Atlantic Richfield Company

Shannon Couch
Operations Project Manager

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November 6, 2012

RECEIVED

9:32 am, Nov 08, 2012

Alameda County
Environmental Health

Re: Revised Soil & Groundwater Investigation Work Plan
Atlantic Richfield Company Station #2111
1156 Davis Street, San Leandro, California
ACEH Case #RO0000494

"I declare, that to the best of my knowledge at the present time, that the information and/or recommendations contained in the attached document are true and correct."

Submitted by,

Shannon Couch
Operations Project Manager

Attachment:

REVISED SOIL & GROUNDWATER INVESTIGATION WORK PLAN

Atlantic Richfield Company Station No.2111
1156 Davis Street
San Leandro, California

Prepared for

Ms. Shannon Couch
Environmental Business Manager
Atlantic Richfield Company
P.O. Box 1257
San Ramon, California 94583

Prepared by

875 Cotting Lane, Suite G
Vacaville, California 95688
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October 25, 2012

Project No. 06-88-615

BROADBENT
875 Cotting Ln., Suite G, Vacaville, CA 95688
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October 25, 2012

Project No. 06-88-615

Atlantic Richfield Company
P.O. Box 1257
San Ramon, CA 94583
Submitted via ENFOS

Attn.: Ms. Shannon Couch

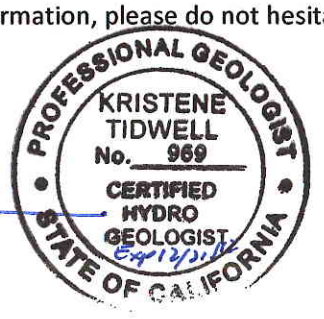
Re: Revised Soil & Groundwater Investigation Work Plan, Atlantic Richfield Company Station No.2111, 1156 Davis Street, San Leandro, California; ACEH Case No.RO0000494

Dear Ms. Couch:

Broadbent & Associates, Inc. (Broadbent) is pleased to submit this *Revised Soil & Groundwater Investigation Work Plan* for Atlantic Richfield Company Station No.2111 located at 1156 Davis Street, San Leandro, California (Site). This document was prepared to evaluate current Site conditions and define the downgradient extent of hydrocarbons in groundwater. Within it, Broadbent is proposing to advance two soil borings downgradient from Station No.2111.

Should you have questions or require additional information, please do not hesitate to contact us at (707) 455-7290.

Sincerely,
BROADBENT & ASSOCIATES, INC.



Kristene Tidwell, P.G., C.HG.
Senior Geologist

Enclosures

cc: Ms. Dilan Roe, Alameda County Environmental Health (Submitted via ACEH ftp site)
Electronic copy uploaded to GeoTracker

SOIL & GROUNDWATER INVESTIGATION WORK PLAN
Atlantic Richfield Company Station No.2111
1156 Davis Street, San Leandro, California
Fuel Leak Case No. RO0000494

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REVISED SOIL & GROUNDWATER INVESTIGATION WORK PLAN
Atlantic Richfield Company Station No.2111
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1.0 INTRODUCTION

On behalf of the Atlantic Richfield Company (ARC)- a BP affiliated company, Broadbent & Associates, Inc. (Broadbent) has prepared this *Revised Soil & Groundwater Investigation Work Plan* (Work Plan) for the Atlantic Richfield Company (ARCO) Station No.2111 (herein referred to as Station No.2111), located at 1156 Davis Street, San Lendro, California (Site). The initial *Soil and Groundwater Investigation Work Plan* (Previous Work Plan; Broadbent, 2009a) was prepared in response to a July 9, 2009 directive letter from Mr. Paresh Khatri of Alameda County Environmental Health (ACEH), provided within Appendix A. This Previous Work Plan was was approved but never implemented due to access not being obtained for one of the neighboring properties where access was needed. Since 2009, Site conditions, regulatory oversight, and the regulations have changed and it is the opinion of Broadbent and ARC that a this Revised Work Plan was necessary to address these changes. This Work Plan includes discussions on the Site background and previous environmental activities, regional and Site geology and hydrogeology, proposed scope of work, and proposed schedule. Appendices referenced within this report are provided following the conclusion of the document's text.

2.0 BACKGROUND INFORMATION

2.1 Site Location

Station No.2111 is located at 1156 Davis Street in San Leandro, California. It is an active ARCO branded gasoline station. Current improvements at the Site include two gasoline underground storage tanks (USTs) believed to have been installed in 2000, two fuel dispenser islands with a total of four double-sided dispensers, and a convenience store building. The majority of the Site surface is paved with asphalt and concrete. The Site is bound by Preda Street to the east, Davis Street to the south, single-family residential dwellings to the north and the First Christian Church property immediately to the west. A Site Location Map is provided as Drawing 1. A recent aerial photo showing the Site and local area development is provided as Drawing 2.

2.2 Previous Environmental Activities at Site

On August 30, 1993 GeoStrategies, Inc. (GSI) observed the removal of a hydraulic hoist and underlying material. GSI collected four soil samples from the excavation pit S-7-HL (7.0 feet below ground surface, ft bgs), S-7½-HL (7.5 ft bgs), S-8-HL (8 ft bgs), and S-9-HL (9 ft bgs). The concentrations of Total Extractable Petroleum Hydrocarbons (TEPH) as Hydraulic Oil ranged from 9,200 milligrams per kilogram(mg/kg) to 27,000 mg/kg in samples S-9-HL and S-7-HL, respectively (GSI, 10/4/1993). Historical analytical results are tabulated within Appendix B.

On March 4, 1994 GSI observed the advancement of two soil borings (B-1 and B-2) to find the extent of the hydraulic oil contamination. Both borings were advanced to a depth of approximately 20.0 ft bgs in the vicinity of the former hydraulic hoist. During the investigation eight soil samples were collected with concentrations ranging from non-detect at 1.0 mg/kg to 11 ppm in samples B1-4.5 and B2-20 respectively. GSI concluded that the hydraulic oil had not significantly impacted the surrounding area. However, GSI also concluded that unidentified hydrocarbons had impacted the capillary fringe beneath the northwestern corner of the service station building (GSI, 4/13/1994).

On August 15, 1994 GSI observed the removal of a 280 gallon waste-oil tank and over excavation of the surrounding area. Seven soil samples were collected during the excavation, four of which (soil samples WO-N, WO-1, WO-B and WO-B2) contained petroleum hydrocarbon at maximum concentrations of: 310 ppm total petroleum hydrocarbons as gasoline (TPH-g); 780 mg/kg total petroleum hydrocarbons as diesel (TPH-g); 2,000 ppm total petroleum hydrocarbons as motor oil range (TPH-mo); 7,900 mg/kg total recoverable petroleum hydrocarbons (TRPH) (GSI, 9/27/1994). On 12 September 1994 GSI observed the installation of a 600 gallon waste-oil tank in the same area as the former waste-oil tank.

On July 12 and 13, 1995 EMCON observed the installation of onsite monitoring wells MW-1 through MW-4. The total depths for the monitoring well borings ranged between 27.5 ft bgs and 40 ft bgs. Soil samples collected from borings for wells MW-1, MW-3, and MW-4 did not contain any petroleum hydrocarbon contamination. However, soil samples collected from the boring for well MW-2 contained maximum concentrations of TPH-g at 320 mg/kg, benzene at 0.26 mg/kg, ethylbenzene at 3.4 mg/kg, and Total Xylenes at 1.5 mg/kg (EMCON, 11/8/1995). Boring locations are depicted in Drawing 3. Tabulated historic soil and groundwater analytical results are provided within Appendix B. Copies of available soil boring and monitoring well construction logs are provided within Appendix C.

Between 28 February and 1 March 1996, EMCON observed the installation of offsite monitoring wells MW-5 and MW-6, onsite monitoring well MW-7, and onsite vapor extraction wells VW-1 through VW-4. Soil samples collected from offsite wells MW-5 and MW-6 did not contain petroleum hydrocarbons. Soil samples from onsite well MW-7 adjacent to the corner of the UST pit contained up to 55 mg/kg TPH-g, up to 0.11 mg/kg benzene, up to 0.80 mg/kg ethylbenzene, and up to 1.5 mg/kg total xylenes. Soil samples from each of vapor extraction wells VW-1 through VW-4 contained petroleum hydrocarbons, with the most significant concentrations being in VW-2 and VW-4: up to 1,100 mg/kg TPH-g (VW-4), up to 0.30 mg/kg benzene (VW-2), up to 0.50 mg/kg ethylbenzene (VW-1), and up to 3 mg/kg total xylenes (VW-4) (EMCON, 9/19/1996).

In October 2000, Petcon Technologies, Inc. removed the three 12,000-gallon former USTs, product lines and dispensers from the Site. Approximately 930 cubic yards (yd^3) of soil was excavated from under the former gasoline USTs (to a depth of 17 ft bgs), product lines and dispenser islands. A representative of Delta Environmental Consultants, Inc. (Delta) collected soil samples from former USTs, product lines and dispenser islands. In the area of the former gasoline USTs, soil samples T1-S, T1-N, T2-S, T2-N, T2-M, T3-S and T3-N contained maximum concentrations of TPH-g at 4,400 mg/kg (T2-N), methyl tertiary butyl ether (MTBE) at 89 mg/kg, benzene, toluene, ethylbenzene and total xylenes (BTEX) at 7.7 mg/kg, 190 mg/kg, 58 mg/kg, and 300 mg/kg, respectively. Soil samples collected under the product lines contained at 430 mg/kg TPH-g (PL-1), MTBE at 4.7 mg/kg and BTEX at 0.16 mg/kg, 0.02 mg/kg, 2.1 mg/kg, and 3.6 mg/kg, respectively. Soil samples collected under the dispenser islands contained 2,100 mg/kg TPH-g, 13 mg/kg MTBE and BTEX at 2.0 mg/kg, 20 mg/kg, 30 mg/kg, and 170 mg/kg, respectively. The highest product line (PL-1) and dispenser island soil confirmation sample concentrations (DP-1) were from the southeast dispenser pump area. This area was over-excavated up to 10 ft bgs, with confirmation samples still containing 19 mg/kg TPH-g, 7.7 mg/kg MTBE, and BTEX at 0.4 mg/kg, 0.81 mg/kg, 0.42 mg/kg, and 2.6 mg/kg, respectively. The excavations were reportedly backfilled with clean pea gravel (Delta, 2/2/2001).

On May 5, 2001 Delta conducted soil sampling during the removal and upgrade of a sump within the service station building. A Delta representative collected one soil core sample at two feet below the bottom of the sump following its removal. Laboratory analysis of the soil sample reported 305 mg/kg TPH-g, 465 mg/kg TPH-d, and 543 mg/kg TRPH. No concentrations of benzene, toluene or MTBE were detected above the laboratory reporting limits. Minor to trace concentrations of ethylbenzene , total

xylenes ,sec-butylbenzene), p-isopropyltoluene naphthalene, 2-methylnaphthalene,n-propylbenzene, 1,2,4-trimethylbenzene,and 1,3,5-trimethylbenzene (Delta, 8/9/2001).

In January 2002, Delta conducted a three-day dual-phase soil vapor and groundwater extraction (DPE) pilot test from the vapor extraction well VW-2, and then limited DPE pilot tests from monitoring wells MW-2 and MW-7. Water levels typically decreased several feet in the extraction wells and exhibited varied responses in the observation wells. Estimated average vapor-phase removal rates were 11.6 pounds of TPH-g per day from well VW-2 and 7.32 pounds of TPH-g per day from well MW-7. Grab groundwater samples collected showed a decreasing trend in petroleum hydrocarbon concentrations from well VW-2 during the short-term pilot test. Concentrations of petroleum hydrocarbons in soil vapor before and after the pilot tests remained approximately the same order of magnitude. A total of 14,900 gallons of water was extracted during the DPE pilot test. Delta concluded that limited DPE was possible at the Site. Even though in the short term they admitted that DPE was limited in its ability to quickly lower groundwater levels to expose impacted soils for soil vapor extraction (SVE), they hypothesized that given enough time of system operation it was reasonable to expect that the groundwater levels could be adequately lowered. Furthermore, Delta admitted that even though significant hydrocarbon vapor recovery rates might not be reasonably expected from DPE due to the fine-grained soils, the overall effect of reducing the groundwater levels in itself might allow the soils to be exposed to atmospheric oxygen from SVE, which in turn might enhance the natural attenuation of the impacted soils and groundwater. The test also indicated that just those wells completed in finer-grained materials onsite would be effective in a DPE system, whereas monitoring well MW-2 would not serve as a practical DPE well due to its excessive groundwater production rates (Delta, 7/16/2002).

On November 26, 2003 URS observed the installation of onsite monitoring well MW-8. Eight soil samples were collected from the borehole advanced prior to the installation of well MW-8 with a maximum concentration of 150 mg/kg TPH-g at16.5 ft-bgs. On March 20 and 21, 2004 URS observed the drilling of six off-site borings (H-1 through H-5 and SB-1) and one on-site boring (SB-2) using direct-push technology. Five of the seven borings (H-1 through H-5) had sufficient groundwater for grab samples. Grab groundwater samples were collected from H-1, H-2, and H-3 while multiple depth-discrete groundwater samples were collected from borings H-4 and H-5. Borings SB-1 and SB-2 were advanced for lithologic logging purposes and were not sampled. Groundwater samples H-1, H-2, and H-5 at 40 feet bgs contained Gasoline Range Organics (GRO) at 820 micrograms per liter (µg/L), 260,000 µg/L and 53 µg/L, respectively. Grab groundwater sample H-2 also contained ethylbenzene at 5,800 µg/L, total xylenes at 11,000 µg/L, and MTBE 7,600 µg/L. Depth-discrete groundwater sample H-4 at 27 ft bgs also contained 0.72 µg/L total xylenes. Benzene, toluene, ethanol, tert-butyl alcohol (TBA), di-isopropyl alcohol (DIPE), ethyl tert-butyl ether (ETBE), tert-amyl methyl ether (TAME), 1,2-dichloroethane (1,2-DCA), and 1,2-dibromomethane (EDB) were not detected above the various laboratory reporting limits (URS, 5/6/2004).

During the First Quarter of 2007, a DPE system was started up at the Site that extracted soil vapor and groundwater from wells V-1, V-2, V-3, MW-1, MW-2 (groundwater extraction only), MW-3 and MW-7. The DP system operated until September 2009, when it was shut down due to asymptotic mass removal rates (Broadbent, 2009b). In July 2012 the DPE system, which had been sitting idle since 2009, was removed. All equipment was removed and properly disposed of by Belshire Environmental.

2.3 Regional Geology and Hydrogeology

According to the *East Bay Plain Groundwater Basin Beneficial Use Evaluation Report* (California Regional Water Quality Control Board – San Francisco Bay Region/SFRWQCB, June 1999), the Site is located

within the San Leandro Sub-Area, near the northern boundary of the San Lorenzo Sub-Area, in the East Bay Plain of the San Francisco Basin. These Sub-Areas share the same hydrogeologic characteristics, yet are separated by the junction of the surface trace between the San Leandro and San Lorenzo alluvial fans. These Sub-Areas consist primarily of alluvial fan sediments with the distinction of the Yerba Buena Mud extending west into the San Leandro and San Lorenzo Sub-Areas, unlike the northern Sub-Areas. The Yerba Buena Mud forms a major aquitard between the shallow and deep aquifers throughout much of southwestern area of the East Bay Plain. The San Leandro and San Lorenzo Sub-Areas alluvial fans are finer grained and produce less groundwater than the Niles Cone basin to the south.

Geologic data derived from on-site borings indicate unconsolidated sediments consisting of silts and clays from two to 40 feet bgs. Poor and well graded sands, and sandy clays zone underlies and overlies these silty clays and silts. Soil boring and well construction logs are provided in Appendix C. Copies of geologic cross-sections for the Site are provided in Appendix D.

3.0 PROPOSED SCOPE OF WORK

This scope of work is being proposed in order to move this Site towards closure based on the new Low Threat UST Closure Policy. A draft checklist for this Site based on this new policy has been completed and is included in Appendix E. This checklist notes that one data gap that needs to be addressed is lateral extent of contaminants. To determine the downgradient extent of hydrocarbons in groundwater, the scope of work presented herein is being proposed. A description of the proposed activities is presented below.

3.1 Proposed Boring Locations

At the request of ACEH, the purpose of the proposed soil and groundwater investigation is to further characterize groundwater down-gradient of the onsite source area. On-site soil and groundwater conditions were initially characterized in 1994 by GSI and in 1995 by EMCON as described in previous sections. As put forth by ACEH in their letter dated July 9, 2009, characterization of the site is incomplete due to the lack of monitoring points directly downgradient of the suspected source area.

Broadbent proposes installing two soil borings using direct-push technology at locations shown on Drawing 3. Boring SB-1 is proposed to be located approximately 20 feet south of former boring H-2 on the First Christian Church and Community Center property. Boring SB-2 is proposed to be located on Douglas Court in a residential area west of the Site. These two soil borings (SB-1 and SB-2), should provide the necessary data to delineate the downgradient extent and/or significance of groundwater contamination from Station No.2111. Additionally, proposed boring SB-1 will enable collection of current soil and groundwater data near boring H-2 which contained high petroleum concentrations in grab-groundwater at the time it was f collected in 2004. The proposed borings are shown in Drawing 3. The proposed boring locations are preliminary, and may be subject to change in order to obtain the necessary clearance from underground and above-ground utilities per Broadbent's drilling and utility clearance policy.

3.2 Preliminary Activities, Permitting, and Notifications

Broadbent has historically obtained for offsite access agreements with the private property owners at boring location SB-1. An encroachment permit with the City of San Leandro will be secured prior to drilling boring SB-2 in the public right of way. Prior to initiating field activities, Broadbent will obtain the

necessary permits from Alameda County; prepare a site health and safety plan (HASP) for the proposed work; clear the Site for subsurface utilities; and provide 72-hour advance written notification to ACEH prior to start of field activities. The utility clearance will include notifying Underground Service Alert (USA) of the pending work a minimum of 48 hours prior to initiating the field investigation, and securing the services of a private utility locating company to confirm the absence of underground utilities at the boring location. Boreholes will be physically cleared to 6.5 ft bgs using hand auger or air knife methods, in accordance with the Broadbent's Ground Disturbance Defined Practice.

The Site-specific HASP will be prepared for use by personnel implementing the work plan. A copy of the HASP will be available on-site during work. The subcontractor(s) performing field activities will be provided with a copy of the HASP prior to initiating work. Safety tailgate meetings will also be conducted to review potential hazards and scope of work.

3.3 Soil Boring Activities

A Broadbent field geologist will observe a California-licensed drilling company advance the soil borings using a direct-push drill rig to a proposed total approximate depth of 25 ft bgs. Soils will be classified according to the USCS, and will be examined using visual and manual methods for parameters including odor, staining, color, grain size, and moisture content. Soil samples will be collected for lithologic logging purposes from borings from SB-1 and SB-2 at three-foot intervals, beginning at a depth of 6.5 feet following borehole clearance, until total depth. The soil samples from the capillary fringe within each boring will be submitted to the laboratory for chemical analysis. Soil will be classified according to the Unified Soil Classification System (USCS), and will be examined using visual and manual methods for parameters including odor, staining, color, grain size, and moisture content. A photo-ionization detector will be utilized to screen and record the concentrations of total volatile organic compounds. Soil samples collected above the first-encountered groundwater will be submitted to the laboratory for chemical analysis. One grab-groundwater sample from each boring will be collected and submitted to the laboratory for chemical analysis using a hydropunch-type sampler. This type of groundwater sample allows a specific interval of groundwater to be isolated. A small-diameter bailer or tubing is lowered into the direct-push rods into the isolated interval, where a groundwater sample can be collected. Upon completion, the soil borings will be abandoned by filling cement bentonite grout mix to the surface.

Soil and groundwater samples will be submitted under chain-of-custody protocol to TestAmerica Environmental Laboratories, Inc. of Irvine, California, a State-certified environmental laboratory. The soil samples will be analyzed for the following: GRO (hydrocarbon chain lengths of C6-12) by EPA Method 8015B; BTEX, MTBE, TBA, TAME, ETBE, DIPE, EDB, 1,2-DCA, and Ethanol by EPA Method 8260.

Investigation-derived residuals will be temporarily stored onsite in 55-gallon, DOT-approved drums, pending characterization for proper management. Broadbent will coordinate the removal and transportation of surplus soils and liquids to appropriate California-regulated facilities.

3.4 Soil and Groundwater Investigation Report

Upon completion of field activities and receipt of the certified field data package (including copies of permits, field data sheets, boring logs, and the laboratory analytical report with chain-of-custody documentation), Broadbent will prepare a Soil and Groundwater Investigation Report. The report will document the results of the investigation, field activities, copies of required permit(s), copies of field notes, soil boring logs, laboratory analytical reports with copies of chain-of-custody records, discussion

of findings, conclusions and recommendations. Deviations from the work plan or data inconsistencies will be discussed in the report.

4.0 PROPOSED SCHEDULE

The schedule for the above-noted work shall proceed as follows:

- Implementation of Soil and Groundwater Investigation – Within 60 days following successful negotiation of access agreements and approval of this work plan;
- Soil & Groundwater Investigation Report– Within 90 days following successful negotiation of access agreements and approval of this work plan.

Due to the unknown amount of time necessary to successfully negotiate offsite access agreements with the private property owners, Broadbent suggests that strict calendar dates not be immediately established in the anticipated work plan approval letter, but instead be established after Broadbent immediately notifies ACEH that offsite access with the private property owners has been secured. If a signed access agreement is not in place within 90 days following approval of this work plan by the ACEH, assistance with access agreement negotiations from the ACEH will be requested.

5.0 LIMITATIONS

The findings presented in this document are based upon: observations of field personnel from previous consultants, the points investigated, and results of analytical tests performed by various laboratories. Our services were performed in accordance with the generally accepted standard of practice at the time this document was written. No other warranty, expressed or implied was made. This report has been prepared for the exclusive use of BP. It is possible that variations in soil or groundwater conditions could exist beyond points explored in this investigation. Also changes in site conditions could occur in the future due to variations in rainfall, temperature, regional water usage, or other factors.

6.0 REFERENCES

Broadbent & Associates, Inc., 31 August 2009 (Broadbent, 2009a). *Soil & Ground-Water Investigation Work Plan, Atlantic Richfield Company Station #2111, 1156 Davis Street, San Leandro, California; ACEH Case #RO0000494*

Broadbent & Associates, Inc., 30 October 2009 (Broadbent, 2009b). *Third Quarter 2009 Ground-Water Monitoring and Remediation System Status Report, Atlantic Richfield Company Station #2111, 1156 Davis Street, San Leandro, California; ACEH Case #RO0000494*

Delta Environmental Consultants, Inc., 2 February 2001. *Tank Basin, Product Line and Dispenser Island Sampling Results, ARCO Station No.2111, 1156 Davis Street, San Leandro, California*.

Delta Environmental Consultants, Inc., 9 August 2001. *Sump Sampling Results, ARCO Service Station No.2111, 1156 Davis Street, San Leandro, California*.

Delta Environmental Consultants, Inc., 16 July 2002. *Results of a Dual Phase Extraction Pilot Test, ARCO Service Station No.2111, 1156 Davis Street, San Leandro, California*.

EMCON, 19 September 1996. *Soil and Groundwater Assessment Report, ARCO Service Station 2111, San Leandro, California*.

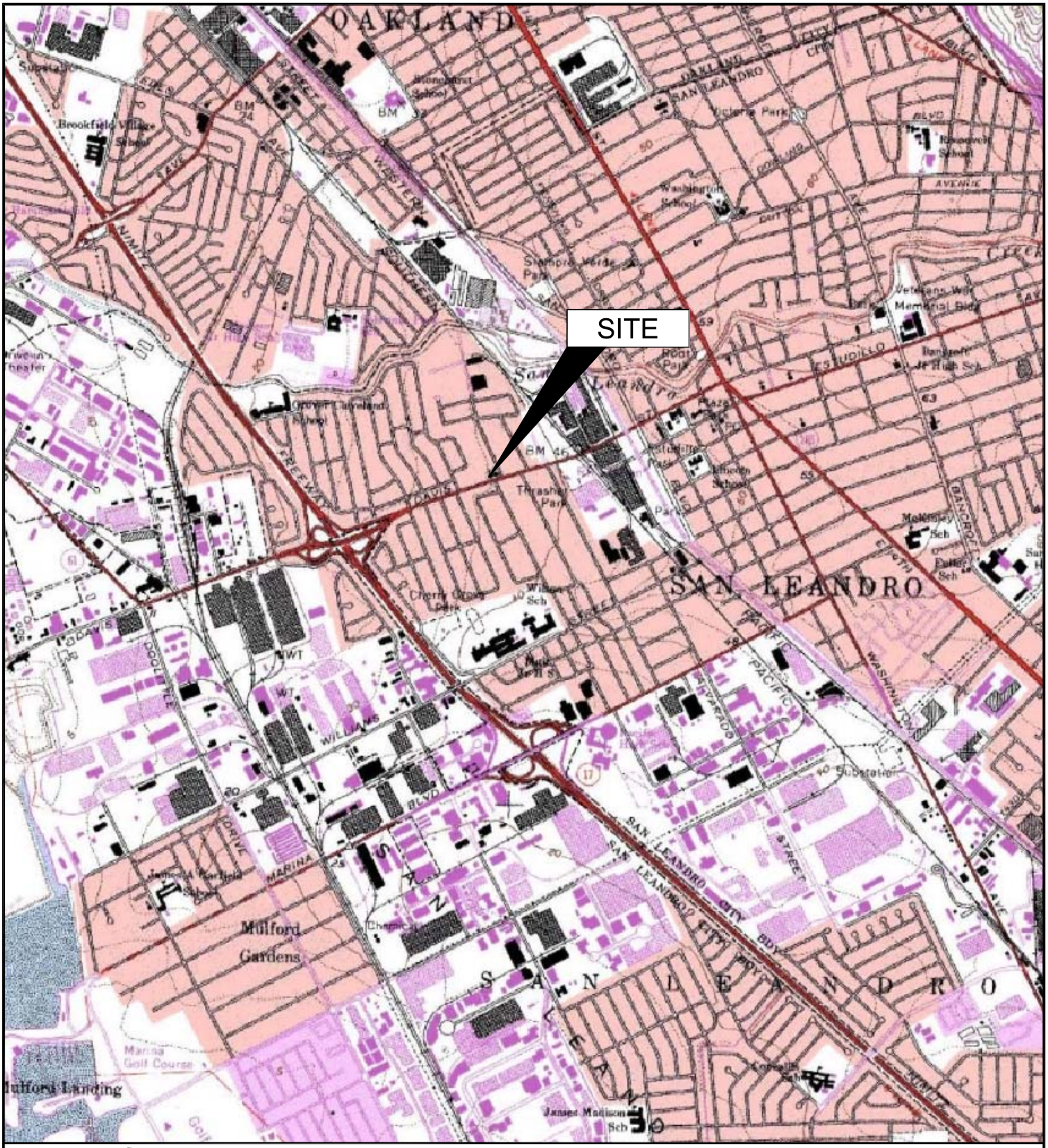
EMCON, 8 November 1995. *Site Characterization, ARCO Service Station 2111, 1156 Davis Street, San Leandro, California.*

GeoStrategies, Inc., 4 October 1993. *Letter Report of The Results of Soil Sampling Associated with Hydraulic Hoist Removal at ARCO Station 2111, 1156 Davis Street in San Leandro, California*.

GeoStrategies, Inc., 13 April 1994. *Report of Initial Subsurface Investigation, ARCO Station 2111, 1156 Davis Street, San Leandro, California*.

GeoStrategies, Inc., 27 September 1994. *Report for Waste-Oil Tank Removal Activities at ARCO Station 2111, 1156 Davis Street, San Leandro, California*.

URS Consultants, Inc., 6 May 2004. *Additional Subsurface Investigation Report, ARCO Service Station #2111, 1156 Davis Street, Hayward [sic], California*.



N

0 2000 4000

APPROXIMATE SCALE (ft)

IMAGE SOURCE: USGS

BROADBENT & ASSOCIATES, INC.
ENGINEERING, WATER RESOURCES & ENVIRONMENTAL
1324 Mangrove Ave. Suite 212, Chico, CA 95926

Project No.: 06-88-615 Date: 07/23/09

Station #2111
1156 Davis Street
San Leandro, California

Site Location Map

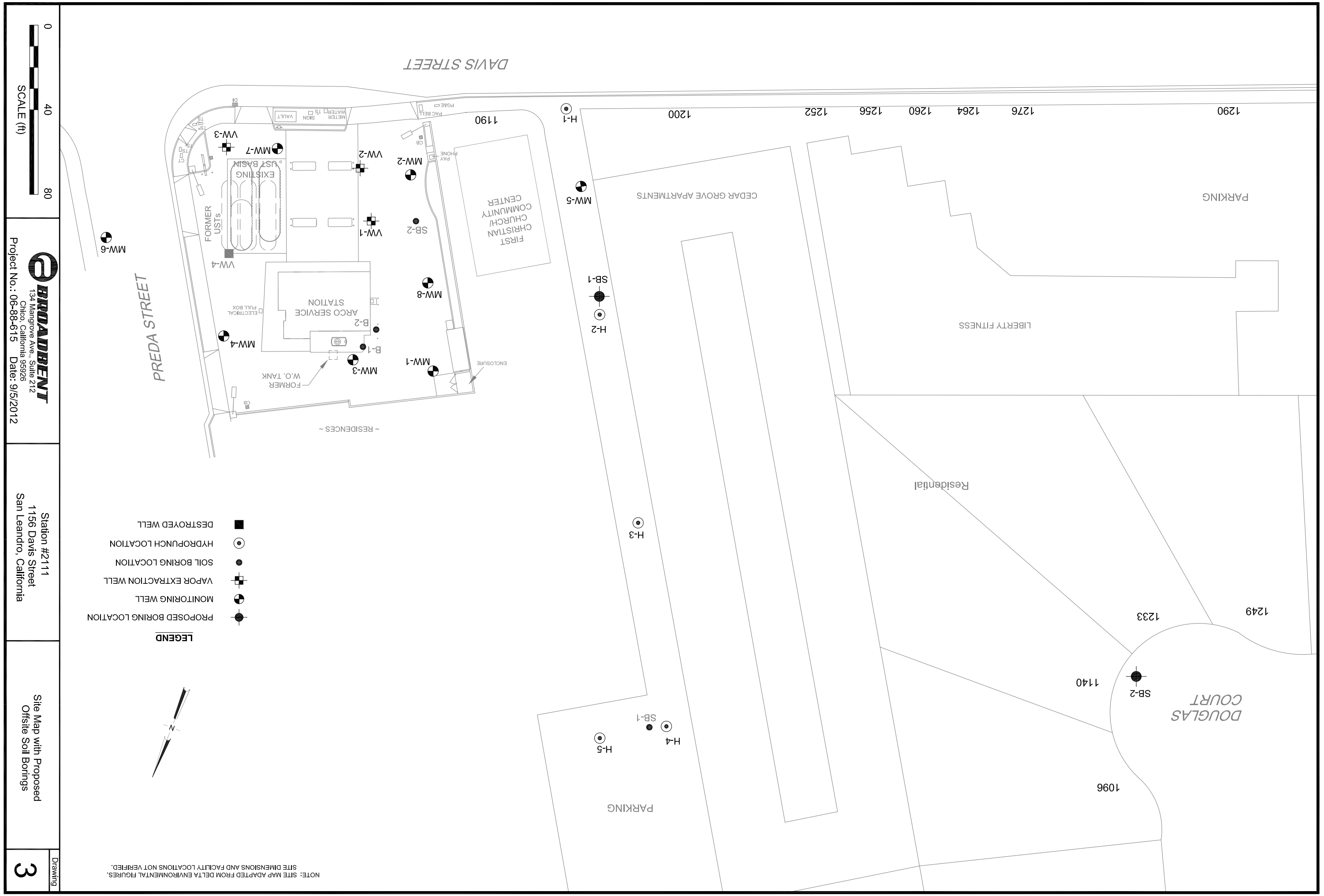
Drawing
1

BROADBENT & ASSOCIATES, INC.
ENGINEERING, WATER RESOURCES & ENVIRONMENTAL
1324 Mangrove Ave. Suite 212, Chico, California
Project No.: 06-88-615 Date: 8/25/09

Station #2111
1156 Davis Street
San Leandro, California

Area Development Photo

Drawing
2



NOTE: SITE MAP ADAPTED FROM DELTA ENVIRONMENTAL FIGURES.
SITE DIMENSIONS AND FACILITY LOCATIONS NOT VERIFIED.

BROADBENT
134 Mangrove Ave., Suite 212
Chico, California 95926
Project No.: 06-88-615 Date: 9/5/2012

Station #2111
1156 Davis Street
San Leandro, California

Site Map with Proposed
Offsite Soil Borings

Drawing
3

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, Agency Director

ENVIRONMENTAL HEALTH SERVICES
ENVIRONMENTAL PROTECTION
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700
FAX (510) 337-9335

July 9, 2009

(Paul Supple (*Sent via E-mail to: paul.supple@bp.com*)
Atlantic Richfield Company
(A BP Affiliated Company)
P.O. Box 1257
San Ramon, CA 94583

Subject: Fuel Leak Case No. RO0000494 and GeoTracker Global ID T0600101764, ARCO #2111, 1156 Davis Street, San Leandro, CA 94577

Dear Mr. Supple:

Alameda County Environmental Health (ACEH) staff has reviewed the case file for the above-referenced site including the recently submitted document entitled, "Response To Request For Site Conceptual Model and Soil & Ground-Water Investigation Work Plan," dated June 23, 2009, which was prepared by Broadbent & Associates, Inc. (BAI) for the subject site. In our April 24, 2009 correspondence, ACEH noted that elevated concentrations of hydrocarbons were detected in a "grab" groundwater sample collected in March 2004 from boring H-2, in which a permeable sand unit was identified between 15 to 20 feet bgs. A permeable unit was also identified in MW-7 from approximately 20 feet bgs to its total installed depth of 35 feet bgs. BAI states that "[f]rom review of the available lithologic logs and resultant cross sections, we do not believe the permeable unit (identified as Clayey Sand at MW-7) extends to the H-2 location. Furthermore, the URS cross section C-C' (Figure 4 of the 6 May 2004 report) does not connect the 29-foot deep, two foot thick well-graded Sand (SW) at SB-2 with the much shallower 16-foot deep, four foot thick well-graded sand (SW) found at the boring H-2 location." BAI further states that "[t]o verify or refute this lack of continuity depicted by URS might require additional drilling of multiple borings in the area north of the First Christian Church Community Center building. To extend this level of investigation does not appear to be justified as one may, or may not discover a reliable conclusion of a preferential pathway between the MW-7, SB-2 and H-2 locations."

ACEH's requests that you address the following technical comments work and send us the technical reports requested below

TECHNICAL COMMENTS

1. **Regional Geologic and Hydrogeologic Setting** – As mentioned above, in our April 24, 2009 correspondence, ACEH stated that elevated concentrations of petroleum hydrocarbons were detected in a "grab" groundwater sample collected in March 2004 from boring H-2, in which a permeable sand unit was identified between 15 to 20 feet bgs. ACEH does not dispute BAI's technical rationale for why they believe the permeable layer identified at MW-7 located on-site does not extend to boring H-2 located off-site. However, ACEH's primary concern is that contaminants may be migrating further off-site through this permeable zone.

BAI did not provide any rationale for why significantly elevated concentrations of TPH-g and MTBE detected at 260,000 µg/L and 7,600 µg/L), respectively, in a "grab" groundwater sample collected from boring H-2 located offsite, if the permeable layer encountered in boring H-2 is not connected in some way to the permeable layer identified at MW-7, located near the source area. Please note that during that same timeframe, groundwater samples collected from monitoring well MW-5 detected TPH-g and MTBE at concentrations of 8,000 µg/L and 2,000 µg/L, respectively, and the highest concentrations of TPH-g and MTBE on-site were detected in well MW-7 at concentrations of 62,000 µg/L and 37,000 µg/L, respectively. Based on the analytical data, the extent of the groundwater contaminant plume appears undefined and a permanent monitoring point in the vicinity of boring H-2 appears warranted in addition to proposed groundwater monitoring wells MW-9 and MW-10. Please propose a scope of work to address the above-mentioned concerns and submit a work plan due by the date specified below. The need for additional boring locations to evaluate the potential for groundwater contaminant migration along preferential pathways (i.e. contaminant flow through permeable zones on and off-site) may be required based on current groundwater contaminant data collected in the immediate vicinity of boring H-2.

2. **Extended Site Figures** - Please note that the figures included in submittals provided to date are insufficient to adequately depict the extent of your contaminant plume in relation to adjacent and neighboring properties. Please prepare extended site maps, which utilize aerial photographs as base maps for your site, and accurately depict neighboring structures and site features in relation to the groundwater contaminant plume in all future reports.

NOTIFICATION OF FIELDWORK ACTIVITIES

Please schedule and complete the fieldwork activities by the date specified below and provide ACEH with at least three (3) business days notification prior to conducting the fieldwork, including routine groundwater sampling.

TECHNICAL REPORT REQUEST

Please submit technical reports to ACEH (Attention: Paresh Khatri), according to the following schedule:

- **July 30, 2009** – Remediation Summary Report (2nd Quarter 2009)
- **August 31, 2009** – Soil and Water Investigation Work Plan
- **October 30, 2009** – Semi-annual Monitoring & Remediation Summary Report (3rd Quarter 2009)
- **January 30, 2010** – Remediation Summary Report (4th Quarter 2009)
- **April 30, 2010** – Semi-annual Monitoring & Remediation Summary Report (1st Quarter 2010)

These reports are being requested pursuant to California Health and Safety Code Section 25296.10. 23 CCR Sections 2652 through 2654, and 2721 through 2728 outline the responsibilities of a responsible party in response to an unauthorized release from a petroleum UST system, and require your compliance with this request.

ELECTRONIC SUBMITTAL OF REPORTS

ACEH's Environmental Cleanup Oversight Programs (LOP and SLIC) require submission of reports in electronic form. The electronic copy replaces paper copies and is expected to be used for all public information requests, regulatory review, and compliance/enforcement activities. Instructions for submission of electronic documents to the Alameda County Environmental Cleanup Oversight Program FTP site are provided on the attached "Electronic Report Upload Instructions." Submission of reports to the Alameda County FTP site is an addition to existing requirements for electronic submittal of information to the State Water Resources Control Board (SWRCB) GeoTracker website. In September 2004, the SWRCB adopted regulations that require electronic submittal of information for all groundwater cleanup programs. For several years, responsible parties for cleanup of leaks from underground storage tanks (USTs) have been required to submit groundwater analytical data, surveyed locations of monitoring wells, and other data to the GeoTracker database over the Internet. Beginning July 1, 2005, these same reporting requirements were added to Spills, Leaks, Investigations, and Cleanup (SLIC) sites. Beginning July 1, 2005, electronic submittal of a complete copy of all reports for all sites is required in GeoTracker (in PDF format). Please visit the SWRCB website for more information on these requirements (http://www.swrcb.ca.gov/ust/electronic_submittal/report_rqmts.shtml.

