laboratory reporting limits in any of the site wells during the third quarter 2011 event.

2.2.2 Waste Disposal Summary

Waste was not generated during the fourth quarter 2011.

3.0 CONCLUSIONS AND RECOMMENDATIONS

- Antea Group and subcontractors did not perform quarterly monitoring during the fourth quarter 2011, as the site is currently under review for closure. Discontinuation of groundwater monitoring at the subject site was approved in electronic mail correspondence from the Agency dated September 26, 2011.
- Antea Group submitted a *Soil and Groundwater Investigation Report and Request for Case Closure* dated February 22nd, 2011. The report documented the installation of the site's three monitoring wells and recommended case closure based on the site conditions and closure criteria.
- Concentrations reported during the site's environmental case closure in 1994 are generally consistent with data associated with the well installation investigation and with groundwater results. Antea Group believes that elevated concentrations reported during the 2007 ATC investigation were false positives, not representative of actual groundwater conditions, and that the site meets the criteria for case closure.
- Antea Group continues to request agency concurrence with, and formal response to, the request for case closure.



4.0 LIMITATIONS

The findings contained in this report represent Antea Group's professional opinions based upon the currently available information and are arrived at in accordance with currently acceptable professional standards. For any reports cited that were not generated by Antea USA, Inc., the data from those reports are used "as is" and is assumed to be accurate. Antea USA, Inc does not guarantee the accuracy of this data for the referenced work performed nor the inferences or conclusions stated in these reports. This report is based upon a specific scope of work requested by the client. The Contract between Antea Group and its client outlines the scope of work, and only those tasks specifically authorized by that contract or outlined in this report were performed. This report is intended only for the use of Antea Group's Client and anyone else specifically listed on this report. Antea Group will not and cannot be liable for unauthorized reliance by any other third party. Other than as contained in this paragraph, Antea Group makes no express or implied warranty as to the contents of this report.

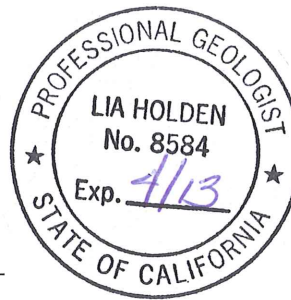


Caitlin Morgan
Staff Professional

Reviewed by:



