RECEIVED
By Alameda County Environmental Health at 3:46 pm, Jun 12, 2013

Advanced
GeoEnvironmental, Inc.

03 June 2013
AGE Project No. 03-1101

Mr. Jerry Wickham
Alameda County Environmental Health Services
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

Subject: **Conceptual Site Model**
RINO PACIFIC/OAKLAND TRUCK STOP
ACEHS Fuel Leak Case No. RO0000234
1107 5th Street, Oakland, California

Dear Mr. Wickham:

At the request of Rino Pacific, LLC, *Advanced* GeoEnvironmental, Inc. (AGE) has prepared the enclosed *Conceptual Site Model* for the above-referenced address. If you have any questions or require further information, please contact our office at (800) 511-9300.

Sincerely,

***Advanced* GeoEnvironmental, Inc.**

PROFESSIONAL GEOLOGIST
BRIAN W. MILLMAN
No. 8574
STATE OF CALIFORNIA

Brian W. Millman
Senior Project Geologist
California Professional Geologist No. 8574

837 Shaw Road • Stockton, CA 95215
Telephone (209) 467-1006 • Fax (209) 467-1118

PERJURY STATEMENT

Subject: RINO PACIFIC/OAKLAND TRUCK STOP
ACEHS Fuel Leak Case No. RO0000234
1107 5th Street, Oakland, California

" I declare under penalty of perjury, that the information and/or recommendations in the attached document or report is true or correct to the best of my knowledge"

3/23/2011

Mr. Reed Rinehart
Rino Pacific, LLC
2401 North State Street
Ukiah, California 95482

Date

Conceptual Site Model

RINO PACIFIC/OAKLAND TRUCK STOP (ACHES Fuel Leak Case No. RO0000234)
1107 5th Street, Oakland, California

03 June 2013
AGE Project No. 03-1101

PREPARED FOR:

Mr. Reed Rinehart
RINO PACIFIC, LLC

PREPARED BY:

***Advanced* GeoEnvironmental, Inc.**

Stockton • Santa Rosa • Monterey • Brea • Spokane • Reno • Dallas
(800) 511-9300
www.advgeoenv.com

Conceptual Site Model

RINO PACIFIC/OAKLAND TRUCK STOP (ACEHS Fuel Leak Case No. RO0000234)
1107 5th Street, Oakland, California

03 June 2013
AGE Project No. 03-1101

Advanced GeoEnvironmental, Inc.
Stockton • Santa Rosa • Monterey • Brea • Spokane • Reno • Dallas
(800) 511-9300
www.advgeoenv.com

PREPARED BY:

Brian W. Millman
Senior Project Geologist
California Professional Geologist No. 8574

PROJECT MANAGER:

Brian W. Millman
Senior Project Geologist
California Professional Geologist No. 8574

REVIEWED BY:

PROFESSIONAL GEOLOGIST
WILLIAM R. LITTLE
No. 7473
STATE OF CALIFORNIA

William R. Little
Senior Project Geologist
California Professional Geologist No. 7473

Conceptual Site Model
RINO PACIFIC/OAKLAND TRUCK STOP
1107 5th Street, Oakland, California

TABLE OF CONTENTS

Conceptual Site Model
RINO PACIFIC/OAKLAND TRUCK STOP
1107 5th Street, Oakland, California

TABLE OF CONTENTS

FIGURES

TABLES

Conceptual Site Model
RINO PACIFIC/OAKLAND TRUCK STOP
1107 5th Street, Oakland, California

TABLE OF CONTENTS

APPENDICES

Conceptual Site Model
RINO PACIFIC/OAKLAND TRUCK STOP
1107 5th Street, Oakland, California

1.0. INTRODUCTION

At the request of Rino Pacific LLC*, Advanced* GeoEnvironmental, Inc. (AGE) has prepared this preliminary *Conceptual Site Model* (CSM) for the property located at 1107 5th Street, Oakland, California (the site). The purposes of this CSM was to: 1) identify the source(s) of contamination; 2) determine the nature and the extent of the contamination; 3) identify the dominant fate and transport characteristics of the site; 4) specify potential exposure pathways; and 5) identify potential receptors that may be impacted by the contamination. The site setting is illustrated in Figure 1. Site structures, soil borings, monitoring well, and remediation well locations are depicted in Figure 2. Monitoring well construction data is presented in Table 1.

This preliminary CSM model has been prepared in accordance with guidelines issued by the California Regional Water Quality Control Board (CRWQCB) for investigation of underground storage tank (UST) sites, and as directed by Alameda County Environmental Health Services (ACEHS) letter, dated 14 January 2013. This model has been prepared utilizing existing data collected during previous subsurface investigations at the site.

2.0. BACKGROUND

The site is currently owned by Mr. Tony Muir and leased to Rino Pacific, LLC. The property contains a service station building, four fuel dispensers on the west side of the site, six fuel dispensers on the east side of the site, a truck scale, and two USTs. The site has been operating as a truck stop for the past 40 years.

2.1. SITE DESCRIPTION

The site is located at 1107 5th Street, Oakland, California, approximately 100 feet south of the intersection of 5th Street and Adeline Street. The site is bordered on the north by 5th Street, on the west by Adeline Street, on the east by Chestnut Street and on the south by a restaurant (JK Brickhouse) and parking lot. The site is further located in Township 1 South, Range 4 West, Section 34 of Mount Diablo Base and Meridian (Oakland West Quadrangle, 7.5-Minute USGS Topographic Series, 1959, photo revised 1980).

The site is located in a topographically flat area of Oakland at an elevation of approximately 10 feet above the North American Vertical Datum 88 (NAVD88). Overhead railroad tracks operated by the Bay Area Rapid Transit (BART) system are located approximately 20 feet north of the site and an Interstate 880 overpass (Nimitz Freeway) is located just north of the BART tracks, crossing over 5th Street. The location of the site

is depicted in Figure 1.

The site operates as a fueling station and truck scale. Two 15,000-gallon fuel USTs and two separate fuel areas are located on the site. Four fuel dispensers are located in the western portion of the site to provide diesel fuel and six dispensers are located in the eastern portion of the site to provide gasoline and diesel fuel. The surface of the site is comprised of asphalt and concrete. In 1999, two 10,000-gallon diesel USTs, one 10,000-gallon gasoline UST, and one 8,000-gallon gasoline UST were removed from the site. The approximate location of the former USTs is shown in Figure 2.

2.2. REGIONAL GEOLOGIC / HYDROGEOLOGIC SETTING

The site is situated within the Coast Range Geomorphic Province of California. This geopmorphic province contains coastal foothills and mountains and extends from the Tehachapi Mountains in the south to the Klamath Mountains in the north. The western and eastern boundaries of this province are comprised of the Pacific Ocean and the Great Valley Geomorphic Province, respectively.

The site is located in the Franciscan Complex, which is subdivided into four major divisions identified as the Northern Coast Range, the Franciscan Block, the Diablo Range, and the Nacimiento Block. The site is situated within the Franciscan Block, an assemblage of variably deformed and metamorphosed rock units. The surface is composed of Quaternary alluvium; at depth, the site is underlain by rocks of the Franciscan Complex, which are composed predominately of detrital sedimentary rocks with volcanic tuffs and deep ocean marine sediments. The Franciscan lithologies typically have low porosity and permeability.

Based upon the General Soil Map from the *Soil Survey of Alameda County, Western Part*, issued by the United States Department of Agriculture Soil Conservation Service in 1981, the site area is situated within the Urban Land-Danville complex. This complex is located on low terraces and alluvial fans at an elevation of about 20 feet to 300 feet above mean sea level (MSL), and consists of approximately 60% Urban Land, 30% Danville soil, and 10% other soils. Danville soil is a silty clay loam that formed in alluvium originating primarily from sedimentary rock; Urban land consists of areas covered by roads, parking lots, and buildings. The nearest surface water feature in the vicinity of the property is the Oakland Estuary (Oakland Inner Harbor), approximately 2,400 feet to the south of the property.

Since October 1996, groundwater monitoring has been conducted at the site to assess the seasonal variation of elevation, gradient, and flow direction, and to define the impact of petroleum hydrocarbon compounds and fuel oxygenating compounds in shallow groundwater beneath the site. Based on data from previous monitoring events, groundwater at the property varies seasonally between approximately 1 foot to 6 feet below

surface grade (bsg). The groundwater flow has varied from southwest to north. During the potential release of petroleum hydrocarbons (fuel additives), groundwater flow direction was also toward the south from the UST/dispenser system; this may be affected by changing recharge and discharge patterns, as well as leaking pipes. Groundwater elevation data is presented in Table 2. A groundwater elevation map from the most recent sampling event in November 2012, and a rose diagram depicting historical groundwater flow directions is presented in Figure 3.

2.3. UNDERGROUND STORAGE TANK REMOVAL

In February 1999, two 10,000-gallon diesel USTs, one 10,000-gallon gasoline UST, and one 8,000-gallon gasoline UST were removed from the site by Trinity Excavating and Engineering, Inc of Santa Rosa, CA. The approximate location of the former USTs is depicted in Figure 2. The USTs were replaced with one 15,000-gallon diesel UST and one 15,000-gallon partitioned gasoline UST (10,000-gallon regular unleaded gasoline and 5,000-gallon supreme unleaded gasoline); additionally, product piping and fuel dispensers were replaced.

Interim remedial action was performed during the UST removal to address contaminated soil and groundwater encountered during the excavation. In March 1999, approximately 2,100 tons of contaminated soil were removed from the excavation. Contaminated groundwater was removed from the excavation pit; approximately 33,000 gallons of water were pumped into temporary storage tanks, which were then transported and disposed off-site. Between February and May 1999, approximately 1,700 tons of backfill material was placed in the excavation.

Soil samples were collected from the excavation and stockpiles as directed by the Fire Inspector. On 04 February 1999, three stockpile soil samples (SP-1 through SP-3) were collected from the excavated soil. Total petroleum hydrocarbons as gasoline and diesel (TPH-g and TPH-d) were detected in all three soil samples at maximum concentrations of 950 mg/kg TPH-g and 6,000 mg/kg TPH-d (SP-3). Benzene, toluene, ethylbenzene, and total xylenes (BTEX) were detected in the stockpile soil samples at maximum concentrations of 13 mg/kg, 20 mg/kg, 20 mg/kg, and 87 mg/kg (SP-3), respectively; additionally, methyl tertiary butyl ether (MTBE) was detected in the samples at a maximum concentration of 57 mg/kg (SP-1). On 03 March 1999, four sidewall and four boring soil samples were collected from the UST excavation. Sidewall samples were collected at depths of approximately 6 feet and 8 feet bsg and boring samples were collected at a depth of approximately 14 feet bsg. MTBE was detected in the four sidewall samples at concentrations ranging between 26 mg/kg (SW-1-8) and 39 mg/kg (SW-4-8) and in two boring samples at low concentration of 1.3 mg/kg (B-1-14) and 0.86 mg/kg (B-4-14). TPH-g was only detected in sample SW-3-8 at a concentration of 14 mg/kg; and TPH-d was

detected in two sidewall and three boring samples at a maximum concentration of 4.3 mg/kg. Very low concentrations of BTEX compounds were detected in two sidewall and two boring samples at maximum concentrations of 4.8 mg/kg, 2.1 mg/kg, 0.19 mg/kg, and 0.80 mg/kg, respectively. Analytical results of soil samples collected during the UST removal are summarized in Table 3. The location of the former USTs is depicted in Figure 2; however, the exact location of the sidewall and boring samples collected from the UST excavation could not be recovered/ascertained.

2.4. SUBSURFACE INVESTIGATIONS

The following is a summary of previous site investigations of the unauthorized release of fuel products to the subsurface:

- *1995* - An unauthorized release of fuel occurred from a leak in a product line of the UST system. Product lines associated with the release were replaced as soon as the leak was discovered. Two product recovery sumps/wells (RW-W & RW-E) with skimmers were installed in the area of the release to recover the released fuel. Approximately 8.3 gallons of fuel were recovered (RW-W) and floating product thickness was reduced to a sheen. The sumps were removed during site improvements in 1999.
- *October 1996* - Seven soil borings (EB-1 through EB-7) were advanced at the site to assess petroleum hydrocarbon impact to soil and groundwater from the unauthorized fuel release in 1995. EB-1 through EB-7 were advanced to depths between 13.5 feet and 21 feet bsg utilizing a truck-mounted drill rig equipped with 8-inch diameter hollow stem augers. Borings EB-1, EB-4, and EB-6 were converted into 2-inch diameter monitoring wells MW-1, MW-2, and MW-3; well MW-1 was completed with 10 feet of screen installed from 10 to 20 feet bsg; well MW-2 was completed with 5 feet of screen installed from 8 to 13 feet bsg; and MW-3 was completed with 5 feet of screen installed from 12 to 17 feet bsg. Twenty-one soil samples collected from EB-1 through EB-7 were submitted for laboratory analysis. TPH-g was detected in 11 soil samples at depths between 4.5 feet and 13 feet bsg at concentrations ranging between 1.0 mg/kg (EB7-12.5) and 1,400 mg/kg (EB5-4.5). TPH-d was detected in 15 soil samples at depths between 4.5 feet and 19.5 feet bsg at concentrations ranging between 1.8 mg/kg (EB3-9.5) and 28,000 mg/kg (EB5-4.5). One or more BTEX compound was detected in 15 soil samples at maximum concentrations of 12 mg/kg, 47 mg/kg, 12 mg/kg, and 63 mg/kg (EB4-9), respectively. Additionally, MTBE was detected in 8 soil samples at a maximum concentration of 100 mg/kg (EB4-9). MTBE was not detected in soil samples collected from EB-1, EB-2, EB-3, located in the western portion of the site. The bulk of impacted soil (TPH-d and MTBE) was detected in the area of the former USTs

and towards the east of the site between the former USTs and dispenser locations. Boring logs are presented in Appendix A. Analytical results of soil samples are summarized in Table 3. The results and findings of the 1996 subsurface investigation were presented in the W.A. Craig, Inc. (WAC)-prepared, *Subsurface Investigation Report*, dated 17 January 1997.

- *December 1998* - Well MW-2 was properly destroyed in preparation for UST removal and replacement.
- *February - May 1999* - two 10,000-gallon diesel USTs, one 10,000-gallon gasoline UST, and one 8,000-gallon gasoline UST were removed from the site and replaced with one 15,000-gallon diesel UST and one 15,000-gallon partitioned gasoline UST (10,000-gallon regular unleaded gasoline and 5,000-gallon supreme unleaded gasoline); additionally, product piping and fuel dispensers were replaced. Approximately 2,100 tons of contaminated soil were removed from the excavation. Approximately 33,000 gallons of contaminated groundwater was removed from the excavation pit and approximately 1,700 tons of backfill material was used to fill the excavation.
- *August 2000* - Monitoring wells MW-4 through MW-9 were installed at the site to further define the extent of petroleum hydrocarbon-impacted soil and groundwater. MW-4 through MW-9 were completed as 2-inch diameter wells with screen installed from 5 to 20.5 feet bsg. One soil sample collected from each well boring was submitted for laboratory analysis. TPH-g and TPH-d were detected in soil samples collected from MW-4, MW-6, MW-7, and MW-9 at depths between 5.5 and 8.5 feet bsg at maximum concentrations of 7,500 mg/kg (MW7-5.5) and 13,000 mg/kg (MW4-6); additionally, TPH-d was detected at a concentration of 13 mg/kg in the 13-foot soil sample collected from MW-5. Generally, BTEX compounds were detected in the samples collected from MW-4 and MW-7 at maximum concentrations of 200 mg/kg, 700 mg/kg, 160 mg/kg, and 870 mg/kg, respectively (MW7-5.5). MTBE was detected in soil samples collected from every well boring, with the exception of MW-9, at concentrations ranging between 1.6 mg/kg (MW6-8.5) and 230 mg/kg (MW7-5.5). Boring logs are presented in Appendix A. Analytical results of soil samples are summarized in Table 3. The results and findings of the August 2000 investigation were presented in the WAC-prepared, *Site Investigation Report*, dated 15 September 2000.
- *May 2002* - Monitoring well MW-3 was destroyed because the screen interval was installed significantly below the top of the water table (12-17 feet bsg); monitoring well MW-3N was installed on-site to replace well MW-3; and wells MW-10 and MW-11were installed off-site, on the adjacent property toward the south, to further define and assess the extent of petroleum hydrocarbon-impacted soil and groundwater. Wells MW-3N, MW-10, and MW-11 were completed as 2-inch

diameter wells with screen installed from 5 to 12 feet bsg. One soil sample collected from each well boring, between 6.5 and 7.5 feet bsg, was submitted for laboratory analysis. TPH-g were detected in the soil sample collected from MW-3N at a concentration of 2.3 mg/kg; TPH-d was detected in the soil samples collected from MW-3N, MW-10, and MW-11 at a maximum concentration of 30 mg/kg. Xylenes and MTBE were detected at low concentrations of 0.0072 mg/kg xylenes and 0.097 mg/kg MTBE in the sample collected from MW-3N; no other BTEX compound was detected in the soil samples and MTBE was not detected in the remaining soil samples. Boring logs are presented in Appendix A. Analytical results of soil samples are summarized in Table 3. The results and findings of the May 2002 investigation were presented in the WAC-prepared, *May 2002 Quarterly Monitoring Report*, dated 28 June 2002.

- *July 2002* - Eight soil borings were advanced on 5th Street and Chestnut Street to total depths between 5 feet and 8 feet bsg to determine if contamination was migrating off-site along preferential pathways (i.e. utility trenches). TPH-g, BTEX and MTBE were detected in soil samples collected between 5 feet and 8 feet bsg in borings B-1 through B-4 (borings advanced along northern edge of property) at maximum concentrations of 48 mg/kg TPH-g, 0.071 mg/kg benzene, 0.022 mg/kg toluene, 0.13 mg/kg ethylbenzene, 0.48 mg/kg xylenes, and 58 mg/kg MTBE. Grab groundwater samples were collected from each boring. TPH-g was detected in groundwater samples collected from B-1 and B-3 at a maximum concentration of 59,000 µg/l; TPH-d was detected in groundwater samples collected from B-1 through B-4, B-6, and B-7 at concentrations ranging between 180 µg/l (B-2) and 42,000 µg/l (B-1); benzene was detected in groundwater samples collected from B-1 and B-3 at concentrations of 5,700 µg/l and 1,800 µg/l, respectively; one or more of the remaining BTEX compounds were detected in groundwater samples collected B-1, B-3, B-6, B-7, and B-8 at maximum concentrations of 210 µg/l toluene (B-3), 2,300 µg/l ethylbenzene (B-1), and 7,500 µg/l xylenes (B-1); concentrations of toluene, ethylbenzene, and xylenes were detected at very low concentrations (0.9 µg/l to 4.0 µg/l) from B-6 though B-8, located east of the site, on Chestnut Street. MTBE was detected at significant concentrations in the groundwater samples collected from borings B-1 through B-4 at concentrations ranging between 170,000 µg/l (B-4) and 460,000 µg/l (B-3); MTBE was detected at much lower concentrations (3.0 µg/l to 34 µg/l) in groundwater samples collected from borings advanced east of the site (B-5 through B-8), on Chestnut Street. The results of the utility investigation indicated high concentrations of contaminants along the northern property boundary (5th Street) and minor contaminant migration east of the site. Boring logs were not prepared for B-1 through B-8; Analytical results of soil samples are summarized in Table 3; Analytical results of groundwater samples are summarized in Table 4. The results and findings of the July 2002 investigation were presented in the WAC-prepared, *Quarterly Groundwater Monitoring and Utility*

Corridor Investigation Report Third Quarter 2002, dated 28 October 2002.

- *January 2003* - A passive skimmer was installed in monitoring well MW-7 to remove free product; approximately 1.73 liters of product were removed between January and August 2003. During monitoring activities on 14 April 2004, free-product was noted in MW-8. The passive skimmer in MW-7 was moved to MW-8 to remove the free product; product was not observed in MW-7 on 14 April 2004.
- *March 2004* - Ten pilot borings were advanced to 12.5 feet bsg at the site to install ten ozone sparge wells (OZ-1 through OZ-10). The microporous sparge interval was set at 10 to 12 feet bsg.
- *October 2004* - Ten ozone sparge wells (OZ-11 through OZ-20) and three monitoring wells (MW-12, MW-13, and MW-14) were installed on- and off-site to further define the extent of petroleum hydrocarbon-impacted soil and groundwater and mitigate petroleum hydrocarbon-impacted soil and groundwater; wells MW-12 and MW-13 were installed off-site, towards the north, in the BART right-of-way. OZ-11 through OZ-20 were completed with manufacturer-assembled, 2-inch by 24-inch microporous sparge points installed from 11 feet to 13 feet bsg and 1-inch diameter blank casing extended to the surface (total depth of 15 feet bsg); MW-12 through MW-14 were completed as 2-inch diameter wells with screen installed from 5 to 20 feet bsg. One soil sample collected from each well boring was submitted for laboratory analysis. TPH-d and MTBE were detected in the soil sample collected from MW-14 (on-site well) at a depth of10 feet bsg at low concentrations of 1.8 mg/kg and 2.0 mg/kg. Boring logs are presented in Appendix A. Analytical results of soil samples are summarized in Table 3. The results and findings of the October 2004 investigation were presented in the AGE-prepared, *Quarterly Report - Fourth Quarter 2004*, dated 16 February 2004.
- *January - September 2005* - During the first quarter 2005, AGE completed the installation of the interim remediation system subsurface piping network from OZ-1 through OZ-20 to remediation compounds. All tubing was encased in Schedule 80 polyvinylchloride (PVC) piping. In September 2005, two ozone sparge systems were installed on-site and started; initiation of the ozone sparge system was delayed upon the client's request, as demolition activities were being conducted on-site.
- *July 2006* - seven soil borings (P1 through P7) were advanced on-site to depths of 20 feet bsg (P6 and P7) and 40 feet bsg (P1 through P5). All borings were continuously cored from surface grade to total depth. Soil and grab groundwater samples were collected at selected intervals based on lithology encountered during drilling; grab groundwater samples were collected from borings advanced immediately adjacent to P1 through P5, and at total depth in borings P6 and P7. Soil samples were collected between depths of 6 feet and 40 feet bsg from borings P1 through P7 and analyzed for petroleum hydrocarbon constituents. TPH-g was

detected in soil samples P1-6, P1-21, P2-8, and P4-7 at concentrations of 210 mg/kg, 2.6 mg/kg, 110 mg/kg, and 10 mg/kg, respectively; TPH-d was detected in samples P1-6, P2-8, and P4-7 at concentrations of 7,600 mg/kg, 680 mg/kg, and 13,000 mg/kg, respectively; benzene was detected in soil sample P1-21 at a concentration of 0.014 mg/kg. Grab groundwater samples were collected from soil borings advanced immediately adjacent to P1 through P5 at selected sandy zones between 10 feet and 35 feet bsg, and from borings P6 and P7 at a depth of 20 feet bsg. TPH-g was detected in boring P1 at 20 feet and 35 feet bsg, in boring P4 at 10 feet bsg, in boring P5 at 10 feet and 35 feet bsg, and in borings P6 and P7 at 20 feet bsg at concentrations ranging from 130 µg/l (P6-20-W) to 38,000 µg/l (P4-W-10). TPH-d was detected in boring P1 at 20 feet and 35 feet bsg, in boring P4 at 10 feet bsg, and in boring P7 at 20 feet bsg at concentrations ranging from 4,500 µg/l (P1-W-35) to 350,000 µg/l (P4-W-10). BTEX constituents were detected in boring P1 at 20 feet and 35 feet bsg, P5 at 10 feet and 35 feet bsg, and P6 at 20 feet bsg at maximum concentrations of 110 µg/l benzene (P1-W-20), 36 µg/l toluene (P5-W-10), 13 µg/l ethylbenzene (P1-W-35), and 17.3 µg/l total xylenes (P1-W-20). MTBE was detected in samples collected from boring P1 at 20 feet and 35 feet bsg, in boring P4 at 10 feet bsg, in boring P5 at 10 feet and 35 feet bsg, and in borings P6 and P7 at 20 feet bsg at concentrations ranging from 4.1 µg/l (P6-20-W) to 11,000 µg/l (P1-W-20). TAME was detected in boring P1 at 20 feet and 35 feet bsg, in boring P4 at 10 feet bsg, and in boring P5 at 10 feet bsg at concentrations ranging from 3.4 µg/l (P5-W-10) to 17 µg/l (P1-W-20). The lead scavenger 1,2-DCA was detected in boring P1 at 20 feet and 35 feet bsg at concentrations of 4.7 µg/l and 3.4 µg/l, respectively. Boring logs are presented in Appendix A. Analytical results of soil samples are summarized in Table 3; Analytical results of groundwater samples are summarized in Table 4. The results and findings of the July 2006 investigation were presented in the AGE-prepared, *Soil Boring Report*, dated 02 November 2006.

- *March 2007* - Five existing ozone injection wells (OZ6, OZ7, OZ10, OZ16 and OZ17) were destroyed in preparation for truck scale upgrade activities to be performed by the property's lessee and CAT Scale. Ozone injection wells OZ6, OZ7, OZ10, OZ16 and OZ17 were destroyed by over-drilling, utilizing a CME-HT drill rig equipped with 10-inch diameter hollow stem augers; all material within the original boreholes were removed, including the well casings, filter pack, annular seal, and well cover boxes. Following over-drilling activities, each borehole was backfilled with a cement grout mixture to surface grade. The procedures and results of the March 2007 ozone well destructions were presented in the AGE-prepared, *Soil Excavation and Ozone Well Destruction/Re-Installation Report*, dated 14 August 2007.
- *April 2007* - Hydrocarbon-impacted soil surrounding the existing truck scale was excavated as part of truck scale removal and upgrade activities. Soil was removed

to a depth of approximately six feet bsg using an excavator. Soil surrounding the existing truck scale was excavated by representatives of CAT Scale. The excavation provided the removal of a significant amount of petroleum hydrocarbon-impacted soil within the upper six feet of the subsurface beneath the site. The soil was removed using an excavator to a total depth of approximately 6 feet bsg. While soil was excavated, trucks were immediately loaded for transportation to Keller Canyon Landfill in Pittsburg, California. The impacted soil was transported by Intrinsic Transportation, Inc, of Santa Rosa, California and JT & T Enterprises of Cotati, California under non-hazardous waste manifest. According to total sum of truck weight tickets 543.76 tons or approximately 367 cubic yards of soil were disposed. The excavation was backfilled with clean fill sand and pea gravel mixtures. The fill material placed in the excavation was compacted by representatives of CAT Scale. Additionally, the installation of the upgraded scale was conducted by representatives of CAT Scale. A total of 13 soil samples were collected from the sidewalls and the base (floor) of the excavation and submitted for laboratory analysis. Soil sample locations and are shown in Figure 2. TPH-g were detected in 11 of the 13 soil samples at concentrations ranging from 1.0 mg/kg (F-3) to 50 mg/kg (Exc-S3); TPH-d were detected in 10 of the 13 samples at concentrations ranging from 95 mg/kg (F-4) to 9,800 mg/kg (F-8). Benzene was detected in the samples collected from F-1, Exc-2, Exc-3, and Exc-W at concentrations of 0.20 mg/kg, 0.024 mg/kg, 0.046 mg/kg, and 0.020 mg/kg, respectively. Toluene, ethylbenzene, and total xylenes were detected in 6 of the 13 soil samples at maximum concentrations of 0.020 mg/kg, 0.028 mg/kg, and 0.044. MTBE was detected in 12 of the 13 soil samples at concentrations ranging from 0.030 mg/kg (F-3) to 2.6 mg/kg. Additionally, TAME was detected in 7 of the 13 samples at concentrations ranging from 0.011 mg/kg (Exc-E) to 0.90 mg/kg (Exc-S3). Based on the analytical results gathered from the floor and the sidewalls of the excavation, it appears that moderate to elevated levels of petroleum hydrocarbon impact to soil remain at depths of approximately six feet bsg on the northwest portion of the site. Analytical results of excavation soil samples are summarized in Table 3. The results and findings of the truck scale excavation were presented in the AGE-prepared, *Soil Excavation and Ozone Well Destruction/Re-Installation Report*, dated 14 August 2007.

- *July 2007* - Following completion of the truck scale upgrade and excavation by CAT Scale, ozone injection wells OZ6R, OZ7R, OZ10R, OZ16R and OZ17R were installed to replace wells OZ6, OZ7, OZ10, OZ16 and OZ17. The ozone wells were completed as single-level ozone injection wells with manufacturer-assembled, 2-inch by 24-inch microporous sparge points set from approximately 11 feet to 13 feet bsg and with 1-inch diameter blank casing extending to the surface; the wells were drilled to a total depth of 14 feet bsg. A diagram depicting the well construction details of the replacement ozone wells are presented in Appendix A. The

procedures and results of the replacement ozone well installations were presented in the AGE-prepared, *Soil Excavation and Ozone Well Destruction/Re-Installation Report*, dated 14 August 2007.

- *September 2007* - Two monitoring wells (MW-15 and MW-16) were installed off-site to further define the extent of petroleum hydrocarbon-impacted soil and groundwater; wells MW-15 and MW-16 were installed off-site, towards the north, in the BART right-of-way. Additionally, three cone penetration testing (CPT) borings (CPT-1 through CPT-3) were advanced on- and off-site to collect subsurface lithologic data and to collect depth discrete groundwater samples; CPT-1 was advanced off-site, approximately 110 feet west-northwest of the site and CPT-2 and CPT-3 were advanced along the eastern portion of the site. Due to refusal the total depths of the lithologic soundings in borings CPT-1, CPT-2, and CPT-3 were 52 feet bsg, 52 feet bsg, and 54 feet bsg, respectively. MW-15 and MW-16 were completed as 2-inch diameter wells with screen installed from 5 to 20 feet bsg. Soil samples collected at 6.5 feet, 11.5 feet, and 20 feet bsg from each well boring were submitted for laboratory analysis. TPH-g were detected at a concentration of 1.4 mg/kg in the 6.5-foot sample from MW-15; and TPH-d were detected in the 6.5-foot soil samples collected from MW-15 and MW-16 at concentrations of 1.4 mg/kg and 3.3 mg/kg, respectively. No additional analytes were detected in the soil samples collected from well borings MW-15 and MW-16. Grab groundwater samples were collected from three depth intervals in CPT-1 (A-zone 8-12 feet, B-zone 31-35 feet, and C-zone 51-55 feet), and two depth intervals in CPT-2 and CPT-3 (B-zone 31-35 feet, and C-zone 50-54 feet). TPH-g was detected in CPT-2B, CPT-3B, and CPT-3C at concentrations ranging from 69 µg/l to 410 µg/l; TPH-d was detected in CPT-2C, CPT-3B, and CPT-3C at concentrations ranging from 54 µg/l to 240 µg/l; BTEX compounds were detected in groundwater samples CPT-2B, CPT-2C, CPT-3B, and CPT-3C at maximum concentrations of 13 µg/l, 13 µg/l, 10 µg/l, and 15 µg/l, respectively; and MTBE was detected in samples CPT-2C, CPT-3B, and CPT-3C at concentrations ranging from 0.61 µg/l to 16 µg/l. Well and boring locations are depicted in Figure 2. Boring logs are presented in Appendix A. Analytical results of soil samples are summarized in Table 3; analytical results of groundwater samples are summarized in Table 4. The results and findings of the September 2007 investigation were presented in the AGE-prepared, *Additional Subsurface Investigation Report*, dated 07 January 2008.
- *July 2008* - Three CPT borings (CPT-4 through CPT-6) were advanced on- and off-site to collect subsurface lithologic data and to collect depth discrete groundwater samples; CPT-4 was advanced on-site, in the location of OZ-12; CPT-4 and CPT-5 were advanced off-site, towards the north in the location of MW-13 (CPT-4) and towards the east, across Chestnut Street (CPT-6). Due to refusal the total depths of the lithologic soundings in borings CPT-4, CPT-5, and CPT-6 were 49 feet bsg,

47 feet bsg, and 45 feet bsg, respectively. Grab groundwater samples were collected from three depth intervals in CPT-4 (22-25 feet, 34-38 feet, and 45-49 feet), and two depth intervals in CPT-5 (28-32 feet and 42-45 feet) and CPT-6 (20-24 feet and 36-40 feet). No analytes were detected above laboratory reporting limits in the groundwater samples collected and analyzed from CPT-4 through CPT-6. Well and boring locations are depicted in Figure 2. Boring logs are presented in Appendix A. Analytical results of groundwater samples are summarized in Table 4. The results and findings of the July 2008 investigation were presented in the AGE-prepared, *Additional Subsurface Investigation Report*, dated 25 August 2008.

- *October 2011* - Between late 2010 and early 2011, construction activities were performed by BART, north of the site in the location of BART's elevated tracks and off-site wells MW-12, MW-13, MW-15, and MW-16. Construction activities were performed as part of the seismic retrofit of aerial structures and stations along the Fremont Line and is part of the overall BART Earthquake Safety Program. During construction activities, monitoring well MW-16, located within the area of an expanded footing, for the overhead BART track, was completely removed. In addition, monitoring wells MW-12 and MW-13 were damaged to depths between 4 feet and 5 feet bsg and the bentonite seals were compromised. Monitoring well MW-15 was unaffected. On 04 October 2011, damaged wells MW-12 and MW-13 were properly destroyed and replacement well MW-13R was installed approximately 7.5 feet west of former well MW-13, to a total depth of 20 feet bsg. MW-13R was completed as a groundwater monitoring well utilizing two-inch diameter, schedule 40 PVC casing with 0.020-inch slotted screen installed from approximately 5 feet to 20 feet bsg and with blank casing extended to the surface; soil samples were not collected from well boring MW-13R. A well construction diagram for MW-13R is presented in Appendix A. The results and findings of the October 2011 well destruction and installation were presented in the AGE-prepared, *Well Installation and Semi-Annual Report - 2011 (July to December)*, dated 30 December 2011.

3.0. CORRECTIVE ACTION

FREE PRODUCT REMOVAL

Following an unauthorized release of fuel from a leak in a product line of the UST system, two product recovery sumps/wells (RW-W & RW-E) with passive skimmers were installed in the area of the release to recover the released fuel. Between March 1997 and December 1998, the skimmers were monitored and emptied periodically; the sumps were removed during site improvements in 1999. Between March 1997 and December 1998, approximately 8.3 gallons of fuel were recovered and floating product thickness was

reduced to a sheen in the sump located on the west side of the site (RW-W). During the same time, only sheen was observed in sump RW-E and the skimmer was unable to recover free product from the east sump.

In January 2003, a passive skimmer was installed in monitoring well MW-7 to remove free product; approximately 1.73 liters of product were removed between January and August 2003. During monitoring activities on 14 April 2004, free-product was noted in MW-8. The passive skimmer in MW-7 was moved to MW-8 to remove the free product; product was not observed in MW-7 on 14 April 2004. The skimmer was installed in MW-8 for approximately one quarter; free product levels were too low to continue to recover with the skimmer. Between 2004 and 2006, ¼-inch to ½-inch of free product was sporadically observed and removed by bailing from wells MW-7 and MW-8. Since the third quarter 2006, free product has not been observed in wells MW-7 and MW-8, only hydrocarbon odor and sheen.

EXCAVATIONS

In February 1999, two 10,000-gallon diesel USTs, one 10,000-gallon gasoline UST, and one 8,000-gallon gasoline UST were removed from the site by Trinity Excavating and Engineering, Inc of Santa Rosa, CA. The approximate location of the former USTs is depicted in Figure 2. The USTs were replaced with one 15,000-gallon diesel UST and one 15,000-gallon partitioned gasoline UST (10,000-gallon regular unleaded gasoline and 5,000-gallon supreme unleaded gasoline); additionally, product piping and fuel dispensers were replaced.

Interim remedial action was performed during the UST removal to address contaminated soil and groundwater encountered during the excavation. In March 1999, approximately 2,100 tons of contaminated soil were removed from the excavation. Contaminated groundwater was also removed from the excavation pit; approximately 33,000 gallons of water were pumped into temporary storage tanks, which were then transported and disposed off-site. Between February and May 1999, approximately 1,700 tons of backfill material was placed in the excavation.

In April 2007, hydrocarbon-impacted soil surrounding the existing truck scale was excavated as part of truck scale removal and upgrade activities. Soil was removed to a depth of approximately six feet bsg using an excavator. Soil surrounding the existing truck scale was excavated by representatives of CAT Scale. The excavation provided the removal of a significant amount of petroleum hydrocarbon-impacted soil within the present vadose and smear zones. The soil was removed using an excavator to a total depth of approximately 6 feet bsg. According to total sum of truck weight tickets 543.76 tons or

approximately 367 cubic yards of soil were disposed. The excavation was backfilled with clean fill sand and pea gravel mixtures.

Based on mass and volume calculations, an estimated 2,323 pounds or 372 gallons of gasoline-impacted soil and 13,440 pounds or 1,920 gallons of diesel-impacted soil were removed from the site during the February 1999 soil excavation; an estimated 32 pounds or 5 gallons of gasoline-impacted soil and 3,568 pounds or 510 gallons of diesel-impacted soil were removed from the site during the April 2007 soil excavation. The mass and volume calculations are presented in Appendix B. Excavation and soil sample locations are depicted in Figure 2; analytical results of the soil samples collected during the excavations are summarized in Table 3.

GROUNDWATER REMOVAL

During the 1999 UST removal and excavation, approximately 33,000 gallons of petroleum hydrocarbon-impacted groundwater were removed from the excavation. Groundwater samples were not collected from the water removed from the excavation, therefore an estimate of the petroleum hydrocarbon mass removed by extracting and disposing of the excavation groundwater could not be calculated.

OZONE INJECTION

On 24 September 2005, *In-situ* ozone sparging began at the site. Two ozone sparging units were installed at the site. The West Ozone Unit is connected to wells OZ-6R, OZ-7R, OZ-8, OZ-9, OZ-10R, OZ-16R, OZ-17R and OZ-18 through OZ-20. The East Ozone Unit is connected to wells OZ-1 through OZ-5 and OZ-11 through OZ-15. Between 2005 and 2011, the ozone systems injected ozone for a 30-60 minute duration into each ozone injection point. After completing a cycle through the ozone wells, the ozone injection would cease for one hour prior to beginning the next cycle.

Between 24 September 2005 and 19 January 2011, the East and West Ozone Units operated for approximately 38,192 hours and 32,091 hours, respectively. During operation, the injection flow rates were approximately 20 stand cubic feet hour (scfh). On 19 January 2011, a thorough inspection of the East and West Ozone Units was performed. Faulty solenoid valves and damaged ozone conveyance tubing were discovered at both units effecting the efficiency, production, and injection of ozone. On 19 January 2011, both the East and West Units were turned off and have not been restarted.

Generally, petroleum hydrocarbon concentrations decreased during ozone injection

remediation. Graphs depicting concentration trends before, during and after initiation of ozone remediation are presented in Appendix C; a summary of geochemical parameters and the ozone systems operation and maintenance activities are presented in Table 5 and Table 6.

4.0. STRATIGRAPHY

The subsurface beneath the site is dominated by silty sands, poorly graded sands, and a peat/clayey peat layer referred to as the "bay mud". The far east side of the site, from P-1 and towards the east, is predominantly fine-grained silty sands and poorly graded sands; fine sands and silty sands were encountered from surface grade to approximately 55 feet bsg in the far east portion of the site. A distinct zone of gray-brown to black, moist to saturated peat/clayey peat or bay mud with a strong, stale odor was encountered throughout the site west of boring P-1. The top of the peat zone was encountered at depths between approximately 6 feet and 8 feet bsg, with thickness ranging from approximately 7 feet in the east portion of the site to approximately 18 feet in the central and west portions of the site. Clay and silty clay were encountered in the northwest portion of the site a depths above approximately 7 feet bsg, and light brown to dark brown, fine-grained poorly graded sand and silty sand were identified throughout the remaining depth intervals in all other borings at the site; based on CPT and soil boring data, fine-grained silty sand, poorly graded sand, and clayey sand extend to approximately 55 feet bsg beneath the site.

Soil boring logs are presented in Appendix A; geologic cross sections *A-A', B-B', and C-C'* depicting subsurface lithology are presented in Figures 4 through 6.

5.0. ASSESSMENT OF HYDROCARBON-IMPACTED SOIL

In February 1999, USTs were removed from the site and the former UST area was excavated to approximately 14 feet bsg; approximately 2,100 tons of petroleum hydrocarbon-impacted soil was removed from the excavation and properly disposed. In April 2007, the truck scale area at the site was excavated to approximately 6 feet bsg; approximately 543.76 tons of petroleum hydrocarbon-impacted soil was removed from the excavation and properly disposed.

Based on mass and volume calculations, an estimated 2,323 pounds or 372 gallons of gasoline-impacted soil and 13,440 pounds or 1,920 gallons of diesel-impacted soil were removed from the site during the February 1999 soil excavation; an estimated 32 pounds or 5 gallons of gasoline-impacted soil and 3,568 pounds or 510 gallons of diesel-impacted soil were removed from the site during the April 2007 soil excavation. A significant mass

of impacted soil was removed from the site by the 1999 and 2007 soil excavations. The mass and volume calculations are presented in Appendix B. Excavation and soil sample locations are depicted in Figure 2; analytical results of the soil samples collected during the excavations are summarized in Table 3.

Between October 1996 and December 2011, twenty-eight soil borings (EB-1 through EB-7, B-1 through B-8, P-1 through P-7 and CPT-1 through CPT-6), eighteen groundwater monitoring wells (MW-1 through MW-16, MW-3N, and MW-13R), and twenty-five ozone injection wells (OZ-1 through OZ-20, OZ-6R, OZ-7R, OZ-10R, OZ-16R, and OZ-17R) were installed on- and off-site as part of the investigation and remediation of the 1995 unauthorized release of petroleum hydrocarbons; borings EB-1, EB-4, and EB-6 were converted to wells MW-1 through MW-3. Additionally, between December 1998 and October 2011, five groundwater monitoring wells (MW-2, MW-3, MW-12, MW-13, and MW-16) and five ozone injection wells (OZ-6R, OZ-7R, OZ-10R, OZ-16R, and OZ-17R) were destroyed on- and off-site due to construction activities at the site and to access excavation areas.

To date, a total of 78 soil samples were collected from the above soil borings and monitoring wells at depths ranging from 4.5 feet to 40 feet bsg and were submitted for laboratory analysis of petroleum hydrocarbons; additionally, a total of 24 soil samples were collected from the soil excavations at depths between 6 feet and 14 feet bsg and were submitted for laboratory analysis of petroleum hydrocarbons. The greatest concentrations of petroleum hydrocarbon-impacted soil were encountered in the location of wells MW-4 and MW-7 and soil borings EB-5 and P-1 with TPH-g concentrations as high as 7,500 mg/kg (MW-7 at 5.5 feet), TPH-d concentrations as high as 28,000 mg/kg (EB-5 at 4.5 feet), MTBE concentrations as high as 230 mg/kg (MW-7 at 5.5 feet) and BTEX compounds at concentrations as high as 200 mg/kg benzene, 700 mg/kg toluene, 160 mg/kg ethylbenzene, and 870 mg/kg xylenes (MW-7 at 5.5 feet).

The majority of petroleum hydrocarbon-impacted soil is located in the eastern portion of the site at depths between approximately 3 feet bsg and 10 feet bsg. Impacted soil appears to be centrally located in the area of boring EB-5 and well MW-7, in the location between the former USTs and the northernmost fuel dispensers in the eastern portion of the site.

Based on data collected from the site, the lateral extent of TPH-impacted soil is defined; the lateral extent and distribution of TPH-g and TPH-d adsorbed soil are depicted in plan view in Figures 7 and 8; Figures 9 through 14 illustrate the lateral and vertical extent and distribution of adsorbed TPH-g and TPH-d in cross-sectional view.

Adsorbed TPH-g soil impact extends from the former UST area, east towards MW-14, south towards MW-3N and EB-7, and north just passed B-1 through B-4 (Figure 7). The

bulk of TPH-g adsorbed soil was removed from the west side of the site during the 2007 excavation of the truck scale; a small quantity of TPH-g adsorbed soil remains in the west portion of the site, beneath the base of the truck scale excavation (6 feet bsg) to approximately 8 feet bsg. Adsorbed TPH-g soil does not extend laterally off-site beyond P-7, MW-3N, and MW-14; however, adsorbed TPH-g does extend off-site towards the north, just past B-1 through B-4, beneath 5th Street.

Adsorbed TPH-d soil impact extends from the former UST area, east towards MW-14, south towards MW-10 and MW-11, and north towards B-1 through B-4 (Figure 8). The bulk of TPH-d adsorbed soil was also removed from the west side of the site during the 2007 excavation. TPH-d adsorbed soil remains in the west portion of the site, beneath the base of the truck scale excavation (6 feet bsg) to approximately 10 feet bsg. Adsorbed TPH-d soil does not extend laterally off-site beyond P-7, MW-14, or B-1 through B-4; however, adsorbed TPH-d does extend off-site towards the south, in the area of wells MW-10 and MW-11.

The vertical extent of TPH-g and TPH-d-impacted soil is defined at the site. Generally, TPH-g-impacted soil extends to an approximate depth of 10 feet bsg and TPH-d-impacted soil extends to an approximate depth of 13 feet bsg; maximum vertical extents were observed in the eastern portion of the site in the area of MW-7 and EB-5. Only minor quantities of petroleum hydrocarbon adsorbed soil was observed below 10 feet bsg at the site; vertical migration of adsorbed soil was most likely restricted by the clayey peat/bay mud layer which is encountered at approximately 13 feet bsg across most of the site. The lateral and vertical extent of adsorbed TPH-g and TPH-d are illustrated in Figures 9 through 14 in cross-sectional view; the lateral extent of adsorbed TPH-g and TPH-d in soil at depths between 1 and 10 feet bsg are presented in Figures 7 and 8 and the lateral extent of adsorbed TPH in soil at depths between 10 feet and 20 feet bsg is presented in Figure 15.

Figures 9, 10, and 11 depict selected soil sample locations and the estimated extent of TPH-g concentrations adsorbed in soil in cross-sectional view; Figure 7 depicts the estimated lateral extent of TPH-g in plan view. When this data is plotted in both plan view and cross-sectional views, the estimated volume of TPH-g-impacted soil at the site encompasses approximately 84,869 cubic feet, and yields approximately 1,948 pounds of TPH-g impact, which is equivalent to 312 gallons of gasoline.

Figures 12, 13, and 14 depict selected soil sample locations and the estimated extent of TPH-d concentrations adsorbed in soil in cross sectional view; Figure 8 depicts the estimated lateral extent of TPH-d in plan view. When this data is plotted in both plan view and cross-sectional views, the estimated volume of TPH-d-impacted soil at the site encompasses approximately 130,350 cubic feet, and yields approximately 15,660 pounds of TPH-d impact, which is equivalent to 2,237 gallons of diesel. The TPH-g and TPH-d

volume to mass calculations are included in Appendix D.

6.0. ASSESSMENT OF HYDROCARBON-IMPACTED GROUNDWATER

Between November 1996 and November 2012, over 45 groundwater monitoring events were performed at the site to characterize groundwater flow direction and gradient and to monitor dissolved petroleum hydrocarbon concentrations in groundwater. There was a period of inactivity at the site between October 1998 and March 2000; no groundwater monitoring events were performed during this time. Additionally, between July 2002 and July 2008, several groundwater investigations were performed to characterize dissolved petroleum hydrocarbon concentrations in groundwater at the site.

Since initiation of groundwater monitoring in November 1996, depth to groundwater at the site has ranged between 0.30 feet and 6.86 feet btoc and groundwater elevation has ranged between 3.84 feet and 10.75 feet above NAVD88. The groundwater flow has varied from southwest to north; and toward the south in 1996 following the potential hydrocarbon release. Previous and current groundwater flow direction may be affected by changing recharge and discharge patterns, as well as leaking pipes. Groundwater elevation data is presented in Table 2. A groundwater elevation map from the most recent sampling event performed in November 2012, and a rose diagram depicting historical groundwater flow directions is presented in Figure 3.

Laboratory analysis of groundwater samples collected from monitoring wells at the site consistently detected TPH-g, TPH-d, BTEX, MTBE, and TBA (more recent sampling events) in wells MW-4, MW-5, MW-7, and MW-8 and intermittently detected TPH-g, TPH-d, BTEX, MTBE, and TBA in wells MW-1, MW-6, and MW-14. Generally, wells MW-3N, MW-9, MW-10, MW-11, MW-12, MW-13, MW-15, and MW-16 have been non-detect, with the exception of sporadic detections of MTBE in MW-9 and MW-13. Historically, the most intense hydrocarbon-impact was detected in groundwater samples collected from MW-7 in 2005 and 2006 at concentrations as high as 1,100,000 µg/l TPH-g, 310,000 µg/l TPH-d, 77,000 µg/l benzene, 31,000 µg/l toluene, 30,000 µg/l ethylbenzene, 63,000 µg/l xylenes, 920,000 µg/l MTBE, and 310,000 µg/l TBA (Table 7). The estimated lateral extent of dissolved TPH-g, TPH-d, MTBE, and TBA are depicted in plan view in Figures 16 through 19 and the vertical extent of dissolved petroleum hydrocarbons are depicted in cross-sectional views *A-A' and C-C'* (Figures 20 and 21).

Based on analytical results of groundwater samples collected from wells and borings, the lateral extent of dissolved petroleum hydrocarbon-impacted groundwater at the site is generally defined in all directions. The dissolved hydrocarbon plume is defined towards the north by wells MW-12, MW-13 (MW-13R), MW-15, and MW-16; toward the south by wells MW-1, MW-3N, MW-9, MW-10, and MW-11; toward the west by boring CPT-1; and toward

the east by well MW-14 and borings B-5 and B-6 (Figures 16 through 19). The dissolved plume is approximately 90 feet wide by 275 feet long and centered in the location of MW-7, or halfway between the former UST area and the east fuel dispensers. However, the dissolved MTBE component of the hydrocarbon plume extends further into Chestnut Street and just beyond borings B-5 and B-6; the dissolved MTBE plume is approximately 95 feet wide by 315 feet long. A decrease in concentration (remediation and attenuation) of the dissolved MTBE has been observed since the UST upgrade of 1999.

Based on analytical results of groundwater samples collected from borings, the vertical extent of dissolved petroleum hydrocarbon-impacted groundwater at the site is partially defined (there are no deep-screened monitoring wells at the site). The vertical extent is defined in the western portion of the site by groundwater samples collected from borings P-4, P-7, and CPT-1; dissolved petroleum hydrocarbon-impacted groundwater does not extend beyond 30 feet bsg in the western portion of the site. The vertical extent is defined off-site, towards the east by CPT-6 and towards the north by CPT-5; dissolved petroleum hydrocarbon-impacted groundwater does not extend beyond 25 feet bsg east of the site and beyond 30 feet bsg north of the site. The vertical extent is undefined in the eastern and southeastern portion of the site, in the area of CPT-2, CPT-3, and P-1; low concentrations of hydrocarbons were detected at 55 feet bsg in CPT-3. Based on the concentrations detected from groundwater samples collected from CPT-2 and CPT-3, the vertical extent of dissolved petroleum hydrocarbon-impacted groundwater in the eastern and southeastern portion of the site should not extend significantly beyond 55 feet bsg (Figures 20 and 21).

Based on the most recent data collected during the May 2012 and November 2012 groundwater sampling events, high concentrations of hydrocarbons persist in the eastern portion of the site. In November 2012, TPH-g, TPH-d, MTBE, and TBA were detected at maximum concentrations from MW-7 of 50,000 µg/l, 52,000 µg/l, 1,200 µg/l, and 92,000 µg/l, respectively. Concentrations decrease significantly from east to west and decrease to non-detect from north to south.

Over the previous two years of groundwater sampling, high concentrations of TBA have been detected in groundwater samples collected from wells MW-4, MW-5, MW-7, and MW-8. TBA concentrations have fluctuated in these wells since sampling began. TBA was detected at high concentrations in groundwater samples collected from wells MW-4, MW-5, MW-7, and MW-8 in 2004 and 2005, TBA was generally non-detect in these wells from 2006 to 2010, and in 2010 high concentrations of TBA were once again detected in the wells and continue to be detected. In November 2012, TBA was detected in groundwater samples from wells MW-4, MW-5, MW-7, and MW-8 at concentrations of 34,000 µg/l, 8,600 µg/l, 92,000 µg/l, and 13,000 µg/l, respectively. The lateral extent of TBA-impacted groundwater is defined. Based on trend graph analysis, there is an inverse relationship between concentrations of TBA and MTBE in wells MW-4, MW-5, MW-7, and MW-8; it's

typical to see an inverse relationship between concentrations of TBA and MTBE because TBA is a breakdown product of MTBE. As MTBE concentrations decrease, typically increased TBA concentrations are observed. Generally, it appears that as MTBE was destroyed by ozone injection, it broke down into its component parts (TBA). However, based on data collected from the site, large spikes of increases and decreases of dissolved TBA have been observed. This transition to TBA from MTBE could additionally be caused by generation of organic decay within the fine soils (bay mud) with residual MTBE impact; as MTBE continues to attenuate the alcohol is liberated and TBA concentrations elevate and diffuse. Additionally, spikes in concentrations of other analytes (TPH-d and TPH-g at well MW-5 in 2007) have been observed at the site. It is unknown what is causing the spike in concentrations; it is possible that the very shallow groundwater table and minor temporal release of TPH has occurred at the site. Trend graphs depicting MTBE and TBA concentration trends in wells MW-4, MW-5, MW-7, and MW-8 are presented in Appendix C.

Based on plots of TPH-g, TPH-d, benzene, and MTBE in wells MW-4, MW-5, MW-7, MW-8, and MW-14 versus time (Appendix C), a trend of decreasing dissolved concentrations is depicted from the majority of the wells (except MW-5). Generally, concentrations have been gradually decreasing since groundwater sampling began at the site. However, significant decreases and downward trends were observed beginning in 2005 when ozone injection was initiated at the site, and continued through 2011 when ozone injection was terminated. Since termination of ozone injection remediation in 2011, TPH-g and TPH-d concentrations have increased in wells MW-4 and MW-14; TPH-g concentrations began to increase in MW-5 upon initiation of ozone injection remediation and are currently fluctuating.

Figures 16 through 18 depict the estimated extent of dissolved TPH-g, TPH-d, and MTBE, in plan view.

Utilizing the above figures, the mass of dissolved TPH-g, TPH-d, and MTBE in groundwater was determined by splitting dissolved analytes into isocontours based on concentrations reported in sampling events performed in 2012.

The volume of each was determined by the following formula:

V = Area (A) multiplied by the height (h)
A= Area as determined using computer area inquiry function
h = thickness (determined by screen interval length of wells in each HU)

Using the above calculations and the analytical results for groundwater samples collected during 2012 groundwater monitoring events, approximately 44.5 lbs.(equivalent to 7.1 gallons) of dissolved TPH-g, approximately 46.3 lbs.(equivalent to 6.7 gallons) of dissolved

TPH-d, and approximately 1.9 lbs.(equivalent to 0.3 gallons) of dissolved MTBE is estimated in groundwater at the site. The assumptions for the calculations of hydrocarbon mass in groundwater is presented in Appendix E.

7.0. SENSITIVE RECEPTOR SURVEY

In January 2000, W.A. Craig, Inc. performed a site sensitive receptor survey. The purposes of the sensitive receptor survey was to locate vertical conduits within a 2,000 foot radius of the site, such as municipal, domestic, or irrigation wells, which could serve as potential pathways for contaminant migration to groundwater. In April 2013, AGE performed a limited site sensitive receptor survey to locate new receptors and verify receptors identified during the January 2000 receptor survey; a representative of AGE performed a reconnaissance of visually observable receptors located within a 2,000-foot radius of the site and the receptors identified in January 2000.

Drinking water at the site is currently supplied by the East Bay Municipal Utility District. The results of the sensitive receptor surveys did not locate any municipal water wells within 2,000 feet of the site. The nearest surface water feature in the vicinity of the property is the Oakland Inner Harbor located approximately 2,400 feet south and up-gradient of the site. It is unlikely that water in the Oakland Harbor is contaminated by impacted groundwater from the site based on its distance and direction (up-gradient) from the site.

On 05 January 2000, a search was performed at the California Department of Water Resources - Division of well drillers reports for water wells located in the surrounding area. Drillers reports for water wells located within a 2000 ft-radius were found for the following:

- One well located on the eastern side of Filbert Street, 160 feet south of 5th street. The well was installed by Pacific Gas & Electric (PG&E) in 1976 and is used for cathodic protection; the well is not used as a water supply well;
- Two wells located at 1384 5th Street at Red Star Yeast Company, installed in 1958; the wells provide(d) process water for industrial activities; Red Star Yeast closed in 2003 and the property is currently vacant;.
- One well located at 1384 5th Street at Universal Food Corporation, installed in 1969; the well provide(d) process water for industrial activities; the property at 1384 5th Street is currently vacant;
- Two wells located 1,400 feet south of the site installed by Western Pacific Company near the intersection of Adeline and 1st Streets in December 1957. The wells range in depth between 300 and 340 feet bsg;

- One well located 1,700 feet northwest of the site at 717 7th Street. The installation date and construction details were not recorded; It is unknown if the well is still in use.

Results of the well survey, including well logs were reported in the W.A. Craig, Inc.-prepared, *Site Investigation Report*, dated 15 September 2000.

During the April 2013 receptor survey, AGE did not locate any sensitive receptors within a 2,000-foot radius of the site, nor did AGE verify or identify any of the water wells located by the search performed in January 2000 at the California Department of Water Resources for well drillers' reports. It appears that there are no sensitive receptors within a 2,000-foot radius of the site.

8.0. CONCEPTUAL SITE MODEL

Based on the data collected to date from soil borings and groundwater monitoring wells, AGE has developed a conceptual site model (Figure 22) for the release, migration and distribution of the contaminants in the subsurface as described below:

Release(s) of petroleum hydrocarbons (TPH-g and TPH-d) occurred from a leak(s) in a product line(s) of the UST system. The product line(s) associated with the release were repaired as soon as the leak(s) was discovered. AGE could not recover a report of findings from the product release or repair. Furthermore, AGE could not recover any additional information on the magnitude of the release and the exact location of the release. However, two product recovery wells (RW-W & RW-E) with skimmers were installed at the site to recover free product from the release. Between 1996 and 1998, approximately eight gallons of product were recovered from the wells. The recovery wells were located directly south of the former UST area, on the east and west ends. The exact location of the initial release is unknown; however, based on data collected from the site, the initial product release most likely occurred from a product line extending from an east fuel dispenser to the UST area.

Once released into the subsurface, petroleum contaminants (TPH-g and TPH-d) migrated horizontally through the product line trenches to the former UST area and excavation, and additional product line trenches. Additionally, petroleum contaminants migrated vertically through the uppermost silty sand and clayey sand of the vadose zone to the groundwater table, which was approximately 5 feet bsg at the time of the release. Once at the groundwater table, petroleum contaminants dissolved into groundwater and then migrated laterally. Further, it appears that petroleum contaminants migrated into the sanitary sewer trench located along the north side of the site and the south side of 5th Street. However,

based on groundwater data collected from borings B-5 through B-8 (low concentrations of TPH-d and MTBE), advanced in the center of Chestnut Street, it does not appear that petroleum contaminants migrated significantly through the sewer trench towards Chestnut Street, east of the site. Additionally, petroleum-impacted groundwater migrated vertically through or around the clayey peat layer to depths of approximately 55 feet bsg (the clayey peat layer was not encountered east of MW-7 at the site).

The bulk of petroleum hydrocarbon-impacted soil is located on the eastern portion of the site at depths between 3 and 13 feet bsg (Figures 9 through 14). Generally, soil impact does not extend beyond 13 feet bsg due to the clayey peat layer, also referred to as bay mud. The bay mud is an organic rich, brown to black, soil composed mostly of peat. It appears that the bay mud layer is limiting the vertical migration of adsorbed impact. Laterally, petroleum-impacted soil is located beneath the majority of the eastern portion of the site and extends onto the property south of the site, in the areas of wells MW-10 and MW-11 (Figures 7 and 8); additionally petroleum-impacted soil is located in the western portion of the site, beneath the base of the truck scale excavation (6 feet bsg) to approximately 8 to 10 feet bsg (Figures 9 and 10).

TPH-g-impacted soil at the site encompasses approximately 84,869 cubic feet, and yields approximately 1,948 pounds of TPH-g impact, which is equivalent to 312 gallons of gasoline; TPH-d-impacted soil at the site encompasses approximately 130,350 cubic feet, and yields approximately 15,660 pounds of TPH-d impact, which is equivalent to 2,237 gallons of diesel. The TPH-g and TPH-d volume to mass calculations are included in Appendix D. Additionally, a large portion of petroleum-impacted soil was removed from the site by the 1999 excavation of the former UST area (2,323 lbs of gasoline and 13,440 lbs of diesel) and the 2007 excavation of the truck scale area (32 lbs of gasoline and 3,568 lbs of diesel). Based on the total estimate of soil impact remaining, approximately 55% of the total gasoline-impacted soil and approximately 52% of the total diesel-impacted soil were removed from the site during the 1999 and 2007 soil excavations.

Once released into the subsurface, petroleum contaminants encountered groundwater almost immediately due to the extremely shallow groundwater table and migrated laterally and vertically. The shallow groundwater table and low hydraulic gradient allowed for diffusion of the dissolved petroleum on the site; both south (several event detected a southern gradient) and east from the UST/dispenser complex. Based on contaminants detected in groundwater at the site, a release of gasoline and diesel occurred from product lines at the site. Presently, the core of impacted groundwater is located in the area of MW-7, which is between the former UST area and the eastern fuel dispensers. The lateral extent of dissolved petroleum hydrocarbon-impacted groundwater at the site is generally defined in all directions. The dissolved hydrocarbon plume is defined towards the north by wells MW-12, MW-13 (MW-13R), MW-15, and MW-16; toward the south by wells MW-1,

MW-3N, MW-9, MW-10, and MW-11; toward the west by boring CPT-1; and toward the east by well MW-14 and borings B-5 and B-6 (Figures 16 through 19). The dissolved plume is approximately 90 feet wide by 275 feet long. With the exception of the dissolved MTBE plume, the majority of petroleum-impacted groundwater is located on-site; MTBE-impacted groundwater extends off-site, towards the east, beneath Chestnut Street.

The vertical extent of dissolved petroleum hydrocarbon-impacted groundwater at the site is partially defined (there are no deep-screened monitoring wells at the site). The vertical extent is defined in the western portion of the site by groundwater samples collected from borings P-4, P-7, and CPT-1; dissolved petroleum hydrocarbon-impacted groundwater does not extend beyond 30 feet bsg in the western portion of the site. The vertical extent is defined off-site, towards the east by CPT-6 and towards the north by CPT-5; dissolved petroleum hydrocarbon-impacted groundwater does not extend beyond 25 feet bsg east of the site and beyond 30 feet bsg north of the site. The vertical extent is undefined in the eastern and southeastern portion of the site, in the area of CPT-2, CPT-3, and P-1; low concentrations of hydrocarbons were detected at 55 feet bsg in CPT-3. Based on the concentrations detected from groundwater samples collected from CPT-2 and CPT-3, the vertical extent of dissolved petroleum hydrocarbon-impacted groundwater in the eastern and southeastern portion of the site should not extend significantly beyond 55 feet bsg (Figures 20 and 21). It appears that the clayey peat/bay mud layer did not restrict the vertical migration of dissolved contaminants; and/or contaminants migrated vertically in the eastern portion of the site through the silty sand, clayey sand, and sand, where the clayey peat layer was not encountered, and then laterally across the site.