PERJURY STATEMENT

All work plans, technical reports, or technical documents submitted to ACEH must be accompanied by a cover letter from the responsible party that states, at a minimum, the following: "I declare, under penalty of perjury, that the information and/or recommendations contained in the attached document or report is true and correct to the best of my knowledge." This letter must be signed by an officer or legally authorized representative of your company. Please include a cover letter satisfying these requirements with all future reports and technical documents submitted for this fuel leak case.

PROFESSIONAL CERTIFICATION & CONCLUSIONS/RECOMMENDATIONS

The California Business and Professions Code (Sections 6735, 6835, and 7835.1) requires that work plans and technical or implementation reports containing geologic or engineering evaluations and/or judgments be performed under the direction of an appropriately registered or certified professional. For your submittal to be considered a valid technical report, you are to present site specific data, data interpretations, and recommendations prepared by an appropriately licensed professional and include the professional registration stamp, signature, and statement of professional certification. Please ensure all that all technical reports submitted for this fuel leak case meet this requirement.

UNDERGROUND STORAGE TANK CLEANUP FUND

Please note that delays in investigation, later reports, or enforcement actions may result in your becoming ineligible to receive grant money from the state's Underground Storage Tank Cleanup Fund (Senate Bill 2004) to reimburse you for the cost of cleanup.

AGENCY OVERSIGHT

If it appears as though significant delays are occurring or reports are not submitted as requested, we will consider referring your case to the Regional Board or other appropriate agency, including the County District Attorney, for possible enforcement actions. California Health and Safety Code, Section 25299.76 authorizes enforcement including administrative action or monetary penalties of up to $10,000 per day for each day of violation.

If you have any questions, please call me at (510) 777-2478 or send me an electronic mail message at paresh.khatri@acgov.org.

Sincerely,

Paresh C. Khatri
Hazardous Materials Specialist

Enclosure: ACEH Electronic Report Upload (ftp) Instructions

cc: Tom Venus, Broadbent & Associates, 1324 Mangrove Avenue, Suite 212, Chico, CA 95926 (*Sent via E-mail to: tvenus@broadbentinc.com*)
Donna Drogos, ACEH (*Sent via E-mail to: donna.drogos@acgov.org*)
Paresh Khatri, ACEH (*Sent via E-mail to: paresh.khatri@acgov.org*)
GeoTracker
File

APPENDIX A

Recent Regulatory Correspondence

ARCO Station 2111
Initial Subsurface Investigation
7940.03

April 13, 1994

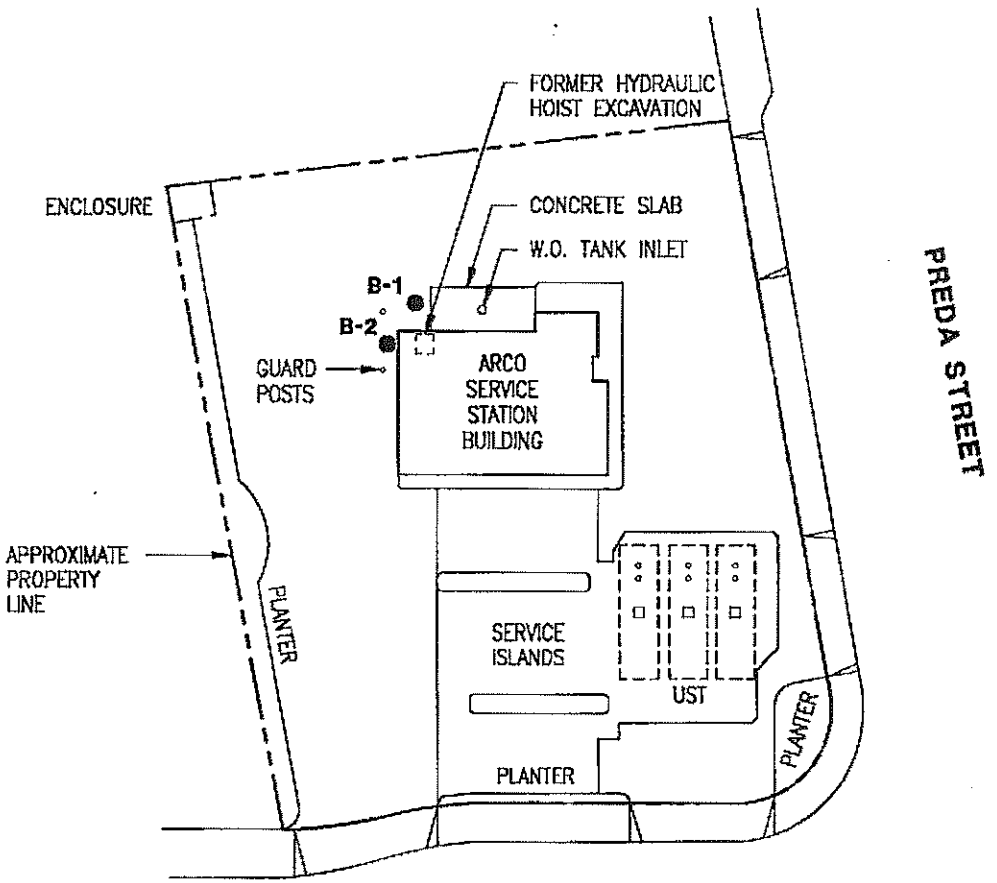
TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
FORMER HYDRAULIC HOIST EXCAVATION PIT
ARCO Station 2111
San Leandro, California

Sample ID	TEPH as Hydraulic Oil
August 30, 1993	
S-7-HL	27,000
S-7 ½-HL	22,000
S-8-HL	11,000
S-9-HL	9,200

All results shown in parts per million (ppm).
TEPH: Total extractable petroleum hydrocarbons as hydraulic oil by EPA methods 3550/8015.

Sample Identification:

S-7-HL
- S-7: Soil Sample and Depth in Feet
- HL: Hydraulic Lift



EXPLANATION

● Soil boring

N

0 40

Scale in Feet

Base Map: ARCO Petroleum Products Company conversion to MP & G tune-up dwg. dated 6/6/85 sht. 1 of 1

GeoStrategies Inc.

SITE PLAN
ARCO Service Station #2111
1156 Davis Street
San Leandro, California

PLATE 2

JOB NUMBER	REVIEWED BY	DATE	REVISED DATE
7940		3/94	

ARCO Station 2111
Initial Subsurface Investigation
7940.03

April 13, 1994

TABLE 2
RESULTS OF LABORATORY ANALYSES
OF SOIL SAMPLES - Fuel Fingerprint as Hydraulic Oil
ARCO Station 2111
San Leandro, California

Sample ID	Fuel Fingerprint as Hydraulic Oil	TPH-G	BTEX	TCLP BTEX	TCLP TPH-G	STLC Lead	RCI
March 4, 1994							
B1-4.5	3.0*	NA	NA	NA	NA	NA	NA
B1-10	<1.0	NA	NA	NA	NA	NA	NA
B1-15	<1.0	NA	NA	NA	NA	NA	NA
B1-20	1.7**	NA	NA	NA	NA	NA	NA
B2-5	1.7	NA	NA	NA	NA	NA	NA
B2-10	<1.0	NA	NA	NA	NA	NA	NA
B2-15	2.0***	NA	NA	NA	NA	NA	NA
B2-20	11****	NA	NA	NA	NA	NA	NA
CSS-1A-1D	NA	<0.0050	<1.0	<50	<0.5	0.18	NH

All results shown in parts per million (ppm), except TCLP TPH-G and BTEX are shown in parts per billion (ppb). Fuel fingerprint as hydraulic oil was performed using EPA Methods 3550/8015.

TPH-G = Total petroleum hydrocarbons as gasoline using EPA modified Method 8015.
BTEX = Benzene, toluene, ethylbenzene, and total xylenes using EPA Method 8020.
TCLP = Toxicity Characteristic Leaching Procedure
STLC = Soluble Threshold Limit Concentration
RCI = Reactivity, ignitability, and corrosivity

NH = Non hazardous. Composited Sample indicated non-reactivity with sulfide, cyanide, and water, a pH of 7.0 and ignitability of greater than 100 degrees centigrade.

* = Unidentified hydrocarbons greater than C9.
** = Unidentified hydrocarbons greater ranging from C11 to C15.
*** = Discrete peaks - unidentified.
**** = Unidentified hydrocarbons ranging from C11 to C24.

Sample Identification:

B2-10
- 10 — Sample Depth in Feet
- B2 — Soil Boring

CSS 1A-1D
- 1A-1D — Sample Numbers
- CSS — Composite Soil Sample

Table 1

Well Details
ARCO Service Station 2111

Well ID	Installation Date	Total Depth of Well (feet)	Casing Diameter (inches)	Screened Interval (feet)
MW-1	7/12/95	27.0	4.0	12.5 - 26.2
MW-2	7/12/95	27.0	4.0	12.0 - 26.2
MW-3	7/13/95	27.0	4.0	11.9 - 26.2
MW-4	7/13/95	25.0	4.0	10.0 - 24.0
MW-5	3/1/96	25.0	2.0	9.4 - 23.4
MW-6	3/1/96	25.0	2.0	10.0 - 25.0
MW-7	2/29/96	27.0	4.0	12.0 - 27.0
V-1	2/29/96	20.0	4.0	5.0 - 20.0
V-2	2/29/96	20.0	4.0	5.0 - 20.0
V-3	2/28/96	20.0	4.0	5.0 - 20.0
V-4	2/28/96	20.0	4.0	6.5 - 19.5

Table 2
Historical Groundwater Elevation and Analytical Data
Petroleum Hydrocarbons and Their Constituents

ARCO Service Station 2111
1156 Davis Street, San Leandro, California

Date: 09-17-96

Well Designation	Water Level Field Date	Top of Casing Elevation	Depth to Water	Groundwater Elevation	Floating Product Thickness	Groundwater Flow Direction	Hydraulic Gradient	Water Sample Field Date	TPHG LUFT Method	Benzene EPA 8020	Toluene EPA 8020	Ethylbenzene EPA 8020	Total Xylenes EPA 8020	MTBE EPA 8020	TRPH EPA 418.1	TPHD LUFT Method
		ft-MSL	feet	ft-MSL	feet	MWN	ft/ft		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
MW-1	08-01-95	39.60	17.45	22.15	ND	NR	NR	08-01-95	<50	<0.5	<0.5	<0.5	<0.5	--	--	--
MW-1	12-14-95	39.60	17.09	22.51	ND	W	0.002	12-14-95	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--
MW-1	03-21-96	39.60	14.72	24.88	ND	WSW	0.005	03-21-96	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--
MW-1	05-24-96	39.60	15.94	23.66	ND	W	0.003	05-24-96	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--
MW-1	08-09-96	39.60	17.89	21.71	ND	WNW	0.01	08-09-96	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--
MW-2	08-01-95	37.99	15.67	22.32	ND	NR	NR	08-01-95	23000	1300	310	500	3500	--	--	--
MW-2	12-14-95	37.99	15.36	22.63	ND	W	0.002	12-14-95	7300	900	25	180	1000	<200*	--	--
MW-2	03-21-96	37.99	12.84	25.15	ND	WSW	0.005	03-21-96	9600	850	30	280	1400	250	--	--
MW-2	05-24-96	37.99	14.03	23.96	ND	W	0.003	05-24-96	2300	300	<5*	73	310	<25*	--	--
MW-2	08-09-96	37.99	16.10	21.89	ND	WNW	0.01	08-09-96	2800	290	6	75	320	50	--	--
MW-3	08-01-95	39.32	17.00	22.32	ND	NR	NR	08-01-95	<50	<0.5	<0.5	<0.5	<0.5	--	600	76^
MW-3	12-14-95	39.32	16.70	22.62	ND	W	0.002	12-14-95	<50	<0.5	<0.5	<0.5	<0.5	<3	<500	<50
MW-3	03-21-96	39.32	14.17	25.15	ND	WSW	0.005	03-21-96	<50	<0.5	<0.5	<0.5	<0.5	<3	<500	<50
MW-3	05-24-96	39.32	15.30	24.02	ND	W	0.003	05-24-96	<50	<0.5	<0.5	<0.5	<0.5	<3	<500	<50
MW-3	08-09-96	39.32	17.58	21.74	ND	WNW	0.01	08-09-96	<50	<0.5	<0.5	<0.5	<0.5	<3	<0.5	--
MW-4	08-01-95	38.10	15.65	22.45	ND	NR	NR	08-01-95	<50	<0.5	<0.5	<0.5	<0.5	--	--	--
MW-4	12-14-95	38.10	15.35	22.75	ND	W	0.002	12-14-95	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--
MW-4	03-21-96	38.10	12.74	25.36	ND	WSW	0.005	03-21-96	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--
MW-4	05-24-96	38.10	14.03	24.07	ND	W	0.003	05-24-96	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--
MW-4	08-09-96	38.10	16.10	22.00	ND	WNW	0.01	08-09-96	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--
MW-5	03-21-96	37.21	12.60	24.61	ND	WSW	0.005	03-22-96	<50	<0.5	<0.5	<0.5	<0.5	82	--	--
MW-5	05-24-96	37.21	13.71	23.50	ND	W	0.003	05-24-96	<50	<0.5	<0.5	<0.5	<0.5	7	--	--
MW-5	08-09-96	37.21	15.60	21.61	ND	WNW	0.01	08-09-96	<50	<0.5	<0.5	<0.5	<0.5	8	--	--

Table 2
Historical Groundwater Elevation and Analytical Data
Petroleum Hydrocarbons and Their Constituents

ARCO Service Station 2111
1156 Davis Street, San Leandro, California

Date: 09-17-96

Well Designation	Water Level Field Date	Top of Casing Elevation	Depth to Water	Groundwater Elevation	Floating Product Thickness	Groundwater Flow Direction	Hydraulic Gradient	Water Sample Field Date	TPHG LUFT Method	Benzene EPA 8020	Toluene EPA 8020	Ethylbenzene EPA 8020	Total Xylenes EPA 8020	MTBE EPA 8020	TRPH EPA 418.1	TPHD LUFT Method
		ft-MSL	feet	ft-MSL	feet	MWN	ft/ft		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
MW-6	03-21-96	37.11	11.55	25.56	ND	WSW	0.005	03-22-96	<50	<0.5	1.9	<0.5	<0.5	<3	--	--
MW-6	05-24-96	37.11	12.80	24.31	ND	W	0.003	05-24-96	<50	<0.5	<0.5	<0.5	<0.5	6	--	--
MW-6	08-09-96	37.11	Not surveyed: Car parked on well					08-09-96	Not sampled: Car parked on well							
MW-7	03-21-96	38.68	13.32	25.36	ND	WSW	0.005	03-22-96	32000	870	450	970	4900	280	--	--
MW-7	05-24-96	38.68	14.58	24.10	ND	W	0.003	05-24-96	22000	570	40	42	1900	<200*	--	--
MW-7	08-09-96	38.68	15.33	23.35	ND	WNW	0.01	08-09-96	14000	390	<10*	180	470	<200*	--	--

ft-MSL: elevation in feet, relative to mean sea level
MWN: ground-water flow direction and gradient apply to the entire monitoring well network
ft/ft: foot per foot
TPHG: total petroleum hydrocarbons as gasoline, California DHS LUFT Method
µg/L: micrograms per liter
EPA: United States Environmental Protection Agency
MTBE: Methyl-tert-butyl ether
TRPH: total recoverable petroleum hydrocarbons
TPHD: total petroleum hydrocarbons as diesel, California DHS LUFT Method
NR: not reported; data not available or not measurable
ND: none detected
W: west
WSW: west-southwest
NW: northwest
^: chromatogram fingerprint is not characteristic of diesel
*: method reporting limit was raised due to: (1) high analyte concentration requiring sample dilution, or (2) matrix interference
- -: not available

Table 3

Soil Analytical Data
ARCO Service Station 2111

Sample Identification	Date Sampled	Depth (feet)	TPHG[2]	Benzene	Toluene	Ethylbenzene	Xylenes	TRPH	TPHD
MW-1	7/12/95	6.5	ND	ND	ND	ND	ND	NA	NA
MW-1	7/12/95	11.5	ND	ND	ND	ND	ND	NA	NA
MW-1	7/12/95	16.5	ND	ND	ND	ND	ND	NA	NA
MW-1	7/12/95	21.5	ND	ND	ND	ND	ND	NA	NA
MW-1	7/12/95	26	ND	ND	ND	ND	ND	NA	NA
MW-2	7/12/95	6.5	ND	ND	ND	ND	ND	NA	NA
MW-2	7/12/95	11.5	ND	ND	ND	ND	ND	NA	NA
MW-2	7/12/95	16.5	2	0.045	ND	0.027	0.04	NA	NA
MW-2	7/12/95	19	29	0.26	ND	0.3	1.5	NA	NA
MW-2	7/12/95	21	320	<0.5**	<1**	3.4	1.4	NA	NA
MW-3	7/13/95	6.5	ND	ND	ND	ND	ND	10	ND
MW-3	7/13/95	11	ND	ND	ND	ND	ND	ND	ND
MW-3	7/13/95	14	ND	ND	ND	ND	ND	ND	ND
MW-3	7/13/95	17	ND	ND	ND	ND	ND	ND	ND
MW-3	7/13/95	19.5	ND	ND	ND	ND	ND	ND	ND
MW-3	7/13/95	22.5	ND	ND	ND	ND	ND	ND	ND
MW-3	7/13/95	27.5	ND	ND	ND	ND	ND	ND	ND
MW-3	7/13/95	36	ND	ND	ND	ND	ND	ND	ND
MW-3	7/13/95	40	ND	ND	ND	ND	ND	ND	ND
MW-4	7/13/95	6.5	ND	ND	ND	ND	ND	NA	NA
MW-4	7/13/95	11.5	ND	ND	ND	ND	ND	NA	NA
MW-4	7/13/95	16.5	ND	ND	ND	ND	ND	NA	NA
MW-4	7/13/95	21.5	ND	ND	ND	ND	ND	NA	NA
MW-5	3/1/96	5	ND	ND	ND	ND	ND	NA	NA
MW-5	3/1/96	10	ND	ND	ND	ND	ND	NA	NA
MW-5	3/1/96	15	ND	ND	ND	ND	ND	NA	NA
MW-5	3/1/96	30	ND	ND	ND	ND	ND	NA	NA
MW-6	3/1/96	5	ND	ND	ND	ND	ND	NA	NA
MW-6	3/1/96	10	ND	ND	ND	ND	ND	NA	NA
MW-6	3/1/96	15	ND	ND	ND	ND	ND	NA	NA
MW-6	3/1/96	27	ND	ND	ND	ND	ND	NA	NA

Table 3

Soil Analytical Data
ARCO Service Station 2111

(continued)

Sample Identification	Date Sampled	Depth (feet)	TPHG[2]	Benzene	Toluene	Ethylbenzene	Xylenes	TRPH	TPHD
MW-7	2/29/96	5.5	ND	ND	ND	ND	ND	NA	NA
MW-7	2/29/96	10	ND	0.01	ND	ND	ND	NA	NA
MW-7	2/29/96	15	1	0.11	ND	0.080	0.90	NA	NA
MW-7	2/29/96	21	55	<0.1*	<0.2*	0.80	1.5	NA	NA
MW-7	2/29/96	33	ND	ND	ND	ND	0.006	NA	NA
VW-1	2/29/96	5.5	ND	ND	ND	ND	ND	NA	NA
VW-1	2/29/96	10.5	ND	ND	ND	ND	ND	NA	NA
VW-1	2/29/96	13	1	0.020	ND	ND	ND	NA	NA
VW-1	2/29/96	19.5	40	0.10	ND	0.50	0.80	NA	NA
VW-2	2/29/96	5.5	ND	ND	ND	ND	ND	NA	NA
VW-2	2/29/96	10.5	ND	ND	ND	ND	ND	NA	NA
VW-2	2/29/96	13	4	0.20	<0.025*	0.080	0.080	NA	NA
VW-2	2/29/96	15.5	18	0.30	<0.05*	0.30	0.40	NA	NA
VW-2	2/29/96	19.5	230	<0.5*	<1*	<1*	2	NA	NA
VW-3	2/28/96	5	ND	ND	ND	ND	ND	NA	NA
VW-3	2/28/96	10	ND	0.020	ND	ND	0.005	NA	NA
VW-3	2/28/96	15	ND	ND	ND	ND	ND	NA	NA
VW-3	2/28/96	19.5	76	<0.1*	<0.2*	0.4	0.8	NA	NA
VW-4	2/28/96	5	ND	ND	ND	ND	ND	NA	NA
VW-4	2/28/96	10.5	12	<0.05*	<0.1*	<0.1*	<0.1*	NA	NA
VW-4	2/28/96	15	1,100	<1*	<2	<2*	3	NA	NA
VW-4	2/28/96	19.5	420	<0.5*	<1*	<1*	3	NA	NA

[1] mg/kg = milligrams per kilogram
[2] TPHG = total petroleum hydrocarbons as gasoline
[3] TRPH = total recoverable petroleum hydrocarbons
[4] TPHD = total petroleum hydrocarbons as diesel
[5] NA = not analyzed
< indicates laboratory minimum reporting limit
* raised MRL due to high analyte concentration requiring sample dilution

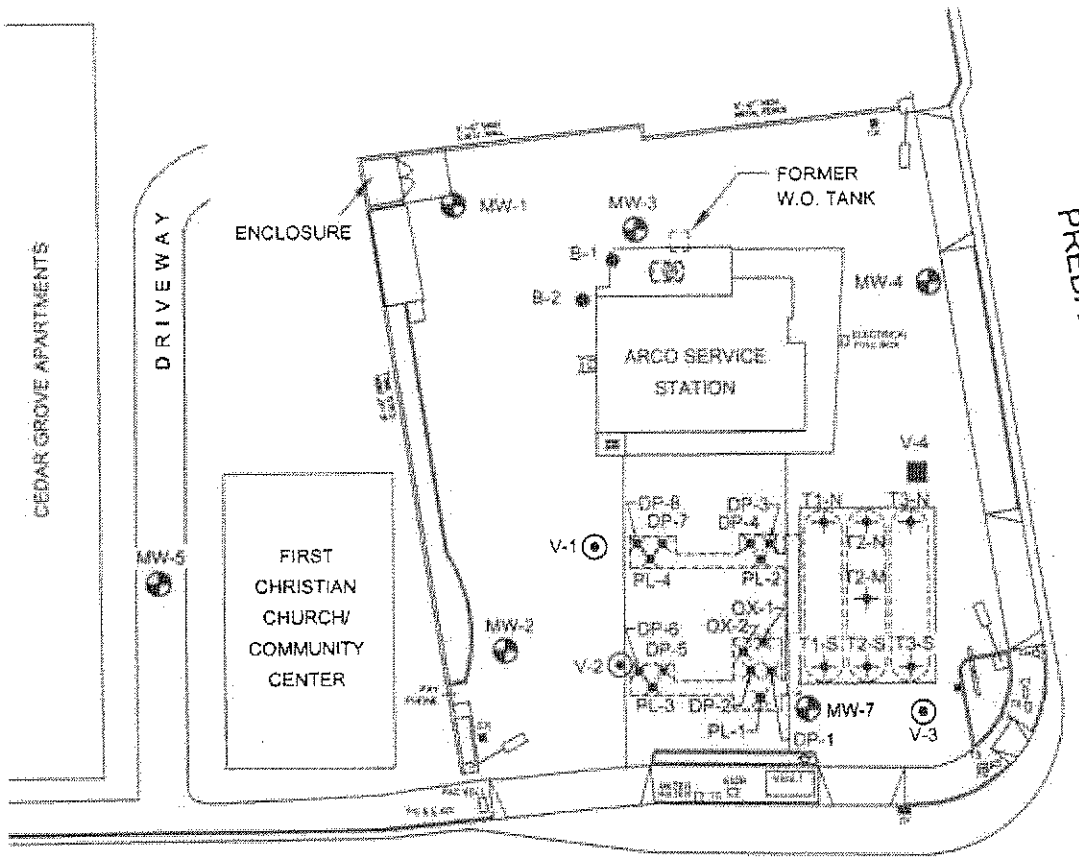
TABLE 1

ANALYTICAL RESULTS OF SOIL SAMPLES
COLLECTED FROM BENEATH THE FORMER WASTE-OIL TANK
AT ARCO STATION 2111
1156 Davis Street
San Leandro, California

Sample ID	Date	Depth feet	TPHmo (ppm)	TPHd (ppm)	TPHg (ppm)	TRPH (ppm)	VOCs (ppm)	PCBs/BNAs (ppm)	Cadmium (ppm)	Chromium (ppm)	Nickel (ppm)	Lead (ppm)	Zinc (ppm)
WO-E	8/15/94	10	<10	<1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
WO-W	8/15/94	10.5	<10	<1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
WO-N	8/15/94	14	12	2.8	NA	NA	NA	NA	NA	NA	NA	NA	NA
WO-S	8/15/94	12.5	<10	<1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
WO-1	8/15/94	9.5	NA	780	310	7,900	<2.5 <0.5	<5.0	0.79	38	34	56	50
WO-B	8/15/94	14.5	800	660	NA	NA	NA	NA	NA	NA	NA	NA	NA
WO-B2	8/16/94	18.5	2,000	400	130	2,600	<2.5	<5.0	0.90	46	8.6	55	53
CCS-1A-1D	9/14/94	---	840	NA	5.7	960	<0.5	<0.5	<0.01	0.13	0.81	0.27	4.4
CCS-2A-2D	9/14/94	---	1,400	NA	6.1	2,300	<0.5	<0.5	0.011	0.11	0.96	1.4	0.63

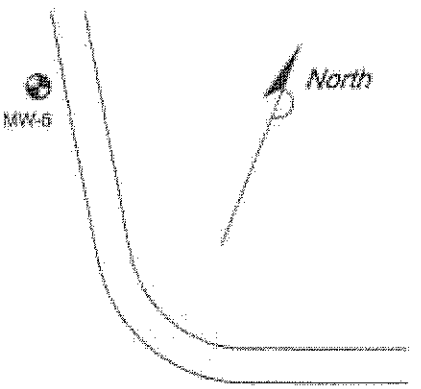
TPHmo = Total petroleum hydrocarbons reported as motor oil by Standard Method (SM) 5520E&F.
TPHd = Total petroleum hydrocarbons reported as diesel by Environmental Protection Agency (EPA) Methods 5030/8015 (modified).
TPHg = Total petroleum hydrocarbons reported as gasoline by EPA Methods 5030/8015 (modified).
TRPH = Total recoverable petroleum hydrocarbons by SM 5520E&F.
VOCs = Volatile organic compounds by EPA Method 8240.
PCBs/BNAs = Polychlorinated biphenals and base/acid neutrals by EPA Method 8270.
ppm = Parts per million.
Metals were analyzed using EPA Methods 6010/7010 series.

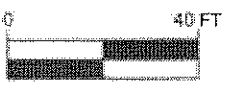
Notes: 1.All data listed as <x indicates a not detected concentration.



DISPENSER PUMP & PRODUCT LINES

SAMPLE I.D.	SAMPLE DEPTH
DP-1	5.0 FEET
DP-2	6.0 FEET
DP-3	4.0 FEET
DP-4	4.5 FEET
DP-5	4.0 FEET
DP-6	4.0 FEET
DP-7	5.0 FEET
DP-8	5.0 FEET
PL-1	4.0 FEET
PL-2	6.0 FEET
PL-3	5.0 FEET
PL-4	5.0 FEET
OX-1	10.0 FEET
OX-2	9.5 FEET





LEGEND:

MW-1	MONITORING WELL LOCATION
V-1	VAPOR EXTRACTION WELL LOCATION
B-1	SOIL BORING LOCATION
V-4	DESTROYED WELL LOCATION
T-1N	TANK BASIN SOIL SAMPLE LOCATIONS
PL-1	FORMER PRODUCT LINE/ DISPENSER PUMP SOIL SAMPLE LOCATIONS

FORMER TANK BASIN

SAMPLE I.D.	SAMPLE DEPTH
T1-N	17 FEET
T2-N	17 FEET
T3-N	16 FEET
T2-M	16 FEET
T1-S	16 FEET
T2-S	16 FEET
T3-S	16 FEET

FIGURE 3
SOIL SAMPLE LOCATION MAP

ARCO SERVICE STATION NO. 2111
1156 DAVIS STREET
SAN LEANDRO, CALIFORNIA

PROJECT NO 0900-306	DRAWN BY TLA 11/03/00
FILE NO	PREPARED BY TLA
REVISION NO 1	REVIEWED BY

Delta Environmental Consultants, Inc.

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TABLE 1

SOIL SAMPLE LABORATORY ANALYTICAL RESULTS

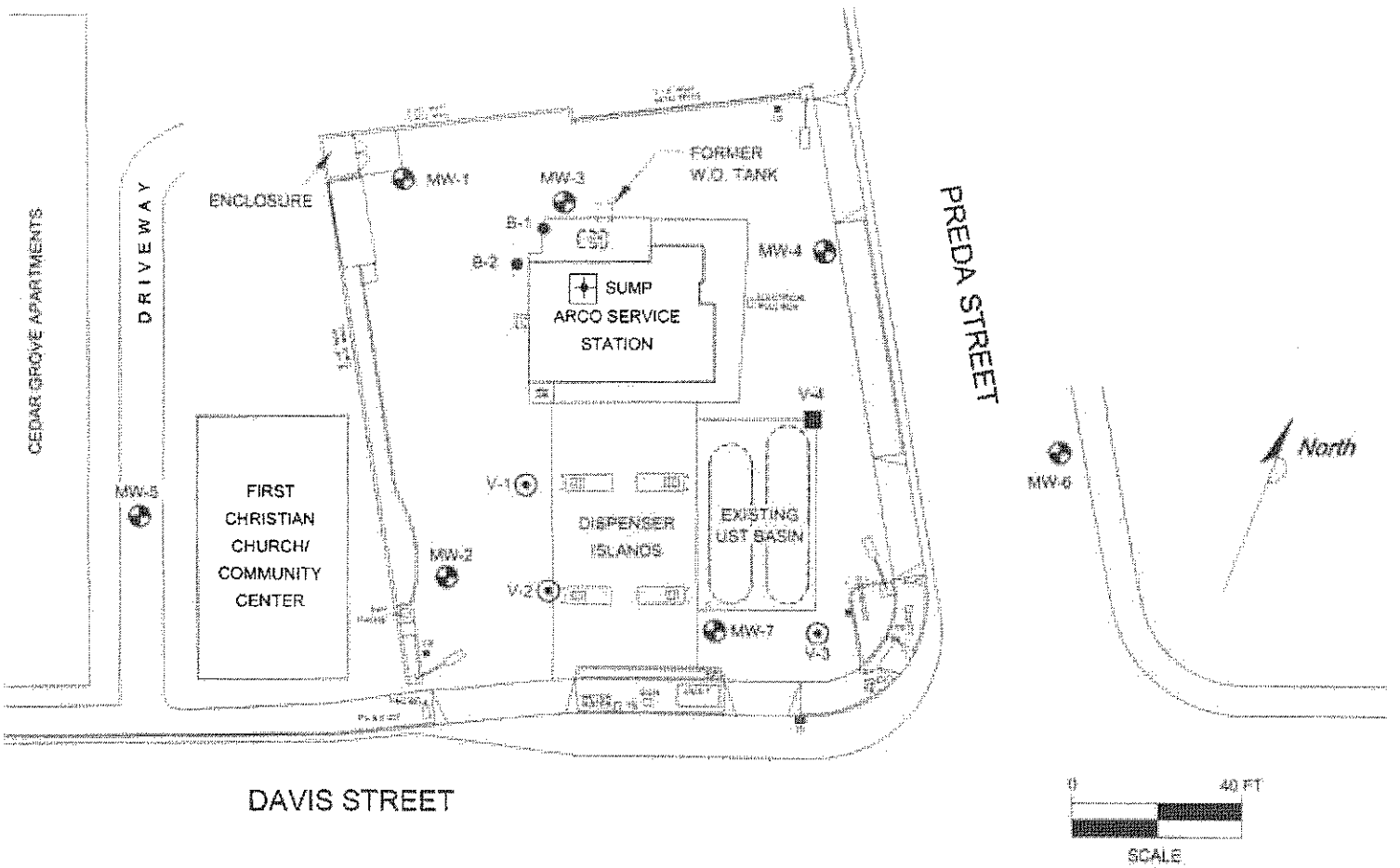
ARCO Service Station No. 2111
1156 Davis Street
San Leandro California

Sample ID	Date	Depth (ft)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Total Xylenes (mg/kg)	TPH as Gasoline (mg/kg)	MTBE (mg/kg)	Lead (mg/kg)
Dispenser Island Samples									
DP-1	10/17/00	5.0	2	20	30	170	2,100	13	15
DP-2	10/17/00	8.0	0.77	0.84	7.4	32	440	4.4	13
DP-3	10/17/00	4.0	0.014	0.12	0.26	1.9	31	2.2	15
DP-4	10/17/00	4.5	0.0056	0.059	0.1	0.68	9.4	0.9	12
DP-5	10/17/00	4.0	0.0061	<0.005	<0.005	<0.005	<1.0	1.5	14
DP-6	10/17/00	4.0	<0.005	<0.005	<0.005	<0.005	<1.0	0.2	25
DP-7	10/17/00	5.0	<0.005	<0.005	<0.005	<0.005	2.2	2.4	13
DP-8	10/17/00	5.0	<0.005	<0.005	<0.005	0.092	<1.0	0.35	13
Product Line Samples									
PL-1	10/17/00	4.0	0.16	<0.05	2.1	3.6	430	0.36	14
PL-2	10/17/00	6.0	<0.005	0.02	0.0077	0.6	14	4.7	12
PL-3	10/17/00	5.0	<0.005	<0.005	<0.005	<0.005	<1.0	0.17	12
PL-4	10/17/00	5.0	<0.005	<0.005	<0.005	0.043	1.3	0.86	11
Tank Basin Samples									
T1-S	10/19/00	17.0	0.21	2.1	1.6	8.5	110	33	8.9
T1-N	10/19/00	16.0	4.7	79	30	170	1,900	89	10
T2-S	10/19/00	16.0	1.1	26	14	77	1,100	18	8.1
T2-M	10/19/00	16.0	1.9	38	11	59	800	59	8.3
T2-N	10/19/00	17.0	7.7	190	58	300	4,400	76	13
T3-S	10/19/00	16.0	1.3	8.4	29	120	340	6.5	12
T3-N	10/19/00	16.0	5.0	76	28	140	1,800	83	12
Soil Overexcavation Samples									
OX-1	10/26/00	10.0	0.4	<0.005	<0.005	0.0091	2.7	1.5	9.7
OX-2	10/26/00	9.5	0.18	0.81	0.42	2.6	19	7.7	11
Soil Stockpile Results									
STK-1	10/19/00	Composite	0.019	0.017	0.052	0.27	8	NA	11
STK-2	10/26/00	Composite	0.054	0.48	0.64	3.8	86	0.91	9.6

TPH = Total petroleum hydrocarbons.

MTBE = Methyl tertiary butyl ether (analyzed by EPA Method 8260)

NA = Not Analyzed



LEGEND:

MW-1	MONITORING WELL LOCATION
V-1	VAPOR EXTRACTION WELL LOCATION
B-1	SOIL BORING LOCATION
V-4	DESTROYED WELL LOCATION
SUMP	SUMP SAMPLE LOCATION

FIGURE 2
SITE MAP

ARCO SERVICE STATION NO. 2111
1156 DAVIS STREET
SAN LEANDRO, CALIFORNIA

PROJECT NO. 2009-308	DRAWN BY TLA 8/20/01
FILE NO. 2111-1	PREPARED BY TLA
REVISION NO. 2	REVIEWED BY

Delta Environmental Consultants, Inc.

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TABLE 1

SOIL CHEMICAL ANALYTICAL DATA

ARCO Service Station No. 2111
1156 Davis Street
San Leandro, California

Sample ID	Date Collected	Depth (feet)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Total Xylenes (mg/kg)	TPHg (mg/kg)	TPHd (mg/kg)	MTBE (mg/kg)	PCB (mg/kg)	TRPH (mg/kg)	VOC [1] (mg/kg)	VOC [2] (mg/kg)	SVOC (mg/kg)	Total Metals (mg/kg)
Sump	5/5/2001	2	<0.025	<0.025	0.0616	0.209	305	465	<0.25	ND	543	ND	0.637[a], 1.11[b], 4.47[c], 0.575[d], 9.81[e], 3.30[f], 0.219[g]	0.51[i], 0.61[c]	38[h], 52[c], 9.7, 60[h]

Explanation:

BTEX = benzene, toluene, ethylbenzene, and total xylenes
TPHg = total petroleum hydrocarbons as gasoline
TPHd = total petroleum hydrocarbons as diesel
MTBE = methyl tertiary butyl ether
PCB = polychlorinated biphenyls
TRPH = total recoverable petroleum hydrocarbons (oil & grease)
VOC = volatile organic compounds
VOC[1]
VOC[2]
SVOC = semi-volatile organic compounds
Total Metals

Analytical Methods

DHS LUFT
DHS LUFT
DHS LUFT
DHS LUFT
EPA Method 8082
APHA/EPA Methods

EPA Method 8010
EPA Method 8260A
EPA Method 8270C
EPA 6000/7000 Series Methods

[a] = sec-butylbenzene, [b] = p-isopropyltoluene, [c] = naphthalene,
[d] = n-propylbenzene, [e] = 1,2,4-trimethylbenzene,
[f] = 1,3,5-trimethylbenzene, [g] = m,p-xylene
[h] = chromium, nickel, lead, zinc
[i] = 2-methylnaphthalene
ND = Non detect (see laboratory reports for specific detection levels)

TABLE 1

PILOT TEST AIR ANALYTICAL DATA

ARCO Service Station No. 2111
1156 Davis Street
San Leandro, California

Sample I.D.	Date Sampled	Time	Benzene (ppmv)	Toluene (ppmv)	Ethyl-benzene (ppmv)	Total Xylenes (ppmv)	TPHg (ppmv)	MTBE (8020) (ppmv)	MTBE (8260) (ppmv)
VW-2 (V-2)	01/07/02	10:45	4.1	0.82	1.8	4.5	55[a]	84	84
1-7-02 (V-2)	01/07/02	16:00	2.1	0.34	0.68	1.5	25	NA	64
1-8-02 (V-2)	01/08/02	8:00	2.9	1.0	1.3	2.2	97	NA	209
1-9-02 (V-2)	01/09/02	8:00	5.5	2.3	2.1	3.8	210	NA	179
1-10-02 (V-2)	01/10/02	8:00	3.9	1.3	1.9	4.2	190	53	95
1-11-02 (MW-7)	01/11/02	9:00	2.0	2.3	0.85	2.3	80	72	128

[a] = Hydrocarbon pattern is present in the requested fuel quantitation but does not resemble the pattern of the requested fuel.