Lia Holden, P.G. No. 8584
Geologist – Project Manager



Figures

- Figure 1 Site Location Map
- Figure 2 Site Map

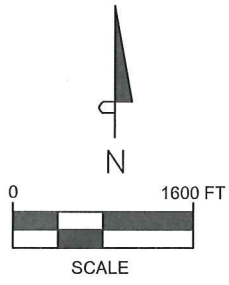
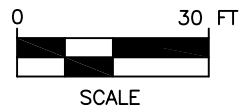
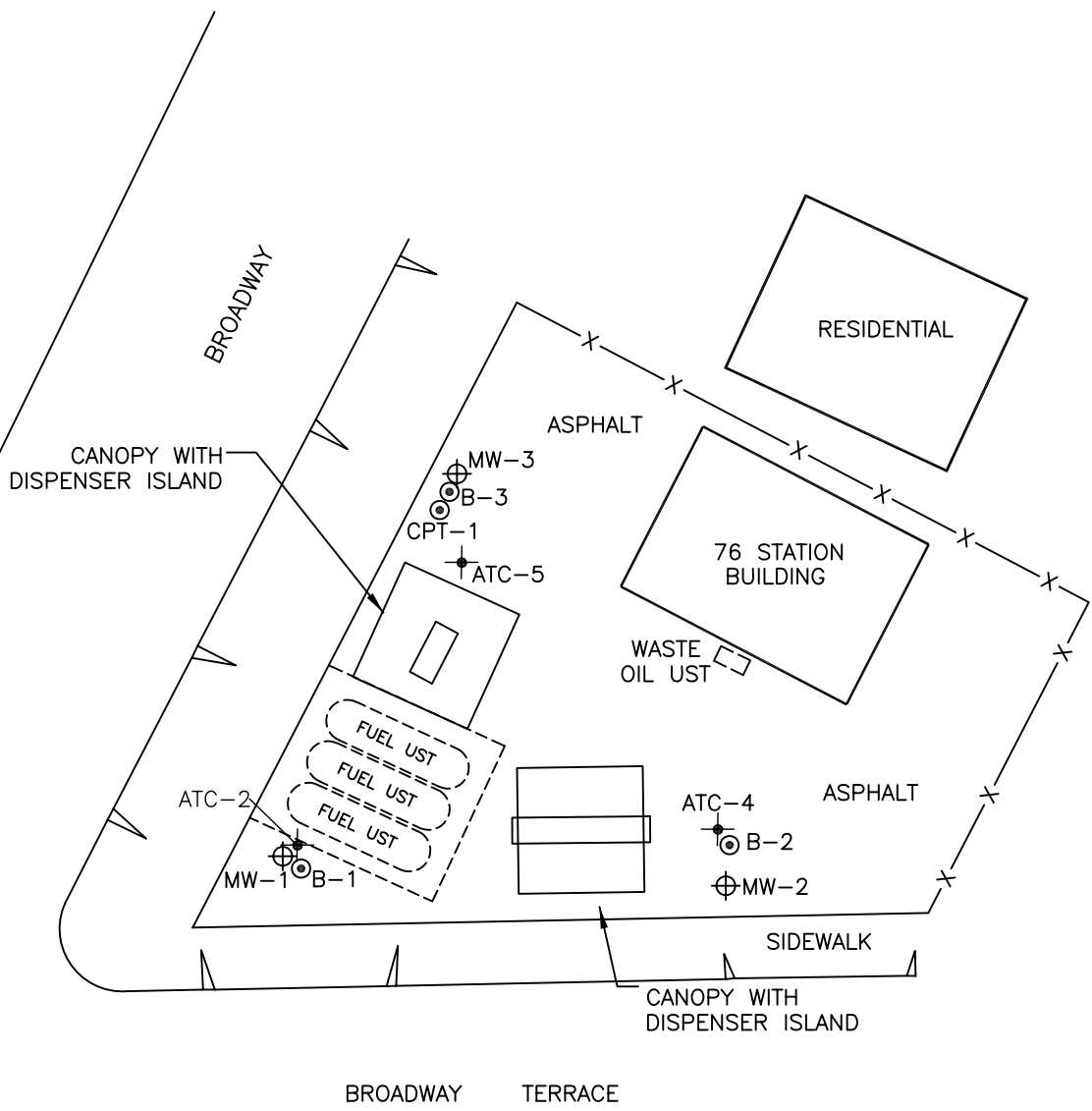


FIGURE 1
 SITE LOCATION MAP
 76 STATION NO. 1028
 5300 BROADWAY AVENUE
 OAKLAND, CALIFORNIA

PROJECT NO. 140251028	PREPARED BY NP	DRAWN BY JH
DATE 04/19/10	REVIEWED BY LH	FILE NAME 1028-Topo



SOURCE: USGS 7.5 MINUTE TOPOGRAPHIC MAP, OAKLAND EAST QUADRANGLE (1973)



SITE MAP ADAPTED FROM A SURVEY BY MIDCOAST ENGINEERS, DECEMBER 2010 AND A SITE MAP BY ATC ASSOCIATES, 2007.