Contaminant concentrations have been gradually decreasing since groundwater sampling began at the site. However, significant decreases and downward trends were observed beginning in 2005 when ozone injection was initiated at the site, and continued through 2011 when ozone injection was terminated. Since termination of ozone injection remediation in 2011, TPH-g and TPH-d concentrations have increased in wells MW-4 and MW-14; TPH-g concentrations began to increase in MW-5 upon initiation of ozone injection remediation and are currently fluctuating. Additionally, TBA concentrations have increased while significant decreases in MTBE concentration and distribution have been observed.

Using the analytical results for groundwater samples collected during 2012 groundwater monitoring events, approximately 44.5 lbs.(equivalent to 7.1 gallons) of dissolved TPH-g, approximately 46.3 lbs.(equivalent to 6.7 gallons) of dissolved TPH-d, and approximately 1.9 lbs.(equivalent to 0.3 gallons) of dissolved MTBE is estimated in groundwater at the site. The assumptions for the calculations of hydrocarbon mass in groundwater is presented in Appendix E.

9.0. SUMMARY AND CONCLUSIONS

The key components of the Rino/Pacific Oakland Truck Stop conceptual site model include:

- The subsurface beneath the site is dominated by silty sands, poorly graded sands, and a peat/clayey peat layer referred to as the "bay mud". The far east side of the site, from P-1 and towards the east, is predominantly fine-grained silty sands and poorly graded sands; fine sands and silty sands were encountered from surface grade to approximately 55 feet bsg in the far east portion of the site. A distinct zone of gray-brown to black, moist to saturated peat/clayey peat or bay mud with a strong, stale odor was encountered throughout the site west of boring P-1. The top of the peat zone was encountered at depths between approximately 6 feet and 8 feet bsg, with thickness ranging from approximately 7 feet in the east portion of the site to approximately 18 feet in the central and west portions of the site. Clay and silty clay were encountered in the northwest portion of the site a depths above approximately 7 feet bsg, and light brown to dark brown, fine-grained poorly graded sand and silty sand were identified throughout the remaining depth intervals in all other borings at the site; based on CPT and soil boring data, fine-grained silty sand, poorly graded sand, and clayey sand extend to approximately 55 feet bsg beneath the site (Figures 4 through 6).
- Based on groundwater monitoring events conducted at the site between 1996 and 2012, groundwater elevations at the site have fluctuated between 3.84 feet above NAVD88 and 10.75 feet above NAVD88 (Table 2).The groundwater flow has varied from south, southwest to north; a groundwater elevation map from the most recent sampling event performed in November 2012, and a rose diagram depicting historical groundwater flow directions is presented in Figure 3.
- Distribution of petroleum hydrocarbon contaminants in soil indicates a release in the eastern portion of the site, which then migrated vertically through the vadose zone until encountering groundwater, at a very shallow depth of 5 feet bsg (or possibly shallower), at which point the contaminants dissolved into groundwater and migrated laterally and vertically.
- In February 1999, the former UST area was excavated; an estimated 2,323 pounds or 372 gallons of gasoline-impacted soil and 13,440 pounds or 1,920 gallons of diesel-impacted soil were removed from the site during the February 1999 soil excavation. In April 2007, the truck scale was upgraded and excavated; an estimated 32 pounds or 5 gallons of gasoline-impacted soil and 3,568 pounds or 510 gallons of diesel-impacted soil were removed from the site during the April 2007 soil excavation (Appendix B).
- The estimated volume of TPH-g-impacted soil at the site encompasses

approximately 84,869 cubic feet and yields an estimated 312 gallons (1,948 pounds) of gasoline remaining in subsurface soil (Appendix D). TPH-g-impacted soil appears to be defined in all directions.

- The estimated volume of TPH-d-impacted soil at the site encompasses approximately 130,350 cubic feet and yields an estimated 2,237 gallons (15,660 pounds) of diesel remaining in subsurface soil (Appendix D). TPH-d-impacted soil appears to be defined in all directions.
- Based on the total estimate of soil impact remaining, approximately 55% of the total gasoline-impacted soil and approximately 52% of the total diesel-impacted soil were removed from the site during the 1999 and 2007 soil excavations.
- The lateral extent of dissolved petroleum hydrocarbon-impacted groundwater at the site is generally defined in all directions. The dissolved hydrocarbon plume is defined towards the north by wells MW-12, MW-13 (MW-13R), MW-15, and MW-16; toward the south by wells MW-1, MW-3N, MW-9, MW-10, and MW-11; toward the west by boring CPT-1; and toward the east by well MW-14 and borings B-5 and B-6 (Figures 16 through 19). Generally, the dissolved plume is approximately 90 feet wide by 275 feet long and centered in the location of MW-7, or halfway between the former UST area and the east fuel dispensers.
- The vertical extent of dissolved petroleum hydrocarbon-impacted groundwater at the site is partially defined (there are no deep-screened monitoring wells at the site). Dissolved petroleum hydrocarbon-impacted groundwater does not extend beyond 30 feet bsg in the western portion of the site, beyond 25 feet bsg east of the site and beyond 30 feet bsg north of the site. The vertical extent is undefined in the eastern and southeastern portion of the site, in the area of CPT-2, CPT-3, and P-1; low concentrations of hydrocarbons were detected at 55 feet bsg in CPT-3. Based on the concentrations detected from groundwater samples collected from CPT-2 and CPT-3, the vertical extent of dissolved petroleum hydrocarbon-impacted groundwater in the eastern and southeastern portion of the site should not extend significantly beyond 55 feet bsg (Figures 20 and 21).
- The estimated volume of the dissolved TPH-g-impacted area yields approximately 7.1 gallons of gasoline, which is equivalent to 44.5 pounds; the estimated volume of the dissolved TPH-d-impacted area yields approximately 6.7 gallons of diesel, which is equivalent to 46.3 pounds; and the estimated volume of the dissolved MTBE-impacted area yields approximately 0.3 gallons of MTBE, which is equivalent to 1.9 pounds (Appendix E).
- Between 2005 and 2011, interim soil and groundwater remediation was performed at the site utilizing ozone injection. On 24 September 2005, *In-situ* ozone sparging began at the site. Two ozone sparging units were installed at the site. The West Ozone Unit is connected to wells OZ-6R, OZ-7R, OZ-8, OZ-9, OZ-10R, OZ-16R,

OZ-17R and OZ-18 through OZ-20. The East Ozone Unit is connected to wells OZ-1 through OZ-5 and OZ-11 through OZ-15. Between 24 September 2005 and 19 January 2011, the East and West Ozone Units operated for approximately 38,192 hours and 32,091 hours, respectively. On 19 January 2011, both the East and West Units were turned off and have not been restarted due to faulty solenoid valves and damaged ozone conveyance tubing. Generally, petroleum hydrocarbon concentrations decreased during ozone injection remediation.

- Graphs illustrating dissolved TPH-g, TPH-d, Benzene, and MTBE concentration trends are presented in Appendix C. Based on the trend graphs, concentrations have been gradually decreasing since groundwater sampling began at the site. However, significant decreases and downward trends were observed beginning in 2005 when ozone injection was initiated at the site, and continued through 2011 when ozone injection was terminated. Since termination of ozone injection remediation in 2011, TPH-g and TPH-d concentrations have increased in wells MW-4 and MW-14; TPH-g concentrations began to increase in MW-5 upon initiation of ozone injection remediation and are currently fluctuating.
- A sensitive receptor performed in January 2000 identified several industrial wells installed between 1957 and 1976 within 2,000-feet of the site; the wells were identified by locating water well drillers' reports at the California Department of Water Resources. In April 2013, AGE performed a limited sensitive receptor survey to verify receptors identified during the January 2000 survey and to locate any additional receptors within a 2,000-foot radius of the site. AGE did not locate any sensitive receptors within a 2,000-foot radius of the site, nor did AGE verify or identify any of the water wells located by the search performed in January 2000. It appears that there are no sensitive receptors within a 2,000-foot radius of the site. Drinking water at and near the site is currently supplied and maintained by the East Bay Municipal Utility District.
- The nearest surface water feature in the vicinity of the property is the Oakland Inner Harbor located approximately 2,400 feet south and up-gradient of the site. It is unlikely that water in the Oakland Inner Harbor is contaminated by impacted groundwater from the site based on its distance and direction (up-gradient) from the site.

10.0. RECOMMENDATIONS

Based upon petroleum hydrocarbon distribution patterns and migration pathways identified in the conceptual site model, AGE recommends:

- Continued semi-annual groundwater monitoring; The next groundwater monitoring event is scheduled for May 2013.

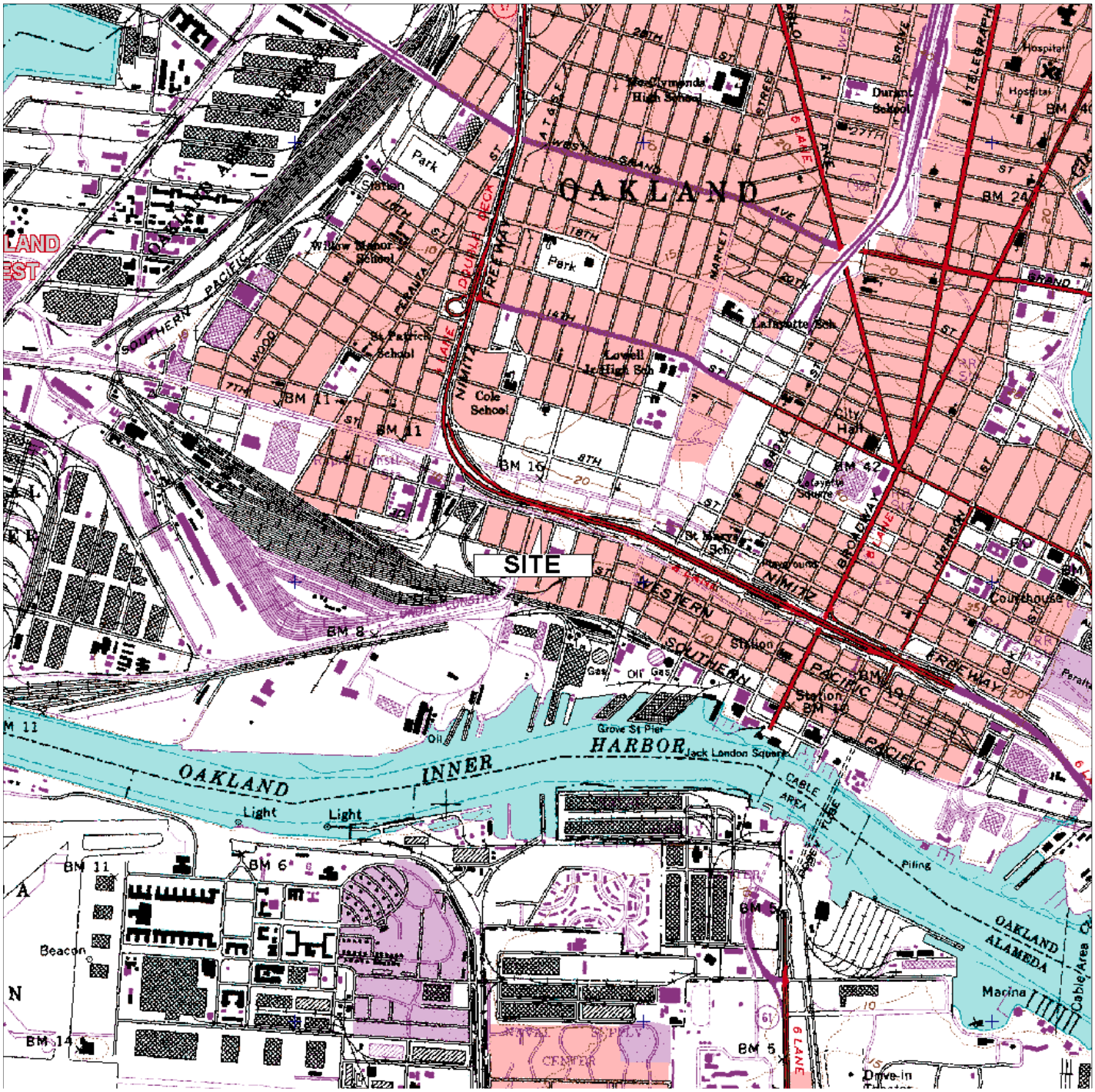
In order to finalize the CSM and supply data which is not presented or current and/or presented a site data gap the following assessment recommendation should be evaluated against the available funds and costs associated with each element:

- Installation of one shallow-screened monitoring well (screen interval: 5-20 feet bsg) in the location of P-7 to assess the lateral extent of hydrocarbon-impacted groundwater in the northwestern portion of the site; the proposed location for an additional shallow-screened monitoring well is depicted in Figure 2.
- Installation of three deep-screened monitoring wells (screen interval: 35-40 feet bsg) in the locations of P-7, CPT-2, and CPT-3 to assess the vertical extent of hydrocarbon-impacted groundwater at the site and characterize groundwater flow direction and gradient in deep groundwater at the site; proposed locations for deep-screened monitoring wells are depicted in Figure 2.

11.0. LIMITATIONS

Our professional services were performed using that degree of care and skill ordinarily exercised by environmental consultants practicing in this or similar localities. The findings were based mainly upon analytical results provided by an independent laboratory. Evaluations of the geologic/hydrogeologic conditions at the site for the purpose of this investigation are made from a limited number of available data points (e.g. soil and groundwater samples, groundwater monitoring), and subsurface conditions may vary through time or with distance from these data points. No other warranty, expressed or implied, is made as to the professional interpretations, opinions or recommendations contained in this report.

FIGURES



N

SCALE
0 2000 4000
FEET

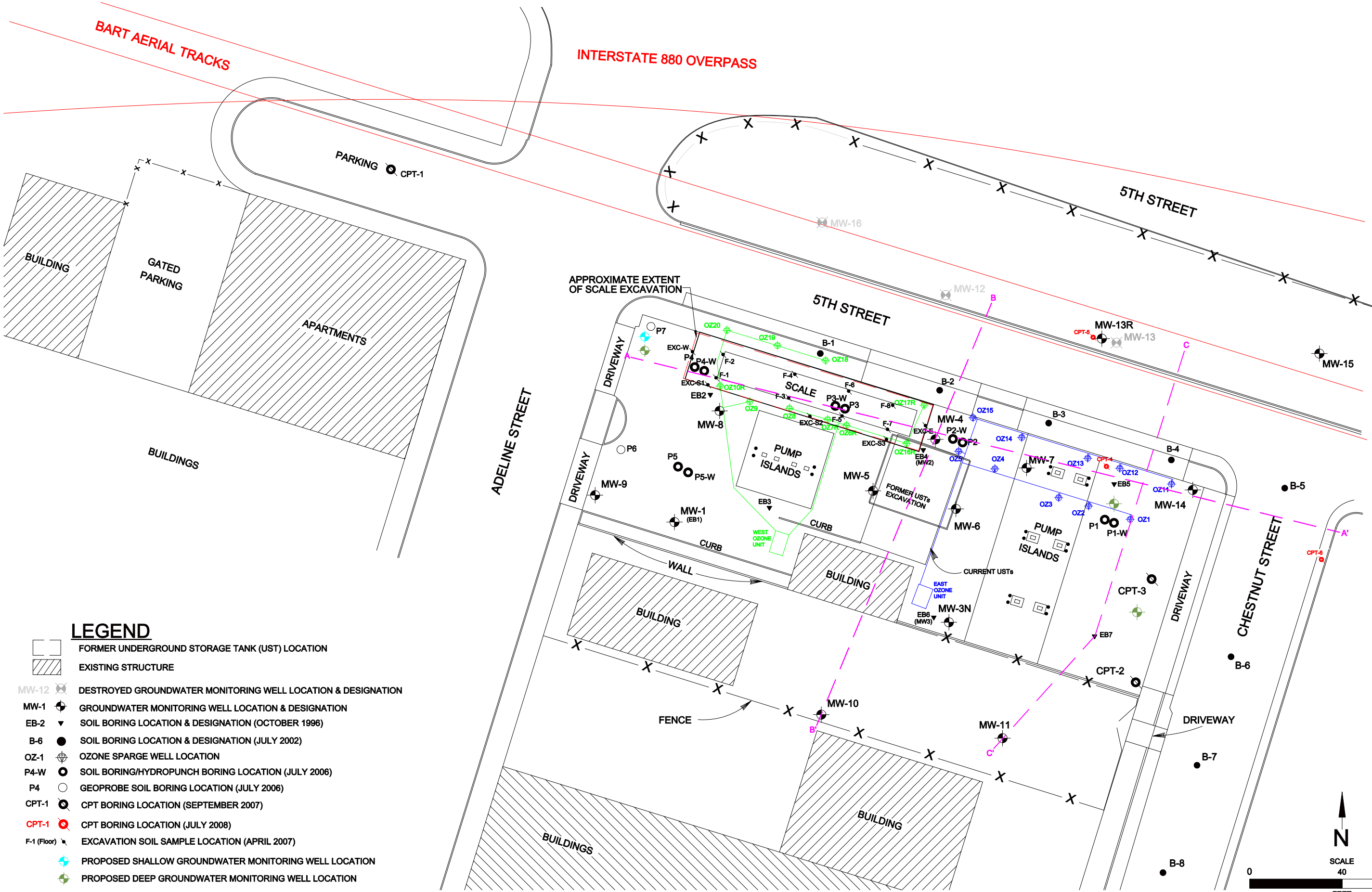
OAKLAND WEST QUADRANGLE, CALIFORNIA
7.5 MINUTE SERIES (U.S. GEOLOGICAL SURVEY)

LOCATION MAP

RINI PACIFIC/OAKLAND TRUCK STOP
1107 5TH STREET
OAKLAND, CALIFORNIA

Advanced GeoEnvironmental, Inc.
www.advgeoenv.com

PROJECT NO. AGE-NC-03-1101	FILE: LOCATION	FIGURE: 1
DATE: DECEMBER 2011	DRAWN BY: MAC	



LEGEND

- FORMER UNDERGROUND STORAGE TANK (UST) LOCATION
- EXISTING STRUCTURE
- MW-12 — DESTROYED GROUNDWATER MONITORING WELL LOCATION & DESIGNATION
- MW-1 — GROUNDWATER MONITORING WELL LOCATION & DESIGNATION
- EB-2 — SOIL BORING LOCATION & DESIGNATION (OCTOBER 1996)
- B-6 — SOIL BORING LOCATION & DESIGNATION (JULY 2002)
- OZ-1 — OZONE SPARGE WELL LOCATION
- P4-W — SOIL BORING/HYDROPUNCH BORING LOCATION (JULY 2006)
- P4 — GEOPROBE SOIL BORING LOCATION (JULY 2006)
- CPT-1 — CPT BORING LOCATION (SEPTEMBER 2007)
- CPT-1 — CPT BORING LOCATION (JULY 2008)
- F-1 (Floor) — EXCAVATION SOIL SAMPLE LOCATION (APRIL 2007)
- PROPOSED SHALLOW GROUNDWATER MONITORING WELL LOCATION
- PROPOSED DEEP GROUNDWATER MONITORING WELL LOCATION

SITE PLAN

RINO PACIFIC/OAKLAND TRUCK STOP
1107 5TH STREET
OAKLAND, CALIFORNIA

Advanced GeoEnvironmental, Inc.
www.advgeoenv.com

PROJECT NO.	AGE-NC-03-1101	FILE: SP	FIGURE: 2
DATE:	DECEMBER 2011	DRAWN BY: MAC	

NOTES
NOACC: NO ACCESS TO WELL
FT/FT: FOOT PER FOOT
NAVD: NA Vertical Datum 88

29 NOVEMBER 2012

BUILDING
GATED PARKING
APARTMENTS
BUILDINGS
ADELINE STREET
5TH STREET
CHESTNUT STREET
BUILDING
BUILDINGS
BUILDING

MW-16
MW-12
MW-13R 6.03
MW-13
MW-15 5.82
MW-8 6.40
MW-4 5.78
MW-7 5.45
MW-5 6.17
MW-6 6.15
MW-14 5.49
MW-9 7.14
MW-1 6.70
MW-3N 7.09
MW-10 8.32
MW-11 (6.01)

6.00
5.50
6.50
7.00
7.50
8.00

0.020 ft/ft

N
SCALE
0 40 80
FEET

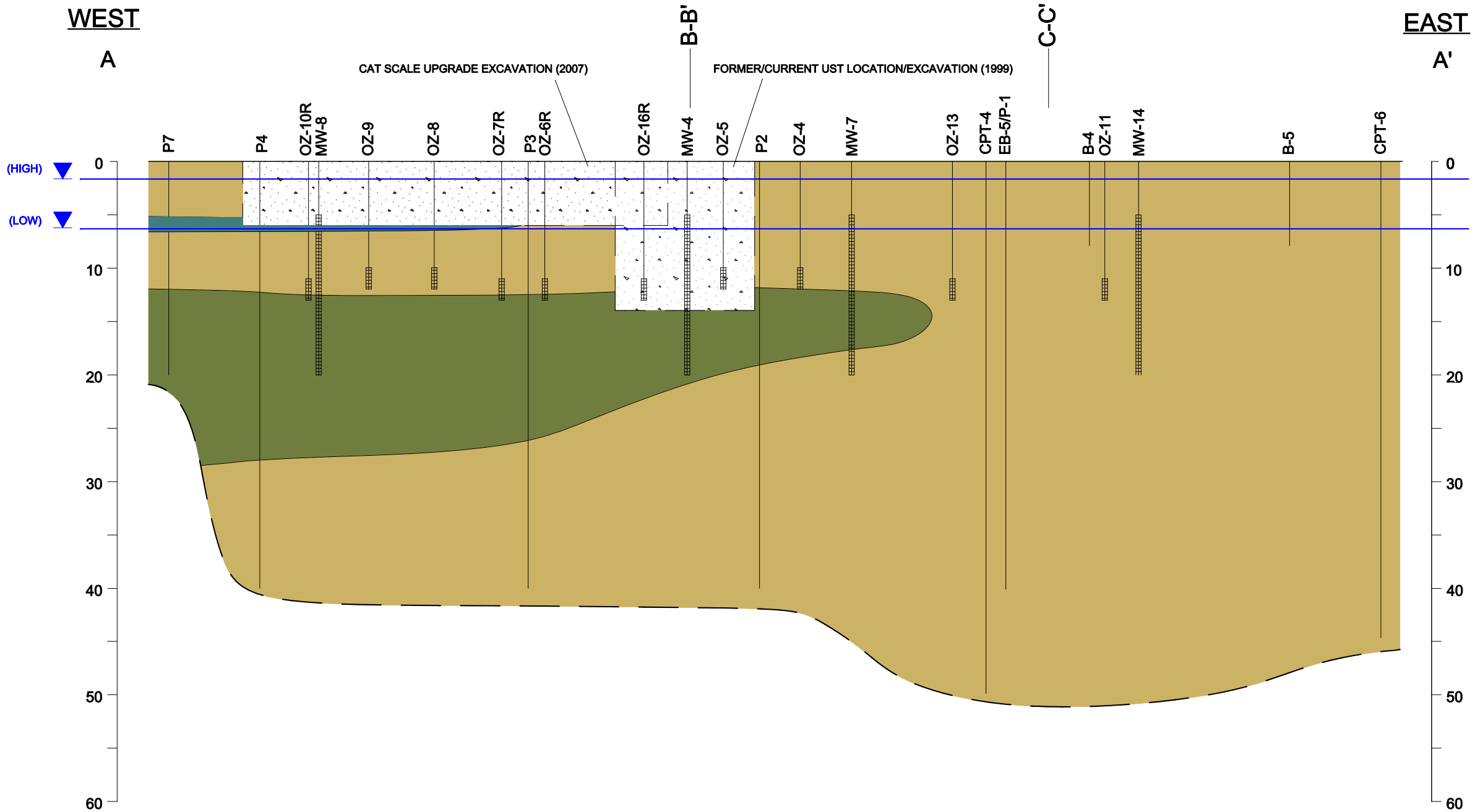
LEGEND

- FORMER UNDERGROUND STORAGE TANK (UST) LOCATION
- EXISTING STRUCTURE
- MW-1 6.27 — GROUNDWATER MONITORING WELL LOCATION & DESIGNATION GROUNDWATER ELEVATION (feet NAVD88)
- MW-12 — DESTROYED GROUNDWATER MONITORING WELL LOCATION
- OZONE SPARGE WELL LOCATION
- 0.02 ft/ft — GROUNDWATER GRADIENT & FLOW DIRECTION

Advanced GeoEnvironmental, Inc.
www.advgeoenv.com

PROJECT NO. AGE-NC-03-1101 | FILE: GW1111 | FIGURE: 3
DATE: NOVEMBER 2012 | DRAWN BY: MAC

GROUNDWATER ELEVATION MAP
RINO PACIFIC/OAKLAND TRUCK STOP
1107 5TH STREET
OAKLAND, CALIFORNIA



LEGEND

- TOPSOIL/FILL MATERIAL
- SILTY CLAY, CLAY
- "BAY MUD:" PEAT, CLAYEY PEAT, PEATY CLAY, PEAT WITH SAND
- SAND, SILTY SAND, CLAYEY SAND, SANDY SILT
- HISTORICAL HIGH/LOW OR AVERAGE DEPTH TO GROUND WATER
- SCREEN INTERVAL OF WELL OR TEMPORARY WELL SCREEN LOCATION
- EXTENT OF LITHOLOGIC INFORMATION
- EXTENT OF CROSS-SECTION

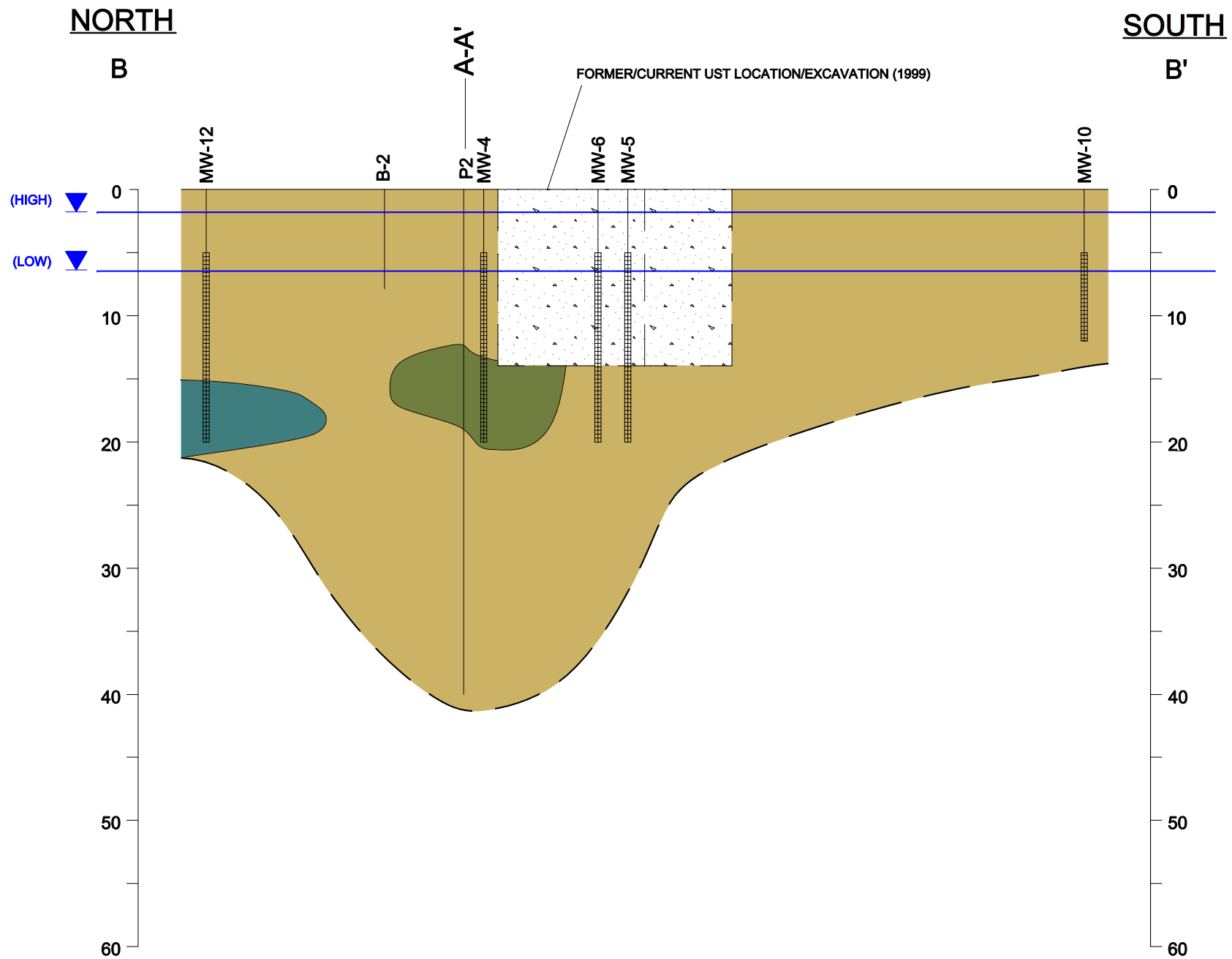
Notes
2.5X VERTICAL EXAGGERATION.
UST AREA PROJECTED - 5'
MW-8, B-4, AND B-5 PROKECTED - 13'
P-7 PROJECTED - 15' AND P-1 PROJECTED - 18'

SCALE
0 30 60
FEET

GEOLOGIC CROSS-SECTION A-A'
RINO/PACIFIC OAKLAND TRUCK STOP
1107 5TH STREET
OAKLAND, CALIFORNIA

Advanced GeoEnvironmental, Inc.
www.advgeoenv.com

PROJECT NO. AGE-NC-03-1101 | FILE: AALITH | FIGURE: 4
DATE: APRIL 2013 | DRAWN BY: MAC



LEGEND

- TOPSOIL/FILL MATERIAL
- SILTY CLAY, CLAY
- "BAY MUD:" PEAT, CLAYEY PEAT, PEATY CLAY, PEAT WITH SAND
- SAND, SILTY SAND, CLAYEY SAND, SANDY SILT
- HISTORICAL HIGH/LOW OR AVERAGE DEPTH TO GROUND WATER
- SCREEN INTERVAL OF WELL OR TEMPORARY WELL SCREEN LOCATION
- EXTENT OF LITHOLOGIC INFORMATION
- EXTENT OF CROSS-SECTION

Notes
2.5X VERTICAL EXAGGERATION.
TPH-G: TOTAL PETROLEUM HYDROCARBONS AS GASOLINE
TPH-D: TOTAL PETROLEUM HYDROCARBONS AS DIESEL
ALL CONCENTRATIONS IN MILLIGRAMS PER KILOGRAM (MG/KG)
B-2 AND P-2 PROJECTED-5', MW-5, MW-6, AND MW-12 PROJECTED-20'

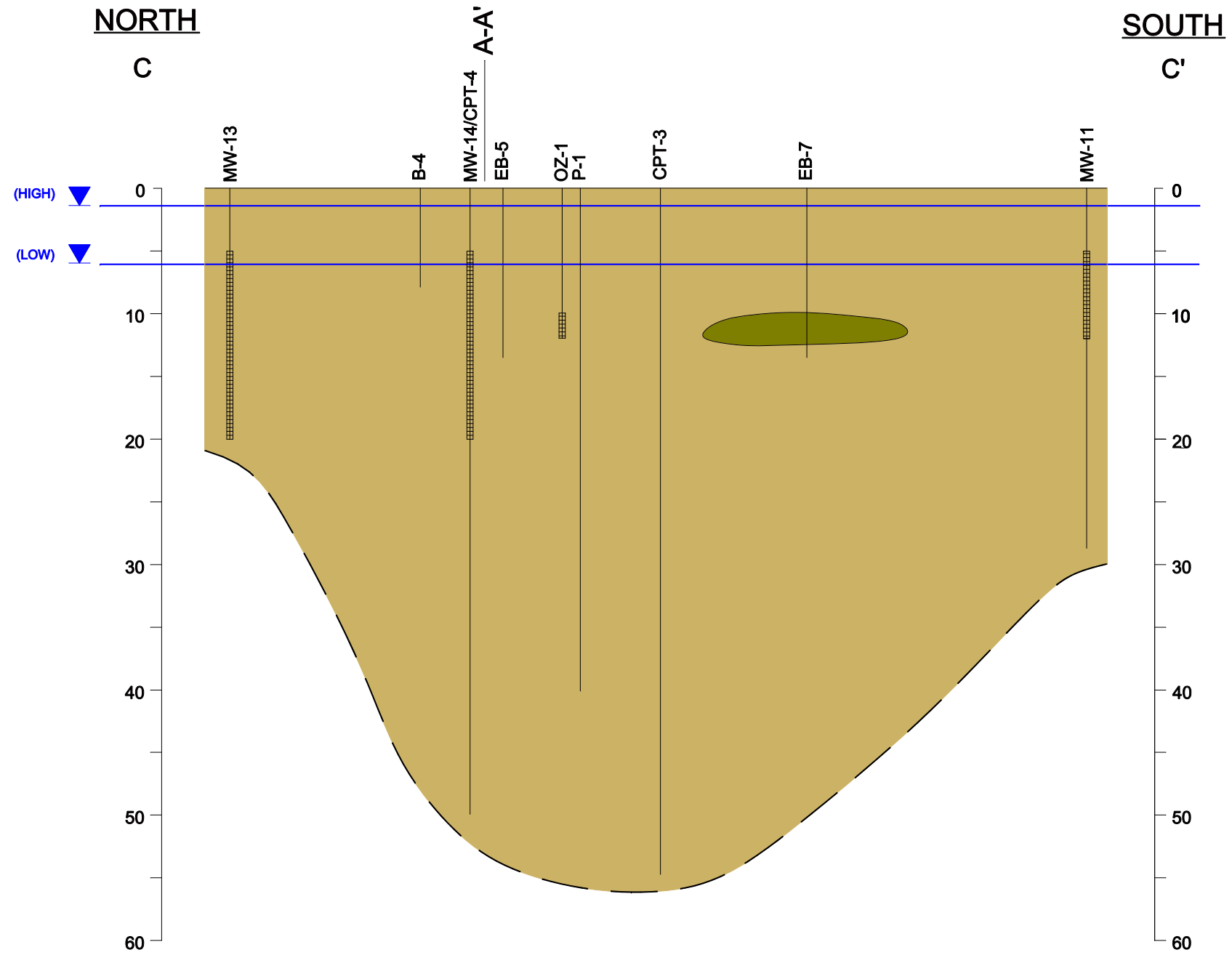
SCALE
0 30 60
FEET

GEOLOGIC CROSS-SECTION B-B'

RINO/PACIFIC OAKLAND TRUCK STOP
1107 5TH STREET
OAKLAND, CALIFORNIA

Advanced GeoEnvironmental, Inc.
www.advgeoenv.com

PROJECT NO. AGE-NC-03-1101 | FILE: BBLITH | FIGURE: 5
DATE: APRIL 2013 | DRAWN BY: MAC



LEGEND

- TOPSOIL/FILL MATERIAL
- SILTY CLAY, CLAY
- "BAY MUD:" PEAT, CLAYEY PEAT, PEATY CLAY, PEAT WITH SAND
- SAND, SILTY SAND, CLAYEY SAND, SANDY SILT
- HISTORICAL HIGH/LOW OR AVERAGE DEPTH TO GROUND WATER
- SCREEN INTERVAL OF WELL OR TEMPORARY WELL SCREEN LOCATION
- EXTENT OF LITHOLOGIC INFORMATION
- EXTENT OF CROSS-SECTION

Notes
2.5X VERTICAL EXAGGERATION.
TPH-G: TOTAL PETROLEUM HYDROCARBONS AS GASOLINE
TPH-D: TOTAL PETROLEUM HYDROCARBONS AS DIESEL
ALL CONCENTRATIONS IN MILLIGRAMS PER KILOGRAM (MG/KG)
P-1 PROJECTED-5' AND B-4 PROJECTED-8'
MW-13 PROJECTED-25' AND MW-14 PROJECTED-20'

SCALE
0 30 60
FEET

GEOLOGIC CROSS-SECTION C-C'

RINO/PACIFIC OAKLAND TRUCK STOP
1107 5TH STREET
OAKLAND, CALIFORNIA

Advanced GeoEnvironmental, Inc.
www.advgeoenv.com

PROJECT NO. AGE-NC-03-1101 | FILE: CCLITH | FIGURE: 6
DATE: APRIL 2013 | DRAWN BY: MAC

Notes:
TPH-G: Total petroleum hydrocarbons quantified as gasoline.
TPH-D: Total petroleum hydrocarbons quantified as diesel.
mg/kg: milligram per kilogram
<: TPH-g/TPH-d concentration reported in soil samples below laboratory reporting limits.
Concentrations illustrated indicate the maximum concentration reported at each sampling location.

BART AERIAL TRACKS
INTERSTATE 880 OVERPASS
PARKING
BUILDING
GATED PARKING
APARTMENTS
BUILDINGS
5TH STREET
APPROXIMATE EXTENT OF SCALE EXCAVATION
ADELINE STREET
DRIVEWAY
PUMP ISLANDS
FORMER USTs
CURRENT USTs
CURB
WALL
FENCE
CHESTNUT STREET
SCALE
A
A'
B
B'
C
C'
MW-16 <1
MW-12
MW-13R
MW-13
MW-15 1.4
P7 <1
P4 10
F-2 7.0
F-1 1.1
B-1 6.0
F-4 <1
F-6 <1
B-2 1.7
EB2 100 200
F-3 1.0
P3 <1
F-8 13
F-5 2.0
F-7 1.4
MW-4 1,600
MW-8 <1
B-3 13
<1
P2 110
EB4
P6 <1
P5 <1
MW-9 (37)
MW-1 (EB1) <1
EB3 <1
MW-5
MW-7 7,500
1,000
EB5 1,400
B-4 48
MW-14 <1
B-5 <1
MW-6 1.8
100
P1 210
EB6 (MW3) 7.8
MW-3N 2.3
EB7 18
B-6 <1
MW-10 <1
MW-11 <1
B-7 <1
B-8 <1
N
SCALE
0 40 80
FEET

LEGEND

- FORMER UNDERGROUND STORAGE TANK (UST) LOCATION
- MW-6 1.8 — GROUND WATER MONITORING WELL LOCATION & DESIGNATION WITH MAXIMUM REPORTED TPH-G CONCENTRATION
- EB-4 470 — SOIL BORING LOCATION & DESIGNATION (OCTOBER 1996) WITH MAXIMUM REPORTED TPH-G CONCENTRATION
- B-2 1.7 — SOIL BORING LOCATION & DESIGNATION (JULY 2002) WITH MAXIMUM REPORTED TPH-G CONCENTRATION
- P2 110 — GEOPROBE SOIL BORING LOCATION (JULY 2006) WITH MAXIMUM REPORTED TPH-G CONCENTRATION
- F-1 (Floor) 1.1 — EXCAVATION SOIL SAMPLE LOCATION (APRIL 2007) WITH REPORTED TPH-GD CONCENTRATION
- EXTENT OF ADSORBED TPH-G IN SOIL FROM 1 - 10 FEET BSG

ADSORBED TPH-G: 1 TO 10 FEET

RINO PACIFIC/OAKLAND TRUCK STOP
1107 5TH STREET
OAKLAND, CALIFORNIA

Advanced GeoEnvironmental, Inc.
www.advgeoenv.com

PROJECT NO. AGE-NC-03-1101 | FILE: ADSTPHG | FIGURE: 7
DATE: APRIL 2013 | DRAWN BY: MAC

Notes:
TPH-G: Total petroleum hydrocarbons quantified as gasoline.
TPH-D: Total petroleum hydrocarbons quantified as diesel.
mg/kg: milligram per kilogram
<: TPH-g/TPH-d concentration reported in soil samples below laboratory reporting limits.
Concentrations illustrated indicate the maximum concentration reported at each sampling location.

BART AERIAL TRACKS
INTERSTATE 880 OVERPASS
PARKING
BUILDING
GATED PARKING
APARTMENTS
BUILDINGS
ADELINE STREET
5TH STREET
APPROXIMATE EXTENT OF SCALE EXCAVATION
DRIVEWAY
SCALE
PUMP ISLANDS
FORMER USTs
CURRENT USTs
CURB
WALL
FENCE
CHESTNUT STREET
A
A'
B
B'
C
C'
MW-16 3.3
MW-12
MW-13R
MW-13
MW-15 1.4
MW-8 <1
MW-9 (440)
MW-1 (EB1) <1
MW-5
MW-6 31
MW-4 13,000
MW-7 3,400
MW-14 1.8
MW-10 20
MW-11 29
MW-3N 30
EB1 1,500
EB2 1,500
EB3 1.8
EB4
EB5 28,000
EB6 (MW3) 390
EB7 3.9
P1 7,600
P2 680
P3 <5
P4 13,000
P5 <5
P6 <5
P7 <5
B-1 NA
B-2 NA
B-3 NA
B-4 NA
B-5 NA
B-6 NA
B-7 NA
B-8 <1/ NA
F-1 370
F-2 270
F-3 220
F-4 95
F-5 630
F-6 <5
F-7 <5
F-8 9,800
1,000
100
<5
N
SCALE
0 40 80
FEET

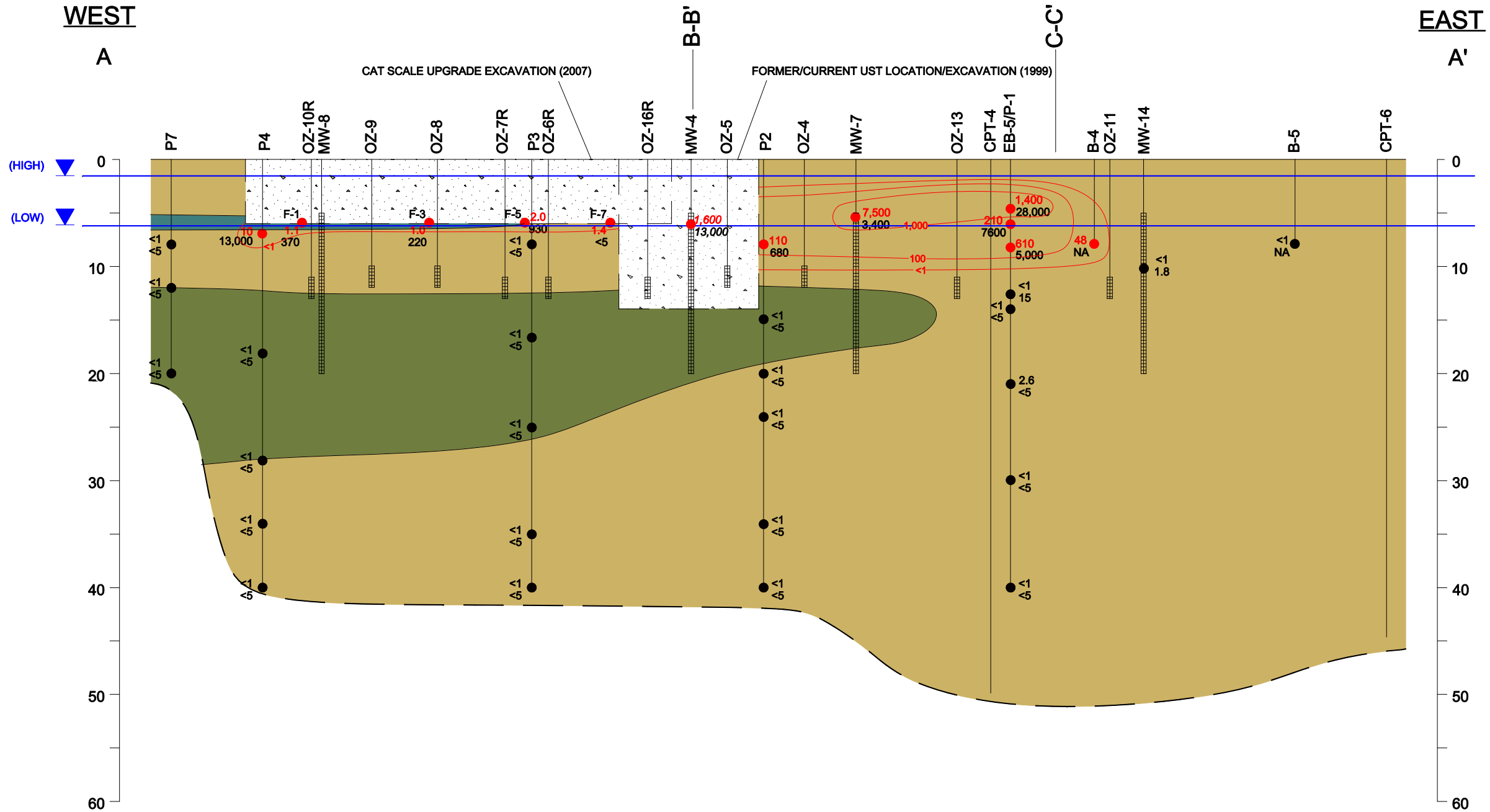
LEGEND

- FORMER UNDERGROUND STORAGE TANK (UST) LOCATION
- MW-6 / 31 — GROUND WATER MONITORING WELL LOCATION & DESIGNATION WITH MAXIMUM REPORTED TPH-D CONCENTRATION
- EB-4 / 1,100 — SOIL BORING LOCATION & DESIGNATION (OCTOBER 1996) WITH MAXIMUM REPORTED TPH-D CONCENTRATION
- B-2 / NA — SOIL BORING LOCATION & DESIGNATION (JULY 2002) WITH MAXIMUM REPORTED TPH-D CONCENTRATION
- P2 / 680 — GEOPROBE SOIL BORING LOCATION (JULY 2006) WITH MAXIMUM REPORTED TPH-D CONCENTRATION
- F-1 (Floor) / 370 — EXCAVATION SOIL SAMPLE LOCATION (APRIL 2007) WITH REPORTED TPH-D CONCENTRATION
- EXTENT OF ADSORBED TPH-D IN SOIL FROM 1 - 10 FEET BSG

ADSORBED TPH-D: 1 TO 10 FEET
RINO PACIFIC/OAKLAND TRUCK STOP
1107 5TH STREET
OAKLAND, CALIFORNIA

Advanced GeoEnvironmental, Inc.
www.advgeoenv.com

PROJECT NO. AGE-NC-03-1101	FILE: ADSTPHD	FIGURE: 8
DATE: APRIL 2013	DRAWN BY: MAC	



LEGEND

- TOPSOIL/FILL MATERIAL
- SILTY CLAY, CLAY
- "BAY MUD:" PEAT, CLAYEY PEAT, PEATY CLAY, PEAT WITH SAND
- SAND, SILTY SAND, CLAYEY SAND, SANDY SILT
- HISTORICAL HIGH/LOW OR AVERAGE DEPTH TO GROUND WATER
- SCREEN INTERVAL OF WELL OR TEMPORARY WELL SCREEN LOCATION
- SOIL SAMPLE LOCATION WITH: TPH-G CONCENTRATION / TPH-D CONCENTRATION (e.g. 12 / 51)
- EXTENT OF LITHOLOGIC INFORMATION
- EXTENT OF CROSS-SECTION
- EXTENT OF ADSORBED TPH

Notes

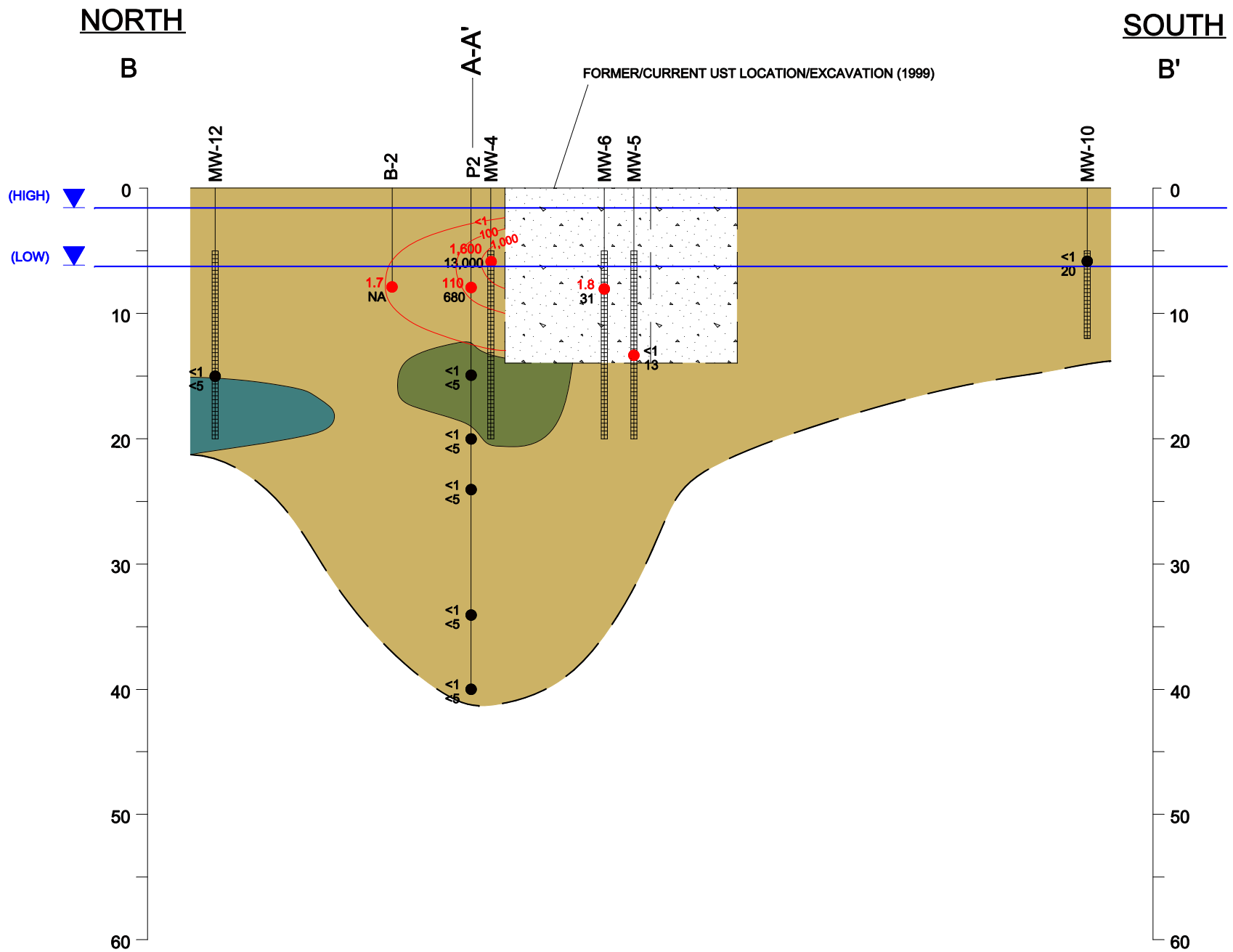
2.5X VERTICAL EXAGGERATION.
TPH-G: TOTAL PETROLEUM HYDROCARBONS AS GASOLINE
TPH-D: TOTAL PETROLEUM HYDROCARBONS AS DIESEL
ALL CONCENTRATIONS IN MILLIGRAMS PER KILOGRAM (MG/KG)
UST AREA PROJECTED - 5'
MW-8, B-4, AND B-5 PROKECTED - 13'
P-7 PROJECTED - 15' AND P-1 PROJECTED - 18'

SCALE
0 30 60
FEET

GEOLOGIC CROSS-SECTION A-A': ADSORBED TPH-G
RINO/PACIFIC OAKLAND TRUCK STOP
1107 5TH STREET
OAKLAND, CALIFORNIA

Advanced GeoEnvironmental, Inc.
www.advgeoenv.com

PROJECT NO. AGE-NC-03-1101 | FILE: AATPHG | FIGURE: 9
DATE: APRIL 2013 | DRAWN BY: MAC



LEGEND

- TOPSOIL/FILL MATERIAL
- SILTY CLAY, CLAY
- "BAY MUD:" PEAT, CLAYEY PEAT, PEATY CLAY, PEAT WITH SAND
- SAND, SILTY SAND, CLAYEY SAND, SANDY SILT
- HISTORICAL HIGH/LOW OR AVERAGE DEPTH TO GROUND WATER
- SCREEN INTERVAL OF WELL OR TEMPORARY WELL SCREEN LOCATION
- 12 / 51 — SOIL SAMPLE LOCATION WITH: TPH-G CONCENTRATION, TPH-D CONCENTRATION
- EXTENT OF LITHOLOGIC INFORMATION
- EXTENT OF CROSS-SECTION
- EXTENT OF ADSORBED TPH

Notes

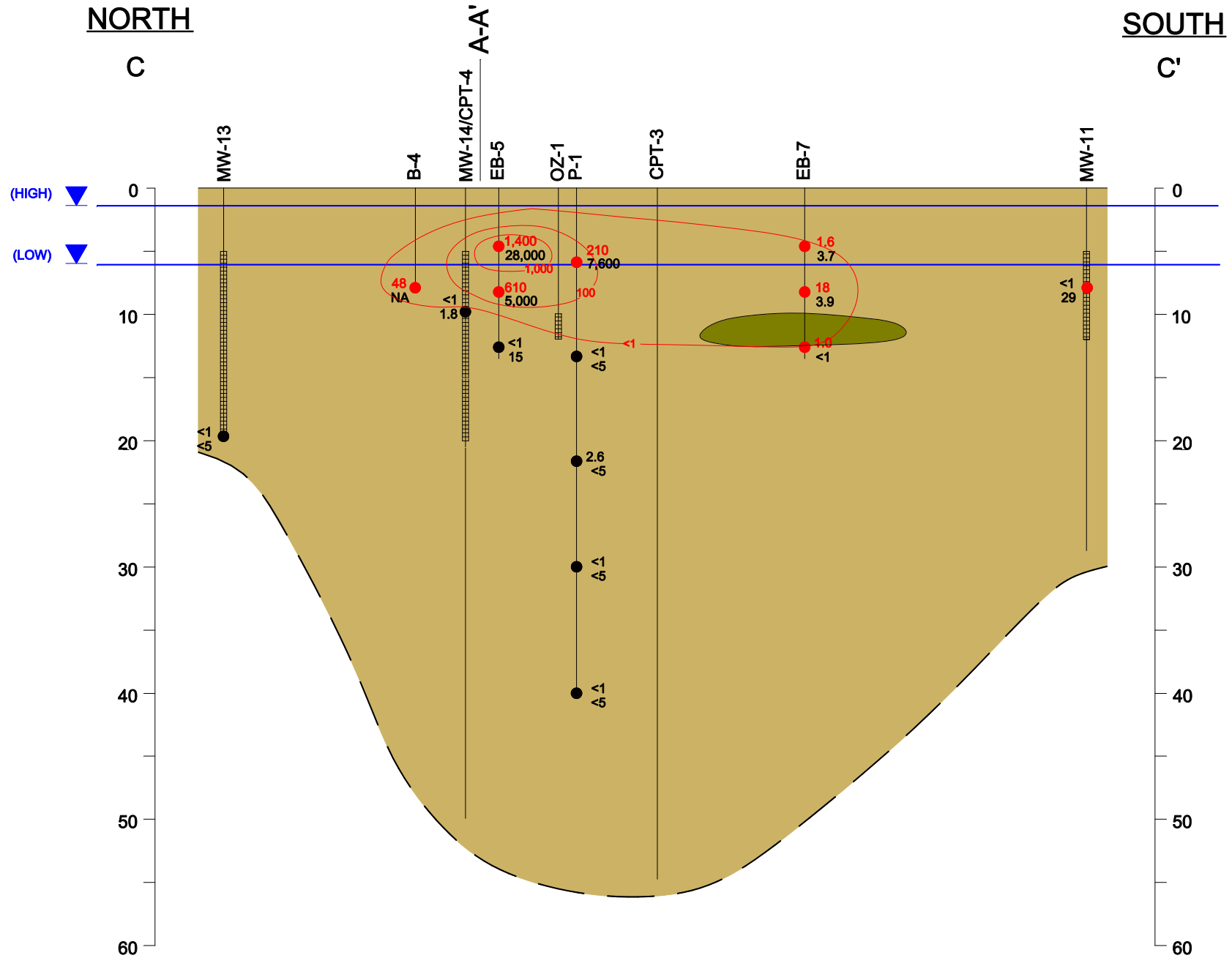
2.5X VERTICAL EXAGGERATION.
TPH-G: TOTAL PETROLEUM HYDROCARBONS AS GASOLINE
TPH-D: TOTAL PETROLEUM HYDROCARBONS AS DIESEL
ALL CONCENTRATIONS IN MILLIGRAMS PER KILOGRAM (MG/KG)
B-2 AND P-2 PROJECTED-5', MW-5, MW-6, AND MW-12 PROJECTED-20'

SCALE
0 30 60
FEET

GEOLOGIC CROSS-SECTION B-B': ADSORBED TPH-G
RINO/PACIFIC OAKLAND TRUCK STOP
1107 5TH STREET
OAKLAND, CALIFORNIA

Advanced GeoEnvironmental, Inc.
www.advgeoenv.com

PROJECT NO. AGE-NC-03-1101 | FILE: BBTPHG | FIGURE: 10
DATE: APRIL 2013 | DRAWN BY: MAC



LEGEND

- TOPSOIL/FILL MATERIAL
- SILTY CLAY, CLAY
- "BAY MUD:" PEAT, CLAYEY PEAT, PEATY CLAY, PEAT WITH SAND
- SAND, SILTY SAND, CLAYEY SAND, SANDY SILT

- HISTORICAL HIGH/LOW OR AVERAGE DEPTH TO GROUND WATER
- SCREEN INTERVAL OF WELL OR TEMPORARY WELL SCREEN LOCATION
- 12 / 51 — SOIL SAMPLE LOCATION WITH: TPH-G CONCENTRATION, TPH-D CONCENTRATION
- EXTENT OF LITHOLOGIC INFORMATION
- EXTENT OF CROSS-SECTION
- EXTENT OF ADSORBED TPH

Notes

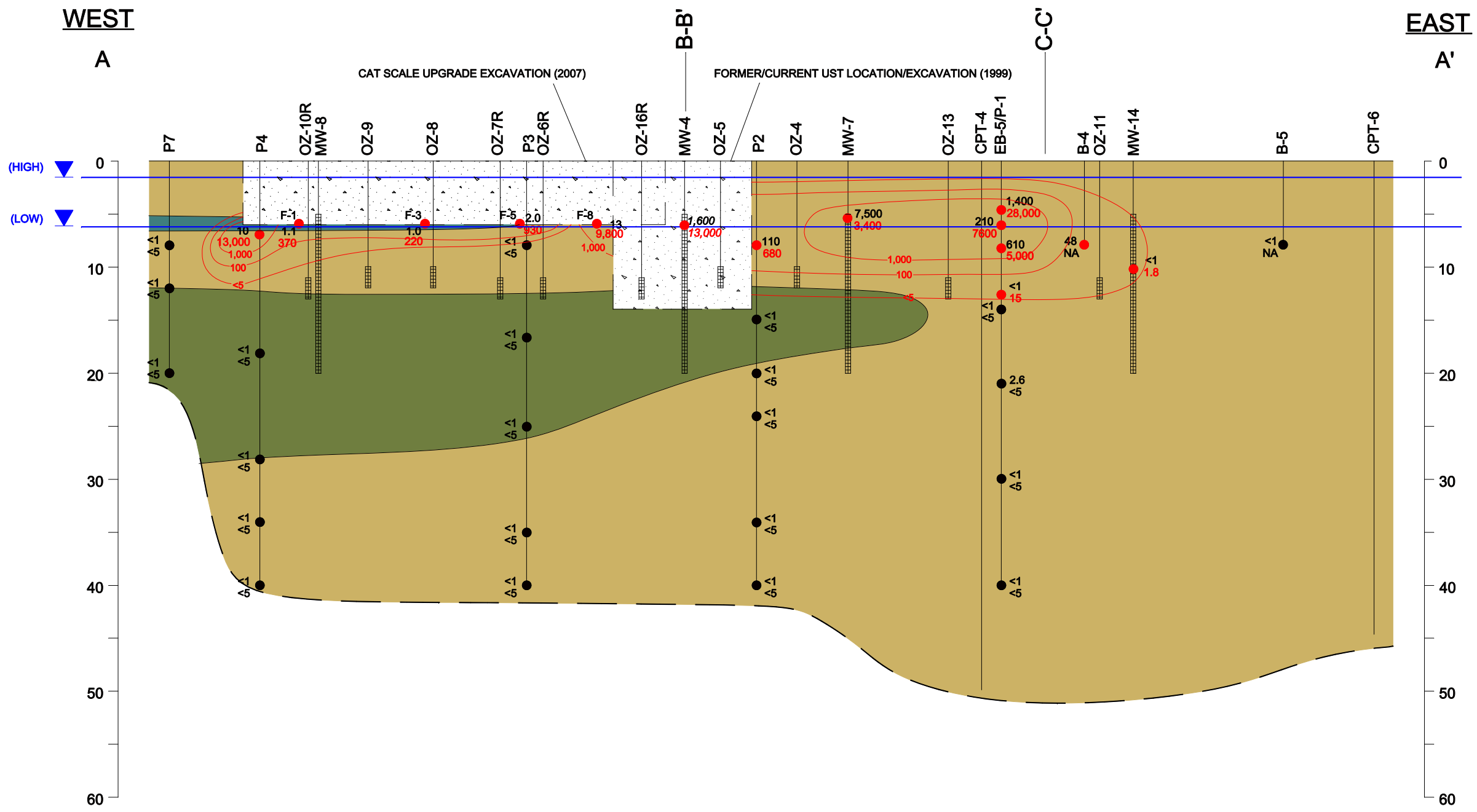
2.5X VERTICAL EXAGGERATION.
TPH-G: TOTAL PETROLEUM HYDROCARBONS AS GASOLINE
TPH-D: TOTAL PETROLEUM HYDROCARBONS AS DIESEL
ALL CONCENTRATIONS IN MILLIGRAMS PER KILOGRAM (MG/KG)
P-1 PROJECTED-5' AND B-4 PROJECTED-8'
MW-13 PROJECTED-25' AND MW-14 PROJECTED-20'

SCALE
0 30 60
FEET

GEOLOGIC CROSS-SECTION C-C': ADSORBED TPH-G
RINO/PACIFIC OAKLAND TRUCK STOP
1107 5TH STREET
OAKLAND, CALIFORNIA

Advanced GeoEnvironmental, Inc.
www.advgeoenv.com

PROJECT NO. AGE-NC-03-1101 | FILE: CCTPHG | FIGURE: 11
DATE: APRIL 2013 | DRAWN BY: MAC



LEGEND

- TOPSOIL/FILL MATERIAL
- SILTY CLAY, CLAY
- "BAY MUD:" PEAT, CLAYEY PEAT, PEATY CLAY, PEAT WITH SAND
- SAND, SILTY SAND, CLAYEY SAND, SANDY SILT
- HISTORICAL HIGH/LOW OR AVERAGE DEPTH TO GROUND WATER
- SCREEN INTERVAL OF WELL OR TEMPORARY WELL SCREEN LOCATION
- 12 / 51 — SOIL SAMPLE LOCATION WITH: TPH-G CONCENTRATION / TPH-D CONCENTRATION
- EXTENT OF LITHOLOGIC INFORMATION
- EXTENT OF CROSS-SECTION
- EXTENT OF ADSORBED TPH