TPH = Total Petroleum Hydrocarbons

MTBE = Methyl tertiary butyl ether analyzed by EPA Method 8021B unless otherwise noted

µg/L = Micrograms per liter

NA = Not analyzed

TABLE 2

PILOT TEST WATER ANALYTICAL DATA

ARCO Service Station No. 2111
1156 Davis Street
San Leandro, California

Sample I.D.	Date Sampled	Time	Benzene (µg/L)	Toluene (µg/L	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	TPH (µg/L)	MTBE (8020) (µg/L)	MTBE (8260) (µg/L)
VW-2 (V-2)	01/07/02	10:50	860	<500	<500	1,400	<50,000	160,000	180,000
1-7-02 (V-2)	01/07/02	16:00	240	51	93	280	18,000[a]	NA	98,000
1-8-02 (V-2)	01/08/02	8:00	42	11	<0.5	53	1,800	NA	16,000
1-9-02 (V-2)	01/09/02	8:00	46	45	81	360	6,600	NA	8,100
1-10-02 (V-2)	01/10/02	8:00	28	<20	25	71	<2,000	6,300	5,600
1-11-02 (MW-7)	01/11/02	9:00	<20	23	<20	52	<2,000	6,800	5,800

[a] = Hydrocarbon pattern is present in the requested fuel quantitation but does not resemble the pattern of the requested fuel.

TPH = Total Petroleum Hydrocarbons

MTBE = Methyl tertiary butyl ether analyzed by EPA Method 8021B unless otherwise noted

µg/L = Micrograms per liter

NA = Not analyzed

TABLE 3

DUAL PHASE EXTRACTION PILOT TEST VAPOR RESULTS TABLE

ARCO Service Station No. 2111
1156 Davis Street
San Leandro, California

V-2 PILOT TEST VAPOR EXTRACTION RESULTS - 2002

Date & Time Sampled	Influent Flowrate (ft^3/min)	Laboratory TPHg Influent (ppmv)	Influent Non-methane Hydrocarbons by FID (ppmv)	Laboratory Benzene Influent (ppmv)	TPH Extraction Rate (lbs/hour)	Non- Methane Hydrocarbons by FID (lbs/hour)	Benzene Extraction Rate (lbs/hour)	Cumulative Volume of Processed Air (cubic feet)	**Cumulative Laboratory TPHg Extraction (lbs)**	**Cumulative FID Non-Methane Hydrocarbon Extraction (lbs)**	Total Hours Operated	Change in Hours of Operation
1/7/02 9:00	236	NA	260	NA	NC	0.82	NC	0	**NC**	**0.0**	0.00	0.00
1/7/02 9:30	236	NA	260	NA	NC	0.94	NC	7,080	**NC**	**0.4**	0.50	0.50
1/7/02 9:45	226	NA	262	NA	NC	0.91	NC	10,470	**NC**	**0.7**	0.75	0.25
1/7/02 10:00	226	NA	216	NA	NC	0.75	NC	13,860	**NC**	**0.9**	1.00	0.25
1/7/02 10:30	247	NA	112	NA	NC	0.42	NC	21,270	**NC**	**1.2**	1.50	0.50
1/7/02 10:45	247	55	112	4.1	0.18	0.37	0.34	24,975	**0.3**	**1.3**	1.75	0.25
1/7/02 12:00	238	NA	197	NA	NC	0.72	NC	42,825	**NC**	**2.0**	3.00	1.25
1/7/02 16:00	260	25	884	2.1	0.09	3.06	0.18	105,225	**1.0**	**9.5**	7.00	4.00
1/7/02 17:00	263	NA	808	NA	NC	3.26	NC	121,005	**NC**	**12.7**	8.00	1.00
1/7/02 18:00	261	NA	1,087	NA	NC	4.36	NC	136,665	**NC**	**16.5**	9.00	1.00
1/8/02 8:00	274	97	381	2.9	0.35	1.39	0.27	366,825	**4.5**	**56.7**	23.00	14.00
1/9/02 8:00	263	210	417	5.5	0.74	1.46	0.48	745,545	**17.6**	**91.0**	47.00	24.00
1/10/02 8:00	224	190	381	3.9	0.57	1.14	0.29	1,068,105	**33.3**	**122.1**	71.00	24.00
1/10/02 15:45	261	190*	185	3.9*	0.66	0.64	0.34	1,189,470	**38.0**	**129.0**	78.75	7.75

TPHg = Total petroleum hydrocarbons as gasoline.
ppmv = Parts per million by volume.
* = assumed to be same as previous sample results
NC = Not Calculated
NA = Not Analyzed

Gallons of Vapor Equivalent Gasoline Removed: 6.2
Average Vapor Gallons Removed per Minute: 0.001

TABLE 3

DUAL PHASE EXTRACTION PILOT TEST VAPOR RESULTS TABLE

ARCO Service Station No. 2111
1156 Davis Street
San Leandro, California

MW-7 PILOT TEST VAPOR EXTRACTION RESULTS - 2002

Date & Time Sampled	Influent Flowrate (ft^3/min)	Laboratory TPHg Influent (ppmv)	Influent Non-methane Hydrocarbons by FID (ppmv)	Laboratory Benzene Influent (ppmv)	Laboratory TPHg Extraction Rate (lbs/hour)	Non- Methane Hydrocarbons by FID (lbs/hour)	Benzene Extraction Rate (lbs/hour)	Cumulative Volume of Processed Air (cubic feet)	**Cumulative Laboratory TPHg Extraction (lbs)**	**Cumulative FID Non-Methane Hydrocarbon Extraction (lbs)**	Total Hours Operated	Change in Hours of Operation
1/10/02 16:00	NM	NA	NM	NA	NC	NC	NC	0	**0.0**	**NC**	0.00	0.00
1/10/02 17:00	NM	NA	NM	NA	NC	NC	NC	15,000	**0.3**	**NC**	1.00	1.00
1/11/02 9:00	250	80	NM	2	0.31	NC	0.17	255,000	**5.2**	**NC**	17.00	16.00
1/11/02 10:00	NM	NA	NM	NA	NC	NC	NC	270,000	**5.5**	**NC**	18.00	1.00
1/11/02 11:00	NM	NA	NM	NA	NC	NC	NC	285,000	**5.8**	**NC**	19.00	1.00
1/11/02 12:00	NM	NA	NM	NA	NC	NC	NC	300,000	**6.1**	**NC**	20.00	1.00

TPHg = Total petroleum hydrocarbons as gasoline.
ppmv = Parts per million by volume.
Note : Laboratory results and flow rates are assumed to be consistant for entire event on MW-7. FID did not function properly during test on MW-7 therefore, no recordings were made.
NC = Not Calculated
NA = Not Analyzed

Gallons of Vapor Equivalent Gasoline Removed: **1.0**
Average Vapor Gallons Removed per Minute: **0.001**

TABLE 3

DUAL PHASE EXTRACTION PILOT TEST VAPOR RESULTS TABLE

ARCO Service Station No. 2111
1156 Davis Street
San Leandro, California

MW-2 PILOT TEST VAPOR EXTRACTION RESULTS - 2002

Date & Time Sampled	Influent Flowrate (ft^3/min)	Laboratory TPHg Influent (ppmv)	Influent Non-methane Hydrocarbons by FID (ppmv)	Laboratory Benzene Influent (ppmv)	Laboratory TPHg Extraction Rate (lbs/hour)	Non- Methane Hydrocarbons by FID (lbs/hour)	Benzene Extraction Rate (lbs/hour)	Cumulative Volume of Processed Air (cubic feet)	**Cumulative Laboratory TPHg Extraction (lbs)**	**Cumulative FID Non-Methane Hydrocarbon Extraction (lbs)**	Total Hours Operated	Change in Hours of Operation
1/11/02 12:00	292	NA	10,176	NA	NC	45.65	NC	0	**NC**	**0.0**	0.00	0.00
1/11/02 12:15	NM	NA	2,406	NA	NC	10.79	NC	4,380	**NC**	**7.1**	0.25	0.25
1/11/02 12:30	NM	NA	971	NA	NC	4.36	NC	8,760	**NC**	**8.9**	0.50	0.25
1/11/02 13:00	NM	NA	690	NA	NC	3.09	NC	17,520	**NC**	**10.8**	1.00	0.50
1/11/02 14:00	NM	NA	300	NA	NC	1.35	NC	35,040	**NC**	**13.0**	2.00	1.00
1/11/02 15:00	NM	NA	351	NA	NC	1.58	NC	52,560	**NC**	**14.5**	3.00	1.00
1/11/02 17:00	NM	NA	351	NA	NC	1.58	NC	87,600	**NC**	**17.6**	5.00	2.00

TPHg = Total petroleum hydrocarbons as gasoline.
ppmv = Parts per million by volume.
NC = Not Calculated
NA = Not Analyzed

Gallons of Vapor Equivalent Gasoline Removed: 2.9
Average Vapor Gallons Removed per Minute: 0.016

TABLE 4

DUAL PHASE EXTRACTION SYSTEM FIELD DATA

ARCO Service Station No. 2111
1156 Davis Street
San Leandro, California

Pilot Test on V-2		System Readings					V-2		MW-2		MW-7		V-1		V-3		MW-1	
Date	Time	System Vacuum ("Hg)	System Conc (ppmv)	System Flowrate (ft^3/min)	Water Meter (gallons)	Total Discharge (gpm)	Vacuum Reading ("H_2O)	Depth to Water (Feet)	Vacuum Reading ("H_2O)	Depth to Water (Feet)	Vacuum Reading ("H_2O)	Depth to Water (Feet)	Vacuum Reading ("H_2O)	Depth to Water (Feet)	Vacuum Reading ("H_2O)	Depth to Water (Feet)	Vacuum Reading ("H_2O)	Depth to Water (Feet)
1/7/02 9:00	9:00	24	260.3	236	NM	NC	NM	13.48	NM	13.20	NM	13.60	NM	14.14	NM	12.99	NM	15.09
1/7/02 9:30	9:30	24	260.3	236	2,552,890	NC	265	NM	0.10	13.22	0.00	13.62	0.00	14.12	0.00	13.00	0.00	15.12
1/7/02 9:45	9:45	24	261.7	226	NM	NC	265	NM	0.10	13.21	0.00	13.61	0.00	14.14	0.00	13.00	0.00	15.11
1/7/02 10:00	10:00	24	216.4	NM	2,552,980	3.00	NM	NM	0.05	13.24	0.01	13.60	0.00	14.16	0.00	13.01	0.02	15.13
1/7/02 10:30	10:30	24	112.4	247	NM	NC	265	NM	0.05	13.25	0.01	13.60	0.00	14.16	0.00	13.01	0.02	15.14
1/7/02 11:00	11:00	24	60.3	224	NM	NC	NM	NM	0.05	13.24	0.01	13.60	0.00	14.25	0.00	13.00	0.02	15.14
1/7/02 12:00	12:00	20	196.7	238	NM	NC	220	NM	0.05	13.25	0.01	13.60	0.00	14.15	0.00	13.00	0.02	15.14
1/7/02 13:00	13:00	22	320.4	247	2,553,140	0.89	230	NM	0.05	13.25	0.01	13.60	0.00	14.16	0.00	13.01	0.02	15.14
1/7/02 14:00	14:00	22	387.4	263	NM	NC	230	NM	0.05	13.25	0.01	13.60	0.00	14.16	0.00	13.01	0.02	15.14
1/7/02 15:00	15:00	NM	System Down		NM	NC	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
1/7/02 16:00	16:00	NM	883.7	260	NM	NC	NM	NM	0.05	13.24	0.01	13.60	0.00	14.15	0.00	13.00	0.02	15.14
1/7/02 17:00	17:00	22	807.6	263	2,553,250	0.46	230	NM	0.05	13.25	0.01	13.60	0.00	14.15	0.00	13.01	0.02	15.14
1/7/02 18:00	18:00	24	1087	261	NM	NC	265	NM	0.05	13.25	0.01	13.61	0.00	14.15	0.00	13.01	0.02	15.14
1/8/02 8:00	8:00	24	380.7	274	2,554,700	1.61	265	15+	NM	13.31	NM	13.64	NM	14.24	NM	13.04	NM	15.17
1/9/02 8:00	8:00	24	416.6	263	2,557,220	1.75	265	19+	0.08	13.35	0.00	13.68	0.00	14.25	0.00	13.11	0.02	15.25
1/10/02 8:00	8:00	24	380.7	224	2,559,570	1.63	240	NM	0.22	13.39	0.00	13.69	0.00	14.29	0.00	13.16	0.03	15.27
1/10/02 15:45	15:45	24	184.7	261	2,560,010	0.95	240	19+	0.22	13.46	0.00	13.70	0.00	14.36	0.00	13.20	0.02	15.30
Totals/Avg:	4725	23.3	388.6	248.2	7,120	1.51	248.3	5.52		0.26		0.10		0.22		0.21		0.21

ppmv = parts per million by volume,
"Hg = inches of Mercury
"H_2O = inches of water collumn
NM = Not Measured

TABLE 4

DUAL PHASE EXTRACTION SYSTEM FIELD DATA

ARCO Service Station No. 2111
1156 Davis Street
San Leandro, California

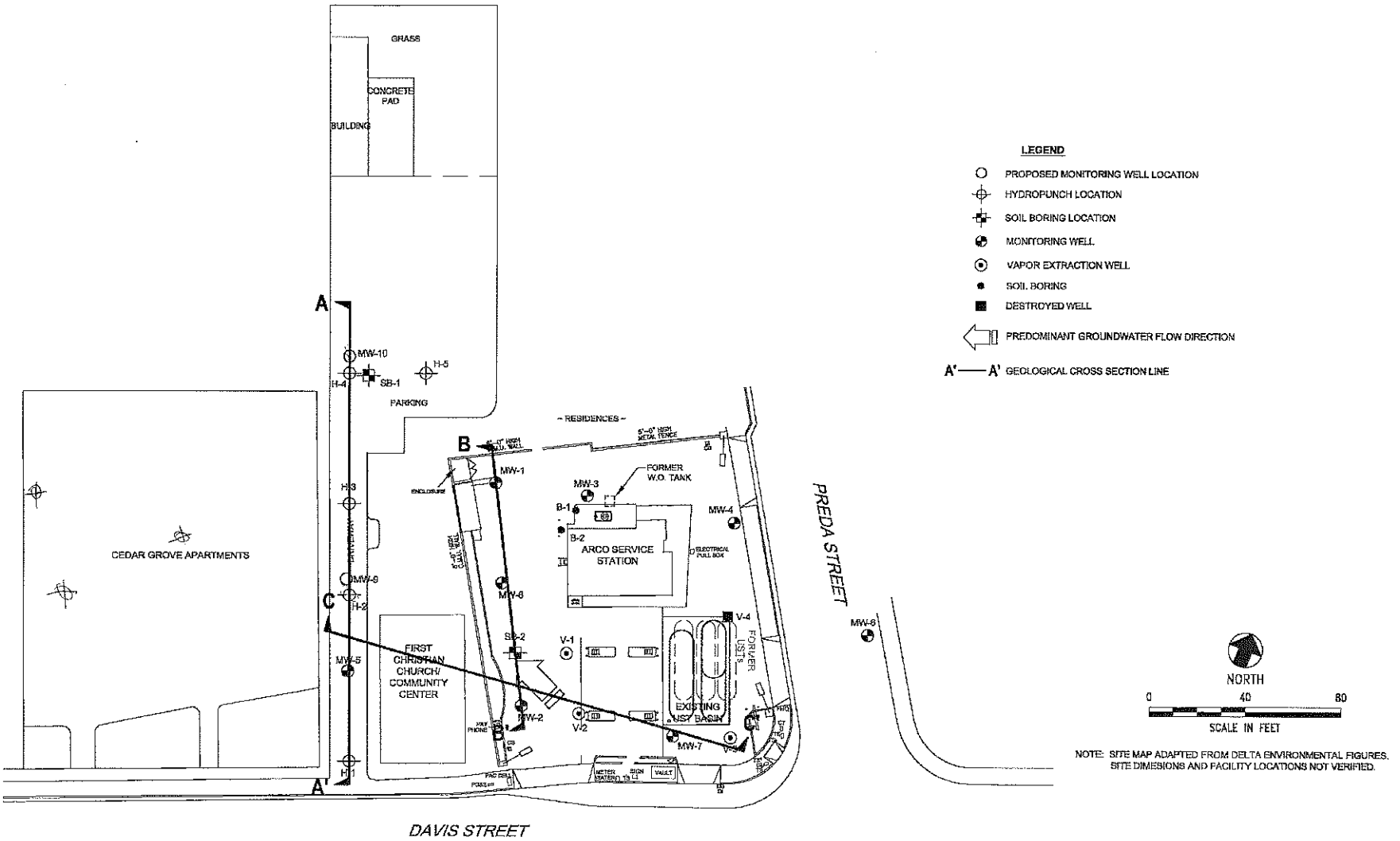
Pilot Test on MW-7

		System Readings					V-2		MW-2		MW-7		V-1		V-3		MW-1	
Date	Time	System Vacuum ("Hg)	System Conc (ppmv)	System Flowrate (ft^3/min)	Water Meter (gallons)	Total Discharge (gpm)	Vacuum Reading ("H_2O)	Depth to Water (Feet)	Vacuum Reading ("H_2O)	Depth to Water (Feet)	Vacuum Reading ("H_2O)	Depth to Water (Feet)	Vacuum Reading ("H_2O)	Depth to Water (Feet)	Vacuum Reading ("H_2O)	Depth to Water (Feet)	Vacuum Reading ("H_2O)	Depth to Water (Feet)
1/10/02 16:00	16:00	24	NM	250	2,560,010	NC	NM	13.69	NM	13.45	240.00	13.77	NM	14.35	NM	13.20	NM	15.32
1/11/02 12:00	12:00	24	NM	250	2,561,910	1.58	NM	13.67	NM	13.50	240.00	13.89	NM	14.37	NM	13.20	NM	15.35
Totals/Avg:	1200			250	1,900	1.58		-0.02		0.05	240.0	0.12		0.02		0.00		0.03

Pilot Test on MW-2

		System Readings					V-2		MW-2		MW-7		V-1		V-3		MW-1	
Date	Time	System Vacuum ("Hg)	System Conc (ppmv)	System Flowrate (ft^3/min)	Water Meter (gallons)	Total Discharge (gpm)	Vacuum Reading ("H_2O)	Depth to Water (Feet)	Vacuum Reading ("H_2O)	Depth to Water (Feet)	Vacuum Reading ("H_2O)	Depth to Water (Feet)	Vacuum Reading ("H_2O)	Depth to Water (Feet)	Vacuum Reading ("H_2O)	Depth to Water (Feet)	Vacuum Reading ("H_2O)	Depth to Water (Feet)
1/11/02 12:00	12:00	18	10,176	342	2,561,910	NC	NM	13.67	NM	13.50	NM	13.80	NM	14.37	NM	13.21	NM	15.35
1/11/02 17:00	17:00	18	351.4	292	2,567,870	19.87	NM	13.71	150.00	13.69	NM	13.87	NM	14.36	NM	13.20	NM	15.35
Totals/Avg:	300			317	5,960	19.87		0.04	150.0	0.19		0.07		0.01		-0.01		0.00

ppmv = parts per million by volume.
"Hg = inches of Mercury
"H_2O = inches of water collumn
NM = Not Measured



NOTE: SITE MAP ADAPTED FROM DELTA ENVIRONMENTAL FIGURES. SITE DIMESIONS AND FACILITY LOCATIONS NOT VERIFIED.

URS	Project No. 38486896 Arco Service Station #2111 1156 Davis Street San Leandro, California	SITE PLAN	FIGURE 1

Table 1
Soil Analytical Results
ARCO #2111
1156 Davis St., San Leandro, CA

Well Number	Date Sampled	TPH-g (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Total Xylenes (mg/kg)	TBA (mg/kg)	MTBE (mg/kg)	DIPE (mg/kg)	ETBE (mg/kg)	TAME (mg/kg)
MW-8-5	11/26/04	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.010	ND<0.005	ND<0.010	ND<0.005	ND<0.005
MW-8-10	11/26/04	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.010	ND<0.005	ND<0.010	ND<0.005	ND<0.005
MW-8-15	11/26/04	**2.1**	ND<0.005	ND<0.005	ND<0.005	ND<0.005	**0.017**	**0.032**	ND<0.010	ND<0.005	ND<0.005
MW-8-16.5	11/26/04	**150** -	ND<0.5	ND<0.5	**0.60**	**0.84**	ND<2.5	ND<0.50	ND<1.0	ND<0.5	**25**
MW-8-23	11/26/04	ND<5.0	ND<0.025	ND<0.025	ND<0.025	ND<0.025	ND<0.050	**1.4**	ND<0.050	ND<0.025	ND<0.025
MW-8-28	11/26/04	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.010	**0.12**	ND<0.010	ND<0.005	ND<0.005
MW-8-33	11/26/04	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.010	**0.037**	ND<0.010	ND<0.005	ND<0.005
MW-8-38	11/26/04	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.010	**0.027**	ND<0.010	ND<0.005	ND<0.005

Notes:
TPH-g = Total Petroleum Hydrocarbons analyzed by EPA method 8260B.
BTEX = Benzene, Toluene, Ethyl-benzene, and Total Xylenes analyzed by EPA method 8260B.
MTBE = Methyl tertiary butyl ether analyzed by EPA Method 8260B.
TBA = tert-Butyl alcohol
DIPE = Di-isopropyl ether
ETBE = Ethyl tert-butyl ether
TAME = tert-Amyl methyl ether
1,2-DCA = 1,2-Dichloroethane
1,2-DBA = 1,2 Dibromoethane (EDB)
mg/kg = Micrograms per kilogram
MSL = Mean sea level
ND< = Not detected at or above specified laboratory method detection limit

Table 2
Groundwater Analytical Results
ARCO #2111
1156 Davis St., San Leandro, CA

Well Number	Date Sampled	GRO (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	Ethanol (µg/L)	TBA (µg/L)	MTBE (µg/L)	DIE (µg/L)	ETBE (µg/L)	TAME (µg/L)	1,2-DCA (mg/L)	1,2-DBA (mg/L)
H-1	03/21/04	**820**	ND<5	ND<5	ND<5	ND<5	ND<1000	ND<200	**550**	ND<5	ND<5	ND<5	ND<5	ND<5
H-2	03/21/04	**260,000**	ND<500	ND<500	**5,800**	**11,000**	ND<100,000	ND<500	**7,600**	ND<500	ND<500	ND<500	ND<500	ND<500
H-3	03/21/04	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<100	ND<20	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
H-4-27	03/20/04	ND<50	ND<0.50	ND<0.50	ND<0.50	**0.72**	ND<100	ND<20	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
H-4-35	03/20/04	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<100	ND<20	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
H-5-27	03/20/04	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<100	ND<20	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
H-5-32	03/20/04	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<100	ND<20	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
H-5-40	03/21/04	**53**	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<100	ND<20	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50

Notes:
GRO = Gasoline Range Organics
BTEX = Benzene, Toluene, Ethyl-benzene, and Total Xylenes analyzed by EPA method 8260B.
MTBE = Methyl tertiary butyl ether analyzed by EPA Method 8260B.
TBA = tert-Butyl alcohol
DIE = Di-isopropyl ether
ETBE = Ethyl tert-butyl ether
TAME = tert-Amyl methyl ether
1,2-DCA = 1,2-Dichloroethane
1,2-DBA = 1,2 Dibromoethane (EDB)
µg/L = Micrograms per liter
MSL = Mean sea level
ND< = Not detected at or above specified laboratory method detection limit
* = Groundwater elevation measurments are from first encountered groundwater during drilling.

Source : The data within this table collected prior to July 2002 was provided to URS by Group Environmental Management Company and their previous consultants. URS has not verified the accuracy of this information.

Table 1
Historical Groundwater Elevation and Analytical Data
Petroleum Hydrocarbons and Their Constituents

ARCO Service Station 2111
1156 Davis Street, San Leandro, California

Well Designation	Water Level Field Date	Top of Casing Elevation ft-MSL	Depth to Water feet	Free Product Thickness feet	Groundwater Elevation ft-MSL	Water Sample Field Date	TPHG LUFT Method µg/L	Benzene EPA 8021B* µg/L	Toluene EPA 8021B* µg/L	Ethylbenzene EPA 8021B* µg/L	Total Xylenes EPA 8021B* µg/L	MTBE EPA 8021B* µg/L	MTBE EPA 8260 µg/L	TRPH EPA 418.1 LUFT Method µg/L	Dissolved Oxygen mg/L	Purged/ Not Purged P/NP
MW-1	08-01-95	39.60	17.45	ND	22.15	08-01-95	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--	
MW-1	12-14-95	39.60	17.09	ND	22.51	12-14-95	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--	
MW-1	03-21-96	39.60	14.72	ND	24.88	03-21-96	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--	
MW-1	05-24-96	39.60	15.94	ND	23.66	05-24-96	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--	
MW-1	08-09-96	39.60	17.89	ND	21.71	08-09-96	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--	
MW-1	11-06-96	39.60	18.66	ND	20.94	11-06-96	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--	
MW-1	03-24-97	39.60	16.13	ND	23.47	03-24-97	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--	
MW-1	05-27-97	39.60	17.23	ND	22.37	05-28-97	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--	
MW-1	08-07-97	39.60	18.68	ND	20.92	08-07-97	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--	
MW-1	11-10-97	39.60	19.19	ND	20.41	11-10-97	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--	
MW-1	02-16-98	39.60	12.61	ND	26.99	02-16-98	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--	
MW-1	04-15-98	39.60	14.30	ND	25.30	04-15-98	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--	
MW-1	07-24-98	39.60	16.40	ND	23.20	07-24-98	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--	
MW-1	10-19-98	39.60	17.90	ND	21.70	10-19-98	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--	
MW-1	01-28-99	39.60	16.85	ND	22.75	01-28-99	<20,000	580	<200	<200	320	14,000	--	--	--	
MW-1	06-25-99	39.60	17.35	ND	22.25	06-25-99	730	140	5	3	2	7,700	--	--	--	0.79	NP
MW-1	08-25-99	39.60	18.20	ND	21.40	08-25-99	390	66	8.5	<2.5	8.6	3,700	--	--	--	1.56	NP
MW-1	11-10-99	39.60	17.77	ND	21.83	11-10-99	360	70	13	2.2	13	980	--	--	--	0.30	NP
MW-1	02-09-00	39.60	16.25	ND	23.35	02-09-00	190	4.5	0.9	<0.5	12	3,500	--	--	--	0.53	NP
MW-2	08-01-95	37.99	15.67	ND	22.32	08-01-95	23,000	1,300	310	500	3,500	--	--	--	--		
MW-2	12-14-95	37.99	15.36	ND	22.63	12-14-95	7,300	900	25	180	1,000	<200	--	--	--		
MW-2	03-21-96	37.99	12.84	ND	25.15	03-21-96	9,600	850	30	280	1,400	250	--	--	--		
MW-2	05-24-96	37.99	14.03	ND	23.96	05-24-96	2,300	300	<5	73	310	<25	--	--	--		
MW-2	08-09-96	37.99	16.10	ND	21.89	08-09-96	2,800	290	6	75	320	50	--	--	--		

Table 1
Historical Groundwater Elevation and Analytical Data
Petroleum Hydrocarbons and Their Constituents

ARCO Service Station 2111
1156 Davis Street, San Leandro, California

Well Designation	Water Level Field Date	Top of Casing Elevation ft-MSL	Depth to Water feet	Free Product Thickness feet	Groundwater Elevation ft-MSL	Water Sample Field Date	TPHG LUFT Method µg/L	Benzene EPA 8021B* µg/L	Toluene EPA 8021B* µg/L	Ethylbenzene EPA 8021B* µg/L	Total Xylenes EPA 8021B* µg/L	MTBE EPA 8021B* µg/L	MTBE EPA 8260 µg/L	TRPH EPA 418.1 LUFT Method µg/L	Dissolved Oxygen mg/L	Purged/ Not Purged P/NP
MW-2	11-06-96	37.99	16.98	ND	21.01	11-06-96	750	76	<1	15	51	110	--	--	--	
MW-2	03-24-97	37.99	14.22	ND	23.77	03-24-97	790	18	<1	2	6	280	--	--	--	
MW-2	05-27-97	37.99	15.42	ND	22.57	05-28-97	750	14	<1	<1	10	150	--	--	--	
MW-2	08-07-97	37.99	16.92	ND	21.07	08-07-97	360	31	<2.5	<2.5	15	260	--	--	--	
MW-2	11-10-97	37.99	17.52	ND	20.47	11-10-97	1,300	82	<5	14	49	550	--	--	--	
MW-2	02-16-98	37.99	12.04	ND	25.95	02-16-98	<2,500	<25	<25	<25	<25	4,200	--	--	--	
MW-2	04-15-98	37.99	12.34	ND	25.65	04-15-98	<10,000	<100	<100	<100	<100	7,300	--	--	--	
MW-2	07-24-98	37.99	14.45	ND	23.54	07-24-98	<2,500	<25	<25	<25	<25	1,500	--	--	--	
MW-2	10-19-98	37.99	16.08	ND	21.91	10-19-98	<1,000	18	<10	<10	<10	1,100	--	--	--	
MW-2	01-28-99	37.99	15.59	0.02	22.41 [1]	01-28-99	160,000	3,000	24,000	4,400	31,000	23,000	--	--	--	
MW-2	06-25-99	37.99	19.20	3.73[4]	21.51 [1]	06-25-99	120,000	6,900	21,000	2,600	19,000	18,000	17,000[3]	--	--	0.49 NP
MW-2	08-25-99	37.99	16.49	0.02	21.51 [1]	08-25-99	92,000	2,200	16,000	3,200	19,000	11,000	9,400[3]	--	--	0.84 NP
MW-2	11-10-99	37.99	16.08	ND	21.91	11-10-99	56,000	2,400	5,900	1,500	10,000	17,000	21,000[3]	--	--	0.41 NP
MW-2	02-09-00	37.99	14.85	ND	23.14	02-09-00	1,700	270	14	17	21	70,000	55,000[3]	--	--	0.97 NP
MW-3	08-01-95	39.32	17.00	ND	22.32	08-01-95	<50	<0.5	<0.5	<0.5	<0.5	--	--	600	76[2]	
MW-3	12-14-95	39.32	16.70	ND	22.62	12-14-95	<50	<0.5	<0.5	<0.5	<0.5	<3	--	<500	<50	
MW-3	03-21-96	39.32	14.17	ND	25.15	03-21-96	<50	<0.5	<0.5	<0.5	<0.5	<3	--	<500	<50	
MW-3	05-24-96	39.32	15.30	ND	24.02	05-24-96	<50	<0.5	<0.5	<0.5	<0.5	<3	--	<500	<50	
MW-3	08-09-96	39.32	17.58	ND	21.74	08-09-96	<50	<0.5	<0.5	<0.5	<0.5	<3	--	<500	--	
MW-3	11-06-96	39.32	18.33	ND	20.99	11-06-96	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--	
MW-3	03-24-97	39.32	15.44	ND	23.88	03-24-97	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--	
MW-3	05-27-97	39.32	16.75	ND	22.57	05-28-97	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--	
MW-3	08-07-97	39.32	18.35	ND	20.97	08-07-97	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--	
MW-3	11-10-97	39.32	18.83	ND	20.49	11-10-97	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--	

Table 1
Historical Groundwater Elevation and Analytical Data
Petroleum Hydrocarbons and Their Constituents

ARCO Service Station 2111
1156 Davis Street, San Leandro, California

Well Designation	Water Level Field Date	Top of Casing Elevation ft-MSL	Depth to Water feet	Free Product Thickness feet	Groundwater Elevation ft-MSL	Water Sample Field Date	TPHG LUFT Method µg/L	Benzene EPA 8021B* µg/L	Toluene EPA 8021B* µg/L	Ethylbenzene EPA 8021B* µg/L	Total Xylenes EPA 8021B* µg/L	MTBE EPA 8021B* µg/L	MTBE EPA 8260 µg/L	TRPH EPA 418.1 LUFT Method µg/L	Dissolved Oxygen mg/L	Purged/ Not Purged P/NP
MW-3	02-16-98	39.32	11.99	ND	27.33	02-16-98	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--	
MW-3	04-15-98	39.32	13.75	ND	25.57	04-15-98	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--	
MW-3	07-24-98	39.32	15.90	ND	23.42	07-24-98	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--	
MW-3	10-19-98	39.32	17.45	ND	21.87	10-19-98	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--	
MW-3	01-28-99	39.32	16.40	ND	22.92	01-28-99	<100	14	4	<1	6	100	--	--	--	
MW-3	06-25-99	39.32	17.92	ND	21.40	06-25-99	83	9.0	1.4	<0.5	2.5	220	--	--	--	1.11	NP
MW-3	08-25-99	39.32	17.79	ND	21.53	08-25-99	240	41	12	3.7	9.9	160	--	--	--	1.13	NP
MW-3	11-10-99	39.32	17.37	ND	21.95	11-10-99	620	100	9.7	4.1	21	150	--	--	--	0.24	NP
MW-3	02-09-00	39.32	15.77	ND	23.55	02-09-00	<50	<0.5	0.7	<0.5	<1	180	--	--	--	0.62	NP
MW-4	08-01-95	38.10	15.65	ND	22.45	08-01-95	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--		
MW-4	12-14-95	38.10	15.35	ND	22.75	12-14-95	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--		
MW-4	03-21-96	38.10	12.74	ND	25.36	03-21-96	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--		
MW-4	05-24-96	38.10	14.03	ND	24.07	05-24-96	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--		
MW-4	08-09-96	38.10	16.10	ND	22.00	08-09-96	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--		
MW-4	11-06-96	38.10	17.00	ND	21.10	11-06-96	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--		
MW-4	03-24-97	38.10	14.21	ND	23.89	03-24-97	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--		
MW-4	05-27-97	38.10	15.38	ND	22.72	05-28-97	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--		
MW-4	08-07-97	38.10	16.95	ND	21.15	08-07-97	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--		
MW-4	11-10-97	38.10	17.53	ND	20.57	11-10-97	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--		
MW-4	02-16-98	38.10	10.65	ND	27.45	02-16-98	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--		
MW-4	04-15-98	38.10	12.20	ND	25.90	04-15-98	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--		
MW-4	07-24-98	38.10	14.47	ND	23.63	07-24-98	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--		
MW-4	10-19-98	38.10	16.20	ND	21.90	10-19-98	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--		
MW-4	01-28-99	38.10	15.02	ND	23.08	01-28-99	340	52	5.5	<0.5	74	31	--	--	--		

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Historical Groundwater Elevation and Analytical Data
Petroleum Hydrocarbons and Their Constituents

ARCO Service Station 2111
1156 Davis Street, San Leandro, California

Well Designation	Water Level Field Date	Top of Casing Elevation	Depth to Water	Free Product Thickness	Groundwater Elevation	Water Sample Field Date	TPHG LUFT Method	Benzene EPA 8021B*	Toluene EPA 8021B*	Ethylbenzene EPA 8021B*	Total Xylenes EPA 8021B*	MTBE EPA 8021B*	MTBE EPA 8260	TRPH EPA 418.1 LUFT Method	Dissolved Oxygen	Purged/ Not Purged
		ft-MSL	feet	feet	ft-MSL		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	P/NP
MW-4	06-25-99	38.10	15.57	ND	22.53	06-25-99	510	78	4.1	0.5	18	94	--	--	--	0.90	NP
MW-4	08-25-99	38.10	16.43	ND	21.67	08-25-99	660	130	21	6.4	39	110	--	--	--	1.01	NP
MW-4	11-10-99	38.10	16.02	ND	22.08	11-10-99	510	98	5.1	3.1	15	69	--	--	--	0.28	NP
MW-4	02-09-00	38.10	14.30	ND	23.80	02-09-00	<50	<0.5	0.9	<0.5	<1	55	--	--	--	0.67	NP
MW-5	03-21-96	37.21	12.60	ND	24.61	03-22-96	<50	<0.5	<0.5	<0.5	<0.5	82	--	--	--		
MW-5	05-24-96	37.21	13.71	ND	23.50	05-24-96	<50	<0.5	<0.5	<0.5	<0.5	7	--	--	--		
MW-5	08-09-96	37.21	15.60	ND	21.61	08-09-96	<50	<0.5	<0.5	<0.5	<0.5	8	--	--	--		
MW-5	11-06-96	37.21	16.36	ND	20.85	11-06-96	<50	<0.5	<0.5	<0.5	<0.5	100	--	--	--		
MW-5	03-24-97	37.21	13.87	ND	23.34	03-24-97	<50	<0.5	<0.5	<0.5	<0.5	460	--	--	--		
MW-5	05-27-97	37.21	14.71	ND	22.50	05-28-97	<100	<1	<1	<1	<1	120	--	--	--		
MW-5	08-07-97	37.21	16.90	ND	20.31	08-07-97	<250	<2.5	<2.5	<2.5	<2.5	250	--	--	--		
MW-5	11-10-97	37.21	16.88	ND	20.33	11-10-97	<1,000	<10	<10	<10	<10	770	--	--	--		
MW-5	02-16-98	37.21	10.56	ND	26.65	02-16-98	<200	<2	<2	<2	<2	230	--	--	--		
MW-5	04-15-98	37.21	12.20	ND	25.01	04-15-98	<500	<5	<5	<5	<5	900	--	--	--		
MW-5	07-24-98	37.21	14.20	ND	23.01	07-24-98	<500	<5	<5	<5	<5	570	--	--	--		
MW-5	10-19-98	37.21	15.74	ND	21.47	10-19-98	<250	<2.5	<2.5	<2.5	<2.5	300	--	--	--		
MW-5	01-28-99	37.21	14.60	ND	22.61	01-28-99	<500	8	<5	<5	<5	290	--	--	--		
MW-5	06-25-99	37.21	15.10	ND	22.11	06-25-99	<50	<0.5	<0.5	<0.5	<0.5	1,300	--	--	--	0.76	NP
MW-5	08-25-99	37.21	15.91	ND	21.30	08-25-99	<50	<0.5	<0.5	<0.5	<0.5	6,700	--	--	--	0.98	NP
MW-5	11-10-99	37.21	15.52	ND	21.69	11-10-99	130	2.0	7.0	1.3	21	5,000	--	--	--	0.21	NP
MW-5	02-09-00	37.21	14.03	ND	23.18	02-09-00	92	<0.5	0.8	<0.5	1.0	7,900	--	--	--	0.51	NP
MW-6	03-21-96	37.11	11.55	ND	25.56	03-22-96	<50	<0.5	1.9	<0.5	<0.5	<3	--	--	--		
MW-6	05-24-96	37.11	12.80	ND	24.31	05-24-96	<50	<0.5	<0.5	<0.5	<0.5	6	--	--	--		

Table 1
Historical Groundwater Elevation and Analytical Data
Petroleum Hydrocarbons and Their Constituents