LEGEND:

- APPROXIMATE PROPERTY BOUNDARY
- ATC-5 SOIL BORING LOCATION (ATC 2007)
- MW-3 MONITORING WELL LOCATION (DELTA 2010)
- B-3 SOIL BORING LOCATION (DELTA 2010)

FIGURE 2
SITE MAP

76 STATION NO. 1028
5300 BROADWAY
OAKLAND, CALIFORNIA

PROJECT NO. 140251028	PREPARED BY NP	DRAWN BY KYM	
DATE 07/07/10	REVIEWED BY LH	FILE NAME 1028-Site	

Quarterly Status Report - Fourth Quarter 2011
76 Service Station No. 1028
5300 Broadway, Oakland, California
Antea Group Project No. I40251028



Appendix A

Summary of Previous Site Investigations

Summary of Previous Site Investigations

1989 – Soil samples were collected by Kaprealian Engineering, Inc. (KEI) following the removal of two fuel USTs, their associated piping, and a waste-oil UST. Ground water was encountered in the tank pit at a depth of approximately 7 to 8 feet. Analytical results from the soil samples showed total petroleum hydrocarbons as gasoline (TPH-G) ranged from non-detectable above laboratory reporting limits to 22 parts per million (ppm) in the fuel UST excavation, and from non-detectable to 5.7 ppm in the waste-oil UST excavation. All total petroleum hydrocarbons as diesel (TPH-D) concentrations were less than 10 ppm and all total oil and grease (TOG) concentrations in the waste-oil UST excavation were less than 50 ppm (KEI January 1990).

1990 – Three two-inch diameter monitoring wells (MW-1 through MW-3) were installed at the site. TPH-G was not detected above the laboratory reporting limit in soil samples from well borings. Benzene was reported in the soil samples at concentrations ranging from non-detectable to 0.0066 ppm. TPH-G, benzene, toluene, ethylbenzene, and total xylenes (BTEX) were not detected above the laboratory reporting limits in groundwater samples collected from MW-1 and MW-2. TPH-G and benzene were reported in the groundwater sample from MW-3 at concentrations of 590 parts per billion (ppb) and 2.5 ppb, respectively. TPH-D was reported in monitoring well MW-1 at a concentration of 5.4 ppb (KEI May 1990).

1998 – Environmental Resolutions, Inc. (ERI), oversaw the removal of product lines and dispensers. Product lines consisted of double-walled fiberglass piping and showed no visible evidence of damage or straining. The piping was removed only in the dispenser area. Residual petroleum hydrocarbons were not reported above the laboratory reporting limits in soil samples collected adjacent to former dispensers D-1 and D-2 with the exception of methyl tertiary-butyl ether (MTBE) which was reported at a concentration of 0.46 milligrams per kilogram (mg/kg). Lead was reported in the sample collected adjacent to dispenser D-1 at 6.4 mg/kg (ERI 1998).

2007 – ATC observed the advancement of three soil borings (ATC-2, ATC-4, and ATC-5) in the vicinity of the existing fuel USTs and dispensers. TPH-G was reported at concentrations of 1.4 mg/kg and 5.2 mg/kg in soil samples collected at approximately five feet below ground surface (bgs) in borings ATC-2 and ATC-5, respectively. TPH-D was reported in boring ATC-2 at a depth of five feet bgs at a concentration of 23 mg/kg. TPH-G was reported at concentrations of 73 micrograms per liter ($\mu\text{g/L}$), 69 $\mu\text{g/L}$, and 5,300 $\mu\text{g/L}$ in groundwater samples collected from ATC-2 (including duplicate B-2) and ATC-5, respectively. TPH-D was reported at concentrations of 15,000 $\mu\text{g/L}$, 25,000 $\mu\text{g/L}$, and 18,000 $\mu\text{g/L}$ in groundwater samples collected from ATC-2 (including duplicate B-2) and ATC-5, respectively (ATC 2007).

December 1st through 8th 2010: Delta oversaw the installation of three groundwater monitoring wells (MW-1, MW-2 and MW-3) and the advancement of four soil borings (CPT-1, B-1, B-2 and B-3) located near the dispenser islands and fuel USTs. In soil samples, only DRO was reported above the laboratory reporting limit, with a maximum concentration of 447 mg/kg in MW-2 at a depth of 7.5 feet. In groundwater samples, only DRO and MTBE were reported in MW-3 at concentrations 74.4 $\mu\text{g/L}$ and 0.87 $\mu\text{g/L}$, respectively. Groundwater was reported at depths of approximately 1 to 4 feet below top of casing in the wells, and groundwater was directed to the northwest. Further details regarding the investigation are included in Antea Group's Soil and Groundwater Investigation Report dated February 22, 2011.