Notes

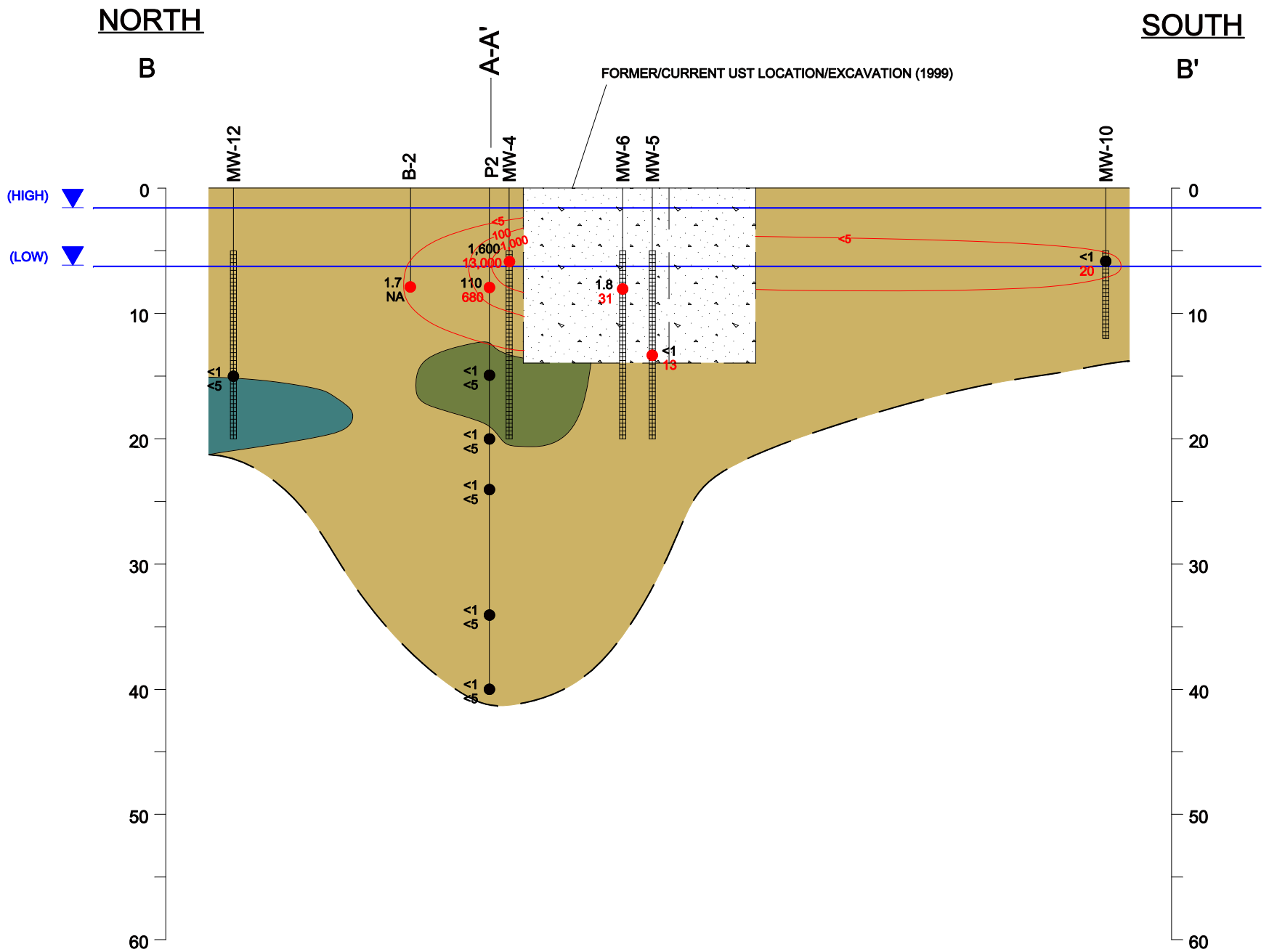
2.5X VERTICAL EXAGGERATION.
TPH-G: TOTAL PETROLEUM HYDROCARBONS AS GASOLINE
TPH-D: TOTAL PETROLEUM HYDROCARBONS AS DIESEL
ALL CONCENTRATIONS IN MILLIGRAMS PER KILOGRAM (MG/KG)
UST AREA PROJECTED - 5'
MW-8, B-4, AND B-5 PROKECTED - 13'
P-7 PROJECTED - 15' AND P-1 PROJECTED - 18'
F-8 PROJECTED - 6'

SCALE
0 30 60
FEET

GEOLOGIC CROSS-SECTION A-A': ADSORBED TPH-D
RINO/PACIFIC OAKLAND TRUCK STOP
1107 5TH STREET
OAKLAND, CALIFORNIA

Advanced GeoEnvironmental, Inc.
www.advgeoenv.com

PROJECT NO. AGE-NC-03-1101 | FILE: AATPHD | FIGURE: 12
DATE: APRIL 2013 | DRAWN BY: MAC



LEGEND

- TOPSOIL/FILL MATERIAL
- SILTY CLAY, CLAY
- "BAY MUD:" PEAT, CLAYEY PEAT, PEATY CLAY, PEAT WITH SAND
- SAND, SILTY SAND, CLAYEY SAND, SANDY SILT
- HISTORICAL HIGH/LOW OR AVERAGE DEPTH TO GROUND WATER
- SCREEN INTERVAL OF WELL OR TEMPORARY WELL SCREEN LOCATION
- 12 / 51 — SOIL SAMPLE LOCATION WITH: TPH-G CONCENTRATION, TPH-D CONCENTRATION
- EXTENT OF LITHOLOGIC INFORMATION
- EXTENT OF CROSS-SECTION
- EXTENT OF ADSORBED TPH

Notes

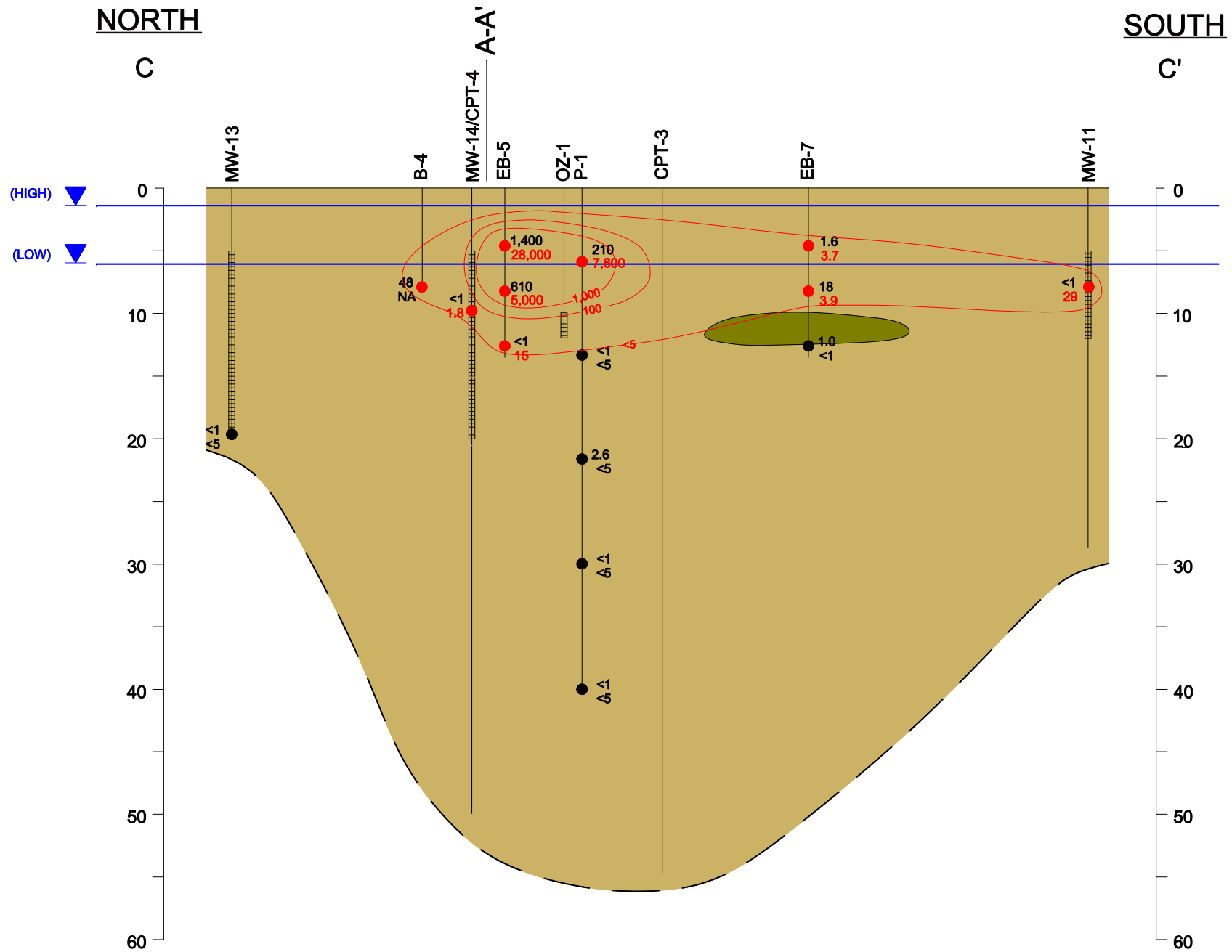
2.5X VERTICAL EXAGGERATION.
TPH-G: TOTAL PETROLEUM HYDROCARBONS AS GASOLINE
TPH-D: TOTAL PETROLEUM HYDROCARBONS AS DIESEL
ALL CONCENTRATIONS IN MILLIGRAMS PER KILOGRAM (MG/KG)
B-2 AND P-2 PROJECTED-5', MW-5, MW-6, AND MW-12 PROJECTED-20'

SCALE
0 30 60
FEET

GEOLOGIC CROSS-SECTION B-B': ADSORBED TPH-D
RINO/PACIFIC OAKLAND TRUCK STOP
1107 5TH STREET
OAKLAND, CALIFORNIA

Advanced GeoEnvironmental, Inc.
www.advgeoenv.com

PROJECT NO. AGE-NC-03-1101 | FILE: BBTPHD | FIGURE: 13
DATE: APRIL 2013 | DRAWN BY: MAC



LEGEND

- TOPSOIL/FILL MATERIAL
- SILTY CLAY, CLAY
- "BAY MUD:" PEAT, CLAYEY PEAT, PEATY CLAY, PEAT WITH SAND
- SAND, SILTY SAND, CLAYEY SAND, SANDY SILT

- HISTORICAL HIGH/LOW OR AVERAGE DEPTH TO GROUND WATER
- SCREEN INTERVAL OF WELL OR TEMPORARY WELL SCREEN LOCATION
- 12 / 51 — SOIL SAMPLE LOCATION WITH: TPH-G CONCENTRATION, TPH-D CONCENTRATION
- EXTENT OF LITHOLOGIC INFORMATION
- EXTENT OF CROSS-SECTION
- EXTENT OF ADSORBED TPH

Notes

2.5X VERTICAL EXAGGERATION.
TPH-G: TOTAL PETROLEUM HYDROCARBONS AS GASOLINE
TPH-D: TOTAL PETROLEUM HYDROCARBONS AS DIESEL
ALL CONCENTRATIONS IN MILLIGRAMS PER KILOGRAM (MG/KG)
P-1 PROJECTED-5' AND B-4 PROJECTED-8'
MW-13 PROJECTED-25' AND MW-14 PROJECTED-20'

SCALE
0 30 60
FEET

GEOLOGIC CROSS-SECTION C-C': ADSORBED TPH-D
RINO/PACIFIC OAKLAND TRUCK STOP
1107 5TH STREET
OAKLAND, CALIFORNIA

Advanced GeoEnvironmental, Inc.
www.advgeoenv.com

PROJECT NO. AGE-NC-03-1101 | FILE: CCTPHD | FIGURE: 14
DATE: APRIL 2013 | DRAWN BY: MAC

ADSORBED TPH: 10 TO 20 FEET
RINO PACIFIC/OAKLAND TRUCK STOP
1107 5TH STREET
OAKLAND, CALIFORNIA

Advanced GeoEnvironmental, Inc.
www.advgeoenv.com

PROJECT NO. AGE-NC-03-1101 | FILE: ADSTPH | FIGURE: 15
DATE: APRIL 2013 | DRAWN BY: MAC

Notes:
TPH-G: Total petroleum hydrocarbons quantified as gasoline.
TPH-D: Total petroleum hydrocarbons quantified as diesel.
mg/kg: milligram per kilogram
<: TPH-g/TPH-d concentration reported in soil samples below laboratory reporting limits.
Concentrations illustrated indicate the maximum concentration reported at each sampling location.

BART AERIAL TRACKS
INTERSTATE 880 OVERPASS
PARKING
BUILDING
GATED PARKING
APARTMENTS
BUILDINGS
ADELINE STREET
5TH STREET
APPROXIMATE EXTENT OF SCALE EXCAVATION
DRIVEWAY
PUMP ISLANDS
CURB
WALL
FENCE
FORMER USTs
CURRENT USTs
CHESTNUT STREET
A
A'
B
B'
C
C'
MW-1 (EB1) <1/3.4
MW-3N
MW-4
MW-5 <1/13
MW-6
MW-7
MW-8
MW-9
MW-10
MW-11
MW-12
MW-13
MW-13R
MW-14 <1/1.8
MW-15 <1/<1
MW-16 <1/<1
EB2 1.5/14
EB3 <1/1.9
EB4 1.7/5.8
EB5 <1/15
EB6 (MW3) <1/<1
EB7 1.0/<1
P1 <1/<5
P2 <1/<5
P3 <1/<5
P4 <1/<5
P5 <1/<5
P6 <1/<5
P7 <1/<5
B-1
B-2
B-3
B-4
B-5
B-6
B-7
B-8 <1/NA
F-1
F-2
F-3
F-4
F-5
F-6
F-7
F-8
<1.0

LEGEND

- FORMER UNDERGROUND STORAGE TANK (UST) LOCATION
- MW-6 1.8/31 — GROUND WATER MONITORING WELL LOCATION & DESIGNATION WITH MAXIMUM REPORTED TPH-G/TPH-D CONCENTRATION
- EB-4 470/1,100 — SOIL BORING LOCATION & DESIGNATION (OCTOBER 1996) WITH MAXIMUM REPORTED TPH-G/TPH-D CONCENTRATION
- B-2 1.7/NA — SOIL BORING LOCATION & DESIGNATION (JULY 2002) WITH MAXIMUM REPORTED TPH-G/TPH-D CONCENTRATION
- P2 110/680 — GEOPROBE SOIL BORING LOCATION (JULY 2006) WITH MAXIMUM REPORTED TPH-G/TPH-D CONCENTRATION
- F-1 (Floor) 1.1/370 — EXCAVATION SOIL SAMPLE LOCATION (APRIL 2007) WITH REPORTED TPH-G/TPH-D CONCENTRATION
- EXTENT OF ADSORBED TPH-G IN SOIL FROM 4 - 10 FEET BSG

N

SCALE
0 40 80
FEET

NOTES:
NS: NOT SAMPLED
TPH-G: TOTAL PETROLEUM HYDROCARBRONS QUANTIFIED AS GASOLINE
UG/L: MICROGRAMS PER LITER

29 NOVEMBER 2012

PARKING
CPT-1
BUILDING
GATED PARKING
APARTMENTS
BUILDINGS
ADELINE STREET
5TH STREET
MW-16
MW-12
MW-13R <50
MW-13
MW-15 <50
P7
B-1
P4
P4-W
B-2
50
1,000
10,000
P3-W
P3
MW-8 4,900
B-3
P2-W
P2
MW-7 50,000
B-4
P6
P5
P5-W
MW-4 32,000
MW-5 26,000
MW-14 1,000 (5/12)
B-5
MW-9 <50 (12/11)
MW-6 NS
P1
P1-W
MW-1 <50
WALL
BUILDING
CPT-3
CHESTNUT STREET
MW-3N <50
B-6
CPT-2
FENCE
MW-10 NS
DRIVEWAY
MW-11 NS
B-7
B-8

N
SCALE
0 40 80
FEET

LEGEND

- FORMER UNDERGROUND STORAGE TANK (UST) LOCATION
- EXISTING STRUCTURE
- MW-1 <50 — GROUNDWATER MONITORING WELL LOCATION & DESIGNATION TPH-G CONCENTRATION (ug/l)
- MW-12 — DESTROYED GROUNDWATER MONITORING WELL LOCATION & DESIGNATION
- APPROXIMATE TPH-G ISOCONCENTRATION LINE (UG/L)
- BORING LOCATION (JULY 2002)
- SOIL BORING/HYDROPUNCH BORING LOCATION (JULY 2006)
- OZONE SPARGE WELL LOCATION
- CPT-1 — CPT BORING LOCATION (SEPTEMBER 2007)

ESTIMATED LATERAL EXTENT OF DISSOLVED TPH-G
RINO PACIFIC/OAKLAND TRUCK STOP
1107 5TH STREET
OAKLAND, CALIFORNIA

Advanced GeoEnvironmental, Inc.
www.advgeoenv.com

PROJECT NO. AGE-NC-03-1101 | FILE: TPHG | FIGURE: 16
DATE: MAY 2012 | DRAWN BY: MAC

NOTES:
NS: NOT SAMPLED
TPH-D: TOTAL PETROLEUM HYDROCARBRONS QUANTIFIED AS DIESEL
UG/L: MICROGRAMS PER LITER

29 NOVEMBER 2012

PARKING
CPT-1
BUILDING
GATED PARKING
APARTMENTS
BUILDINGS
ADELINE STREET
5TH STREET
MW-16
MW-12
MW-13R <50
MW-13
MW-15 <50
P7
B-1
P4
P4-W
B-2
P3-W
P3
MW-8 4,500
MW-4 18,000
P2-W
P2
B-3
<50
1,000
10,000
MW-7 52,000
P6
P5
P5-W
B-4
B-5
MW-9 <50 (12/11)
MW-5 33,000
MW-14 880 (5/12)
MW-1 <50
MW-6 NS
P1
P1-W
WALL
BUILDING
CPT-3
CHESTNUT STREET
MW-3N <50
B-6
CPT-2
FENCE
MW-10 NS
MW-11 NS
DRIVEWAY
B-7
B-8

LEGEND

- FORMER UNDERGROUND STORAGE TANK (UST) LOCATION
- EXISTING STRUCTURE
- MW-1 <50 — GROUNDWATER MONITORING WELL LOCATION & DESIGNATION; TPH-D CONCENTRATION (micrograms per liter: ug/l)
- MW-12 — DESTROYED GROUNDWATER MONITORING WELL LOCATION & DESIGNATION
- APPROXIMATE TPH-D ISOCONCENTRATION LINE (UG/L)
- ? QUERIED WHERE UNCERTAIN
- BORING LOCATION (JULY 2002)
- CPT-1 — SOIL BORING/HYDROPUNCH BORING LOCATION (JULY 2006)
- OZONE SPARGE WELL LOCATION
- CPT BORING LOCATION (SEPTEMBER 2007)

N

SCALE
0 40 80
FEET

ESTIMATED LATERAL EXTENT OF DISSOLVED TPH-D
RINO PACIFIC/OAKLAND TRUCK STOP
1107 5TH STREET
OAKLAND, CALIFORNIA

Advanced GeoEnvironmental, Inc.
www.advgeoenv.com

PROJECT NO. AGE-NC-03-1101 | FILE: TPHD | FIGURE: 17
DATE: MAY 2012 | DRAWN BY: MAC

NOTES:
NS: NOT SAMPLED
MTBE: METHYL TERTIARY BUTYL ETHER
UG/L: MICROGRAMS PER LITER

29 NOVEMBER 2012

PARKING
CPT-1
BUILDING
GATED PARKING
APARTMENTS
BUILDINGS
ADELINE STREET
5TH STREET
MW-16
MW-12
MW-13R <1
MW-13
MW-15 <1
P7
P4
P4-W
B-1
B-2
P3-W
P3
MW-8 18
P6
P5
P5-W
MW-9 <1 (12/11)
MW-1 15
MW-5 <1
P2-W
P2
MW-4 66
B-3
B-4
MW-7 1,200
MW-6 130 (10/08)
MW-14 300 (5/12)
B-5
P1
P1-W
CHESTNUT STREET
CPT-3
MW-3N <1
WALL
BUILDING
BUILDING
CPT-2
B-6
FENCE
MW-10 NS
MW-11 NS
DRIVEWAY
B-7
BUILDING
BUILDINGS
B-8
<1
100
1000
N
SCALE
0 40 80
FEET

LEGEND

- FORMER UNDERGROUND STORAGE TANK (UST) LOCATION
- EXISTING STRUCTURE
- MW-1 <1.0 — GROUNDWATER MONITORING WELL LOCATION & DESIGNATION MTBE CONCENTRATION (ug/l)
- MW-12 — DESTROYED GROUNDWATER MONITORING WELL LOCATION & DESIGNATION
- APPROXIMATE MTBE ISOCONCENTRATION LINE (UG/L)
- ? — QUERIED WHERE UNCERTAIN
- BORING LOCATION (JULY 2002)
- SOIL BORING/HYDROPUNCH BORING LOCATION (JULY 2006)
- OZONE SPARGE WELL LOCATION
- CPT BORING LOCATION (SEPTEMBER 2007)

ESTIMATED LATERAL EXTENT OF DISSOLVED MTBE
RINO PACIFIC/OAKLAND TRUCK STOP
1107 5TH STREET
OAKLAND, CALIFORNIA

Advanced GeoEnvironmental, Inc.
www.advgeoenv.com

PROJECT NO. AGE-NC-03-1101	FILE: MTBE
DATE: MAY 2012	DRAWN BY: MAC

FIGURE: 18

NOTES:
NS: NOT SAMPLED
TBA: TERTIARY BUTYL ALCOHOL
UG/L: MICROGRAMS PER LITER

29 NOVEMBER 2012

PARKING
CPT-1
BUILDING
GATED PARKING
APARTMENTS
BUILDINGS
ADELINE STREET
5TH STREET
MW-16
MW-12
MW-13R <10
MW-13
MW-15 <10
P7
P4
P4-W
B-1
B-2
P3-W
P3
MW-8 13,000
P6
P5
P5-W
P2-W
P2
MW-4 34,000
B-3
B-4
10
1,000
10,000
MW-7 92,000
MW-5 8,600
MW-6 NS
MW-14 NS
P1
P1-W
B-5
MW-9 NS
MW-1 <10
WALL
BUILDING
BUILDING
BUILDING
CPT-3
CHESTNUT STREET
MW-3N <10
CPT-2
B-6
FENCE
MW-10 NS
MW-11 NS
DRIVEWAY
B-7
BUILDINGS
B-8

N
SCALE
0 40 80
FEET

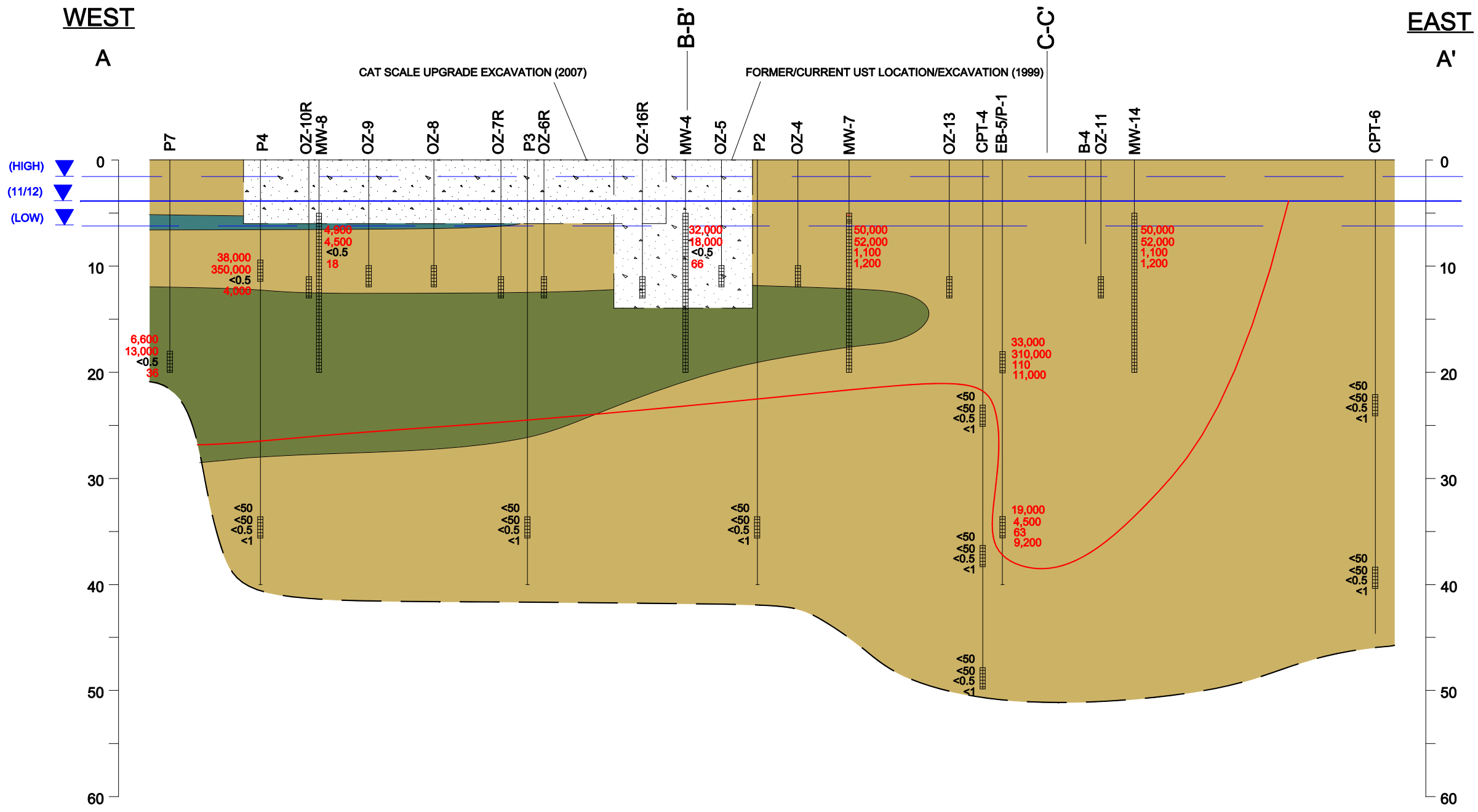
LEGEND

- FORMER UNDERGROUND STORAGE TANK (UST) LOCATION
- EXISTING STRUCTURE
- MW-1 <10 — GROUNDWATER MONITORING WELL LOCATION & DESIGNATION TBA CONCENTRATION (ug/l)
- MW-12 — DESTROYED GROUND WATER MONITORING WELL LOCATION & DESIGNATION
- APPROXIMATE TBA ISOCONCENTRATION LINE (UG/L)
- ? — QUERIED WHERE UNCERTAIN
- BORING LOCATION (JULY 2002)
- SOIL BORING/HYDROPUNCH BORING LOCATION (JULY 2006)
- OZONE SPARGE WELL LOCATION
- CPT BORING LOCATION (SEPTEMBER 2007)

ESTIMATED LATERAL EXTENT OF DISSOLVED TBA
RINO PACIFIC/OAKLAND TRUCK STOP
1107 5TH STREET
OAKLAND, CALIFORNIA

Advanced GeoEnvironmental, Inc.
www.advgeoenv.com

PROJECT NO. AGE-NC-03-1101 | FILE: TBA | FIGURE: 19
DATE: MAY 2012 | DRAWN BY: MAC



LEGEND

- TOPSOIL/FILL MATERIAL
- SILTY CLAY, CLAY
- "BAY MUD:" PEAT, CLAYEY PEAT, PEATY CLAY, PEAT WITH SAND
- SAND, SILTY SAND, CLAYEY SAND, SANDY SILT
- HISTORICAL HIGH/LOW OR AVERAGE DEPTH TO GROUND WATER
- SCREEN INTERVAL OF WELL OR TEMPORARY WELL SCREEN LOCATION
- 50,000 / 52,000 / 1,100 / 1,200 — GROUNDWATER SAMPLE LOCATION WITH: TPH-G CONCENTRATION, TPH-D CONCENTRATION, BENZENE, MTBE
- EXTENT OF LITHOLOGIC INFORMATION
- EXTENT OF CROSS-SECTION
- EXTENT OF DISSOLVED TPH

Notes

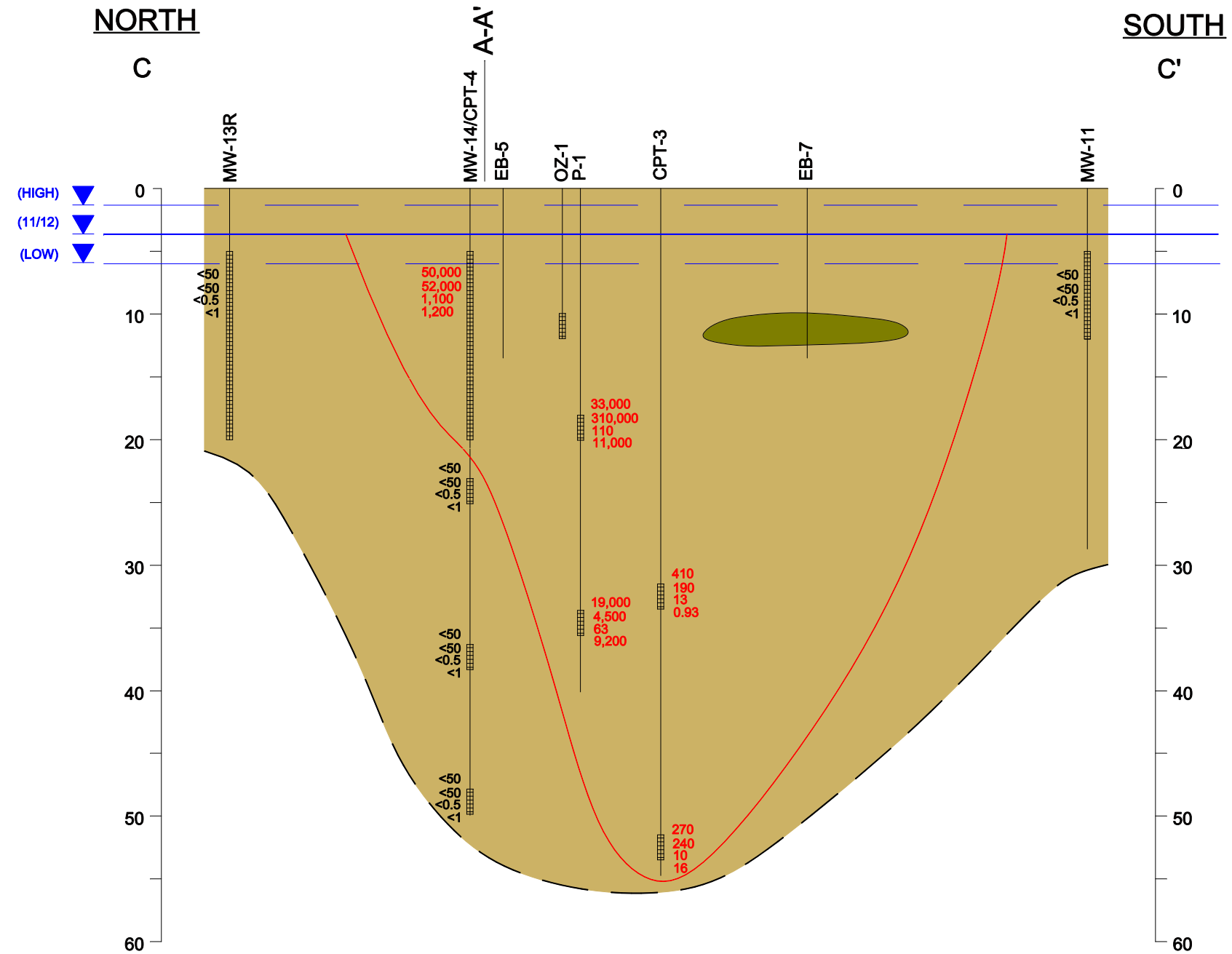
2.5X VERTICAL EXAGGERATION.
TPH-G: TOTAL PETROLEUM HYDROCARBONS AS GASOLINE
TPH-D: TOTAL PETROLEUM HYDROCARBONS AS DIESEL
MTBE: METHYL TERTIARY BUTYL ETHER
ALL CONCENTRATIONS IN MICROGRAMS PER LITER (UG/L)
UST AREA PROJECTED - 5'
MW-8, B-4, AND B-5 PROKECTED - 13'
P-7 PROJECTED - 15' AND P-1 PROJECTED - 18'

SCALE
0 30 60
FEET

GEOLOGIC CROSS-SECTION A-A': DISSOLVED TPH
RINO/PACIFIC OAKLAND TRUCK STOP
1107 5TH STREET
OAKLAND, CALIFORNIA

Advanced GeoEnvironmental, Inc.
www.advgeoenv.com

PROJECT NO. AGE-NC-03-1101 | FILE: AATPHG | FIGURE: 20
DATE: APRIL 2013 | DRAWN BY: MAC



LEGEND

- TOPSOIL/FILL MATERIAL
- SILTY CLAY, CLAY
- "BAY MUD:" PEAT, CLAYEY PEAT, PEATY CLAY, PEAT WITH SAND
- SAND, SILTY SAND, CLAYEY SAND, SANDY SILT
- HISTORICAL HIGH/LOW OR AVERAGE DEPTH TO GROUND WATER
- SCREEN INTERVAL OF WELL OR TEMPORARY WELL SCREEN LOCATION
- 410 / 190 / 13 / 0.93 — GROUNDWATER SAMPLE LOCATION WITH: TPH-G CONCENTRATION, TPH-D CONCENTRATION, BENZENE, MTBE
- EXTENT OF LITHOLOGIC INFORMATION
- EXTENT OF CROSS-SECTION
- EXTENT OF DISSOLVED TPH

Notes

2.5X VERTICAL EXAGGERATION.
TPH-G: TOTAL PETROLEUM HYDROCARBONS AS GASOLINE
TPH-D: TOTAL PETROLEUM HYDROCARBONS AS DIESEL
MTBE: METHYL TERTIARY BUTYL ETHER
ALL CONCENTRATIONS IN MICROGRAMS PER LITER (UG/L)
P-1 PROJECTED-5' AND B-4 PROJECTED-8'
MW-13 PROJECTED-25' AND MW-14 PROJECTED-20'
CPT-2 PROJECTED-25'

SCALE
0 30 60
FEET

GEOLOGIC CROSS-SECTION C-C': DISSOLVED TPH
RINO/PACIFIC OAKLAND TRUCK STOP
1107 5TH STREET
OAKLAND, CALIFORNIA

Advanced GeoEnvironmental, Inc.
www.advgeoenv.com

PROJECT NO. AGE-NC-03-1101 | FILE: CCTPHG | FIGURE: 21
DATE: APRIL 2013 | DRAWN BY: MAC

WEST

A

EAST

A'

CAT SCALE UPGRADE EXCAVATION (2007)

FORMER/CURRENT UST LOCATION/EXCAVATION (1999)

FUEL DISPENSERS

CHESTNUT STREET

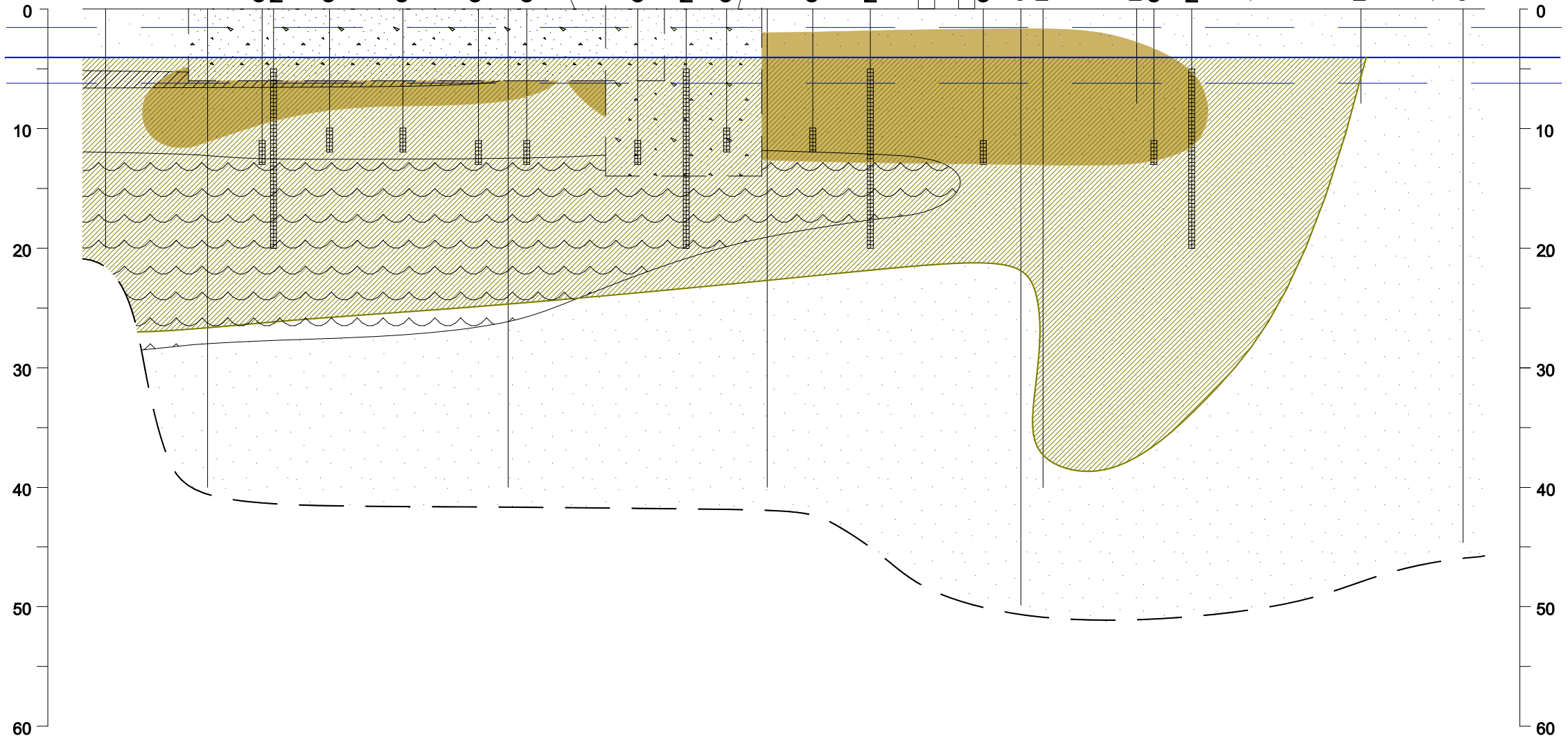
P7 P4 OZ-10R MW-8 OZ-9 OZ-8 OZ-7R P3 OZ-6R OZ-16R MW-4 OZ-5 P2 OZ-4 MW-7 OZ-13 CPT-4 EB-5/P-1 B-4 OZ-11 MW-14 B-5 CPT-6

(HIGH)

(11/12)

(LOW)

0 10 20 30 40 50 60



LEGEND

- TOPSOIL/FILL MATERIAL
- SILTY CLAY, CLAY
- "BAY MUD:" PEAT, CLAYEY PEAT, PEATY CLAY, PEAT WITH SAND
- SAND, SILTY SAND, CLAYEY SAND, SANDY SILT
- HISTORICAL HIGH/LOW OR AVERAGE DEPTH TO GROUND WATER
- SCREEN INTERVAL OF WELL OR TEMPORARY WELL SCREEN LOCATION
- EXTENT OF LITHOLOGIC INFORMATION
- EXTENT OF CROSS-SECTION

Notes

2.5X VERTICAL EXAGGERATION.
TPH-G: TOTAL PETROLEUM HYDROCARBONS AS GASOLINE
TPH-D: TOTAL PETROLEUM HYDROCARBONS AS DIESEL
ALL CONCENTRATIONS IN MILLIGRAMS PER KILOGRAM (MG/KG)
UST AREA PROJECTED - 5'
MW-8, B-4, AND B-5 PROKECTED - 13'
P-7 PROJECTED - 15' AND P-1 PROJECTED - 18'
F-8 PROJECTED - 6'

- HYDROCARBON-IMPACTED SOIL
- HYDROCARBON-IMPACTED GROUND WATER

SCALE
0 30 60
FEET

CONCEPTUAL SITE MODEL

RINO/PACIFIC OAKLAND TRUCK STOP
1107 5TH STREET
OAKLAND, CALIFORNIA

Advanced GeoEnvironmental, Inc.
www.advgeoenv.com

PROJECT NO. AGE-03-1101 | FILE: AACSM | FIGURE: 22
DATE: APRIL 2013 | DRAWN BY: MAC

TABLES

TABLE 1

WELL CONSTRUCTION DETAILS
Rino Pacific/Oakland Truck Stop
1107 5th Street, Oakland, California

Well ID	Installation Date	Borehole Diameter (inch)	Total Depth (feet)	Casing Diameter (inch)	Casing Material	Slot Size (inch)	Filter Pack	Casing Elevation (feet MSL)[1]	Screen Interval (feet bsg)	Filter Pack Interval (feet bsg)	Bentonite Interval (feet bsg)	Grout Interval (feet bsg)
GROUND WATER MONITORING WELLS												
MW-1	11-1996	8	21	2	PVC	0.020	#3	10.02	10 to 20	9 to 20	7 to 9	0.5 to 7
MW-2	11-1996	8	14	2	PVC	0.020	#3	-	8 to 13	7 to 14	5 to 7	0.5 to 5
MW-3	11-1996	8	17	2	PVC	0.020	#3	-	12 to 17	11 to 17	9 to 11	0.5 to 9
MW-3N	05-2002	8	14	2	PVC	0.010	#2/12	11.36	5 to 12	3 to 12	2 to 3	0.5 to 2
MW-4	08-2000	8	20.5	2	PVC	0.010	#2/12	10.16	5 to 20.5	4 to 20.5	3 to 4	0.5 to 3
MW-5	08-2000	8	20.5	2	PVC	0.010	#2/12	10.19	5 to 20.5	4 to 20.5	3 to 4	0.5 to 3
MW-6	08-2000	8	20.5	2	PVC	0.010	#2/12	10.33	5 to 20.5	4 to 20.5	3 to 4	0.5 to 3
MW-7	08-2000	8	20.5	2	PVC	0.010	#2/12	11.41	5 to 20.5	4 to 20.5	3 to 4	0.5 to 3
MW-8	08-2000	8	20.5	2	PVC	0.010	#2/12	9.73	5 to 20.5	4 to 20.5	3 to 4	0.5 to 3
MW-9	08-2000	8	20.5	2	PVC	0.010	#2/12	9.73	5 to 20.5	4 to 20.5	3 to 4	0.5 to 3
MW-10	05-2002	8	12	2	PVC	0.010	#2/12	9.42	5 to 12	3 to 12	2 to 3	0.5 to 2
MW-11	05-2002	8	28	2	PVC	0.010	#2/12	10.77	5 to 12	3 to 12	2 to 3	0.5 to 2
MW-12	10-2004	8	20	2	PVC	0.020	#2/12	10.59	5 to 20	4 to 20	1.5 to 4	0.5 to 1.5
MW-13	10-2004	8	20	2	PVC	0.020	#2/12	11.29	5 to 20	4 to 20	1.5 to 4	0.5 to 1.5
MW-14	10-2004	8	20	2	PVC	0.020	#2/12	11.39	5 to 20	4 to 20	1.5 to 4	0.5 to 1.5
MW-15	09-20-2007	8	20.5	2	PVC	0.010	#2/12	11.38	5 to 20	3 to 20.5	2 to 3	0.5 to 2
MW-16	09-20-2007	8	20.5	2	PVC	0.010	#2/12	10.36	5 to 20	3 to 20.5	2 to 3	0.5 to 2
MW-13R	10-04-2011	8	20	2	PVC	0.020	#3	11.56	5 to 20	4 to 20	2 to 4	0.5 to 2

TABLE 1

WELL CONSTRUCTION DETAILS
Rino Pacific/Oakland Truck Stop
1107 5th Street, Oakland, California

REMEDIATION WELLS											
Well ID	Installation Date	Borehole Diameter (inch)	Total Depth	Blank Casing Diameter (inch)	Casing Material	Micro-sparge diameter (inch)	Filter Pack	Sparge Interval	Filter Pack Interval (feet bsg)	Bentonite Interval (feet bsg)	Grout Interval (feet bsg)
OZ-1 thru OZ10	03-2004	8	12.5	1	PVC	2	#2/12	10 to 12	9 to 12.5	-	-
OZ-11 thru OZ20	10-2004	8	15	1	PVC	2	#2/12	11 to 13	9 to 15	7 to 9	1.5 to 7
OZ6R	7/19/2007	8	14	1	PVC	2	#3	11 to 13	9 to 14	6 to 9	1 to 6
OZ7R	7/19/2007	8	14	1	PVC	2	#3	11 to 13	9 to 14	6 to 9	1 to 6
OZ10R	7/19/2007	8	14	1	PVC	2	#3	11 to 13	9 to 14	6 to 9	1 to 6
OZ16R	7/19/2007	8	14	1	PVC	2	#3	11 to 13	9 to 14	6 to 9	1 to 6
OZ17R	7/19/2007	8	14	1	PVC	2	#3	11 to 13	9 to 14	6 to 9	1 to 6

DESTROYED WELLS	
Well ID	Date Destroyed
MW-2	12-30-1998
MW-3	02-15-2002
OZ-6	04-2007
OZ-7	04-2007
OZ-10	04-2007
OZ-16	04-2007
OZ-17	04-2007
MW-12	10-4-2011
MW-13	10-4-2011
MW-16	2011

Notes:
MSL: mean sea level
- : Indicates data is not known
bsg: below surface grade
MW: monitoring well
OZ: ozone sparge well
Casing elevations re-surveyed 02/02 2007.
MW-4, MW-15 and MW-16 surveyed on 30 November 2007. Performed by Morrow Surveying, Inc. relative to vertical datum NAVD 88 from GPS observations.
Casing elevations re-surveyed 12/01 2011 by Morrow Surveying Inc.

TABLE 2

GROUNDWATER ELEVATION DATA
Rino Pacific/Oakland Truck Stop
1107 5th Street, Oakland, California
(feet)

Well I.D. (Screen Interval) *Casing Elevation*	Date	Depth to Ground Water (ft btoc)	Ground Water Elevation (ft MSL)
10.34'	10/21/96	5.08	5.26
	11/04/96	3.02	7.32
	03/04/97	2.28	8.06
	06/12/97	4.80	5.54
	07/14/97	2.66	7.68
	09/09/97	2.45	7.89
	09/19/97	2.60	7.74
	02/13/98	2.76	7.58
	07/07/98	2.15	8.19
	10/01/98	3.63	6.71
	12/30/98	4.40	5.94
	03/21/00	2.62	7.72
	08/30/00	3.21	7.13
	11/06/00	3.10	7.24
	02/22/01	3.50	6.84
	05/07/01	2.94	7.40
	08/22/01	3.70	6.64
	11/04/01	3.89	6.45
	02/15/02	2.95	7.39
MW-1 (10 - 20 ft bsg)	05/20/02	3.39	7.05
	08/01/02	3.51	6.83
	11/11/02	4.00	6.34
	02/12/03	3.40	6.94
	05/12/03	3.65	6.69
	08/12/03	3.04	7.30
	01/09/04	4.64	5.70
	04/14/04	6.45	3.89
	07/21/04	3.55	6.79
	10/20/04	4.00	6.34
	03/19/05	2.54	7.80
	06/25/05	2.76	7.58
	09/17/05	3.88	6.46
	12/26/05	3.83	6.51
	03/26/06	4.09	6.25
	06/03/06	2.91	7.43
	08/30/06	3.62	6.72
	12/04/06	3.98	6.04

TABLE 2

GROUNDWATER ELEVATION DATA
Rino Pacific/Oakland Truck Stop
1107 5th Street, Oakland, California
(feet)

Well I.D. (Screen Interval) *Casing Elevation*	Date	Depth to Ground Water (ft btoc)	Ground Water Elevation (ft MSL)
*10.02'**	02/28/07	2.90	7.12
	05/29/07	3.84	6.18
	08/20/07	4.21	5.81
	10/25/07	3.75	6.27
	01/25/08	3.60	6.42
	04/30/08	3.93	6.09
	07/30/08	4.19	5.83
	10/23/08	4.57	5.45
	03/26/09	3.64	6.38
	06/05/09	3.80	6.22
MW-1 (10 - 20 ft bsg)	09/09/09	noacc	-
	11/12/09	3.63	6.39
	02/18/10	3.20	6.82
	05/17/10	3.28	6.74
	11/23/10	3.11	6.91
	05/20/11	3.47	6.55
	12/01/11	4.18	5.84
	05/23/12	3.70	6.32
	11/29/12	3.32	6.70

TABLE 2

GROUNDWATER ELEVATION DATA
Rino Pacific/Oakland Truck Stop
1107 5th Street, Oakland, California
(feet)

Well I.D. (Screen Interval) *Casing Elevation*	Date	Depth to Ground Water (ft btoc)	Ground Water Elevation (ft MSL)
11.67'	05/20/02	3.91	7.76
	08/01/02	4.22	7.45
	11/11/02	4.42	7.25
	02/12/03	3.71	7.96
	05/12/03	3.49	8.18
	08/12/03	4.18	7.49
	01/09/04	3.78	7.89
	04/14/04	4.01	7.66
	07/21/04	4.90	6.77
	10/20/04	5.28	6.39
	03/19/05	3.10	8.57
MW-3N (5 - 12 ft bsg)	06/25/05	3.10	8.57
	06/25/05	3.83	7.84
	09/17/05	4.94	6.73
	12/26/05	3.64	8.03
	03/23/06	2.86	8.81
	06/03/06	3.45	8.22
	08/30/06	4.78	6.89
	12/04/06	4.90	6.46
	02/28/07	3.36	8.00
	05/29/07	4.55	6.81
	08/20/07	5.40	5.96
*11.36**	10/25/07	4.97	6.39
	01/25/08	3.69	7.67
	04/30/08	4.69	6.67
	07/30/08	4.44	6.92
	10/23/08	5.98	5.38
	03/26/09	3.70	7.66
	06/05/09	4.68	6.68
	09/09/09	5.43	5.93
	11/12/09	4.66	6.70
	02/18/10	3.58	7.78
	05/17/10	4.01	7.35
	11/23/10	4.49	6.87
	05/20/11	4.30	7.06
	12/01/11	5.00	6.36
	05/23/12	4.22	7.14
	11/29/12	4.27	7.09

TABLE 2

GROUNDWATER ELEVATION DATA
Rino Pacific/Oakland Truck Stop
1107 5th Street, Oakland, California
(feet)

Well I.D. (Screen Interval) *Casing Elevation*	Date	Depth to Ground Water (ft btoc)	Ground Water Elevation (ft MSL)
10.46'	08/30/00	3.74	6.72
	11/06/00	3.85	6.61
	02/22/01	4.66	5.80
	05/07/01	2.66	7.80
	08/22/01	4.13	6.33
	11/04/01	4.53	5.93
	02/15/02	3.62	6.84
	05/20/02	3.65	6.81
	08/01/02	4.25	6.21
	11/11/02	4.85	5.61
	02/12/03	4.24	6.22
	05/12/03	4.20	6.26
	08/12/03	4.47	5.99
	01/09/04	3.92	6.54
	04/14/04	4.04	6.42
MW-4 (5 - 20 ft bsg)	07/21/04	4.55	5.91
	10/20/04	4.89	5.57
	03/19/05	3.51	6.95
	06/25/05	4.58	5.88
	09/17/05	4.54	5.92
	12/26/05	4.66	5.80
	03/23/06	3.80	6.66
	06/03/06	3.84	6.62
	08/30/06	4.75	5.71
	12/04/06	4.91	5.25
	02/28/07	4.18	5.98
	05/29/07	4.28	5.88
	08/20/07	4.82	5.34
	10/25/07	4.36	5.80
*10.16**	01/25/08	3.75	6.41
	04/30/08	4.52	5.64
	07/30/08	4.76	5.40
	10/23/08	4.96	5.20
	03/26/09	4.39	5.77
	06/05/09	4.60	5.56
	09/09/09	4.74	5.42
	11/12/09	4.46	5.70
	02/18/10	4.15	6.01
	05/17/10	4.26	5.90
	11/23/10	5.56	4.60
	05/20/11	4.29	5.87
9.93**	12/01/11	4.50	5.43
	05/23/12	4.34	5.59
	11/29/12	4.15	5.78

TABLE 2

GROUNDWATER ELEVATION DATA
Rino Pacific/Oakland Truck Stop
1107 5th Street, Oakland, California
(feet)

Well I.D. (Screen Interval) *Casing Elevation*	Date	Depth to Ground Water (ft btoc)	Ground Water Elevation (ft MSL)
10.24'	08/30/00	3.01	7.23
	11/06/00	3.35	6.89
	02/22/01	3.00	7.24
	05/07/01	2.73	7.51
	08/22/01	3.88	6.36
	11/04/01	3.95	6.29
	02/15/02	2.84	7.40
	05/20/02	2.86	7.38
	08/01/02	3.21	7.03
	11/11/02	4.04	6.20
MW-5 (5 - 20 ft bsg)	02/12/03	3.12	7.12
	05/12/03	3.18	7.06
	08/12/03	3.75	6.49
	01/09/04	3.18	7.06
	04/14/04	3.15	7.09
	07/21/04	4.00	6.24
	10/20/04	4.49	5.75
	03/19/05	2.39	7.85
	06/25/05	2.77	7.47
*10.19**	09/17/05	3.91	6.33
	12/26/05	3.46	6.78
	03/23/06	2.44	7.80
	06/03/06	2.55	7.69
	08/30/06	3.85	6.39
	12/04/06	4.37	5.82
	02/28/07	3.31	6.88
	05/29/07	4.45	5.74
	08/20/07	4.75	5.44
	10/25/07	4.21	5.98
	01/25/08	3.75	6.44
	04/30/08	4.33	5.86
	07/30/08	4.75	5.44
	10/23/08	5.01	5.18
	03/26/09	3.96	6.23
	06/05/09	4.34	5.85
	09/09/09	4.71	5.48
	11/12/09	4.35	5.84
	02/18/10	4.06	6.13
	05/17/10	4.08	6.11
	11/23/10	3.91	6.28
	05/20/11	4.13	6.06
	12/01/11	4.55	5.64
	05/23/12	4.24	5.95
	11/29/12	4.02	6.17

TABLE 2

GROUNDWATER ELEVATION DATA
Rino Pacific/Oakland Truck Stop
1107 5th Street, Oakland, California
(feet)

Well I.D. (Screen Interval) *Casing Elevation*	Date	Depth to Ground Water (ft btoc)	Ground Water Elevation (ft MSL)
10.62'	08/30/00	3.40	7.22
	11/06/00	3.72	6.90
	02/22/01	3.34	7.28
	05/07/01	3.08	7.54
	08/22/01	3.77	6.85
	11/04/01	4.33	6.29
	02/15/02	3.22	7.40
	05/20/02	3.24	7.38
	08/01/02	3.60	7.02
	11/11/02	4.41	6.21
	02/12/03	3.52	7.10
	05/12/03	3.34	7.28
	08/12/03	3.91	6.71
	01/09/04	3.35	7.27
MW-6 (5 - 20 ft bsg)	04/14/04	3.40	7.22
	07/21/04	4.21	6.41
	10/20/04	4.63	5.99
	03/19/05	2.54	8.08
	06/25/05	2.92	7.70
	09/17/05	4.06	6.56
	12/26/05	3.63	6.99
	03/23/06	2.60	8.02
	06/03/06	2.71	7.91
	08/30/06	4.02	6.60
	12/04/06	4.54	5.79
	02/28/07	3.49	6.84
	05/29/07	4.60	5.73
	08/20/07	4.90	5.58
*10.33'**	10/25/07	4.36	5.97
	01/25/08	3.92	6.41
	04/30/08	4.49	5.84
	07/30/08	4.87	5.46
	10/23/08	5.18	5.15
	03/26/09	4.08	6.25
	06/05/09	4.50	5.83
	09/09/09	4.87	5.46
	11/12/09	4.50	5.83
	02/18/10	3.95	6.38
	05/17/10	4.23	6.10
	05/20/11	4.30	6.03
	12/01/11	4.60	5.73
	05/23/12	4.41	5.92
	11/29/12	4.18	6.15

TABLE 2

GROUNDWATER ELEVATION DATA
Rino Pacific/Oakland Truck Stop
1107 5th Street, Oakland, California
(feet)

Well I.D. (Screen Interval) *Casing Elevation*	Date	Depth to Ground Water (ft btoc)	Ground Water Elevation (ft MSL)
11.69'	08/30/00	6.72	4.97
	11/06/00	6.85	4.84
	02/22/01	6.00	5.69
	05/07/01	6.35	5.34
	08/22/01	6.86	4.84
	11/04/01	6.66	5.03
	02/15/02	6.45	5.24
	05/20/02	6.59	5.10
	08/01/02	6.72	4.97
	11/11/02	6.61	5.08
	02/12/03	5.64	6.05
	05/12/03	5.68	6.01
	08/12/03	6.24	5.45
	01/09/04	5.65	6.04
MW-7 (5 - 20 ft bsg)	04/14/04	6.40	5.29
	07/21/04	6.31	5.38
	10/20/04	6.42	5.27
	03/19/05	5.48	6.21
	06/25/05	6.00	5.69
	09/17/05	6.55	5.14
	12/26/05	5.57	6.12
	03/23/06	5.47	6.22
	06/03/06	5.62	6.07
	08/30/06	6.17	5.52
	12/04/06	6.38	5.03
	02/28/07	6.11	5.30
	05/29/07	6.25	5.16
	08/20/07	6.65	4.76
*11.41'**	10/25/07	6.55	4.86
	01/25/08	6.30	5.11
	04/30/08	6.54	4.87
	07/30/08	6.50	4.91
	10/23/08	6.67	4.74
	03/26/09	5.91	5.50
	06/05/09	6.35	5.06
	09/09/09	6.73	4.68
	11/12/09	6.47	4.94
	02/18/10	5.97	5.44
	05/17/10	5.74	5.67
	11/23/10	6.05	5.36
	05/20/11	5.65	5.76
	12/01/11	6.54	4.87
	05/23/12	5.74	5.67
	11/29/12	5.96	5.45

TABLE 2

GROUNDWATER ELEVATION DATA
Rino Pacific/Oakland Truck Stop
1107 5th Street, Oakland, California
(feet)

Well I.D. (Screen Interval) *Casing Elevation*	Date	Depth to Ground Water (ft btoc)	Ground Water Elevation (ft MSL)
10.06'	08/30/00	3.06	7.00
	11/06/00	2.98	7.08
	02/22/01	2.46	7.60
	05/07/01	2.76	7.30
	08/22/01	3.56	6.50
	11/04/01	3.76	6.30
	02/15/02	2.72	7.34
*9.73'**	05/20/02	2.82	7.24
	08/01/02	3.06	7.00
	11/11/02	3.54	6.52
	02/12/03	3.07	6.99
	05/12/03	2.69	7.37
	08/12/03	3.10	6.96
	01/09/04	2.85	7.21
	04/14/04	3.45	6.61
	07/21/04	4.56	5.50
	10/20/04	4.72	5.34
	03/19/05	3.31	6.75
	06/25/05	3.05	7.01
	09/17/05	4.22	5.84
	12/26/05	3.24	6.82
	03/23/06	2.67	7.39
	06/03/06	2.63	7.43
	08/30/06	3.56	6.50
	12/04/06*	3.81	5.92
	02/28/07	3.06	6.67
MW-8 (5 - 20 ft bsg)	05/29/07	3.77	5.96
	08/20/07	4.21	5.52
	10/25/07	3.96	5.77
	01/25/08	2.97	6.76
	04/30/08	3.85	5.88
	07/30/08	4.16	5.57
	10/23/08	4.48	5.25
	03/26/09	3.25	6.48
	06/05/09	3.70	6.03
	09/09/09	4.10	5.63
	11/12/09	3.79	5.94
	02/18/10	3.19	6.54
	05/17/10	3.30	6.43
	11/23/10	3.21	6.52
	05/20/11	3.45	6.28
	12/01/11	3.76	5.97
	05/23/12	3.40	6.33
	11/29/12	3.33	6.40

TABLE 2

GROUNDWATER ELEVATION DATA
Rino Pacific/Oakland Truck Stop
1107 5th Street, Oakland, California
(feet)

Well I.D. (Screen Interval) *Casing Elevation*	Date	Depth to Ground Water (ft btoc)	Ground Water Elevation (ft MSL)
10.03'	08/30/00	2.81	7.22
	11/06/00	2.68	7.35
	02/22/01	2.20	7.83
	05/07/01	2.75	7.28
	08/22/01	3.80	6.23
	11/04/01	3.61	6.42
	02/15/02	2.92	7.11
	05/20/02	2.38	7.65
MW-9 (5 - 20 ft bsg)	08/01/02	2.72	7.31
	11/11/02	2.87	7.16
	02/12/03	2.43	7.60
	05/12/03	2.41	7.62
	08/12/03	2.61	7.42
	01/09/04	2.87	7.16
	04/14/04	3.65	6.38
	07/21/04	3.70	6.33
*9.73'**	10/20/04	4.20	5.83
	03/19/05	3.75	6.28
	06/25/05	3.85	6.18
	09/17/05	3.38	6.65
	12/26/05	2.01	8.02
	03/23/06	2.50	7.53
	06/03/06	2.63	7.40
	08/30/06	3.35	6.68
	12/04/06	3.63	6.10
	02/28/07	2.61	7.12
	05/29/07	3.34	6.39
	08/20/07	3.82	5.91
	10/25/07	3.21	6.52
	01/25/08	2.62	7.11
	04/30/08	3.55	6.18
	07/30/08	4.05	5.68
	10/23/08	3.96	5.77
	03/26/09	3.21	6.52
	06/05/09	3.25	6.48
	09/09/09	noacc	-
	11/12/09	3.19	6.54
	02/18/10	2.82	6.91
	05/17/10	2.79	6.94
	11/23/10	2.81	6.92
	05/20/11	9.24	0.49
	12/01/11	3.20	6.53
	05/23/12	2.95	6.78
	11/29/12	2.59	7.14

TABLE 2

GROUNDWATER ELEVATION DATA
Rino Pacific/Oakland Truck Stop
1107 5th Street, Oakland, California
(feet)

Well I.D. (Screen Interval) *Casing Elevation*	Date	Depth to Ground Water (ft btoc)	Ground Water Elevation (ft MSL)
11.07'	05/20/02	4.54	6.53
	06/18/02	4.25	6.82
	08/01/02	1.80	9.27
	11/11/02	1.50	9.57
	02/12/03	1.07	10.00
	05/12/03	1.01	10.06
	08/12/03	1.44	9.63
	01/09/04	0.90	10.17
	04/14/04	2.05	9.02
	07/21/04	2.78	8.29
	10/20/04	1.05	10.02
MW-10 (5 - 12 ft bsg)	03/19/05	0.75	10.32
	06/25/05	1.91	9.16
	09/17/05	2.90	8.17
	12/26/05	0.32	10.75
	03/23/06	0.76	10.31
	06/03/06	1.65	9.42
	08/30/06	2.70	8.37
	12/04/06	2.41	7.01
	02/28/07	0.30	9.12
	05/29/07	2.17	7.25
	08/20/07	3.04	6.38
*9.42'**	10/25/07	2.23	7.19
	01/25/08	0.58	8.84
	04/30/08	2.28	7.14
	07/30/08	3.07	6.35
	10/23/08	3.62	5.80
	03/26/09	1.30	8.12
	06/05/09	2.13	7.29
	09/09/09	2.87	6.55
	11/12/09	1.88	7.54
	02/18/10	1.25	8.17
	05/17/10	1.53	7.89
	11/23/10	noacc	-
	05/20/11	noacc	-
	12/01/11	noacc	-
	05/23/12	1.62	7.80
	11/29/12	1.10	8.32

TABLE 2

GROUNDWATER ELEVATION DATA
Rino Pacific/Oakland Truck Stop
1107 5th Street, Oakland, California
(feet)

Well I.D. (Screen Interval) *Casing Elevation*	Date	Depth to Ground Water (ft btoc)	Ground Water Elevation (ft MSL)
9.64'	05/20/02	0.84	8.80
	06/18/02	1.71	7.93
	08/01/02	4.88	4.76
	11/11/02	5.18	4.46
	02/12/03	3.85	5.79
	05/12/03	4.00	5.64
	08/12/03	4.31	5.33
	01/09/04	3.74	5.90
	04/14/04	5.73	3.91
	07/21/04	5.80	3.84
	10/20/04	--	--
MW-11 (5 - 12 ft bsg)	03/19/05	4.81	4.83
	06/25/05	4.56	5.08
	09/17/05	5.30	4.34
	12/26/05	5.11	4.53
	03/23/06	3.35	6.29
	06/03/06	3.65	5.99
	08/30/06	4.94	4.70
	12/04/06	5.43	5.34
	02/28/07	4.20	6.57
	05/29/07	4.75	6.02
	08/20/07	5.53	5.24
*10.77'**	10/25/07	5.64	5.06
	01/25/08	4.46	6.31
	04/30/08	4.82	5.95
	07/30/08	5.48	5.29
	10/23/08	6.02	4.75
	03/26/09	3.98	6.79
	06/05/09	4.19	6.58
	09/09/09	5.59	5.18
	11/12/09	5.05	5.72
	02/18/10	4.08	6.69
	05/17/10	3.61	7.16
	11/23/10	noacc	-
	05/20/11	3.89	6.88
	12/01/11	4.93	5.84
	05/23/12	3.96	6.81
	11/29/12	4.76	6.01

TABLE 2

GROUNDWATER ELEVATION DATA
Rino Pacific/Oakland Truck Stop
1107 5th Street, Oakland, California
(feet)

Well I.D. (Screen Interval) *Casing Elevation*	Date	Depth to Ground Water (ft btoc)	Ground Water Elevation (ft MSL)
*10.59'**	10/20/04	5.41	--
	03/19/05	5.74	--
	06/25/05	5.23	--
	09/17/05	5.74	--
	12/26/05	4.37	--
	03/23/06	4.36	--
	06/03/06	5.12	--
	08/30/06	5.67	--
	12/04/06	5.83	4.76
	02/28/07	4,80	5.79
	05/29/07	5.62	4.97
	08/20/07	5.88	4.71
	10/25/07	5,50	5.09
MW-12 (5 - 20 ft bsg)	01/25/08	4.74	5.85
	04/30/08	5.56	5.03
	07/30/08	5.73	4.86
	10/23/08	6.00	4.59
	03/26/09	4.71	5.88
	06/05/09	5.37	5.22
	09/09/09	5.81	4.78
	11/12/09	5.37	5.22
	02/18/10	4.57	6.02
	05/17/10	4.88	5.71
	11/23/10	noacc	-
	05/20/11	noacc	-
MW-12 destroyed on 04 October 2011			
*11.29'**	10/20/04	5.67	--
	03/19/05	4.82	--
	06/25/05	5.78	--
	09/17/05	6.21	--
	12/26/05	4.25	--
	03/23/06	4.57	--
	06/03/06	5.60	--
	08/30/06	6.20	--
	12/04/06	6.33	4.96
	02/28/07	4.95	6.34
	05/29/07	6.02	5.27
	08/20/07	6.42	4.87
	10/25/07	6.21	5.08
MW-13 (5 - 20 ft bsg)	01/25/08	5.23	6.06
	04/30/08	6.17	5.12
	07/30/08	6.32	4.97
	10/23/08	6.51	4.78
	03/26/09	5.42	5.87
	06/05/09	5.98	5.31
	09/09/09	6.45	4.84
	11/12/09	6.02	5.27
	02/18/10	5.07	6.22
	05/17/10	5.48	5.81
	11/23/10	noacc	-
	05/20/11	noacc	-
MW-13 destroyed on 04 October 2011			

TABLE 2

GROUNDWATER ELEVATION DATA
Rino Pacific/Oakland Truck Stop
1107 5th Street, Oakland, California
(feet)

Well I.D. (Screen Interval) *Casing Elevation*	Date	Depth to Ground Water (ft btoc)	Ground Water Elevation (ft MSL)
MW-13R (5 - 20 ft bsg)	12/01/11	6.31	5.25
	05/23/12	5.82	5.74
11.56**	11/29/12	5.53	6.03
*11.39'**	10/20/04	6.36	--
	03/19/05	5.20	--
	06/25/05	5.56	--
	09/17/05	6.09	--
	12/26/05	5.50	--
	03/23/06	5.06	--
	06/03/06	5.39	--
	08/30/06	5.92	--
	12/04/06	6.15	5.24
	02/28/07	5.84	5.55
	05/29/07	5.97	5.42
	08/20/07	6.43	4.96
	10/25/07	6.37	5.02
	01/25/08	6.13	5.26
MW-14 (5 - 20 ft bsg)	04/30/08	6.42	4.97
	07/30/08	6.35	5.04
	10/23/08	6.56	4.83
	03/26/09	5.80	5.59
	06/05/09	6.25	5.14
	09/09/09	6.63	4.76
	11/12/09	6.31	5.08
	02/18/10	5.75	5.64
	05/17/10	5.65	5.74
	11/23/10	6.00	5.39
	05/20/11	5.60	5.79
	12/01/11	6.30	5.09
	05/23/12	5.60	5.79
	11/29/12	5.90	5.49
*11.38**	10/05/07	6.14	5.24
	10/25/07	6.00	5.38
	01/25/08	5.76	5.62
	04/30/08	6.01	5.37
	07/30/08	5.98	5.40
	10/23/08	6.20	5.18
	03/26/09	5.45	5.93
MW-15 (5 - 20 ft bsg)	06/05/09	5.90	5.48
	09/09/09	6.28	5.10
	11/12/09	5.97	5.41
	02/18/10	5.45	5.93
	05/17/10	noacc	-
	11/23/10	noacc	-
	05/20/11	noacc	-
11.36**	12/01/11	5.95	5.41
	05/23//12	5.30	6.06
	11/29/12	5.54	5.82

TABLE 2

GROUNDWATER ELEVATION DATA
Rino Pacific/Oakland Truck Stop
1107 5th Street, Oakland, California
(feet)

Well I.D. (Screen Interval) *Casing Elevation*	Date	Depth to Ground Water (ft btoc)	Ground Water Elevation (ft MSL)
*10.36**	10/05/07	5.85	4.51
	10/25/07	5.51	4.85
	01/25/08	4.71	5.65
	04/30/08	5.70	4.66
	07/30/08	5.64	4.72
	10/23/08	5.90	4.46
	03/26/09	4.80	5.56
MW-16 (5 - 20 ft bsg)	06/05/09	5.42	4.94
	09/09/09	5.70	4.66
	11/12/09	5.34	5.02
	02/18/10	4.72	5.64
	05/17/10	4.97	5.39
	11/23/10	noacc	-
	05/20/11	noacc	-
MW-16 destroyed in 2011			

Notes:

bsg:	below surface grade
-:	information not available
*:	Casing elevations re-surveyed 02/02 2007. MW-4, MW-15 and MW-16 surveyed on 30 November 2007. Performed by Morrow Surveying, Inc. relative to vertical datum NAVD 88 from GPS observations.
**:	Casing elevations re-surveyed 12/01 2011. Performed by Morrow Surveying, Inc. relative to vertical datum NAVD 88 from GPS observations.