ARCO Service Station 2111
1156 Davis Street, San Leandro, California

Well Designation	Water Level Field Date	Top of Casing Elevation ft-MSL	Depth to Water feet	Free Product Thickness feet	Groundwater Elevation ft-MSL	Water Sample Field Date	TPHG LUFT Method µg/L	Benzene EPA 8021B* µg/L	Toluene EPA 8021B* µg/L	Ethylbenzene EPA 8021B* µg/L	Total Xylenes EPA 8021B* µg/L	MTBE EPA 8021B* µg/L	MTBE EPA 8260 µg/L	TRPH EPA 418.1 [illegible] LUFT Method µg/L	Dissolved Oxygen mg/L	Purged/ Not Purged P/NP
MW-6	08-09-96	37.11	Not surveyed			08-09-96	Not sampled: Car parked on well									
MW-6	11-06-96	37.11	Not surveyed			11-06-96	Not sampled: Car parked on well									
MW-6	03-24-97	37.11	13.06	ND	24.05	03-24-97	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--	
MW-6	05-27-97	37.11	14.30	ND	22.81	05-28-97	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--	
MW-6	08-07-97	37.11	16.40	ND	20.71	08-07-97	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--	
MW-6	11-10-97	37.11	16.53	ND	20.58	11-10-97	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--	
MW-6	02-16-98	37.11	Not surveyed			02-16-98	Not sampled: Car parked on well									
MW-6	04-15-98	37.11	10.95	ND	26.16	04-15-98	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--	
MW-6	07-24-98	37.11	13.30	ND	23.81	07-24-98	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--	
MW-6	10-19-98	37.11	Not surveyed			10-19-98	Not sampled: Car parked on well									
MW-6	01-28-99	37.11	13.92	ND	23.19	01-28-99	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--	
MW-6	06-25-99	37.11	15.47	ND	21.64	06-25-99	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--	0.74	NP
MW-6	08-25-99	37.11	15.39	ND	21.72	08-25-99	<50	<0.5	3.4	0.6	3.7	<3	--	--	--	0.92	NP
MW-6	11-10-99	37.11	14.92	ND	22.19	11-10-99	<50	<0.5	<0.5	<0.5	<1	<3	--	--	--	0.31	NP
MW-6	02-09-00	37.11	13.30	ND	23.81	02-09-00	<50	<0.5	0.9	<0.5	1.3	<3	--	--	--	0.79	NP
MW-7	03-21-96	38.68	13.32	ND	25.36	03-22-96	32,000	870	450	970	4,900	280	--	--	--		
MW-7	05-24-96	38.68	14.58	ND	24.10	05-24-96	22,000	570	40	42	1,900	<200[2]	--	--	--		
MW-7	08-09-96	38.68	15.33	ND	23.35	08-09-96	14,000	390	<10	180	470	<200[2]	--	--	--		
MW-7	11-06-96	38.68	16.95	ND	21.73	11-06-96	9,500	440	<10	210	150	<100[2]	--	--	--		
MW-7	03-24-97	38.68	14.65	ND	24.03	03-24-97	6,400	420	<10	260	13	480	--	--	--		
MW-7	05-27-97	38.68	15.58	ND	23.10	05-28-97	5,000	420	<5	230	10	460	--	--	--		
MW-7	08-07-97	38.68	17.10	ND	21.58	08-07-97	3,900	350	<5	200	10	330	--	--	--		
MW-7	11-10-97	38.68	18.05	ND	20.63	11-10-97	5,600	590	10	370	43	540	--	--	--		
MW-7	02-16-98	38.68	12.03	ND	26.65	02-16-98	<5,000	390	<50	<50	61	4,300	--	--	--		

Table 1
Historical Groundwater Elevation and Analytical Data
Petroleum Hydrocarbons and Their Constituents

ARCO Service Station 2111
1156 Davis Street, San Leandro, California

Well Designation	Water Level Field Date	Top of Casing Elevation ft-MSL	Depth to Water feet	Free Product Thickness feet	Groundwater Elevation ft-MSL	Water Sample Field Date	TPHG LUFT Method µg/L	Benzene EPA 8021B* µg/L	Toluene EPA 8021B* µg/L	Ethylbenzene EPA 8021B* µg/L	Total Xylenes EPA 8021B* µg/L	MTBE EPA 8021B* µg/L	MTBE EPA 8260 µg/L	TRPH EPA 418.1 LUFT Method µg/L	Dissolved Oxygen mg/L	Purged/ Not Purged P/NP
MW-7	04-15-98	38.68	13.02	ND	25.66	04-15-98	<10,000	<100	<100	<100	<100	8,900	--	--	--	
MW-7	07-24-98	38.68	14.18	ND	24.50	07-24-98	5,800	180	<50	74	<50	4,200	--	--	--	
MW-7	10-19-98	38.68	15.99	ND	22.69	10-19-98	<2,500	54	<25	72	<25	3,000	--	--	--	
MW-7	01-28-99	38.68	15.69	ND	22.99	01-28-99	4,500	560	250	<50	94	6,200	--	--	--	
MW-7	06-25-99	38.68	15.36	ND	23.32	06-25-99	3,900	520	160	46	100	45,000	63,000[3]	--	--	0.56	NP
MW-7	08-25-99	38.68	16.71	ND	21.97	08-25-99	3,400	730	77	51	110	62,000	76,000[3]	--	--	0.90	NP
MW-7	11-10-99	38.68	16.76	ND	21.92	11-10-99	15,000	340	19	13	20	55,000	91,000[3]	--	--	0.37	NP
MW-7	02-09-00	38.68	14.45	0.03	24.25 [1]	02-09-00	Not sampled: free product present										

ft-MSL: elevation in feet, relative to mean sea level
TPHG: total petroleum hydrocarbons as gasoline, California DHS LUFT Method
MTBE: Methyl tert-butyl ether
TRPH: total recoverable petroleum hydrocarbons
TPHD: total petroleum hydrocarbons as diesel, California DHS LUFT Method
*: EPA method 8020 prior to 11/10/99
EPA: United States Environmental Protection Agency
µg/L: micrograms per liter
mg/L: milligrams per liter
ND: none detected
-- : not available or not analyzed
<: less than laboratory detection limit stated to the right
[1]: [corrected elevation (Z')] = Z + (h * 0.73) where: Z = measured elevation, h = floating product thickness, 0.73 = density ratio of oil to water
[2]: chromatogram fingerprint is not characteristic of diesel
[3]: also analyzed for fuel oxygenates
[4]: this value is suspected to be erroneous based on subsequent check by bailer (following day). See discussion

APPENDIX B

Historical Soil and Groundwater Data

Table 1. Summary of Groundwater Monitoring Data: Relative Water Elevations and Laboratory Analyses

ARCO Service Station #2111, 1156 Davis St, San Leandro, CA

Well ID and Date Monitored	P/NP	TOC (feet)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet)	Water Level Elevation (feet)	Concentrations in µg/L						DO (mg/L)	pH	Footnote
							GRO/ TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE			
MW-1															
6/26/2000	--	39.60	12.50	26.00	16.46	23.14	--	--	--	--	--	--	--	--	
7/20/2000	--		12.50	26.00	16.89	22.71	360	110	<0.5	<0.5	2.7	2,100	--	--	
9/19/2000	--		12.50	26.00	17.62	21.98	290	76	<0.5	<0.5	2.3	1,500	--	--	
12/21/2000	--		12.50	26.00	17.39	22.21	257	64	2.89	1.31	4.57	1,080/1,060	--	--	
3/13/2001	--		12.50	26.00	15.70	23.90	<500	52.5	<5.0	<5.0	<5.0	1,430/1,370	--	--	
9/18/2001	--		12.50	26.00	18.24	21.36	<500	64	7.3	<5.0	52	810/1,100	--	--	
12/28/2001	--		12.50	26.00	15.95	23.65	<500	<5.0	<5.0	5	22	1,200/1,100	--	--	
3/14/2002	--		12.50	26.00	16.01	23.59	<50	<0.5	<0.5	<0.5	<0.5	34/40	--	--	
4/23/2002	--		12.50	26.00	15.43	24.17	<50	<0.5	<0.5	<0.5	<0.5	30	--	--	
7/17/2002	NP		12.50	26.00	17.50	22.10	<50	1.2	<0.50	<0.50	<0.50	29	6.9	6.9	
10/9/2002	--		12.50	26.00	18.27	21.33	240	4.9	<1.0	4.1	7.0	290	6.5	6.5	c
1/13/2003	--		12.50	26.00	15.37	24.23	760	34	11	17	56	300	6.8	6.8	c
04/07/03	--		12.50	26.00	16.61	22.99	<50	<0.50	<0.50	<0.50	<0.50	22	6.8	6.8	
7/9/2003	--		12.50	26.00	17.27	22.33	<2,500	<25	<25	<25	<25	690	6.7	6.7	
02/05/2004	NP	39.49	12.50	26.00	16.28	23.21	2,800	31	<25	<25	<25	1,100	0.9	6.5	m
04/05/2004	NP		12.50	26.00	16.25	23.24	5,800	46	<25	<25	<25	1,700	1.0	--	
07/13/2004	NP		12.50	26.00	17.57	21.92	<1,000	<10	<10	<10	<10	730	0.5	6.6	
11/04/2004	NP		12.50	26.00	17.78	21.71	560	<5.0	<5.0	<5.0	<5.0	380	0.8	6.5	
01/20/2005	NP		12.50	26.00	15.50	23.99	670	<5.0	<5.0	<5.0	<5.0	570	0.6	6.0	
04/11/2005	NP		12.50	26.00	14.82	24.67	<2,500	<25	<25	<25	25	1,100	0.9	6.9	
08/01/2005	NP		12.50	26.00	16.77	22.72	2,200	33	<10	110	<10	1,400	1.27	7.3	
10/21/2005	NP		12.50	26.00	17.71	21.78	<2,500	<25	<25	<25	<25	970	1.17	6.6	
01/18/2006	NP		12.50	26.00	14.70	24.79	300	<2.5	<2.5	<2.5	<2.5	330	1.07	6.6	n
04/14/2006	NP		12.50	26.00	13.41	26.08	330	<2.5	<2.5	<2.5	<2.5	310	0.79	6.6	
7/19/2006	NP		12.50	26.00	15.86	23.63	<250	<2.5	<2.5	<2.5	<2.5	180	1.2	6.7	q
10/24/2006	P		12.50	26.00	17.15	22.34	710	4.2	<2.5	19	13	360	--	6.68	
1/15/2007	P		12.50	26.00	16.81	22.68	470	2.8	<2.5	14	8.4	220	1.14	7.12	
4/18/2007	NP		12.50	26.00	16.69	22.80	100	<2.5	<2.5	<2.5	<2.5	150	1.20	6.85	
7/17/2007	NP		12.50	26.00	20.85	18.64	<50	<1.0	<1.0	<1.0	<1.0	94	1.91	6.98	
10/11/2007	NP		12.50	26.00	18.10	21.39	66	<0.50	<0.50	<0.50	<0.50	62	1.60	7.00	

Table 1. Summary of Groundwater Monitoring Data: Relative Water Elevations and Laboratory Analyses

ARCO Service Station #2111, 1156 Davis St, San Leandro, CA

Well ID and Date Monitored	P/NP	TOC (feet)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet)	Water Level Elevation (feet)	Concentrations in µg/L						DO (mg/L)	pH	Footnote
							GRO/ TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE			
MW-1 Cont.															
1/8/2008	NP	39.49	12.50	26.00	15.97	23.52	140	<0.50	<0.50	<0.50	<0.50	90	1.19	5.60	n
4/8/2008	NP		12.50	26.00	16.53	22.96	88	<0.50	<0.50	<0.50	<0.50	110	1.73	6.89	
8/20/2008	NP		12.50	26.00	18.32	21.17	<50	<0.50	<0.50	<0.50	<0.50	3.3	2.37	6.95	
11/17/2008	NP		12.50	26.00	18.38	21.11	<50	<0.50	<0.50	<0.50	<0.50	21	0.94	6.96	
2/3/2009	NP		12.50	26.00	18.08	21.41	<50	<0.50	<0.50	<0.50	<0.50	16	1.66	6.95	
5/12/2009	NP		12.50	26.00	17.05	22.44	<50	<0.50	<0.50	<0.50	<0.50	9.3	0.88	6.88	
8/13/2009	NP		12.50	26.00	18.01	21.48	<50	<0.50	<0.50	<0.50	<0.50	5.5	0.14	7.02	u
2/18/2010	NP		12.50	26.00	16.14	23.35	<50	<0.50	<0.50	<0.50	<0.50	1.4	2.22	6.69	
7/23/2010	NP		12.50	26.00	17.11	22.38	<50	<0.50	<0.50	<0.50	<0.50	1.3	0.77	6.7	
2/10/2011	NP		12.50	26.00	16.42	23.07	<50	<0.50	<0.50	<0.50	<0.50	1.1	1.19	7.2	
8/30/2011	NP		12.50	26.00	17.13	22.36	<50	<0.50	<0.50	<0.50	<0.50	2.1	0.98	6.9	
2/17/2012	**P**		**12.50**	**26.00**	**17.41**	**22.08**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**0.85**	**1.39**	**7.05**	
MW-2															
6/26/2000	--	37.99	12.00	26.00	14.60	23.39	--	--	--	--	--	--	--	--	a
7/20/2000	--		12.00	26.00	15.14	22.85	95,000	2,300	18,000	2,500	19,000	13,000	--	--	
9/19/2000	--		12.00	26.00	15.95	22.04	63,000	1,200	6,300	2,000	14,000	19,000	--	--	
12/21/2000	--		12.00	26.00	15.60	22.39	5,010	360	189	213	626	54,300/89,200	--	--	b
12/21/2000	--		12.00	26.00	15.60	22.39	45,900	--	2,130	1,160	9,460	22,400/24,700	--	--	
3/13/2001	--		12.00	26.00	13.77	24.22	<20,000	525	466	408	1,460	91,700/76,000	--	--	b
3/13/2001	--		12.00	26.00	13.77	24.22	3,650	98.1	<5.0	<5.0	6.42	3,590/3,260	--	--	
9/18/2001	--		12.00	26.00	16.86	21.13	--	--	--	--	--	--	--	--	a
12/28/2001	--		12.00	26.00	14.28	23.71	31,000	1,500	3,800	1,300	4,800	9,300/8,800	--	--	
3/14/2002	--		12.00	26.00	14.15	23.84	1,800	25	43	43	270	990/960	--	--	
4/23/2002	--		12.00	26.00	13.60	24.39	9,000	220	110	470	2,500	8,500	--	--	
7/17/2002	NP		12.00	26.00	15.75	22.24	74,000	280	290	820	10,000	19,000/0.4	6.8	6.8	a, c
10/9/02	NP		12.00	26.00	16.69	21.30	--	--	--	--	--	--	--	--	g
1/13/03	--		12.00	26.00	13.59	24.40	--	--	--	--	--	--	--	--	g, h
04/07/03	--		12.00	26.00	14.70	23.29	--	--	--	--	--	--	--	--	g, h
07/09/03	--		12.00	26.00	15.48	22.51	--	--	--	--	--	--	--	--	g, h
02/05/2004	NP	37.86	12.00	26.00	14.43	23.43	--	--	--	--	--	--	--	--	g,m

Table 1. Summary of Groundwater Monitoring Data: Relative Water Elevations and Laboratory Analyses

ARCO Service Station #2111, 1156 Davis St, San Leandro, CA

Well ID and Date Monitored	P/NP	TOC (feet)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet)	Water Level Elevation (feet)	Concentrations in µg/L						DO (mg/L)	pH	Footnote
							GRO/ TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE			
MW-2 Cont.															
04/05/2004	NP	37.86	12.00	26.00	14.35	23.51	2,300	33	<5.0	<5.0	200	750	0.6	--	
07/13/2004	NP		12.00	26.00	15.79	22.07	59,000	380	<50	2,100	7,900	5,800	0.3	6.4	
08/31/2004	--		12.00	26.00	15.89	21.97	--	--	--	--	--	--	--	--	
11/04/2004	--		12.00	26.00	15.92	21.94	--	--	--	--	--	--	--	--	g, h
01/20/2005	NP		12.00	26.00	13.71	24.15	30,000	450	<50	1,300	3,300	7,000	0.7	6.2	o
04/11/2005	NP		12.00	26.00	12.70	25.16	11,000	170	<50	580	630	2,700	0.9	6.8	
08/01/2005	NP		12.00	26.00	14.89	22.97	24,000	170	<50	1,100	2,700	2,700	0.64	6.9	
10/21/2005	--		12.00	26.00	16.05	21.81	--	--	--	--	--	--	--	--	a
01/18/2006	NP		12.00	26.00	12.81	25.05	21,000	71	<50	470	1,400	1,600	1.18	6.6	a
04/14/2006	NP		12.00	26.00	12.24	25.62	7,800	78	<50	94	130	2,100	0.81	6.7	a
7/19/2006	NP		12.00	26.00	14.00	23.86	4,900	31	<10	98	75	930	1.1	6.5	q
10/24/2006	--		12.00	26.00	15.38	22.48	--	--	--	--	--	--	--	6.45	g
1/15/2007	P		12.00	26.00	15.00	22.86	5,000	51	<10	49	34	1,400	1.85	7.13	
4/18/2007	NP		12.00	26.00	14.82	23.04	3,000	39	<10	32	22	1,100	1.95	7.10	
7/17/2007	NP		12.00	26.00	18.00	19.86	1,100	53	<10	28	<10	1,300	4.84	7.09	n
10/11/2007	NP		12.00	26.00	16.38	21.48	1,800	17	<10	<10	11	1,000	1.52	7.05	
1/8/2008	NP		12.00	26.00	14.10	23.76	1,900	65	<10	37	28	1,300	1.06	4.22	n
4/8/2008	NP		12.00	26.00	14.70	23.16	200	34	<0.50	<0.50	<0.50	690	3.24	6.95	
8/20/2008	NP		12.00	26.00	16.66	21.20	990	21	<10	<10	<10	190	1.54	6.91	
11/17/2008	NP		12.00	26.00	19.28	18.58	290	9.3	<5.0	<5.0	<5.0	89	0.71	6.75	
2/3/2009	NP		12.00	26.00	16.45	21.41	86	3.5	<2.5	<2.5	<2.5	31	2.71	6.96	
5/12/2009	NP		12.00	26.00	15.30	22.56	390	1.3	<0.50	<0.50	0.82	25	0.82	6.96	
8/13/2009	NP		12.00	26.00	16.88	20.98	330	<10	<10	<10	<10	39	0.81	7.12	u
2/18/2010	NP		12.00	26.00	14.20	23.66	950	<5.0	<5.0	<5.0	<5.0	<5.0	1.18	6.94	
7/23/2010	NP		12.00	26.00	15.37	22.49	330	<2.0	<2.0	<2.0	<2.0	6.5	1.70	6.7	v (GRO)
2/10/2011	NP		12.00	26.00	14.53	23.33	960	<4.0	<4.0	<4.0	<4.0	12	0.58	6.8	v (GRO)
8/30/2011	NP		12.00	26.00	15.35	22.51	200	<0.50	<0.50	<0.50	<0.50	4.5	0.67	6.7	w (GRO)
2/17/2012	**P**		**12.00**	**26.00**	**15.63**	**22.23**	**190**	**<2.5**	**<2.5**	**<2.5**	**<2.5**	**2.9**	**0.80**	**7.00**	**w (GRO)**
MW-3															
6/26/2000	--	39.32	12.00	26.00	15.96	23.36	--	--	--	--	--	--	--	--	

Table 1. Summary of Groundwater Monitoring Data: Relative Water Elevations and Laboratory Analyses

ARCO Service Station #2111, 1156 Davis St, San Leandro, CA

Well ID and Date Monitored	P/NP	TOC (feet)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet)	Water Level Elevation (feet)	Concentrations in µg/L						DO (mg/L)	pH	Footnote
							GRO/ TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE			
MW-3 Cont.															
7/20/2000	--	39.32	12.00	26.00	16.42	22.90	<50	<0.5	<0.5	<0.5	<1.0	130	--	--	
9/19/2000	--		12.00	26.00	17.18	22.14	190	17	<0.5	1.4	2.4	160	--	--	
12/21/2000	--		12.00	26.00	16.97	22.35	187	17.8	<0.5	2.47	2.5	143/125	--	--	
3/13/2001	--		12.00	26.00	15.17	24.15	72.4	2.83	<0.5	<0.5	<0.5	126/122	--	--	
9/18/2001	--		12.00	26.00	17.81	21.51	140	6.4	<0.5	3.5	1.6	110/75	--	--	
12/28/2001	--		12.00	26.00	15.44	23.88	130	5.9	<0.5	0.99	0.55	90/63	--	--	
3/14/2002	--		12.00	26.00	15.50	23.82	<50	<0.5	<0.5	<0.5	<0.5	100/88	--	--	
4/23/2002	--		12.00	26.00	14.96	24.36	<50	<0.5	<0.5	<0.5	<0.5	77	--	--	
7/17/2002	NP		12.00	26.00	17.09	22.23	<50	<0.50	<0.50	<0.50	<0.50	47	7.2	7.2	
10/9/2002	NP		12.00	26.00	17.87	21.45	<50	<0.50	<0.50	<0.50	<0.50	26/29	7.2	7.2	
1/13/2003	NP		12.00	26.00	14.78	24.54	<50	<0.50	<0.50	<0.50	<0.50	59	6.8	6.8	l
04/07/03	NP		12.00	26.00	16.15	23.17	88	<0.50	<0.50	<0.50	<0.50	75	7.0	7.0	
7/9/2003	--		12.00	26.00	16.79	22.53	100	<0.50	<0.50	<0.50	<0.50	52	6.5	6.5	
02/05/2004	NP	39.19	12.00	26.00	15.66	23.53	240	<0.50	<0.50	<0.50	<0.50	37	0.5	--	m
04/05/2004	NP		12.00	26.00	15.78	23.41	140	<0.50	<0.50	<0.50	0.60	53	1.0	6.6	
07/13/2004	NP		12.00	26.00	17.20	21.99	120	<0.50	<0.50	<0.50	<0.50	35	0.8	6.7	
11/04/2004	NP		12.00	26.00	17.32	21.87	160	<0.50	<0.50	<0.50	<0.50	25	0.8	6.5	
01/20/2005	NP		12.00	26.00	15.07	24.12	160	<0.50	<0.50	<0.50	<0.50	27	0.6	6.1	
04/11/2005	NP		12.00	26.00	14.24	24.95	<50	<0.50	<0.50	<0.50	<0.50	21	0.6	6.1	
08/01/2005	NP		12.00	26.00	16.29	22.90	<50	<0.50	<0.50	<0.50	<0.50	23	1.04	7.2	
10/21/2005	NP		12.00	26.00	17.41	21.78	88	<0.50	<0.50	<0.50	<0.50	19	1.9	6.6	
01/18/2006	NP		12.00	26.00	13.80	25.39	73	<0.50	<0.50	<0.50	<0.50	13	1.13	6.6	
04/14/2006	NP		12.00	26.00	12.55	26.64	<50	<0.50	<0.50	<0.50	<0.50	6.7	0.71	6.6	
7/19/2006	NP		12.00	26.00	15.04	24.15	<50	<0.50	<0.50	<0.50	<0.50	11	2.0	6.6	q
10/24/2006	P		12.00	26.00	16.45	22.74	<50	<0.50	<0.50	<0.50	<0.50	33	--	6.77	
1/15/2007	P		12.00	26.00	16.00	23.19	<50	<0.50	<0.50	0.61	<0.50	29	1.11	7.03	
4/18/2007	NP		12.00	26.00	15.87	23.32	<50	<0.50	<0.50	<0.50	<0.50	9.5	1.67	7.07	
7/17/2007	NP		12.00	26.00	19.40	19.79	<50	<0.50	<0.50	<0.50	<0.50	19	4.25	7.27	
10/11/2007	NP		12.00	26.00	17.43	21.76	<50	<0.50	<0.50	<0.50	<0.50	5.3	1.62	7.10	
1/8/2008	NP		12.00	26.00	15.16	24.03	<50	<0.50	<0.50	<0.50	<0.50	8.9	2.02	6.94	

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ARCO Service Station #2111, 1156 Davis St, San Leandro, CA

Well ID and Date Monitored	P/NP	TOC (feet)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet)	Water Level Elevation (feet)	Concentrations in µg/L						DO (mg/L)	pH	Footnote
							GRO/ TPHg	Benzene	Toluene	Ethyl- Benzene	Total Xylenes	MTBE			
MW-3 Cont.															
4/8/2008	NP	39.19	12.00	26.00	15.75	23.44	<50	<0.50	<0.50	<0.50	<0.50	<0.50	1.98	6.80	
8/20/2008	NP		12.00	26.00	17.65	21.54	<50	<0.50	<0.50	<0.50	<0.50	<0.50	2.85	7.62	
11/17/2008	NP		12.00	26.00	17.76	21.43	<50	<0.50	<0.50	<0.50	<0.50	3.6	1.36	6.90	
2/3/2009	NP		12.00	26.00	17.36	21.83	<50	<0.50	<0.50	<0.50	<0.50	2.1	2.55	7.04	
5/12/2009	NP		12.00	26.00	16.30	22.89	<50	<0.50	<0.50	<0.50	<0.50	2.1	1.68	6.98	
8/13/2009	NP		12.00	26.00	18.75	20.44	<50	<0.50	<0.50	<0.50	<0.50	2.7	0.15	7.03	
2/18/2010	NP		12.00	26.00	15.31	23.88	<50	<0.50	<0.50	<0.50	<0.50	0.59	2.07	6.83	v (GRO)
7/23/2010	NP		12.00	26.00	16.34	22.85	<50	<0.50	<0.50	<0.50	<0.50	0.85	1.23	7.4	
2/10/2011	NP		12.00	26.00	15.63	23.56	<50	<0.50	<0.50	<0.50	<0.50	0.51	2.11	6.9	
8/30/2011	NP		12.00	26.00	16.45	22.74	<50	<0.50	<0.50	<0.50	<0.50	<0.50	0.83	6.9	
2/17/2012	**P**		**12.00**	**26.00**	**16.70**	**22.49**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**0.85**	**7.12**	
MW-4															
6/26/2000	--	38.10	10.00	24.00	14.59	23.51	--	--	--	--	--	--	--	--	
7/20/2000	--		10.00	24.00	15.04	23.06	97	7.9	<0.5	<0.5	1.1	51	--	--	
9/19/2000	--		10.00	24.00	15.83	22.27	110	7	<0.5	<0.5	<1.0	60	--	--	
12/21/2000	--		10.00	24.00	15.59	22.51	120	5.6	<0.5	1.72	<0.5	46.3/48.6	--	--	
3/13/2001	--		10.00	24.00	13.73	24.37	76	0.796	<0.5	<0.5	<0.5	53.7/50	--	--	
9/18/2001	--		10.00	24.00	16.50	21.60	<50	<0.5	<0.5	<0.5	<0.5	25/26	--	--	
12/28/2001	--		10.00	24.00	14.03	24.07	<50	<0.5	<0.5	<0.5	<0.5	15/11	--	--	
3/14/2002	--		10.00	24.00	14.10	24.00	<50	<0.5	<0.5	<0.5	<0.5	31/28	--	--	
4/23/2002	--		10.00	24.00	13.57	24.53	<50	2.8	<0.5	<0.5	<0.5	42	--	--	
7/17/2002	NP		10.00	24.00	15.76	22.34	<50	<0.50	<0.50	<0.50	<0.50	16	7.1	7.1	
10/9/2002	NP		10.00	24.00	16.59	21.51	<50	2.2	<0.50	<0.50	<0.50	20/23	7.1	7.1	
1/13/2003	NP		10.00	24.00	13.43	24.67	52	<0.50	1.6	<0.50	<0.50	22	6.6	6.6	d
04/07/03	NP		10.00	24.00	14.74	23.36	65	<0.50	<0.50	<0.50	<0.50	24	6.6	6.6	
7/9/2003	--		10.00	24.00	15.44	22.66	120	<0.50	<0.50	<0.50	<0.50	34	6.6	6.6	
02/05/2004	NP	37.99	10.00	24.00	14.39	23.60	120	<0.50	<0.50	<0.50	<0.50	22	0.5	6.6	m
04/05/2004	NP		10.00	24.00	14.37	23.62	110	<0.50	<0.50	<0.50	<0.50	27	1.1	6.5	
07/13/2004	NP		10.00	24.00	15.96	22.03	77	<0.50	<0.50	<0.50	<0.50	27	0.6	6.6	
11/04/2004	NP		10.00	24.00	16.02	21.97	<50	<0.50	<0.50	<0.50	<0.50	19	1.2	6.7	

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Well ID and Date Monitored	P/NP	TOC (feet)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet)	Water Level Elevation (feet)	Concentrations in µg/L						DO (mg/L)	pH	Footnote
							GRO/ TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE			
MW-4 Cont.															
01/20/2005	NP	37.99	10.00	24.00	13.72	24.27	65	<0.50	<0.50	<0.50	<0.50	18	0.6	6.1	
04/11/2005	NP		10.00	24.00	12.80	25.19	51	<0.50	<0.50	<0.50	<0.50	14	0.7	6.2	
08/01/2005	NP		10.00	24.00	14.88	23.11	<50	<0.50	<0.50	<0.50	<0.50	18	1.46	7.3	
10/21/2005	NP		10.00	24.00	15.01	22.98	<50	<0.50	<0.50	<0.50	<0.50	15	1.24	7.6	
01/18/2006	NP		10.00	24.00	12.92	25.07	<50	<0.50	<0.50	<0.50	<0.50	8.9	0.77	6.5	
04/14/2006	NP		10.00	24.00	11.41	26.58	<50	<0.50	<0.50	<0.50	<0.50	4.2	0.84	6.6	
7/19/2006	NP		10.00	24.00	13.86	24.13	<50	<0.50	<0.50	<0.50	<0.50	3.4	1.0	6.7	
10/24/2006	P		10.00	24.00	15.35	22.64	<50	<0.50	<0.50	2.0	<0.50	3.5	--	6.90	
1/15/2007	P		10.00	24.00	14.96	23.03	<50	<0.50	<0.50	0.96	<0.50	3.8	--	7.04	
4/18/2007	NP		10.00	24.00	14.80	23.19	<50	<0.50	<0.50	<0.50	<0.50	5.6	5.33	6.93	
7/17/2007	NP		10.00	24.00	16.10	21.89	<50	<0.50	<0.50	<0.50	<0.50	6.6	3.73	6.87	
10/11/2007	NP		10.00	24.00	16.45	21.54	<50	<0.50	<0.50	<0.50	<0.50	0.81	2.68	7.07	
1/8/2008	NP		10.00	24.00	14.10	23.89	<50	<0.50	<0.50	<0.50	<0.50	1.2	3.50	6.74	
4/8/2008	NP		10.00	24.00	14.68	23.31	<50	<0.50	<0.50	<0.50	<0.50	1.7	2.54	6.80	
8/20/2008	NP		10.00	24.00	16.65	21.34	<50	<0.50	<0.50	<0.50	<0.50	0.70	2.36	6.90	
11/17/2008	NP		10.00	24.00	16.73	21.26	<50	<0.50	<0.50	<0.50	<0.50	0.73	1.07	6.83	
2/3/2009	NP		10.00	24.00	16.36	21.63	<50	<0.50	<0.50	<0.50	<0.50	0.67	3.92	7.34	
5/12/2009	NP		10.00	24.00	15.26	22.73	<50	<0.50	<0.50	<0.50	<0.50	0.62	0.81	6.98	
8/13/2009	NP		10.00	24.00	16.87	21.12	<50	<0.50	<0.50	<0.50	<0.50	0.65	0.94	7.12	u
2/18/2010	NP		10.00	24.00	14.22	23.77	<50	<0.50	<0.50	<0.50	<0.50	<0.50	1.20	6.25	
7/23/2010	NP		10.00	24.00	15.36	22.63	<50	<0.50	<0.50	<0.50	<0.50	0.52	0.68	7.0	
2/10/2011	NP		10.00	24.00	14.54	23.45	<50	<0.50	<0.50	<0.50	<0.50	<0.50	0.52	6.8	
8/30/2011	NP		10.00	24.00	15.38	22.61	<50	<0.50	<0.50	<0.50	<0.50	<0.50	1.03	7.0	
2/17/2012	**P**		**10.00**	**24.00**	**15.66**	**22.33**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**0.96**	**7.06**	
MW-5															
6/26/2000	--	37.21	9.50	23.50	14.27	22.94	--	--	--	--	--	--	--	--	
7/20/2000	--		9.50	23.50	14.69	22.52	55	<0.5	<0.5	<0.5	<1.0	14,000	--	--	
9/19/2000	--		9.50	23.50	15.36	21.85	54	<0.5	<0.5	<0.5	<1.0	13,000	--	--	
12/21/2000	--		9.50	23.50	15.15	22.06	72.9	2.51	<0.5	<0.5	0.961	19,200/21,200	--	--	
3/13/2001	--		9.50	23.50	13.50	23.71	<500	<5	<5	<5	<5	15,900/20,000	--	--	

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Well ID and Date Monitored	P/NP	TOC (feet)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet)	Water Level Elevation (feet)	Concentrations in µg/L						DO (mg/L)	pH	Footnote
							GRO/ TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE			
MW-5 Cont.															
9/18/2001	--	37.21	9.50	23.50	15.94	21.27	<10,000	<100	<100	<100	<1,000	22,000/20,000	--	--	
12/28/2001	--		9.50	23.50	13.45	23.76	<10,000	<100	<100	<100	<100	10,000/10,000	--	--	
3/14/2002	--		9.50	23.50	13.82	23.39	<5,000	<50	<50	<50	<50	7,100/7,700	--	--	
4/23/2002	--		9.50	23.50	13.25	23.96	<5,000	<50	<50	<50	<50	8,900	--	--	
7/17/2002	NP		9.50	23.50	15.27	21.94	7,900	<50	<50	<50	<50	13,000	7.5	7.5	d
10/9/2002	NP		9.50	23.50	16.02	21.19	2,400	<20	<20	<20	<20	7,300/7,500	6.7	6.7	e
1/13/2003	NP		9.50	23.50	13.20	24.01	6,400	<50	<50	<50	<50	8,900	6.8	6.8	e, k, j
04/07/03	NP		9.50	23.50	14.42	22.79	<10,000	<100	<100	<100	<100	3,700	6.8	6.8	
7/9/2003	--		9.50	23.50	15.01	22.20	11,000	<50	<50	<50	<50	6,500	6.9	6.9	
02/05/2004	NP	37.12	9.50	23.50	14.10	23.02	8,100	<50	<50	<50	<50	7,900	1.5	--	m
04/05/2004	NP		9.50	23.50	14.14	22.98	4,000	<25	<25	<25	<25	2,000	1.0	6.6	
07/13/2004	NP		9.50	23.50	15.37	21.75	<5,000	<50	<50	<50	<50	4,000	0.8	6.7	
11/04/2004	NP		9.50	23.50	15.53	21.59	7,400	<50	<50	<50	<50	6,300	3.5	6.7	
01/20/2005	NP		9.50	23.50	13.51	23.61	6,500	<50	<50	<50	<50	6,900	0.7	6.5	n
04/11/2005	NP		9.50	23.50	12.75	24.37	<5,000	<50	<50	<50	<50	2,600	0.5	7.0	
08/01/2005	NP		9.50	23.50	14.59	22.53	110	<1.0	<1.0	<1.0	<1.0	130	1.36	7.5	
10/21/2005	NP		9.50	23.50	15.57	21.55	<250	<2.5	<2.5	<2.5	<2.5	86	1.53	6.8	
01/18/2006	NP		9.50	23.50	12.60	24.52	<250	<2.5	<2.5	<2.5	<2.5	100	1.2	6.7	
04/14/2006	NP		9.50	23.50	11.74	25.38	310	<2.5	<2.5	<2.5	<2.5	240	0.93	6.6	
7/19/2006	NP		9.50	23.50	13.78	23.34	<50	<2.5	<2.5	<2.5	<2.5	84	1.2	6.6	
10/24/2006	P		9.50	23.50	14.95	22.17	61	<0.50	<0.50	<0.50	<0.50	17	--	6.69	
1/15/2007	P		9.50	23.50	14.63	22.49	73	<0.50	<0.50	<0.50	<0.50	36	2.8	6.73	
4/18/2007	NP		9.50	23.50	14.50	22.62	93	<2.5	<2.5	<2.5	<2.5	16	1.66	6.84	n, EBZ present in method blank
7/17/2007	NP		9.50	23.50	15.55	21.57	53	<2.5	<2.5	<2.5	<2.5	6.6	5.02	7.02	n
10/11/2007	NP		9.50	23.50	15.83	21.29	<50	<0.50	<0.50	<0.50	<0.50	4.8	2.92	7.23	
1/8/2008	NP		9.50	23.50	13.82	23.30	<50	<0.50	<0.50	<0.50	<0.50	5.6	1.80	6.91	
4/8/2008	NP		9.50	23.50	14.38	22.74	<50	<0.50	<0.50	<0.50	<0.50	8.0	1.14	6.76	
8/20/2008	NP		9.50	23.50	16.11	21.01	<50	<1.0	<1.0	<1.0	<1.0	3.6	1.65	6.86	
11/17/2008	NP		9.50	23.50	16.15	20.97	<50	<0.50	<0.50	<0.50	<0.50	1.3	0.66	6.93	
2/3/2009	NP		9.50	23.50	15.83	21.29	<50	<0.50	<0.50	<0.50	<0.50	<0.50	2.38	6.77	

Table 1. Summary of Groundwater Monitoring Data: Relative Water Elevations and Laboratory Analyses

ARCO Service Station #2111, 1156 Davis St, San Leandro, CA

Well ID and Date Monitored	P/NP	TOC (feet)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet)	Water Level Elevation (feet)	Concentrations in µg/L						DO (mg/L)	pH	Footnote
							GRO/ TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE			
MW-5 Cont.															
5/12/2009	NP	37.12	9.50	23.50	14.48	22.64	<50	<0.50	<0.50	<0.50	<0.50	2.5	0.41	6.83	
8/13/2009	NP		9.50	23.50	16.30	20.82	<50	<1.0	<1.0	<1.0	<1.0	1.3	0.78	7.06	u
2/18/2010	NP		9.50	23.50	13.95	23.17	<50	<0.50	<0.50	<0.50	<0.50	2.2	1.36	6.40	
7/23/2010	NP		9.50	23.50	14.98	22.14	<50	<0.50	<0.50	<0.50	<0.50	<0.50	0.75	7.2	
2/10/2011	NP		9.50	23.50	14.24	22.88	<50	<0.50	<0.50	<0.50	<0.50	0.73	0.83	6.7	
8/30/2011	NP		9.50	23.50	14.99	22.13	<50	<0.50	<0.50	<0.50	<0.50	1.9	1.64	8.2	
2/17/2012	**P**		**9.50**	**23.50**	**15.16**	**21.96**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**0.98**	**0.85**	**7.05**	
MW-6															
6/26/2000	--	37.11	10.00	25.00	13.46	23.65	--	--	--	--	--	--	--	--	
7/20/2000	--		10.00	25.00	13.94	23.17	<50	<0.5	<0.5	<0.5	<1.0	<3.0	--	--	
9/19/2000	--		10.00	25.00	14.41	22.70	<50	<0.5	<0.5	<0.5	<1.0	<3.0	--	--	
12/21/2000	--		10.00	25.00	14.53	22.58	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--	
3/13/2001	--		10.00	25.00	12.67	24.44	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--	
9/18/2001	--		10.00	25.00	15.42	21.69	<50	<0.5	<0.5	<0.5	<0.5	<2.5/<2.0	--	--	
12/28/2001	--		10.00	25.00	12.96	24.15	<50	<0.5	<0.5	<0.5	<0.5	12/<0.5	--	--	
3/14/2002	--		10.00	25.00	12.98	24.13	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--	
4/23/2002	--		10.00	25.00	12.44	24.67	<50	<0.5	<0.5	<0.5	<0.5	3.1	--	--	
7/17/2002	NP		10.00	25.00	14.65	22.46	<50	<0.50	<0.50	<0.50	<0.50	<2.5	7.3	7.3	
10/9/2002	NP		10.00	25.00	15.51	21.60	<50	<0.50	<0.50	<0.50	<0.50	<2.5	7.1	7.1	
1/13/2003	NP		10.00	25.00	12.27	24.84	<50	<0.50	<0.50	<0.50	<0.50	<2.5	6.8	6.8	
04/07/03	NP		10.00	25.00	13.61	23.50	<50	<0.50	<0.50	<0.50	<0.50	<0.50	6.6	6.6	
7/9/2003	--		10.00	25.00	14.34	22.77	<50	<0.50	<0.50	<0.50	<0.50	<0.50	7	7.0	
02/05/2004	--		10.00	25.00	13.38	23.73	--	--	--	--	--	--	--	--	m
04/05/2004	--		10.00	25.00	13.31	23.80	--	--	--	--	--	--	--	--	
07/13/2004	NP		10.00	25.00	14.65	22.46	<50	<0.50	<0.50	<0.50	<0.50	<0.50	2.7	6.8	
11/04/2004	--		10.00	25.00	14.95	22.16	--	--	--	--	--	--	--	--	
01/20/2005	--		10.00	25.00	12.57	24.54	--	--	--	--	--	--	--	--	
04/11/2005	--		10.00	25.00	12.05	25.06	--	--	--	--	--	--	--	--	
08/01/2005	NP		10.00	25.00	13.79	23.32	<50	<0.50	<0.50	<0.50	<0.50	<0.50	1.15	7.6	
10/21/2005	--		10.00	25.00	14.60	22.51	--	--	--	--	--	--	--	--	