SENSITIVE RECEPTORS

In 2008, Delta performed a water well survey to locate all water supply wells within a half-mile of the site. The survey included a request to the Department of Water Resources (DWR) to provide well log records. No water supply wells were identified in the search.

A preferential pathway study was performed to determine whether trench backfill for utilities beneath the site or in the site vicinity could provide potential conduits for contaminant migration. Delta concluded that due to shallow groundwater and location of identified utilities, a nearby sewer line/trench and water line/trench could provide a direct conduit for groundwater migration from the site to neighboring sites (Delta 2008).

REFERENCES CITED

Kaprealian Engineering, Inc., Soil Sampling Report, Unocal Service Station #1028, 5300 Broadway, Oakland, California, January 29, 1990.

Kaprealian Engineering, Inc., Preliminary Groundwater Investigation, Unocal Service Station #1028, 5300 Broadway, Oakland, California, May 14, 1990.

Environmental Resolutions, Inc., Environmental Work Related to EPA Retrofit, Tosco (Union) 76 Service Station 1028, 5300 Broadway Avenue, Oakland, California, June 16, 1998.

ATC Associates Inc., Due Diligence Site Assessment Report, ConocoPhillips Site No. 251028, 5300 Broadway Avenue, Oakland, California, November 1, 2007.

San Francisco Bay Regional Water Quality Control Board, California EPA, *Screening For Environmental Concerns at Sites With Contaminated Soil and Groundwater* (November 2007), <http://www.waterboards.ca.gov/sanfranciscobay/esl.htm>, Revised May 2008.

Delta Consultants, Additional Site Assessment Work Plan First Phase, Fuel Leak Case No. RO00002967, GeoTracker Global ID T0619732490, Unocal #1028 / ConocoPhillips # 251028, 5300 Broadway, Oakland, CA 94618, October 29, 2008

Alameda County Health Care Services Agency, Fuel Leak Case No. RO00002967 and Geotracker Global ID T0619732490, Unocal #1028 / ConocoPhillips # 251028, 5300 Broadway, Oakland, CA 94618, March 6, 2009.

Delta Consultants, Soil and Water Investigation Work Plan Addendum, Fuel Leak Case No. RO00002967, GeoTracker Global ID T0619732490, Unocal #1028 / ConocoPhillips # 251028, 5300 Broadway, Oakland, CA 94618, April 3, 2009.

Delta Consultants, Soil and Water Investigation Work Plan Addendum dated April 3, 2009 (60 day Notification), Fuel Leak Case No. RO00002967, GeoTracker Global ID T0619732490, Unocal #1028 / ConocoPhillips # 251028, 5300 Broadway, Oakland, CA 94618, October 2, 2009.

Alameda County Environmental Health, Email Correspondence: RO00002967, 5300 Broadway, Oakland, October 29, 2009.

Delta Consultants, Work Plan for Preliminary Site Assessment, 76 Service Station No. 1028, 5300 Broadway Oakland, California Alameda County LOP Case #: RO0002967 Delta Project No. I40251028, July 6th, 2010.

Delta Consultants, Email Correspondence, 5300 Broadway, Oakland, CA RO#02697, September 20th, 2010

Alameda County Environmental Health, Email Correspondence: RO00002967, 5300 Broadway, Oakland, September 20th, 2010

Antea Group, Soil and Groundwater Investigation Report and Case Closure Request, 76 Service Station No. 1028, 5300 Broadway Oakland, California Alameda County LOP Case #: RO0002967 Delta Project No. I40251028, February 22, 2011