TABLE 3

ANALYTICAL RESULTS OF SOIL SAMPLES
Rino Pacific/Oakland Truck Stop
1107 5th Street, Oakland, California
(mg/Kg)

Sample I.D.	Sample Date	TPH-g	TPH-d	Benzene	Toluene	Ethyl-benzene	Total Xylenes	DIPE	ETBE	MTBE (8020)	MTBE (8260)	TAME	1,2-DCA	EDB	TBA
EB1-9 (MW1)	10/10/96	<1	<1	<0.005	<0.005	<0.005	<0.005	-	-	<0.05	-	-	-	-	-
EB1-13 (MW1)	10/10/96	<1	<1	<0.005	<0.005	<0.005	<0.005	-	-	<0.05	-	-	-	-	-
EB1-19.5 (MW1)	10/10/96	<1	**3.4**	<0.005	<0.005	<0.005	<0.005	-	-	<0.05	-	-	-	-	-
EB2-5	10/10/96	**200**	**1,600**	<0.005	<0.005	<0.005	**0.20**	-	-	<0.05	-	-	-	-	-
EB2-9	10/10/96	<1	<1	<0.005	<0.005	<0.005	<0.005	-	-	<0.05	-	-	-	-	-
EB2-13	10/10/96	**1.5**	**14**	<0.005	**0.009**	<0.005	**0.007**	-	-	<0.05	-	-	-	-	-
EB3-9.5	10/10/96	<1	**1.8**	**0.018**	**0.038**	**0.007**	**0.027**	-	-	<0.05	-	-	-	-	-
EB3-13	10/10/96	<1	<1	**0.017**	**0.052**	**0.009**	**0.038**	-	-	<0.05	-	-	-	-	-
EB3-16	10/10/96	<1	**1.9**	**0.012**	**0.042**	**0.009**	**0.041**	-	-	<0.05	-	-	-	-	-
EB4-5 (MW2)	10/10/96	**6.1**	**2.1**	**0.97**	**0.94**	**0.10**	**0.44**	-	-	**83**	**-**	-	-	-	-
EB4-9 (MW2)	10/10/96	**470**	**1,100**	**12**	**47**	**12**	**63**	-	-	**100**	**-**	-	-	-	-
EB4-12.5 (MW2)	10/10/96	**1.7**	**5.9**	**0.035**	**0.14**	**0.030**	**0.15**	-	-	**0.34**	**-**	-	-	-	-
EB5-4.5	10/10/96	**1,400**	**28,000**	**3.5**	**12**	**9.4**	**25**	-	-	<4	-	-	-	-	
EB5-8.5	10/10/96	**610**	**5,000**	**1.2**	**1.4**	**5.0**	**2.2**	-	-	<0.85	-	-	-	-	
EB5-12.5	10/10/96	<1	**15**	**0.03**	**0.007**	**0.011**	**0.008**	-	-	**0.2**	**-**	-	-	-	
EB6-4.5 (MW3)	10/10/96	**7.8**	**390**	**0.13**	<0.01	<0.01	**0.027**	-	-	**1.9**	**-**	-	-	-	-
EB6-9 (MW3)	10/10/96	<1	**2.0**	<0.005	<0.005	<0.005	<0.005	-	-	<0.05	-	-	-	-	-
EB6-12.5 (MW3)	10/10/96	<1	<1	<0.005	<0.005	<0.005	<0.005	-	-	<0.05	-	-	-	-	-
EB7-4.5 (MW3)	10/10/96	**1.6**	**3.7**	**0.18**	**0.018**	**0.030**	**0.063**	-	-	**0.13**	**-**	-	-	-	-
EB7-8.5 (MW3)	10/10/96	**18**	**3.9**	**1.5**	**1.7**	**0.27**	**1.3**	-	-	**2.3**	**-**	-	-	-	-
EB7-12.5 (MW3)	10/10/96	**1.0**	<1	**0.12**	**0.075**	**0.027**	**0.11**	-	-	**0.15**	**-**	-	-	-	-
MW-4-6.0	08/16/00	**1,600**	**13,000**	**4.5**	**13**	**5.1**	**14**	<0.1	<0.1	**190**	**20**	<0.1	<1	<0.1	<0.5
MW-5-13.0	08/16/00	<1	**13**	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	**9.9**	**0.54**	<0.01	<0.01	<0.01	<0.05
MW-6-8.5	08/16/00	**1.8**	**31**	<0.005	**0.018**	<0.005	<0.005	<0.0035	<0.0035	**1.6**	**0.12**	<0.0035	<0.035	<0.0035	<0.018
MW-7-5.5	08/17/00	**7,500**	**3,400**	**200**	**700**	**160**	**870**	<0.63	<0.63	**230**	**32**	<0.63	<0.63	<0.63	<3.2
MW-8-5.0	08/17/00	<1	<1.0	<0.005	<0.005	<0.005	<0.005	<0.0170	<0.0170	**5.9**	**0.54**	<0.0170	<0.170	<0.017	<0.085
MW-9-6.5	08/23/00	**37**	**440**	<0.005	<0.005	<0.005	<0.005	<0.0025	<0.0025	<0.05	<0.0025	<0.0025	<0.0025	<0.0025	<0.013
MW-3N-7.5	05/08/02	**2.3**	**30**	<0.005	<0.005	<0.005	**0.0072**	<0.0005	<0.0005	**0.097**	**0.011**	<0.0005	<0.0005	<0.0005	<0.005
MW-10-6.5	05/08/02	<1	**20**	<0.005	<0.005	<0.005	<0.005	<0.0005	<0.0005	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	<0.005

TABLE 3

ANALYTICAL RESULTS OF SOIL SAMPLES
Rino Pacific/Oakland Truck Stop
1107 5th Street, Oakland, California
(mg/Kg)

Sample I.D.	Sample Date	TPH-g	TPH-d	Benzene	Toluene	Ethyl-benzene	Total Xylenes	DIPE	ETBE	MTBE (8020)	MTBE (8260)	TAME	1,2-DCA	EDB	TBA
MW-11-7.0	05/08/02	<1	**29**	<0.005	<0.005	<0.005	<0.005	<0.0005	<0.0005	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	<0.005
B-1S-8	07/18/02	**6.0**	-	**0.071**	**0.016**	**0.13**	**0.44**	<0.068	<0.068	**14**	**1.5**	<0.068	<0.068	<0.068	<0.68
B-2S-8	07/18/02	**1.7**	-	**0.027**	**0.012**	**0.028**	**0.085**	<0.19	<0.19	**58**	**7.2**	<0.19	<0.19	<0.19	<1.9
B-3S-8	07/18/02	**13**	**-**	**0.024**	**0.022**	**0.12**	**0.48**	<0.16	<0.16	**51**	**5.0**	<0.16	<0.16	<0.16	<1.6
B-4S-8	07/18/02	**48**	-	<0.04	<0.04	<0.04	**0.082**	<0.17	<0.17	**53**	**5.1**	<0.17	<0.17	<0.17	<1.7
B-5S-8	07/18/02	<1	-	<0.005	<0.005	<0.005	<0.005	<0.0005	<0.0005	**0.08**	<0.0005	<0.0005	<0.0005	<0.0005	<0.005
B-6S-8	07/18/02	<1	-	<0.005	<0.005	<0.005	<0.005	<0.0005	<0.0005	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	<0.005
B-7S-5	07/18/02	<1	-	<0.005	<0.005	<0.005	<0.005	<0.0005	<0.0005	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	<0.005
B-8S-6	07/18/02	<1	-	<0.005	<0.005	<0.005	<0.005	<0.0005	<0.0005	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	<0.005
MW12-15	10/20/04	<1	<1	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	-	<0.005	<0.005	<0.005	<0.005	<0.025
MW13-20	10/20/04	<1	<1	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	-	<0.005	<0.005	<0.005	<0.005	<0.025
MW14-10	10/20/04	<1	**1.8**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	-	**2.0**	<0.005	<0.005	<0.005	<0.025
P1-6	07/05/06	**210**	**7,600**	<0.05	<0.05	<0.05	<0.05	<0.1	<0.1	-	<0.05	<0.1	<0.05	<0.05	<1
P1-14	07/05/06	<1	<5	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	-	<0.005	<0.01	<0.005	<0.005	<0.1
P1-21	07/05/06		<5	**0.014**	<0.005	<0.005	<0.005	<0.01	<0.01	-	<0.005	<0.01	<0.005	<0.005	<0.1
P1-30	07/05/06	<1	<5	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	-	<0.005	<0.01	<0.005	<0.005	<0.1
P1-40	07/05/06	<1	<5	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	-	<0.005	<0.01	<0.005	<0.005	<0.1
P2-8	07/05/06	**110**	**680**	<0.05	**0.22**	**0.62**	**4.2**	<0.1	<0.1	-	<0.05	<0.1	<0.05	<0.05	<1
P2-15	07/05/06	<1	<5	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	-	<0.005	<0.01	<0.005	<0.005	<0.1
P2-20	07/05/06	<1	<5	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	-	<0.005	<0.01	<0.005	<0.005	<0.1
P2-24	07/05/06	<1	<5	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	-	<0.005	<0.01	<0.005	<0.005	<0.1
P2-34	07/05/06	<1	<5	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	-	<0.005	<0.01	<0.005	<0.005	<0.1
P2-40	07/05/06	<1	<5	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	-	<0.005	<0.01	<0.005	<0.005	<0.1
P3-8	07/06/06	<1	<5	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	-	<0.005	<0.01	<0.005	<0.005	<0.1
P3-17	07/06/06	<1	<5	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	-	<0.005	<0.01	<0.005	<0.005	<0.1
P3-25	07/06/06	<1	<5	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	-	<0.005	<0.01	<0.005	<0.005	<0.1
P3-35	07/06/06	<1	<5	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	-	<0.005	<0.01	<0.005	<0.005	<0.1
P3-40	07/06/06	<1	<5	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	-	<0.005	<0.01	<0.005	<0.005	<0.1
P4-7	07/06/06	**10**	**13,000**	<0.05	<0.05	<0.05	<0.05	<0.1	<0.1	-	<0.05	<0.1	<0.05	<0.05	<1

TABLE 3

ANALYTICAL RESULTS OF SOIL SAMPLES
Rino Pacific/Oakland Truck Stop
1107 5th Street, Oakland, California
(mg/Kg)

Sample I.D.	Sample Date	TPH-g	TPH-d	Benzene	Toluene	Ethyl-benzene	Total Xylenes	DIPE	ETBE	MTBE (8020)	MTBE (8260)	TAME	1,2-DCA	EDB	TBA
P4-18	07/06/06	<1	<5	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	-	<0.005	<0.01	<0.005	<0.005	<0.1
P4-28	07/06/06	<1	<5	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	-	<0.005	<0.01	<0.005	<0.005	<0.1
P4-34	07/06/06	<1	<5	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	-	<0.005	<0.01	<0.005	<0.005	<0.1
P4-40	07/06/06	<1	<5	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	-	<0.005	<0.01	<0.005	<0.005	<0.1
P5-10	07/06/06	<1	<5	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	-	<0.005	<0.01	<0.005	<0.005	<0.1
P5-20	07/06/06	<1	<5	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	-	<0.005	<0.01	<0.005	<0.005	<0.1
P5-30	07/06/06	<1	<5	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	-	<0.005	<0.01	<0.005	<0.005	<0.1
P5-40	07/06/06	<1	<5	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	-	<0.005	<0.01	<0.005	<0.005	<0.1
P6-8	07/18/06	<1	<5	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	-	<0.005	<0.01	<0.005	<0.005	<0.1
P6-12	07/18/06	<1	<5	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	-	<0.005	<0.01	<0.005	<0.005	<0.1
P6-20	07/18/06	<1	<5	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	-	<0.005	<0.01	<0.005	<0.005	<0.1
P7-8	07/18/06	<1	<5	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	-	<0.005	<0.01	<0.005	<0.005	<0.1
P7-12	07/18/06	<1	<5	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	-	<0.005	<0.01	<0.005	<0.005	<0.1
P7-20	07/18/06	<1	<5	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	-	<0.005	<0.01	<0.005	<0.005	<0.1
MW-15-6.5'	09/20/07	**1.4**	**1.4**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	-	<0.005	<0.005	<0.005	<0.005	<0.1
MW-15-11.5'	09/20/07	<1	<1	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	-	<0.005	<0.005	<0.005	<0.005	<0.1
MW-15-20'	09/20/07	<1	<1	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	-	<0.005	<0.005	<0.005	<0.005	<0.1
MW-16-6.5'	09/20/07	<1	**3.3**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	-	<0.005	<0.005	<0.005	<0.005	<0.1
MW-16-11.5'	09/20/07	<1	<1	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	-	<0.005	<0.005	<0.005	<0.005	<0.1
MW-16-20'	09/20/07	<1	<1	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	-	<0.005	<0.005	<0.005	<0.005	<0.1

TABLE 3

ANALYTICAL RESULTS OF SOIL SAMPLES
Rino Pacific/Oakland Truck Stop
1107 5th Street, Oakland, California
(mg/Kg)

Sample I.D.	Sample Date	TPH-g	TPH-d	Benzene	Toluene	Ethyl-benzene	Total Xylenes	DIPE	ETBE	MTBE (8020)	MTBE (8260)	TAME	1,2-DCA	EDB	TBA
Excavation Sampling Results															
SP-1	02/04/99	**300**	**2,300**	**2.1**	**13**	**5.6**	**31**	-	-	**57**	**-**	-	-	-	-
SP-2	02/04/99	**410**	**1,300**	**4.0**	**12**	**5.7**	**47**	-	-	**6.8**	**-**	-	-	-	-
SP-3	02/04/99	**950**	**6,000**	**13**	**20**	**20**	**87**	-	-	**34**	**-**	-	-	-	-
B-1-14	03/03/99	<1	<1	<0.005	<0.005	<0.005	<0.005	-	-	**1.3**	**-**	-	-	-	-
SW-1-8	03/03/99	<1	<1	<0.005	<0.005	<0.005	<0.005	-	-	**26**	**-**	-	-	-	-
B-2-14	03/03/99	<1	**4.3**	<0.005	<0.005	<0.005	<0.005	-	-	<0.05	-	-	-	-	-
SW-2-6	03/03/99	<1	**4.2**	<0.005	**0.028**	<0.005	**0.047**	-	-	**30**	**-**	-	-	-	-
B-3-14	03/03/99	<1	**2.2**	<0.005	**0.017**	<0.005	**0.014**	-	-	<0.05	-	-	-	-	-
SW-3-8	03/03/99	**14**	<1	**4.8**	**2.1**	**0.19**	**0.80**	-	-	**39**	**-**	-	-	-	-
B-4-14	03/03/99	<1	**2.8**	**0.037**	**0.077**	**0.018**	**0.082**	-	-	**0.86**	**-**	-	-	-	-
SW-4-8	03/03/99	**7.0**	**1.1**	<0.005	<0.005	<0.005	<0.005	-	-	**39**	**-**	-	-	-	-
Floor-1	04/04/07	**1.1**	**370**	**0.2**	<0.005	<0.005	<0.005	<0.01	<0.01	**-**	**0.6**	**0.036**	<0.005	<0.005	<0.10
Floor-2	04/04/07	**7**	**270**	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	**-**	**0.072**	<0.01	<0.005	<0.005	<0.10
Floor-3	04/04/07	**1**	**220**	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	**-**	**0.03**	<0.01	<0.005	<0.005	<0.10
Floor-4	04/04/07	<1.0	**95**	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	**-**	**0.036**	<0.01	<0.005	<0.005	<0.10
Floor-5	04/04/07	**2.0**	**930**	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	**-**	**0.034**	<0.01	<0.005	<0.005	<0.10
Floor-6	04/04/07	<1.0	<5.0	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	**-**	<0.005	<0.01	<0.005	<0.005	<0.10
Floor-7	04/04/07	**1.4**	<5.0	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	**-**	**1.2**	**0.042**	<0.005	<0.005	<0.10
Floor-8	04/04/07	**13**	**9,800**	<0.005	**0.018**	**0.016**	**0.024**	<0.01	<0.01	**-**	**2.6**	**0.046**	<0.005	<0.005	<0.10

TABLE 3

ANALYTICAL RESULTS OF SOIL SAMPLES
Rino Pacific/Oakland Truck Stop
1107 5th Street, Oakland, California
(mg/Kg)

Sample I.D.	Sample Date	TPH-g	TPH-d	Benzene	Toluene	Ethyl-benzene	Total Xylenes	DIPE	ETBE	MTBE (8020)	MTBE (8260)	TAME	1,2-DCA	EDB	TBA
Exc-S1	04/04/07	**24**	**1,100**	<0.005	**0.018**	**0.014**	**0.020**	<0.01	<0.01	**-**	**0.04**	<0.01	<0.005	<0.005	<0.10
Exc-S2	04/04/07	**30**	**4,400**	**0.024**	**0.020**	**0.018**	**0.020**	<0.01	<0.01	**-**	**0.23**	**0.048**	<0.005	<0.005	<0.10
Exc-S3	04/04/07	**50**	**8,600**	**0.046**	**0.018**	**0.028**	**0.044**	<0.01	<0.01	**-**	**2.4**	**0.90**	<0.005	<0.005	<0.10
Exc-W	04/04/07	**36**	**2,300**	**0.020**	**0.020**	**0.014**	**0.020**	<0.01	<0.01	**-**	**0.13**	**0.036**	<0.005	<0.005	<0.10
Exc-E	04/04/07	**5.0**	<5.0	0.02	0.019	0.014	**0.022**	<0.01	<0.01	**-**	**2.0**	**0.011**	<0.005	<0.005	<0.10

All units reported in milligrams per kilograms (mg/Kg)

TPH-g: Total petroleum hydrocarbons quantified as gasoline

TPH-d: Total petroleum hydrocarbons quantified as diesel

MTBE: Methyl-tert-butyl-ether

DIPE: Diisopropyl ether

ETBE: Ethyl-t-butyl ether

TAME: t-amyl methyl ether

1,2-DCA: 1,2-dichloroethane

EDB: 1,2-dibromoethane

TBA: t-butyl alcohol

TABLE 4
ANALYTICAL RESULTS OF GRAB GROUNDWATER SAMPLES
Rino/Pacific Oakland Truck Stop
1107 5th Street, Oakland, California
(µg/l)

Sample I.D.	Date	TPH-g	TPH-d	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE (8020)	MTBE (8260)	DIPE	ETBE	TAME	TBA	1,2-DCA	EDB
B-1	7/18/2002	**59,000**	**42,000**	**5,700**	<100	**2,300**	**7,500**	**210,000**	**210,000**	<2,500	<2,500	<2,500	<25,000	<2,500	<2,500
B-2	7/18/2002	<7,500	**180**	<50	<50	<50	<50	**220,000**	**210,000**	<2,500	<2,500	<2,500	<25,000	<2,500	<2,500
B-3	7/18/2002	**41,000**	**11,000**	**1,800**	**210**	**1,500**	**3,600**	**420,000**	**460,000**	<10,000	<10,000	<10,000	<100,000	<10,000	<10,000
B-4	7/18/2002	<8,000	**19,000**	<50	<50	<50	<50	**160,000**	**170,000**	<5,000	<5,000	<5,000	<50,000	<5,000	<5,000
B-5	7/18/2002	<50	**-**	<0.5	<1	<0.5	<0.5	**26**	**34**	<0.5	<0.5	<0.5	<5	<0.5	<0.5
B-6	7/18/2002	<50	**1,400**	<0.5	**1.0**	**0.6**	**4.0**	<5	**3.0**	<0.5	<0.5	<0.5	<5	<0.5	<0.5
B-7	7/18/2002	<50	**400**	<0.5	**0.9**	<0.5	**2.0**	**5**	**3.0**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
B-8	7/18/2002	<50	**-**		**1.0**	<0.5	**2.0**	<5	**3.0**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
P1-W-20	7/7/2006	**33,000**	**310,000**	**110**	<0.5	**2.3**	**17.3**	**-**	**11,000**	<1	<1	**17**	<10	**4.7**	<0.5
P1-W-35	7/7/2006	**19,000**	**4,500**	**63**	<0.5	**13**	**10.5**	**-**	**9,200**	<1	<1	**16**	<10	**3.4**	<0.5
P2-W-35	7/7/2006	<50	<50	<0.5	<0.5	<0.5	<0.6	-	<1	<1	<1	<1	<10	<0.5	<0.5
P3-W-35	7/7/2006	<50	<50	<0.5	<0.5	<0.5	<0.6	-	<1	<1	<1	<1	<10	<0.5	<0.5
P4-W-10	7/7/2006	**38,000**	**350,000**	<0.5	<0.5	<0.5	<0.6	-	**4,000**	<1	<1	**5.3**	<10	<0.5	<0.5
P4-W-35	7/7/2006	<50	<50	<0.5	<0.5	<0.5	<0.6	-	<1	<1	<1	<1	<10	<0.5	<0.5
P5-W-10	7/6/2006	**2,000**	<50	**32**	**36**	<0.5	<0.6	-	**950**	<1	<1	**3.4**	<10	<0.5	<0.5
P5-W-35	7/6/2006	**220**	<50	**3.4**	<0.5	<0.5	<0.6	-	**180**	<1	<1	<1	<10	<0.5	<0.5
P6-20-W	7/18/2006	**130**	<50	**2.3**	**5.6**	<0.5	<0.6	-	**4.1**	<1	<1	<1	<10	<0.5	<0.5
P7-20-W	7/18/2006	**6,600**	**13,000**	<0.5	<0.5	<0.5	<0.6	-	**36**	<1	<1	<1	<10	<0.5	<0.5
CPT-1A	9/20/2007	<50	<50	<0.3	<0.3	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<10	<0.5	<0.5
CPT-1B	9/20/2007	<50	<50	<0.3	<0.3	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<10	<0.5	<0.5
CPT-1C	9/20/2007	<50	<50	<0.3	<0.3	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<10	<0.5	<0.5
CPT-2B	9/21/2007	**69**	<50	**8**	**13**	**1.3**	**5.5**	**-**	<0.5	<0.5	<0.5	<0.5	<10	<0.5	<0.5
CPT-2C	9/21/2007	<50	**54**	**2**	**3.4**	**0.57**	**2.7**	**-**	**0.61**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
CPT-3B	9/21/2007	**410**	**190**	**13**	**1.1**	**10**	**15**	**-**	**0.93**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
CPT-3C	9/21/2007	**270**	**240**	**10**	**0.67**	**1.9**	**2.1**	**-**	**16**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
CPT-4-25	7/24/2008	<50	<50	<0.5	<0.5	<0.5	<0.6	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
CPT-4-38	7/24/2008	<50	<50	<0.5	<0.5	<0.5	<0.6	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
CPT-4-49	7/24/2008	<50	<50	<0.5	<0.5	<0.5	<0.6	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
CPT-5-32	7/25/2008	<50	<50	<0.5	<0.5	<0.5	<0.6	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
CPT-5-45	7/25/2008	<50	<50	<0.5	<0.5	<0.5	<0.6	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
CPT-6-24	7/25/2008	<50	<50	<0.5	<0.5	<0.5	<0.6	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
CPT-6-40	7/25/2008	<50	<50	<0.5	<0.5	<0.5	<0.6	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

Notes:
µg/l: micrograms per liter
TPH-g: total petroleum hydrocarbons quantified as gasoline
TPH-d: total petroleum hydrocarbons quantified as diesel

TABLE 5

GEOCHEMICAL PARAMETERS
Rino Pacific/Oakland Truck Stop
1107 5th Street, Oakland, California

Sample I.D.	Date	ORP (mV)	Dissolved Oxygen	
			mg/l	%
MW-1	10/05/10	2.9	--	--
	10/12/10	131.0	-	13.3
	10/26/10	-1.1	-	8.7
	11/02/10	32.1	-	10.7
	11/09/10	46.2	-	13.1
	11/30/10	58.2	64.80	72.0
	12/15/10	21.1	-	18.0
MW-3N	10/05/10	-140.2	-	-
	10/12/10	185.8	-	12.2
	10/26/10	25.2	-	12.6
	11/02/10	34.1	-	8.8
	11/09/10	36.1	-	9.2
	11/30/10	46.7	5.35	57.0
	12/15/10	11.7	-	11.7
MW-4	10/08/05	--	--	--
	11/21/05	--	--	--
	12/26/05	-167.2	1.18	12.8
	01/05/06	-136.0	1.57	16.6
	02/15/06	-131.0	2.69	27.7
	03/23/06	--	--	--
	04/27/06	--	--	--
	05/22/06	--	--	--
	06/01/06	--	--	--
	08/11/06	--	--	--
	12/04/06	-105.1	1.12	12.6
	01/19/07	--	--	--
	05/29/07	--	--	--
	07/19/07	-85.0	0.64	7.5
	08/09/07	-77.6	0.95	11.5
	09/10/07	-88.0	2.05	24.7
	12/21/07	-68.7	2.48	15.7
	01/29/08	-64.2	2.47	2.5
	04/30/08	-62.3	1.53	16.8
	07/30/08	-90.7	-0.02	-0.3
	10/23/08	--	--	--
	11/24/08	--	--	--
	12/15/08	--	--	--
	03/06/09	-47.1	1.21	12.4
	10/05/10	-247.5	-	-
	10/12/10	101.1	-	6.5
	10/26/10	13.7	-	10.1
	11/02/10	20.2	-	2.7
	11/09/10	46.2	-	13.1
	11/30/10	63.3	3.60	43.2
	12/15/10	7.3	-	7.2

TABLE 5

GEOCHEMICAL PARAMETERS
Rino Pacific/Oakland Truck Stop
1107 5th Street, Oakland, California

Sample I.D.	Date	ORP (mV)	Dissolved Oxygen	
			mg/l	%
MW-5	10/08/05	39.6	3.68	42.4
	11/21/05	-12.6	1.17	13.0
	12/26/05	-179.8	1.17	18.8
	01/05/06	--	--	--
	02/15/06	--	--	--
	03/23/06	-220.4	0.82	8.4
	04/27/06	-119.7	0.83	9.0
	05/22/06	-122.8	2.05	23.6
	06/01/06	-76.0	0.52	6.1
	08/11/06	481.0	1.48	18.0
	12/04/06	-105.1	0.58	6.3
	01/19/07	-103.2	0.72	7.2
	05/29/07	--	--	--
	07/19/07	-157.0	0.67	8.0
	08/09/07	-103.3	0.77	9.3
	09/10/07	-101.4	1.19	14.6
	12/21/07	47.3	2.22	18.2
	03/18/08	71.6	0.85	8.9
	04/30/08	-101.0	1.53	7.9
	10/23/08	-101.0	0.55	6.5
	11/24/08	43.0	0.65	7.2
	12/15/08	-14.0	0.73	7.7
	03/06/09	-85.4	1.12	11.1
	10/05/10	-253.7	-	-
	10/12/10	85.5	-	8.7
	10/26/10	-12.6	-	7.2
	11/02/10	13.3	-	3.9
	11/09/10	46.2	-	13.1
	11/30/10	60.3	3.03	34.1
	12/15/10	9.4	-	6.5

TABLE 5

GEOCHEMICAL PARAMETERS
Rino Pacific/Oakland Truck Stop
1107 5th Street, Oakland, California

Sample I.D.	Date	ORP (mV)	Dissolved Oxygen	
			mg/l	%
MW-6	10/08/05	25.4	4.62	53.5
	11/21/05	91.2	1.00	11.1
	12/26/05	-148.5	1.58	14.4
	01/05/06	-106.4	2.29	24.5
	02/15/06	-46.0	3.06	31.1
	03/23/06	-203.2	1.37	14.3
	04/27/06	-125.3	0.82	8.8
	05/22/06	-85.1	1.52	17.2
	06/01/06	-176.0	0.38	4.5
	08/11/06	--	--	--
	12/04/06	-74.6	0.98	10.7
	01/19/07	-27.2	1.16	11.8
	05/29/07	--	--	--
	07/19/07	-142.0	0.82	10.0
	08/09/07	-91.8	1.23	14.9
	09/10/07	-103.3	1.20	14.6
	12/21/07	-70.6	3.79	23.7
	01/29/08	-120.3	1.31	13.4
	03/18/08	86.7	1.14	12.1
	04/30/08	-122.8	1.13	12.8
	07/30/08	-135.7	1.04	12.6
	10/23/08	-101.5	2.15	26.7
	11/24/08	9.2	0.63	7.1
	12/15/08	-6.7	0.47	5.1
	03/06/09	-117.0	1.19	12.3
	10/05/10	-232.4	-	-
	10/12/10	109.1	-	19.2
	10/26/10	-13.3	-	7.6
	11/02/10	18.0	-	2.6
	11/09/10	46.2	-	13.1
	11/30/10	-	-	-
	12/15/10	12.3	-	10.5

TABLE 5

GEOCHEMICAL PARAMETERS
Rino Pacific/Oakland Truck Stop
1107 5th Street, Oakland, California

Sample I.D.	Date	ORP (mV)	Dissolved Oxygen	
			mg/l	%
MW-7	10/08/05	16.5	5.01	59.6
	11/21/05	-2.5	1.15	13.4
	12/26/05	-141.4	0.79	8.6
	01/05/06	-92.4	1.02	10.9
	02/15/06	-91.0	3.41	35.4
	03/23/06	--	--	--
	04/27/06	-176.4	0.46	5.1
	05/22/06	-127.5	1.30	15.1
	06/01/06	--	--	--
	08/11/06	--	--	--
	12/04/06	-108.4	0.82	9.2
	01/19/07	-124.2	0.36	3.8
	05/29/07	--	--	--
	07/19/07	-133.0	0.41	5.0
	08/09/07	--	--	--
	09/10/07	-68.9	1.91	23.6
	12/21/07	-72.4	2.38	16.2
	01/29/08	-136.8	0.79	8.0
	03/18/08	74.1	1.09	11.7
	04/30/08	-130.2	1.06	11.3
	07/30/08	-88.8	0.88	10.0
	10/23/08	-113.1	0.48	5.8
	11/24/08	-8.2	1.19	13.7
	12/15/08	-29.9	0.58	6.4
	03/06/09	--	--	--
	10/05/10	-251.0	-	-
	10/12/10	69.0	-	7.1
	10/26/10	-33.1	-	3.2
	11/02/10	-10.1	-	1.9
	11/09/10	46.2	-	13.1
	11/30/10	58.9	4.73	55.4
	12/15/10	-5.3	-	5.9

TABLE 5

GEOCHEMICAL PARAMETERS
Rino Pacific/Oakland Truck Stop
1107 5th Street, Oakland, California

Sample I.D.	Date	ORP (mV)	Dissolved Oxygen	
			mg/l	%
MW-8	10/08/05	43.7	3.98	47.2
	11/21/05	-12.4	0.65	7.5
	12/26/05	--	--	--
	01/05/06	-144.5	0.55	5.9
	02/15/06	-89.0	2.74	28.3
	03/23/06	-225.8	0.69	7.4
	04/27/06	-130.3	0.51	5.4
	05/22/06	-64.5	0.71	8.1
	06/01/06	-122.1	0.38	4.4
	08/11/06	--	--	--
	12/04/06	-104.1	0.52	5.8
	01/19/07	-119.2	0.35	3.6
	05/29/07	--	--	--
	07/19/07	-150.0	0.62	7.5
	08/09/07	--	--	--
	09/10/07	-103.6	0.63	8.0
	12/21/07	-34.7	3.71	19.1
	01/29/08	-42.7	0.90	8.6
	03/18/08	91.9	0.68	7.3
	04/30/08	-143.5	0.45	5.0
	07/30/08	-119.4	0.43	5.1
	10/23/08	-120.3	0.28	3.8
	11/24/08	-5.3	0.49	5.6
	12/15/08	-26.2	0.60	6.7
	03/06/09	-106.7	1.07	11.3
	10/05/10	-238.4	-	-
	10/12/10	61.2	-	4.0
	10/26/10	-28.2	-	4.6
	11/02/10	-20.9	-	2.4
	11/09/10	46.2	-	13.1
	11/30/10	37.4	4.78	54.1
	12/15/10	-32.5	-	6.1

TABLE 5

GEOCHEMICAL PARAMETERS
Rino Pacific/Oakland Truck Stop
1107 5th Street, Oakland, California

Sample I.D.	Date	ORP (mV)	Dissolved Oxygen	
			mg/l	%
MW-14	10/08/05	17.5	4.10	48.3
	11/21/05	87.4	1.87	21.4
	12/26/05	-67.8	2.11	23.4
	01/05/06	-6.9	1.38	15.2
	02/15/06	-54.0	4.36	45.8
	03/23/06	-209.0	0.72	7.9
	04/27/06	30.5	1.67	18.4
	05/22/06	-8.7	1.54	17.3
	06/01/06	106.9	0.70	7.6
	08/11/06	--	--	--
	12/04/06	53.1	2.12	22.9
	01/19/07	-27.1	0.59	7.1
	05/29/07	--	--	--
	07/19/07	-6.8	0.93	11.0
	08/09/07	74.7	1.00	11.9
	09/10/07	19.5	1.25	15.3
	12/21/07	-10.8	2.25	15.1
	01/29/08	88.8	1.58	15.6
	03/18/08	87.8	3.51	37.8
	04/30/08	-57.0	1.17	12.7
	07/30/08	2.6	-0.02	-0.3
	10/23/08	40.0	1.51	18.1
	11/24/08	296.0	1.24	14.3
	12/15/09	9.2	0.56	6.2
	03/06/09	237.0	1.78	19.1
	10/05/10	33.5	-	-
	10/12/10	147.1	-	9.4
	10/26/10	3.4	-	12.7
	11/02/10	28.1	-	11.0
	11/09/10	46.2	-	13.1
	11/30/10	-	-	-
	12/15/10	-7.1	-	23.0

Notes:
ORP oxygen reduction potential
mV: millivolts
mg/l: milligrams per liter
-: not measured
1: ORP and dissolved oxygen measurements discontinued during 2nd Quarter 2009

TABLE 6

OZONE SYSTEM OPERATIONS AND MAINTENANCE

Rino Pacific/Oakland Truck Stop

1107 5th Street, Oakland, California

Date	West Ozone System Unit			East Ozone System Unit		
	Cumulative Hours	Flow (cfh)	Maintenance Notes	Cumulative Hours	Flow (cfh)	Maintenance Notes
01/05/06	640	17	Installed hose clamps on all flow lines to prevent leaks. All wells set to 1-hr cycles and 2-hr off time.	596	20	Installed hose clamps on all flow lines to prevent leaks. All wells set to run for 1-hr cycles and 1-hr off time.
01/16/08	NM	16	All wells set to run for 1-hr cycles, 2 to 3 times daily.	NM	17	System re-started. All wells set to run for 1-hr cycles, 2 to 3 times daily.
02/15/06	1,511	15	Operational - no maintenance required.	1,469	18	Operational - no maintenance required.
03/23/06	2,272	12	Operational - no maintenance required.	2,162	NM	System down - power is on-line, but there is no flow.
04/27/06	2,950	NM	Turned down unit - ozone generator line clogged.	2,393	NM	System down - power is on-line, but there is no flow.
05/22/06	3,083	12	Operational - no maintenance required.	2,793	15	Repaired broken injection line.
06/01/06	3,301	12	Operational - no maintenance required.	3,009	15	Repaired broken injection line.
07/05/06	4,117	NM	System shut down. Repairs needed.	NM	NM	Operational - no maintenance required.
08/11/06	NM	NM	System off-line for repairs.	NM	NM	Operational - no maintenance required.
08/30/06	NM	NM	System off-line for repairs.	NM	NM	Operational - no maintenance required.
12/04/06	NM	NM	System off-line for repairs.	6,565	16	Repaired broken injection line.

TABLE 6

OZONE SYSTEM OPERATIONS AND MAINTENANCE

Rino Pacific/Oakland Truck Stop

1107 5th Street, Oakland, California

Date	West Ozone System Unit			East Ozone System Unit		
	Cumulative Hours	Flow (cfh)	Maintenance Notes	Cumulative Hours	Flow (cfh)	Maintenance Notes
12/16/08	NM	NM	System repaired and on-line.	NM	NM	Operational - no maintenance required.
12/19/06	NM	NM	Operational - no maintenance required.	NM	NM	Repaired cracks in ozone lines. Adjusted sparge cycles from 1-hr cycles to 1/2-hr cycles.
01/19/07	5,073	12	Operational - no maintenance required.	7,535	12	Operational - no maintenance required.
03/13/07	NM	NM	System shut for ozone well destructions.	NM	NM	Operational - no maintenance required.
05/29/07	NM	NM	System shut down for ozone well destructions.	NM	NM	Operational - no maintenance required.
07/19/07	NM	NM	Ozone sparge points reinstalled.	11,472	12	Repaired broken injection line.
07/27/07	6,173	12	System reactivated, fully operational. Adjusted sparge cycles from 1/2 hour cycles to 1-hr cycles. Cleared and replaced lines.	11,646	10	Operational - Adjusted sparge cycles from 1/2-hr cycles to 1-hr cycles. Cleared and replaced lines.
08/09/07	6,477	12	Operational - no maintenance required.	11,949	10	Operational - no maintenance required.
09/10/07	NM	NM	Operational - no maintenance required.	NM	NM	Operational - no maintenance required.
12/21/07	9,514	NM	Operational - no maintenance required.	15,058	NM	Operational - no maintenance required.
01/29/08	NM	NM	Operational - no maintenance required.	NM	NM	Operational - no maintenance required.

TABLE 6

OZONE SYSTEM OPERATIONS AND MAINTENANCE

Rino Pacific/Oakland Truck Stop

1107 5th Street, Oakland, California

Date	West Ozone System Unit			East Ozone System Unit		
	Cumulative Hours	Flow (cfh)	Maintenance Notes	Cumulative Hours	Flow (cfh)	Maintenance Notes
03/18/08	11,691	11	Operational - no maintenance required.	17,163	10	Operational - no maintenance required.
4/28-29-30/2008	12,682	10	Operational - no maintenance required.	18,154	10	Not producing Ozone. Manufacturer contacted.
06/14/08	NM	NM	Not producing Ozone. Manufacturer contacted.	NM	NM	System re-start, lines blown-out/cleared, fittings replaced: still not producing Ozone.
06/17/08	NM	NM	Manufacturer on-site. Troubleshooting. Sytem not producing Ozone.	NM	NM	Manufacturer on-site. Troubleshooting. Sytem not producing Ozone.
06/21/08	NM	NM	Lines blown-out/cleared, fittings replaced: still not producing Ozone. Manufacturer states new Oxygen compressor required.	NM	NM	System not producing Ozone. Manufacturer state new Ozone generator required.
09/02/08	13,837	19	Operational - no maintenance required.	18,224	20	Recconect well tubes and set timers.
09/11/08	14,050	20	Operational - no maintenance required.	18,437	20	Operational - no maintenance required.
09/16/08	14,167	20	Operational - no maintenance required.	18,554	20	Operational - no maintenance required.
09/25/08	14,380	20	Operational - no maintenance required.	18,767	20	Operational - no maintenance required.
10/01/08	14,520	20	Operational - no maintenance required.	18,907	20	Operational - no maintenance required.
10/09/08	14,711	20	Operational - no maintenance required.	19,098	20	Operational - no maintenance required.

TABLE 6

OZONE SYSTEM OPERATIONS AND MAINTENANCE

Rino Pacific/Oakland Truck Stop

1107 5th Street, Oakland, California

Date	West Ozone System Unit			East Ozone System Unit		
	Cumulative Hours	Flow (cfh)	Maintenance Notes	Cumulative Hours	Flow (cfh)	Maintenance Notes
10/15/08	14,853	20	Operational - no maintenance required.	19,240	20	Operational - no maintenance required.
10/23/08	15,044	20	Operational - no maintenance required.	19,797	20	Operational - no maintenance required.
10/29/08	15,186	13	Operational - no maintenance required.	19,572	17	Operational - no maintenance required.
11/03/08	15,302	20	Operational - no maintenance required.	19,688	20	Operational - no maintenance required.
11/11/08	15,490	20	Operational - no maintenance required.	19,877	20	Operational - no maintenance required.
11/17/08	15,628	20	Operational - no maintenance required.	20,014	20	Operational - no maintenance required.
11/24/08	15,794	20	Operational - no maintenance required.	20,180	20	Operational - no maintenance required.
12/01/08	15,958	20	Operational - no maintenance required.	20,344	20	Operational - no maintenance required.
12/11/08	16,195	20	Operational - no maintenance required.	20,580	20	Operational - no maintenance required.
12/15/08	16,289	20	Operational - no maintenance required.	20,674	20	Operational - no maintenance required.
12/23/08	16,480	20	Operational - no maintenance required.	20,866	20	Operational - no maintenance required.

TABLE 6

OZONE SYSTEM OPERATIONS AND MAINTENANCE

Rino Pacific/Oakland Truck Stop

1107 5th Street, Oakland, California

Date	West Ozone System Unit			East Ozone System Unit		
	Cumulative Hours	Flow (cfh)	Maintenance Notes	Cumulative Hours	Flow (cfh)	Maintenance Notes
12/31/08	16,665	20	Line to manifold found damaged. Line replaced and system restarted.	21,050	20	Operational - no maintenance required.
01/07/09	16,831	20	Operational - no maintenance required.	21,216	20	Line to manifold found damaged. Line replacaced and system restored.
01/13/09	16,973	20	Operational - no maintenance required.	21,358	20	Operational - no maintenance required.
01/28/09	17,327	20	Operational - no maintenance required.	21,712	20	Operational - no maintenance required.
02/02/09	17,446	20	Operational - no maintenance required.	21,831	20	Operational - no maintenance required.
02/11/09	17,651	20	Operational - no maintenance required.	22,035	20	Operational - no maintenance required.
02/17/09	17,794	20	Operational - no maintenance required.	22,178	20	Operational - no maintenance required.
02/23/09	17,934	20	Operational - no maintenance required.	22,318	20	Operational - no maintenance required.
03/06/09	18,195	20	Operational - no maintenance required.	22,579	20	Operational - no maintenance required.
03/09/09	18,263	20	Line to manifold damaged. Line replaced and system restarted	22,647	20	Operational - no maintenance required.
03/18/09	18,479	20	Operational - no maintenance required.	22,862	20	Operational - no maintenance required.

TABLE 6

OZONE SYSTEM OPERATIONS AND MAINTENANCE

Rino Pacific/Oakland Truck Stop

1107 5th Street, Oakland, California

Date	West Ozone System Unit			East Ozone System Unit		
	Cumulative Hours	Flow (cfh)	Maintenance Notes	Cumulative Hours	Flow (cfh)	Maintenance Notes
04/10/09	19,019	20	Operational - Lines pressure tested/blown out. Manifold tubing inspected and repaired as needed.	23,401	20	Operational - Lines pressure tested/blown out. Manifold tubing inspected and repaired as needed.
04/20/09	19,255	20	Operational - no maintenance required.	23,677	20	Operational - no maintenance required.
05/05/09	19,611	20	Operational - no maintenance required.	23,993	20	Operational - no maintenance required.
05/20/09	19,962	20	Operational - no maintenance required.	24,344	20	Operational - no maintenance required.
06/05/09	20,342	-	Non-Operational - Ozone generator not turning on and white powder from oxygen cylinder on generator noted.	24,723	20	Operational - no maintenance required.
06/17/09	20,479	-	Non-Operational - Oxygen cylinder on generator malfunction and awaiting repair.	25,006	20	Operational - no maintenance required.
06/18/09		-	Oxygen and ozone generator replaced, ozone comporessor valve plate replaced.			
07/02/09	20,671	20	Operational	25,358	20	Operational
07/29/09	21,284	20	Operational	25,970	20	Operational, but ozone appears to be leaking.
08/07/09	21,522	20	Operational	26,207	20	Operational. Sealed conduits at pipe joints between wellheads and manifold. No ozone leaking.
08/28/09	22,001	20	Operational	26,684	20	Operational - no maintenance required.

TABLE 6

OZONE SYSTEM OPERATIONS AND MAINTENANCE

Rino Pacific/Oakland Truck Stop

1107 5th Street, Oakland, California

Date	West Ozone System Unit			East Ozone System Unit		
	Cumulative Hours	Flow (cfh)	Maintenance Notes	Cumulative Hours	Flow (cfh)	Maintenance Notes
09/09/09	22,275	20	Operational	26,957	20	Operational
10/01/09	22,772	20	Operational	27,454	20	Operational
10/15/09	23,022	20	Operational	27,705	20	Operational
10/22/09	23,362	20	Operational	28,045	20	Operational
10/24/09	23,362	20	Operational	28,045	20	Operational
11/12/09	23,727	20	Operational	28,407	20	Operational
11/27/09	24,067	20	Operational	28,749	20	Operational
12/11/09	24,386	20	Operational	29,069	20	Operational
12/24/09	24,681	20	Operational	29,364	20	Operational
01/08/10	25,024	20	Operational	29,706	20	Operational
01/21/10	25,320	20	Operational	30,002	20	Operational
02/02/10	25,592	20	Operational	30,275	20	Operational

TABLE 6

OZONE SYSTEM OPERATIONS AND MAINTENANCE

Rino Pacific/Oakland Truck Stop

1107 5th Street, Oakland, California

Date	West Ozone System Unit			East Ozone System Unit		
	Cumulative Hours	Flow (cfh)	Maintenance Notes	Cumulative Hours	Flow (cfh)	Maintenance Notes
02/11/10	25,798	-	Non-Operational - Ozone generator not turning on and white powder noted.	30,491	20	Operational
02/18/10	25,798	-	Non-Operational - Ozone generator not turning on, waiting for repairs.	30,643	18	Operational
03/03/10	25,798	-	Non-Operational - Ozone generator not turning on, waiting for repairs.	30,938	20	Operational
03/18/10	25,798	20	Non-Operational - Ozone generator not turning on, waiting for repairs.	31,282	20	Operational
04/01/10	25,798	20	Non-Operational - Ozone generator not turning on, waiting for repairs.	31,600	20	Operational
04/15/10	25,819	20	Operational	31,920	20	Operational
04/29/10	26,138	20	Operational	32,239	20	Operational
05/13/10	26,459	20	Operational	32,559	20	Operational
05/26/10	26,756	20	Operational	32,857	20	Operational
06/04/10	26,960	20	Operational	33,061	20	Operational
06/16/10	27,235	20	Operational	33,336	20	Operational
07/01/10	27,578	20	Operational	33,679	20	Operational
07/12/10	27,830	20	Operational	33,931	20	Operational

TABLE 6

OZONE SYSTEM OPERATIONS AND MAINTENANCE

Rino Pacific/Oakland Truck Stop

1107 5th Street, Oakland, California

Date	West Ozone System Unit			East Ozone System Unit		
	Cumulative Hours	Flow (cfh)	Maintenance Notes	Cumulative Hours	Flow (cfh)	Maintenance Notes
08/02/10	28,310	24	Operational	34,411	20	Operational
08/18/10	28,675	20	Operational	34,775	20	Operational
09/03/10	29,041	20	Operational-OW-8, 18, 19, 20 turned off	35,141	20	Operational-OW-1, 2, 11, 12 turned off
09/13/10	29,262	20	Operational-OW-8, 18, 19, 20 turned off	35,362	20	Operational-OW-1, 2, 11, 12 turned off
09/21/10	29,440	20	Operational-OW-8, 18, 19, 20 turned off	35,541	20	Operational-OW-1, 2, 11, 12 turned off
09/28/10	29,596	20	Operational-OW-8, 18, 19, 20 turned off	35,696	20	Operational-OW-1, 2, 11, 12 turned off
10/05/10	29,750	20	Operational-OW-8, 18, 19, 20 turned off	35,850	20	Operational-OW-1, 2, 11, 12 turned off
10/12/10	29,903	20	Operational-OW-8, 18, 19, 20 turned off	36,004	20	Operational-OW-1, 2, 11, 12 turned off
10/19/10	30,059	20	Operational-OW-8, 18, 19, 20 turned off	36,160	20	Operational-OW-1, 2, 11, 12 turned off
10/26/10	30,208	20	Operational-OW-8, 18, 19, 20 turned off	36,309	20	Operational-OW-1, 2, 11, 12 turned off
11/02/10	30,362	20	Operational-OW-8, 18, 19, 20 turned off	36,463	20	Operational-OW-1, 2, 11, 12 turned off
11/09/10	30,519	20	Operational-OW-8, 18, 19, 20 turned off	36,620	20	Operational-OW-1, 2, 11, 12 turned off
11/15/10	30,651	20	Operational-OW-8, 18, 19, 20 turned off	36,752	20	Operational-OW-1, 2, 11, 12 turned off
11/30/10	30,985	20	Operational-OW-8, 18, 19, 20 turned off	37,086	20	Operational-OW-1, 2, 11, 12 turned off
12/15/10	31,317	20	Operational-OW-8, 18, 19, 20 turned off	37,418	20	Operational-OW-1, 2, 11, 12 turned off

TABLE 6

OZONE SYSTEM OPERATIONS AND MAINTENANCE

Rino Pacific/Oakland Truck Stop

1107 5th Street, Oakland, California

Date	West Ozone System Unit			East Ozone System Unit		
	Cumulative Hours	Flow (cfh)	Maintenance Notes	Cumulative Hours	Flow (cfh)	Maintenance Notes
01/19/11	32,091	20	Turned off ozone unit for repairs	38,192	20	Turned off ozone unit for repairs

Notes:

cfh: cubic feet per hour

NM: not measured

West Ozone Unit consists of ozone injection wells OZ-6 through OZ-10 and OZ16 through OZ-20

East Ozone Unit consists of ozone injection wells OZ-1 through OZ-5 and OZ-11 through OZ-15

TABLE 7

ANALYTICAL RESULTS OF GROUNDWATER SAMPLES
Rino Pacific/Oakland Truck Stop
1107 5th Street, Oakland, California
(µg/l)

Sample ID	Date	8015M		8260B											8021
		TPH-g	TPH-d	MTBE	Benzene	Toluene	Ethyl-benzene	Total Xylenes	DIPE	ETBE	TAME	TBA	EDB	1,2-DCA	MTBE
MW-1	11/04/96	ND	**220**	-	ND	ND	ND	ND	-	-	-	-	-	-	-
	03/05/97	ND	**230**	-	ND	ND	ND	ND	-	-	-	-	-	-	-
	06/12/97	ND	**290**	-	ND	ND	ND	ND	-	-	-	-	-	-	-
	09/09/07	ND	**180**	-	ND	ND	ND	ND	-	-	-	-	-	-	-
	02/13/98	ND	**590**	-	ND	ND	ND	ND	-	-	-	-	-	-	-
	07/07/98	ND	**1,400**	**2.7**	ND	ND	ND	ND	-	-	-	-	-	-	-
	10/01/98	ND	**1,100**	**1.8**	ND	ND	ND	ND	-	-	-	-	-	-	-
	12/30/98	ND	**1,700**	**2.3**	ND	ND	ND	ND	-	-	-	-	-	-	-
	03/21/00	**220**	**3,100**	**4,800**	**11**	ND	ND	ND	-	-	-	-	-	-	-
	08/30/00	**140**	**1,600**	-	**5.3**	<0.5	<0.5	<0.5	-	-	-	-	-	-	**2,900**
	11/06/00	**51**	**1,500**	**2,100**	**1**	<0.5	<0.5	<0.5	<50	<50	<50	<250	<50	<50	**1,700**
	02/22/01	**140**	**3,000**	**1,100**	<0.5	<0.5	<0.5	<0.5	<20	<20	<20	<100	<20	<20	**100**
	05/07/01	<50	**3,800**	**1,100**	<0.5	<0.5	<0.5	<0.5	<20	<20	<20	<100	<20	<20	**780**
	08/22/01	<110	**1,800**	**1,600**	<0.5	<0.5	<0.5	<0.5	<25	<25	<25	<130	<25	<25	**1,900**
	11/04/01	<50	**1,300**	**1,500**	<0.5	<0.5	<0.5	<0.5	<50	<50	<50	<250	<50	<50	**1,600**
	02/15/02	<50	**2,000**	**770**	<0.5	<0.5	<0.5	<0.5	<20	<20	<20	<100	<20	<20	**610**
	05/20/02	<50	**160**	**730**	<0.5	<0.5	<0.5	<0.5	<10	<10	<10	<100	<10	<10	**570**
	08/01/02	<50	**600**	**610**	<0.5	<0.5	<0.5	<0.5	<10	<10	<10	<100	<10	<10	**480**
	11/11/02	<50	**2,200**	**600**	<0.5	<0.5	<0.5	<0.5	<10	<10	<10	<100	<10	<10	**510**
	02/12/03	<50	**1,200**	**640**	<0.5	<0.5	<0.5	<0.5	<10	<10	<10	<100	<10	<10	**540**
	05/12/03	<50	**520**	**580**	<0.5	<0.5	<0.5	<0.5	<10	<10	<10	<100	<10	<10	**610**
	08/11/03	<50	**180**	**660**	<0.5	<0.5	<0.5	<0.5	<12	<12	<12	<120	<12	<12	**740**

TABLE 7

ANALYTICAL RESULTS OF GROUNDWATER SAMPLES
Rino Pacific/Oakland Truck Stop
1107 5th Street, Oakland, California
(µg/l)

Sample ID	Date	8015M		8260B											8021
		TPH-g	TPH-d	MTBE	Benzene	Toluene	Ethyl-benzene	Total Xylenes	DIPE	ETBE	TAME	TBA	EDB	1,2-DCA	MTBE
MW-1	01/09/04	**610**	<50	**590**	<0.5	<0.5	<0.5	**4.2**	<1.0	<1.0	<1.0	<10	<1.0	<1.0	-
	04/14/04	**730**	<50	**730**	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<1.0	<1.0	-
	07/21/04	**900**	<50	**620**	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<1.0	<1.0	-
	10/20/04	<50	<50	**60**	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<1.0	<1.0	-
	03/19/05	**100**	<50	**100**	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<1.0	<1.0	-
	06/25/05	**100**	<50	**100**	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<1.0	<1.0	-
	09/17/05	**100**	<50	**83**	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<1.0	<1.0	-
	12/26/05	**100**	<50	**86**	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<1.0	<1.0	-
	03/23/06	<50	<50	**13**	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	06/03/06	<50	<50	**16**	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	08/30/06	<50	<50	**7**	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	12/04/06	<50	<50	**63**	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	**62**	<0.5	<0.5	-
	02/28/07	<50	<50	**11**	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	05/29/07	<50	<50	**45**	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	08/20/07	<50	<50	**4.9**	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	10/25/07	<50	<50	**31**	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	01/25/08	<50	<50	<1.0	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	04/30/08	<50	**8,800**	<1.0	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	07/30/08	<50	**5,700**	<1.0	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	10/23/08	<50	**3,300**	<1.0	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	11/12/09	<50	**1,900**	<1.0	<0.5	<0.5	<0.5	<0.6	-	-	<1.0	<10	-	-	-
	11/23/10	<50	<50	<1.0	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	12/01/11	<50	<50	<1.0	<0.5	<0.5	<0.5	<0.5	-	-	<1.0	<10	-	-	-
	11/29/12	<50	<50	**15**	<0.5	<0.5	<0.5	<0.5	-	-	<1.0	<10	-	-	-