Table 1. Summary of Groundwater Monitoring Data: Relative Water Elevations and Laboratory Analyses

ARCO Service Station #2111, 1156 Davis St, San Leandro, CA

Well ID and Date Monitored	P/NP	TOC (feet)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet)	Water Level Elevation (feet)	Concentrations in µg/L						DO (mg/L)	pH	Footnote
							GRO/ TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE			
MW-6 Cont.															
01/18/2006	--	37.11	10.00	25.00	11.80	25.31	--	--	--	--	--	--	--	--	
04/14/2006	--		10.00	25.00	10.92	26.19	--	--	--	--	--	--	--	--	
7/19/2006	NP		10.00	25.00	12.92	24.19	<50	<0.50	<0.50	<0.50	<0.50	<0.50	1.3	6.9	
10/24/2006	--		10.00	25.00	14.23	22.88	--	--	--	--	--	--	--	--	
1/15/2007	--		10.00	25.00	13.80	23.31	--	--	--	--	--	--	--	--	
4/18/2007	--		10.00	25.00	13.67	23.44	--	--	--	--	--	--	--	--	
7/17/2007	NP		10.00	25.00	14.08	23.03	<50	<0.50	<0.50	<0.50	<0.50	<0.50	4.40	7.02	
10/11/2007	--		10.00	25.00	15.28	21.83	--	--	--	--	--	--	--	--	
1/8/2008	--		10.00	25.00	13.08	24.03	--	--	--	--	--	--	--	--	
4/8/2008	--		10.00	25.00	13.52	23.59	--	--	--	--	--	--	--	--	
8/20/2008	NP		10.00	25.00	15.59	21.52	<50	<0.50	<0.50	<0.50	<0.50	<0.50	1.66	6.83	
11/17/2008	--		10.00	25.00	15.61	21.50	--	--	--	--	--	--	--	--	
2/3/2009	--		10.00	25.00	15.23	21.88	--	--	--	--	--	--	--	--	
5/12/2009	--		10.00	25.00	14.09	23.02	--	--	--	--	--	--	--	--	
8/13/2009	NP		10.00	25.00	15.80	21.31	<50	<0.50	<0.50	<0.50	<0.50	<0.50	0.85	7.02	u
2/18/2010	--		10.00	25.00	12.96	24.15	--	--	--	--	--	--	--	--	
7/23/2010	NP		10.00	25.00	13.91	23.20	210	<0.50	<0.50	<0.50	<0.50	<0.50	0.65	6.73	
2/10/2011	--		10.00	25.00	13.15	23.96	--	--	--	--	--	--	--	--	
8/30/2011	NP		10.00	25.00	13.10	24.01	<50	<0.50	<0.50	<0.50	<0.50	<0.50	1.60	7.2	
2/17/2012	**--**		**10.00**	**25.00**	**14.46**	**22.65**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-7															
6/26/2000	--	38.68	12.00	27.00	14.34	24.34	--	--	--	--	--	--	--	--	
7/20/2000	--		12.00	27.00	15.26	23.42	14,000	5.4	<0.5	2.8	5.9	71,000	--	--	
9/19/2000	--		12.00	27.00	15.70	22.98	8,400	420	38	470	220	5,600	--	--	
12/21/2000	--		12.00	27.00	16.02	22.66	--	--	--	--	--	--	--	--	
3/13/2001	--		12.00	27.00	14.18	24.50	<2,000	154	63	46.3	127	75,000/160,00	--	--	
9/18/2001	--		12.00	27.00	17.02	21.66	<100,000	1,900	<1,000	<1,000	2,800	90,000/370,00	--	--	
12/28/2001	--		12.00	27.00	14.81	23.87	<20,000	<200	<200	<200	<200	84,000/72,000	--	--	
3/14/2002	--		12.00	27.00	14.60	24.08	<50,000	<500	<500	<500	<500	85,000/85,000	--	--	
4/23/2002	--		12.00	27.00	13.94	24.74	<20,000	530	200	220	800	67,000	--	--	

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							GRO/ TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE			
MW-7 Cont.															
7/17/2002	NP	38.68	12.00	27.00	16.27	22.41	26,000	720	<250	<250	860	120,000	6.9	6.9	d
10/9/2002	NP		12.00	27.00	17.16	21.52	110,000	1,500	4,400	820	5,400	)7,000/120,000	6.8	6.8	d
1/13/2003	NP		12.00	27.00	13.82	24.86	<50,000	<500	<500	<500	2,200	33,000	6.6	6.6	f
04/07/03	NP		12.00	27.00	14.52	24.16	<2,500	30	<25	<25	<25	710	7.0	7.0	
7/9/2003	--		12.00	27.00	15.97	22.71	66,000	<500	<500	<500	<500	36,000	6.7	6.7	
02/05/2004	NP	38.54	12.00	27.00	14.75	23.79	55,000	300	<250	<250	<250	34,000	1.0	6.7	m
04/05/2004	NP		12.00	27.00	14.63	23.91	62,000	520	<250	<250	380	37,000	1.0	6.7	
07/13/2004	NP		12.00	27.00	16.31	22.23	<100,000	<1,000	<1,000	<1,000	<1,000	56,000	0.7	6.7	
11/04/2004	--		12.00	27.00	16.46	22.08	70,000	<500	<500	<500	<500	71,000	2.0	6.6	
01/20/2005	NP		12.00	27.00	14.05	24.49	34,000	<250	<250	<250	<250	36,000	0.6	6.3	n
04/11/2005	NP		12.00	27.00	12.55	25.99	<2,500	46	<25	<25	<25	1,200	0.7	6.8	
08/01/2005	NP		12.00	27.00	15.11	23.43	<25,000	<250	<250	<250	<250	4,800	1.78	7.3	
10/21/2005	NP		12.00	27.00	15.65	22.89	14,000	350	<100	<100	110	12,000	1.41	6.6	p
01/18/2006	NP		12.00	27.00	12.60	25.94	16,000	310	<100	<100	110	13,000	0.87	6.7	
04/14/2006	NP		12.00	27.00	12.09	26.45	<10,000	<100	<100	<100	<100	4,700	0.88	6.9	
7/19/2006	NP		12.00	27.00	13.58	24.96	1,300	23	<10	18	26	1,600	1.1	6.8	q
10/24/2006	P		12.00	27.00	15.13	23.41	6,800	100	<5.0	16	15	14,000	--	6.93	
1/15/2007	P		12.00	27.00	14.43	24.11	2,500	<100	<100	<100	<100	3,900	2.12	7.44	n
4/18/2007	NP		12.00	27.00	14.30	24.24	3,000	50	<50	<50	<50	2,700	4.47	7.22	n
7/17/2007	NP		12.00	27.00	23.75	14.79	560	<25	<25	<25	<25	890	4.23	7.41	n
10/11/2007	NP		12.00	27.00	16.18	22.36	210	<2.5	<2.5	<2.5	<2.5	370	2.99	7.33	t (GRO)
1/8/2008	NP		12.00	27.00	13.90	24.64	5,100	45	<25	<25	<25	6,100	2.50	7.23	n
4/8/2008	NP		12.00	27.00	14.22	24.32	270	0.50	<0.50	1.2	0.66	1,200	1.67	7.17	
8/20/2008	NP		12.00	27.00	16.57	21.97	<50	<0.50	<0.50	<0.50	<0.50	39	2.12	7.04	
11/17/2008	NP		12.00	27.00	22.91	15.63	68	1.8	1.9	0.54	2.0	28	1.14	6.95	
2/3/2009	NP		12.00	27.00	17.86	20.68	<50	<0.50	<0.50	<0.50	<0.50	18	2.58	6.97	
5/12/2009	NP		12.00	27.00	15.36	23.18	110	2.0	<0.50	<0.50	2.9	390	0.72	7.14	
8/13/2009	NP		12.00	27.00	24.10	14.44	<50	<0.50	<0.50	<0.50	<0.50	21	0.84	7.11	u
2/18/2010	NP		12.00	27.00	14.21	24.33	190	<25	<25	<25	<25	1,300	1.52	7.06	v (GRO)
7/23/2010	NP		12.00	27.00	15.50	23.04	<50	<0.50	<0.50	<0.50	<0.50	1,000	0.57	6.89	v (GRO)

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							GRO/ TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE			
MW-7 Cont.															
2/10/2011	P	38.54	12.00	27.00	14.44	24.10	440	<25	<25	<25	<25	310	0.76	7.0	v (GRO)
8/30/2011	NP		12.00	27.00	15.10	23.44	480	<25	<25	<25	<25	180	0.80	6.9	w (GRO)
2/17/2012	**P**		**12.00**	**27.00**	**15.46**	**23.08**	**220**	**0.84**	**<0.50**	**<0.50**	**<0.50**	**110**	**1.99**	**7.50**	**w (GRO)**
MW-8															
02/05/2004	P	38.91	--	--	15.61	23.30	3,600	<25	<25	<25	<25	1,900	6.9	6.8	m
04/05/2004	P		--	--	15.64	23.27	1,900	<10	<10	<10	<10	1,200	3.2	6.7	
07/13/2004	P		--	--	17.22	21.69	<1,000	<10	<10	<10	<10	760	1.6	6.7	
11/04/2004	P		--	--	17.19	21.72	960	<5.0	<5.0	<5.0	<5.0	820	1.8	6.7	
01/20/2005	P		--	--	15.25	23.66	<2,500	<25	<25	<25	<25	1,400	1.5	6.4	
04/11/2005	P		--	--	14.17	24.74	700	<5.0	<5.0	<5.0	<5.0	610	1.1	7.1	
08/01/2005	P		--	--	16.10	22.81	<1,000	<10	<10	<10	<10	900	2.58	7.7	
10/21/2005	P		--	--	17.18	21.73	530	<5.0	<5.0	<5.0	<5.0	490	1.4	6.7	n
01/18/2006	P		--	--	13.60	25.31	<500	<5.0	<5.0	<5.0	<5.0	500	2.28	6.6	
04/14/2006	P		--	--	12.36	26.55	<500	<5.0	<5.0	<5.0	<5.0	300	1.97	6.6	
7/19/2006	P		--	--	14.75	24.16	4,500	<25	<25	<25	<25	4,200	1.2	6.6	
10/24/2006	--		--	--	--	--	--	--	--	--	--	--	--	--	s
1/15/2007	P		--	--	15.67	23.24	<50	<0.50	<0.50	<0.50	<0.50	67	1.35	6.68	
4/18/2007	P		--	--	15.53	23.38	100	0.51	<0.50	<0.50	<0.50	130	1.49	6.86	n
7/17/2007	NP		--	--	16.76	22.15	63	<0.50	<0.50	<0.50	<0.50	96	1.85	6.97	n
10/11/2007	P		--	--	16.99	21.92	100	0.52	<0.50	<0.50	<0.50	130	1.67	7.18	
1/8/2008	P		--	--	14.83	24.08	51	<0.50	<0.50	<0.50	<0.50	49	1.30	6.88	n
4/8/2008	P		--	--	15.38	23.53	<50	<0.50	<0.50	<0.50	<0.50	32	1.60	6.77	
8/20/2008	P		--	--	17.80	21.11	<50	<0.50	<0.50	<0.50	<0.50	13	1.18	6.94	
11/17/2008	P		--	--	17.47	21.44	<50	<0.50	<0.50	<0.50	<0.50	14	3.74	6.63	
2/3/2009	P		--	--	16.96	21.95	<50	<0.50	<0.50	<0.50	<0.50	16	0.83	6.9	
5/12/2009	P		--	--	15.93	22.98	<50	<0.50	<0.50	<0.50	<0.50	30	0.31	6.90	
8/13/2009	P		--	--	17.50	21.41	<50	<0.50	<0.50	<0.50	<0.50	7.5	0.65	7.44	
2/18/2010	P		--	--	14.93	23.98	<50	<0.50	<0.50	<0.50	<0.50	12	0.64	6.62	
7/23/2010	P		--	--	16.02	22.89	<50	<0.50	<0.50	<0.50	<0.50	8.2	0.94	6.7	
2/10/2011	P		--	--	15.28	23.63	<50	<0.50	<0.50	<0.50	<0.50	4.5	1.08	6.8	

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							GRO/ TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE			
MW-8 Cont.															
8/30/2011	P	38.91	--	--	16.08	22.83	<50	<0.50	<0.50	<0.50	<0.50	3.6	0.86	6.8	
2/17/2012	**P**		**--**	**--**	**16.34**	**22.57**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**1.8**	**0.83**	**7.10**	

Symbols & Abbreviations:
-- = Not analyzed/applicable/measured/available
< = Not detected at or above specified laboratory reporting limit
DO = Dissolved oxygen
DTW = Depth to water in ft bgs
ft bgs = feet below ground surface
ft MSL = feet above mean sea level
GRO = Gasoline range organics
GWE = Groundwater elevation in ft MSL
mg/L = Milligrams per liter
MTBE = Methyl tert-butyl ether
NP = Well not purged prior to sampling
P = Well purged prior to sampling
TOC = Top of casing elevation in ft MSL
TPH-g = Total petroleum hydrocarbons as gasoline
µg/L = Micrograms per liter

Footnotes:
a = Product sheen noted
b = Well was sampled after batch extraction event
c = Chromatogram Pattern: Gasoline C6-C10 for GRO/TPH-g
d = Hydrocarbon pattern was present in the requested fuel quantitation range but did not resemble the pattern of the requested fuel for GRO/TPH-g
e = Discrete peak @C6-C7 for GRO/TPH-g
f = This sample was analyzed beyond the EPA recommended holding time for TPH-g, benzene, toluene, ethylbenzene, and total xylenes (BTEX), and MTBE. The results may still be useful for their intended purpose
g = Well not sampled due to the detection of free product (FP)
h = GWE adjusted for FP: (thickness of FP x 0.8) + measured GWE
j = The closing calibration for benzene and total xylenes was outside acceptance limits by 1%. This should be considered in evaluating the result. The average % difference for all analytes met the 15% requirement and the QC suggested that calibration linearity was not a factor
k = The closing calibration was outside acceptance limits by 6%. This should be considered in evaluating the result. The average % difference for all analytes met the 15% requirement and the QC suggested that calibration linearity was not a factor
l = Toluene and MTBE were not confirmed using a secondary column in accordance to client contract
m = TOC elevations re-surveyed to NAVD '88 on February 23, 2004
n = Hydrocarbon result for GRO partly due to indiv. peak(s) in quantitative range
o = Light to moderate sheen
p = Result for MTBE partly due to individual peak(s) in quant. range
q = Gauged with tubing in well
r = Calib. verif. is within method limits but outside contract limits
s = Well inaccessible
t = Initial analysis within holding time but required dilution
u = Sample taken from VOA vial with air bubble > 6mm diameter
v = Quantitation of unknown hydrocarbon(s) in sample based on gasoline
w = Quantitated against gasoline

Notes:
Beginning with the second quarter 2003 sampling event (04/07/03), TPH-g, BTEX, and MTBE analyzed by EPA method 8260B. Prior to 04/07/03, TPH-g was analyzed by EPA method 8015 modified and MTBE was analyzed by EPA methods 8020/ 8260B

Beginning in the fourth quarter 2003, the laboratory modified the reported analyte list. TPH-g was changed to GRO. The resulting data may be impacted by the potential of non-TPH-g analytes within the requested fuel range resulting in a higher concentration being reported

Beginning in the second quarter 2004, the carbon range for GRO was changed from C6-C10 to C4-C12

Values for DO and pH were obtained through field measurements

GRO analysis was completed by EPA method 8260B (C4-C12) for samples collected from the time period April 2006 through February 4, 2008. The analysis for GRO was changed to EPA method 8015B (C6-C12) for samples collected from the time period February 5, 2008 through the present

The data within this table collected prior to April 2006 was provided to Broadbent & Associates, Inc. by Atlantic Richfield Company and their previous consultants. Broadbent & Associates, Inc. has not verified the accuracy of this information

Table 2. Summary of Fuel Additives Analytical Data

ARCO Service Station #2111, 1156 Davis St, San Leandro, CA

Well ID and Date Monitored	Concentrations in µg/L								Footnote
	Ethanol	TBA	MTBE	DIPE	ETBE	TAME	1,2-DCA	EDB	
MW-1									
7/20/2000	--	--	2,100	--	--	--	--	--	
9/19/2000	--	--	1,500	--	--	--	--	--	
12/21/2000	--	--	1,080/1,060	--	--	--	--	--	
3/13/2001	--	--	1,430/1,370	--	--	--	--	--	
9/18/2001	--	--	810/1,100	--	--	--	--	--	
12/28/2001	--	--	1,200/1,100	--	--	--	--	--	
3/14/2002	--	--	34/40	--	--	--	--	--	
4/23/2002	--	--	30	--	--	--	--	--	
7/17/2002	--	--	29	--	--	--	--	--	
10/9/2002	--	--	290	--	--	--	--	--	
1/13/2003	--	--	300	--	--	--	--	--	
04/07/03	<100	<20	22	<0.50	<0.50	<0.50	--	--	
7/9/2003	<5,000	<1,000	690	<25	<25	<25	--	--	
02/05/2004	<5,000	<1,000	1,100	<25	<25	32	<25	<25	
04/05/2004	<5,000	<1,000	1,700	<25	<25	38	<25	<25	a
07/13/2004	<2,000	780	730	<10	<10	19	<10	<10	a
11/04/2004	<1,000	<200	380	<5.0	<5.0	12	<5.0	<5.0	
01/20/2005	<1,000	<200	570	<5.0	<5.0	17	<5.0	<5.0	a
04/11/2005	<5,000	<1,000	1,100	<25	<25	34	<25	<25	
08/01/2005	<2,000	<400	1,400	<10	<10	40	<10	<10	
10/21/2005	<5,000	<1,000	970	<25	<25	<25	<25	<25	
01/18/2006	<1,500	<100	330	<2.5	<2.5	9.7	<2.5	<2.5	
04/14/2006	<1,500	<100	310	<2.5	<2.5	9.3	<2.5	<2.5	
7/19/2006	<1,500	<100	180	<2.5	<2.5	3.2	<2.5	<2.5	
10/24/2006	<1,500	<100	360	<2.5	<2.5	10	<2.5	<2.5	
1/15/2007	<1,500	<100	220	<2.5	<2.5	6.8	<2.5	<2.5	
4/18/2007	<1,500	<100	150	<2.5	<2.5	<2.5	<2.5	<2.5	
7/17/2007	<600	<40	94	<1.0	<1.0	2.3	<1.0	<1.0	
10/11/2007	<300	<20	62	<0.50	<0.50	<0.50	<0.50	<0.50	
1/8/2008	<300	74	90	<0.50	<0.50	2.5	<0.50	<0.50	a
4/8/2008	<300	57	110	<0.50	<0.50	2.6	<0.50	<0.50	
8/20/2008	<300	<10	3.3	<0.50	<0.50	<0.50	<0.50	<0.50	

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ARCO Service Station #2111, 1156 Davis St, San Leandro, CA

Well ID and Date Monitored	Concentrations in µg/L								Footnote
	Ethanol	TBA	MTBE	DIPE	ETBE	TAME	1,2-DCA	EDB	
MW-1 Cont.									
11/17/2008	<300	<10	21	<0.50	<0.50	0.52	<0.50	<0.50	
2/3/2009	<300	<10	16	<0.50	<0.50	<0.50	<0.50	<0.50	
5/12/2009	<300	<10	9.3	<0.50	<0.50	<0.50	<0.50	<0.50	
8/13/2009	<300	<10	5.5	<0.50	<0.50	<0.50	<0.50	<0.50	b
2/18/2010	<300	<10	1.4	<0.50	<0.50	<0.50	<0.50	<0.50	
7/23/2010	<300	<10	1.3	<0.50	<0.50	<0.50	<0.50	<0.50	
2/10/2011	<300	<10	1.1	<0.50	<0.50	<0.50	<0.50	<0.50	
8/30/2011	<300	<10	2.1	<0.50	<0.50	<0.50	<0.50	<0.50	
2/17/2012	**<300**	**<10**	**0.85**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	
MW-2									
7/20/2000	--	--	13,000	--	--	--	--	--	
9/19/2000	--	--	19,000	--	--	--	--	--	
12/21/2000	--	--	54,300/89,200	--	--	--	--	--	
12/21/2000	--	--	22,400/24,700	--	--	--	--	--	
3/13/2001	--	--	91,700/76,000	--	--	--	--	--	
3/13/2001	--	--	3,590/3,260	--	--	--	--	--	
12/28/2001	--	--	9,300/8,800	--	--	--	--	--	
3/14/2002	--	--	990/960	--	--	--	--	--	
4/23/2002	--	--	8,500	--	--	--	--	--	
7/17/2002	--	--	19,000/0.4	--	--	--	--	--	
04/05/2004	<1,000	<200	750	<5.0	<5.0	<5.0	<5.0	<5.0	
07/13/2004	<10,000	12,000	5,800	<50	<50	<50	<50	<50	a
08/31/2004	--	--	--	--	--	--	--	--	a
01/20/2005	<10,000	<2,000	7,000	<50	<50	<50	<50	<50	a
04/11/2005	<10,000	<2,000	2,700	<50	<50	<50	<50	<50	
08/01/2005	<10,000	<2,000	2,700	<50	<50	<50	<50	<50	
01/18/2006	<30,000	<2,000	1,600	<50	<50	<50	<50	<50	
04/14/2006	<30,000	<2,000	2,100	<50	<50	<50	<50	<50	
7/19/2006	<6,000	<400	930	<10	<10	<10	<10	<10	
1/15/2007	<6,000	1,900	1,400	<10	<10	<10	<10	<10	
4/18/2007	<6,000	1,200	1,100	<10	<10	<10	<10	<10	

Table 2. Summary of Fuel Additives Analytical Data

ARCO Service Station #2111, 1156 Davis St, San Leandro, CA

Well ID and Date Monitored	Concentrations in µg/L								Footnote
	Ethanol	TBA	MTBE	DIPE	ETBE	TAME	1,2-DCA	EDB	
MW-2 Cont.									
7/17/2007	<6,000	1,000	1,300	<10	<10	<10	<10	<10	
10/11/2007	<6,000	1,300	1,000	<10	<10	<10	<10	<10	
1/8/2008	<6,000	2,600	1,300	<10	<10	<10	<10	<10	a
4/8/2008	<300	970	690	<0.50	<0.50	3.3	<0.50	<0.50	
8/20/2008	<6,000	470	190	<10	<10	<10	<10	<10	
11/17/2008	<3,000	740	89	<5.0	<5.0	<5.0	<5.0	<5.0	
2/3/2009	<1,500	230	31	<2.5	<2.5	<2.5	<2.5	<2.5	
5/12/2009	<300	590	25	<0.50	<0.50	<0.50	<0.50	<0.50	
8/13/2009	<6,000	2,300	39	<10	<10	<10	<10	<10	b
2/18/2010	<3,000	1,000	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	
7/23/2010	<1,200	410	6.5	<2.0	<2.0	<2.0	<2.0	<2.0	
2/10/2011	<2400	2800	12	<4.0	<4.0	<4.0	<4.0	<4.0	
8/30/2011	<300	340	4.5	<0.50	<0.50	<0.50	<0.50	<0.50	
2/17/2012	**<1,500**	**920**	**2.9**	**<2.5**	**<2.5**	**<2.5**	**<2.5**	**<2.5**	
MW-3									
7/20/2000	--	--	130	--	--	--	--	--	
9/19/2000	--	--	160	--	--	--	--	--	
12/21/2000	--	--	143/125	--	--	--	--	--	
3/13/2001	--	--	126/122	--	--	--	--	--	
9/18/2001	--	--	110/75	--	--	--	--	--	
12/28/2001	--	--	90/63	--	--	--	--	--	
3/14/2002	--	--	100/88	--	--	--	--	--	
4/23/2002	--	--	77	--	--	--	--	--	
7/17/2002	--	--	47	--	--	--	--	--	
10/9/2002	--	--	26/29	--	--	--	--	--	
1/13/2003	--	--	59	--	--	--	--	--	
04/07/03	<100	<20	75	<0.50	<0.50	6.5	--	--	
7/9/2003	<100	<20	52	<0.50	<0.50	4.2	--	--	
02/05/2004	<100	<20	37	<0.50	<0.50	3.1	<0.50	<0.50	
04/05/2004	<100	<20	53	<0.50	<0.50	3.7	<0.50	<0.50	a
07/13/2004	<100	44	35	<0.50	<0.50	3.2	<0.50	<0.50	

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Well ID and Date Monitored	Concentrations in µg/L								Footnote
	Ethanol	TBA	MTBE	DIPE	ETBE	TAME	1,2-DCA	EDB	
MW-3 Cont.									
11/04/2004	<100	<20	25	<0.50	<0.50	2.2	<0.50	<0.50	
01/20/2005	<100	<20	27	<0.50	<0.50	2.6	<0.50	<0.50	
04/11/2005	<100	<20	21	<0.50	<0.50	2.0	<0.50	<0.50	
08/01/2005	<100	<20	23	<0.50	<0.50	1.9	<0.50	<0.50	
10/21/2005	<100	<20	19	<0.50	<0.50	2.0	<0.50	<0.50	
01/18/2006	<300	<20	13	<0.50	<0.50	1.3	<0.50	<0.50	
04/14/2006	<300	<20	6.7	<0.50	<0.50	0.61	<0.50	<0.50	
7/19/2006	<300	<20	11	<0.50	<0.50	0.72	<0.50	<0.50	r
10/24/2006	<300	<20	33	<0.50	<0.50	2.8	<0.50	<0.50	
1/15/2007	<300	<20	29	<0.50	<0.50	2.9	<0.50	<0.50	
4/18/2007	<300	<20	9.5	<0.50	<0.50	0.90	<0.50	<0.50	
7/17/2007	<300	<20	19	<0.50	<0.50	1.5	<0.50	<0.50	
10/11/2007	<300	<20	5.3	<0.50	<0.50	<0.50	<0.50	<0.50	
1/8/2008	<300	<20	8.9	<0.50	<0.50	0.84	<0.50	<0.50	a
4/8/2008	<300	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
8/20/2008	<300	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
11/17/2008	<300	<10	3.6	<0.50	<0.50	<0.50	<0.50	<0.50	
2/3/2009	<300	<10	2.1	<0.50	<0.50	<0.50	<0.50	<0.50	
5/12/2009	<300	<10	2.1	<0.50	<0.50	<0.50	<0.50	<0.50	
8/13/2009	<300	<10	2.7	<0.50	<0.50	<0.50	<0.50	<0.50	
2/18/2010	<300	<10	0.59	<0.50	<0.50	<0.50	<0.50	<0.50	
7/23/2010	<300	14	0.85	<0.50	<0.50	<0.50	<0.50	<0.50	
2/10/2011	<300	<10	0.51	<0.50	<0.50	<0.50	<0.50	<0.50	
8/30/2011	<300	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
2/17/2012	**<300**	**<10**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	
MW-4									
7/20/2000	--	--	51	--	--	--	--	--	
9/19/2000	--	--	60	--	--	--	--	--	
12/21/2000	--	--	46.3/48.6	--	--	--	--	--	
3/13/2001	--	--	53.7/50	--	--	--	--	--	
9/18/2001	--	--	25/26	--	--	--	--	--	

Table 2. Summary of Fuel Additives Analytical Data

ARCO Service Station #2111, 1156 Davis St, San Leandro, CA

Well ID and Date Monitored	Concentrations in µg/L								Footnote
	Ethanol	TBA	MTBE	DIPE	ETBE	TAME	1,2-DCA	EDB	
MW-4 Cont.									
12/28/2001	--	--	15/11	--	--	--	--	--	
3/14/2002	--	--	31/28	--	--	--	--	--	
4/23/2002	--	--	42	--	--	--	--	--	
7/17/2002	--	--	16	--	--	--	--	--	
10/9/2002	--	--	20/23	--	--	--	--	--	
1/13/2003	--	--	22	--	--	--	--	--	
04/07/03	<100	<20	24	<0.50	<0.50	7.3	--	--	
7/9/2003	<100	<20	34	<0.50	<0.50	9.8	--	--	
02/05/2004	<100	<20	22	<0.50	<0.50	6.2	<0.50	<0.50	
04/05/2004	<100	<20	27	<0.50	<0.50	7.2	<0.50	<0.50	a
07/13/2004	<100	26	27	<0.50	<0.50	7.4	<0.50	<0.50	a
11/04/2004	<100	<20	19	<0.50	<0.50	5.1	<0.50	<0.50	
01/20/2005	<100	<20	18	<0.50	<0.50	5.2	<0.50	<0.50	
04/11/2005	<100	<20	14	<0.50	<0.50	4.0	<0.50	<0.50	
08/01/2005	<100	<20	18	<0.50	<0.50	3.9	<0.50	<0.50	
10/21/2005	<100	<20	15	<0.50	<0.50	4.6	<0.50	<0.50	
01/18/2006	<300	<20	8.9	<0.50	<0.50	2.5	<0.50	<0.50	
04/14/2006	<300	<20	4.2	<0.50	<0.50	1.3	<0.50	<0.50	
7/19/2006	<300	<20	3.4	<0.50	<0.50	0.69	<0.50	<0.50	r
10/24/2006	<300	<20	3.5	<0.50	<0.50	0.91	<0.50	<0.50	
1/15/2007	<300	<20	3.8	<0.50	<0.50	0.98	<0.50	<0.50	
4/18/2007	<300	<20	5.6	<0.50	<0.50	1.1	<0.50	<0.50	
7/17/2007	<300	<20	6.6	<0.50	<0.50	1.7	<0.50	<0.50	
10/11/2007	<300	<20	0.81	<0.50	<0.50	<0.50	<0.50	<0.50	
1/8/2008	<300	<20	1.2	<0.50	<0.50	<0.50	<0.50	<0.50	a
4/8/2008	<300	<10	1.7	<0.50	<0.50	<0.50	<0.50	<0.50	
8/20/2008	<300	<10	0.70	<0.50	<0.50	<0.50	<0.50	<0.50	
11/17/2008	<300	<10	0.73	<0.50	<0.50	<0.50	<0.50	<0.50	
2/3/2009	<300	<10	0.67	<0.50	<0.50	<0.50	<0.50	<0.50	
5/12/2009	<300	<10	0.62	<0.50	<0.50	<0.50	<0.50	<0.50	
8/13/2009	<300	<10	0.65	<0.50	<0.50	<0.50	<0.50	<0.50	b
2/18/2010	<300	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	

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ARCO Service Station #2111, 1156 Davis St, San Leandro, CA

Well ID and Date Monitored	Concentrations in µg/L								Footnote
	Ethanol	TBA	MTBE	DIPE	ETBE	TAME	1,2-DCA	EDB	
MW-4 Cont.									
7/23/2010	<300	<10	0.52	<0.50	<0.50	<0.50	<0.50	<0.50	
2/10/2011	<300	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
8/30/2011	<300	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
2/17/2012	**<300**	**<10**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	
MW-5									
7/20/2000	--	--	14,000	--	--	--	--	--	
9/19/2000	--	--	13,000	--	--	--	--	--	
12/21/2000	--	--	19,200/21,200	--	--	--	--	--	
3/13/2001	--	--	15,900/20,000	--	--	--	--	--	
9/18/2001	--	--	22,000/20,000	--	--	--	--	--	
12/28/2001	--	--	10,000/10,000	--	--	--	--	--	
3/14/2002	--	--	7,100/7,700	--	--	--	--	--	
4/23/2002	--	--	8,900	--	--	--	--	--	
7/17/2002	--	--	13,000	--	--	--	--	--	
10/9/2002	--	--	7,300/7,500	--	--	--	--	--	
1/13/2003	--	--	8,900	--	--	--	--	--	
04/07/03	<20,000	<4,000	3,700	<100	<100	<100	--	--	
7/9/2003	<10,000	<2,000	6,500	<50	<50	<50	--	--	
02/05/2004	<10,000	<2,000	7,900	<50	<50	<50	<50	<50	a
04/05/2004	<5,000	<1,000	2,000	<25	<25	<25	<25	<25	a
07/13/2004	<10,000	3,200	4,000	<50	<50	<50	<50	<50	a
11/04/2004	<10,000	<2,000	6,300	<50	<50	<50	<50	<50	
01/20/2005	<10,000	<2,000	6,900	<50	<50	<50	<50	<50	a
04/11/2005	<10,000	3,600	2,600	<50	<50	<50	<50	<50	
08/01/2005	<200	1,600	130	<1.0	<1.0	<1.0	<1.0	<1.0	
10/21/2005	<500	1,400	86	<2.5	<2.5	<2.5	<2.5	<2.5	
01/18/2006	<1,500	2,200	100	<2.5	<2.5	<2.5	<2.5	<2.5	
04/14/2006	<1,500	2,100	240	<2.5	<2.5	<2.5	<2.5	<2.5	
7/19/2006	<1,500	2,800	84	<2.5	<2.5	<2.5	<2.5	<2.5	r
10/24/2006	<300	1,200	17	<0.50	<0.50	<0.50	<0.50	<0.50	a
1/15/2007	<300	990	36	<0.50	<0.50	<0.50	<0.50	<0.50	

Table 2. Summary of Fuel Additives Analytical Data

ARCO Service Station #2111, 1156 Davis St, San Leandro, CA

Well ID and Date Monitored	Concentrations in µg/L								Footnote
	Ethanol	TBA	MTBE	DIPE	ETBE	TAME	1,2-DCA	EDB	
MW-5 Cont.									
4/18/2007	<1,500	2,000	16	<2.5	<2.5	<2.5	<2.5	<2.5	
7/17/2007	<1,500	1,100	6.6	<2.5	<2.5	<2.5	<2.5	<2.5	
10/11/2007	<300	750	4.8	<0.50	<0.50	<0.50	<0.50	<0.50	
1/8/2008	<300	220	5.6	<0.50	<0.50	<0.50	<0.50	<0.50	a
4/8/2008	<300	300	8.0	<0.50	<0.50	<0.50	<0.50	<0.50	
8/20/2008	<600	520	3.6	<1.0	<1.0	<1.0	<1.0	<1.0	
11/17/2008	<300	160	1.3	<0.50	<0.50	<0.50	<0.50	<0.50	
2/3/2009	<300	94	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
5/12/2009	<300	29	2.5	<0.50	<0.50	<0.50	<0.50	<0.50	
8/13/2009	<600	180	1.3	<1.0	<1.0	<1.0	<1.0	<1.0	b
2/18/2010	<300	17	2.2	<0.50	<0.50	<0.50	<0.50	<0.50	
7/23/2010	<300	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
2/10/2011	<300	<10	0.73	<0.50	<0.50	<0.50	<0.50	<0.50	
8/30/2011	<300	<10	1.9	<0.50	<0.50	<0.50	<0.50	<0.50	
2/17/2012	**<300**	**<10**	**0.98**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	
MW-6									
7/20/2000	--	--	<3.0	--	--	--	--	--	
9/19/2000	--	--	<3.0	--	--	--	--	--	
12/21/2000	--	--	<2.5	--	--	--	--	--	
3/13/2001	--	--	<2.5	--	--	--	--	--	
9/18/2001	--	--	<2.5/<2.0	--	--	--	--	--	
12/28/2001	--	--	12/<0.5	--	--	--	--	--	
3/14/2002	--	--	<2.5	--	--	--	--	--	
4/23/2002	--	--	3.1	--	--	--	--	--	
7/17/2002	--	--	<2.5	--	--	--	--	--	
10/9/2002	--	--	<2.5	--	--	--	--	--	
1/13/2003	--	--	<2.5	--	--	--	--	--	
04/07/03	<100	<20	<0.50	<0.50	<0.50	<0.50	--	--	
7/9/2003	<100	<20	<0.50	<0.50	<0.50	<0.50	--	--	
07/13/2004	<100	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	a
08/01/2005	<100	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	

Table 2. Summary of Fuel Additives Analytical Data

ARCO Service Station #2111, 1156 Davis St, San Leandro, CA

Well ID and Date Monitored	Concentrations in µg/L								Footnote
	Ethanol	TBA	MTBE	DIPE	ETBE	TAME	1,2-DCA	EDB	
MW-6 Cont.									
7/19/2006	<300	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	r
7/17/2007	<300	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
8/20/2008	<300	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
8/13/2009	<300	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	b
7/23/2010	<300	15	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
8/30/2011	<300	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
MW-7									
7/20/2000	--	--	71,000	--	--	--	--	--	
9/19/2000	--	--	5,600	--	--	--	--	--	
3/13/2001	--	--	75,000/160,00	--	--	--	--	--	
9/18/2001	--	--	90,000/370,00	--	--	--	--	--	
12/28/2001	--	--	34,000/72,000	--	--	--	--	--	
3/14/2002	--	--	35,000/85,000	--	--	--	--	--	
4/23/2002	--	--	67,000	--	--	--	--	--	
7/17/2002	--	--	120,000	--	--	--	--	--	
10/9/2002	--	--	7,000/120,00	--	--	--	--	--	
1/13/2003	--	--	33,000	--	--	--	--	--	
04/07/03	<5,000	<1,000	710	<25	<25	<25	--	--	
7/9/2003	<100,000	<20,000	36,000	<500	<500	<500	--	--	
02/05/2004	<50,000	<10,000	34,000	<250	<250	<250	<250	<250	
04/05/2004	<50,000	<10,000	37,000	<250	<250	<250	<250	<250	
07/13/2004	<200,000	<40,000	56,000	<1,000	<1,000	1,300	<1,000	<1,000	
11/04/2004	<100,000	<20,000	71,000	<500	<500	<500	<500	<500	
01/20/2005	<50,000	<10,000	36,000	<250	<250	<250	<250	<250	a
04/11/2005	<5,000	<1,000	1,200	<25	<25	<25	<25	<25	
08/01/2005	<50,000	<10,000	4,800	<250	<250	<250	<250	<250	
10/21/2005	<20,000	24,000	12,000	<100	<100	<100	<100	<100	
01/18/2006	<60,000	15,000	13,000	<100	<100	<100	<100	<100	
04/14/2006	<60,000	<4,000	4,700	<100	<100	<100	<100	<100	
7/19/2006	<6,000	720	1,600	<10	<10	<10	<10	<10	
10/24/2006	<3,000	10,000	14,000	<5.0	<5.0	31	<5.0	<5.0	a