TABLE 7

ANALYTICAL RESULTS OF GROUNDWATER SAMPLES
Rino Pacific/Oakland Truck Stop
1107 5th Street, Oakland, California
(µg/l)

Sample ID	Date	8015M		8260B											8021
		TPH-g	TPH-d	MTBE	Benzene	Toluene	Ethyl-benzene	Total Xylenes	DIPE	ETBE	TAME	TBA	EDB	1,2-DCA	MTBE
MW-3N	05/20/02	<50	**1,800**	**1,500**	<0.5	<0.5	<0.5	<0.5	<25	<25	<25	<250	<25	<25	**1,100**
	08/01/02	<50	**2,900**	**540**	<0.5	<0.5	<0.5	<0.5	<10	<10	**14**	<100	<10	<10	**350**
	11/11/02	<50	**1,100**	**270**	<0.5	<0.5	<0.5	<0.5	<5.0	<5.0	**7.1**	<50	<5.0	<5.0	**280**
	02/12/03	<50	**1,300**	**410**	<0.5	<0.5	<0.5	<0.5	<5.0	<5.0	<5.0	<50	<5.0	<5.0	**380**
	05/12/03	<50	**1,500**	**360**	<0.5	<0.5	<0.5	<0.5	<6.2	<6.2	<6.2	<62	<6.2	<6.2	**330**
	08/11/03	<50	**720**	**280**	<0.5	<0.5	<0.5	<0.5	<5.0	<5.0	<5.0	<50	<5.0	<5.0	**250**
	01/09/04	**230**	<50	**230**	<0.5	<0.5	<0.5	<0.5	<1.0	<1.0	**2.5**	<10	<0.5	<0.5	-
	04/14/04	**230**	<50	**220**	<0.5	<0.5	<0.5	<0.5	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	07/21/04	**400**	<50	**370**	<0.5	<0.5	<0.5	<0.5	<1.0	<1.0	**4.4**	<10	<0.5	<0.5	-
	10/20/04	**190**	<50	**180**	**3.5**	<0.5	<0.5	**5.2**	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	03/19/05	**300**	<50	**300**	**2.6**	<0.5	<0.5	**5.2**	<1.0	<1.0	**2.4**	<10	<0.5	<0.5	-
	06/25/05	**1,200**	<50	**1,100**	<0.5	<0.5	<0.5	<0.5	<1.0	<1.0	<1.0	**330**	<0.5	<0.5	-
	09/17/05	**1,900**	<50	**1,100**	<0.5	<0.5	<0.5	<0.5	<1.0	<1.0	<1.0	**770**	<0.5	<0.5	-
	12/26/05	**1,500**	<50	**930**	<0.5	<0.5	<0.5	<0.5	<1.0	<1.0	<1.0	**520**	<0.5	<0.5	-
	03/23/06	**550**	<50	**110**	<0.5	**3.6**	**13**	**37.1**	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	06/03/06	**200**	<50	**150**	<0.5	2.6	<0.5	<0.5	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	08/30/06	**160**	<50	**130**	<0.5	<0.5	<0.5	<0.5	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	12/04/06	**900**	<50	**790**	<0.5	<0.5	<0.5	<0.5	<1.0	<1.0	**19**	**880**	<0.5	<0.5	-
	02/28/07	<50	<50	**97**	<0.5	<0.5	<0.5	<0.5	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	05/29/07	**170**	<50	**160**	<0.5	<0.5	<0.5	<0.5	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	08/20/07	<50	<50	**21**	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	10/25/07	<50	<50	**40**	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	01/25/08	<50	<50	**18**	<0.5	<0.5	<0.5	<0.5	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	04/30/08	**120**	<50	**110**	<0.5	<0.5	<0.5	<0.5	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	07/30/08	<50	<50	**40**	<0.5	<0.5	<0.5	<0.5	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	10/23/08	<50	<50	<1.0	<0.5	<0.5	<0.5	<0.5	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	11/12/09	<50	-	<1.0	<0.5	<0.5	<0.5	<0.6	-	-	<1.0	<10	-	-	-
	11/23/10	<50	-	<1.0	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	12/01/11	<50	<50	<1.0	<0.5	<0.5	<0.5	<0.5	-	-	<1.0	<10	-	-	-
	11/29/12	<50	<50	<1.0	<0.5	<0.5	<0.5	<0.5	-	-	<1.0	<10	-	-	-

TABLE 7

ANALYTICAL RESULTS OF GROUNDWATER SAMPLES
Rino Pacific/Oakland Truck Stop
1107 5th Street, Oakland, California
(µg/l)

Sample ID	Date	8015M		8260B											8021
		TPH-g	TPH-d	MTBE	Benzene	Toluene	Ethyl-benzene	Total Xylenes	DIPE	ETBE	TAME	TBA	EDB	1,2-DCA	MTBE
MW-4	08/30/00	**1,300**	**390**	-	**64**	**63**	**9.7**	**110**	-	-	-	-	-	-	**210,000**
	11/06/00	<3,300	**170**	**120,000**	**80**	<4.0	<5.0	<3.0	<2,500	<2,500	<2,500	<13,000	<2,500	<2,500	**130,000**
	11/06/00†	<3.300	-	**120,000**	**86**	<4.0	<7.0	<6.0	<2,500	<2,500	<2,500	<13,000	<2,500	<2,500	**130,000**
	02/22/01	<3,300	**120**	**150,000**	**30**	<3.0	<3.0	<3.0	<2,500	<2,500	<2,500	<13,000	<2,500	<2,500	**120,000**
	05/07/01	<4,200	**240**	**200,000**	<20	<10.0	<5.0	<5.0	<5,000	<5,000	<5,000	<25,000	<5,000	<5,000	**150,000**
	08/22/01	<5,400	**300**	**190,000**	<5.0	<5.0	<5.0	<5.0	<5,000	<5,000	<5,000	<25,000	<5,000	<5,000	**160,000**
	11/04/01	<5,000	**210**	**170,000**	<5.0	<5.0	<5.0	<5.0	<2,500	<2,500	<2,500	<13,000	<2,500	<2,500	**130,000**
	02/15/02	<5,000	**340**	**160,000**	<5.0	<5.0	<5.0	<10	<2,500	<2,500	<2,500	<12,500	<2,500	<2,500	**160,000**
	05/20/02	<2,500	**200**	**130,000**	<25	<25	<25	<25	<1,700	<1,700	<1,700	<17,000	<1,700	<1,700	**98,000**
	08/01/02	<2,500	**200**	**100,000**	<25	<25	<25	<25	<1,700	<1,700	<1,700	<17,000	<1,700	<1,700	**89,000**
	11/11/02	<3,000	**200**	**84,000**	<25	<25	<25	<25	<1,700	<1,700	<1,700	<17,000	<1,700	<1,700	**99,000**
	02/12/03	<2,500	**88**	**70,000**	<25	<25	<25	<25	<1,700	<1,700	<1,700	<17,000	<1,700	<1,700	**78,000**
	05/12/03	<2,500	**88**	**86,000**	<25	<25	<25	<25	<1,700	<1,700	<1,700	<17,000	<1,700	<1,700	**88,000**
	08/11/03	<2,500	**66**	**74,000**	<25	<25	<25	<25	<1,700	<1,700	<1,700	<17,000	<1,700	<1,700	**77,000**
	01/09/04	**50,000**	<50	**50,000**	**120**	<0.5	<0.5	<0.6	<1.0	<1.0	**85**	<10	<0.5	<0.5	-
	04/14/04	**27,000**	<50	**27,000**	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	07/21/04	**27,000**	<50	**5,300**	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	**3.6**	**150,000**	<0.5	<0.5	-
	10/20/04	**22,000**	<50	**840**	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	**110,000**	<0.5	<0.5	-
	03/19/05	**3,500**	<0.05	**900**	**25**	<0.5	<0.5	<0.6	<1.0	<1.0	**4.6**	**2,900**	<0.5	<0.5	-
	06/25/05	**3,000**	<0.05	**620**	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	**54,000**	<0.5	<0.5	-
	09/17/05	**3,200**	<0.05	**370**	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	**180,000**	<0.5	<0.5	-
	09/24/05	In-situ Chemical Oxidation (Ozone injection) commences													

TABLE 7

ANALYTICAL RESULTS OF GROUNDWATER SAMPLES
Rino Pacific/Oakland Truck Stop
1107 5th Street, Oakland, California
(µg/l)

Sample ID	Date	8015M		8260B											8021
		TPH-g	TPH-d	MTBE	Benzene	Toluene	Ethyl-benzene	Total Xylenes	DIPE	ETBE	TAME	TBA	EDB	1,2-DCA	MTBE
MW-4	12/26/05	**3,000**	<50	**730**	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	**76,000**	<0.5	<0.5	-
	03/23/06	**300**	<50	**21**	**4.2**	<0.5	**2.1**	**2.5**	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	06/03/06	**110**	<50	**33**	**3.9**	**2.2**	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	08/30/06	<50	<50	**7.7**	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	12/04/06	**1,100**	<50	**68**	<0.5	<0.5	<0.5	<0.6	**18**	<1.0	<1.0	**6,300**	<0.5	<0.5	-
	02/28/07	**320**	<50	**23**	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	05/29/07	**800**	<50	**330**	**48**	**9.4**	**9.2**	**15**	<1.0	<1.0	**18**	<10	<0.5	<0.5	-
	08/20/07	**400**	<50	**74**	<0.5	<0.5	<0.5	**2.3**	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	10/25/07	**340**	<50	**90**	<0.5	<0.5	<0.5	**1.6**	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	01/29/08	**220**	<50	**150**	**10**	<0.5	**1.6**	**2.0**	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	04/30/08	<50	**7,600**	<1	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	07/30/08	<50	**5,500**	<1	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	10/23/08	**120**	**3,200**	**110**	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	11/12/09	**120**	-	<1.0	<0.5	<0.5	<0.5	<0.6	-	-	<1.0	<10	-	-	-
	11/23/10	**22,000**	-	**86**	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	**120,000**	<0.5	<0.5	-
	12/01/11	**11,000**	**8,900**	**30**	<0.5	<0.5	<0.5	<0.5	-	-	<1.0	**34,000**	-	-	-
	11/29/12	**32,000**	**18,000**	**66**	<0.5	<0.5	<0.5	<0.5	-	-	<1.0	**34,000**	-	-	-

TABLE 7

ANALYTICAL RESULTS OF GROUNDWATER SAMPLES
Rino Pacific/Oakland Truck Stop
1107 5th Street, Oakland, California
(µg/l)

Sample ID	Date	8015M		8260B											8021
		TPH-g	TPH-d	MTBE	Benzene	Toluene	Ethyl-benzene	Total Xylenes	DIPE	ETBE	TAME	TBA	EDB	1,2-DCA	MTBE
MW-5	08/30/00	**1,000**	**450**	-	<5.0	<5.0	<5.0	<5.0	-	-	-	-	-	-	**52,000**
	11/06/00	<1,000	**520**	**42,000**	<1.0	<1.0	<1.0	<1.0	<1,000	<1,000	<1,000	<5,000	<1,000	<1,000	**44,000**
	02/22/01	<1,000	**270**	**39,000**	<1.0	<1.0	<1.0	<1.0	<500	<500	<500	<2,500	<500	<500	**30,000**
	05/07/01	<1,800	**470**	**59,000**	<5.0	<2.0	<2.0	<2.0	<1,000	<1,000	<1,000	<5,000	<1,000	<1,000	**48,000**
	08/22/01	<2,200	**780**	**70,000**	<3.0	<3.0	<3.0	<3.0	<1,000	<1,000	<1,000	<5,000	<1,000	<1,000	**63,000**
	11/04/01	<1,700	**670**	**37,000**	<2.0	<2.0	<2.0	<2.0	<1,000	<1,000	<1,000	<5,000	<1,000	<1,000	**44,000**
	02/15/02	<1,100	**480**	**33,000**	<1.0	<1.0	<1.0	<1.0	<1,250	<1,250	<1,250	<6,250	<1,250	<1,250	**33,000**
	05/20/02	<500	**1,600**	**28,000**	<5.0	<5.0	<5.0	<5.0	<500	<500	<500	<5,000	<500	<500	**21,000**
	08/01/02	<500	**810**	**24,000**	<5.0	<5.0	<5.0	<5.0	<500	<500	<500	<5,000	<500	<500	**10,000**
	11/11/02	<500	**2,100**	**8,800**	<5.0	<5.0	<5.0	<5.0	<200	<200	<200	**10,000**	<200	<200	**3,700**
	02/12/03	<170	**2,900**	**3,200**	**30**	<1.7	<1.7	<1.7	<100	<100	<100	**4,100**	<100	<100	**19,000**
	05/12/03	<500	**1,500**	**21,000**	**13**	<5.0	<5.0	<5.0	<500	<500	<500	**5,200**	<500	<500	**1,500**
	08/11/03	**71**	**2,200**	**1,700**	**9.5**	<0.5	<0.5	<0.5	<50	<50	<50	**14,000**	<50	<50	**1,700**
	01/09/04	**1,500**	<50	**1,500**	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	04/14/04	**500**	<50	**430**	**20**	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	07/21/04	**2,000**	<50	**320**	**2.2**	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	**15,000**	<0.5	<0.5	-
	10/20/04	**1,900**	<50	**23**	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	**11,000**	<0.5	<0.5	-
	03/19/05	**1,000**	**860**	**71**	**2.3**	<0.5	**5**	**40**	<1.0	<1.0	<1.0	**500**	<0.5	<0.5	-
	06/25/05	**1,500**	**1,200**	**54**	**11**	<0.5	**3.6**	**37**	<1.0	<1.0	<1.0	**2,700**	<0.5	<0.5	-
	09/17/05	**2,500**	**1,600**	**16**	**42**	<0.5	<0.5	**10**	<1.0	<1.0	<1.0	**12,000**	<0.5	<0.5	-
	09/24/05	In-situ Chemical Oxidation (Ozone injection) commences													

TABLE 7

ANALYTICAL RESULTS OF GROUNDWATER SAMPLES
Rino Pacific/Oakland Truck Stop
1107 5th Street, Oakland, California
(µg/l)

Sample ID	Date	8015M		8260B											8021
		TPH-g	TPH-d	MTBE	Benzene	Toluene	Ethyl-benzene	Total Xylenes	DIPE	ETBE	TAME	TBA	EDB	1,2-DCA	MTBE
MW-5	12/26/05	**1,500**	**1,200**	**44**	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	**2,700**	<0.5	<0.5	-
	03/23/06	<50	**850**	<1.0	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	06/03/06	**400**	**900**	**280**	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	08/30/06	<50	<50	<1.0	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	12/04/06	**1,200**	<50	**22**	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	**2,200**	<0.5	<0.5	-
	02/28/07	<50	<50	**11**	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	05/29/07	**9,000**	**240,000**	**26**	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	17	<10	<0.5	<0.5	-
	08/20/07	**11,000**	**280,000**	<1.0	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	10/25/07	**14,000**	**300,000**	<1.0	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	01/25/08	**11,000**	**260,000**	<1.0	<0.5	<0.5	**1.4**	**4.4**	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	04/30/08	**14,000**	**73,000**	<1.0	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	07/30/08	**11,000**	**68,000**	<1.0	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	10/23/08	**7,600**	**63,000**	<1.0	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	03/26/09	**9,400**	**75,000**	<1.0	<0.5	<0.5	<0.5	<0.6	-	-	<1.0	**5,000**	-	-	-
	06/05/09	**22,000**	**95,000**	**54**	<0.5	<0.5	<0.5	<0.6	-	-	<1.0	<10	-	-	-
	09/09/09	**20,000**	**91,000**	<1.0	<0.5	<0.5	<0.5	<0.6	-	-	<1.0	**5,900**	-	-	-
	11/12/09	**6,900**	**20,000**	<1.0	<0.5	<0.5	<0.5	<0.6	-	-	<1.0	<10	-	-	-
	02/18/10	**11,000**	**24,000**	<1.0	<0.5	<0.5	<0.5	<0.6	-	-	<1.0	<10	-	-	-
	05/17/10	**8,200**	**19,000**	<1.0	<0.5	<0.5	<0.5	<0.6	-	-	<1.0	<10	-	-	-
	11/23/10	**20,000**	**36,000**	<1.0	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	**4,100**	<0.5	<0.5	-
	05/20/11	**27,000**	**41,000**	<1.0	<0.5	<0.5	<0.5	<0.5	-	-	<1.0	**7,700**	-	-	-
	12/01/11	**20,000**	**33,000**	<1.0	<0.5	<0.5	<0.5	<0.5	-	-	<1.0	**2,500**	-	-	-
	05/23/12	**34,000**	**40,000**	<1.0	**5.0**	**9.0**	**3.4**	**17.5**	-	-	<1.0	**9,900**	-	-	-
	11/29/12	**26,000**	**33,000**	<1.0	<0.5	<0.5	<0.5	<0.5	-	-	<1.0	**8,600**	-	-	-

TABLE 7

ANALYTICAL RESULTS OF GROUNDWATER SAMPLES
Rino Pacific/Oakland Truck Stop
1107 5th Street, Oakland, California
(µg/l)

Sample ID	Date	8015M		8260B											8021
		TPH-g	TPH-d	MTBE	Benzene	Toluene	Ethyl-benzene	Total Xylenes	DIPE	ETBE	TAME	TBA	EDB	1,2-DCA	MTBE
MW-6	08/30/00	**1,300**	**1,300**	-	**55**	<0.5	16	27	-	-	-	-	-	-	**23,000**
	11/06/00	<630	**1,100**	**27,000**	**7**	**8.1**	<3.0	**5.2**	<630	<630	<630	<3,200	<630	<630	**26,000**
	02/22/01	<200	**420**	**8,000**	<5.0	<5.0	<5.0	<5.0	<100	<100	<100	<500	<100	<100	**6,500**
	05/07/01	<1,000	**900**	**40,000**	<2.0	<2.0	<1.0	<1.0	<500	<500	<500	<2,500	<500	<500	**37,000**
	08/22/01	<350	**520**	**8,800**	<2.0	<1.0	<0.5	<0.5	<200	<200	<200	<1,000	<200	<200	**8,600**
	11/04/01	<500	**420**	**17,000**	<2.0	<2.0	<0.5	<0.5	<250	<250	<250	<1,300	<250	<250	**12,000**
	02/15/02	<960	**910**	**26,000**	**2.6**	**4.5**	<1.0	4.2	<1,000	<1,000	<1,000	<5,000	<1,000	<1,000	**23,000**
	05/20/02	<620	**690**	**37,000**	<6.2	<6.2	<6.2	<6.2	<500	<500	<500	<5,000	<500	<500	**25,000**
	08/01/02	<250	**1,100**	**9,100**	**8**	<2.5	<2.5	<2.5	<170	<170	<170	**3,800**	<170	<170	**8,100**
	11/11/02	<500	**970**	**11,000**	<5.0	<5.0	<5.0	<5.0	<250	<250	<250	**8,600**	<250	<250	**11,000**
	02/12/03	<250	**2,100**	**8,300**	<2.5	<2.5	<2.5	<2.5	<120	<120	<120	**4,600**	<120	<120	**7,400**
	05/12/03	<1,000	**630**	**29,000**	<10	<10	<10	<10	<500	<500	<500	**8,700**	<500	<500	**32,000**
	08/11/03	**110**	<50	**2,300**	**6.8**	<1.0	<1.0	<1.0	<100	<100	<100	**27,000**	<100	<100	**2,800**
	01/09/04	**700**	<50	**690**	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	04/14/04	**200**	<50	**190**	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	07/21/04	**200**	**4.5**	**140**	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	**15,000**	<0.5	<0.5	-
	10/20/04	**7,700**	**1,300**	**3,400**	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	**77,000**	<0.5	<0.5	-
	03/19/05	**1,600**	**630**	**57**	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	**1,300**	<0.5	<0.5	-
	06/25/05	**400**	**630**	**58**	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	**3,600**	<0.5	<0.5	-
	09/17/05	**590**	<50	**28**	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	**5,300**	<0.5	<0.5	-
	12/26/05	**400**	<50	**92**	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	**4,500**	<0.5	<0.5	-
	03/23/06	<50	<50	**16**	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	06/03/06	<50	<50	**13**	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	08/30/06	<50	<50	<1.0	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	12/04/06	**4,300**	<50	**84**	<0.5	<0.5	<0.5	<0.6	**19**	<1.0	<1.0	**30,000**	<0.5	<0.5	-
	02/28/07	<50	<50	<1.0	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	05/29/07	<50	<50	<1.0	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	08/20/07	**4,900**	<50	**120**	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	10/25/07	**5,000**	**4,200**	<1.0	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	01/25/08	<50	<50	**5.8**	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	04/30/08	<50	<50	<1.0	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	07/30/08	<50	<50	<1.0	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	10/23/08	**540**	<50	**130**	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-

TABLE 7

ANALYTICAL RESULTS OF GROUNDWATER SAMPLES
Rino Pacific/Oakland Truck Stop
1107 5th Street, Oakland, California
(µg/l)

Sample ID	Date	8015M		8260B											8021
		TPH-g	TPH-d	MTBE	Benzene	Toluene	Ethyl-benzene	Total Xylenes	DIPE	ETBE	TAME	TBA	EDB	1,2-DCA	MTBE
MW-7	08/30/00	**160,000**	**2,600**	-	**28,000**	**15,000**	**1,200**	**5,900**	-	-	-	-	-	-	**800,000**
	11/06/00	**80,000**	**1,700**	**920,000**	**23,000**	**12,000**	**1,200**	**5,000**	<13,000	<13,000	<13,000	<63,000	<13,000	<13,000	**540,000**
	02/22/01	**80,000**	**2,000**	**460,000**	**19,000**	**12,000**	**1,100**	**3,200**	<5,000	<5,000	<5,000	<2,500	<5,000	<5,000	**440,000**
	02/22/01†	**84,000**	**2,400**	**500,000**	**20,000**	**13,000**	**1,200**	**3,400**	<5,000	<5,000	<5,000	<25,000	<5,000	<5,000	**400,000**
	05/07/01	**100,000**	**7,600**	**520,000**	**25,000**	**16,000**	**1,700**	**6,600**	<5,000	<5,000	<5,000	<2,500	<5,000	<5,000	**460,000**
	05/07/01†	**100,000**	**8,200**	**500,000**	**25,000**	**17,000**	**1,700**	**6,700**	<5,000	<5,000	<5,000	<25,000	<5,000	<5,000	**530,000**
	08/22/01	**110,000**	**22,000**	**250,000**	**18,000**	**12,000**	**2,000**	**9,400**	<5,000	<5,000	<5,000	<25,000	<5,000	<5,000	**240,000**
	11/04/01	**85,000**	**6,500**	**180,000**	**17,000**	**2,700**	**2,100**	**9,700**	<5,000	<5,000	<5,000	<13,000	<5,000	<5,000	**150,000**
	02/15/02	**96,000**	**21,000**	**200,000**	**21,000**	**7,300**	**2,600**	**13,000**	<5,000	<5,000	<5,000	<25,000	<5,000	<5,000	**180,000**
	02/15/02†	**160,000**	**29,000**	**200,000**	**30,000**	**27,000**	**3,700**	**19,000**	<5,000	<5,000	<5,000	<25,000	<5,000	<5,000	**170,000**
	05/20/02	**140,000**	**310,000**	**220,000**	**24,000**	**21,000**	**3,800**	**20,000**	<5,000	<5,000	<5,000	<50,000	<5,000	<5,000	**180,000**
	08/01/02	**110,000**	**160,000**	**150,000**	**15,000**	**16,000**	**4,000**	**21,000**	<2,500	<2,500	<2,500	<25,000	<2,500	<2,500	**120,000**
	11/11/02	**110,000**	**240,000**	**77,000**	**14,000**	**11,000**	**4,100**	**19,000**	<1,200	<1,200	<1,200	<12,000	<1,200	<1,200	**74,000**
	02/12/03	**130,000**	**75,000**	**110,000**	**25,000**	**8,900**	**3,400**	**17,000**	<1,700	<1,700	<1,700	<17,000	<1,700	<1,700	**87,000**
	05/12/03	**98,000**	**7,100**	**220,000**	**25,000**	**520**	**2,600**	**12,000**	<5,000	<5,000	<5,000	<5,000	<5,000	<5,000	**140,000**
	08/11/03	**90,000**	**12,000**	**140,000**	**15,000**	**1,100**	**2,600**	**12,000**	<5,000	<5,000	<5,000	<5,000	<5,000	<5,000	**140,000**
	01/09/04	**130,000**	**18,000**	**120,000**	**9,500**	**340**	**190**	**3,700**	<1.0	<1.0	**900**	<10	<0.5	**420**	-
	04/14/04	**330,000**	**22**	**220,000**	**23,000**	**300**	**1,900**	**5,600**	<1.0	<1.0	**660**	<10	<0.5	**400**	-
	07/21/04	**120,000**	**14**	**71,000**	**11,000**	**730**	**1,000**	**1,250**	<1.0	<1.0	**370**	<10	<0.5	**300**	-
	10/20/04	**130,000**	**8.4**	**39,000**	**14,000**	**420**	**600**	**380**	<1.0	<1.0	**290**	<10	<0.5	**180**	-
	03/19/05	**130,000**	**22,000**	**40,000**	**23,000**	**1,400**	**2,200**	**6,800**	<1.0	<1.0	**17**	**290**	<0.5	**29**	-
	06/25/05	**1,100,000**	**45,000**	**49,000**	**31,000**	**31,000**	**7,500**	**32,000**	<1.0	<1.0	**93**	**400**	<0.5	**75**	-
	09/17/05	**100,000**	**38,000**	**28,000**	**31,000**	**16,000**	**8,500**	**31,000**	<1.0	<1.0	<1.0	**7,400**	<0.5	<0.5	-
	09/24/05	In-situ Chemical Oxidation (Ozone injection) commences													

TABLE 7

ANALYTICAL RESULTS OF GROUNDWATER SAMPLES
Rino Pacific/Oakland Truck Stop
1107 5th Street, Oakland, California
(µg/l)

Sample ID	Date	8015M		8260B										8021
		TPH-g	TPH-d	MTBE	Benzene	Toluene	Ethyl-benzene	Total Xylenes	DIPE	ETBE	TAME	TBA	EDB	1,2-DCA	MTBE
MW-7	12/26/05	**99,000**	**33,000**	**14,000**	**20,000**	**6,000**	**1,700**	**11,900**	<1.0	<1.0	<1.0	**83,000**	<0.5	<0.5	-
	03/23/06	**160,000**	**48,000**	**2,400**	**23,000**	**22,000**	**13,000**	**43,000**	<1.0	<1.0	**44**	**14,000**	<0.5	**330**	-
	06/03/06	**170,000**	**44,000**	**9,000**	**48,000**	**5,200**	**5,600**	**23,200**	<1.0	<1.0	**55**	**4,800**	<0.5	**190**	-
	08/30/06	**240,000**	**62,000**	**3,600**	**77,000**	**12,000**	**30,000**	**63,000**	<1.0	<1.0	**77**	**300**	<0.5	**21**	-
	12/04/06	**110,000**	**44,000**	**3,300**	**7,200**	**490**	**950**	**2,800**	20	<1.0	**58**	**28,000**	<0.5	**86**	-
	02/28/07	**32,000**	**16,000**	**1,600**	**1,800**	**65**	**610**	**1,249**	<1.0	<1.0	**12**	<10	<0.5	**16**	-
	05/29/07	**29,000**	**64,000**	**1,700**	**920**	**18**	**180**	**272**	<1.0	<1.0	**15**	<10	<0.5	**28**	-
	08/20/07	**33,000**	**70,000**	**760**	**2,000**	**22**	**86**	**120**	<1.0	<1.0	**13**	<10	<0.5	**45**	-
	10/25/07	**41,000**	**83,000**	**1,300**	**3,800**	**53**	**380**	**1,521**	<1.0	<1.0	**18**	<10	<0.5	**65**	-
	01/25/08	**32,000**	**48,000**	**4,500**	**3,000**	**55**	**170**	**853**	**12**	<1.0	**56**	<10	<0.5	**96**	-
	04/30/08	**34,000**	**44,000**	**4,500**	**1,900**	**12**	**90**	**192.1**	**15**	<1.0	**61**	<10	<0.5	**61**	-
	07/30/08	**56,000**	**54,000**	**5,100**	**3,300**	**25**	**38**	**270**	**15**	<1.0	**67**	<10	<0.5	**84**	-
	10/23/08	**25,000**	**47,000**	**1,800**	**800**	**12**	**19**	**135**	<1.0	<1.0	**23**	<10	<0.5	**25**	-
	03/26/09	**64,000**	**62,000**	**5,000**	**4,300**	**48**	**21**	**266**	-	-	**58**	**65,000**	-	-	-
	06/05/09	**74,000**	**75,000**	**8,000**	**4,800**	**2.7**	**18**	**38**	-	-	**82**	<10	-	-	-
	09/09/09	**83,000**	**94,000**	**3,600**	**2,800**	**41**	**29**	**211**	-	-	**290**	**310,000**	-	-	-
	11/12/09	**25,000**	**32,000**	**1,500**	**2,000**	**16**	**24**	**141**	-	-	**11**	<10	-	-	-
	02/18/10	**39,000**	**38,000**	**2,200**	**2,800**	**24**	**47**	**101.5**	-	-	**49**	**36,000**	-	-	-
	05/17/10	**36,000**	**40,000**	**5,800**	**3,800**	**110**	**88**	**218**	-	-	**50**	**24,000**	-	-	-
	11/23/10	**48,000**	**51,000**	**4,200**	**1,600**	**77**	**34**	**371**	<1.0	<1.0	**13**	**78,000**	<0.5	**27**	-
	05/20/11	**42,000**	**50,000**	**680**	**280**	**12**	**2.2**	**36**	-	-	**5.0**	**12,000**	-	-	-
	12/01/11	**22,000**	**29,000**	**600**	**1,900**	**16**	**59**	**78.2**	-	-	**8.0**	**25,000**	-	-	-
	05/23/12	**56,000**	**62,000**	**1,900**	**2,800**	**31**	**180**	**158**	-	-	**35.0**	**74,000**	-	-	-
	11/29/12	**50,000**	**52,000**	**1,200**	**1,100**	**23**	**12**	**187**	-	-	<1	**92,000**	-	-	-

TABLE 7

ANALYTICAL RESULTS OF GROUNDWATER SAMPLES
Rino Pacific/Oakland Truck Stop
1107 5th Street, Oakland, California
(µg/l)

Sample ID	Date	8015M		8260B											8021
		TPH-g	TPH-d	MTBE	Benzene	Toluene	Ethyl-benzene	Total Xylenes	DIPE	ETBE	TAME	TBA	EDB	1,2-DCA	MTBE
MW-8	08/30/00	<1,000	**690**	-	**18**	<2.0	<1.0	<1.0	-	-	-	-	-	-	**28,000**
	11/06/00	<3,300	**810**	**76,000**	<8.0	<5.0	<3.0	<7.0	<2,500	<2,500	<2,500	<13,000	<2,500	<2,500	**120,000**
	02/22/01	<2,500	**1,100**	**130,000**	**53**	<3.0	<3.0	<3.0	<2,000	<2,000	<2,000	<10,000	<2,000	<2,000	**99,000**
	05/07/01	<5,000	**1,300**	**120,000**	**32**	<10	<5.0	<5.0	<2,500	<2,500	<2,500	<13,000	<2,500	<2,500	**110,000**
	08/22/01	<4,000	**1,200**	**86,000**	<5.0	<5.0	<5.0	**16**	<1,700	<1,700	<1,700	<8,500	<1,700	<1,700	**76,000**
	11/04/01	**590**	**1,100**	**49,000**	**6.9**	<0.5	<0.5	<0.5	<2,500	<2,500	<2,500	<13,000	<2,500	<2,500	**60,000**
	02/15/02	<3,400	**1,500**	**91,000**	<5.0	<5.0	<5.0	<5.0	<2,500	<2,500	<2,500	<12,500	<2,500	<2,500	**110,000**
	05/20/02	<1,700	**2,200**	**86,000**	<17	<17	<17	<17	<1,000	<1,000	<1,000	<10,000	<1,000	<1,000	**66,000**
	08/01/02	<1,200	**2,800**	**67,000**	<12	<12	<12	<12	<1,000	<1,000	<1,000	<10,000	<1,000	<1,000	**53,000**
	11/11/02	<2,000	**11,000**	**51,000**	<10	**18**	<10	<10	<1,000	<1,000	<1,000	<10,000	<1,000	<1,000	**48,000**
	02/12/03	<1,700	**5,800**	**51,000**	<17	<17	<17	<17	<1,000	<1,000	<1,000	<10,000	<1,000	<1,000	**49,000**
	05/12/03	<2,500	**4,500**	**60,000**	**94**	<25	<25	<25	<1,000	<1,000	<1,000	<10,000	<1,000	<1,000	**52,000**
	08/11/03	<2,500	**23,000**	**42,000**	**92**	<25	<25	<25	<1,000	<1,000	<1,000	<10,000	<1,000	<1,000	**42,000**
	01/09/04	**51,000**	**12,000**	**50,000**	**2.4**	<0.5	<0.5	**2.1**	<1.0	<1.0	160	<10	<1.0	<1.0	-
	03/19/05	**80,000**	**100,000**	**13,000**	**45**	**38**	**77**	**530**	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	06/25/05	**60,000**	**82,000**	**1,600**	**18**	**5.9**	**3**	**54**	<1.0	<1.0	12	**3,700**	<0.5	<0.5	-
	09/17/05	**80,000**	**89,000**	**1,400**	**23**	**2.7**	<0.5	**25**	<1.0	<1.0	17	**88,000**	<0.5	<0.5	-
	09/24/05	In-situ Chemical Oxidation (Ozone injection) commences													

TABLE 7

ANALYTICAL RESULTS OF GROUNDWATER SAMPLES
Rino Pacific/Oakland Truck Stop
1107 5th Street, Oakland, California
(µg/l)

Sample ID	Date	8015M		8260B											8021
		TPH-g	TPH-d	MTBE	Benzene	Toluene	Ethyl-benzene	Total Xylenes	DIPE	ETBE	TAME	TBA	EDB	1,2-DCA	MTBE
MW-8	12/26/05	**24,000**	**37,000**	**180**	**270**	**65**	**14**	**127**	<1.0	<1.0	<1.0	**11,000**	<0.5	<0.5	-
	03/23/06	**1,200**	**4,000**	**310**	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	**880**	<0.5	<0.5	-
	06/03/06	**1,800**	**4,800**	**390**	**60**	**9.9**	**7.3**	**11.6**	<1.0	<1.0	**3**	**2,100**	<0.5	<0.5	-
	08/30/06	**6,000**	**6,200**	<1.0	**36**	**6.1**	**12**	**29.5**	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	12/04/06	**400**	**2,800**	**31**	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	**2,400**	<0.5	<0.5	-
	02/28/07	**3,100**	**5,200**	**83**	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	05/29/07	**6,000**	**39,000**	**54**	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	08/20/07	**11,000**	**50,000**	**11**	<0.5	<0.5	<0.5	**3**	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	10/25/07	**8,200**	**44,000**	**7.2**	<0.5	<0.5	<0.5	**3.6**	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	01/25/08	**7,400**	**41,000**	<1.0	<0.5	<0.5	<0.5	**3.6**	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	04/30/08	**8,000**	**2,900**	<1.0	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	07/30/08	**14,000**	**4,000**	<1.0	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	10/23/08	**20,000**	**8,500**	**88**	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	03/26/09	**11,000**	**5,900**	**36**	<0.5	<0.5	<0.5	<0.6	-	-	**11**	**14,000**	-	-	-
	06/05/09	**20,000**	**18,000**	**65**	<0.5	<0.5	<0.5	<0.6	-	-	<1.0	<10	-	-	-
	09/09/09	**14,000**	**17,000**	**29**	<0.5	<0.5	<0.5	<0.6	-	-	<1.0	**9,200**	-	-	-
	11/12/09	**5,400**	**6,800**	<1.0	<0.5	<0.5	<0.5	<0.6	-	-	<1.0	<10	-	-	-
	02/18/10	**4,400**	**6,000**	<1.0	<0.5	<0.5	<0.5	<0.6	-	-	<1.0	**15,000**	-	-	-
	05/17/10	**4,400**	**6,800**	**22**	**5.3**	<0.5	<0.5	<0.6	-	-	<1.0	**11,000**	-	-	-
	11/23/10	**16,000**	**22,000**	<1.0	<0.5	<0.5	<0.5	<0.6	-	-	<1.0	**3,800**	-	-	-
	05/20/11	**2,800**	**5,900**	<1.0	<0.5	<0.5	<0.5	<0.5	-	-	<1.0	<10	-	-	-
	12/01/11	**140**	**1,700**	**8.8**	<0.5	<0.5	<0.5	<0.5	-	-	<1.0	**2,000**	-	-	-
	05/23/12	**4,900**	**4,800**	**13**	<0.5	<0.5	<0.5	<0.5	-	-	<1.0	**9,700**	-	-	-
	11/29/12	**4,900**	**4,500**	**18**	<0.5	<0.5	<0.5	<0.5	-	-	<1.0	**13,000**	-	-	-

TABLE 7

ANALYTICAL RESULTS OF GROUNDWATER SAMPLES
Rino Pacific/Oakland Truck Stop
1107 5th Street, Oakland, California
(µg/l)

Sample ID	Date	8015M		8260B											8021
		TPH-g	TPH-d	MTBE	Benzene	Toluene	Ethyl-benzene	Total Xylenes	DIPE	ETBE	TAME	TBA	EDB	1,2-DCA	MTBE
MW-9	08/30/00	<50	**770**	-	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	**97**
	11/06/00	<50	**390**	**220**	<0.5	<0.5	<0.5	<0.5	<25	<25	<25	<125	<5.0	<5.0	**190**
	02/22/01	<50	**240**	**160**	<0.5	<0.5	<0.5	<0.5	<2.0	<2.0	<2.0	<1.0	<2.0	<2.0	**120**
	05/07/01	<50	**190**	**150**	<0.5	<0.5	<0.5	<0.5	<2.5	<2.5	<2.5	<13	<2.5	<2.5	**120**
	08/22/01	<50	**120**	**120**	<0.5	<0.5	<0.5	<0.5	<5.0	<5.0	<5.0	<25	<5.0	<5.0	**120**
	11/04/01	<50	**160**	**120**	<0.5	<0.5	<0.5	<0.5	<5.0	<5.0	<5.0	<25	<5.0	<5.0	**130**
	02/15/02	<50	**150**	**98**	<0.5	<0.5	<0.5	<0.5	<2.5	<2.5	<2.5	<12.5	<2.5	<2.5	**92**
	05/20/02	<50	**380**	**85**	<0.5	<0.5	<0.5	<0.5	<2.5	<2.5	<2.5	<25	<2.5	<2.5	**79**
	08/01/02	<50	**320**	**84**	<0.5	<0.5	<0.5	<0.5	<1.0	<1.0	<1.0	<10	<1.0	<1.0	**74**
	11/11/02	<50	**150**	**61**	<0.5	<0.5	<0.5	<0.5	<2.5	<2.5	<2.5	<25	<2.5	<2.5	**76**
	02/12/03	<50	**350**	**50**	<0.5	<0.5	<0.5	<0.5	<1.0	<1.0	<1.0	<10	<1.0	<1.0	**55**
	05/12/03	<50	**380**	**45**	<0.5	<0.5	<0.5	<0.5	<1.0	<1.0	<1.0	<10	<1.0	<1.0	**45**
	08/11/03	<50	**88**	**42**	<0.5	<0.5	<0.5	<0.5	<1.0	<1.0	<1.0	<10	<1.0	<1.0	**36**
	01/09/04	**200**	<50	**140**	<0.5	<0.5	<0.5	**4.7**	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	04/14/04	**180**	<50	**180**	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	07/21/04	<50	<50	**24**	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	10/20/04	**80**	<50	**78**	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	03/19/05	**100**	<50	**87**	**10**	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	06/25/05	**100**	<50	**92**	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	09/17/05	**100**	<50	**85**	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	12/26/05	<50	<50	**19**	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	03/23/06	<50	<50	**19**	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	06/03/06	<50	<50	<1.0	**7.7**	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	08/30/06	<50	<50	<1.0	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	12/04/06	<50	<50	**34**	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	02/28/07	<50	<50	<1.0	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	05/29/07	<50	<50	<1.0	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	08/20/07	<50	<50	**3.8**	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	10/25/07	<50	<50	**8.9**	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	01/25/08	<50	<50	**3.5**	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	04/30/08	<50	<50	<1.0	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	07/30/08	<50	<50	<1.0	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	10/23/08	<50	<50	<1.0	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	11/12/09	<50	-	<1.0	<0.5	<0.5	<0.5	<0.6	-	-	<1.0	<10	-	-	-
	11/23/10	<50	-	<1.0	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	12/01/11	<50	<50	<1.0	<0.5	<0.5	<0.5	<0.5	-	-	<1.0	<10	-	-	-

TABLE 7

ANALYTICAL RESULTS OF GROUNDWATER SAMPLES
Rino Pacific/Oakland Truck Stop
1107 5th Street, Oakland, California
(µg/l)

Sample ID	Date	8015M		8260B											8021
		TPH-g	TPH-d	MTBE	Benzene	Toluene	Ethyl-benzene	Total Xylenes	DIPE	ETBE	TAME	TBA	EDB	1,2-DCA	MTBE
MW-10	08/01/02	<50	**720**	**1.1**	**1**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<0.5	<5.0
	11/11/02	<50	**100**	**0.7**	**0.72**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<0.5	<5.0
	02/12/03	<50	**71**	<0.5	**0.63**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<0.5	<5.0
	05/12/03	<50	**96**	**0.59**	**0.56**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<0.5	<5.0
	08/11/03	<50	**110**	**0.73**	**0.93**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<0.5	<5.0
	01/09/04	<50	<50	<1.0	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	04/14/04	<50	<50	<1.0	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	07/21/04	<50	<50	<1.0	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	10/20/04	<50	<50	<1.0	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	03/19/05	<50	<50	<1.0	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	06/25/05	<50	<50	<1.0	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	09/17/05	<50	<50	<1.0	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	12/26/05	<50	<50	<1.0	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	03/23/06	<50	<50	<1.0	**8.5**	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	06/03/06	<50	<50	<1.0	**3.9**	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	08/30/06	<50	<50	<1.0	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	12/04/06	<50	<50	<1.0	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	02/28/07	<50	<50	<1.0	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	05/29/07	<50	<50	<1.0	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	08/20/07	<50	<50	<1.0	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	10/25/07	<50	<50	<1.0	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	01/25/08	<50	<50	<1.0	**3.2**	<0.5	**1.2**	**1.3**	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	04/30/08	**600**	<50	<1.0	<0.5	2.4	<0.5	**40**	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	07/30/08	<50	<50	<1.0	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	10/23/08	<50	<50	<1.0	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-

TABLE 7

ANALYTICAL RESULTS OF GROUNDWATER SAMPLES
Rino Pacific/Oakland Truck Stop
1107 5th Street, Oakland, California
(µg/l)

Sample ID	Date	8015M		8260B											8021
		TPH-g	TPH-d	MTBE	Benzene	Toluene	Ethyl-benzene	Total Xylenes	DIPE	ETBE	TAME	TBA	EDB	1,2-DCA	MTBE
MW-11	05/20/02	<50	**95**	**310**	**1.5**	**3**	<0.5	**1.4**	<5.0	<5.0	<5.0	<50	<5.0	<5.0	**260**
	08/01/02	<50	**190**	**65**	<0.5	**1.9**	**0.6**	<0.5	<1.0	<1.0	<1.0	<10	<1.0	<1.0	**52**
	11/11/02	<50	**140**	**15**	<0.5	**2.1**	**1.1**	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<0.5	**23**
	02/12/03	<50	**86**	**2.6**	<0.5	**1.7**	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<0.5	<5.0
	05/12/03	<50	**62**	**2.3**	<0.5	**1.1**	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<0.5	<5.0
	08/11/03	<50	**72**	**2.3**	<0.5	**0.66**	<0.5	<0.5	<1.0	<1.0	<1.0	<5.0	<0.5	<0.5	<5.0
	01/09/04	<50	<50	<1.0	<0.5	<0.5	<0.5	<0.5	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	04/14/04	<50	<50	<1.0	<0.5	<0.5	<0.5	<0.5	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	07/21/04	<50	<50	<1.0	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	10/20/04	-	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	-
	03/19/05	<50	<50	<1.0	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	06/25/05	<50	<50	<1.0	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	09/17/05	<50	<50	<1.0	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	12/26/05	<50	<50	<1.0	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	03/23/06	<50	<50	<1.0	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	06/03/06	<50	<50	<1.0	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	08/30/06	<50	<50	<1.0	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	12/04/06	<50	<50	<1.0	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	02/28/07	<50	<50	<1.0	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	05/29/07	<50	<50	<1.0	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	08/20/07	<50	<50	<1.0	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	10/25/07	**110**	<50	<1.0	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	01/25/08	<50	<50	<1.0	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	04/30/08	<50	<50	<1.0	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	07/30/08	<50	<50	<1.0	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	10/23/08	<50	<50	<1.0	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-

TABLE 7

ANALYTICAL RESULTS OF GROUNDWATER SAMPLES
Rino Pacific/Oakland Truck Stop
1107 5th Street, Oakland, California
(µg/l)

Sample ID	Date	8015M		8260B											8021
		TPH-g	TPH-d	MTBE	Benzene	Toluene	Ethyl-benzene	Total Xylenes	DIPE	ETBE	TAME	TBA	EDB	1,2-DCA	MTBE
MW-12	10/20/04	<50	<50	<1.0	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	03/19/05	<50	<50	<1.0	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	06/25/05	<50	<50	<1.0	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	09/17/05	<50	<50	<1.0	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	12/26/05	<50	<50	<1.0	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	03/23/06	<50	<50	<1.0	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	06/03/06	<50	<50	<1.0	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	08/30/06	<50	<50	<1.0	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	12/04/06	<50	<50	<1.0	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	02/28/07	<50	<50	<1.0	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	05/29/07	<50	<50	<1.0	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	08/20/07	<50	<50	<1.0	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	10/25/07	<50	<50	<1.0	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	01/25/08	<50	<50	<1.0	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	04/30/08	<50	<50	<1.0	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	07/30/08	<50	<50	<1.0	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	10/23/08	<50	<50	<1.0	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	11/12/09	<50	-	<1.0	<0.5	<0.5	<0.5	<0.6	-	-	<1.0	<10	-	-	-
	11/23/10	NOACC	NOACC	NOACC	NOACC	NOACC	NOACC	NOACC	NOACC	NOACC	NOACC	NOACC	NOACC	NOACC	NOACC
	MW-12 destroyed on 04 October 2011														

TABLE 7

ANALYTICAL RESULTS OF GROUNDWATER SAMPLES
Rino Pacific/Oakland Truck Stop
1107 5th Street, Oakland, California
(µg/l)

Sample ID	Date	8015M		8260B											8021
		TPH-g	TPH-d	MTBE	Benzene	Toluene	Ethyl-benzene	Total Xylenes	DIPE	ETBE	TAME	TBA	EDB	1,2-DCA	MTBE
MW-13	10/20/04	**100**	<50	**99**	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	03/19/05	<50	<50	<1.0	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	06/25/05	<50	<50	**31**	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	09/17/05	<50	<50	**40**	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	12/26/05	<50	<50	**17**	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	03/23/06	<50	<50	<1.0	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	06/03/06	<50	<50	<1.0	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	08/30/06	<50	<50	<1.0	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	12/04/06	<50	<50	**63**	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	02/28/07	<50	<50	**6.5**	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	05/29/07	<50	<50	**41**	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	08/20/07	<50	<50	**6.7**	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	10/25/07	<50	<50	**15**	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	01/25/08	<50	<50	<1.0	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	04/30/08	<50	<50	<1.0	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	07/30/08	<50	<50	<1.0	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	10/23/08	<50	<50	**64**	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	-	-	-
	11/12/09	<50	<50	**25**	<0.5	<0.5	<0.5	<0.6	-	-	<1.0	<10	-	-	-
	11/23/10	NOACC	NOACC	NOACC	NOACC	NOACC	NOACC	NOACC	NOACC	NOACC	NOACC	NOACC	NOACC	NOACC	NOACC
	MW-13 destroyed on 04 October 2011														

TABLE 7

ANALYTICAL RESULTS OF GROUNDWATER SAMPLES
Rino Pacific/Oakland Truck Stop
1107 5th Street, Oakland, California
(µg/l)

Sample ID	Date	8015M		8260B											8021
		TPH-g	TPH-d	MTBE	Benzene	Toluene	Ethyl-benzene	Total Xylenes	DIPE	ETBE	TAME	TBA	EDB	1,2-DCA	MTBE
MW-13R	12/01/11	<50	<50	**20**	<0.5	<0.5	<0.5	<0.5	-	-	<1.0	<10	-	-	-
	11/29/12	<50	<50	<1	<0.5	<0.5	<0.5	<0.5	-	-	<1.0	<10	-	-	-
MW-14	10/20/04	**490**	<50	**90**	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	03/19/05	<50	<50	<1.0	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	06/25/05	<50	<50	<1.0	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	09/17/05	<50	<50	**12**	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	09/24/05	In-situ Chemical Oxidation (Ozone injection) commences													
	12/26/05	<50	<50	**6.1**	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	03/23/06	<50	<50	<1.0	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	06/03/06	<50	<50	<1.0	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	08/30/06	<50	<50	<1.0	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	12/04/06	<50	<50	**36**	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	02/28/07	<50	<50	**8.7**	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	05/29/07	<50	<50	**59**	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	08/20/07	<50	<50	**10**	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	10/25/07	**150**	<50	**140**	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	01/25/08	<50	<50	**120**	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	04/30/08	**220**	<50	**210**	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	07/30/08	<50	<50	**41**	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	10/23/08	<50	<50	**36**	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	03/26/09	<50	<50	**26**	<0.5	<0.5	<0.5	<0.6	-	-	<1.0	<10	-	-	-
	06/05/09	**500**	**1,200**	**40**	<0.5	<0.5	<0.5	<0.6	-	-	<1.0	<10	-	-	-
	09/09/09	**390**	**1,800**	**160**	<0.5	<0.5	<0.5	<0.6	-	-	<1.0	<10	-	-	-
	11/12/09	<50	<50	<1.0	<0.5	<0.5	<0.5	<0.6	-	-	<1.0	<10	-	-	-
	02/18/10	<50	<50	<1.0	<0.5	<0.5	<0.5	<0.6	-	-	<1.0	<10	-	-	-
	05/17/10	<50	<50	<1.0	<0.5	<0.5	<0.5	<0.6	-	-	<1.0	<10	-	-	-
	11/23/10	**140**	<50	**49**	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	**110**	<0.5	<0.5	-
	05/20/11	**120**	<50	**100**	<0.5	<0.5	<0.5	<0.5	-	-	<1.0	<10	-	-	-
	05/23/12	**1,000**	**880**	**300**	**54**	**2.3**	**3.6**	**5.7**	**-**	**-**	**2.2**	**290**	-	-	-

TABLE 7

ANALYTICAL RESULTS OF GROUNDWATER SAMPLES
Rino Pacific/Oakland Truck Stop
1107 5th Street, Oakland, California
(µg/l)

Sample ID	Date	8015M		8260B											8021
		TPH-g	TPH-d	MTBE	Benzene	Toluene	Ethyl-benzene	Total Xylenes	DIPE	ETBE	TAME	TBA	EDB	1,2-DCA	MTBE
MW-15	10/25/07	<50	<50	<1.0	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	01/25/08	<50	<50	<1.0	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	04/30/08	<50	<50	<1.0	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	07/30/08	<50	<50	<1.0	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	10/23/08	<50	<50	<1.0	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	11/12/09	<50	-	<1.0	<0.5	<0.5	<0.5	<0.6	-	-	<1.0	<10	-	-	-
	11/23/10	NOACC	NOACC	NOACC	NOACC	NOACC	NOACC	NOACC	NOACC	NOACC	NOACC	NOACC	NOACC	NOACC	NOACC
	12/01/11	<50	<50	<1.0	<0.5	<0.5	<0.5	<0.5	-	-	<1.0	<10	-	-	-
	11/29/12	<50	<50	<1.0	<0.5	<0.5	<0.5	<0.5	-	-	<1.0	<10	-	-	-
MW-16	01/25/08	<50	<50	<1.0	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	04/30/08	<50	<50	<1.0	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	07/30/08	<50	<50	<1.0	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	10/23/08	<50	<50	<1.0	<0.5	<0.5	<0.5	<0.6	<1.0	<1.0	<1.0	<10	<0.5	<0.5	-
	11/12/09	<50	-	<1.0	<0.5	<0.5	<0.5	<0.6	-	-	<1.0	<10	-	-	-
	11/23/10	NOACC	NOACC	NOACC	NOACC	NOACC	NOACC	NOACC	NOACC	NOACC	NOACC	NOACC	NOACC	NOACC	NOACC
	Destroyed in 2011														

Notes:

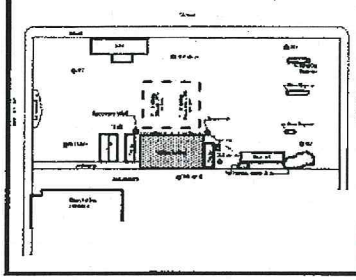
µg/l: micrograms per liter
†: duplicate sample
- : not analyzed
TPH-d total petroleum hydrocarbons quantified as diesel
TPH-g: total petroleum hydrocarbons quantified as gasoline
EDB: 1,2-dibromoethane
1,2-DCA: 1,2-dichloroethane
MTBE: methyl tertiary-butyl ether
DIPE: di-isopropyl ether
ETBE: ethyl tertiary-butyl ether
TAME: tertiary-amyl methyl ether
TBA: tertiary-butyl alcohol

ND: Non-detect above minimum laboratory detection levels
NOACC No Access

APPENDIX A

Boring Logs

DRILLING LOG

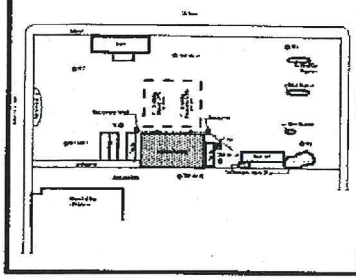


W. A. CRAIG, INC.
Environmental Contracting and Consulting
P. O. Box 448
Napa, California 94559-0448
Cal License #455752
(707) 252-3353
FAX (707) 252-3385

PROJECT: Rinehart 1107 5th Street, Oakland, CA	**PROJECT NO.** 3628.2	**BORING NO:** EB-1 (MW-1)
DRILLING CONTRACTOR: V&W, Inc.	**START TIME:** **FINISH TIME:**	**DATE:** 10/10/96
DRILLING METHOD: Hollow Stem Auger - 8 inch	**TOTAL DEPTH:** 21'	**DEPTH TO WATER:** Encountered ~10'
SAMPLER: 2 inch Calif. Modified	**SCREEN INT.:** 10-20ft 0.020" slot	**CASING:** SCH 40 PVC - 2"
HAMMER WEIGHT: 140 lb. **DROP:** 30 inches	**FIELD GEOLOGIST:** Jeff Fiedler	

DEPTH	SAMPLE No	SAMPLE	BLOWS/ 0.5 FOOT	PID [ppm]	Recovery	BORING/ WELL CONST.	LITHOLOGIC LOG	USCS DESCRIPTION Classification, Color, Density, Moisture
								Asphalt
								Fill, gravel, 3/4" crushed
								Concrete
								Clay (CL), greenish olive, firm, damp
5			3 7 10	0	12"	10/21		**Sand (SW),** dark greenish gray, loose, fine grained, wet (perched water)
								Sandy Clay (CL), olive black, stiff, low plasticity, fine grained, moist
	EB-1 @9'		4 7 11	0	18"			
10						10/10		
								Grades to Sand (SP), grayish green, loose, fine grained, wet, no odor
	EB-1 @13'		1 2 4	0	18"			
			4 4 6	0	18"			
15								
	EB-1 @19.5'		2 4 5	0	18"			**Clay (CL),** bay mud dark greenish gray, soft, high plasticity, moist, grasses and rootlets, moderate H2S odor
20								
25								
30								
35								
40								

DRILLING LOG

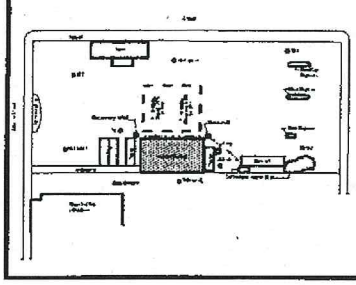


W. A. CRAIG, INC.
Environmental Contracting and Consulting
P. O. Box 448
Napa, California 94559-0448 (707) 252-3353
Cal License #455752 FAX (707) 252-3385

PROJECT: Rinehart 1107 5th Street, Oakland, CA	**PROJECT NO.** 3628.2	**BORING NO:** EB-2
DRILLING CONTRACTOR: V&W, Inc.	**START TIME:** **FINISH TIME:**	**DATE:** 10/10/96
DRILLING METHOD: Hollow Stem Auger - 8 inch	**TOTAL DEPTH:** 13.5'	**DEPTH TO WATER:** Encountered ~9'
SAMPLER: 2 inch Calif. Modified	**SCREEN INT.:**	**CASING:**
HAMMER WEIGHT: 140 lb. **DROP:** 30 inches	**FIELD GEOLOGIST:** Jeff Fiedler	

DEPTH	SAMPLE No	SAMPLE	BLOWS/ 0.5 FOOT	PID (ppm)	Recovery	BORING/ WELL CONST.	LITHOLOGIC LOG	USCS DESCRIPTION Classification, Color, Density, Moisture
								Concrete
								Clay (CL), greenish gray, high plasticity, soft, homogeneous, damp, slight hydrocarbon odor
								Refusal at 18" below grade, possibly concrete fill
5	EB-2 @5'		4 5 8	60	10"			**Sandy Clay (CL),** mottled olive gray to dark gray, stiff, moderate plasticity, moist
	EB-2 @9'		2 4 8	5	18"	▽ 10/10		**Grades olive gray**
10								**Sand (SP),** olive gray, loose, fine grained, homogeneous, wet
	EB-2 @13'		4 6 11	2	18"			
15								
20								
25								
30								
35								
40								

DRILLING LOG

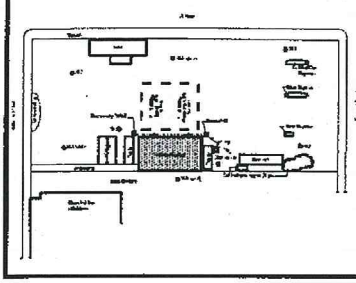


W. A. CRAIG, INC.
Environmental Contracting and Consulting
P. O. Box 448
Napa, California 94559-0448
Cal License #455752
(707) 252-3353
FAX (707) 252-3385

PROJECT: Rinehart 1107 5th Street, Oakland, CA	**PROJECT NO.** 3628.2	**BORING NO:** EB-3
DRILLING CONTRACTOR: V&W, Inc.	**START TIME:** / **FINISH TIME:**	**DATE:** 10/10/96
DRILLING METHOD: Hollow Stem Auger - 8 inch	**TOTAL DEPTH:** 16.5'	**DEPTH TO WATER:** Encountered ~11'
SAMPLER: 2 inch Calif. Modified	**SCREEN INT.:**	**CASING:**
HAMMER WEIGHT: 140 lb. **DROP:** 30 inches	**FIELD GEOLOGIST:** Jeff Fiedler	

DEPTH	SAMPLE No	SAMPLE	BLOWS/0.5 FOOT	PID [ppm]	Recovery	BORING/WELL CONST.	LITHOLOGIC LOG	USCS DESCRIPTION Classification, Color, Density, Moisture
0								**Asphalt**
								Fill Silty Sand (SM), greenish black, loose, fine grained, damp, fibrous wood fragments, diesel odor
								Sand (SP), olive black, loose, moist, diesel odor
5			8 6 7	60	0			
								Sandy Clay (CL), olive gray, stiff, moderate plasticity, some interlaminated sand (SP), moist-wet
	EB-3 @9.5'		4 8 12	40	18"	▽ 10/10		
10								**Sand (SP),** olive gray, loose fine grained, wet, trace diesel odor
	EB-3 @13'		9 11 12	20	18"			
15								**Clay (CL),** bay mud dark greenish gray, soft, high plasticity, moist, grasses and rootlets, moderate H2S odor
	EB-3 @16'		2 5 6	0	18"			
20								
25								
30								
35								
40								

DRILLING LOG

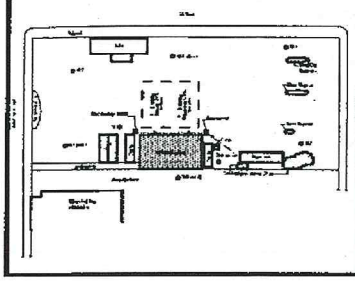


W. A. CRAIG, INC.
Environmental Contracting and Consulting
P. O. Box 448
Napa, California 94559-0448 (707) 252-3353
Cal License #455752 FAX (707) 252-3385

PROJECT: Rinehart 1107 5th Street, Oakland, CA	**PROJECT NO.** 3628.2	**BORING NO:** EB-4 (MW-2)
DRILLING CONTRACTOR: V&W, Inc.	**START TIME:** **FINISH TIME:**	**DATE:** 10/10/96
DRILLING METHOD: Hollow Stem Auger - 8 inch	**TOTAL DEPTH:** 14'	**DEPTH TO WATER:** Encountered ~8'
SAMPLER: 2 inch Calif. Modified	**SCREEN INT.:** 8-13ft 0.020" slot	**CASING:** SCH 40 PVC - 2"
HAMMER WEIGHT: 140 lb. **DROP:** 30 inches	**FIELD GEOLOGIST:** Jeff Fiedler	

DEPTH	SAMPLE No	SAMPLE	BLOWS/0.5 FOOT	PID (ppm)	Recovery	BORING/WELL CONST.	LITHOLOGIC LOG	USCS DESCRIPTION Classification, Color, Density, Moisture
								Asphalt
								Fill, gravel, 3/4" crushed
								Concrete
			2	240				**Sand (SP),** olive gray, loose, fine grained, moist, strong gasoline odor
5	EB-4 @5'		4 6	40		10/21		**Clayey Sand (SC),** mottled moderate brown, medium dense, low plasticity fine grained, damp, no odor, (merrit sand?)
			2			10/10		**Clay (CL),** bay mud dark greenish gray, soft, high plasticity, moist, grasses and rootlets, moderate H2S odor
10	EB-4 @9'		5 9	40				**Sand (SP),** olive gray, loose fine grained, wet, trace diesel odor
	EB-4 @12.5'		2 2 3	0				**Clay (CL),** bay mud dark greenish gray, soft, high plasticity, moist, grasses and rootlets, moderate H2S odor
15			1 2 4	0				
20								
25								
30								
35								
40								

DRILLING LOG

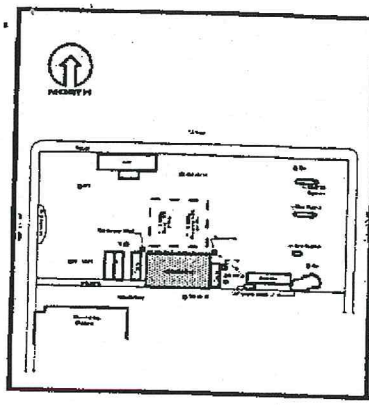


W. A. CRAIG, INC.
Environmental Contracting and Consulting
P. O. Box 448
Napa, California 94559-0448
Cal License #455752
(707) 252-3353
FAX (707) 252-3385

PROJECT: Rinehart 1107 5th Street, Oakland, CA	**PROJECT NO.** 3628.2	**BORING NO:** EB-5
DRILLING CONTRACTOR: V&W, Inc.	**START TIME:** / **FINISH TIME:**	**DATE:** 10/10/96
DRILLING METHOD: Hollow Stem Auger - 8 inch	**TOTAL DEPTH:** 13.5'	**DEPTH TO WATER:** Encountered ~8'
SAMPLER: 2 inch Calif. Modified	**SCREEN INT.:**	**CASING:**
HAMMER WEIGHT: 140 lb. **DROP:** 30 inches	**FIELD GEOLOGIST:** Jeff Fiedler	

DEPTH	SAMPLE No	SAMPLE	BLOWS/ 0.5 FOOT	PID (ppm)	Recovery	BORING/ WELL CONST.	LITHOLOGIC LOG	USCS DESCRIPTION Classification, Color, Density, Moisture
								Asphalt
								Sand (SP), greenish black, loose, fine grained, damp, strong gasoline odor
5	EB-5 @4.5'		4 7 10	220	18			Grades grayish green
								Grades greenish black (free product)
						▽ 10/10		**Sand (SP),** mottled olive gray, loose, fine grained, wet
10	EB-5 @8.5'		9 14 20	160				Grades clayey
	EB-5 @12.5'		12 12 19	200				**Sandy clay (CL),** olive gray, moist, stiff, moderate plasticity.
15								
20								
25								
30								
35								
40								

DRILLING LOG

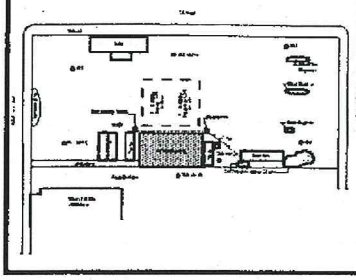


W. A. CRAIG, INC.
Environmental Contracting and Consulting
P. O. Box 448
Napa, California 94559-0448
Cal License #455752
(707) 252-3353
FAX (707) 252-3385

PROJECT: Rinehart 1107 5th Street, Oakland, CA	**PROJECT NO.** 3628.2	**BORING NO:** EB-6 (MW-3)
DRILLING CONTRACTOR: V&W, Inc.	**START TIME:** **FINISH TIME:**	**DATE:** 10/10/96
DRILLING METHOD: Hollow Stem Auger - 8 inch	**TOTAL DEPTH:** 17'	**DEPTH TO WATER:** Encountered ~12'
SAMPLER: 2 inch Calif. Modified	**SCREEN INT.:** 12-17ft 0.020" slot	**CASING:** SCH 40 PVC - 2"
HAMMER WEIGHT: 140 lb. **DROP:** 30 inches	**FIELD GEOLOGIST:** Jeff Fiedler	

DEPTH	SAMPLE No	SAMPLE	BLOWS/ 0.5 FOOT	PID [ppm]	Recovery	BORING/ WELL CONST.	LITHOLOGIC LOG	USCS DESCRIPTION Classification, Color, Density, Moisture
								Asphalt
								Sand (SP) with silt, dusky brown, loose, fine grained, moist, diesel odor
5	EB-6 @4.5'		3 5 6	0	18"			**Sand (SP) with silt,** olive gray, loose, fine grained, damp-moist,trace diesel odor
						10/21		
10	EB-6 @9'		4 2 5	10	18"			**Peat with bay mud,** moderate brown, soft, damp, H2S odor
	EB-6 @12.5'		3 3 4	0	18"	10/10		**Silty Sand (SM),** dark gray, loose, fine grained, homogeneous, wet, rootlets, slight H2S odor
15			5 5 6	0	18"			
								Sandy Clay (CL), mottled olive gray, stiff, high plasticity, homogeneous, damp, trace rootlets
20								
25								
30								
35								
40								

DRILLING LOG

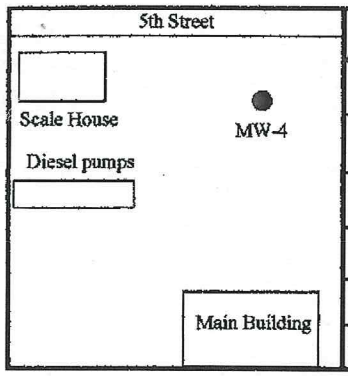


W. A. CRAIG, INC.
Environmental Contracting and Consulting
P. O. Box 448
Napa, California 94559-0448
Cal License #455752
(707) 252-3353
FAX (707) 252-3385

PROJECT: Rinehart 1107 5th Street, Oakland, CA	**PROJECT NO.** 3628.2	**BORING NO:** EB-7
DRILLING CONTRACTOR: V&W, Inc.	**START TIME:** **FINISH TIME:**	**DATE:** 10/10/96
DRILLING METHOD: Hollow Stem Auger - 8 inch	**TOTAL DEPTH:** 13.5'	**DEPTH TO WATER:** Encountered ~12.5'
SAMPLER: 2 inch Calif. Modified	**SCREEN INT.:**	**CASING:**
HAMMER WEIGHT: 140 lb. **DROP:** 30 inches	**FIELD GEOLOGIST:** Jeff Fiedler	

DEPTH	SAMPLE No	SAMPLE	BLOWS/ 0.5 FOOT	PID [ppm]	Recovery	BORING/ WELL CONST.	LITHOLOGIC LOG	USCS DESCRIPTION Classification, Color, Density, Moisture
								Concrete
								Silty Sand (SM), grayish black, loose, fine grained, damp, moderate diesel odor
5	EB-7 @4.5'		4 6 14	120	18"			**Silty Sand (SM),** trace clay, olive gray, trace light greenish gray stringers, medium dense, fine grained, damp, moderate gasoline odor
10	EB-7 @8.5'		6 11 19	60	18"			**Clay (CL),** bay mud dark greenish gray, soft, high plasticity, moist, grasses and rootlets, moderate HC odor
	EB-7 @12.5'		16 22 20	0	18"	▽ 10/10.		**Sand (SP),** light brown to dark yellowish brown, dense, fine grained, wet, no odor
15								
20								
25								
30								
35								
40								

BORING LOG



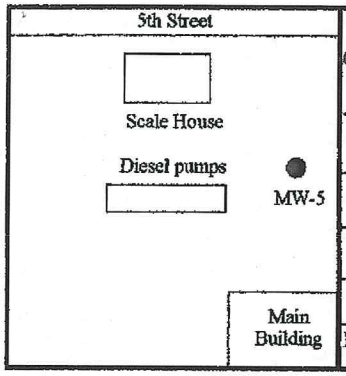
W. A. Craig, Inc.
Environmental Contracting and Consulting
6940 Tremont Road
Dixon, California 95620
Cal License #455752
(707) 693-2929
FAX (707) 693-2922

PROJECT: Rinehart Distributing	**PROJECT#** 3628	**BORING NO:** MW-4
DRILLING CONTRACTOR: Gregg Drilling& Sampling	**START TIME:** 2:32 pm **FINISH TIME:** 4:50 pm	**DATE:** 08/16/00
DRILLING METHOD: 8.5" Hollow Stem Auger	**TOTAL DEPTH:** 20.5'	**DEPTH TO WATER:** 6'
SAMPLER: California Modified Split Spoon	**SCREEN INT.:** 5'-20.5'	**CASING:** 2" PVC
HAMMER WEIGHT: 140 lbs. **DROP:** 30"	**FIELD GEOLOGIST:** O'Grady	

DEPTH	SAMPLE No.	SAMPLE	BLOWS/ 6" ROCT	PID [ppm]	BORING/WELL CONSTRUCTION	LITHOLOGIC LOG	LITHOLOGIC DESCRIPTION Description, Color, Density, Moisture
5	1		10 14 14				AC Pavement over Class II AB Sand (SW), well graded with small amounts of fines, green, increasing moisture with depth, low -no plasticity. Strong hydrocarbon odor and mottling present.
10							Clayey sand (SC) green/brown, wet, cohesive, low plasticity. Slight hydrocarbon odor. No mottling.
15							Silty clay (CH) bay mud, green/grey, moist, cohesive, high plasticity, organic. Organic smell with slight hydrocarbon odor. No mottling.
20						TD 20.5	
25							Soil sampled @ 2:50 pm.
30							
35							
40							

Checked by:TDC

BORING LOG

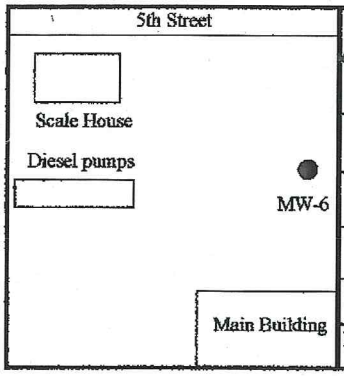


W. A. Craig, Inc.
Environmental Contracting and Consulting
6940 Tremont Road
Dixon, California 95620
Cal License #455752
(707) 693-2929
FAX (707) 693-2922

PROJECT: Rinehart Distributing	**PROJECT#** 3628	**BORING NO:** MW-5
DRILLING CONTRACTOR: Gregg Drilling & Testing	**START TIME:** 11:01 am **FINISH TIME:** 12:45 pm	**DATE:** 08/16/00
DRILLING METHOD: 8.5" Hollow Stem Auger	**TOTAL DEPTH:** 20.5'	**DEPTH TO WATER:** 5'
SAMPLER: Califomia Modified Split Spoon	**SCREEN INT.:** 5'-20.5'	**CASING:** 2" PVC
HAMMER WEIGHT: 140 lbs. **DROP:** 30"	**FIELD GEOLOGIST:** O'Grady	

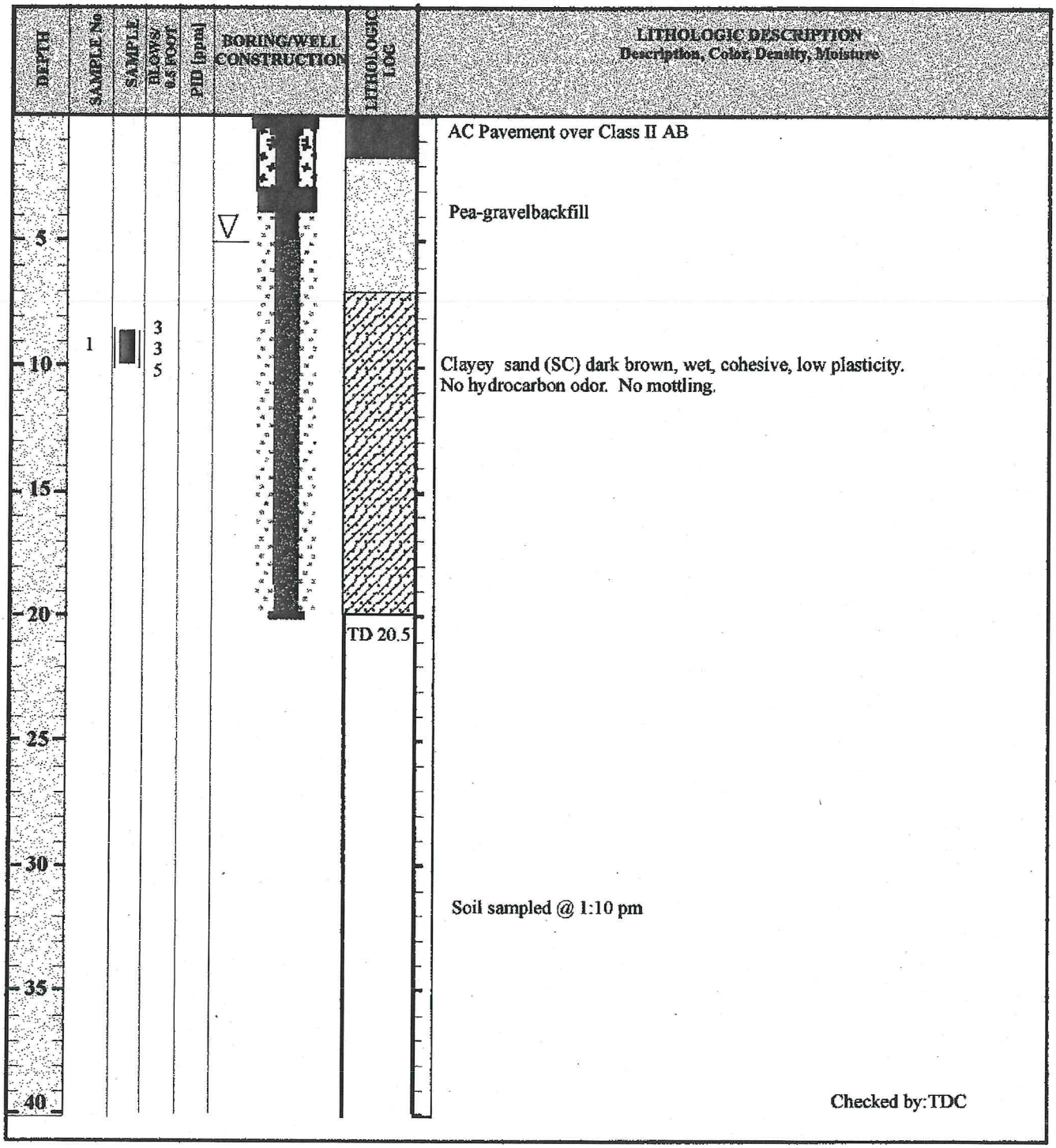
DEPTH	SAMPLE No	SAMPLE	BLOWS/6" FOOT	PID [ppm]	BORING/WELL CONSTRUCTION	LITHOLOGIC LOG	LITHOLOGIC DESCRIPTION Description, Color, Density, Moisture
0							AC Pavement over Class II AB
5					▽		Pea-gravelbackfill
10	1		7 7 10				Clayey sand (SC) green/brown, wet, cohesive, low plasticity. Slight hydrocarbon odor. No mottling.
15							
20						TD 20.5	
25							
30							Soil sampled @ 11:23 am.
35							
40							Checked by:TDC

BORING LOG

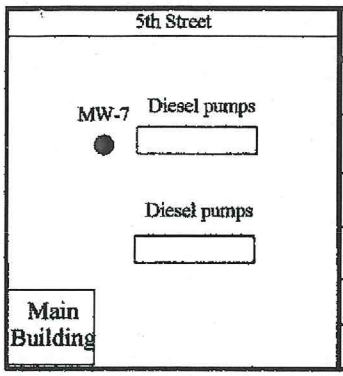


W. A. Craig, Inc.
Environmental Contracting and Consulting
6940 Tremont Road
Dixon, California 95620
Cal License #455752
(707) 693-2929
FAX (707) 693-2922

PROJECT: Rinehart Distributing	**PROJECT number** 3628	**BORING NO:** MW-6
DRILLING CONTRACTOR: Gregg Drilling & Sampling	**START TIME:** 12:46 pm **FINISH TIME:** 2:27 pm	**DATE:** 08/16/00
DRILLING METHOD: 8.5" Hollow Stem Auger	**TOTAL DEPTH:** 20.5'	**DEPTH TO WATER:** 5'
SAMPLER: California Modified Split Spoon	**SCREEN INT.:** 5'-20.5'	**CASING:** 2" PVC
HAMMER WEIGHT: 140 lbs. **DROP:** 30"	**FIELD GEOLOGIST:** O'Grady	



BORING LOG

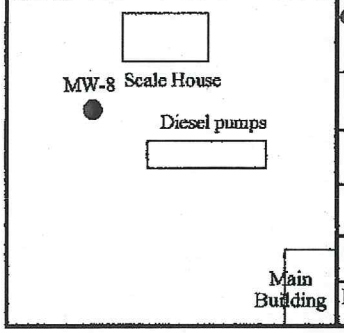


W. A. Craig, Inc.
Environmental Contracting and Consulting
6940 Tremont Road
Dixon, California 95620
Cal License #455752
(707) 693-2929
FAX (707) 693-2922

PROJECT: Rinehart Distributing	**PROJECT#** 3628	**BORING NO:** MW-7
DRILLING CONTRACTOR: Gregg Drilling & Sampling	**START TIME:** 9:06 am **FINISH TIME:** 11:26 am	**DATE:** 08/17/00
DRILLING METHOD: 8.5" Hollow Stem Auger	**TOTAL DEPTH:** 20.5'	**DEPTH TO WATER:** 5'
SAMPLER: California Modified Split Spoon	**SCREEN INT.:** 5'-20.5'	**CASING:** 2" PVC
HAMMER WEIGHT: 140 lbs. **DROP:** 30"	**FIELD GEOLOGIST:** O'Grady	

DEPTH	SAMPLE No.	SAMPLE	BLOWS/6" ROW	PID [ppm]	BORING/WELL CONSTRUCTION	LITHOLOGIC LOG	LITHOLOGIC DESCRIPTION Description, Color, Density, Moisture
5	1		4 5 5				Concrete Paving Class II AB Clayey sand (SC) green, moist, cohesive, low plasticity. Strong hydrocarbon odor and mottling present. Some free product present in soil @ 4'.
10							Clayey sand (SC) green/dark grey, moist-wet, low plasticity, some cohesion. Strong hydrocarbon odor and mottling present.
15							Clayey sand (SC) green/dark grey, moist, cohesive, low plasticity. Strong hydrocarbon odor and mottling present.
20						TD 20.5	Clayey sand (SC) green/dark grey, moist, cohesive, low plasticity. Strong hydrocarbon odor and mottling present.
25							
30							Soil sampled @ 9:45 am
35							
40							Checked by:TDC

BORING LOG

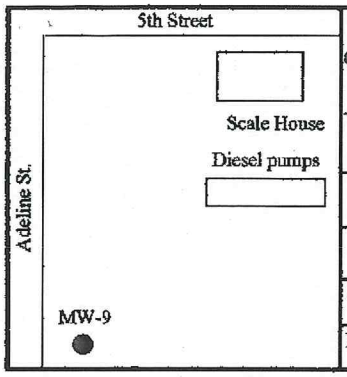


W. A. Craig, Inc.
Environmental Contracting and Consulting
6940 Tremont Road
Dixon, California 95620
Cal License #455752
(707) 693-2929
FAX (707) 693-2922

PROJECT: Rinehart Distributing	**PROJECT number** 3628	**BORING NO:** MW-8
DRILLING CONTRACTOR: Gregg Drilling & Testing	**START TIME:** 9:05 am **FINISH TIME:** 10:40 am	**DATE:** 08/16/00
DRILLING METHOD: 8.5" Hollow Stem Auger	**TOTAL DEPTH:** 20.5'	**DEPTH TO WATER:** 5'
SAMPLER: California Modified Split Spoon	**SCREEN INT.:** 5'-20.5'	**CASING:** 2" PVC
HAMMER WEIGHT: 140 lbs. **DROP:** 30"	**FIELD GEOLOGIST:** O'Grady	

DEPTH	SAMPLE No	SAMPLE	BLOWS/ 6$ ROOT	PID [ppm]	BORING/WELL CONSTRUCTION	LITHOLOGIC LOG	LITHOLOGIC DESCRIPTION Description, Color, Density, Moisture
							AC Pavement over Class II AB
							Clay (CL) green, damp, dense, low plasticity. Hydrocarbon odor and mottling present. Free product present @ 3'.
5	1		8 8 12				Poorly graded sand with gravel (SP) green, wet, cohesive, low plasticity. Strong hydrocarbon odor and abundant mottling.
10							Clayey sand (SC) green ,wet, cohesive. Strong hydrocarbon odor and mottling present.
15							
20						TD 20.5	
25							
30							Soil sampled @ 9:31 am.
35							
40							Checked by:TDC

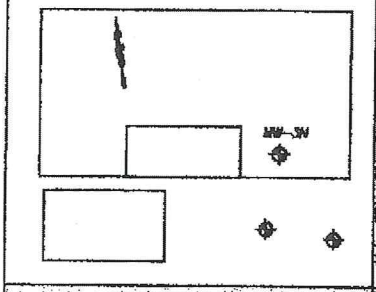
BORING LOG



W. A. Craig, Inc.
Environmental Contracting and Consulting
6940 Tremont Road
Dixon, California 95620
Cal License #455752
(707) 693-2929
FAX (707) 693-2922

PROJECT: Rinehart Distributing	**PROJECT#** 3628	**BORING NO:** MW-9
DRILLING CONTRACTOR: Gregg Drilling & Testing	**START TIME:** 11:25 am **FINISH TIME:** 1:30 pm	**DATE:** 08/23/00
DRILLING METHOD: 8.5" Hollow Stem Auger	**TOTAL DEPTH:** 20.5'	**DEPTH TO WATER:** 5'
SAMPLER: California Modified Split Spoon	**SCREEN INT.:** 5'-20.5'	**CASING:** 2" PVC
HAMMER WEIGHT: 140 lbs. **DROP:** 30"	**FIELD GEOLOGIST:** O'Grady	

DEPTH	SAMPLE No.	SAMPLE	BLOWS ON 6" ROOT	PID [ppm]	BORING/WELL CONSTRUCTION	LITHOLOGIC LOG	LITHOLOGIC DESCRIPTION Description, Color, Density, Moisture
							AC Pavement Class II AB Concrete Pavement
5	1		5 3 3				Clayey sand (SC) green, damp-moist, cohesive, medium plasticity. Strong hydrocarbon odor and mottling present.
							Clayey sand (SC) green/grey, moist-wet, low plasticity, cohesive. Strong hydrocarbon odor and mottling present.
10							Silty clay (CH) bay mud, green/dark grey, moist, organic, cohesive, high plasticity. Faint hydrocarbon odor and no mottling.
15							Silty clay (CH) bay mud, green/dark grey, moist, organic, cohesive, high plasticity. No hydrocarbon odor or mottling.
20						TD 20.5	Silty clay (CH) bay mud, green/dark grey, moist, organic, cohesive, high plasticity. No hydrocarbon odor or mottling.
25							
30							Soil sampled @ 11:55 am
35							
40							Checked by:TDC



SITE MAP

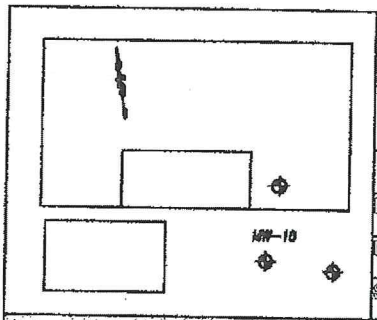
W.A. Craig, Inc.
Environmental Contracting and Consulting
6940 Tremont Road
Dixon, California 95620-9603
LIC# 455752
PH# (707) 693-2929
Fax# (707) 693-2922

PROJECT: RINEHART	PROJECT #: 3628	BORING #: MW-3N	
DRILLING CONTRACTOR: WEST HAZMAT	START: FINISH:	DATE: 5-8-02	
DRILLING METHOD: CME-75	TOTAL DEPTH: 14'	DEPTH TO WATER: 7'	
SAMPLER: CA MODIFIED SPLIT SPOON	SCREEN INT.: 5'-12'	CASING: 2" PVC	
HAMMER WEIGHT: 140 DROP: 30"	FIELD GEOLOGIST: Mokri		

DEPTH	SAMPLE #	SAMPLE	BLOWS/0.5'	PID (ppm)	BORING/WELL CONSTRUCTION	LITHOLOGIC LOG	LITHOLOGIC DESCRIPTION (DESCRIPTION, COLOR, DENSITY, MOISTURE)
0							ASPHALT
							FILL MATERIAL
5	MW-3 @ 7.5		9 7 4 7 7 7 5 5 6 7 3 4 6 7 7 12	32.1 0 0 0 0		SP	SAND, DARK BROWN, FINE GRAINED, WET, LOOSE, SOME BRICK FRAGS, PETRO ODOR.
							AS ABOVE, GREENISH COLOR.
10							AS ABOVE, SOME 1/2 INCH GRAVEL, LOOSER.
						SC	CLAYEY SAND (SC), DARK REDDISH BROWN, SOME ORGANIC MATERIAL, LESS MOISTURE, ROTTTEN EGG SMELL (H2S).
15							
20							
25							
30							
35							
40							

CHECKED BY: TDC

NOTE: THE LINE SEPARATING STRATA REPRESENT APPROXIMATE BOUNDARIES ONLY. THE ACTUAL TRANSITION MAY BE GRADUAL. NO WARRANTY IS PROVIDED AS TO THE CONTINUITY OF THE SOIL STRATA BETWEEN BORINGS. LOGS REPRESENT THE SOIL SECTION OBSERVED AT THE BORING LOCATION ON THE DATE OF DRILLING ONLY.



SITE MAP

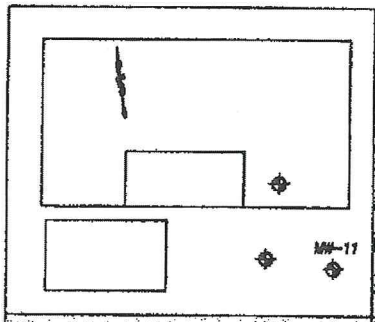
W.A. Craig, Inc.
Environmental Contracting and Consulting
6940 Tremont Road
Dixon, California 95620-9603
LIC# 455752
PH# (707) 693-2929
Fax# (707) 693-2922

PROJECT: RINEHART	PROJECT #: 3628	BORING #: MW-10	
DRILLING CONTRACTOR: WEST HAZMAT	START: FINISH:	DATE: 5-8-02	
DRILLING METHOD: CME-75	TOTAL DEPTH: 12'	DEPTH TO WATER: 7'	
SAMPLER: CA MODIFIED SPLIT SPOON	SCREEN INT.: 5'-12'	CASING: 2" PVC	
HAMMER WEIGHT: 140 DROP: 30"	FIELD GEOLOGIST: MOKRI		

DEPTH	SAMPLE #	SAMPLE	BLOWS/0.5'	PID (ppm)	BORING/WELL CONSTRUCTION	LITHOLOGIC LOG	LITHOLOGIC DESCRIPTION DESCRIPTION, COLOR, DENSITY, MOISTURE
0-5			4 4 7 5 4 3 2 2 3 2 2 2 2 7 9 9 7 9 9 7 11 14 12 4 7	0 0 0 0 0 0 0 0 0		SP	SAND, FINE GRAINED, SOME GRAVEL TO 1/4 INCH, DARK BROWN, MOIST, LOOSE.
5	MW-10 @ 6.5						
5-10							AS ABOVE, DARK BROWN, WET.
10							AS ABOVE, DARKER, LOOSE.
10-15						SM	SILTY SAND, LIGHT BROWN, RUNNY, LOOSE.
15							
15-20							
20							
20-25							
25							
25-30							
30							
30-35							
35							
35-40							
40							

CHECKED BY: TDC

NOTE: THE LINE SEPARATING STRATA REPRESENT APPROXIMATE BOUNDARIES ONLY. THE ACTUAL TRANSITION MAY BE GRADUAL. NO WARRANTY IS PROVIDED AS TO THE CONTINUITY OF THE SOIL STRATA BETWEEN BORINGS. LOGS REPRESENT THE SOIL SECTION OBSERVED AT THE BORING LOCATION ON THE DATE OF DRILLING ONLY.



SITE MAP

W.A. Craig, Inc.
Environmental Contracting and Consulting
6940 Tremont Road
Dixon, California 95620-9603
LIC# 455752
PH# (707) 693-2929
Fax# (707) 693-2922

PROJECT: RINEHART	PROJECT #: 3628	BORING #: MW-11	
DRILLING CONTRACTOR: WEST HAZMAT	START: FINISH:	DATE: 5-8-02	
DRILLING METHOD: CME-75	TOTAL DEPTH: 28'	DEPTH TO WATER: 7'	
SAMPLER: CA MODIFIED SPLIT SPOON	SCREEN INT.: 5'-12'	CASING: 2" PVC	
HAMMER WEIGHT: 140 DROP: 30"	FIELD GEOLOGIST: COOK / MOKRI		

DEPTH	SAMPLE #	SAMPLE	BLOWS/0.5'	PID (ppm)	LITHOLOGIC LOG	LITHOLOGIC DESCRIPTION (DESCRIPTION, COLOR, DENSITY, MOISTURE)
0-5			3, 4	0		SAND, FINE GRAIN, DARK BROWN, W/ BRICK FRAGS, MINOR GLASS, MOIST, LOOSE.
5	MW-11 @7		8, 4	0	SP	AS ABOVE, WET AT 7 FEET BELOW GRADE.
10			10, 12, 6, 10, 11, 8	0		AS ABOVE, FINE GRAINED SAND, WET, W/ORGANICS, LOOSE..
			12, 14, 3, 3, 5	0		AS ABOVE, NO ORGANICS, GRAY TO GREENISH GRAY.
			14, 14, 14, 8	0		AS ABOVE, BLACK TO GRAY TO GREENISH GRAY.
15			12, 12, 9, 12, 15	0	SC	CLAYEY SAND (SC), FINE GRAIN, REDDISH OXIDIZED, FIRM, MOIST, NOT WET (ALSO AT 17- 17.5 FBG).
			1, 1, 3, 12, 15	0	SP SC	SAND, FINE GRAINED, DARK GRAY, WET, LOOSE. SAND, FINE GRAINED, LOOSE, VARIES FROM DARK GRAY TO REDDISH OXIDIZED, WET.
20			19, 14, 21, 22	0		AS ABOVE, W/ SOME CLAYEY SAND, RUNNY, LOOSE, TAN TO REDDISH.
25			14, 20, 22, 21	0	SP	AS ABOVE, LIGHT BROWN.
			50/5	0		AS ABOVE, GRADING TO MEDIUM GRAIN SAND, DENSER.
30-40						AS ABOVE, FINE GRAINED SAND, LOOSE.

CHECKED BY: TDC

NOTE: THE LINE SEPARATING STRATA REPRESENT APPROXIMATE BOUNDARIES ONLY. THE ACTUAL TRANSITION MAY BE GRADUAL. NO WARRANTY IS PROVIDED AS TO THE CONTINUITY OF THE SOIL STRATA BETWEEN BORINGS. LOGS REPRESENT THE SOIL SECTION OBSERVED AT THE BORING LOCATION ON THE DATE OF DRILLING ONLY.

Advanced
GeoEnvironmental, Inc.
4005 North Wilson Way, Stockton, CA 95205
(209) 467-1006 FAX: (209) 467-1118

BORING LOG

BOREHOLE NO.: **MW-12**

TOTAL DEPTH: **20'**

Project:	Rinehart - Oakland Truck Stop	Drilling Co.:	Cascade Drilling, Inc.
Site Location:	1107 5th Street Oakland, California	Rig/Auger Type:	8" HS - LAR
		Logged By:	Rick Marty
		Reviewed By:	Bill Little
Project No.:	AGE-NC-03-1101	Date(s) Drilled:	05 October 2004

Notes:

▽ Water level during drilling
▼ Water level in completed well

Depth	Sample ID	Blows / ft.	PID (ppm)	Soil Symbol	USCS Class and Soil Description	Well Completion	Well Description
0							Neat cement from 0.5' to 1.5' bsg
							Bentonite chip seal from 1.5' to 4' bsg
-5	MW12-5				SILTY SAND: Gray, SILTY FINE SAND; moist, no hydrocarbon (HC) odor.		
-10	MW12-10				SILTY SAND: Black and gray, SILTY FINE SAND; moist, no HC odor.		#2/12 Lonestar sand filter pack from 4' to 20' bsg
▽							
-15	MW12-15				SAND: Gray, SAND; saturated, no HC odor.		
-20	MW12-20				CLAY: Gray, CLAY; moist, stale odor.		Cap at 20' bsg
-25							

Advanced
GeoEnvironmental, Inc.
4005 North Wilson Way, Stockton, CA 95205
(209) 467-1006 FAX: (209) 467-1118

BORING LOG

BOREHOLE NO.: **MW-13**

TOTAL DEPTH: **20'**

Project:	Rinehart - Oakland Truck Stop	Drilling Co.:	Cascade Drilling, Inc.
Site Location:	1107 5th Street Oakland, California	Rig/Auger Type:	8" HS - LAR
		Logged By:	Rick Marty
		Reviewed By:	Bill Little
Project No.:	AGE-NC-03-1101	Date(s) Drilled:	05 October 2004

Notes:

▽ Water level during drilling
▼ Water level in completed well

Depth	Sample ID	Blows / ft.	PID (ppm)	Soil Symbol	USCS Class and Soil Description	Well Completion	Well Description
0							Neat cement from 0.5' to 1.5' bsg
							Bentonite chip seal from 1.5' to 4' bsg
-5	MW13-5				SANDY SILT: Gray-brown, SANDY SILT; moist, no hydrocarbon (HC) odor.		
-10	MW13-10				SAND: Gray, SAND; moist, fine-grained, no HC odor.		#2/12 Lonestar sand filter pack from 4' to 20' bsg
-15	MW13-15				SILT: Brown, SILT; moist, stale odor.		
▽							
-20	MW13-20				SAND: Gray, SAND; saturated, no HC odor.		Cap at 20' bsg
-25							

Advanced
GeoEnvironmental, Inc.
4005 North Wilson Way, Stockton, CA 95205
(209) 467-1006 FAX: (209) 467-1118

BORING LOG

BOREHOLE NO.: **MW-14**

TOTAL DEPTH: **20'**

Project:	Rinehart - Oakland Truck Stop	Drilling Co.:	Cascade Drilling, Inc.
Site Location:	1107 5th Street Oakland, California	Rig/Auger Type:	8" HS - LAR
		Logged By:	Rick Marty
		Reviewed By:	Bill Little
Project No.:	AGE-NC-03-1101	Date(s) Drilled:	05 October 2004

Notes:

▽ Water level during drilling
▼ Water level in completed well

Depth	Sample ID	Blows / ft.	PID (ppm)	Soil Symbol	USCS Class and Soil Description	Well Completion	Well Description
0							Neat cement from 0.5' to 1.5' bsg
							Bentonite chip seal from 1.5' to 4' bsg
-5	MW14-5				SILTY SAND: Gray, SILTY SAND; moist, strong hydrocarbon (HC) odor.		
-10	MW14-10				SAND: Gray, SAND; saturated, HC odor.		#2/12 Lonestar sand filter pack from 4' to 20' bsg
-15	MW14-15				SILTY SAND: Brown and gray, SILTY SAND; moist, HC odor.		
▽							
-20	MW14-20				SAND: SAND; saturated. (No sample)		Cap at 20' bsg
-25							

Advanced
GeoEnvironmental, Inc.
4005 North Wilson Way, Stockton, CA 95205
(209) 467-1006 FAX: (209) 467-1118

BORING LOG

BOREHOLE NO.: **Sparge**

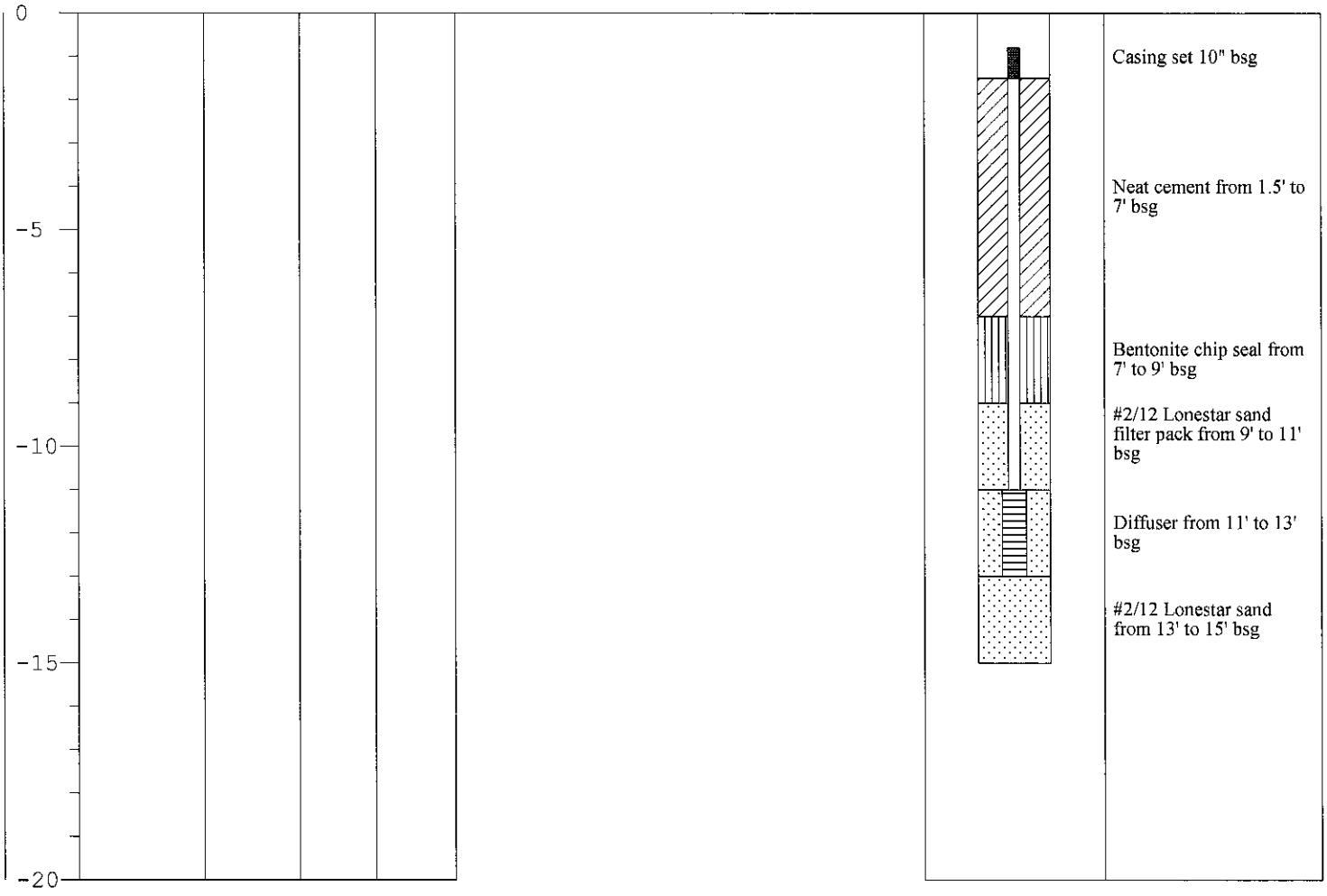
TOTAL DEPTH: **15'**

Project:	Rinehart - Oakland Truck Stop	Drilling Co.:	Cascade Drilling, Inc.
Site Location:	1107 5th Street Oakland, California	Rig/Auger Type:	LAR
		Logged By:	Rick Marty
		Reviewed By:	Bill Little
Project No.:	AGE-NC-03-1101	Date(s) Drilled:	04 and 05 October 2004

Notes:

▽ Water level during drilling
▼ Water level in completed well

Depth	Sample ID	Blows / ft.	PID (ppm)	Soil Symbol	USCS Class and Soil Description	Well Completion	Well Description



Advanced
GeoEnvironmental, Inc.
837 Shaw Road, Stockton, CA 95215
(209) 467-1006 FAX: (209) 467-1118

BORING LOG

BOREHOLE NO.: **P1**

TOTAL DEPTH: **40'**

Project:	Rinehart - Oakland Truck Stop	Drilling Co.:	TestAmerica Drilling Corp.
Site Location:	1107 5th Street Oakland, California	Rig/Auger Type:	CME 55 w/ 8.25" HS augers
		Logged By:	Jo'l M. Chapman
		Reviewed By:	Bill Little
Project No.:	AGE-NC-03-1101	Date(s) Drilled:	05 July 2006

Notes:

▽ Water level during drilling
▼ Water level in completed well

Depth	Sample ID	Blows (per 6")	PID (ppm)	Soil Symbol	USCS Class and Soil Description
0					TOPSOIL: Black, TOPSOIL; moist, gravelly, very strong hydrocarbon (HC) odor.
					SM: Dark gray, SILTY SAND; moist, appx. 10% silt, fine-grained/poorly graded sand, very strong HC odor.
-5					NO RECOVERY
	P1-6		31.5		SM: Black, SILTY SAND; moist, appx. 20% silt, trace gravel and brick debris, fine-grained/poorly graded sand, strong HC odor.
	P1-8				SM: Gray, SILTY SAND; moist, appx. 5% silt, fine-grained/poorly graded sand, strong HC odor.
-10					NO RECOVERY
	P1-11		468		SM: Gray, SILTY SAND; moist, appx. 5% silt, fine-grained/poorly graded sand, strong HC odor.
	P1-14				SM: Gray and dark orange mottled, SILTY SAND; moist, appx. 20% silt, fine-grained/poorly graded sand, strong HC odor.
-15 ▽					SM: Gray, orange, and brown mottled, SILTY SAND; saturated, appx. 5% silt, fine-grained/poorly graded sand, strong HC odor.
	P1-17		36.5		SM: Gray and dark orange mottled, SILTY SAND; moist, appx. 20% silt, fine-grained/poorly graded sand, strong HC odor.
					SM: Gray, orange, and brown mottled, SILTY SAND; saturated, appx. 5% silt, fine-grained/poorly graded sand, strong HC odor.

Advanced
GeoEnvironmental, Inc.
837 Shaw Road, Stockton, CA 95215
(209) 467-1006 FAX: (209) 467-1118

BORING LOG

BOREHOLE NO.: **P1**

TOTAL DEPTH: **40'**

Project: Rinehart - Oakland Truck Stop

Project No.: AGE-NC-03-1101

Date(s) Drilled: 05 July 2006

Depth	Sample ID	Blows (per 6")	PID (ppm)	Soil Symbol	USCS Class and Soil Description
-20	P1-20				NO RECOVERY
	P1-21		6.7		SM: Light brown, SILTY SAND; saturated (soupy), appx. 5% silt, fine-grained/poorly graded sand, HC odor.
					SM: Gray, SILTY SAND; very moist, appx. 5% silt, fine-grained/poorly graded sand, HC odor.
	P1-23		0.5		SM: Orange-brown, SILTY SAND; moist, appx. 5% silt, fine-grained/poorly graded sand, slight HC odor.
					SM: Light brown, SILTY SAND; saturated, appx. 5% silt, fine-grained/poorly graded sand, slight HC odor.
-25	P1-25				SM: Orange-brown, SILTY SAND; saturated, appx. 5% silt, fine-grained/poorly graded sand, very slight HC odor.
					NO RECOVERY
					SM: Orange-brown, SILTY SAND; saturated, appx. 5% silt, fine-grained/poorly graded sand, very slight HC odor.
					SM: Orange-brown, SILTY SAND; saturated, appx. 5% silt, fine-grained/poorly graded sand, very slight HC odor.
-30	P1-30		0.9		NO RECOVERY
	P1-34		1.4		SM: Orange-brown, SILTY SAND; saturated, appx. 5% silt, fine-grained/poorly graded sand, very slight HC odor.
-35					SM: Orange-brown, SILTY SAND; saturaged, appx. 5% silt, fine-grained/poorly graded sand, no HC odor.
-40	P1-40		0		

Advanced
GeoEnvironmental, Inc.
837 Shaw Road, Stockton, CA 95215
(209) 467-1006 FAX: (209) 467-1118

BORING LOG

BOREHOLE NO.: **P2**

TOTAL DEPTH: **40'**

Project:	Rinehart - Oakland Truck Stop	Drilling Co.:	TestAmerica Drilling Corp.
Site Location:	1107 5th Street Oakland, California	Rig/Auger Type:	CME 55 w/ 8.25" HS augers
		Logged By:	Jo'l M. Chapman
		Reviewed By:	Bill Little
Project No.:	AGE-NC-03-1101	Date(s) Drilled:	05 July 2006

Notes:

▽ Water level during drilling
▼ Water level in completed well

Depth	Sample ID	Blows (per 6")	PID (ppm)	Soil Symbol	USCS Class and Soil Description
0					TOPSOIL: Black, TOPSOIL; moist, gravelly, very strong hydrocarbon (HC) odor.
					SM: Dark gray, SILTY SAND; moist, appx. 10% silt, fine-grained/poorly graded sand, very strong HC odor.
-5					NO RECOVERY
					SM: Dark brown, SILTY SAND; moist, appx. 5% silt, fine-grained/poorly graded sand, very strong HC odor.
	P2-8				CL: Dark brown, SANDY CLAY; moist, appx. 25% sand, high plasticity, high consistency, high toughness, fine-grained/poorly graded sand, strong HC odor.
					SM: Dark brown, SILTY SAND; moist, appx. 5% silt, fine-grained/poorly graded sand, very strong HC odor.
-10	P2-10		963		NO RECOVERY
	P2-11		67		PEAT WITH CLAY: Dark gray, CLAYEY PEAT; very moist, appx. 20% clay, moderate plasticity, moderate consistency, low toughness, fibrous, strong decay odor, strong HC odor.
-15 ▽	P2-15				PEAT WITH SAND: Dark gray, SANDY PEAT; saturated, appx. 10% sand, fine-grained/poorly graded sand, fibrous, strong HC odor.
	P2-16		12.5		Pt: Black, PEAT; saturated, fibrous, strong decay odor, strong HC odor.
					SC: Gray, CLAYEY SAND; saturated, appx. 20% clay, moderate plasticity, moderate consistency, moderate toughness, fine-grained/poorly graded sand, HC odor.
-20					

Advanced
GeoEnvironmental, Inc.
837 Shaw Road, Stockton, CA 95215
(209) 467-1006 FAX: (209) 467-1118

BORING LOG

BOREHOLE NO.: **P2**

TOTAL DEPTH: **40'**

Project: Rinehart - Oakland Truck Stop

Project No.: AGE-NC-03-1101

Date(s) Drilled: 05 July 2006

Depth	Sample ID	Blows (per 6")	PID (ppm)	Soil Symbol	USCS Class and Soil Description
-20	P2-20		0		
					SM: Orange-brown, SILTY SAND; saturated, appx. 5% silt, fine-grained/poorly graded sand, very slight HC odor.
	P2-24		0		
-25					NO RECOVERY
					SP: Light brown, SAND; saturated, fine-grained/poorly graded, no HC odor.
-30	P2-30		0		NO RECOVERY
					SP: Light brown, SAND; saturated, fine-grained/poorly graded, no HC odor.
	P2-34				
-35					NO RECOVERY
					SP: Light brown, SAND; saturated, fine-grained/poorly graded, no HC odor.
-40	P2-39		0		

Advanced
GeoEnvironmental, Inc.
837 Shaw Road, Stockton, CA 95215
(209) 467-1006 FAX: (209) 467-1118

BORING LOG

BOREHOLE NO.: **P3**

TOTAL DEPTH: **40'**

Project:	Rinehart - Oakland Truck Stop	Drilling Co.:	TestAmerica Drilling Corp.
Site Location:	1107 5th Street Oakland, California	Rig/Auger Type:	CME 55 w/ 8.25" HS augers
		Logged By:	Jo'l M. Chapman
		Reviewed By:	Bill Little
Project No.:	AGE-NC-03-1101	Date(s) Drilled:	06 July 2006

Notes:

▽ Water level during drilling
▼ Water level in completed well

Depth	Sample ID	Blows (per 6")	PID (ppm)	Soil Symbol	USCS Class and Soil Description
0					TOPSOIL: Black, TOPSOIL; moist, gravelly, very strong hydrocarbon (HC) odor.
					CL: Gray, SILTY CLAY; moist, HC staining, moderate plasticity, moderate consistency, moderate toughness, very strong HC odor.
-5					NO RECOVERY
	P3-8		238		CL: Gray and brown, SANDY CLAY; moist, appx. 10% sand, moderate plasticity, moderate consistency, moderate toughness, strong HC odor.
					SM: Gray and brown, SILTY SAND; very moist, appx. 10% silt, fine-grained/poorly graded sand, strong HC odor.
-10					NO RECOVERY
	P3-12		70		SM: Dark brown, SILTY SAND; very moist, appx. 5% silt, fine-grained/poorly graded sand, HC odor.
					PEAT WITH CLAY: Black, CLAYEY PEAT; moist, appx. 20% clay, high plasticity, moderate consistency, low toughness, fibrous, strong decay odor, HC odor.
					PEAT WITH CLAY: Brown, CLAYEY PEAT; moist, appx. 10% clay, high plasticity, moderate consistency, low toughness, fibrous, strong decay odor, HC odor.
-15					PEAT WITH CLAY: Brown, CLAYEY PEAT; moist, appx. 10% clay, high plasticity, moderate consistency, low toughness, fibrous, strong decay odor, HC odor.
	P3-17		24		

Advanced
GeoEnvironmental, Inc.
837 Shaw Road, Stockton, CA 95215
(209) 467-1006 FAX: (209) 467-1118

BORING LOG

BOREHOLE NO.: **P3**

TOTAL DEPTH: **40'**

Project: Rinehart - Oakland Truck Stop

Project No.: AGE-NC-03-1101

Date(s) Drilled: 06 July 2006

Depth	Sample ID	Blows (per 6")	PID (ppm)	Soil Symbol	USCS Class and Soil Description
-20					
	P3-21				PEAT WITH CLAY: Black and orange, CLAYEY PEAT; moist, appx. 5% clay, fibrous, very strong decay odor, HC odor.
-25	P3-25		4.0		PEAT WITH CLAY: Black and orange, CLAYEY PEAT; moist, appx. 5% clay, fibrous, very strong decay odor, HC odor.
▽					
	P3-28		0.6		SC: Black, SANDY CLAY; saturated, appx. 30% sand, moderate plasticity, low consistency, low toughness, fine-grained/poorly graded sand, decay odor, no HC odor.
-30					SP: Black and gray, SAND; saturated, appx. 10% organic debris, fine-grained/poorly graded sand, slight decay odor, no HC odor.
	P3-31				SM: Gray, SILTY SAND; very moist, appx. 5% silt, fine-grained/poorly graded sand, no HC odor.
					SM: Light brown, SILTY SAND; saturated, appx. 5% silt, fine-grained/poorly graded sand, no HC odor.
-35	P3-35		0		NO RECOVERY
					SM: Light brown, SILTY SAND; saturated, appx. 5% silt, fine-grained/poorly graded sand, no HC odor.
-40	P3-40		0		

Advanced
GeoEnvironmental, Inc.
837 Shaw Road, Stockton, CA 95215
(209) 467-1006 FAX: (209) 467-1118

BORING LOG

BOREHOLE NO.: **P4**

TOTAL DEPTH: **40'**

Project:	Rinehart - Oakland Truck Stop	Drilling Co.:	TestAmerica Drilling Corp.
Site Location:	1107 5th Street Oakland, California	Rig/Auger Type:	CME 55 w/ 8.25" HS augers
		Logged By:	Jo'l M. Chapman
		Reviewed By:	Bill Little
Project No.:	AGE-NC-03-1101	Date(s) Drilled:	06 July 2006

Notes:

▽ Water level during drilling
▼ Water level in completed well

Depth	Sample ID	Blows (per 6")	PID (ppm)	Soil Symbol	USCS Class and Soil Description
0					TOPSOIL: Black, TOPSOIL; moist, gravelly, very strong hydrocarbon (HC) odor.
					CL: Gray, SANDY CLAY; moist, appx. 15% sand, moderate plasticity, moderate consistency, moderate toughness, strong HC odor.
-5					NO RECOVERY
▽	P4-7		112		SM: Gray, SILTY SAND; saturated, appx. 5% silt, fine-grained/poorly graded sand, strong HC odor.
					CL: Gray and brown, CLAY; moist, high plasticity, high consistency, high toughness, strong HC odor.
-10					SM: Brown, SILTY SAND; moist, appx. 5% silt, fine-grained/poorly graded sand, HC odor.
					PEAT WITH CLAY: Gray-brown, CLAYEY PEAT; moist, appx. 20% clay, moderate plasticity, low consistency, low toughness, fibrous, strong decay odor, HC odor.
	P4-13		28		
-15					
	P4-18		11		

Advanced
GeoEnvironmental, Inc.
837 Shaw Road, Stockton, CA 95215
(209) 467-1006 FAX: (209) 467-1118

BORING LOG

BOREHOLE NO.: **P4**

TOTAL DEPTH: **40'**

Project: Rinehart - Oakland Truck Stop

Project No.: AGE-NC-03-1101

Date(s) Drilled: 06 July 2006

Depth	Sample ID	Blows (per 6")	PID (ppm)	Soil Symbol	USCS Class and Soil Description
-20					
	P4-23		0.6		PEAT WITH CLAY: Black and orange, CLAYEY PEAT; moist to very moist, appx. 5% clay, fibrous, very strong decay odor, slight HC odor.
-25					
	P4-28		0		OH: Black, PEATY CLAY; moist to saturated, appx. 15% organic debris, trace sand, moderate plasticity, low consistency, low toughness, strong decay odor, slight HC odor.
-30					NO RECOVERY
					PEAT WITH CLAY: Black and orange, CLAYEY PEAT; moist to very moist, appx. 5% clay, fibrous, very strong decay odor, slight HC odor.
	P4-34		0		SM: Gray, SILTY SAND; saturated, appx. 5% silt, fine-grained/poorly graded sand, very slight HC odor.
-35					SM: Gray, SILTY SAND; saturated, appx. 5% silt, fine-grained/poorly graded sand, very slight HC odor.
	P4-36		0		SM: Light brown, SILTY SAND; saturated, appx. 5% silt, fine-grained/poorly graded sand, no HC odor.
-40	P4-40				

Advanced
GeoEnvironmental, Inc.
837 Shaw Road, Stockton, CA 95215
(209) 467-1006 FAX: (209) 467-1118

BORING LOG

BOREHOLE NO.: **P5**

TOTAL DEPTH: **40'**

Project:	Rinehart - Oakland Truck Stop	Drilling Co.:	TestAmerica Drilling Corp.
Site Location:	1107 5th Street Oakland, California	Rig/Auger Type:	CME 55 w/ 8.25" HS augers
		Logged By:	Jo'l M. Chapman
		Reviewed By:	Bill Little
Project No.:	AGE-NC-03-1101	Date(s) Drilled:	06 July 2006

Notes:

▽ Water level during drilling
▼ Water level in completed well

Depth	Sample ID	Blows (per 6")	PID (ppm)	Soil Symbol	USCS Class and Soil Description
0					TOPSOIL: Black, TOPSOIL; moist, gravelly, very strong hydrocarbon (HC) odor.
					CL: Light brown, SILTY CLAY; moist, HC staining, strong HC odor.
-5					NO RECOVERY
▽					OH: Black, PEATY CLAY; very moist, appx. 15% organic debris, moderate plasticity, low consistency, low toughness, very slight HC odor.
					SC: Dark gray and brown, CLAYEY SAND; very moist, appx. 5% clay, fine-grained/poorly graded sand, slight HC odor.
-10	P5-10		9.0		NO RECOVERY
					SC: Dark gray and brown, CLAYEY SAND; very moist, appx. 5% clay, fine-grained/poorly graded sand, slight HC odor.
-15	P5-15		0.5		PEAT WITH CLAY: Gray-brown, CLAYEY PEAT; moist to very moist, appx. 30% clay, high plasticity, low consistency, low toughness, trace fine sand, fibrous, strong decay odor, very slight HC odor (?).