Table 2. Summary of Fuel Additives Analytical Data

ARCO Service Station #2111, 1156 Davis St, San Leandro, CA

Well ID and Date Monitored	Concentrations in µg/L								Footnote
	Ethanol	TBA	MTBE	DIPE	ETBE	TAME	1,2-DCA	EDB	
MW-7 Cont.									
1/15/2007	<60,000	9,300	3,900	<100	<100	<100	<100	<100	
4/18/2007	<30,000	<2,000	2,700	<50	<50	<50	<50	<50	
7/17/2007	<15,000	<1,000	890	<25	<25	<25	<25	<25	
10/11/2007	<1,500	150	370	<2.5	<2.5	<2.5	<2.5	<2.5	
1/8/2008	<15,000	1,400	6,100	<25	<25	32	<25	<25	
4/8/2008	<300	700	1,200	<0.50	<0.50	5.1	<0.50	<0.50	
8/20/2008	<300	34	39	<0.50	<0.50	<0.50	<0.50	<0.50	
11/17/2008	<300	44	28	<0.50	<0.50	<0.50	<0.50	<0.50	
2/3/2009	<300	66	18	<0.50	<0.50	<0.50	<0.50	<0.50	
5/12/2009	<300	75	390	<0.50	<0.50	1.2	<0.50	<0.50	
8/13/2009	<300	19	21	<0.50	<0.50	<0.50	<0.50	<0.50	b
2/18/2010	<15,000	2,300	1,300	<25	<25	<25	<25	<25	
7/23/2010	<300	7,800	1,000	<0.50	<0.50	3.6	<0.50	<0.50	
2/10/2011	<15,000	9900	310	<25	<25	<25	<25	<25	
8/30/2011	<15,000	9,500	180	<25	<25	<25	<25	<25	
2/17/2012	**<300**	**12,000**	**110**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	
MW-8									
02/05/2004	<5,000	<1,000	1,900	<25	<25	<25	<25	<25	
04/05/2004	<2,000	<400	1,200	<10	<10	12	<10	<10	a
07/13/2004	<2,000	770	760	<10	<10	<10	<10	<10	a
11/04/2004	<1,000	<200	820	<5.0	<5.0	9.6	<5.0	<5.0	
01/20/2005	<5,000	<1,000	1,400	<25	<25	<25	<25	<25	a
04/11/2005	<1,000	<200	610	<5.0	<5.0	8.1	<5.0	<5.0	
08/01/2005	<2,000	<400	900	<10	<10	<10	<10	<10	
10/21/2005	<1,000	<200	490	<5.0	<5.0	<5.0	<5.0	<5.0	
01/18/2006	<3,000	<200	500	<5.0	<5.0	5.2	<5.0	<5.0	
04/14/2006	<3,000	<200	300	<5.0	<5.0	<5.0	<5.0	<5.0	
7/19/2006	<15,000	<1,000	4,200	<25	<25	45	<25	<25	
1/15/2007	<300	52	67	<0.50	<0.50	0.88	<0.50	<0.50	
4/18/2007	<300	120	130	<0.50	<0.50	1.9	<0.50	<0.50	
7/17/2007	<300	110	96	<0.50	<0.50	1.2	<0.50	<0.50	

Table 2. Summary of Fuel Additives Analytical Data

ARCO Service Station #2111, 1156 Davis St, San Leandro, CA

Well ID and Date Monitored	Concentrations in µg/L								Footnote
	Ethanol	TBA	MTBE	DIPE	ETBE	TAME	1,2-DCA	EDB	
MW-8 Cont.									
10/11/2007	<300	350	130	<0.50	<0.50	1.7	<0.50	<0.50	
1/8/2008	<300	59	49	<0.50	<0.50	0.80	<0.50	<0.50	
4/8/2008	<300	110	32	<0.50	<0.50	<0.50	<0.50	<0.50	
8/20/2008	<300	62	13	<0.50	<0.50	<0.50	<0.50	<0.50	
11/17/2008	<300	24	14	<0.50	<0.50	<0.50	<0.50	<0.50	
2/3/2009	<300	17	16	<0.50	<0.50	<0.50	<0.50	<0.50	
5/12/2009	<300	18	30	<0.50	<0.50	<0.50	<0.50	<0.50	
8/13/2009	<300	28	7.5	<0.50	<0.50	<0.50	<0.50	<0.50	
2/18/2010	<300	37	12	<0.50	<0.50	<0.50	<0.50	<0.50	
7/23/2010	<300	53	8.2	<0.50	<0.50	<0.50	<0.50	<0.50	
2/10/2011	<300	23	4.5	<0.50	<0.50	<0.50	<0.50	<0.50	
8/30/2011	<300	<10	3.6	<0.50	<0.50	<0.50	<0.50	<0.50	
2/17/2012	**<300**	**<10**	**1.8**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	

Symbols & Abbreviations:
-- = Not analyzed/applicable/measured/available
< = Not detected at or above specified laboratory reporting limit
1,2-DCA = 1,2-Dichloroethane
DIPE = Diisopropyl ether
EDB = 1,2-Dibromoethane
ETBE = Ethyl tert-butyl ether
MTBE = Methyl tert-butyl ether
TAME = tert-Amyl methyl ether
TBA = tert-Butyl alcohol
µg/L = Micrograms per Liter

Footnotes:
a = The continuing calibration verification for ethanol was outside of client contractual acceptance limits. However, it was within method acceptance limits. The data should still be considered useful for its intended purpose
b = Sample taken from VOA vial with air bubble > 6mm diameter

Notes:
All volatile organic compounds analyzed using EPA Method 8260B

The data within this table collected prior to April 2006 was provided to Broadbent & Associates, Inc. by Atlantic Richfield Company and their previous consultants. Broadbent & Associates, Inc. has not verified the accuracy of this information

Table 3. Historical Groundwater Gradient - Direction and Magnitude

ARCO Service Station #2111, 1156 Davis St, San Leandro, CA

Date Measured	Approximate Gradient Direction	Approximate Gradient Magnitude (ft/ft)
7/20/2000	West-Northwest	0.006
9/19/2000	West-Northwest	0.004
12/21/2000	West-Northwest	0.004
3/13/2001	West-Northwest	0.005
5/30/2001	West-Northwest	0.004
9/18/2001	West-Northwest	0.003
12/28/2001	West-Northwest	0.003
3/14/2002	West	0.004
4/23/2002	West	0.006
7/17/2002	West	0.003
10/9/2002	West	0.002
1/13/2003	Southwest	0.0043
4/7/2003	West-Northwest	0.009 to 0.011
7/9/2003	West-Northwest	0.004
10/1/2003	West	0.002
2/5/2004	West	0.004
4/5/2004	West-Southwest	0.004
7/13/2004	West-Southwest	0.003
11/4/2004	West	0.003
1/20/2005	West	0.009
4/11/2005	North to West	0.009 to 0.01
8/1/2005	West to Northwest	0.006 to 0.004
10/21/2005	West	0.008
1/18/2006	North and West	0.01
4/14/2006	South	0.008
7/19/2006	Northwest to Southwest	0.004 to 0.008
10/24/2006	West	0.003
1/15/2007	Southwest	0.004
4/18/2007	West	0.009
7/17/2007	Southeast	0.05
10/11/2007	West	0.01
1/8/2008	West	0.008
4/8/2008	West	0.006
8/20/2008	West	0.006
11/17/2008	South-Southeast	0.05
2/3/2009	South-Southeast	0.01
5/12/2009	North to West	0.004
8/13/2009	South	0.006
2/18/2010	West-Southwest	0.001
7/23/2010	West-Southwest	0.002
2/10/2011	West	0.002
8/30/2011	West	0.01

Table 3. Historical Groundwater Gradient - Direction and Magnitude

ARCO Service Station #2111, 1156 Davis St, San Leandro, CA

Date Measured	Approximate Gradient Direction	Approximate Gradient Magnitude (ft/ft)
2/17/2012	**North to West**	**0.008**

Notes:
The data within this table collected prior to April 2006 was provided to Broadbent & Associates, Inc. by Atlantic Richfield Company and their previous consultants. Broadbent & Associates, Inc. has not verified the accuracy of this information

APPENDIX C

Soil Boring and Well Construction Logs

GeoStrategies, Inc.

Log of Boring B-1

PROJECT: *ARCO PRODUCTS COMPANY*	LOCATION: *1156 Davis Street, San Leandro, Ca.*
GSI PROJECT NO.: *7940.03*	SURFACE ELEVATION:
DATE STARTED: *3/4/94*	WL (ft. bgs): *20* DATE: *3/4/94* TIME: *10:38*
DATE FINISHED: *3/4/94*	WL (ft. bgs): *18* DATE: *3/4/94* TIME: *10:45*
DRILLING METHOD: *8 in. Hollow Stem Auger*	TOTAL DEPTH: *20 Feet*
DRILLING COMPANY: *Exploration GeoServices Inc.*	GEOLOGIST: *RDC*

DEPTH feet	PID (ppm)	BLOWS/FT. *	SAMPLE NUMBER	SAMPLE INT.	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	REMARKS
						GW-GM	ASPHALT	Boring backfilled 18 to 20 feet with bentonite, surface to 18 feet with 10 sack cement/sand slurry with 5% bentonite.
						ML	GRAVEL WITH SILT AND SAND (GW-GM) – brown (10YR 5/3), damp, 60% angular gravel, 30% medium grained sand, 10% silt.	
5	0	6	B1-4.5				SILT (ML) – very dark gray (10YR 3/1), damp, low plasticity, medium stiff, 55% silt, 40% clay, 5% fine grained sand.	
10	0.1	22	B1-10				SILT (ML) – very dark grayish brown (10YR 3/2), damp, low plasticity, very stiff, 55% silt, 45% clay.	
15	0	32	B1-15				AS ABOVE	
20	3.1	21	B1-20				SILT (ML) – brown (10YR 5/3) with green mottling, very moist to wet, low plasticity, very stiff, 55% silt, 25% clay, 20% fine sand.	
							Bottom of boring at 20 feet. 3/4/94	
25							(* = converted to equivalent standard penetration blows/ft.)	
30								
35								

JOB NUMBER: *7940.03*

GeoStrategies, Inc.

Log of Boring B-2

PROJECT: *ARCO PRODUCTS COMPANY*	LOCATION: *1156 Davis Street, San Leandro, Ca.*
GSI PROJECT NO. : *7940.03*	SURFACE ELEVATION:
DATE STARTED: *3/4/94*	WL (ft. bgs): *20* DATE: *3/4/94* TIME: *11:30*
DATE FINISHED: *3/4/94*	WL (ft. bgs): *18.5* DATE: *3/4/94* TIME: *11:45*
DRILLING METHOD: *8 in. Hollow Stem Auger*	TOTAL DEPTH: *20 Feet*
DRILLING COMPANY: *Exploration GeoServices Inc.*	GEOLOGIST: *RDC*

DEPTH feet	PID (ppm)	BLOWS/FT. *	SAMPLE NUMBER	SAMPLE INT.	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	REMARKS
						GW-GM	ASPHALT	
						ML	GRAVEL WITH SILT AND SAND (GW-GM) – brown (10YR 5/3), damp, 60% angular gravel, 30% medium sand, 10% silt.	Boring backfilled 18 to 20 feet with bentonite, surface to 18 feet with 10 sack cement/sand slurry with 5% bentonite.
5	0	10	B2-5				SILT (ML) – very dark gray (10YR 3/1), damp, low plasticity, stiff, 65% silt, 25% clay, 10% fine sand.	
10	0	24	B2-10				SILT (ML) – very dark grayish brown (10YR 3/2), damp, low plasticity, very stiff, 90% silt, 5% clay, 5% fine sand.	
15	0.7	40	B2-15				SILT (ML) – very dark gray (10YR 3/2), moist, low plasticity, hard, 85% silt, 25% clay, 10% fine sand.	
20	52 45	13	B2-20				SILT (ML) –dark brown (10YR 4/3), low plasticity, stiff, 55% silt, 40% clay, 5% fine sand.	
25							Bottom of boring at 20 feet. 3/4/94	
30							(* = converted to equivalent standard penetration blows/ft.)	
35								

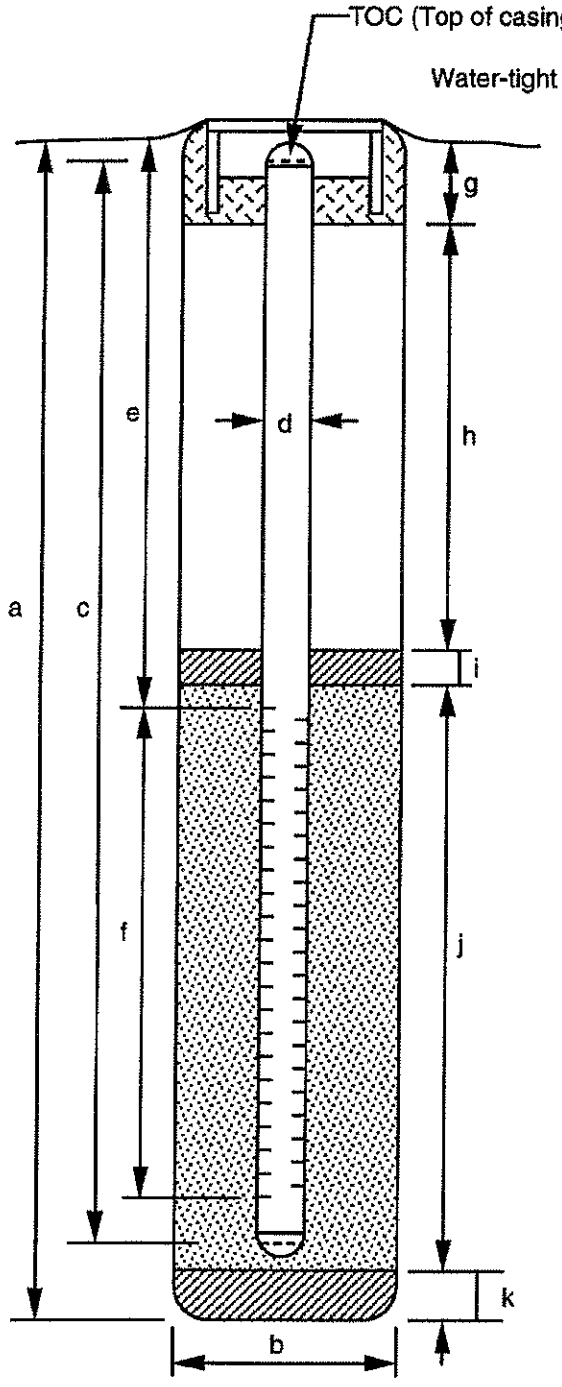
JOB NUMBER: *7940.03*

WELL DETAILS

EMCON ASSOCIATES

PROJECT NUMBER 0805-127.01
PROJECT NAME ARCO 2111
LOCATION 1156 Davis Street, San Leandro
WELL PERMIT NO. na

BORING / WELL NO. MW-1
TOP OF CASING ELEV. 39.60
GROUND SURFACE ELEV. 38.84
DATUM M.S.L.
INSTALLATION DATE 7/12/95



EXPLORATORY BORING

a. Total depth 30.0 ft.
b. Diameter 10.0 in.
Drilling method Hollow Stem Auger

WELL CONSTRUCTION

c. Total casing length na ft.
Material Schedule 40 PVC
d. Diameter 4.0 in.
e. Depth to top perforations 12.5 ft.
f. Perforated length 13.7 ft.
Perforated interval from 12.5 to 26.2 ft.
Perforation type Machine Slotted
Perforation size 0.020 inch
g. Surface seal 1.0 ft.
Material Concrete
h. Backfill 9.5 ft.
Material Cement
i. Seal 1.5 ft.
Material Bentonite
j. Gravel pack 16.5 ft.
Gravel pack interval from 10.5 to 27.0 ft.
Material 2/12 Sand
k. Bottom seal/fill 3.0 ft.
Material Bentonite

Form prepared by R. Davis

LOG OF EXPLORATORY BORING

PROJECT NUMBER: **0805-127.001**

BORING NO.: **MW-1**

PROJECT NAME: **ARCO Service Station 2111**

PAGE: **1 of 2**

BY: **R. Davis**

DATE: **7/12/95**

SURFACE ELEVATION: **39.84 ft.**

RECOVERY (ft/ft)		PENETRATION (blws/ft)	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	LITHOGRAPHIC COLUMN	DESCRIPTION	WELL DETAIL
							ASPHALT	
							FILL - SANDY GRAVEL (GP).	
							@3.2': cobbles to 5".	
80%	0	22		5			CLAYEY GRAVEL (GC), dark brown (7.5YR, 4/4); 20-25% medium plasticity fines; 30% fine to coarse sand; 45-50% fine to coarse gravel to 1.5"; medium dense; damp; no product odor. SILTY CLAY (CL), dark brown (10YR, 3/3); 95-100% low to medium plasticity fines; trace to 5% fine sand; stiff to very stiff;damp; no product odor.	
100%	0	27		10			@10.0-11.5': dark grayish brown (2.5Y, 4/2); increased silt content; trace dark brown organic fragments (0.5-2.0mm); very stiff; damp; no product odor.	
90%	0	29	▽	15			@15.0-16.5': SILTY CLAY (CL) and CLAYEY SILT (ML)- Interbedded, 70/30: SILTY CLAY (CL), dark brown (10YR, 3/3); 95-100% low to medium plasticity fines; trace to 5% fine sand; stiff to very stiff;damp; no product odor. CLAYEY SILT (ML), light olive brown (2.5Y, 5/4); 95-100% low plasticity fines; trace to 5% fine sand; very stiff to hard; damp; no product odor. @17.5': driller noted easier drilling in looser material.	
				20				

EMCON ASSOCIATES

REMARKS

Boring drilled with 8" diameter hollow-stem augers and reamed with 10" diameter augers. Samples were taken using a 2" diameter modified-California split spoon sampler. Boring converted into a 4" diameter polyvinyl chloride (PVC) groundwater monitoring well. See explanation sheet for definition of symbols used in well detail and sample columns of this log. See explanation sheet for definition of symbols on this log.

LOG OF EXPLORATORY BORING

PROJECT NUMBER: **0805-127.001**

BORING NO.: **MW-1**

PROJECT NAME: **ARCO Service Station 2111**

PAGE: **2 of 2**

BY: **R. Davis**

DATE: **7/12/95**

SURFACE ELEVATION: **39.84 ft.**

RECOVERY (ft/ft)		PENETRATION (blws/ft)	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	LITHOGRAPHIC COLUMN	DESCRIPTION	WELL DETAIL
100%	0	24					CLAYEY SANDY SILT (ML), light olive brown (2.5Y, 5/4) with yellowish brown (10YR, 5/6) mottling; 85-90% low to medium plasticity fines; 10-15% fine to coarse sand; firm; wet; no product odor. @22': driller noted harder drilling in more competant material.	
60%	0	15		25			@25.0-26.5': 5-10% fine sand; very stiff; damp to wet (moisture visible in voids); no odor.	
40%	0	8		30			SILTY CLAY (CL), dark greyish brown (2.5Y, 4/2); 90-95% low- to medium-plasticity fines; 5-10% fine sand; soft to firm; very moist, wet in void spaces; no product odor. BORING TERMINATED AT 30.0 FEET BGS.	
				35				
				40				

EMCON ASSOCIATES

REMARKS

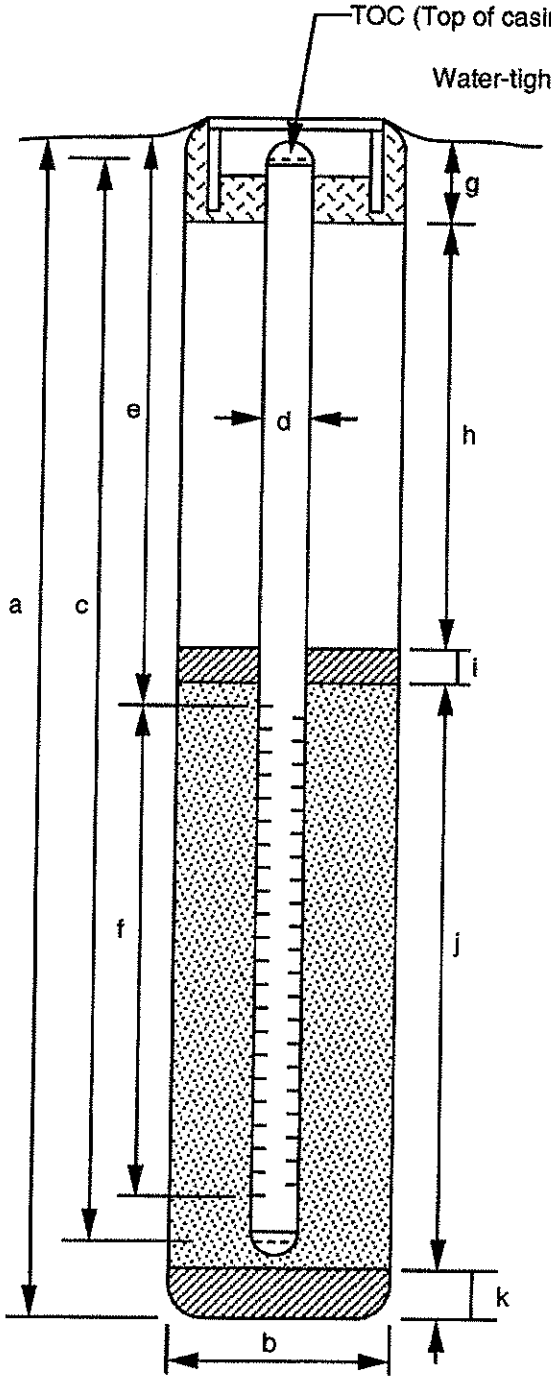
Boring drilled with 8" diameter hollow-stem augers and reamed with 10" diameter augers. Samples were taken using a 2" diameter modified-California split spoon sampler. Boring converted into a 4" diameter polyvinyl chloride (PVC) groundwater monitoring well. See explanation sheet for definition of symbols used in well detail and sample columns of this log. See explanation sheet for definition of symbols on this log.

WELL DETAILS

EMCON ASSOCIATES

PROJECT NUMBER 0805-127.01
PROJECT NAME ARCO 2111
LOCATION 1156 Davis Street, San Leandro
WELL PERMIT NO. na

BORING / WELL NO. MW-2
TOP OF CASING ELEV. 37.99
GROUND SURFACE ELEV. 38.71
DATUM M.S.L.
INSTALLATION DATE 7/12/95



EXPLORATORY BORING

a. Total depth 30.5 ft.
b. Diameter 10.0 in.
Drilling method Hollow Stem Auger

WELL CONSTRUCTION

c. Total casing length na ft.
Material Schedule 40 PVC
d. Diameter 4.0 in.
e. Depth to top perforations 12.0 ft.
f. Perforated length 14.2 ft.
Perforated interval from 12.0 to 26.2 ft.
Perforation type Machine Slotted
Perforation size 0.020 inch
g. Surface seal 1.0 ft.
Material Concrete
h. Backfill 7.5 ft.
Material Cement
i. Seal 1.5 ft.
Material Bentonite
j. Gravel pack 17.0 ft.
Gravel pack interval from 10.0 to 27.0 ft.
Material 2/12 Sand
k. Bottom seal/fill 3.5 ft.
Material Bentonite & Native Slough

Form prepared by R. Davis

LOG OF EXPLORATORY BORING

PROJECT NUMBER: **805-127.01**

BORING NO.: **MW-2**

PROJECT NAME: **ARCO Service Station 2111**

PAGE: **1 of 2**

BY: **R. Davis**

DATE: **7/12/95**

SURFACE ELEVATION: **38.71 ft.**

RECOVERY (ft/ft)		PENETRATION (blws/ft)	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	LITHOGRAPHIC COLUMN	DESCRIPTION	WELL DETAIL
							ASPHALT FILL - SANDY GRAVEL (GP).	
100%	0	18		5			CLAYEY SILT (ML), very dark grayish brown (2.5Y, 3/2); 85-90% low- to medium-plasticity fines; 10-15% fine to coarse sand; stiff to very stiff; damp; no odor.; @5.5': trace fine gravel.	
100%	0	20		10			SILTY CLAY (CL), dark brown (2.5Y, 4/2); low- to medium- plasticity fines; trace coarse sand and fine gravel; stiff to very stiff; damp; no product odor.	
100%	0	20		15			@15.0-17.5': very dark grayish brown (2.5Y, 3/2) with yellowish brown mottling; 90-100% low- to medium-plasticity fines; trace to 10% fine to coarse sand; very stiff; damp to moist; no product odor.	
100%	6.2	26	▽					
100%	9.3	23					@18.0-19.5': as above with grayish mottling; low-to medium- plasticity fines, higher silt content than above; very stiff; moist to wet; product odor.	
				20				

REMARKS

Boring drilled with 8" diameter hollow-stem augers and reamed with 10" diameter augers. Samples were taken using a 2" diameter modified-California split spoon sampler. Boring converted into a 4" diameter polyvinyl chloride (PVC) groundwater monitoring well. See explanation sheet for definition of symbols used in well detail and sample columns of this log. See explanation sheet for definition of symbols on this log.

EMCON ASSOCIATES

LOG OF EXPLORATORY BORING

PROJECT NUMBER: **805-127.01**

BORING NO.: **MW-2**

PROJECT NAME: **ARCO Service Station 2111**

PAGE: **2** of **2**

BY: **R. Davis**

DATE: **7/12/95**

SURFACE ELEVATION: **38.71 ft.**

RECOVERY (ft/ft)		PENETRATION (blws/ft)	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	LITHOGRAPHIC COLUMN	DESCRIPTION	WELL DETAIL
100%	183	22					SILTY CLAY (CL), continued.	
90%	44	35					SANDY CLAY (CL), light olive brown (2.5Y, 5/4); 70% medium- plasticity fines; 30% fine to coarse sand; very stiff to hard; moist; no odor.	
	78							
25%		14					GRAVEL (GP), dark grayish brown (2.5Y, 4/2); 5-10% low- plasticity fines; 35% fine to coarse sand; 55-60% fine gravel; medium dense; wet; product odor.	
30%		23		25			@25.0-27.2': 10% fines; 40% fine to coarse sand, f:m:c= 2:1:1; 50% fine to coarse gravel to 1.25"; wet; product odor.	
20%		13						
							@27.5-30.5': poor recovery of native material because of heaving sands inside augers.	
5%		16					CLAY to SANDY CLAY (CL), light olive brown (2.5Y, 5/4); 75-90% low- to medium-plasticity fines; 10-25% fine to coarse sand; trace fine gravel, rounded; stiff; wet; no product odor.	
10%		19		30			BORING TERMINATED AT 30.5 FEET BGS.	
				35				
				40				

EMCON ASSOCIATES

REMARKS

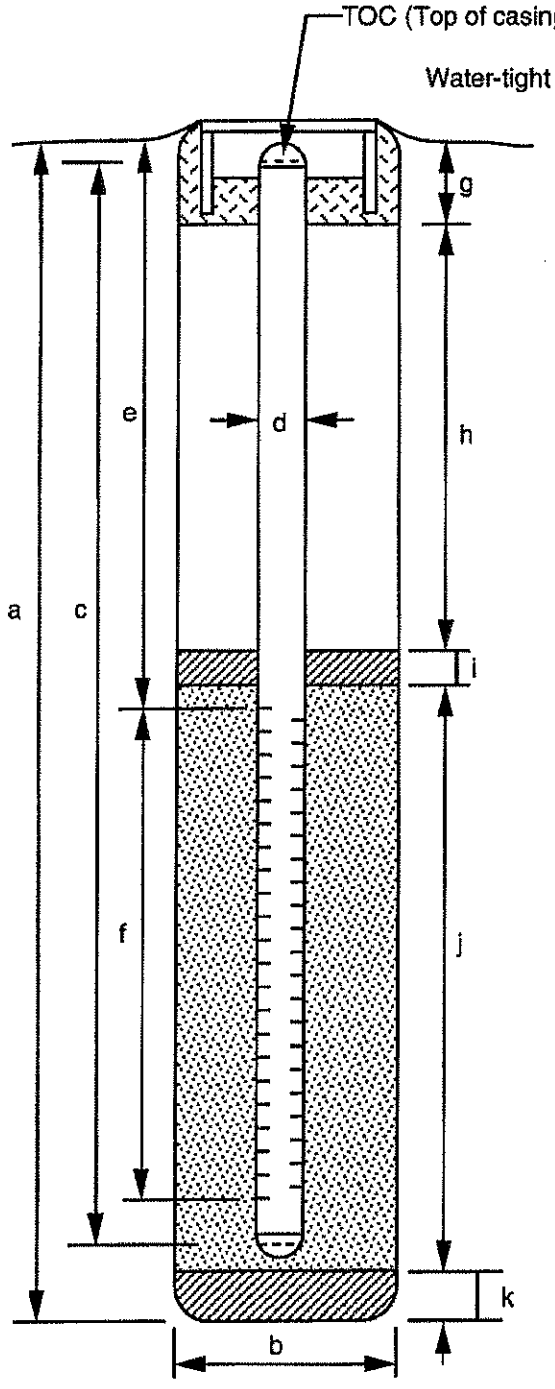
Boring drilled with 8" diameter hollow-stem augers and reamed with 10" diameter augers. Samples were taken using a 2" diameter modified-California split spoon sampler. Boring converted into a 4" diameter polyvinyl chloride (PVC) groundwater monitoring well. See explanation sheet for definition of symbols used in well detail and sample columns of this log. See explanation sheet for definition of symbols on this log.

WELL DETAILS

EMCON ASSOCIATES

PROJECT NUMBER 0805-127.01
PROJECT NAME ARCO 2111
LOCATION 1156 Davis Street, San Leandro
WELL PERMIT NO. na

BORING / WELL NO. MW-3
TOP OF CASING ELEV. 39.32
GROUND SURFACE ELEV. 40.01
DATUM M.S.L.
INSTALLATION DATE 7/13/95



EXPLORATORY BORING

a. Total depth 40.0 ft.
b. Diameter 10.0 in.
Drilling method Hollow Stem Auger

WELL CONSTRUCTION

c. Total casing length na ft.
Material Schedule 40 PVC
d. Diameter 4.0 in.
e. Depth to top perforations 11.9 ft.
f. Perforated length 14.3 ft.
Perforated interval from 11.9 to 26.2 ft.
Perforation type Machine Slotted
Perforation size 0.020 inch
g. Surface seal 1.0 ft.
Material Concrete
h. Backfill 8.5 ft.
Material Cement
i. Seal 1.5 ft.
Material Bentonite
j. Gravel pack 16.0 ft.
Gravel pack interval from 11.0 to 27.0 ft.
Material 2/12 Sand
k. Bottom seal/fill 13.0 ft.
Material Bentonite

Form prepared by R. Davis

LOG OF EXPLORATORY BORING

PROJECT NUMBER: **805-127.01**

BORING NO.: **MW-3**

PROJECT NAME: **ARCO Service Station 2111**

PAGE: **1** of **3**

BY: **R. Davis**

DATE: **7/12/95**

SURFACE ELEVATION: **40.01 ft.**

RECOVERY (ft/ft)		PENETRATION (blws/ft)	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	LITHOGRAPHIC COLUMN	DESCRIPTION	WELL DETAIL
							ASPHALT	
							FILL - SANDY GRAVEL (GP).	
60%	0	27		5			SILTY CLAY (CL), very dark grayish brown (10YR, 3/2); 95-100% low- to medium-plasticity fines; trace to 5% fine sand; very stiff; damp; no odor.	
70%	6.0	21					@7.0': 10% fine to coarse sand; trace fine gravel.	
60%	0	32						
60%	0.9	26		10			@10.0-14.5': 95% medium-plasticity fines; 5% fine to medium sand; very stiff to hard; damp; no odor.	
100%	0	25						
100%	0	41						
60%	0	28					@14.5-15.5': mottled olive brown (2.5Y, 5/4) and dark olive gray (5Y, 3/2); moist; no odor.	
				15			CLAYEY SAND (SC) AND SANDY CLAY (CL) -Interbedded, 60/40:	
100%	0	25					CLAYEY SAND (SC), olive gray (5Y, 5/2); 40% low- to medium- plasticity fines; 60% fine to medium sand, f:m=3:1; medium dense; moist to wet; no odor.	
80%		33	▽				SANDY CLAY (CL), olive gray (5Y, 5/2); 60-70% low- to medium- plasticity fines; 30-40% fine to medium sand; moist; reddish brown veins; no odor.	
100%	0	18					@16.7-20.0': 80-85% low- to medium-plasticity fines; 15-20% fine to coarse sand; stiff; moist; no odor.	
				20				

EMCON ASSOCIATES

REMARKS

Boring drilled with 8" diameter hollow-stem augers and reamed with 10" diameter augers. Samples were taken using a 2" diameter modified-California split spoon sampler. Boring converted into a 4" diameter polyvinyl chloride (PVC) groundwater monitoring well. See explanation sheet for definition of symbols used in well detail and sample columns of this log. See explanation sheet for definition of symbols on this log.

LOG OF EXPLORATORY BORING

PROJECT NUMBER: **805-127.01**
BORING NO.: **MW-3**
PROJECT NAME: **ARCO Service Station 2111**
PAGE: **2 of 3**
BY: **R. Davis**
DATE: **7/12/95**
SURFACE ELEVATION: **40.01 ft.**

RECOVERY (ft/ft)		PENETRATION (blws/ft)	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	LITHOGRAPHIC COLUMN	DESCRIPTION	WELL DETAIL
100%		25					SANDY CLAY (CL), continued.	
	0							
90%		39					@20.0-23.0': very stiff; moist to wet (moisture visible in voids).	
	0							
60%		17						
	0							
50%		37		25				
	0							
90%		33						
90%		27						
							SANDY SILT (ML), yellowish brown (10YR, 5/4) with light brownish gray (2.5Y, 6/2) mottling; 40% low- to medium-plasticity fines; medium dense; wet; no odor.	
100%		16						
	0							
60%		20		30				
60%		26						
	0							
100%		30					SILTY CLAY (CL), yellowish brown (10YR, 5/4); 75-80% low- to medium-plasticity fines; 20-25% fine to medium sand, f:m=5:1; stiff; wet (moisture visible in voids and fractures); no odor.	
	0							
100%		24					CLAYEY SAND (SC), yellowish brown (10YR, 5/4) with light brownish gray (2.5Y, 6/2) mottling; 40% low- to medium- plasticity fines; medium dense; wet; no odor.	
	0			35				
100%		37					SILTY CLAY (CL), yellowish brown (10YR, 5/4); 75-80% low- to medium-plasticity fines; 20-25% fine to medium sand, f:m=5:1; stiff; wet (moisture visible in voids and fractures); no odor.	
100%		76					@34.5-40.0': trace coarse sand and fine gravel.	
	0							
100%		61						
				40				

EMCON ASSOCIATES

REMARKS

Boring drilled with 8" diameter hollow-stem augers and reamed with 10" diameter augers. Samples were taken using a 2" diameter modified-California split spoon sampler. Boring converted into a 4" diameter polyvinyl chloride (PVC) groundwater monitoring well. See explanation sheet for definition of symbols used in well detail and sample columns of this log. See explanation sheet for definition of symbols on this log.

LOG OF EXPLORATORY BORING

PROJECT NUMBER: **805-127.01**

BORING NO.: **MW-3**

PROJECT NAME: **ARCO Service Station 2111**

PAGE: **3** of **3**

BY: **R. Davis**

DATE: **7/12/95**

SURFACE ELEVATION: **40.01 ft.**

RECOVERY (ft/ft)		PENETRATION (blws/ft)	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	LITHOGRAPHIC COLUMN	DESCRIPTION	WELL DETAIL
				45			SILTY GRAVEL (GM), light olive brown (2.5Y, 5/4); 10-20% low- plasticity fines; 30% fine to coarse sand; 50-60% fine to coarse gravel; dense; wet; no odor. BORING TERMINATED AT 40.5 FEET.	
				50				
				55				
				60				

EMCON ASSOCIATES

REMARKS

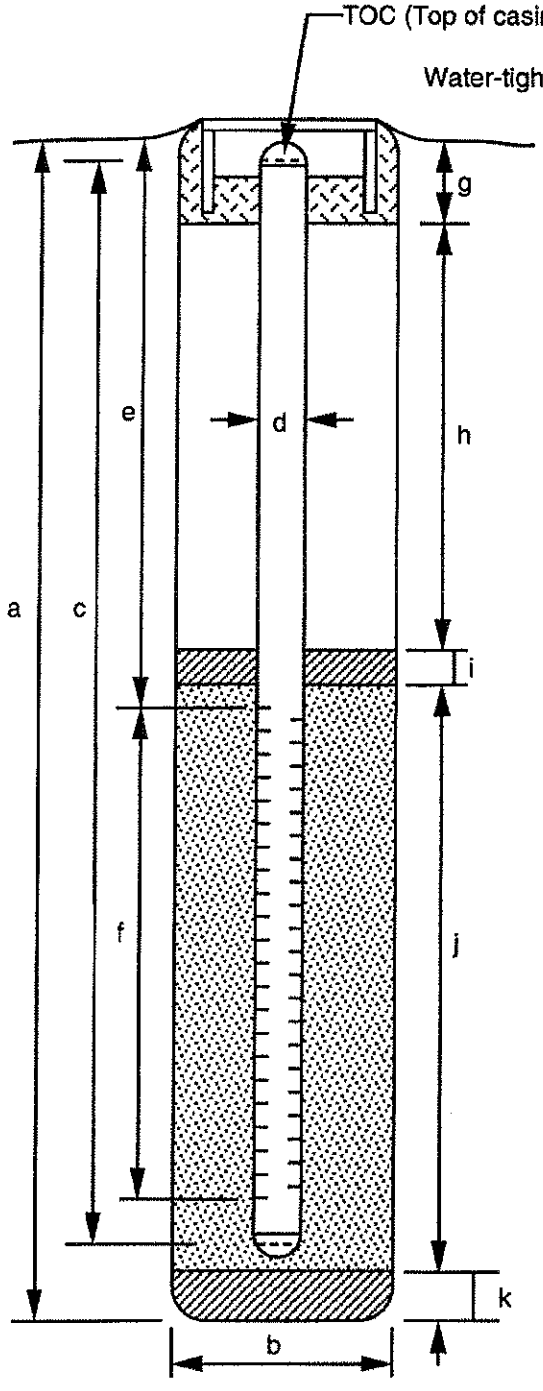
Boring drilled with 8" diameter hollow-stem augers and reamed with 10" diameter augers. Samples were taken using a 2" diameter modified-California split spoon sampler. Boring converted into a 4" diameter polyvinyl chloride (PVC) groundwater monitoring well. See explanation sheet for definition of symbols used in well detail and sample columns of this log. See explanation sheet for definition of symbols on this log.

WELL DETAILS

EMCON ASSOCIATES

PROJECT NUMBER 0805-127.01
PROJECT NAME ARCO 2111
LOCATION 1156 Davis Street, San Leandro
WELL PERMIT NO. na

BORING / WELL NO. MW-4
TOP OF CASING ELEV. 38.10
GROUND SURFACE ELEV. 38.88
DATUM M.S.L.
INSTALLATION DATE 7/13/95



EXPLORATORY BORING

a. Total depth 28.5 ft.
b. Diameter 10.0 in.
Drilling method Hollow Stem Auger

WELL CONSTRUCTION

c. Total casing length na ft.
Material Schedule 40 PVC
d. Diameter 4.0 in.
e. Depth to top perforations 10.0 ft.
f. Perforated length 14.0 ft.
Perforated interval from 10.0 to 24.0 ft.
Perforation type Machine Slotted
Perforation size 0.020 inch
g. Surface seal 1.0 ft.
Material Concrete
h. Backfill 6.0 ft.
Material Cement
i. Seal 1.5 ft.
Material Bentonite
j. Gravel pack 16.5 ft.
Gravel pack interval from 8.5 to 25.0 ft.
Material 2/12 Sand
k. Bottom seal/fill 3.5 ft.
Material Native Slough

Form prepared by R. Davis

LOG OF EXPLORATORY BORING

PROJECT NUMBER: **805-127.01**

BORING NO.: **MW-4**

PROJECT NAME: **ARCO Service Station 2111**

PAGE: **1 of 2**

BY: **R. Davis**

DATE: **7/13/95**

SURFACE ELEVATION: **38.88 ft.**

RECOVERY (ft/ft)		PENETRATION (blws/ft)	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	LITHOGRAPHIC COLUMN	DESCRIPTION	WELL DETAIL
							ASPHALT	
							FILL, SANDY GRAVEL (GP).	
40%	0	16		5			CLAYEY GRAVEL (GC), very dark grayish brown (10YR, 3/2); 90-95% medium plasticity fines; 5-10% fine to medium sand; stiff; damp; no product odor.	
100%	0	20	▽	10			@10.0-11.5':very stiff; trace calcium carbonate fragments in small voids (0.1-0.25"); damp; no product odor.	
100%	0	28		15			@15.0-16.5':mottled light olive brown (2.5Y, 5/4) and light gray (2.5Y, 7/2); rootholes and small fractures visible.	
				20			SANDY CLAY (CL), mottled light olive brown (2.5Y, 5/4) and dark yellowish brown (10YR, 4/4); 65% medium-plasticity fines; 25% fine to coarse sand, f:m:c=2:1:1; 10% fine to coarse gravel; stiff to very stiff; wet (moisture visible in voids); no product odor.	

REMARKS

Boring drilled with 8" diameter hollow-stem augers and reamed with 10" diameter augers. Samples were taken using a 2" diameter modified-California split spoon sampler. Boring converted into a 4" diameter polyvinyl chloride (PVC) groundwater monitoring well. See explanation sheet for definition of symbols used in well detail and sample columns of this log. See explanation sheet for definition of symbols on this log.

EMCON ASSOCIATES

LOG OF EXPLORATORY BORING

PROJECT NUMBER: **605-127.01**

BORING NO.: **MW-4**

PROJECT NAME: **ARCO Service Station 2111**

PAGE: **2 of 2**

BY: **R. Davis**

DATE: **7/13/95**

SURFACE ELEVATION: **38.88 ft.**

RECOVERY (ft/ft)		PENETRATION (blws/ft)	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	LITHOGRAPHIC COLUMN	DESCRIPTION	WELL DETAIL
100%	0	24					SANDY CLAY (CL), continued.	
90%	0	26		25			@25.0-27.7': 25% fine to medium sand; iron oxide staining; firm; wet; no product odor.; 70% medium-plasticity fines; 30% fine to coarse sand ; very stiff; moist; no odor.	
60%		56					CLAYEY GRAVEL (GC) TO CLAYEY SAND (SC), light olive brown (2.5Y, 5/4); 10-20% medium plastic fines; 40-45% fine to coarse sand, f:m:c=1:2:4; 40-45% fine gravel; very dense; wet; no product odor.	
							BORING TERMINATED AT 28.5 FEET BGS.	
				30				
				35				
				40				

EMCON ASSOCIATES

REMARKS

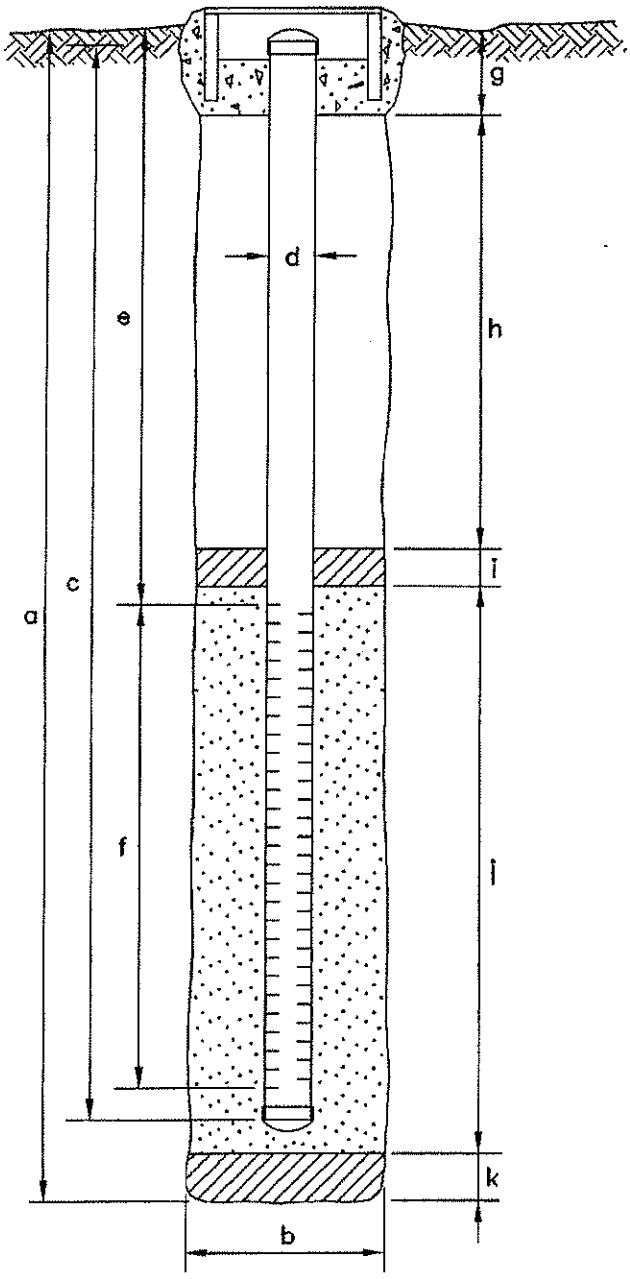
Boring drilled with 8" diameter hollow-stem augers and reamed with 10" diameter augers. Samples were taken using a 2" diameter modified-California split spoon sampler. Boring converted into a 4" diameter polyvinyl chloride (PVC) groundwater monitoring well. See explanation sheet for definition of symbols used in well detail and sample columns of this log. See explanation sheet for definition of symbols on this log.

WELL DETAILS

EMCON

PROJECT NUMBER 20805-127.001
PROJECT NAME Arco Station #2111
COUNTY San Leandro
WELL PERMIT NO. 96126 (ZONE 7)

BORING/WELL NO. MW-5
TOP OF CASING ELEV. 37.21
GROUND SURFACE ELEV. 37.66
DATUM MSL
INSTALLATION DATE 3/1/96



EXPLORATORY BORING

a. Total depth 30 ft.
b. Diameter 8 in.
Drilling method HOLLOW STEM AUGER

WELL CONSTRUCTION

c. Total casing length 24 ft.
Material SCH 40 PVC
d. Diameter 2 in.
e. Depth to top perforations 9.4 ft.
f. Perforated length 14.0 ft.
Perforated interval from 9.4 to 23.4 ft.
Perforation type MACHINE SLOTTED
Perforation size 0.010 INCH
g. Surface seal 0.5 ft.
Seal material CONCRETE
h. Backfill 6.5 ft.
Backfill material CEMENT
i. Seal 1.0 ft.
Seal material BENTONITE
j. Gravel pack 15.0 ft.
Pack material #2/12 SAND
k. Bottom seal 6.0 ft.
Seal material BENTONITE

DETAILCB.DWG

LOG OF EXPLORATORY BORING

PROJECT NUMBER **20805-127.001** BORING NO. **MW-5**

PROJECT NAME **Arco Service Station #2111, San Leandro, California** PAGE **1 OF 2**

BY **R. Davis** DATE **3/1/96** SURFACE ELEV. **37.66 ft.**

PID Reading (ppm)	Sample Recovery (ft./ft.)	Penetration (Blows per 6")	GROUND WATER LEVELS	DEPTH IN FT.	SAMPLES	LITHOGRAPHIC COLUMN	DESCRIPTION	WELL DETAIL
							ASPHALT.	
							ROADBASE FILL: CLAYEY GRAVEL, no product odor.	
0.0	1.5/1.5	4 15 20		5			**SILTY CLAY (CL)**, dark grayish brown (10YR, 3/2); 100% low to medium-plasticity fines; trace fine sand; roots and rootholes common; hard; damp; no odor.	
0.0	1.5/1.5	7 13 19		10			@9-10.5': very dark grayish brown (10YR, 3/2); rootholes common; hard; damp; no hydrocarbon odor.	
0.0	1.5/1.5	5 11 12		15			@14-15.5': light olive brown (2.5Y, 5/4) with trace black mottling; 90% low to medium-plasticity fines; 10% fine-grained sand; hard; moist; no hydrocarbon odor.	
							@17': Water visible inside augers.	
0.0	1.5/1.5	15 18		20			@19-20.5': as above; grayish veins present; hard; wet; no hydrocarbon odor.	

REMARKS

Boring drilled to a depth of 30 feet below grade (fbg) by West Hazmat using 8" dia. hollow-stem auger equipment. Boring completed as a 2" dia. PVC groundwater monitoring well screened from 9 to 24 fbg. Groundwater was first encountered at 17 fbg and stabilized at 13 fbg.

EMCON

LOG OF EXPLORATORY BORING

PROJECT NUMBER **20805-127.001** BORING NO. **MW-5**

PROJECT NAME **Arco Service Station #2111, San Leandro, California** PAGE **2 OF 2**

BY **R. Davis** DATE **3/1/96** SURFACE ELEV. **37.66 ft.**

PID Reading (ppm)	Sample Recovery (ft./ft.)	Penetration (Blows per 6")	GROUND WATER LEVELS	DEPTH IN FT.	SAMPLES	LITHOGRAPHIC COLUMN	DESCRIPTION	WELL DETAIL
		25					**SILTY CLAY (CL)**, continued.	
0.0	1.5/1.5	4 4 8		25			@24-25.5': as above; no hydrocarbon odor.	
0.0	1.5/1.5	7 11 15		30			@28.5-30': as above; wet; no hydrocarbon odor.	
							BORING TERMINATED AT 30 FBG.	
				35				
				40				

EMCON

REMARKS

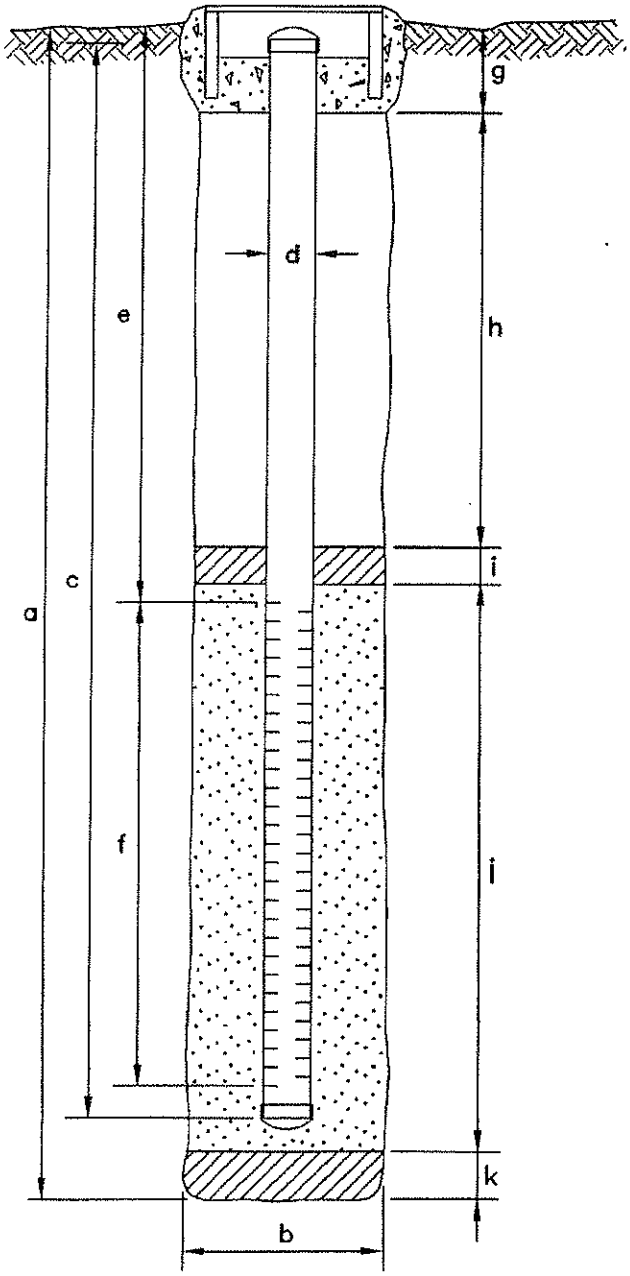
Boring drilled to a depth of 30 feet below grade (fbg) by West Hazmat using 8" dia. hollow-stem auger equipment. Boring completed as a 2" dia. PVC groundwater monitoring well screened from 9 to 24 fbg. Groundwater was first encountered at 17 fbg and stabilized at 13 fbg.

WELL DETAILS

EMCON

PROJECT NUMBER 20805-127.001
PROJECT NAME Arco Station #2111
COUNTY San Leandro
WELL PERMIT NO. 96126 (ZONE 7)

BORING/WELL NO. MW-6
TOP OF CASING ELEV. 37.11
GROUND SURFACE ELEV. 38.19
DATUM MSL
INSTALLATION DATE 3/1/96



EXPLORATORY BORING

a. Total depth 27.5 ft.
b. Diameter 8 in.
Drilling method HOLLOW STEM AUGER

WELL CONSTRUCTION

c. Total casing length 24 ft.
Material SCH 40 PVC
d. Diameter 2 in.
e. Depth to top perforations 10 ft.
f. Perforated length 15 ft.
Perforated interval from 10 to 25 ft.
Perforation type MACHINE SLOTTED
Perforation size 0.010 INCH
g. Surface seal 0.5 ft.
Seal material CONCRETE
h. Backfill 7.5 ft.
Backfill material CEMENT
i. Seal 1.0 ft.
Seal material BENTONITE
j. Gravel pack 16.0 ft.
Pack material #2/12 SAND
k. Bottom seal 2.5 ft.
Seal material NATIVE SLOUGH

DETAILCB.DWG

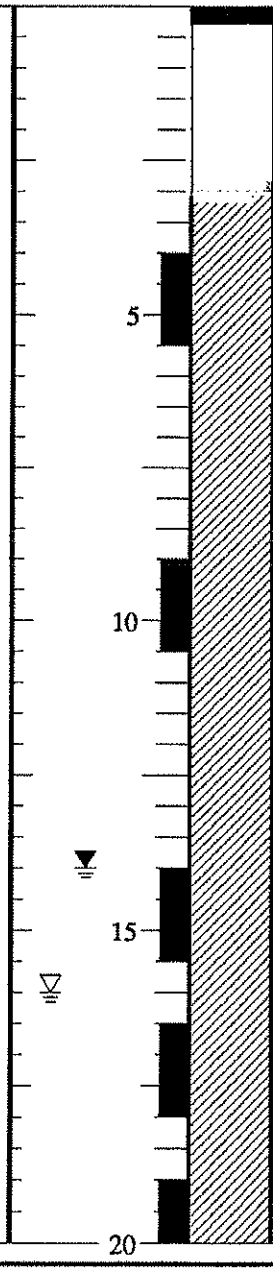
LOG OF EXPLORATORY BORING

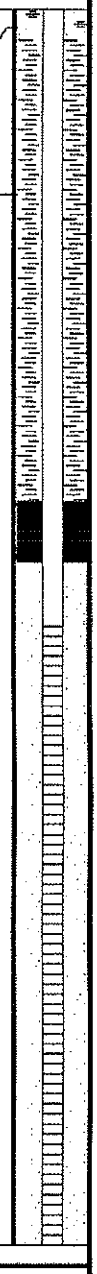
PROJECT NUMBER **20805-127.001** BORING NO. **MW-6**

PROJECT NAME **Arco Service Station #2111, San Leandro, California** PAGE **1 OF 2**

BY **R. Davis** DATE **3/1/96** SURFACE ELEV. **38.19 ft.**

PID Reading (ppm)	Sample Recovery (ft./ft.)	Penetration (Blows per 6")	DESCRIPTION
			ASPHALT.
			ROADBASE FILL: CLAYEY GRAVEL (GC), no hydrocarbon odor.
0.0	1.3/1.5	6 10 10	**CLAY (CL),** dark grayish brown (10YR, 3/2); 100% medium-plasticity fines; trace fine sand; very stiff; damp; no hydrocarbon odor.
0.0	1.5/1.5	7 11 20	@9-10.5': as above; 10% fine gravel, angular; very stiff; damp; no hydrocarbon odor.
0.0	1.5/1.5	6 11 12	@14-15.5': light olive brown (2.5Y, 5/4) with trace black mottling; 100% low to medium-plasticity fines (high silt content); trace fine sand; very stiff; moist; no hydrocarbon odor.
0.0	1.5/1.5	7 12 15	@16.5-18': as above; wet; no product odor.
0.0	1.4/1.5	8 9	@19-20.5': as above; trace black mottling; 10-20% fine to coarse-grained sand; no hydrocarbon odor.





REMARKS

Boring drilled to a depth of 27.5 feet below grade (fbg) by West Hazmat using 8" dia. hollow-stem auger equipment. Boring completed as a 2" dia. PVC groundwater monitoring well screened from 10 to 25 fbg. Groundwater was first encountered at 16 fbg and stabilized at 14 fbg.

EMCON

LOG OF EXPLORATORY BORING

PROJECT NUMBER **20805-127.001** BORING NO. **MW-6**

PROJECT NAME **Arco Service Station #2111, San Leandro, California** PAGE **2 OF 2**

BY **R. Davis** DATE **3/1/96** SURFACE ELEV. **38.19 ft.**

PID Reading (ppm)	Sample Recovery (ft./ft.)	Penetration (Blows per 6")	GROUND WATER LEVELS	DEPTH IN FT.	SAMPLES	LITHOGRAPHIC COLUMN	DESCRIPTION	WELL DETAIL
		13					**CLAY (CL)**, continued.	
0.0	0.9/1.5	15 19 25					**CLAYEY GRAVEL (GC)**, light olive brown (2.5Y, 5/4); 20-25% low to medium- plasticity fines; 20% fine to coarse-grained sand; 55-60% fine to coarse gravel (to 2" dia.); dense; wet; no hydrocarbon odor.	
0.0	1.0/1.5	25 28 50/5.5"		25			@24.5-27.5': as above; no hydrocarbon odor.	
0.0	0.8/1.5	10 25 45					**BORING TERMINATED AT 27.5 FBG.**	
				30				
				35				
				40				

EMCON

REMARKS

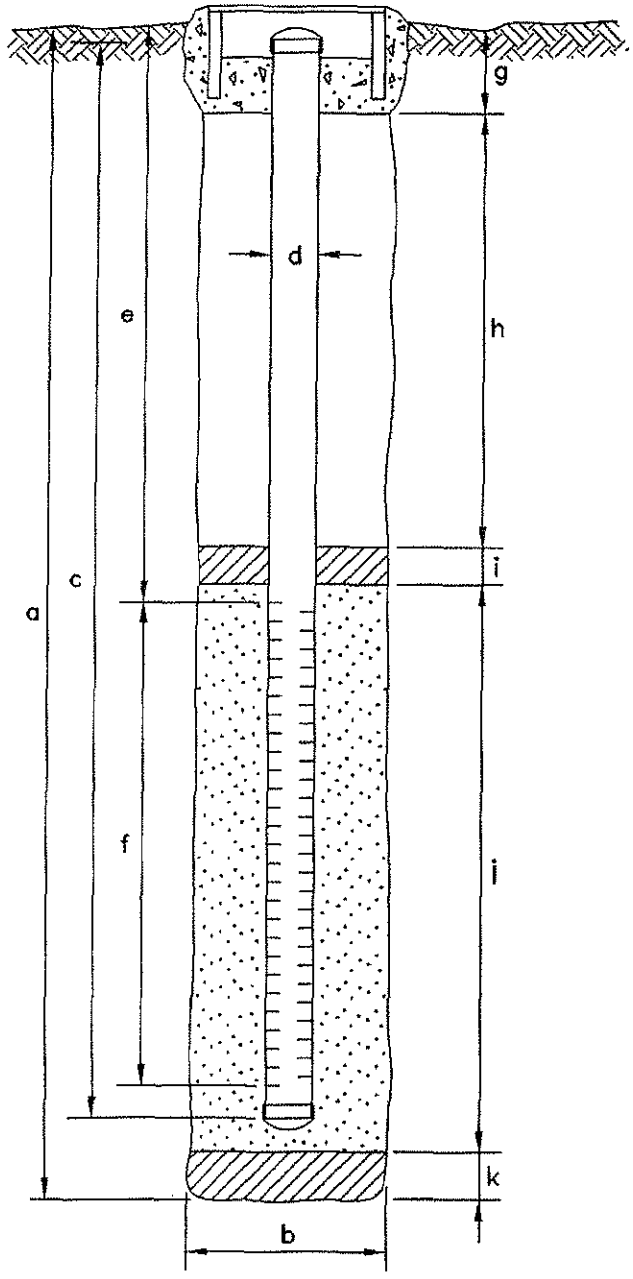
Boring drilled to a depth of 27.5 feet below grade (fbg) by West Hazmat using 8" dia. hollow-stem auger equipment. Boring completed as a 2" dia. PVC groundwater monitoring well screened from 10 to 25 fbg. Groundwater was first encountered at 16 fbg and stabilized at 14 fbg.

WELL DETAILS

EMCON

PROJECT NUMBER 20805-127.001
PROJECT NAME Arco Station #2111
COUNTY San Leandro
WELL PERMIT NO. 96126 (ZONE 7)

BORING/WELL NO. MW-7
TOP OF CASING ELEV. 38.68
GROUND SURFACE ELEV. 38.99
DATUM MSL
INSTALLATION DATE 2/29/96



EXPLORATORY BORING

a. Total depth 33.5 ft.
b. Diameter 10 in.
Drilling method HOLLOW STEM AUGER

WELL CONSTRUCTION

c. Total casing length 27 ft.
Material SCH 40 PVC
d. Diameter 4 in.
e. Depth to top perforations 12 ft.
f. Perforated length 15 ft.
Perforated interval from 12 to 27 ft.
Perforation type MACHINE SLOTTED
Perforation size 0.010 INCH
g. Surface seal 0.5 ft.
Seal material CONCRETE
h. Backfill 9.0 ft.
Backfill material CEMENT
i. Seal 1.0 ft.
Seal material BENTONITE
j. Gravel pack 16.5 ft.
Pack material #2/12 SAND
k. Bottom seal 6.5 ft.
Seal material NATIVE SLOUGH

DETAILCB.DWG

LOG OF EXPLORATORY BORING

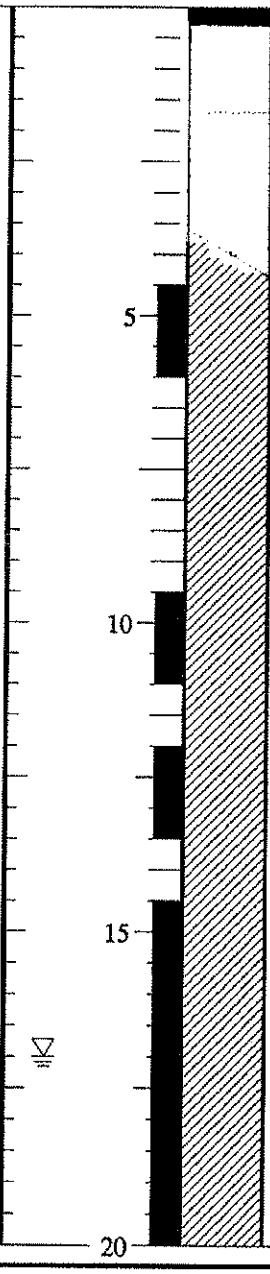
PROJECT NUMBER **20805-127.001** BORING NO. **MW-7**

PROJECT NAME **Arco Service Station #2111, San Leandro, California** PAGE **1 OF 2**

BY **R. Davis** DATE **2/29/96** SURFACE ELEV. **38.99 ft.**

PID Reading (ppm)	Sample Recovery (ft./ft.)	Penetration (Blows per 6")	DESCRIPTION
			ASPHALT.
			FILL: GRAVEL (GP) ROADBASE.
			FILL: CLAYEY GRAVEL (GC), brown; damp; no hydrocarbon odor.
2.8	1.0/1.5	16 20 26	**SILTY CLAY (CL)**, dark grayish brown (10YR, 4/2); 85-90% low to medium-plasticity fines; 10-15% fine to coarse-grained sand; trace iron oxide staining; hard; damp; no hydrocarbon odor.
7.9	1.2/1.5	5 8 18	@9.5-11': very dark grayish brown (10YR, 3/2); as above (high silt content); trace rootholes; very stiff; damp; no hydrocarbon odor.
--	0/1.5	--	@12-13.5': no recovery.
28.0	1.5/1.5	7 17 20	@14.5-15': as above; moist. @15-16': gray (5Y, 5/1) with yellowish brown (10YR, 5/4) mottling; rootholes common; hard; moist; hydrocarbon odor.
34.0	1.5/1.5	8 18 22	
77.0	1.0/1.5	9 12 20	@17.5-19': grayish veins present; 90% low to medium-plasticity fines; 10% fine-grained sand; trace fine gravel; hard; wet; hydrocarbon odor.
101.0	1.3/1.5	13 15	

GROUND WATER LEVELS | DEPTH IN FT. | SAMPLES | LITHO-GRAPHIC COLUMN | WELL DETAIL



EMCON

REMARKS

Boring drilled to a depth of 33.5 feet below grade (fbg) by West Hazmat using 10" dia. hollow-stem auger equipment. Boring completed as a 4" dia. PVC groundwater monitoring well screened from 12 to 27 fbg. Groundwater was encountered at 17 fbg.

LOG OF EXPLORATORY BORING

PROJECT NUMBER **20805-127.001** BORING NO. **MW-7**

PROJECT NAME **Arco Service Station #2111, San Leandro, California** PAGE **2 OF 2**

BY **R. Davis** DATE **2/29/96** SURFACE ELEV. **38.99 ft.**

PID Reading (ppm)	Sample Recovery (ft./ft.)	Penetration (Blows per 6")	GROUND WATER LEVELS	DEPTH IN FT.	SAMPLES	LITHO-GRAPHIC COLUMN	DESCRIPTION	WELL DETAIL
		20					**SANDY CLAY (CL)**, yellowish brown (10YR, 5/4) with gray (5Y, 5/1) mottling; 65-75% low to medium-plasticity fines; 25-30% fine to coarse-grained sand; 5% fine gravel; very stiff; wet; hydrocarbon odor.	
--	1.3/1.5	8						
		15						
		15						
--	0.5/1.5	20						
		22						
		30						
--	0.2/1.5	50/6"					**CLAYEY SAND (SC)**, mottled olive brown (2.5Y, 4/4) to yellowish brown (10YR, 5/4); 25-30% low to medium-plasticity fines; 45-50% fine to coarse-grained sand; 25% fine to coarse gravel; dense; wet; hydrocarbon odor.	
				25			@22-23.5': very dense; wet; hydrocarbon odor.	
--	0.2/0.5	50/6"					@23.5-25': no recovery; very dense.	
--	0.1/0.5	50/6"						
--	0.2/0.5	50/6"					From 25 to 32.5': Minimal recovery due to heaving sands.	
				30				
--	0.2/0.5	50/6"						
--	0.5/0.5	50/6"						
1.4	0.6/1.0	50					**CLAY (CL)**, mottled yellowish brown (10YR, 5/4) to dark brown (10YR, 5/2); 85-95% medium-plasticity fines; 5-15% fine to coarse-grained sand; hard; wet; no hydrocarbon odor.	
		50						
				35			**BORING TERMINATED AT 33.5 FBG.**	
				40				

REMARKS

Boring drilled to a depth of 33.5 feet below grade (fbg) by West Hazmat using 10" dia. hollow-stem auger equipment. Boring completed as a 4" dia. PVC groundwater monitoring well screened from 12 to 27 fbg. Groundwater was encountered at 17 fbg.

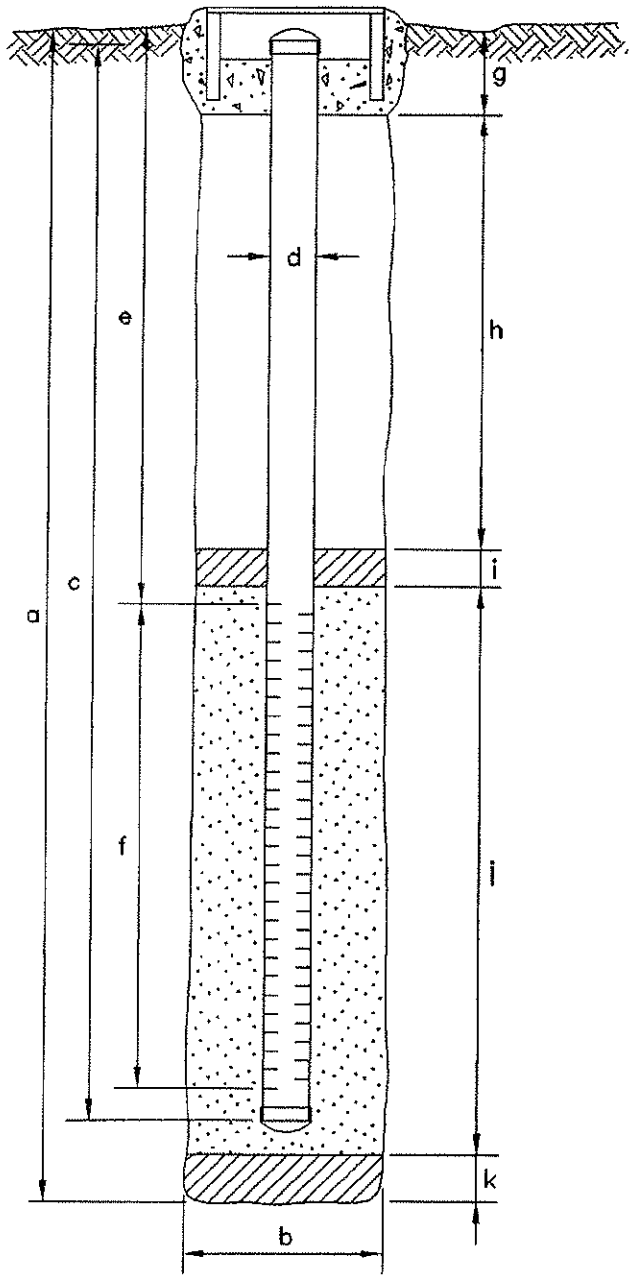
EMCON

WELL DETAILS

EMCON

PROJECT NUMBER 20805-127.001
PROJECT NAME Arco Station #2111
COUNTY San Leandro
WELL PERMIT NO. 96126 (ZONE 7)

BORING/WELL NO. VW-1
TOP OF CASING ELEV. 38.94
GROUND SURFACE ELEV. 39.39
DATUM MSL
INSTALLATION DATE 2/29/96



EXPLORATORY BORING

a. Total depth 20 ft.
b. Diameter 10 in.
Drilling method HOLLOW STEM AUGER

WELL CONSTRUCTION

c. Total casing length 19.5 ft.
Material SCH 40 PVC
d. Diameter 4 in.
e. Depth to top perforations 5 ft.
f. Perforated length 15 ft.
Perforated interval from 5 to 20 ft.
Perforation type MACHINE SLOTTED
Perforation size 0.020 INCH
g. Surface seal 0.5 ft.
Seal material CONCRETE
h. Backfill 3.0 ft.
Backfill material CEMENT
i. Seal 1.5 ft.
Seal material BENTONITE
j. Gravel pack 15.0 ft.
Pack material #2/12 SAND
k. Bottom seal NA ft.
Seal material NA

DETAILCB.DWG

LOG OF EXPLORATORY BORING

PROJECT NUMBER **20805-127.001** BORING NO. **VW-1**

PROJECT NAME **Arco Service Station #2111, San Leandro, California** PAGE **1 OF 1**

BY **R. Davis** DATE **2/29/96** SURFACE ELEV. **39.39 ft.**

PID Reading (ppm)	Sample Recovery (ft./ft.)	Penetration (Blows per 6")	GROUND WATER LEVELS	DEPTH IN FT.	SAMPLES	LITHOGRAPHIC COLUMN	DESCRIPTION	WELL DETAIL
							ASPHALT.	
							ROADBASE FILL: GRAVEL (GP).	
							FILL: CLAYEY GRAVEL (GC), light yellowish brown; no hydrocarbon odor.	
2.7	1.0/1.5	8 16 17		5			**SILTY CLAY (CL),** dark grayish brown (10YR, 3/2); 95-100% low to medium-plasticity fines; trace to 5% fine-grained sand; occassional rootholes and orange mottling; hard; damp; no hydrocarbon odor.	
2.2	1.2/1.5	10 11 16		10			@9.5-11': light olive brown (2.5Y, 5/4) with occassional dark brown mottling; rootholes present; very stiff; damp; no hydrocarbon odor.	
1.3	1.0/1.5	7 10 14					@12-13.5': mottled gray (5Y, 5/1) and light olive brown (2.5Y, 5/4); 90% low to medium-plasticity fines; 10% fine to medium-grained sand; rootholes present; very stiff; moist; hydrocarbon odor.	
5.3	1.2/1.5	9 10 12	▽	15			@14.5-16': as above; moist; hydrocarbon odor. @16': wet (moisture visible in voids); hydrocarbon odor.	
16.0	1.3/1.5	4 9 12					@17-18.5': as above; wet; hydrocarbon odor.	
210.0	1.3/1.5	7 7 17		20			@18.5-20': as above; 30% fine to coarse-grained sand; wet; hydrocarbon odor. **BORING TERMINATED AT 20 FBG.**	

EMCON

REMARKS

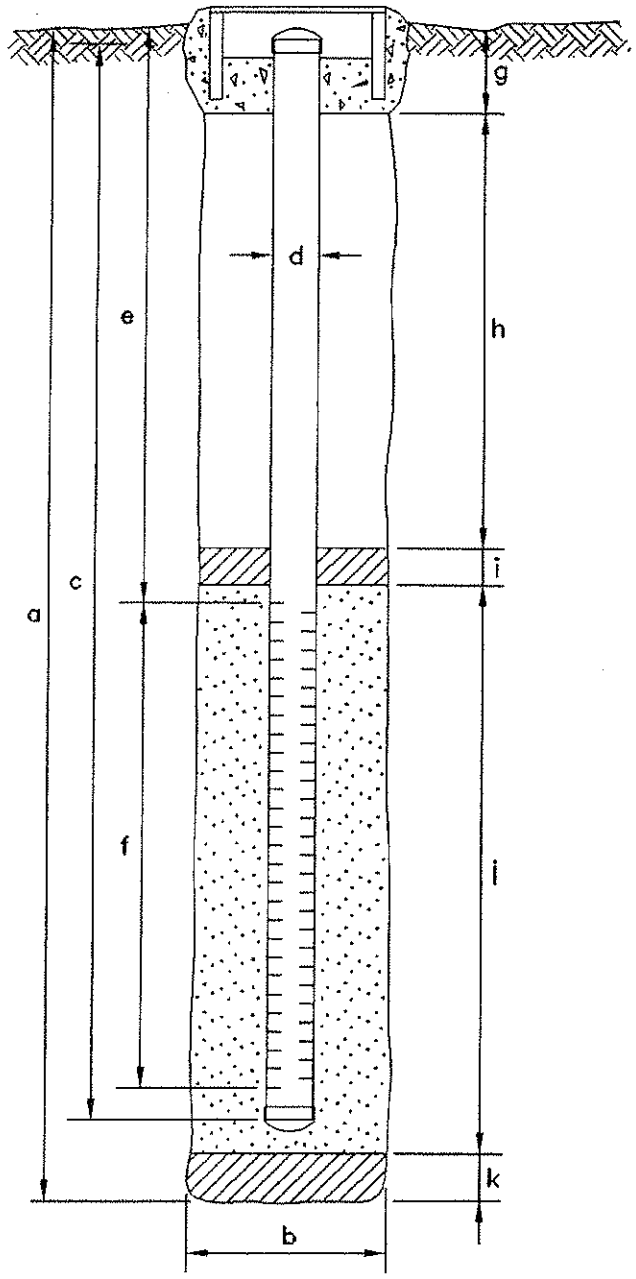
Boring drilled to a depth of 20 feet below grade (fbg) by West Hazmat using 10" dia. hollow-stem auger equipment. Boring completed as a 4" dia. PVC vapor extraction well screened from 5 to 15 fbg. Groundwater was encountered at 16 fbg.

WELL DETAILS

EMCON

PROJECT NUMBER 20805-127.001
PROJECT NAME Arco Station #2111
COUNTY San Leandro
WELL PERMIT NO. 96126 (ZONE 7)

BORING/WELL NO. VW-2
TOP OF CASING ELEV. 38.28
GROUND SURFACE ELEV. 38.99
DATUM MSL
INSTALLATION DATE 2/29/96



EXPLORATORY BORING

a. Total depth 20 ft.
b. Diameter 10 in.
Drilling method HOLLOW STEM AUGER

WELL CONSTRUCTION

c. Total casing length 19.5 ft.
Material SCH 40 PVC
d. Diameter 4 in.
e. Depth to top perforations 5 ft.
f. Perforated length 15 ft.
Perforated interval from 5 to 20 ft.
Perforation type MACHINE SLOTTED
Perforation size 0.020 INCH
g. Surface seal 0.5 ft.
Seal material CONCRETE
h. Backfill 3.5 ft.
Backfill material CEMENT
i. Seal 1.0 ft.
Seal material BENTONITE
j. Gravel pack 15.0 ft.
Pack material #2/12 SAND
k. Bottom seal NA ft.
Seal material NA

DETAILCB.DWG

LOG OF EXPLORATORY BORING

PROJECT NUMBER **20805-127.001** BORING NO. **VW-2**

PROJECT NAME **Arco Service Station #2111, San Leandro, California** PAGE **1 OF 2**

BY **R. Davis** DATE **2/29/96** SURFACE ELEV. **38.99 ft.**

PID Reading (ppm)	Sample Recovery (ft./ft.)	Penetration (Blows per 6")	GROUND WATER LEVELS	DEPTH IN FT.	SAMPLES	LITHOGRAPHIC COLUMN	DESCRIPTION	WELL DETAIL
							ASPHALT.	
							ROADBASE FILL.	
							FILL: SANDY SILTY CLAY (CL), dark grayish brown (10YR, 3/2).	
0.4	1.0/1.5	15 22 30		5			**SILTY CLAY (CL),** light olive brown (2.5Y, 5/4) with grayish orange mottling; 90% low to medium-plasticity fines; 10% fine to medium-grained sand; hard; damp; no hydrocarbon odor.	
2.2	1.5/1.5	7 8 14		10			@9.5-11': dark grayish brown (10YR, 3/2); damp; no hydrocarbon odor.	
12.0	1.5/1.5	9 14 20					@12-13.5': as above; no hydrocarbon odor.	
74.0	1.2/1.5	7 17 18	▽	15			@14.5-16': olive gray (2.5Y, 5/1); increasing silt content; rootholes present; moist; hydrocarbon odor.	
79.0	--	6 10 17						
159.0	--	6 12 17		20			**SANDY CLAY (CL),** mottled yellowish brown (10YR, 5/4) to light olive brown (2.5Y, 5/4); 75-80% low to medium-plasticity fines; 15-20% fine to coarse-grained sand; 5% fine gravel; very	

REMARKS

Boring drilled to a depth of 20 feet below grade (fbg) by West Hazmat using 10" dia. hollow-stem auger equipment. Boring completed as a 4" dia. PVC vapor extraction well screened from 5 to 20 fbg. Groundwater was encountered at 16 fbg.