Advanced
GeoEnvironmental, Inc.
837 Shaw Road, Stockton, CA 95215
(209) 467-1006 FAX: (209) 467-1118

BORING LOG

BOREHOLE NO.: **P5**

TOTAL DEPTH: **40'**

Project: Rinehart - Oakland Truck Stop

Project No.: AGE-NC-03-1101

Date(s) Drilled: 06 July 2006

Depth	Sample ID	Blows (per 6")	PID (ppm)	Soil Symbol	USCS Class and Soil Description
-20	P5-20		0		
					PEAT WITH CLAY: Black and orange, CLAYEY PEAT; moist, appx. 5% clay, fibrous, strong decay odor, no HC odor.
-25	P5-25		0		
	P5-27				OH: Black, PEATY CLAY; moist, appx. 25% organic debris, low plasticity, low consistency, low toughness, strong decay odor, no HC odor.
					OH: Black, PEATY CLAY; moist, appx. 10% organic debris, low plasticity, low consistency, low toughness, strong decay odor, no HC odor.
-30	P5-30		0		
					SM: Gray, SILTY SAND; very moist, appx. 5% silt, fine-grained/poorly graded sand, no HC odor.
-35	P5-35		0		NO RECOVERY
					SM: Gray, SILTY SAND; very moist, appx. 5% silt, fine-grained/poorly graded sand, no HC odor.
-40	P5-40		0		

Advanced GeoEnvironmental, Inc.
837 Shaw Road, Stockton, CA 95215
(209) 467-1006 FAX: (209) 467-1118

BORING LOG

BOREHOLE NO.: **P6**

TOTAL DEPTH: **20'**

Project:	Rinehart - Oakland Truck Stop	Drilling Co.:	Enviroprobe
Site Location:	1107 5th Street Oakland, California	Rig/Auger Type:	Geoprobe 5400 w/ 1.25" rods
		Logged By:	Jo'l M. Chapman
		Reviewed By:	
Project No.:	AGE-NC-03-1101	Date(s) Drilled:	18 July 2006

Notes:

▽ Water level during drilling
▼ Water level in completed well

Depth	Sample ID	Blows (per 6")	PID (ppm)	Soil Symbol	USCS Class and Soil Description
0					
					NO RECOVERY
-5					CL: Dark brown, SANDY CLAY; moist to saturated, appx. 10% fine-grained/poorly graded sand, moderate plasticity, low consistency, low toughness, no hydrocarbon (HC) odor.
					PT: Black, PEAT; moist, fibrous debris, no HC odor.
	P6-8		0		SM: Gray-green, SILTY SAND; v. moist, appx. 25% silt, fine-grained/poorly graded sand, no HC odor.
					NO RECOVERY
-10					SM: Gray-green, SILTY SAND; v. moist, appx. 25% silt, fine-grained/poorly graded sand, no HC odor.
	P6-12		0		NO RECOVERY
					SM: Gray-green, SILTY SAND; v. moist, appx. 25% silt, fine-grained/poorly graded sand, no HC odor.
-15					PEAT WITH CLAY: Gray, CLAYEY PEAT; saturated, appx. 25% clay, low plasticity, low consistency, low toughness, trace fine sand, strong decay odor, no HC odor.
	P6-16		0		NO RECOVERY
					SM: Gray-green, SILTY SAND; v. moist, appx. 25% silt, fine-grained/poorly graded sand, no HC odor.
-20 ▽	P6-20		0		PEAT WITH CLAY: Gray, CLAYEY PEAT; saturated, appx. 25% clay, low plasticity, low consistency, low toughness, trace fine sand, strong decay odor, no HC odor.
-25					

Advanced
GeoEnvironmental, Inc.
837 Shaw Road, Stockton, CA 95215
(209) 467-1006 FAX: (209) 467-1118

BORING LOG

BOREHOLE NO.: **P7**

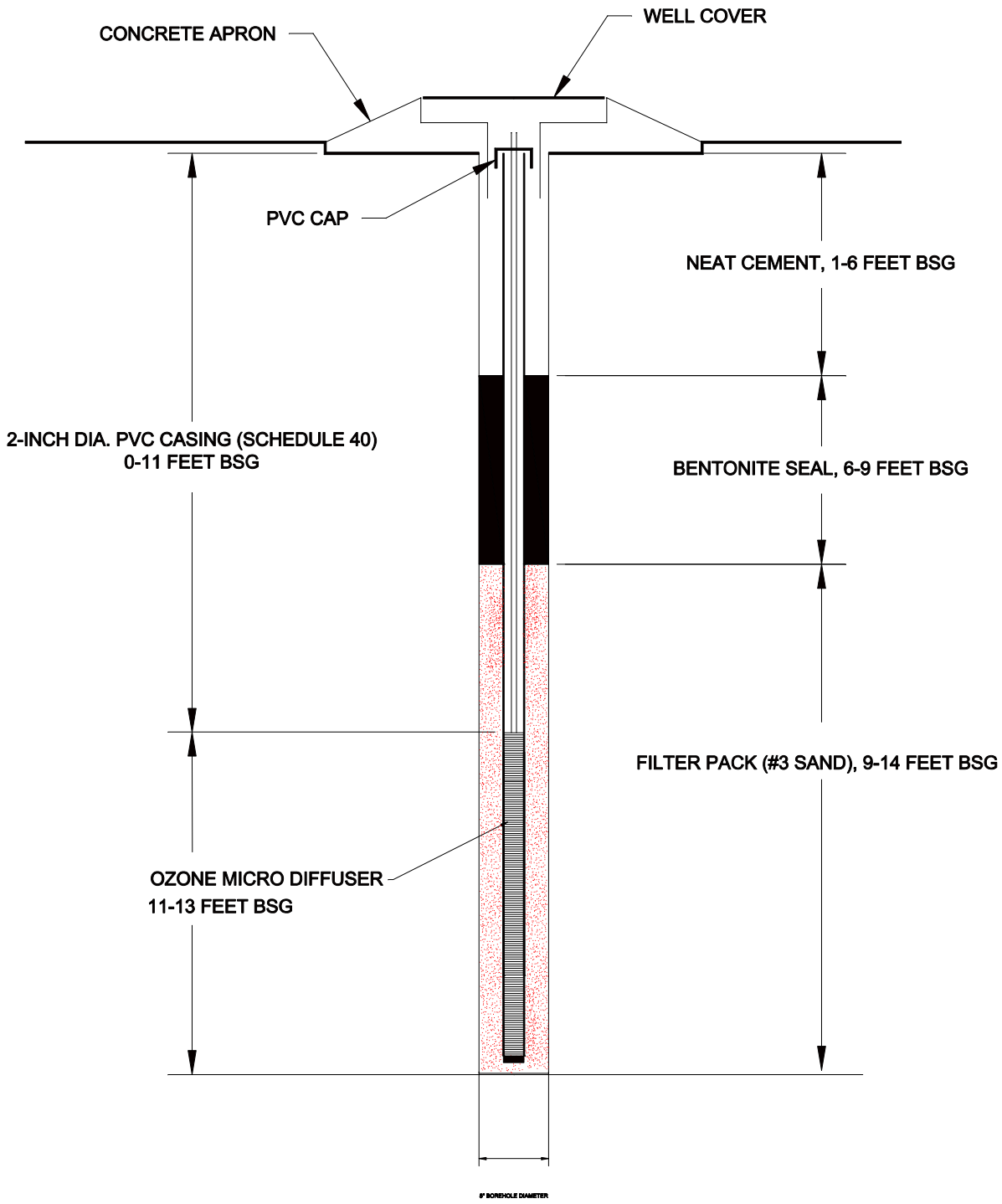
TOTAL DEPTH: **20'**

Project:	Rinehart - Oakland Truck Stop	Drilling Co.:	Enviroprobe
Site Location:	1107 5th Street Oakland, California	Rig/Auger Type:	Geoprobe 5400 w/ 1.25" rods
		Logged By:	Jo'l M. Chapman
		Reviewed By:	
Project No.:	AGE-NC-03-1101	Date(s) Drilled:	18 July 2006

Notes:

▽ Water level during drilling
▼ Water level in completed well

Depth	Sample ID	Blows (per 6")	PID (ppm)	Soil Symbol	USCS Class and Soil Description
0					
▽					NO RECOVERY
-5					CL: Black, SANDY CLAY; saturated, appx. 10% fine-grained/poorly graded sand, moderate plasticity, low consistency, low toughness, slight hydrocarbon (HC) odor.
					SM: Gray-green, SILTY SAND; saturated, appx. 25% silt, fine-grained/poorly graded sand, slight HC odor.
	P7-8		680		NO RECOVERY
-10					SM: Gray-green, SILTY SAND; saturated, appx. 25% silt, fine-grained/poorly graded sand, slight HC odor.
	P7-12		0		NO RECOVERY
					PEAT WITH CLAY: Gray, CLAYEY PEAT; saturated, appx. 25% clay, low plasticity, low consistency, low toughness, trace fine sand, strong decay odor, no HC odor.
-15	P7-16		0		NO RECOVERY
					PEAT WITH CLAY: Gray, CLAYEY PEAT; saturated, appx. 25% clay, low plasticity, low consistency, low toughness, trace fine sand, strong decay odor, no HC odor.
					PT: Black, PEAT; moist, fibrous debris, strong decay odor, no HC odor.
-20	P7-20		0		
-25					



WELL DIAGRAM FOR: OZ6R, OZ7R, OZ10R, OZ16R, AND OZ17R

BGS - BELOW SURFACE GRADE
NOT TO SCALE

OZONE SPARGE WELL CONSTRUCTION DIAGRAM

RINO/PACIFIC OAKLAND TRUCK STOP
1107 5TH STREET
OAKLAND, CALIFORNIA

Advanced GeoEnvironmental, Inc.
www.advgeoenv.com

PROJECT NO. AGE-NC-03-1101	FILE: LOG	FIGURE:
DATE: APRIL 2013	DRAWN BY: MAC	A

Advanced
GeoEnvironmental, Inc.
2318 Fourth Street, Santa Rosa, CA 95404
(707) 570-1418 FAX: (707) 570-1461

BORING LOG

BOREHOLE NO.: **MW-15**

TOTAL DEPTH: **20.5 Feet**

Project:	RINEHART OIL, INC.	Drilling Co.:	GREGG DRILLING AND TESTING
Site Location:	1107 5th Street Oakland, California	Rig/Auger Type:	D-42 Limited Access Rig / 8"-H.S.A.
		Logged By:	Jeremiah Puget
		Reviewed By:	William Little
Project No.:	AGE-SR- 03-1101	Date(s) Drilled:	09/20/07

Notes:

▽ Water level during drilling
▼ Water level in completed well

Depth	Sample ID	Blows (per 6")	OVM (ppm)	Soil Symbol	USCS Class and Soil Description	Well Completion	Well Description
0							Well cover cristy box. Portland cement grout from 0.5' to 2' bsg.
							Bentonite plug from 2' to 3' bsg.
-5	MW-15-6.5'		0		SM: SAND with Silt: brown, moist to wet, medium dense, poorly graded fine sand, no petroleum hydrocarbon (HC) odor.		
-10 ▼	MW-15-11.5'		0		SC: CLAYEY SAND: brown to light brown, moist, medium dense, poorly graded fine sand, no HC odor.		2/12 sand from 3' to 20.5' bsg.
-15	MW-15-16.5'		0		SM: SAND with Silt: brown, moist, dense, poorly graded fine sand, trace gravel at 16.5' bsg, no HC odor.		2" diameter schedule 40 PVC 0.010-inch slotted screen from 5 to 20' bsg.
▽							
-20	MW-15-20'		0		SM: Same as above. Increase in Sand, wet.		End cap at 20.5' bsg.
-25							

Advanced
GeoEnvironmental, Inc.
2318 Fourth Street, Santa Rosa, CA 95404
(707) 570-1418 FAX: (707) 570-1461

BORING LOG

BOREHOLE NO.: **MW-16**

TOTAL DEPTH: **20.5 Feet**

Project:	RINEHART OIL, INC.	Drilling Co.:	GREGG DRILLING AND TESTING
Site Location:	1107 5th Street Oakland, California	Rig/Auger Type:	D-42 Limited Access Rig / 8"-H.S.A.
		Logged By:	Jeremiah Puget
		Reviewed By:	William Little
Project No.:	AGE-SR- 03-1101	Date(s) Drilled:	09/20/07

Notes:

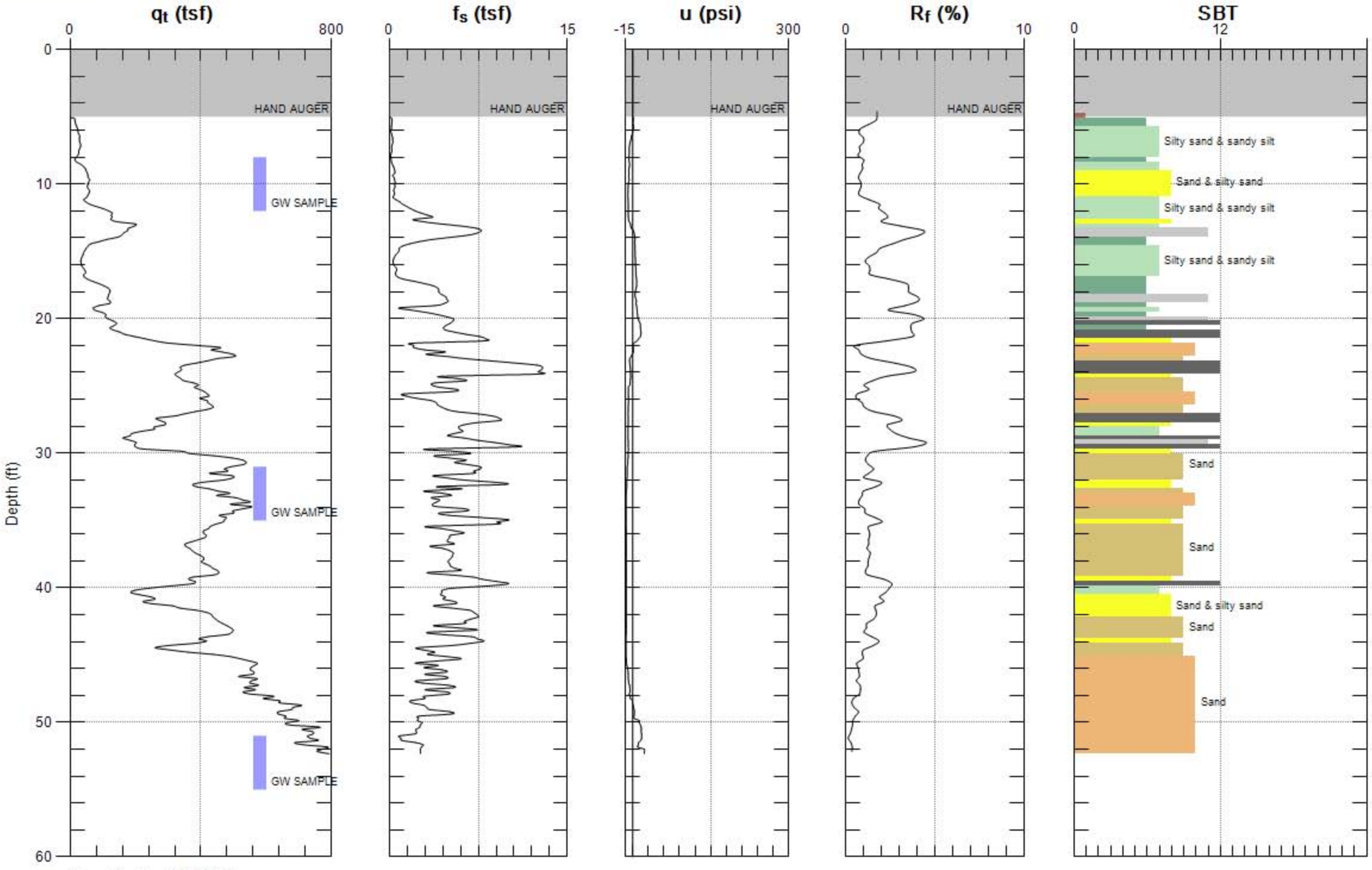
▽ Water level during drilling
▼ Water level in completed well

Depth	Sample ID	Blows (per 6")	OVM (ppm)	Soil Symbol	USCS Class and Soil Description	Well Completion	Well Description
0							Well cover cristy box. Portland cement grout from 0.5' to 2' bsg.
							Bentonite plug from 2' to 3' bsg.
5 ▼ ▽	MW-16-6.5'		0		SM: SAND with Silt: brown to dark brown, wet, medium dense, poorly graded fine sand, trace root fibers, no petroleum hydrocarbon (HC) odor.		
10	MW-16-11.5'		0		SC: CLAYEY SAND: brown to gray, wet, medium dense to loose, poorly graded fine sand, no HC odor.		2/12 sand from 3' to 20.5' bsg.
					SM: SAND: gray to brown, wet, medium dense, poorly graded fine sand, no HC odor.		
15	MW-16-16.5'		0		PT: PEAT/BAY MUD: gray to black, wet, highly organic, muddy, spongy, with roots, no HC odor.		2" diameter schedule 40 PVC 0.010-inch slotted screen from 5 to 20' bsg.
20	MW-16-20'		0		PT: Same as above. PEAT: blueish gray to brown, increase in mud, decrease in organics.		End cap at 20.5' bsg.
25							

ADVANCED GEOENVIRONMENTAL

Site: RINHEART OIL
Sounding: CPT-01

Engineer: J.PUGET
Date: 9/20/2007 09:16



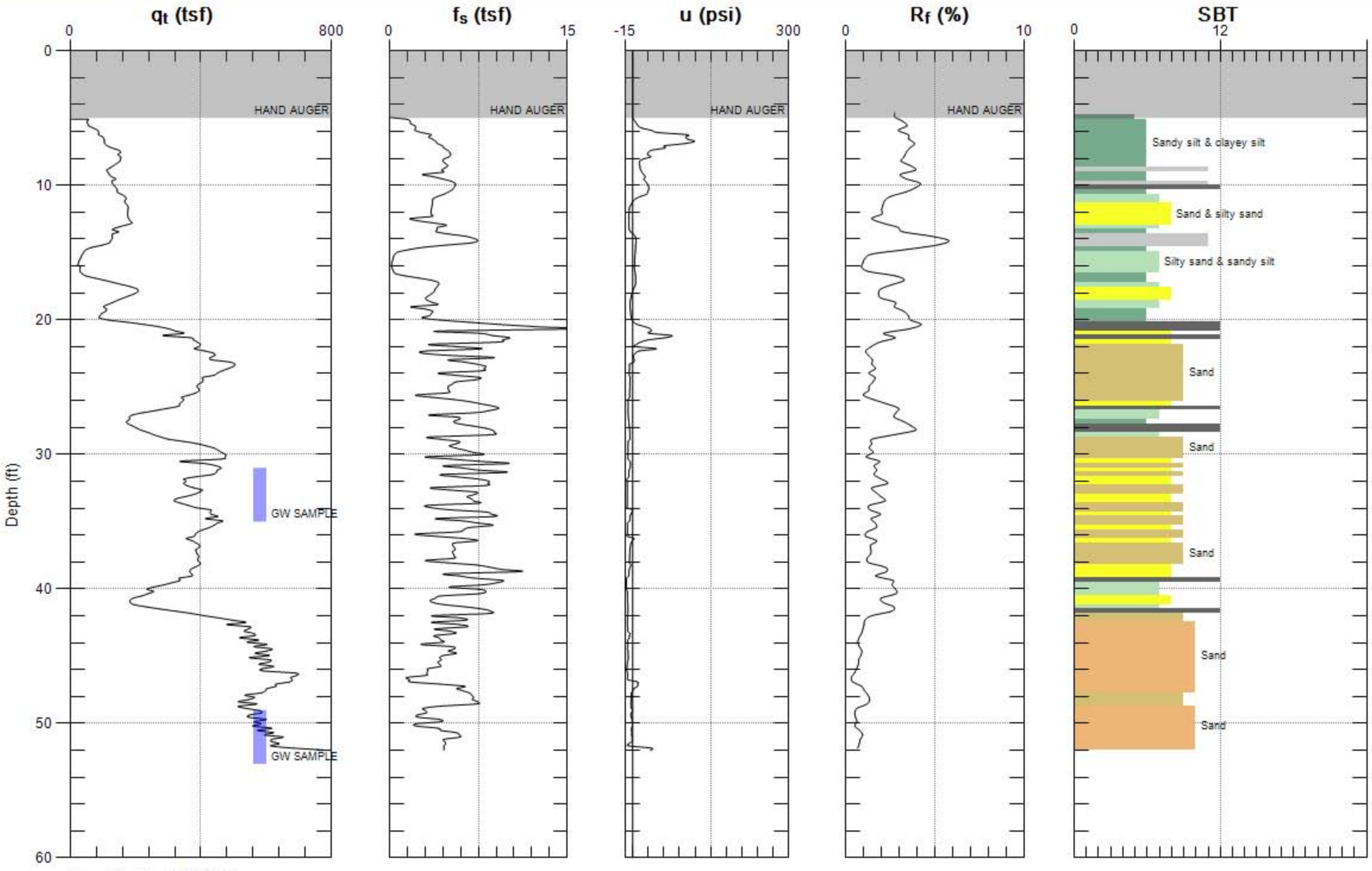
Max. Depth: 52.329 (ft)
Avg. Interval: 0.328 (ft)

SBT: Soil Behavior Type (Robertson 1990)

ADVANCED GEOENVIRONMENTAL

Site: RINHEART OIL
Sounding: CPT-02

Engineer: J.PUGET
Date: 9/20/2007 03:53



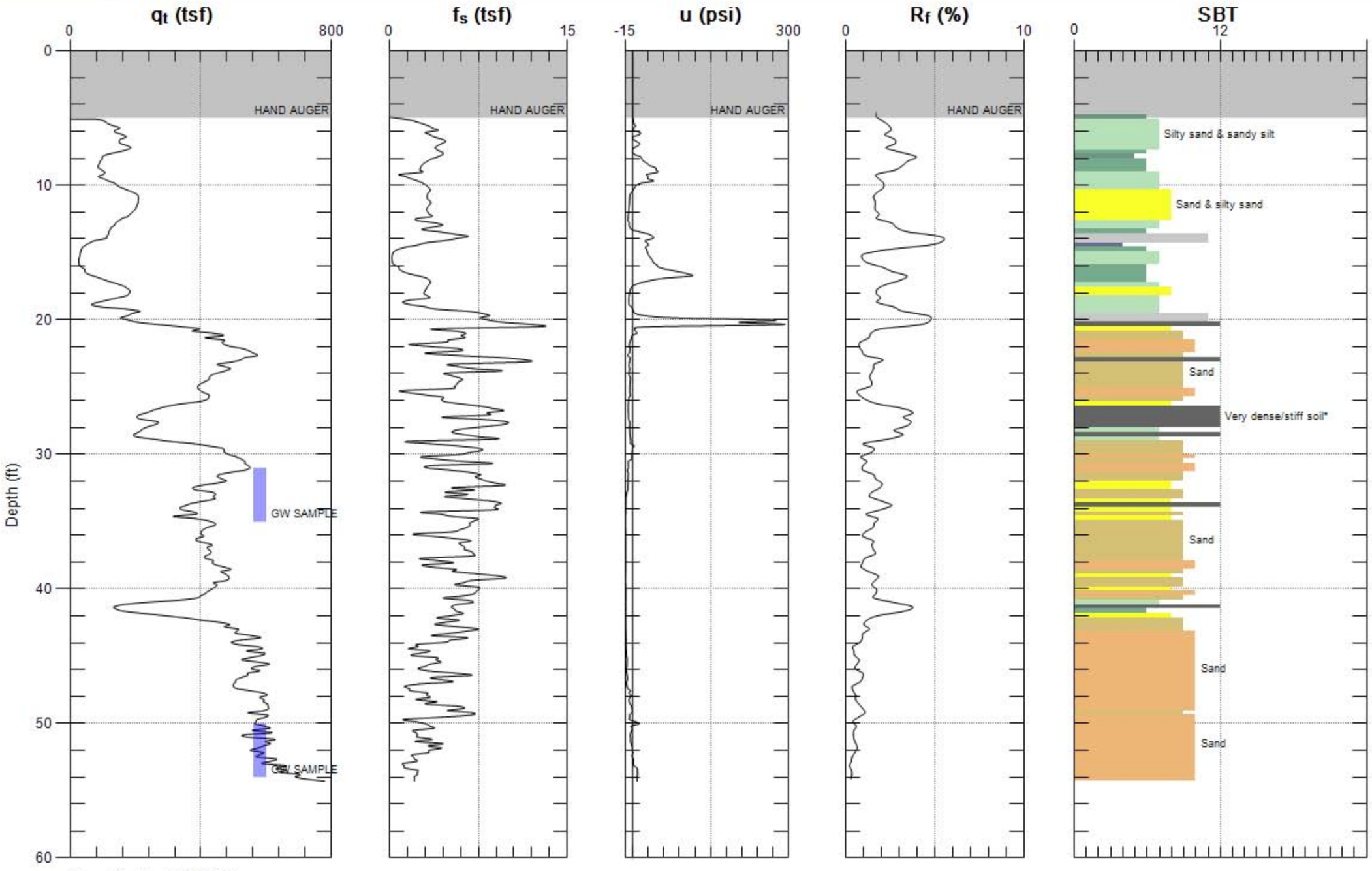
Max. Depth: 52.001 (ft)
Avg. Interval: 0.328 (ft)

SBT: Soil Behavior Type (Robertson 1990)

ADVANCED GEOENVIRONMENTAL

Site: RINHEART OIL
Sounding: CPT-03

Engineer: J.PUGET
Date: 9/21/2007 08:25



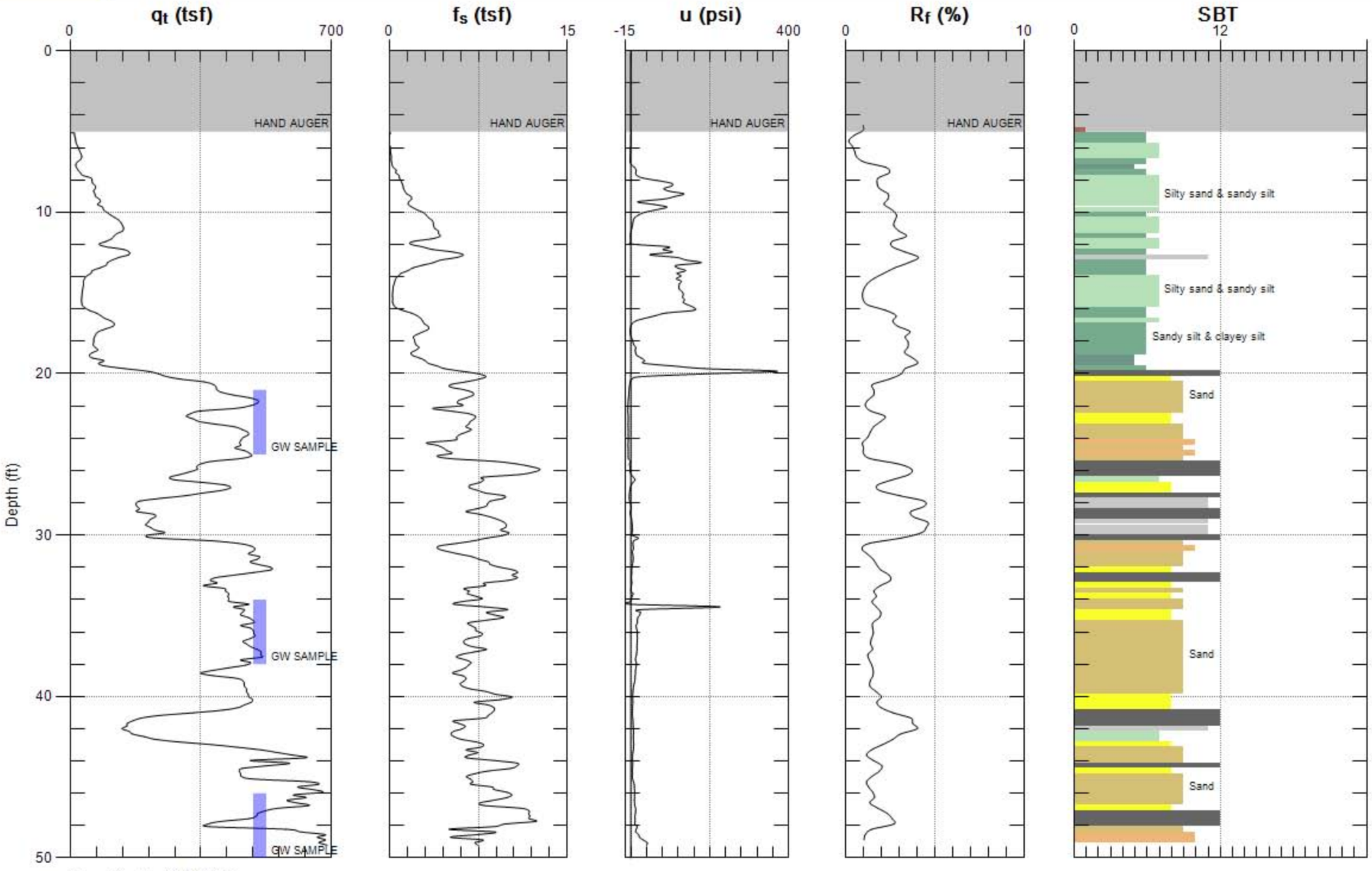
Max. Depth: 54.298 (ft)
Avg. Interval: 0.328 (ft)

SBT: Soil Behavior Type (Robertson 1990)

ADVANCED GEOENVIRONMENTAL

Site: RINEHARD TRUCK STOP Engineer: S.AGARWAL

Sounding: CPT-04 Date: 7/24/2008 08:52



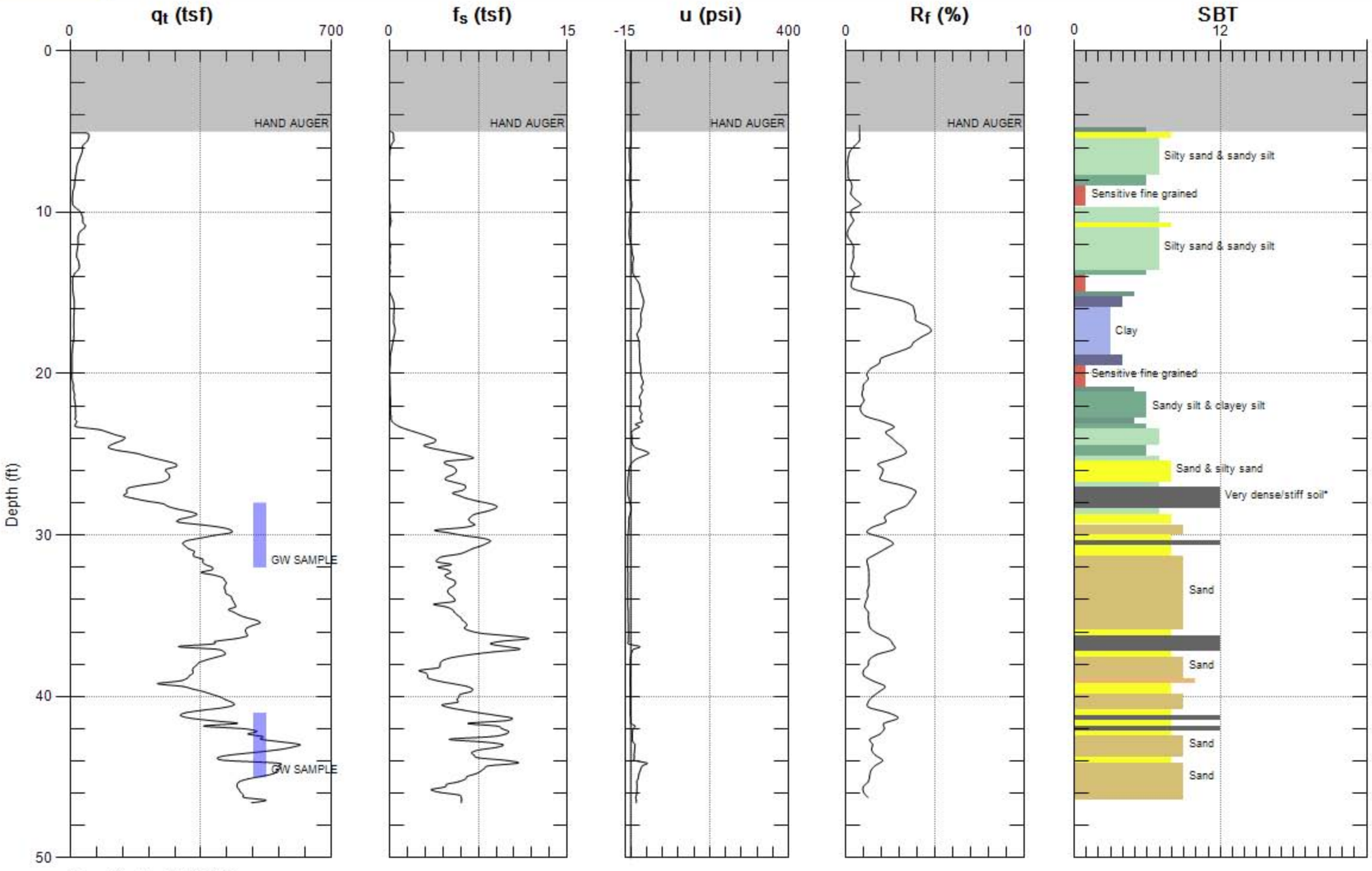
Max. Depth: 49.213 (ft)
Avg. Interval: 0.328 (ft)

SBT: Soil Behavior Type (Robertson 1990)

ADVANCED GEOENVIRONMENTAL

Site: RINEHARD TRUCK STOP Engineer: S.AGARWAL

Sounding: CPT-05 Date: 7/24/2008 02:10



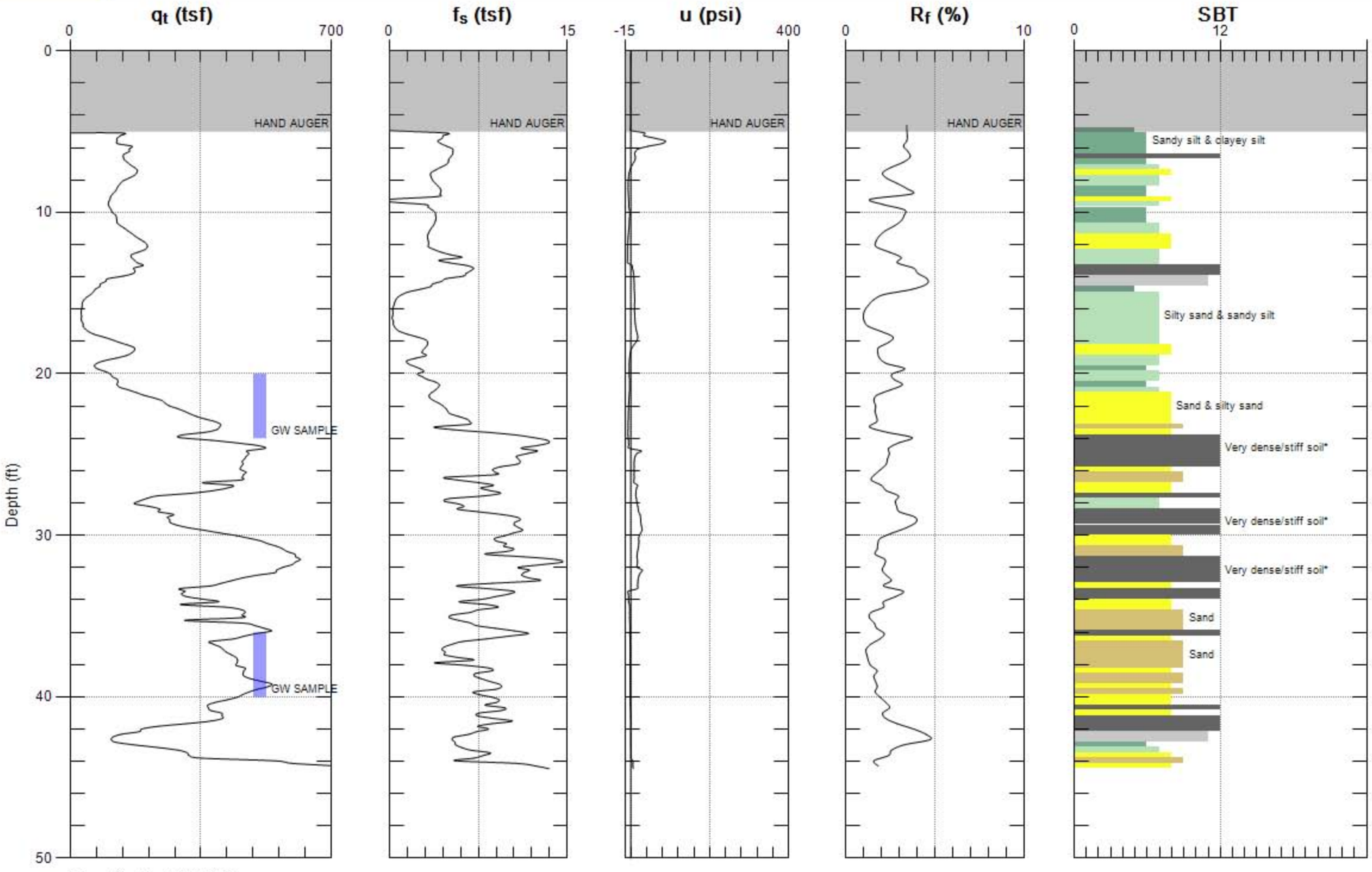
Max. Depth: 46.588 (ft)
Avg. Interval: 0.328 (ft)

SBT: Soil Behavior Type (Robertson 1990)

ADVANCED GEOENVIRONMENTAL

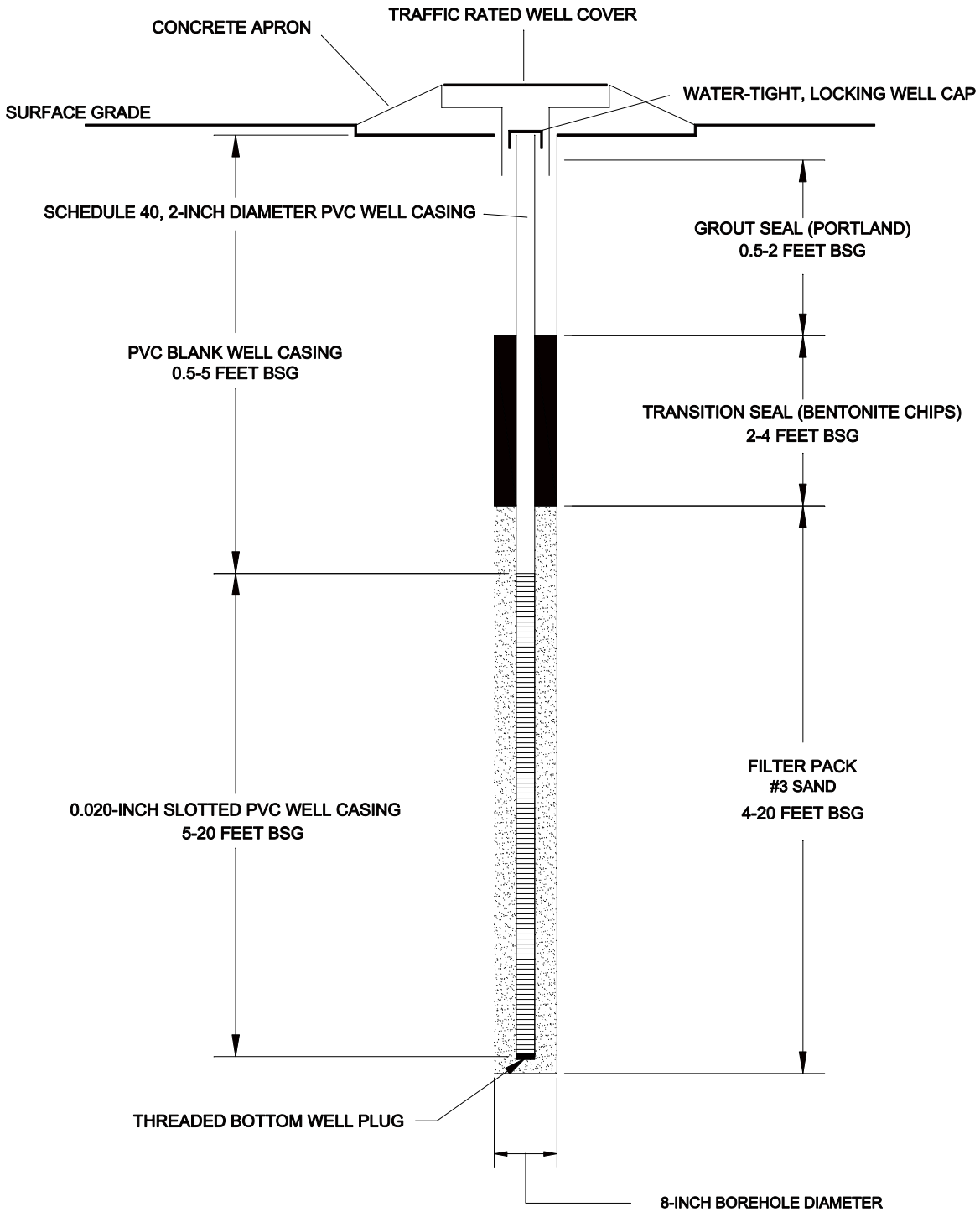
Site: RINEHARD TRUCK STOP Engineer: S.AGARWAL

Sounding: CPT-06 Date: 7/25/2008 07:59



Max. Depth: 44.455 (ft)
Avg. Interval: 0.328 (ft)

SBT: Soil Behavior Type (Robertson 1990)



ALL DEPTHS RELATIVE TO SURFACE GRADE
NOT TO SCALE

MONITORING WELL DIAGRAM: MW-13R

RINI PACIFIC/OAKLAND TRUCK STOP
1107 5TH STREET
OAKLAND, CALIFORNIA

Advanced GeoEnvironmental, Inc.
www.advgeoenv.com

PROJECT NO. AGE-NC-03-1101	FILE: MWDES	FIGURE:
DATE: DECEMBER 2011	DRAWN BY: MAC	A

APPENDIX B

Adsorbed Mass/Volume Calculations - Soil Excavations

APPENDIX B

TPH IMPACTED SOIL: SOIL EXCAVATION
VOLUME ASSUMPTIONS AND CALCULATIONS
RINO PACIFIC/OAKLAND TRUCK STOP
1107 5th Street, Oakland, California

Volume of impacted soil removed by UST excavation activities:

REMOVED HYDROCARBONS

Based on soil samples collected from stockpiled soil removed from the UST excavation, the following calculation for the removed petroleum hydrocarbons has been made.

Assumptions

A total of 2,100 tons of impacted soil was excavated and transported off-site for disposal; landfill weight tags were used to determine the mass of soil removed. The average concentration of TPH-g and TPH-d in stockpiled (SP-1 through SP-3) soil samples collected during the UST excavation was approximately 553 milligrams/kilogram (mg/kg) TPH-g and 3,200 mg/kg TPH-d.

Calculations*: TPH-g*

2,100 tons TPH-g-impacted soil x 2,000 pounds/ton = 4,200,000 pounds (lb) TPH-g-impacted soil

4,200,000 lb TPH-g-impacted soil x 553 mg/kg (0.000553) TPH-g = **2,323 lb Gasoline Removed**

2,323 lb gasoline ÷ 6.25 lb/gal = **372 gal Gasoline Removed**

Calculations*: TPH-d*

2,100 tons TPH-d-impacted soil x 2,000 pounds/ton = 4,200,000 lb TPH-d-impacted soil

4,200,000 lb TPH-d-impacted soil x 3,200 mg/kg (0.003200) TPH-d = **13,440 lb Diesel Removed**

13,440 lb diesel ÷ 7.00 lb/gal = **1,920 gal Diesel Removed**

Volume of impacted soil removed by Cat-Scale excavation activities:

REMOVED HYDROCARBONS

Based on soil samples collected from sidewall samples in the excavation performed as part of truck scale removal and upgrade activities, the following calculation for the removed petroleum hydrocarbons has been made.

Assumptions

A total of 543.76 tons of impacted soil was excavated and transported off-site for disposal; landfill weight tags were used to determine the mass of soil removed. The average concentration of TPH-g and TPH-d in sidewall soil samples (Exc-S1 through Exc-S3, Exc-W and Exc-E) collected during the truck scale excavation was approximately 553 mg/kg TPH-g and 3,200 mg/kg TPH-d.

Calculations*: TPH-g*

543.76 tons TPH-g-impacted soil x 2,000 pounds/ton = 1,087,520 lb TPH-g-impacted soil

1,087,520 lb TPH-g-impacted soil x 29 mg/kg (0.000029) TPH-g = **32 lb Gasoline Removed**

32 lb gasoline ÷ 6.25 lb/gal = **5 gal Gasoline Removed**

Calculations*: TPH-d*

543.76 tons TPH-d-impacted soil x 2,000 pounds/ton = 1,087,520 lb TPH-d impacted soil

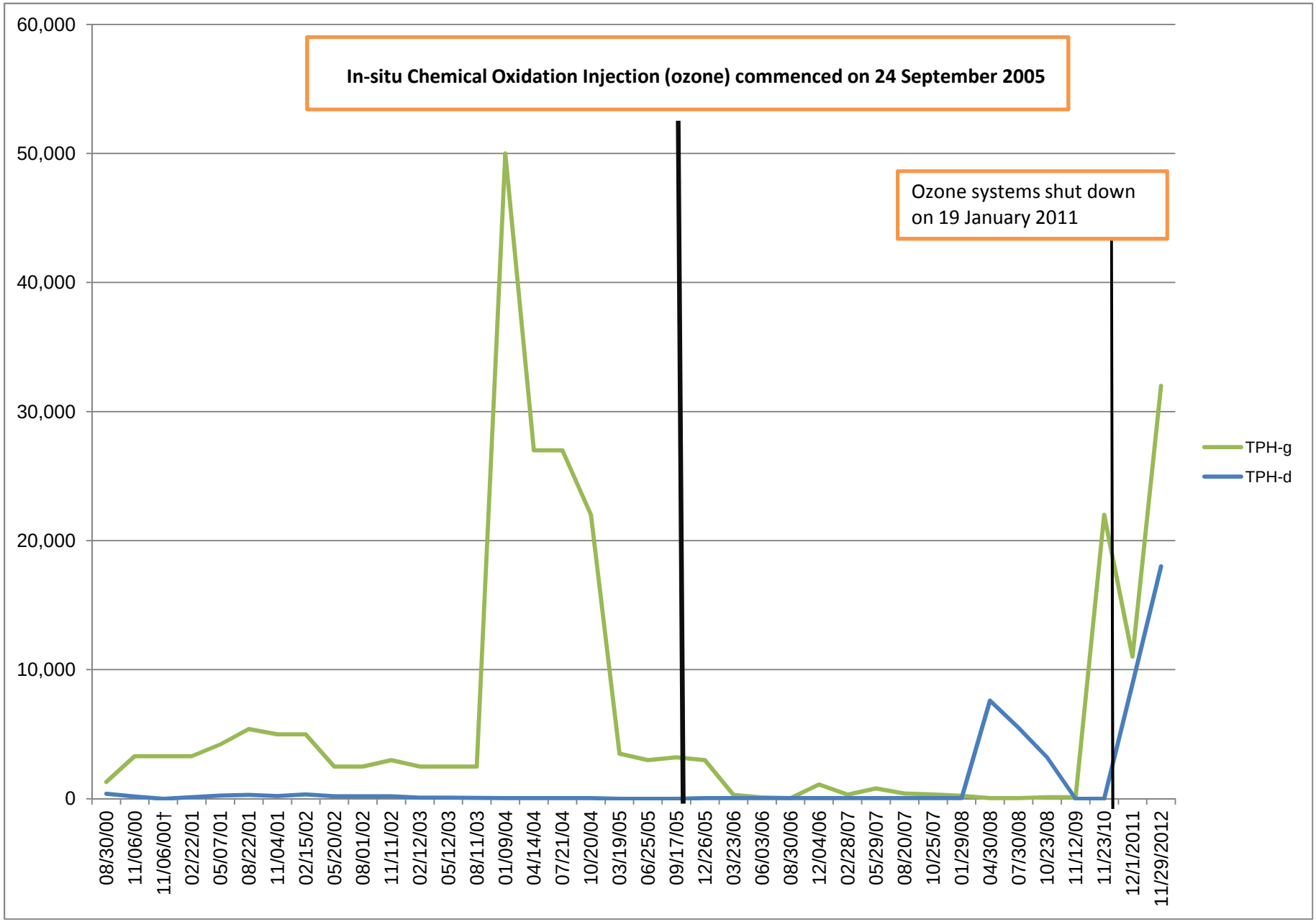
1,087,520 lb TPH-d-impacted soil x 3,281 mg/kg (0.003281) TPH-d = **3,568 lb Diesel Removed**

3,568 lb diesel ÷ 7.00 lb/gal = **510 gal Diesel Removed**

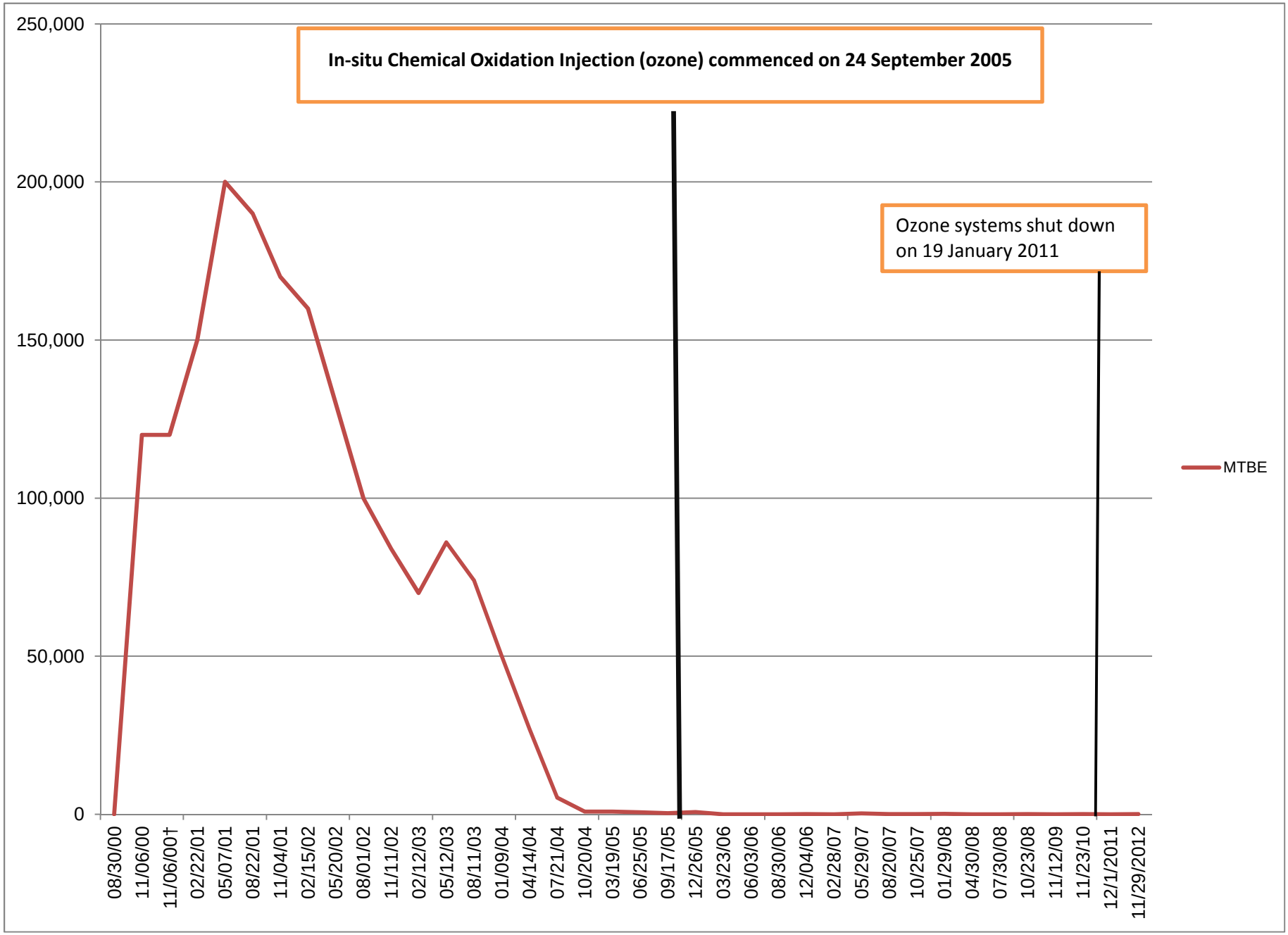
APPENDIX C

Trend Graphs - Ozone Remediation

RINO PACIFIC/OAKLAND TRUCK STOP
TPH CONCENTRATIONS FOR WELL MW-4

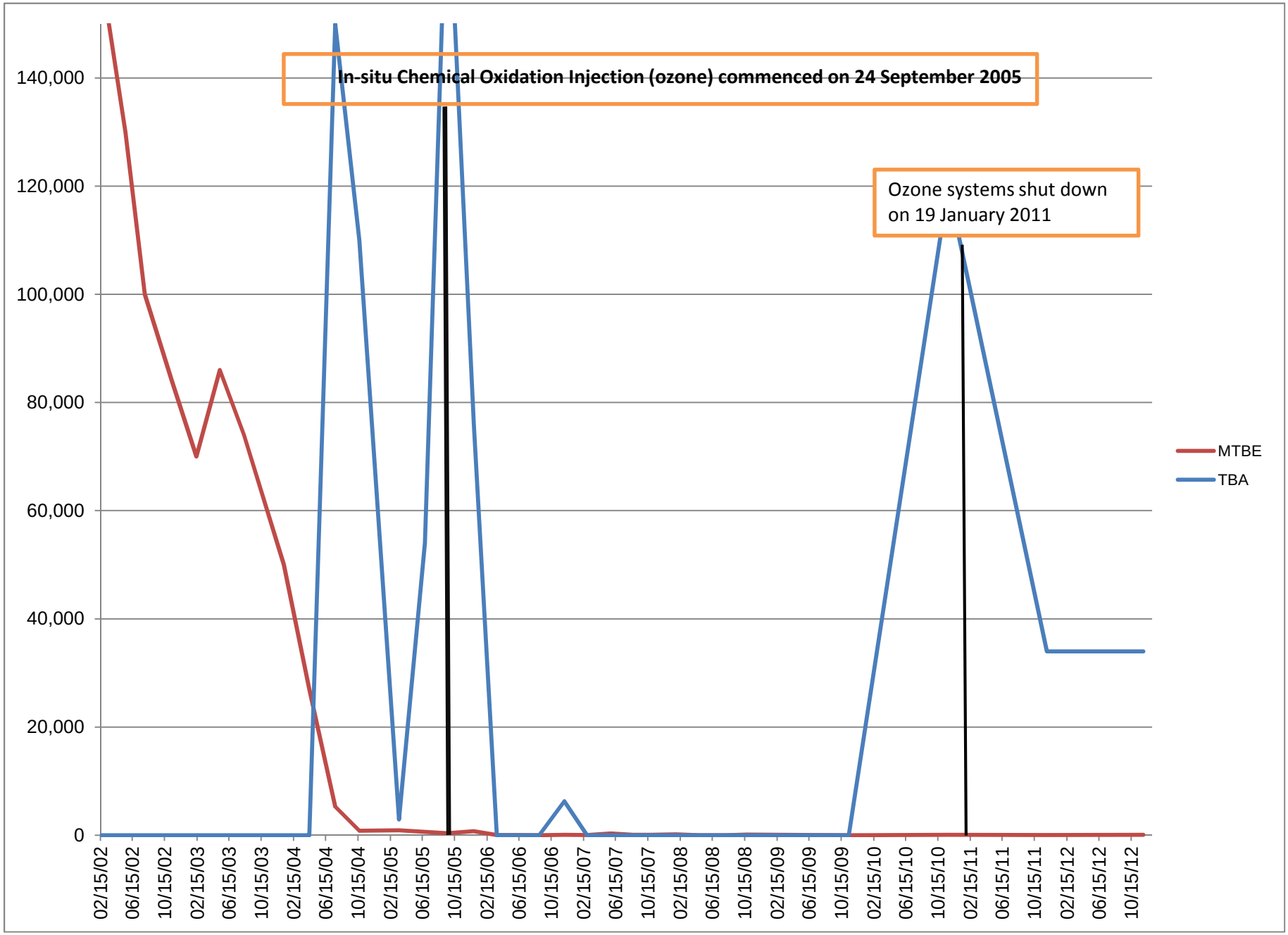


RINO PACIFIC/OAKLAND TRUCK STOP
MTBE CONCENTRATIONS FOR WELL MW-4

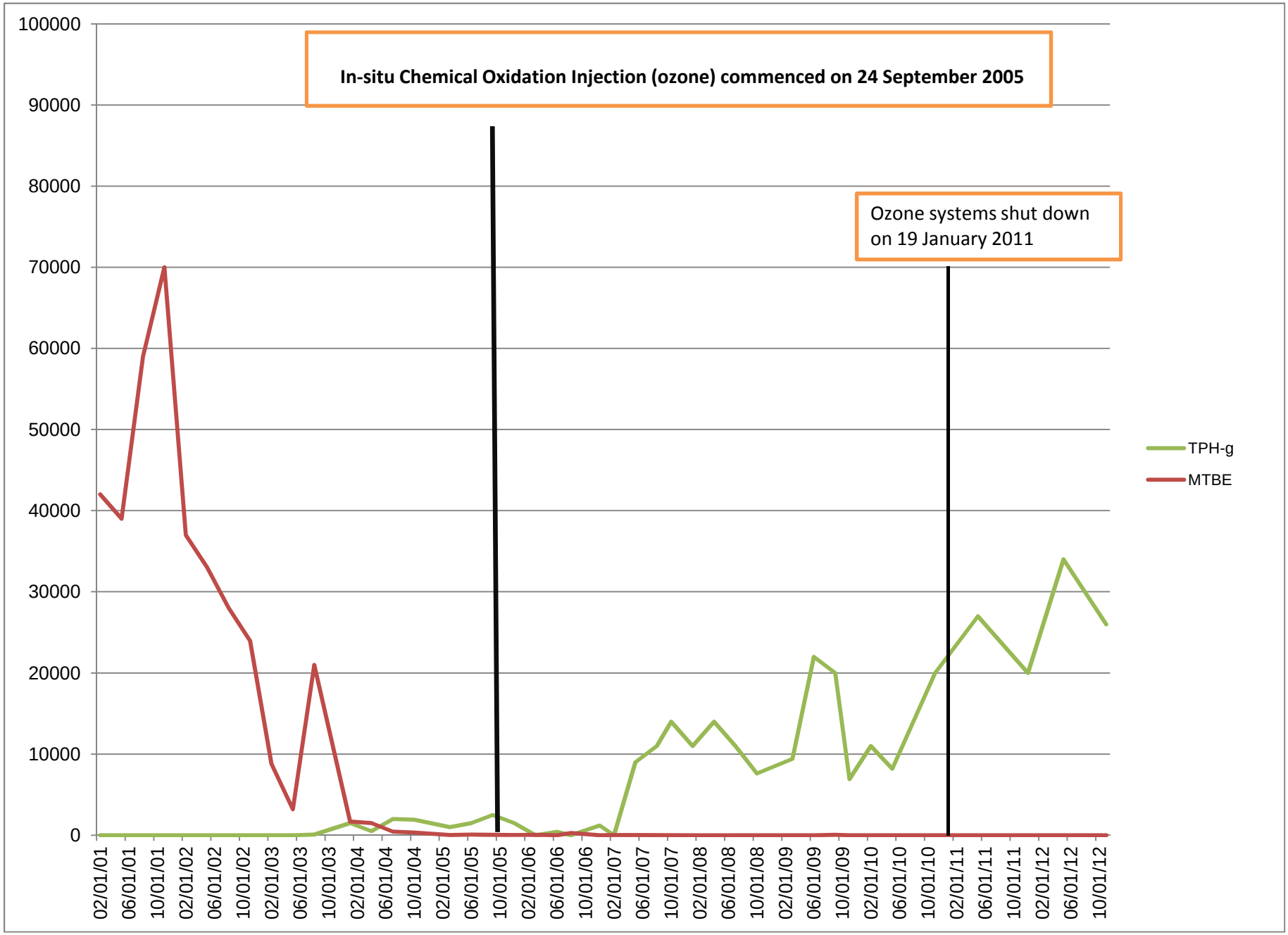


Advanced GeoEnvironmental, Inc.

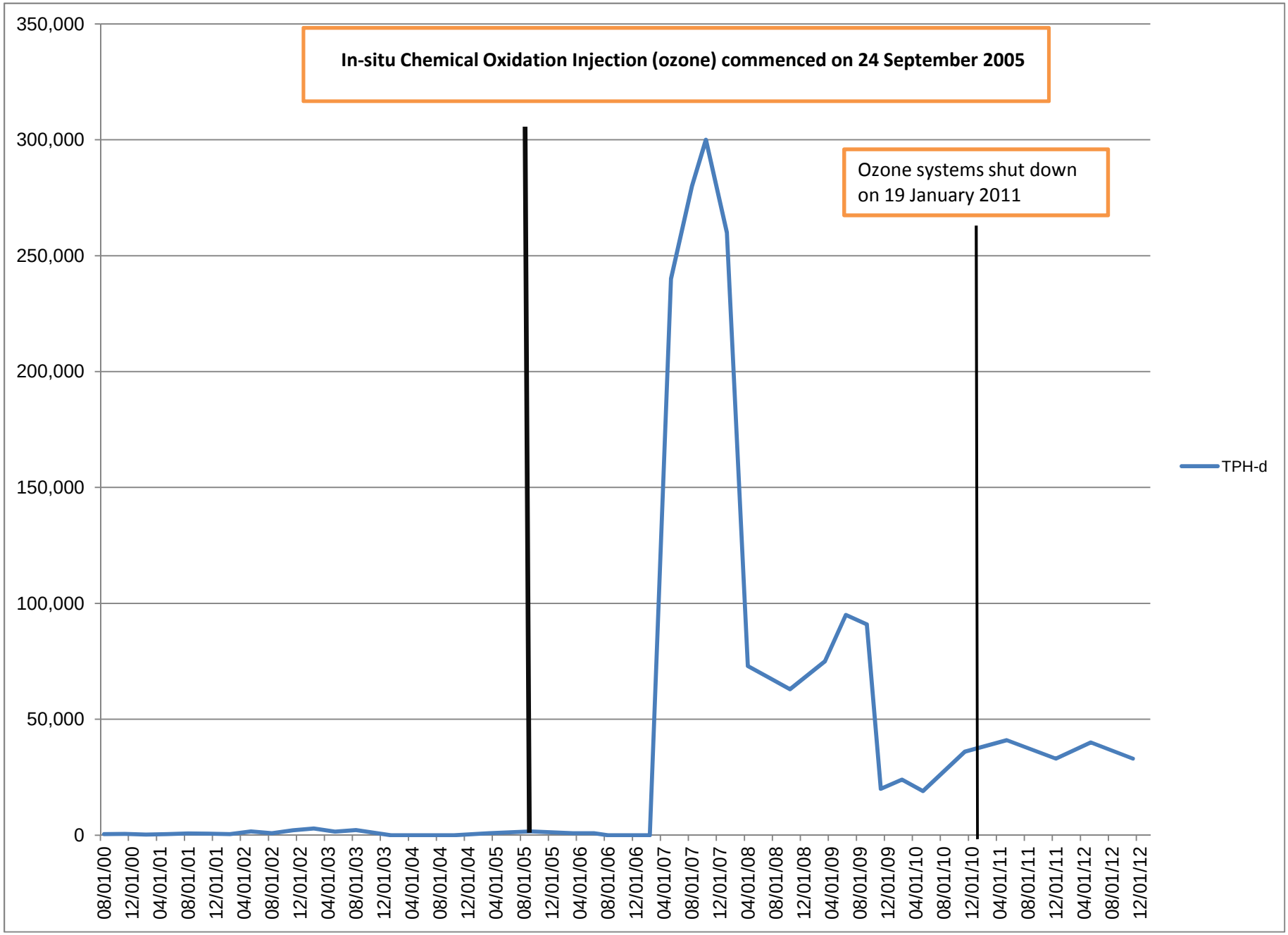
RINO PACIFIC/OAKLAND TRUCK STOP
MTBE AND TBA CONCENTRATIONS FOR WELL MW-4



RINO PACIFIC/OAKLAND TRUCK STOP
TPH-G AND MTBE CONCENTRATIONS FOR WELL MW-5

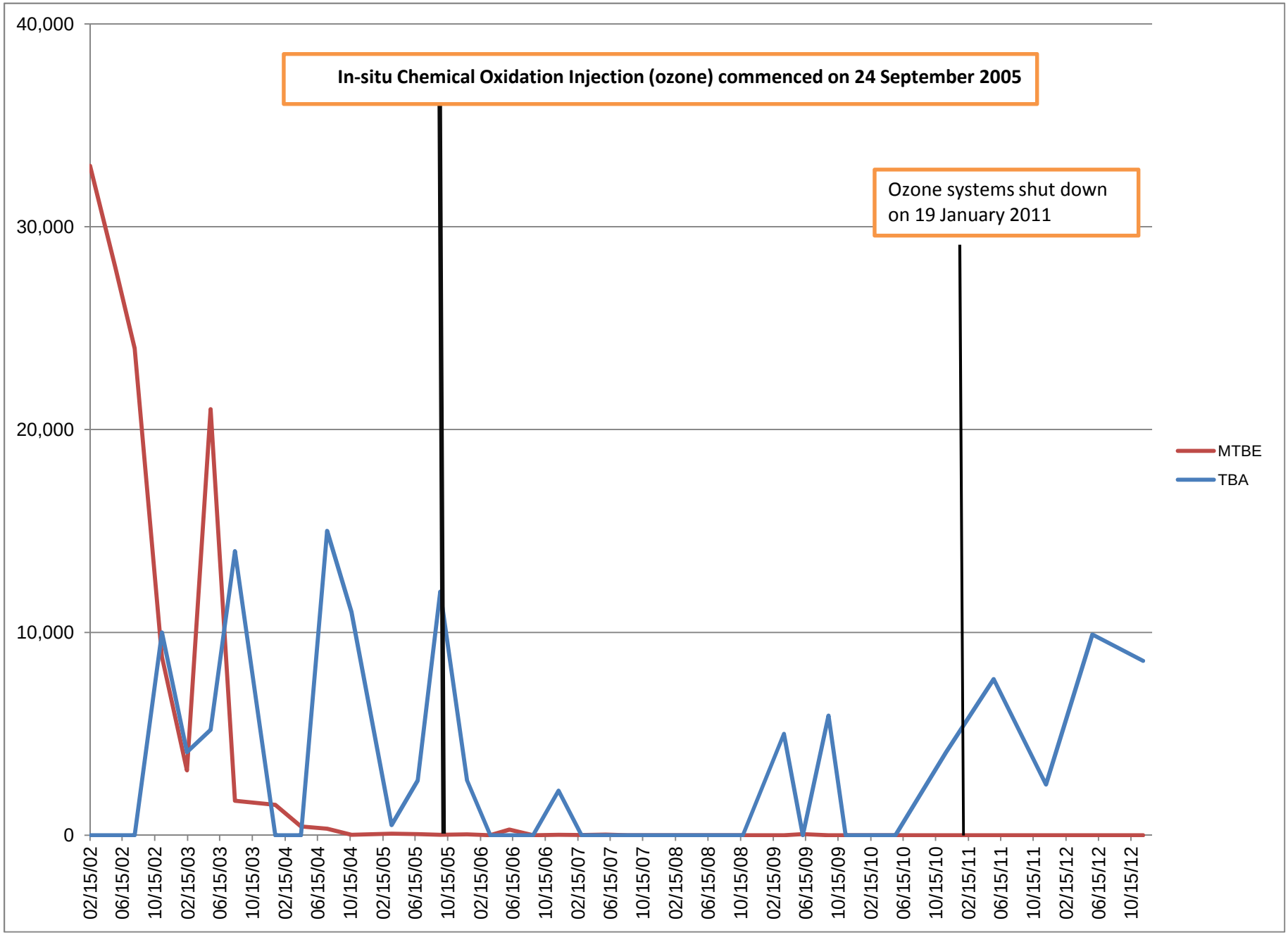


RINO PACIFIC/OAKLAND TRUCK STOP
TPH-D CONCENTRATIONS FOR WELL MW-5



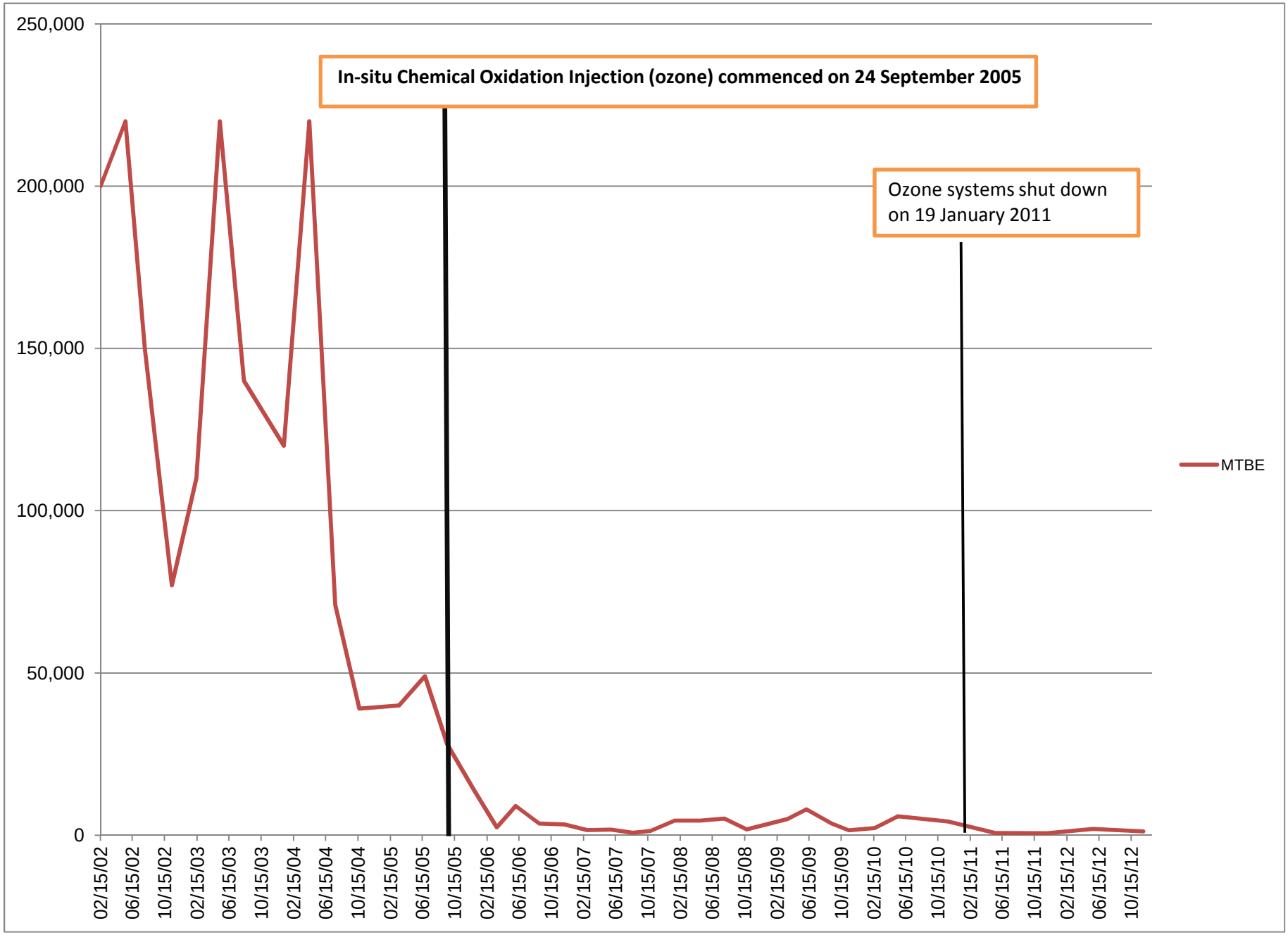
Advanced GeoEnvironmental, Inc.

RINO PACIFIC/OAKLAND TRUCK STOP
MTBE AND TBA CONCENTRATIONS FOR WELL MW-5



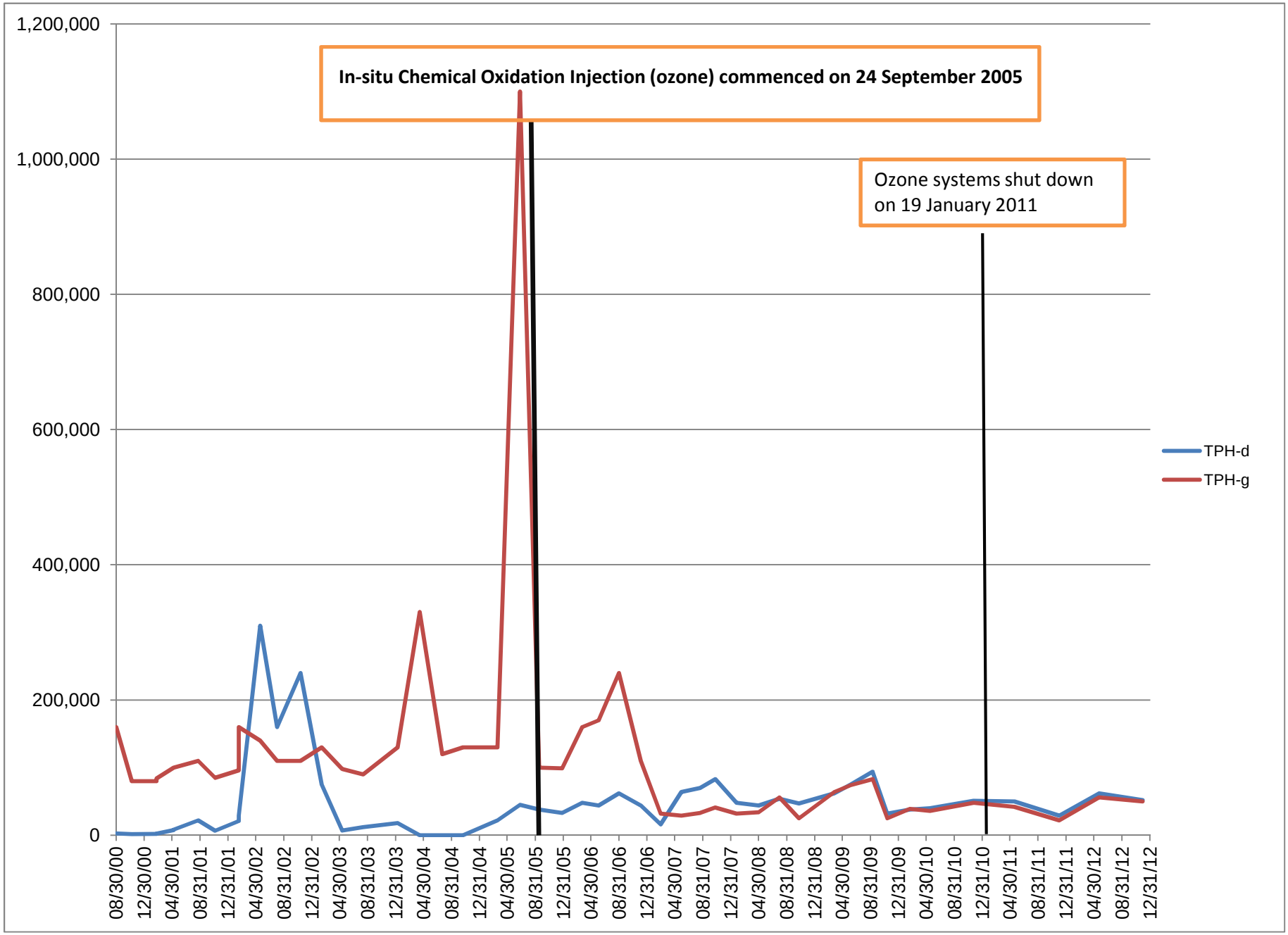
Advanced GeoEnvironmental, Inc.

RINO PACIFIC/OAKLAND TRUCK STOP
MTBE CONCENTRATIONS FOR WELL MW-7



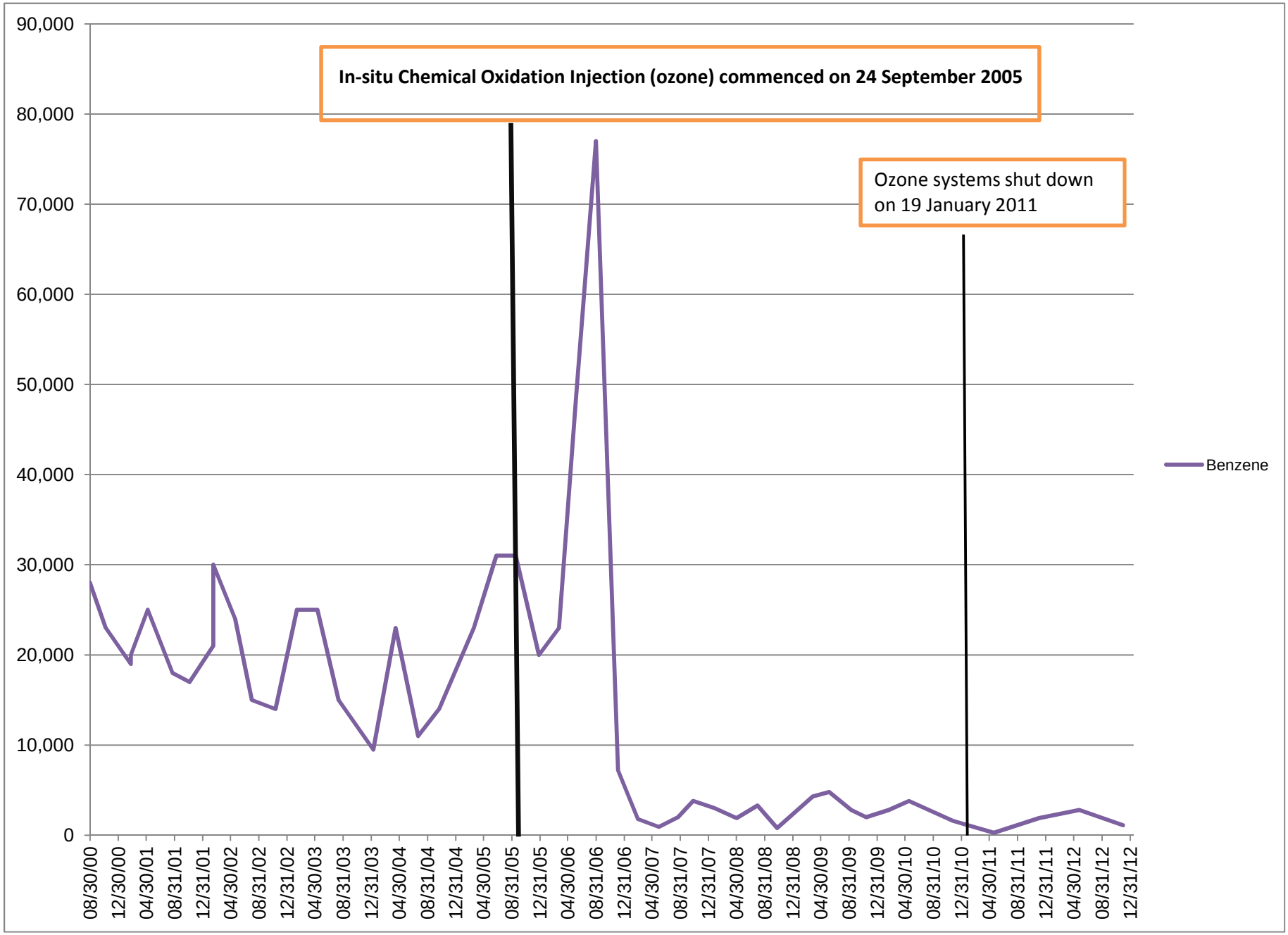
Advanced GeoEnvironmental, Inc.

RINO PACIFIC/OAKLAND TRUCK STOP
TPH-G and TPH-D CONCENTRATIONS FOR WELL MW-7



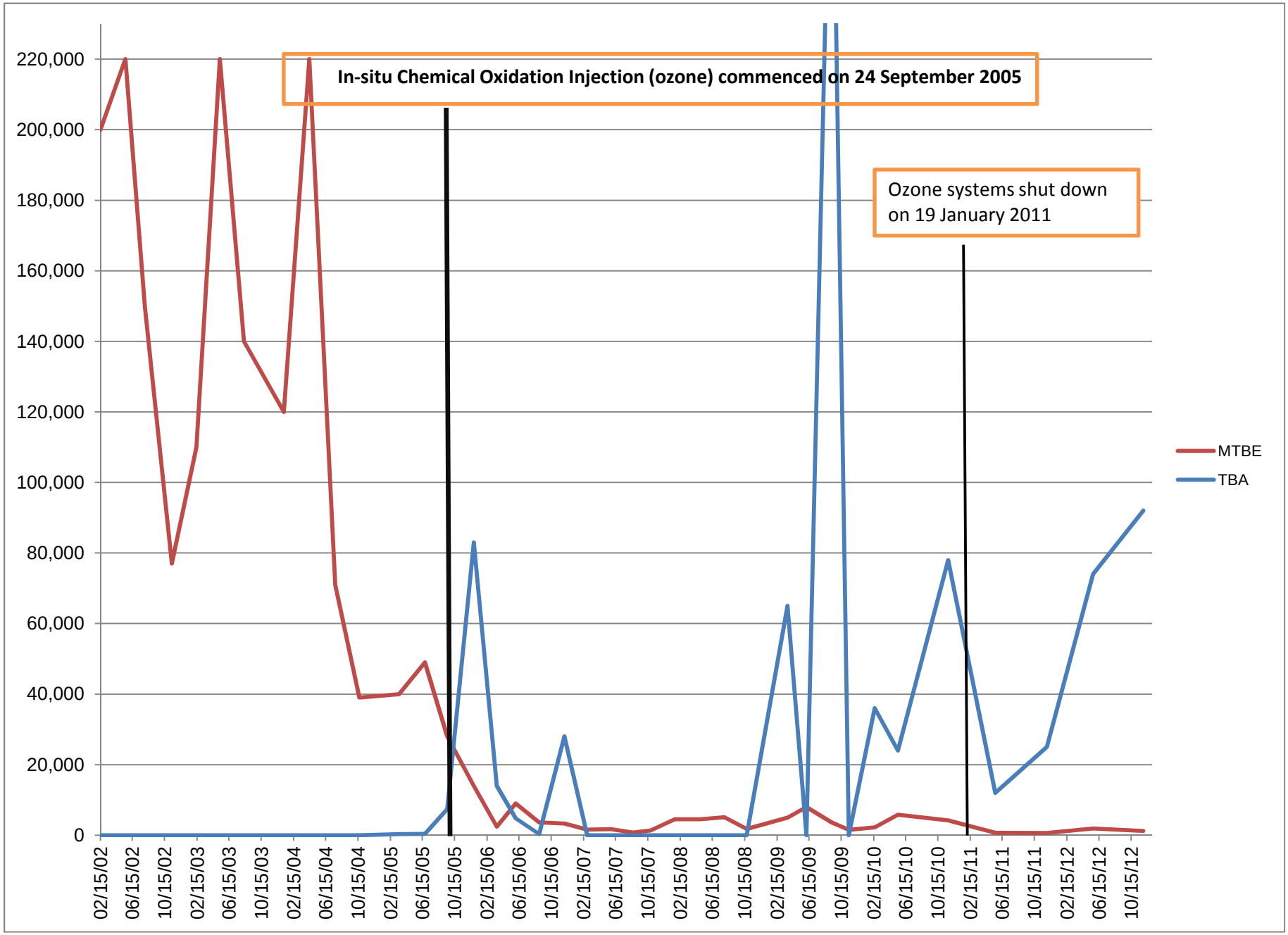
Advanced GeoEnvironmental, Inc.

RINO PACIFIC/OAKLAND TRUCK STOP
BENZENE CONCENTRATIONS FOR WELL MW-7



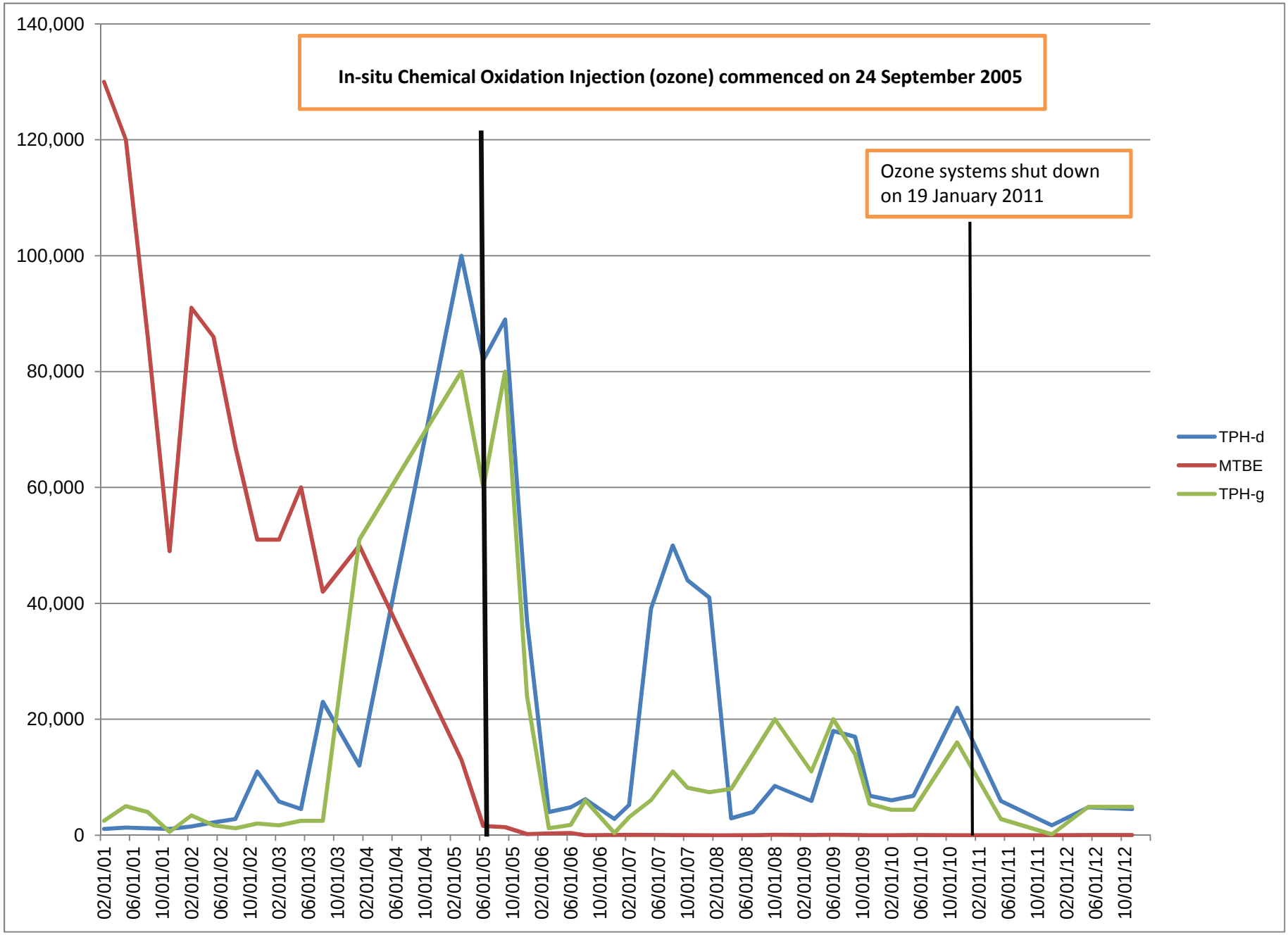
Advanced GeoEnvironmental, Inc.

RINO PACIFIC/OAKLAND TRUCK STOP
MTBE AND TBA CONCENTRATIONS FOR WELL MW-7



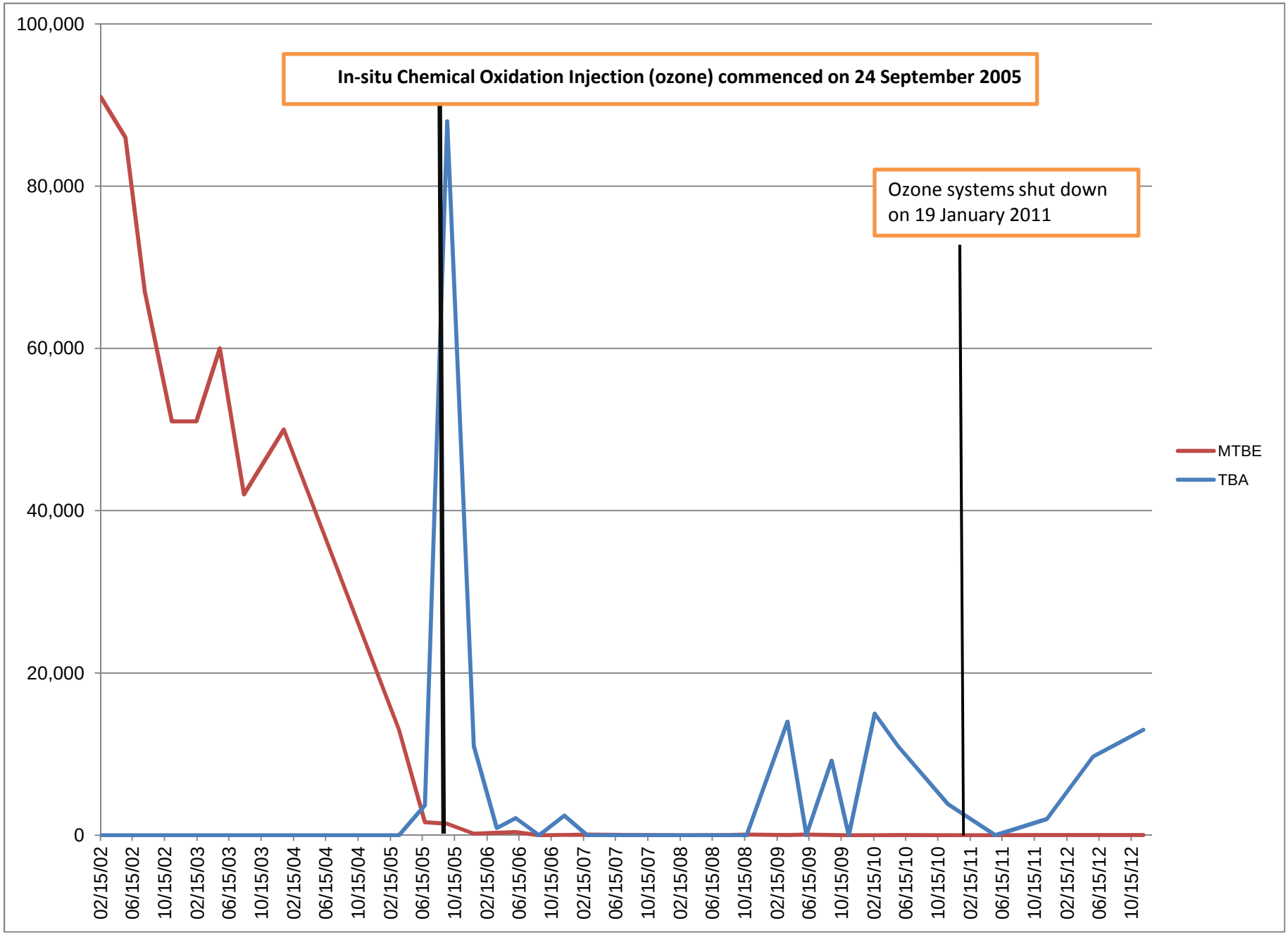
Advanced GeoEnvironmental, Inc.

RINO PACIFIC/OAKLAND TRUCK STOP
SELECTED CONCENTRATIONS FOR WELL MW-8



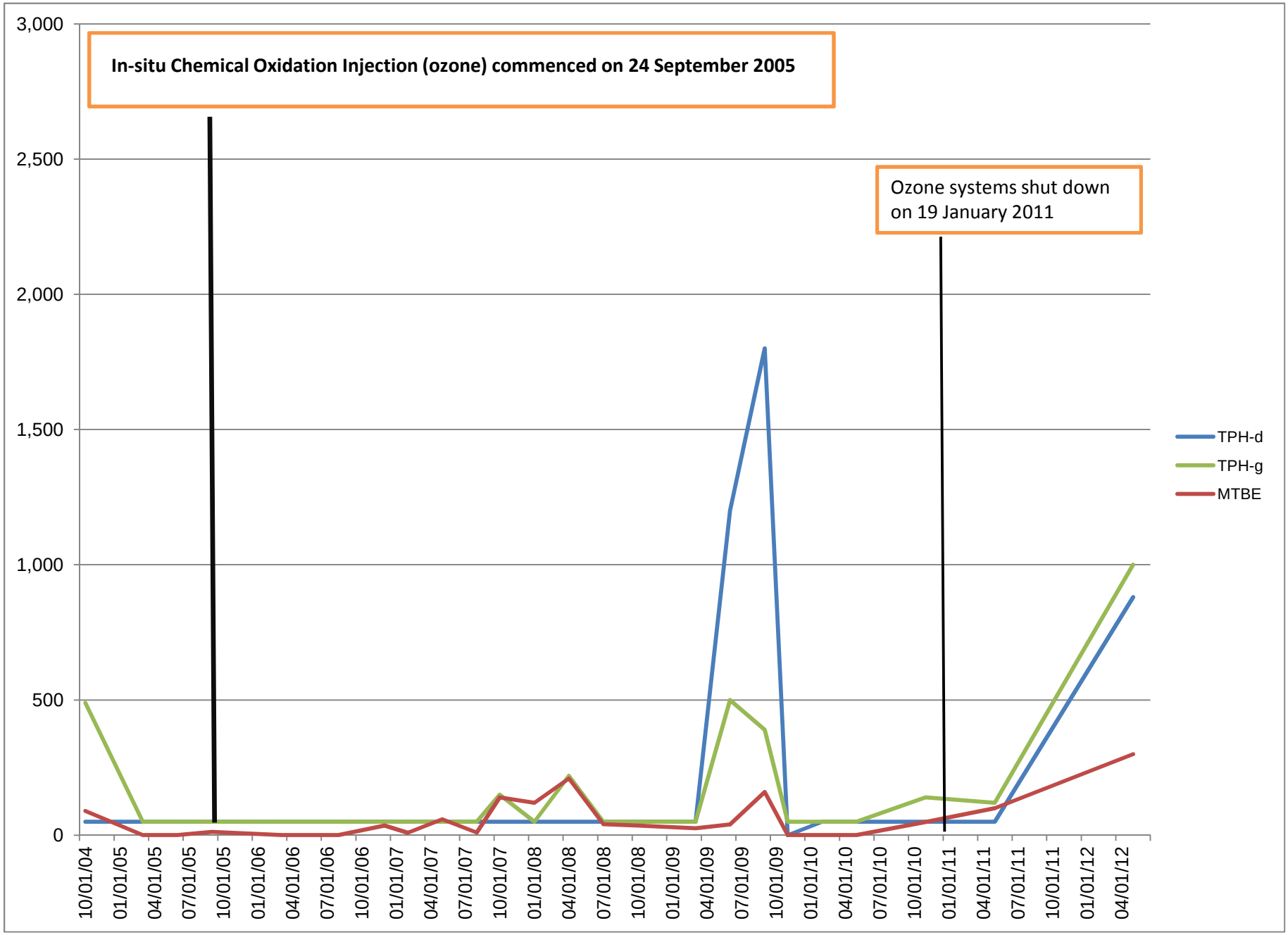
Advanced GeoEnvironmental, Inc.

RINO PACIFIC/OAKLAND TRUCK STOP
MTBE AND TBA CONCENTRATIONS FOR WELL MW-8



Advanced GeoEnvironmental, Inc.

RINO PACIFIC/OAKLAND TRUCK STOP
SELECTED CONCENTRATIONS FOR WELL MW-14



Advanced GeoEnvironmental, Inc.

APPENDIX D

Adsorbed Mass/Volume Calculations -
TPH-g and TPH-d

APPENDIX D

TPH-G IMPACTED SOIL
VOLUME ASSUMPTIONS AND CALCULATIONS
RINO PACIFIC/OAKLAND TRUCK STOP
1107 5th Street, Oakland, California

Impacted Soil Mass/Volume Assumptions:

- Utilizing Figures 7 and 9 through 11, the mass distribution of total petroleum hydrocarbon quantified as gasoline (TPH-g) can be estimated for soil. The mass can be estimated using three contoured zones of 1,000 milligrams per kilogram (mg/kg), 100 mg/kg, and 1.0 mg/kg. Additionally, the 1.0 mg/kg zone can be divided into the east and west 1.0 mg/kg contour zone based on previous excavations performed at the site.
- Figures Figures 7 and 9 through 11 were generated utilizing a computer assisted drafting program. The program has a specific function to calculate the area of a selected object, such as each area between the above referenced TPH-g isoconcentration intervals. Using Figure 7 (*Adsorbed TPH-g: 1 to 10 Feet*), the drafting program determined the area of the 1,000 mg/kg interval to be equal to 1,080 ft^2, the 100 mg/kg interval to be equal to 2,566 ft^2, the 1.0 mg/kg-west interval to be equal to 3,431 ft^2 and the 1.0 mg/kg-east interval to be equal to 8,858 ft^2.
- The area and volume of each contoured zone can be estimated utilizing a computer drafting program to determine the area between the above referenced 1,000, 100, and 1.0 contoured zone intervals (Figure 7), and then multiplying the area by the height of the contoured zone as modeled from cross-sections A-A', B-B', and C-C' (Figures 9 through 11). Soil samples collected from wells and borings were used to calculate the mass of TPH-g in soil.

The volume of the shapes can be calculated by the formula:

> **V = AREA•h**, where "area" is determined through the drafting program (Figure 7) and "h" is the averaged height of the contamination (Figures 9 through 11).

The average TPH-g concentration in the each zone was estimated by summing the contour isoconcentration lines and the soil samples within the selected area and dividing by the total number. Average TPH-g concentrations within each contoured zone are as follows:

- **>1,000 mg/kg (inner zone)** : The sum of EB5-4.5 (1,400 mg/kg), MW4-6.0 (1,600 mg/kg), MW7-5.5 (7,500 mg/kg) and the 1,000 mg/kg contour line; **average = 2,875 mg/kg (equivalent to 0.002875)**.
- **100-1,000 mg/kg (middle zone):** The sum of EB2-5 (200 mg/kg), EB5-8.5 (610 mg/kg), P1-6 (210 mg/kg), P2-8 (110 mg/kg), the 1,000 mg/kg contour line and the 100 mg/kg contour line; **average = 372 mg/kg (equivalent to 0.000372)**.

- **1.0 - 100 mg/kg-West (outer zone):** The sum of EB2-13 (1.5 mg/kg), P4-7 (10 mg/kg), B1S-8 (6.0 mg/kg), B2S-8 (1.7 mg/kg), F-1 (1.1 mg/kg), F-2 (7.0 mg/kg), F-3 (1.0 mg/kg), F-5 (2.0 mg/kg), F-7 (1.4 mg/kg), F-8 (13 mg/kg), 100 mg/kg contour line and the 1.0 mg/kg contour line; **average = 12 mg/kg (equivalent to 0.000012)**.
- **1.0 - 100 mg/kg-East (outer zone):** The sum of EB6-4.5 (7.8 mg/kg), EB7-4.5 (1.6 mg/kg), EB7-8.5 (18 mg/kg), EB7-12.5 (1.0 mg/kg), MW6-8.5 (1.8 mg/kg), MW3N-7.5 (2.3 mg/kg), B3S-8 (13 mg/kg), B4S-8 (48 mg/kg), 100 mg/kg contour line and the 1.0 mg/kg contour line; **average = 19 mg/kg (equivalent to 0.000019)**.

1) For the estimated inner zone (> 1,000 mg/kg contour area):

Area = 1,080 ft^2 and h = 3.0 ft (height estimated and averaged from cross sections)

$V_{1,000}$ = 1,080 ft^2 • 3.0 ft = 3,240 ft^3

$V_{>1,000}$ • typical weight of soil • average concentration of contaminant ➜

3,240 ft^3 • 125 lbs/ft^3 • 0.002875 ➜ **1,164 lbs of TPH-g**

2) For the estimated middle zone (100-1,000 mg/kg contour area):

Area = 2,566 ft^2 and h = 6.5 ft (height estimated and averaged from cross sections)

V_{100} = 2,566 ft^2 • 6.5 ft = 16,679 ft^3 - 3,240 ft^3 ($V_{1,000}$)

V_{100} = 13,439 ft^3

V_{100} • typical weight of soil • average concentration of contaminant ➜

13,439 ft^3 • 125 lbs/ft^3 • 0.000372 ➜ **625 lbs of TPH-g**

3) For the estimated outer zone (1.0-100 mg/kg contour area)-WEST:

Area = 3,431 ft^2 and h = 1.5 ft (height estimated and averaged from cross sections)

$V_{1.0\text{-}W}$ = 3,431 ft^2 • 1.5 ft

$V_{1.0\text{-}W}$ = 5,147 ft^3

V_{10} • typical weight of soil • average concentration of contaminant ➜

5,147 ft^3 • 125 lbs/ft^3 • 0.000012 ➜ **9 lbs of TPH-g**

4) For the estimated outer zone (1.0-100 mg/kg contour area)-EAST:

Area = 8,858 ft^2 and h = 9.0 ft (height estimated and averaged from cross sections)

$V_{1.0\text{-}E}$ = 8,858 ft^2 • 9.0 ft - (13,439 ft^3 + 3,240 ft^3) (V_{100}+V_{1000})

$V_{1.0\text{-}E}$ = 63,043 ft^3

V_{10} • typical weight of soil • average concentration of contaminant ➜

63,043 ft^3 • 125 lbs/ft^3 • 0.000019 ➜ **150 lbs of TPH-g**

All together, the weight of gasoline in soil:

1,164 lbs + 625 lbs + 9 lbs + 150 ➜ **1,948 lbs of TPH-g**

Convert pounds of TPH-g to volume (gallons) using density of gasoline equal to 6.25 lbs/gal:

1,948 lbs ÷ 6.25 lbs/gal ➜ **312 gallons of TPH-g**

Combining the total volume of TPH-g impacted soil yields a grand total of approximately **84,869 ft^3** containing an estimated **312 gallons of TPH-g,** equivalent to **1,948 pounds of TPH-g**.

APPENDIX D

TPH-D IMPACTED SOIL
VOLUME ASSUMPTIONS AND CALCULATIONS
RINO PACIFIC/OAKLAND TRUCK STOP
1107 5th Street, Oakland, California

Impacted Soil Mass/Volume Assumptions:

- Utilizing Figures 8 and 12 through 14, the mass distribution of total petroleum hydrocarbon quantified as diesel (TPH-d) can be estimated for soil. The mass can be estimated using three contoured zones of 1,000 milligrams per kilogram (mg/kg), 100 mg/kg, and 5.0 mg/kg divided into West and East Sections based on previous soil excavations performed at the site.
- Figures 8 and 12 through 14 were generated utilizing a computer assisted drafting program. The program has a specific function to calculate the area of a selected object, such as each area between the above referenced TPH-d isoconcentration intervals. Using Figure 8 (*Adsorbed TPH-d: 1 to 10 Feet*), the drafting program determined the area of the West Section: 1,000 mg/kg interval to be equal to 263 ft^2, the 100 mg/kg interval to be equal to 1,776 ft^2, and the 5.0 mg/kg interval to be equal to 3,012 ft^2;and the drafting program determined the area of the East Section: 1,000 mg/kg interval to be equal to 2,274 ft^2, the 100 mg/kg interval to be equal to 3,458 ft^2, and the 5.0 mg/kg interval to be equal to 13,312 ft^2.
- The area and volume of each contoured zone can be estimated utilizing a computer drafting program to determine the area between the above referenced 1,000, 100, and 5.0 contoured zone intervals (Figure 8), and then multiplying the area by the height of the contoured zone as modeled from cross-sections A-A', B-B', and C-C' (Figures 12 through 14). Soil samples collected from wells and borings were used to calculate the mass of TPH-d in soil.

The volume of the shapes can be calculated by the formula:

> **V = AREA•h**, where "area" is determined through the drafting program (Figure 8) and "h" is the averaged height of the contamination (Figures 12 through 14).

The average TPH-d concentration in the each zone was estimated by summing the contour isoconcentration lines and the soil samples within the selected area and dividing by the total number. Average TPH-d concentrations within each contoured zone are as follows:

<u>WEST SECTION</u>

- **>1,000 mg/kg (inner zone)** : The sum of EB2-5 (1,600 mg/kg), P4-7 (13,000 mg/kg), and the 1,000 mg/kg contour line; **average = 5,200 mg/kg (equivalent to 0.005200)**.
- **100-1,000 mg/kg (middle zone):** The sum of F-1 (370 mg/kg), F-2 (270 mg/kg), F-3 (220 mg/kg), F-5 (930 mg/kg), the 1,000 mg/kg contour line and the 100 mg/kg contour line; **average = 482 mg/kg (equivalent to 0.000482)**.

- **5.0 - 100 mg/kg (outer zone):** The sum of EB2-13 (14 mg/kg), F-4 (95 mg/kg), 100 mg/kg contour line and the 5.0 mg/kg contour line; **average = 54 mg/kg (equivalent to 0.000054)**.

1) For the estimated inner zone (> 1,000 mg/kg contour area):

Area = 263 ft^2 and h = 2.5 ft (height estimated and averaged from cross sections)

$V_{1,000}$ = 263 ft^2 • 2.5 ft = 658 ft^3

$V_{>1,000}$ • typical weight of soil • average concentration of contaminant ➜

658 ft^3 • 125 lbs/ft^3 • 0.005200 ➜ **427 lbs of TPH-d**

2) For the estimated middle zone (100-1,000 mg/kg contour area):

Area = 1,776 ft^2 and h = 2.0 ft (height estimated and averaged from cross sections)

V_{100} = 1,776 ft^2 • 2.0 ft = 3,552 ft^3 - 658 ft^3 ($V_{1,000}$)

V_{100} = 2,894 ft^3

V_{100} • typical weight of soil • average concentration of contaminant ➜

2,894 ft^3 • 125 lbs/ft^3 • 0.000482 ➜ **174 lbs of TPH-d**

3) For the estimated outer zone (1.0-100 mg/kg contour area)-EAST:

Area = 3,012 ft^2 and h = 3.5 ft (height estimated and averaged from cross sections)

$V_{1.0}$ = 3,012 ft^2 • 3.5 ft - (2,894 ft^3 + 658 ft^3) (V_{100}+V_{1000})

$V_{1.0}$ = 6,990 ft^3

V_{10} • typical weight of soil • average concentration of contaminant ➜

6,990 ft^3 • 125 lbs/ft^3 • 0.000054 ➜ **47 lbs of TPH-d**

EAST SECTION

- **>1,000 mg/kg (inner zone)** : The sum of EB5-4.5 (28,000 mg/kg), EB5-8.5 (5,000 mg/kg) MW4-6.0 (13,000 mg/kg), MW7-5.5 (3,400 mg/kg), F-8 (9,800 mg/kg), P1-6 (7,600 mg/kg) and the 1,000 mg/kg contour line; **average = 9,557 mg/kg (equivalent to 0.009557)**.
- **100-1,000 mg/kg (middle zone):** The sum of EB6-4.5 (390 mg/kg), P2-8 (680 mg/kg), the 1,000 mg/kg contour line and the 100 mg/kg contour line; **average = 543 mg/kg (equivalent to 0.000543)**.
- **5.0 - 100 mg/kg (outer zone):** The sum of EB2-13 (14 mg/kg), EB5-12.5 (15 mg/kg), MW6-8.5 (31 mg/kg), MW3N-7.5 (30 mg/kg), MW10-6.5 (20 mg/kg), MW-11 (7.0 mg/kg), 100 mg/kg contour line and the 5.0 mg/kg contour line; **average = 28 mg/kg (equivalent to 0.000028)**.

1) For the estimated inner zone (> 1,000 mg/kg contour area):

Area = 2,274 ft^2 and h = 5.0 ft (height estimated and averaged from cross sections)

$V_{1,000}$ = 2,274 ft^2 • 5.0 ft = 11,370 ft^3

$V_{>1,000}$ • typical weight of soil • average concentration of contaminant ➜

11,370 ft^3 • 125 lbs/ft^3 • 0.009557 ➜ **13,583 lbs of TPH-d**

2) For the estimated middle zone (100-1,000 mg/kg contour area):

Area = 3,458 ft^2 and h = 8.0 ft (height estimated and averaged from cross sections)

V_{100} = 3,458 ft^2 • 8.0 ft = 27,664 ft^3 - 11,370 ft^3 ($V_{1,000}$)

V_{100} = 16,294 ft^3

V_{100} • typical weight of soil • average concentration of contaminant ➜

16,294 ft^3 • 125 lbs/ft^3 • 0.000543 ➜ **1,106 lbs of TPH-d**

3) For the estimated outer zone (1.0-100 mg/kg contour area)-EAST:

Area = 13,312 ft^2 and h = 9.0 ft (height estimated and averaged from cross sections)

$V_{5.0}$ = 13,312 ft^2 • 9.0 ft - (16,294 ft^3 + 11,370 ft^3) (V_{100}+V_{1000})

$V_{5.0}$ = 92,144 ft^3

$V_{5.0}$ • typical weight of soil • average concentration of contaminant ➜

92,144 ft^3 • 125 lbs/ft^3 • 0.000028 ➜ **323 lbs of TPH-d**

All together, the weight of gasoline in soil:

427 lbs + 174 lbs + 47 lbs + 13,583 + 1,106 lbs + 323 ➜ **15,660 lbs of TPH-d**

Convert pounds of TPH-d to volume (gallons) using density of diesel equal to 7.00 lbs/gal:

15,660 lbs ÷ 7.00 lbs/gal ➜ **2,237 gallons of TPH-d**

Combining the total volume of TPH-d impacted soil yields a grand total of approximately **130,350 ft^3** containing an estimated **2,237 gallons of TPH-d,** equivalent to **15,660 pounds of TPH-d**.

APPENDIX E

Dissolved Mass/Volume Calculations -
TPH-g, TPH-d and MTBE

APPENDIX E

TPH-G IMPACTED GROUNDWATER
VOLUME ASSUMPTIONS AND CALCULATIONS
RINO PACIFIC/OAKLAND TRUCK STOP
1107 5th Street, Oakland, California

Assumptions:

- The distribution of maximum dissolved hydrocarbon concentrations (TPH-g) on the site can be approximated utilizing the shape of an ellipse (Figure 16); the distribution can be separated into three contoured areas (i.e. 10,000 µg/l, 1,000 µg/l and 50 µg/l).
- The effective porosity of soil at the site is estimated and averaged to be 40% (i.e. silty fine to medium sand, silts and bay mud).
- Data collected from the May and November 2012 groundwater sampling events will be utilized to represent current dissolved site conditions; grab groundwater sample data collected from site investigations will be used to determine the extent of TPH-g-impacted groundwater, but will not be used to calculate average TPH-g concentrations.
- The thickness of dissolved plume was derived utilizing the screen interval length of 15 feet.
- Figure 16 was generated utilizing a computer assisted drafting program. The program has a specific function to calculate the area of a selected object. For the dissolved TPH-g plume (Figure 16), the program determined the area of the10,000 µg/l contour interval to be 2,533 ft^2, the 1,000 µg/l contour interval to be 12,128 ft^2, and the 50 µg/l contour interval to be 18,577 ft^2.
- The area and volume of each contoured zone can be estimated utilizing a computer drafting program to determine the area between the above referenced 10,000, 1,000 and 50 contour intervals (Figure 16), and then multiplying the area by the height, which has been inferred as the length of the majority of well screen intervals at the site (equaling 15 vertical feet: 5-20 feet bsg). The area of an ellipse can be used to illustrate the shape of the dissolved TPH-g plume, and calculated by the following formula:

  V = AREA•h, where “area” is determined through the computer drafting program (Figure 16) and “h” is the maximum height of the contamination.

1) For the estimated 10,000 µg/l inner contour interval; $A_{10,000}$ = 2,533 ft^2 and h = 15 ft (height inferred well screen lengths).

Utilizing TPH-g data from wells MW-4 (32,000 µg/l), MW-5 (26,000 µg/l), MW-7 (50,000 µg/l) and the 10,000 µg/l contour line (Figure 16), the average dissolved TPH-g concentration is estimated to be 29,500 ug/l (equivalent to 0.000029500 grams per milliliter). A ml is very nearly equivalent to a cubic centimeter of water, which by definition equals one gram, this concentration is nearly a unitless number.

The volume is given by:

$V_{10,000} = A_{10,000} \times h = 2,533\ ft^2 \times 15\ ft = 37,995\ ft^3$

Water occupies the porosity in the soil, which is estimated to be 40% of the soil volume, so the total volume of water in the saturated portion of the ellipse is approximated by:

$$V_{10,000} = (0.40)(37,995\ ft^3) = 15,198\ ft^3$$

One ft^3 is equal to 7.48 gallons, so the volume of the water in the ellipse is given by:

$$V_{10,000} = (15,198\ ft^3)(7.48\ gal/ft^3) = 113,681\ gallons$$

One gallon of water weighs 8.337 lbs/gal, so the mass of the water in the ellipse is given by:

$$M_{10,000} = (113,681\ gallons)(8.337\ lb/gal) = 947,759\ lbs.$$

Multiplying $M_{10,000}$ by the hydrocarbon concentration yields the approximate mass of dissolved hydrocarbons in the saturated portion of the ellipse:

$$M_{10,000} = (947,759\ lbs)(0.000029500) = \mathbf{28.0\ lbs\ of\ dissolved\ TPH\text{-}g}$$

Dividing $M_{10,000}$ by the weight of one gallon of TPH-g, 6.25 lbs/gallon, will yield the approximate volume of TPH-g dissolved into the groundwater of the inner contour interval:

$$V_{10,000} = (M_{10,000})/6.25 lb/gal) = \mathbf{28.0}/6.25\ lbs/gal = \mathbf{4.5\ gallons\ of\ dissolved\ TPH\text{-}g}$$

2) For the estimated 1,000 µg/l middle contour interval, $A_{1,000} = 12,128\ ft^2$, h = 15 ft (height inferred well screen lengths)

Utilizing TPH-g data from wells MW-8 (4,900 µg/l), MW-14 (1,000 µg/l), the 10,000 µg/l contour line and the 1,000 µg/l contour line (Figure 16), the average TPH-g concentration is estimated to be 4,225 ug/l (equivalent to 0.000004225 g/ml).

The area is given by: $A_{1,000} - A_{10,000} = 12,128 - 2,533 = 9,595\ ft^2$
The volume is given by: $V_{1,000} = A_{1,000\text{-}10,000} \times h = 9,595\ ft^2 \times 15\ ft = 143,925\ ft^3$

Water occupies the porosity in the soil, which is estimated to be 40% of the soil volume, so the total volume of water in the saturated portion of the ellipse is approximated by:

$$V_{1,000} = (0.40)(143,925\ ft^3) = 57,570\ ft^3$$

One ft^3 is equal to 7.48 gallons, so the volume of the water in the ellipse is given by:

$$V_{1,000} = (57,570\ ft^3)(7.48\ gal/ft^3) = 430,624\ gallons$$

One gallon of water weighs 8.337 lbs/gal, so the mass of the water in the ellipse is given by:

$$M_{1,000} = (430,624\ gallons)(8.337\ lb/gal) = 3,590,109\ lbs$$

Multiplying $M_{1,000}$ by the hydrocarbon concentration yields the approximate mass of dissolved

hydrocarbons:

$$M_{1,000} = (3{,}590{,}109 \text{ lbs})(0.000004225) = \textbf{15.2 lbs of dissolved TPH-g}$$

Dividing $M_{1,000}$ by the weight of one gallon of TPH-g, 6.25 lbs/gallon, will yield the approximate volume of TPH-g dissolved into the groundwater of the middle ellipsoid:

$$V_{1,000} = (M_{1,000})/6.25\text{lb/gal}) = 15.2 \text{ lbs}/6.25 \text{ lbs/gal} = \textbf{2.4 gallons of dissolved TPH-g}$$

3) For the estimated 50 µg/l outer contour interval, $A_{50} = 18{,}577 \text{ ft}^2$, and thickness h = 15 ft (height inferred well screen lengths)

Utilizing the 1,000 µg/l contour line and the 50 µg/l contour line (Figure 16), the average TPH-g concentration is estimated to be 525 ug/l (equivalent to 0.000000525 g/ml).

The area of the ellipse is given by: $A_{50} - A_{1,000} = 18{,}577 - 12{,}128 = 6{,}449 \text{ ft}^2$
The volume is given by: $V_{50} = A_{50} - A_{1,000} \times 15 = 96{,}735 \text{ ft}^3$

Water occupies the porosity in the soil, which is estimated to be 40% of the soil volume, so the total volume of water in the saturated portion of the ellipse is approximated by:

$$V_{50} = (0.40)(96{,}735 \text{ ft}^3) = 38{,}694 \text{ ft}^3$$

One ft^3 is equal to 7.48 gallons, so the volume of the water in the ellipse is given by:

$$V_{50} = (38{,}694 \text{ ft}^3)(7.48 \text{ gal/ft}^3) = 289{,}431 \text{ gallons}$$

One gallon of water weighs 8.337 lbs/gal, so the mass of the water in the ellipse is given by:

$$M_{50} = (289{,}431 \text{ gallons})(8.337 \text{ lb/gal}) = 2{,}412{,}987 \text{ lbs}$$

Multiplying M_{50} by the hydrocarbon concentration yields the approximate mass of dissolved hydrocarbons:

$$M_{50} = (2{,}412{,}987 \text{ lbs})(0.000000525) = \textbf{1.3 lbs of dissolved TPH-g}$$

Dividing M_{50} by the weight of one gallon of TPH-g, 6.25 lbs/gallon, will yield the approximate volume of TPH-g dissolved into the groundwater of the inner ellipse:

$$V_{50} = (M_{50})/6.25 \text{ lb/gal}) = 1.3 \text{ lbs}/6.25 \text{ lbs/gal} = \textbf{0.2 gallons of dissolved TPH-g}$$

Combining the total volume of dissolved TPH-g at the different concentrations, impacted ground water yields a total of approximately **278,655 ft^3** containing an estimated **7.1 gallons of TPH-g**, equivalent to **44.5 pounds of TPH-g**.

APPENDIX E

TPH-D IMPACTED GROUNDWATER
VOLUME ASSUMPTIONS AND CALCULATIONS
RINO PACIFIC/OAKLAND TRUCK STOP
1107 5th Street, Oakland, California

Assumptions:

- The distribution of maximum dissolved hydrocarbon concentrations (TPH-d) on the site can be approximated utilizing the shape of an ellipse (Figure 17); the distribution can be separated into three contoured areas (i.e. 10,000 µg/l, 1,000 µg/l and 50 µg/l).
- The effective porosity of soil at the site is estimated and averaged to be 40% (i.e. silty fine to medium sand, silts and bay mud).
- Data collected from the May and November 2012 groundwater sampling events will be utilized to represent current dissolved site conditions; grab groundwater sample data collected from site investigations will be used to determine the extent of TPH-d-impacted groundwater, but will not be used to calculate average TPH-d concentrations.
- The thickness of dissolved plume was derived utilizing the screen interval length of 15 feet.
- Figure 17 was generated utilizing a computer assisted drafting program. The program has a specific function to calculate the area of a selected object. For the dissolved TPH-d plume (Figure 17), the program determined the area of the10,000 µg/l contour interval to be 2,973 ft^2, the 1,000 µg/l contour interval to be 9,761 ft^2, and the 50 µg/l contour interval to be 17,185 ft^2.
- The area and volume of each contoured zone can be estimated utilizing a computer drafting program to determine the area between the above referenced 10,000, 1,000 and 50 contour intervals (Figure 17), and then multiplying the area by the height, which has been inferred as the length of the majority of well screen intervals at the site (equaling 15 vertical feet: 5-20 feet bsg). The area of an ellipse can be used to illustrate the shape of the dissolved TPH-d plume, and calculated by the following formula:

  V = AREA•h, where “area” is determined through the computer drafting program (Figure 17) and “h” is the maximum height of the contamination.

1) For the estimated 10,000 µg/l inner contour interval; $A_{10,000}$ = 2,973 ft^2 and h = 15 ft (height inferred well screen lengths).

Utilizing TPH-d data from wells MW-4 (18,000 µg/l), MW-5 (33,000 µg/l), MW-7 (52,000 µg/l) and the 10,000 µg/l contour line (Figure 17), the average dissolved TPH-d concentration is estimated to be 28,250 µg/l (equivalent to 0.000028250 grams per milliliter). A ml is very nearly equivalent to a cubic centimeter of water, which by definition equals one gram, this concentration is nearly a unitless number.

The volume is given by:

$V_{10,000} = A_{10,000} \times h = 2,973\ ft^2 \times 15\ ft = 44,595\ ft^3$

Water occupies the porosity in the soil, which is estimated to be 40% of the soil volume, so the total volume of water in the saturated portion of the ellipse is approximated by:

$$V_{10,000} = (0.40)(44,595\ ft^3) = 17,838\ ft^3$$

One ft^3 is equal to 7.48 gallons, so the volume of the water in the ellipse is given by:

$$V_{10,000} = (17,838\ ft^3)(7.48\ gal/ft^3) = 133,428\ gallons$$

One gallon of water weighs 8.337 lbs/gal, so the mass of the water in the ellipse is given by:

$$M_{10,000} = (133,428\ gallons)(8.337\ lb/gal) = 1,112,391\ \ lbs.$$

Multiplying $M_{10,000}$ by the hydrocarbon concentration yields the approximate mass of dissolved hydrocarbons in the saturated portion of the ellipse:

$$M_{10,000} = (1,112,391\ lbs)(0.000028250) = \mathbf{31.4\ lbs\ of\ dissolved\ TPH\text{-}d}$$

Dividing $M_{10,000}$ by the weight of one gallon of TPH-g, 7.00 lbs/gallon, will yield the approximate volume of TPH-d dissolved into the groundwater of the inner contour interval:

$$V_{10,000} = (M_{10,000})/7.00 lb/gal) = \mathbf{31.4}/7.00\ lbs/gal = \mathbf{4.5\ gallons\ of\ dissolved\ TPH\text{-}d}$$

2) For the estimated 1,000 µg/l middle contour interval, $A_{1,000} = 9,761\ ft^2$, h = 15 ft (height inferred well screen lengths)

Utilizing TPH-d data from well MW-8 (4,500 µg/l), the 10,000 µg/l contour line and the 1,000 µg/l contour line (Figure 17), the average TPH-d concentration is estimated to be 5,167 ug/l (equivalent to 0.000005167 g/ml).

The area is given by: $A_{1,000} - A_{10,000} = 9,761 - 2,973 = 6,788\ ft^2$
The volume is given by: $V_{1,000} = A_{1,000\text{-}10,000} \times h = 6,788\ ft^2 \times 15\ ft = 101,820\ ft^3$

Water occupies the porosity in the soil, which is estimated to be 40% of the soil volume, so the total volume of water in the saturated portion of the ellipse is approximated by:

$$V_{1,000} = (0.40)(101,820\ ft^3) = 40,728\ ft^3$$

One ft^3 is equal to 7.48 gallons, so the volume of the water in the ellipse is given by:

$$V_{1,000} = (40,728\ ft^3)(7.48\ gal/ft^3) = 304,645\ gallons$$

One gallon of water weighs 8.337 lbs/gal, so the mass of the water in the ellipse is given by:

$$M_{1,000} = (304,645\ gallons)(8.337\ lb/gal) = 2,539,829\ lbs$$

Multiplying $M_{1,000}$ by the hydrocarbon concentration yields the approximate mass of dissolved

hydrocarbons:

$$M_{1,000} = (2{,}539{,}829 \text{ lbs})(0.000005167) = \textbf{13.1 lbs of dissolved TPH-d}$$

Dividing $M_{1,000}$ by the weight of one gallon of TPH-d, 7.00 lbs/gallon, will yield the approximate volume of TPH-d dissolved into the groundwater of the middle ellipsoid:

$$V_{1,000} = (M_{1,000})/7.00\text{lb/gal}) = 13.1 \text{ lbs}/7.00 \text{ lbs/gal} = \textbf{1.9 gallons of dissolved TPH-d}$$

3) For the estimated 50 µg/l outer contour interval, A_{50}= 17,185 ft^2, and thickness h = 15 ft (height inferred well screen lengths)

Utilizing TPH-d data from well MW-14 (880 µg/l) the 1,000 µg/l contour line and the 50 µg/l contour line (Figure 17), the average TPH-d concentration is estimated to be 643 ug/l (equivalent to 0.000000643 g/ml).

The area of the ellipse is given by: $A_{50} - A_{1,000} = 17{,}185 - 9{,}761 = 7{,}424$ ft^2
The volume is given by: $V_{50} = A_{50} - A_{1,000} \times 15 = 111{,}360$ ft^3

Water occupies the porosity in the soil, which is estimated to be 40% of the soil volume, so the total volume of water in the saturated portion of the ellipse is approximated by:

$$V_{50} = (0.40)(111{,}360 \text{ ft}^3) = 44{,}544 \text{ ft}^3$$

One ft^3 is equal to 7.48 gallons, so the volume of the water in the ellipse is given by:

$$V_{50} = (44{,}544 \text{ ft}^3)(7.48 \text{ gal/ft}^3) = 333{,}189 \text{ gallons}$$

One gallon of water weighs 8.337 lbs/gal, so the mass of the water in the ellipse is given by:

$$M_{50} = (333{,}189 \text{ gallons})(8.337 \text{ lb/gal}) = 2{,}777{,}798 \text{ lbs}$$

Multiplying M_{50} by the hydrocarbon concentration yields the approximate mass of dissolved hydrocarbons:

$$M_{50} = (2{,}777{,}798 \text{ lbs})(0.000000643) = \textbf{1.8 lbs of dissolved TPH-d}$$

Dividing M_{50} by the weight of one gallon of TPH-d, 7.00 lbs/gallon, will yield the approximate volume of TPH-d dissolved into the groundwater of the inner ellipse:

$$V_{50} = (M_{50})/7.00 \text{ lb/gal}) = 1.8 \text{ lbs}/7.00 \text{ lbs/gal} = \textbf{0.3 gallons of dissolved TPH-d}$$

Combining the total volume of dissolved TPH-d at the different concentrations, impacted groundwater yields a total of approximately **257,775 ft^3** containing an estimated **6.7 gallons of TPH-d**, equivalent to **46.3 pounds of TPH-d**.

APPENDIX E

MTBE IMPACTED GROUNDWATER
VOLUME ASSUMPTIONS AND CALCULATIONS
RINO PACIFIC/OAKLAND TRUCK STOP
1107 5th Street, Oakland, California

Assumptions:

- The distribution of maximum methyl tertiary butyl ether (MTBE) concentrations on the site can be approximated utilizing the shape of an ellipse (Figure 18); the distribution can be separated into three contoured areas (i.e. 1,000 µg/l, 100 µg/l and 1 µg/l).
- The effective porosity of soil at the site is estimated and averaged to be 40% (i.e. silty fine to medium sand, silts and bay mud).
- Data collected from the May and November 2012 groundwater sampling events will be utilized to represent current dissolved site conditions; grab groundwater sample data collected from site investigations will be used to determine the extent of MTBE-impacted groundwater, but will not be used to calculate average MTBE concentrations.
- The thickness of dissolved plume was derived utilizing the screen interval length of 15 feet.
- Figure 18 was generated utilizing a computer assisted drafting program. The program has a specific function to calculate the area of a selected object. For the dissolved MTBE plume (Figure 18), the program determined the area of the1,000 µg/l contour interval to be 1,782 ft^2, the 100 µg/l contour interval to be 8,272 ft^2, and the 1 µg/l contour interval to be 23,995 ft^2.
- The area and volume of each contoured zone can be estimated utilizing a computer drafting program to determine the area between the above referenced 1,000, 100 and 1 contour intervals (Figure 18), and then multiplying the area by the height, which has been inferred as the length of the majority of well screen intervals at the site (equaling 15 vertical feet: 5-20 feet bsg). The area of an ellipse can be used to illustrate the shape of the dissolved MTBE plume, and calculated by the following formula:

  V = AREA•h, where “area” is determined through the computer drafting program (Figure 18) and “h” is the maximum height of the contamination.

1) For the estimated 1,000 µg/l inner contour interval; $A_{1,000}$ = 1,782 ft^2 and h = 15 ft (height inferred well screen lengths).

Utilizing MTBE data from well MW-7 (1,200 µg/l) and the 1,000 µg/l contour line (Figure 18), the average dissolved MTBE concentration is estimated to be 1,100 ug/l (equivalent to 0.000001100 grams per milliliter). A ml is very nearly equivalent to a cubic centimeter of water, which by definition equals one gram, this concentration is nearly a unitless number.

The volume is given by:

$V_{1,000} = A_{1,000} \times h = 1{,}782\ ft^2 \times 15\ ft = 26{,}730\ ft^3$

Water occupies the porosity in the soil, which is estimated to be 40% of the soil volume, so the total volume of water in the saturated portion of the ellipse is approximated by:

$$V_{1,000} = (0.40)(26{,}730\ ft^3) = 10{,}692\ ft^3$$

One ft^3 is equal to 7.48 gallons, so the volume of the water in the ellipse is given by:

$$V_{1,000} = (10{,}692\ ft^3)(7.48\ gal/ft^3) = 79{,}976\ gallons$$

One gallon of water weighs 8.337 lbs/gal, so the mass of the water in the ellipse is given by:

$$M_{1,000} = (79{,}976\ gallons)(8.337\ lb/gal) = 666{,}761\ \ lbs.$$

Multiplying $M_{1,000}$ by the hydrocarbon concentration yields the approximate mass of dissolved MTBE in the saturated portion of the ellipse:

$$M_{1,000} = (666{,}761\ lbs)(0.000001100) = \mathbf{0.73\ lbs\ of\ dissolved\ MTBE}$$

Dividing $M_{1,000}$ by the weight of one gallon of MTBE, 6.25 lbs/gallon, will yield the approximate volume of MTBE dissolved into the groundwater of the inner contour interval:

$$V_{1,000} = (M_{1,000})/6.25 lb/gal) = \mathbf{28.0}/6.25\ lbs/gal = \mathbf{0.12\ gallons\ of\ dissolved\ MTBE}$$

2) For the estimated 100 µg/l middle contour interval, $A_{100} = 8{,}272\ ft^2$, h = 15 ft (height inferred well screen lengths)

Utilizing MTBE data from wells MW-6 (130 µg/l), MW-14 (300 µg/l), the 1,000 µg/l contour line and the 100 µg/l contour line (Figure 18), the average MTBE concentration is estimated to be 383 µg/l (equivalent to 0.000000383 g/ml).

The area is given by: $A_{100} - A_{1,000} = 8{,}272 - 1782 = 6{,}490\ ft^2$
The volume is given by: $V_{100} = A_{100\text{-}1,000} \times h = 6{,}490\ ft^2 \times 15\ ft = 97{,}350\ ft^3$

Water occupies the porosity in the soil, which is estimated to be 40% of the soil volume, so the total volume of water in the saturated portion of the ellipse is approximated by:

$$V_{100} = (0.40)(97{,}350\ ft^3) = 38{,}940\ ft^3$$

One ft^3 is equal to 7.48 gallons, so the volume of the water in the ellipse is given by:

$$V_{100} = (38{,}940\ ft^3)(7.48\ gal/ft^3) = 291{,}271\ gallons$$

One gallon of water weighs 8.337 lbs/gal, so the mass of the water in the ellipse is given by:

$$M_{100} = (291{,}271\ gallons)(8.337\ lb/gal) = 2{,}428{,}328\ lbs$$

Multiplying M_{100} by the hydrocarbon concentration yields the approximate mass of dissolved

MTBE:

M_{100}= (2,428,328 lbs)(0.000000383) = **0.93 lbs of dissolved MTBE**

Dividing M_{100} by the weight of one gallon of MTBE, 6.25 lbs/gallon, will yield the approximate volume of MTBE dissolved into the groundwater of the middle ellipsoid:

V_{100} = (M_{100})/6.25lb/gal) = 0.93 lbs/6.25 lbs/gal = **0.15 gallons of dissolved MTBE**

3) For the estimated 1 µg/l outer contour interval, A_{50}= 23,995 ft^2, and thickness h = 15 ft (height inferred well screen lengths)

Utilizing MTBE data from wells MW-1 (15 µg/l), MW-4 (66 µg/l), MW-8 (18 µg/l), the 100 µg/l contour line and the 1 µg/l contour line (Figure 18), the average MTBE concentration is estimated to be 40 µg/l (equivalent to 0.000000040 g/ml).

The area of the ellipse is given by: A_1- A_{100} = 23,995 - 8,272 = 15,723 ft^2
The volume is given by: V_1 = A_1- A_{100} x 15 = 235,845 ft^3

Water occupies the porosity in the soil, which is estimated to be 40% of the soil volume, so the total volume of water in the saturated portion of the ellipse is approximated by:

V_1 = (0.40)(235,845 ft^3) = 94,338 ft^3

One ft^3 is equal to 7.48 gallons, so the volume of the water in the ellipse is given by:

V_1 = (94,338 ft^3)(7.48 gal/ft^3) = 705,648 gallons

One gallon of water weighs 8.337 lbs/gal, so the mass of the water in the ellipse is given by:

M_1 = (705,648 gallons)(8.337 lb/gal) = 5,882,989 lbs

Multiplying M_1 by the hydrocarbon concentration yields the approximate mass of dissolved MTBE:

M_1= (5,882,989 lbs)(0.000000040) = **0.24 lbs of dissolved MTBE**

Dividing M_1 by the weight of one gallon of MTBE, 6.25 lbs/gallon, will yield the approximate volume of MTBE dissolved into the groundwater of the inner ellipse:

V_1 = (M_1)/6.25 lb/gal) = 0.24 lbs/6.25 lbs/gal = **0.04 gallons of dissolved MTBE**

Combining the total volume of dissolved MTBE at the different concentrations, impacted ground water yields a total of approximately **279,000 ft^3** containing an estimated **0.3 gallons of MTBE**, equivalent to **1.9 pounds of MTBE**.