EMCON

LOG OF EXPLORATORY BORING

PROJECT NUMBER **20805-127.001** BORING NO. **VW-2**

PROJECT NAME **Arco Service Station #2111, San Leandro, California** PAGE **2 OF 2**

BY **R. Davis** DATE **2/29/96** SURFACE ELEV. **38.99 ft.**

PID Reading (ppm)	Sample Recovery (ft./ft.)	Penetration (Blows per 6")	GROUND WATER LEVELS	DEPTH IN FT.	SAMPLES	LITHOGRAPHIC COLUMN	DESCRIPTION	WELL DETAIL
							stiff; wet; hydrocarbon odor. **BORING TERMINATED AT 20 FBG.**	

25

30

35

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EMCON

REMARKS

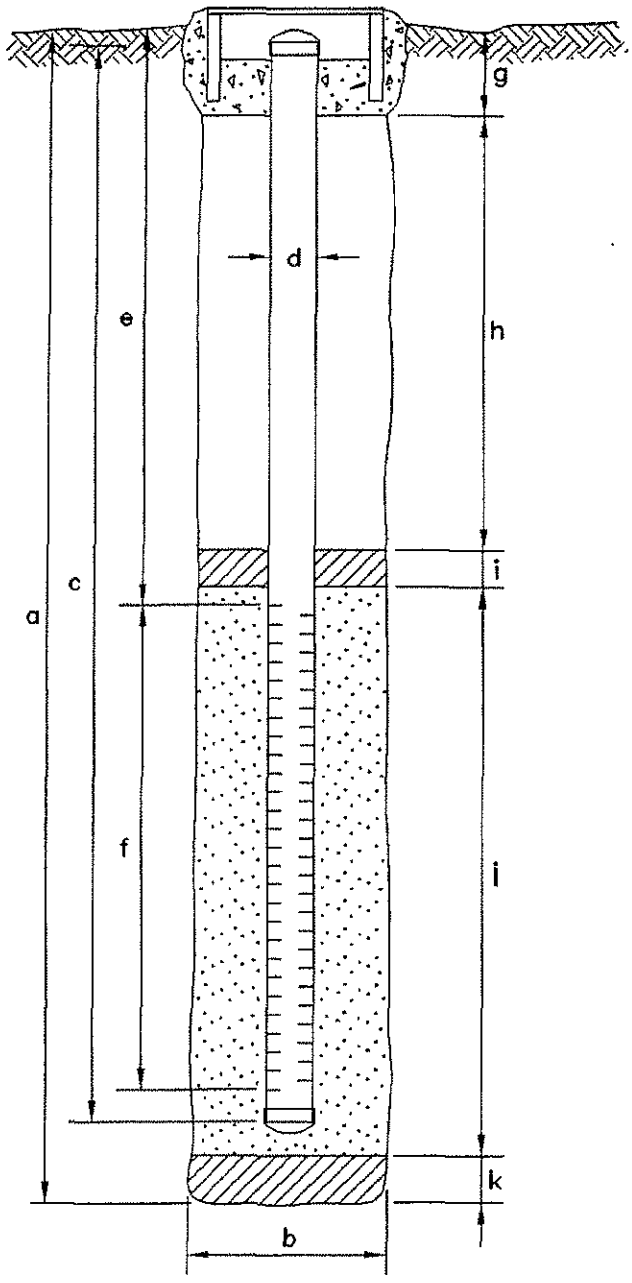
Boring drilled to a depth of 20 feet below grade (fbg) by West Hazmat using 10" dia. hollow-stem auger equipment. Boring completed as a 4" dia. PVC vapor extraction well screened from 5 to 20 fbg. Groundwater was encountered at 16 fbg.

WELL DETAILS

EMCON

PROJECT NUMBER 20805-127.001
PROJECT NAME Arco Station #2111
COUNTY San Leandro
WELL PERMIT NO. 96126 (ZONE 7)

BORING/WELL NO. VW-3
TOP OF CASING ELEV. 38.01
GROUND SURFACE ELEV. 38.71
DATUM MSL
INSTALLATION DATE 2/29/96



EXPLORATORY BORING

a. Total depth 20 ft.
b. Diameter 10 in.
Drilling method HOLLOW STEM AUGER

WELL CONSTRUCTION

c. Total casing length 19.5 ft.
Material SCH 40 PVC
d. Diameter 4 in.
e. Depth to top perforations 5 ft.
f. Perforated length 15 ft.
Perforated interval from 5 to 20 ft.
Perforation type MACHINE SLOTTED
Perforation size 0.020 INCH
g. Surface seal 0.5 ft.
Seal material CONCRETE
h. Backfill 3.0 ft.
Backfill material CEMENT
i. Seal 1.5 ft.
Seal material BENTONITE
j. Gravel pack 15.0 ft.
Pack material #2/12 SAND
k. Bottom seal NA ft.
Seal material NA

DETAILCB.DWG

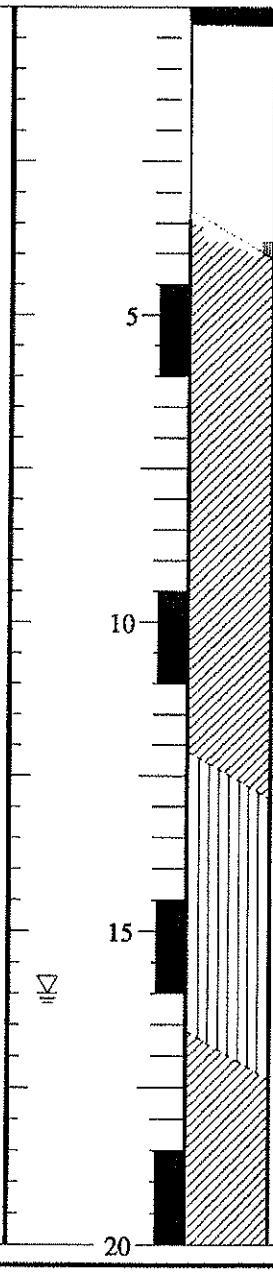
LOG OF EXPLORATORY BORING

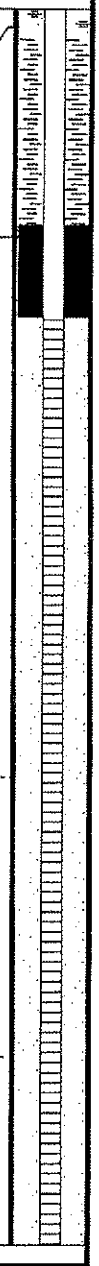
PROJECT NUMBER **20805-127.001** BORING NO. **VW-3**

PROJECT NAME **Arco Service Station #2111, San Leandro, California** PAGE **1 OF 1**

BY **R. Davis** DATE **2/28/96** SURFACE ELEV. **38.71 ft.**

PID Reading (ppm)	Sample Recovery (ft./ft.)	Penetration (Blows per 6")	DESCRIPTION
			ASPHALT.
			FILL MATERIAL.
5.2	1.5/1.5	7 14 20	**CLAY (CL)**, dark grayish brown (10YR, 4/2); 90% medium-plasticity fines; 10% fine-grained sand; rootholes present; iron oxide staining in veins; damp; no hydrocarbon odor.
6.6	1.5/1.5	7 17 20	@9.5-11': very dark grayish brown (10YR, 3/2) with occassional gray and orange-brown (iron oxide) mottling; 90% low to medium-plasticity fines; 10% fine-grained sand; increasing silt content; hard; damp; no hydrocarbon odor.
15.5	--	8 14 22	**CLAYEY, SANDY SILT (ML)**, gray (5Y, 5/1); 80-85% low-plasticity fines; 15-20% fine-grained sand; hard; moist; hydrocarbon odor. @16': wet; hydrocarbon odor.
2.2	--	6 9 11	**SILTY SANDY CLAY (CL)**, mottled yellowish brown (10YR, 5/4) to light olive brown (2.5Y, 5/4); 75-80% low to medium-plasticity fines; 15-20% fine to coarse-grained sand; 5% fine gravel; very stiff; wet; hydrocarbon odor. **BORING TERMINATED AT 20 FBG.**





REMARKS

Boring drilled to a depth of 20 feet below grade (fbg) by West Hazmat using 10" dia. hollow-stem auger equipment. Boring completed as a 4" dia. PVC vapor extraction well screened from 5 to 20 fbg. Groundwater was encountered at 16 fbg.

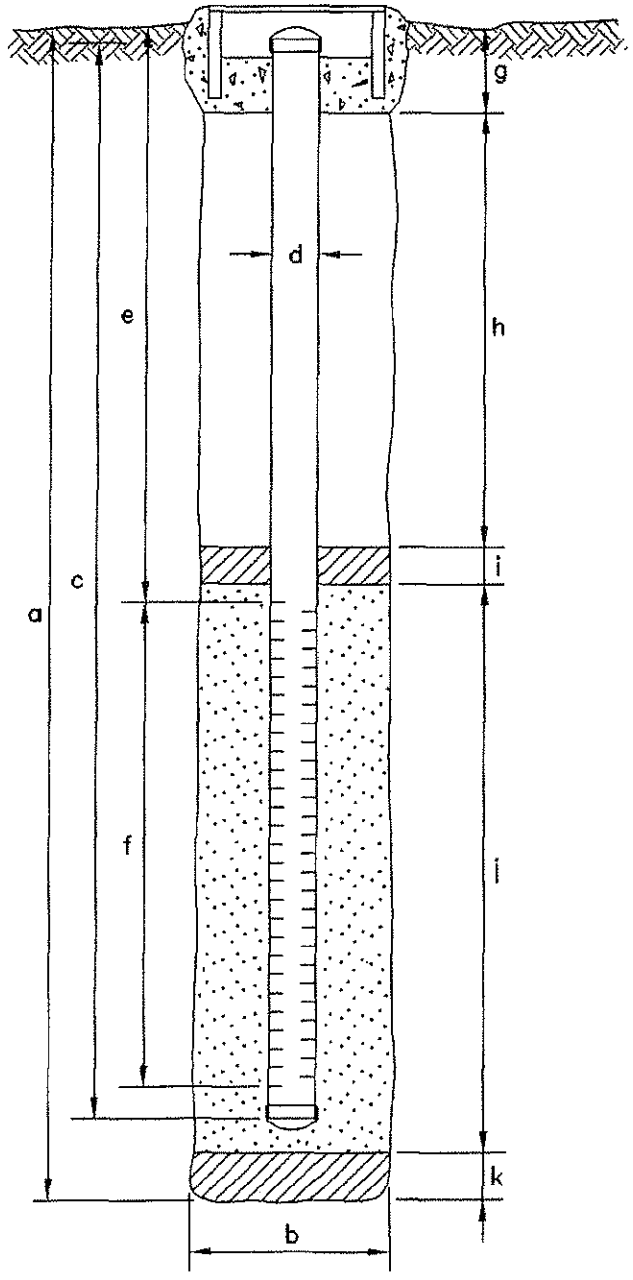
EMCON

WELL DETAILS

EMCON

PROJECT NUMBER 20805-127.001
PROJECT NAME Arco Station #2111
COUNTY San Leandro
WELL PERMIT NO. 96126 (ZONE 7)

BORING/WELL NO. VW-4
TOP OF CASING ELEV. 38.38
GROUND SURFACE ELEV. 39.23
DATUM MSL
INSTALLATION DATE 2/28/96



EXPLORATORY BORING

a. Total depth 20 ft.
b. Diameter 10 in.
Drilling method HOLLOW STEM AUGER

WELL CONSTRUCTION

c. Total casing length 19.5 ft.
Material SCH 40 PVC
d. Diameter 4 in.
e. Depth to top perforations 6.5 ft.
f. Perforated length 13 ft.
Perforated interval from 6.5 to 19.5 ft.
Perforation type MACHINE SLOTTED
Perforation size 0.020 INCH
g. Surface seal 0.5 ft.
Seal material CONCRETE
h. Backfill 4.5 ft.
Backfill material CEMENT
i. Seal 1.5 ft.
Seal material BENTONITE CHIPS
j. Gravel pack 13.5 ft.
Pack material #2/12 SAND
k. Bottom seal NA ft.
Seal material NA

DETAILCB.DWG

LOG OF EXPLORATORY BORING

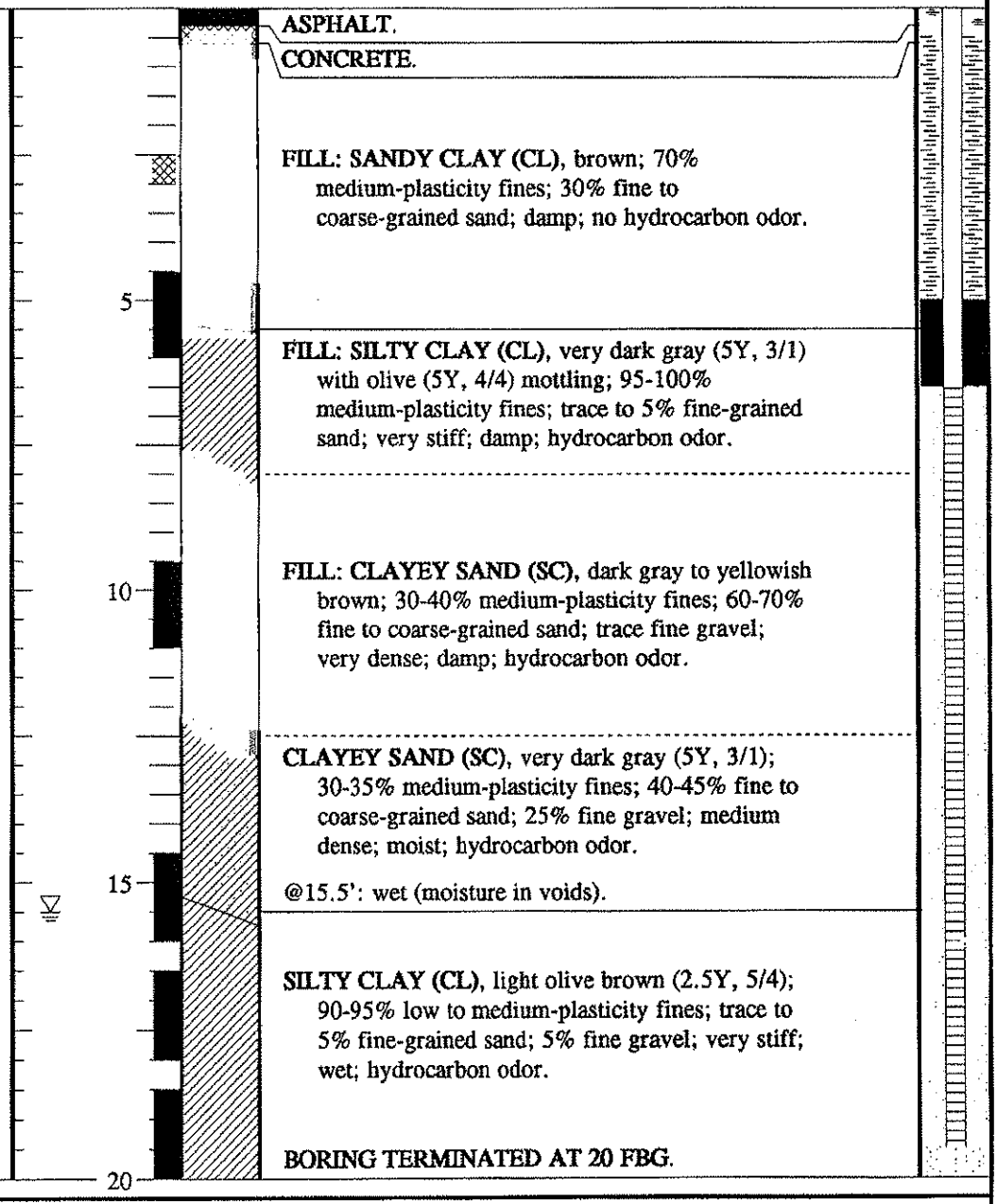
PROJECT NUMBER **20805-127.001** BORING NO. **VW-4**

PROJECT NAME **Arco Service Station #2111, San Leandro, California** PAGE **1 OF 1**

BY **R. Davis** DATE **2/28/96** SURFACE ELEV. **39.23 ft.**

PID Reading (ppm)	Sample Recovery (ft./ft.)	Penetration (Blows per 6")	DESCRIPTION
			ASPHALT.
			CONCRETE.
0.5			**FILL: SANDY CLAY (CL)**, brown; 70% medium-plasticity fines; 30% fine to coarse-grained sand; damp; no hydrocarbon odor.
7.0	1.2/1.5	9 15 16	**FILL: SILTY CLAY (CL)**, very dark gray (5Y, 3/1) with olive (5Y, 4/4) mottling; 95-100% medium-plasticity fines; trace to 5% fine-grained sand; very stiff; damp; hydrocarbon odor.
23.1	0.8/1.5	22 25 29	**FILL: CLAYEY SAND (SC)**, dark gray to yellowish brown; 30-40% medium-plasticity fines; 60-70% fine to coarse-grained sand; trace fine gravel; very dense; damp; hydrocarbon odor.
92.3	1.2/1.5	6 9 15	**CLAYEY SAND (SC)**, very dark gray (5Y, 3/1); 30-35% medium-plasticity fines; 40-45% fine to coarse-grained sand; 25% fine gravel; medium dense; moist; hydrocarbon odor. @15.5': wet (moisture in voids).
281.0	1.5/1.5	9 12 16	**SILTY CLAY (CL)**, light olive brown (2.5Y, 5/4); 90-95% low to medium-plasticity fines; trace to 5% fine-grained sand; 5% fine gravel; very stiff; wet; hydrocarbon odor.
878.0	1.5/1.5	6 7 15	**BORING TERMINATED AT 20 FBG.**

GROUND WATER LEVELS · DEPTH IN FT. · SAMPLES · LITHO-GRAPHIC COLUMN · WELL DETAIL

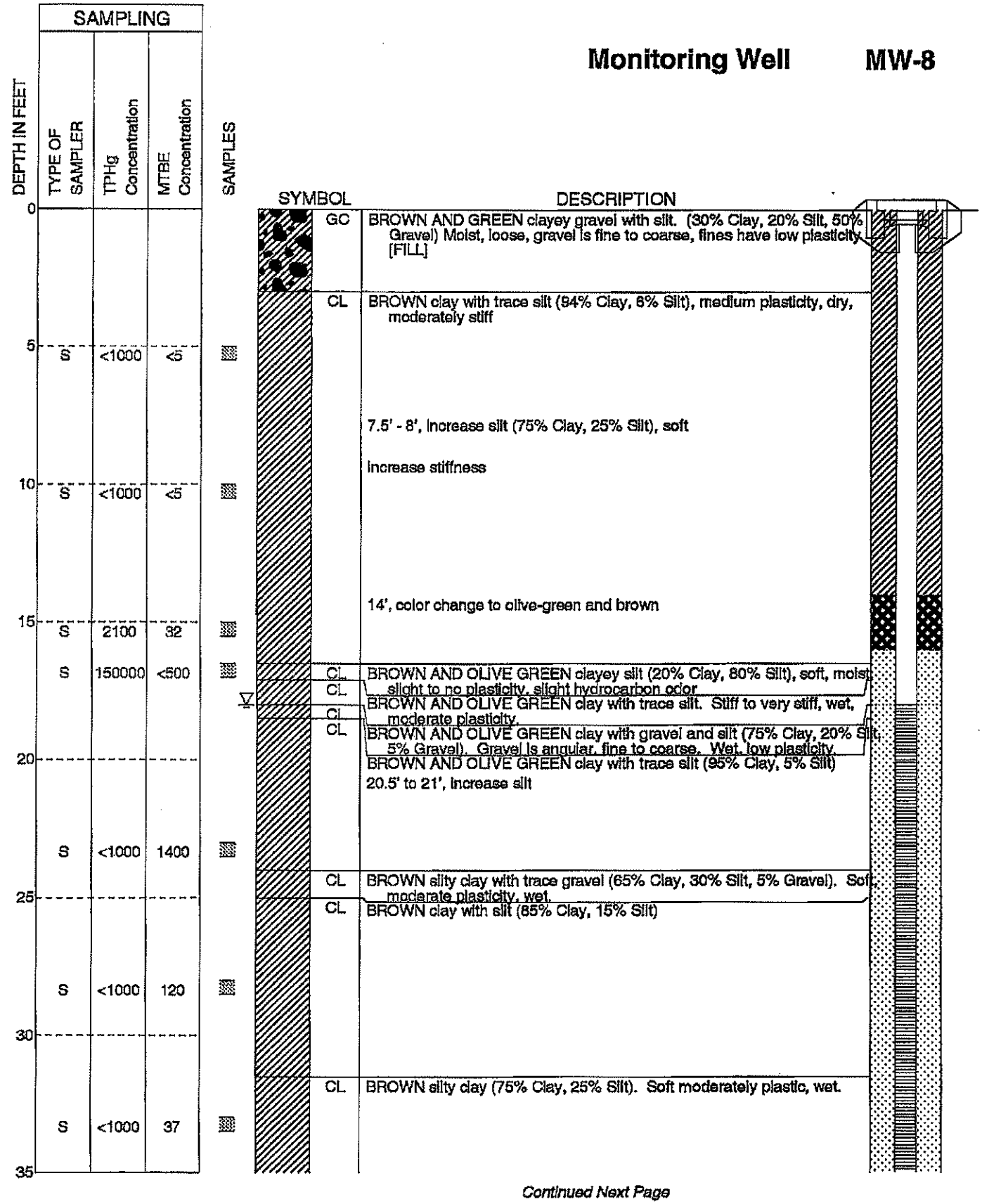


EMCON

REMARKS

Boring drilled to a depth of 20 feet below grade (fbg) by West Hazmat using 10" dia. hollow-stem auger equipment. Boring completed as a 4" dia. PVC vapor extraction well screened from 6.5 to 19.5 fbg. Groundwater was encountered at 15.5 fbg.

Monitoring Well MW-8



Continued Next Page

Job No: 38486093 Serial No.:	**URS**	**Log of Boring**
Date Completed: 11/26/03 Boring Depth: 38.0 ft.	Surface Elev: Coordinates:	Location: San Leandro, CA

Top of Casing Elev: ft.	Casing Type: PVC	Screened Interval: 18-38 ft.	Slot Size: 0.020 in.
Casing Depth: 38.0 ft.	Casing Diam: 2.0 in.	Effective Interval: 16-38 ft.	Sand Pack: 2/12 Lonestar

Monitoring Well MW-8

DEPTH IN FEET	SAMPLING: TYPE OF SAMPLER	SAMPLING: TPHg Concentration	SAMPLING: MTBE Concentration	SAMPLES
35	S	<1000	27	
40				
45				
50				
55				
60				
65				
70				

SYMBOL		DESCRIPTION
	CL	BROWN clay with little silt (93% Clay, 7% Silt)

End of Boring at 38'

Note: Well was installed inside existing vault box, adjacent to existing 1" and 2" wells.

URS

1333 Broadway, Suite 800
Oakland, California 94612

LOG OF BORING

Borehole ID: SB-1

Total Depth: 37 feet

PROJECT INFORMATION	DRILLING INFORMATION
Project: BP - Site #2111	**Drilling Company:** Gregg Drilling & Testing
Site Location: 1156 Davis St., San Leandro, CA	**Driller:** Germaine/Jose
Project Manager: Scott Robinson	**Type of Drilling Rig:** DP13 Geoprobe
RG:	**Drilling Method:** Direct Push
Geologist: Christopher Sheridan	**Sampling Method:** Continuous
Job Number: 38486896	**Date(s) Drilled:** 3/20/04 - 3/21/04

BORING INFORMATION

Groundwater Depth (ft bgs): 20 feet	**Boring Location:** Davis St. Community Center parking lot
Hand Auger Depth (ft bgs): 5.0 feet	**Boring Diameter:** 2-inch
Coordinates: X -122.1692944 Y 37.7223623	**Boring Type:** Exploratory

Depth (ft bgs)	Symbol	Lithologic Description	USCS	PID (ppm)	Recovery	Sample ID / Comments
0		CLAY: DARK BROWN to BROWN silty clay with some gravel (55% clay, 30% silt, 15% gravel). Soft, low plasticity, damp, no odor.	CL	0		Hand auger to 5 feet bgs
2						
4		SILT: BROWN clayey silt (35% clay, 65% silt). Soft, no plasticity, damp.	ML	0		
6						
8		CLAY: DARK BROWN to BROWN silty clay (60% clay, 40% silt). Soft to moderately stiff, low plasticity, damp.	CL	0		
10		SILT: BROWN clayey silt (30% clay, 70% silt).	ML			
		CLAY: DARK BROWN silty clay (65% clay, 35% silt). Moderately stiff, low plasticity, damp.	CL	0		
12				0		
14		SILT: BROWN silt (100% silt). Soft, no plasticity, moist.	ML	0		
16		SAND: BROWN fine sand with little clay (10% clay, 90% sand). Poorly graded, loose, wet.	SP	0		
18		15', color change to LIGHT BROWN		0		
20		16', trace sand, moist				SZ
		GRAVELLY CLAY: (20.25') grades to..BROWN gravelley clay (70% clay, 30% gravel). Well graded, wet	CL	0		
22		CLAY: BROWN silty clay (70% clay, 35% silt). Moderately stiff, no plasticity, damp.	CL / SP			
24		SAND: BROWN fine sand with little clay (10% clay, 90% sand). Poorly graded, loose, saturated.		0		
		CLAY: BROWN silty clay with trace fine to coarse sand (65% clay, 30% silt, 5% sand). Moderately stiff to stiff, no plasticity, damp to moist.	CL			
26						
28		slight increased fine to coarse sand. Soft, low plasticity, saturated.		0		
				0		

URS

LOG OF BORING

Borehole ID: SB-1

Depth (ft bgs)	Symbol	Lithologic Description	USCS	PID (ppm)	Recovery	Sample ID / Comments
30		same silty clay.		0		
32				0		
34		same silty clay.		0		
36		End of Boring at 37' bgs.		0		

URS

1333 Broadway, Suite 800
Oakland, California 94612

LOG OF BORING

Borehole ID: SB-2

Total Depth: 40 feet

PROJECT INFORMATION	DRILLING INFORMATION
Project: BP - Site #2111	**Drilling Company:** Gregg Drilling & Testing
Site Location: 1156 Davis St, San Leandro, CA	**Driller:** Germaine/Jose
Project Manager: Scott Robinson	**Type of Drilling Rig:** DP13 Geoprobe
RG:	**Drilling Method:** Direct Push
Geologist: Christopher Sheridan	**Sampling Method:** Continous
Job Number: 38486896	**Date(s) Drilled:** 3/21/04

BORING INFORMATION

Groundwater Depth (ft bgs): 21	**Boring Location:** ARCO #2111
Hand Auger Depth (ft bgs): 5.0	**Boring Diameter:** 2-inch
Coordinates: X -122.1686721 Y 37.7217975	**Boring Type:** Exploratory

Depth (ft bgs)	Symbol	Lithologic Description	USCS	PID (ppm)	Recovery	Sample ID / Comments
0		CLAY: BROWN silty clay with fine to coarse sand and some fine to coarse gravel (35% clay, 25% silt, 25% sand, 15% gravel). Soft, low to no plasticity, damp [FILL].	CL			Hand auger 0 to 5 feet bgs
6		CLAY: DARK BROWN to BROWN silty clay with trace fine to coarse sand (65% clay, 30% silt, 5% sand) Moderately stiff to stiff, low plasticity, damp.	CL	0		
8				0		
10		same as above		0		
12				0		
14		stiff same as above, some hydrocarbon staining and odor.		22		
16		increased staining.		150		
18				120		
20				268		
22		21'-22', soft, wet, hydrocarbon odor. 22.5', stiff		150 30		SZ
24		GRAVEL: BROWN and OLIVE GRAY sandy gravel with silt (20% silt, 35% sand, 45% gravel). Well graded, moist to wet.	GM	0		
26		26.25' to 27', coarse sand grading to...				
28		GRAVEL: GRAY silty gravel with sand (30% silt, 25% sand, 45% gravel). Well graded, angular to sub-angular, moist to wet.	SM/C	0		
		CLAY: BROWN clay with fine to coarse sand and silt (60% clay, 20% silt, 20% sand). Soft, low to moderate plasticity, wet.	CL SW	0		

URS

LOG OF BORING

Borehole ID: SB-2

Depth (ft bgs)	Symbol	Lithologic Description	USCS	PID (ppm)	Recovery	Sample ID / Comments
30		silt, 20% sand). Soft, low to moderate plasticity, wet.	SW			
		SAND: GRAY sand with gravel. Well graded, subangular, wet (75% sand 25% gravel).	CL	0		
32		CLAY: BROWN clay with fine to coarse sand (75% clay, 25% sand). Soft, moderate plasticity, saturated.	NR			
34		No recovery				
36						
38						End of Boring at 40' bgs at 1410 on 3/21/04
40		GRAVEL: Gravelly sluff from above.	GM	0		

URS

1333 Broadway, Suite 800
Oakland, California 94612

LOG OF BORING

Borehole ID: H-1

Total Depth: 40 feet

PROJECT INFORMATION	DRILLING INFORMATION
Project: BP - Site #2111	**Drilling Company:** Gregg Drilling & Testing
Site Location: 1156 Davis St., San Leandro, CA	**Driller:** Germaine/Jose
Project Manager: Scott Robinson	**Type of Drilling Rig:** DP13 Geoprobe
RG:	**Drilling Method:** Direct Push
Geologist: Christopher Sheridan	**Sampling Method:** Continuous
Job Number: 38486896	**Date(s) Drilled:** 3/21/04

BORING INFORMATION

Groundwater Depth (ft bgs): 24.5	**Boring Location:** Davis St. Community Center driveway
Hand Auger Depth (ft bgs): 5.0	**Boring Diameter:** 2-inch
Coordinates: X -122.1688693 Y37.7216522	**Boring Type:** Exploratory

Depth (ft bgs)	Symbol	Lithologic Description	USCS	PID (ppm)	Recovery	Sample ID / Comments
0						Hand auger to 5' bgs.
2						
4						
6		SILT: BROWN clayey silt with some fine to coarse sand and trace gravel (35% clay, 40% silt, 20% sand, 5% gravel) [FILL].	ML	0		
		CLAY: DARK BROWN silty clay with little fine to coarse sand (60% clay, 30% silt, 10% sand). Stiff, non plastic, damp, organics.	CL	0		
8						
10				0		
12		No organics. Same as above		0		
14		Stiff		0		
16		Color change to BROWN		0		
18		Soft to moderately stiff, moderate plasticity		6.6		
20		Slight staining				
22		Same as above		23		
24						SZ
26		Same silty clay. Wet, slight sheen and hydrocarbon odor.		25		
28		Same as above, saturated.				

URS

LOG OF BORING

Borehole ID: H-1

Depth (ft bgs)	Symbol	Lithologic Description	USCS	PID (ppm)	Recovery	Sample ID / Comments
30				59		
32				103		
34		SAND: BROWN clayey fine grained sand (30% clay, 70% sand). Poorly graded, subangular, saturated.	SM	205		
36		CLAY: BROWN silty clay (70% clay, 30% silt). Soft to moderately stiff, low plasticity, moist, slight odor.	CL	195		
		Same as above				
38		End of Boring at 40' bgs at 1200 on 3/21/04		150		Grab groundwater sample taken at 1200: H-1.
40				125		

URS

1333 Broadway, Suite 800
Oakland, California 94612

LOG OF BORING

Borehole ID: H-2

Total Depth: 36 feet

PROJECT INFORMATION	DRILLING INFORMATION
Project: BP - Site #2111	**Drilling Company:** Gregg Drilling & Testing
Site Location: 1156 Davis St., San Leandro, CA	**Driller:** Germaine/Jose
Project Manager: Scott Robinson	**Type of Drilling Rig:** DP13 Geoprobe
RG:	**Drilling Method:** Direct Push
Geologist: Mike Berwald/Chris Sheridan	**Sampling Method:** Continuous
Job Number: 38486896	**Date(s) Drilled:** 3/21/04

BORING INFORMATION

Groundwater Depth (ft bgs): 17 feet	**Boring Location:** Davis St. Community Center driveway
Hand Auger Depth (ft bgs): 5.0	**Boring Diameter:** 2-inch
Coordinates: X -122.1690083 Y 37.7218569	**Boring Type:** Exploratory

Depth (ft bgs)	Symbol	Lithologic Description	USCS	PID (ppm)	Recovery	Sample ID / Comments
0		CLAY: DARK BROWN to BROWN clay with silt and fine to coarse gravel (50% clay, 25% silt, 25% gravel). Moderately stiff, low to moderate plasticity, damp.	CL			Hand auger to 5' bgs.
2						
4						
6		Trace silt and fine gravel. Organics, moist.		0		
8						
10				0		
12		Same as above, BROWN to GREEN staining.				
14				193		
16		Same as above, hydrocarbon odor and sheen				
18		SAND: BROWN and OLIVE GRAY sand with fine to coarse gravel and trace silt (5% silt, 70% sand, 25% gravel). Well-graded, gravel is subangular to angular, wet.	SW	70		
20				72		
22		CLAY: BROWN and OLIVE GRAY silty clay with little fine to coarse sand and trace fine to coarse gravel (55% clay, 30% silt, 10% sand, 5% gravel). Moderately stiff, low plasticity, saturated.	CL			
24		Trace silt, soft, wet, no staining/odor.		130		
26						
28				3.3		
		Same as above.		1.1		
				0		

URS

LOG OF BORING

Borehole ID: H-2

Depth (ft bgs)	Symbol	Lithologic Description	USCS	PID (ppm)	Recovery	Sample ID / Comments
30				0		
32		Slight sheen in sluff.				
34				8.3		Grab groundwater sample taken at 1050: H-2
36		End of Boring at 36' bgs at 1050 on 3/21/04.		44		

URS

1333 Broadway, Suite 800
Oakland, California 94612

LOG OF BORING

Borehole ID: H-3

Total Depth: 44 feet

PROJECT INFORMATION	DRILLING INFORMATION
Project: BP - Site #2111	**Drilling Company:** Gregg Drilling & Testing
Site Location: 1156 Davis St., San Leandro, CA	**Driller:** Germaine/Jose
Project Manager: Scott Robinson	**Type of Drilling Rig:** DP13 Geoprobe
RG:	**Drilling Method:** Direct Push
Geologist: Christopher Sheridan	**Sampling Method:** Continous
Job Number: 38486896	**Date(s) Drilled:** 3/21/04

BORING INFORMATION	
Groundwater Depth (ft bgs): 19 feet	**Boring Location:** Davis St. Community Center driveway
Hand Auger Depth (ft bgs): 5.0	**Boring Diameter:** 2-inch
Coordinates: X: -122.1691669 Y: 37.7221031	**Boring Type:** Exploratory

Depth (ft bgs)	Symbol	Lithologic Description	USCS	PID (ppm)	Recovery	Sample ID
0		SILT: DARK BROWN to BROWN silt with clay and some fine to coarse gravel (25% clay, 60% silt, 15% gravel. Loose, no plasticity, damp [FILL].	ML	0		Hand auger to 5' bgs.
2						
4						
6		No Recovery		0		
8						
10		No Recovery		0		
12		CLAY: DARK BROWN clay with trace silt and trace fine to coarse gravel (90% clay, 5% silt, 5% gravel). Soft, moderate to high plasticity, moist.	CL			
14		Same clay				
16		15.75' - 16.25', increased silt (65% clay, 30% silt, 5% gravel). Soft to moderately stiff		0		
18				0		
20		Color change to BROWN.		0		▽
22		Same as above, saturated.		0		
24				0		
26		Same as above.		0		
28						
30				0		

URS

LOG OF BORING

Borehole ID: H-3

Depth (ft bgs)	Symbol	Lithologic Description	USCS	PID (ppm)	Recovery	Sample ID
32		SAND: BROWN and GRAY clayey sand with little fine to coarse gravel (30% clay, 60% sand, 10% gravel). Well graded, subangular to subrounded sand and gravel, saturated.	SM	0		
34		CLAY: BROWN silty clay with fine to coarse sand (50% clay, 30% silt, 20% sand). Soft, moderate plasticity, wet.	CL	0		
36						
38						
40		SAND: BROWN fine sand (100% sand). Poorly graded.	SP	0		Use hammer past 40' bgs.
		42.5 - 43.5, sluff.				Boring is sluffing.
42						
44		GRAVEL: BROWN sandy gravel with little silt (10% silt 30% sand, 60% gravel). Well graded.	GM	0		End of Boring at 44' bgs at 0925 on 3/21/04.

URS

LOG OF BORING

Borehole ID: H-3

Depth (ft bgs)	Symbol	Lithologic Description	USCS	PID (ppm)	Recovery	Sample ID / Comments
30				0		
32		SAND: BROWN and GRAY clayey sand with little fine to coarse gravel (30% clay, 60% sand, 10% gravel). Well graded, subangular to subrounded sand and gravel, saturated.	SC			
34		CLAY: BROWN silty clay with fine to coarse sand (50% clay, 30% silt, 20% sand). Soft, moderate plasticity, wet.	CL	0		
36						
38				0		
40		SAND: BROWN fine sand (100% sand). Poorly graded.	SP			Use hammer past 40' bgs.
		42.5 - 43.5, sluff.				Boring is sluffing.
42						End of Boring at 44' bgs at 0925 on 3/21/04.
44		GRAVEL: BROWN sandy gravel with little silt (10% silt 30% sand, 60% gravel). Well graded.	GW	0		

URS

1333 Broadway, Suite 800
Oakland, California 94612

LOG OF BORING

Borehole ID: H-4

Total Depth: 35 feet

PROJECT INFORMATION	DRILLING INFORMATION
Project: BP - Site #2111	**Drilling Company:** Gregg Drilling & Testing
Site Location: 1156 Davis St., San Leandro, CA	**Driller:** Germaine/Jose
Project Manager: Scott Robinson	**Type of Drilling Rig:** DP13 Geoprobe
RG:	**Drilling Method:** Direct Push
Geologist: Christopher Sheridan	**Sampling Method:** Continuous
Job Number: 38486895	**Date(s) Drilled:** 3/20/04

BORING INFORMATION

Groundwater Depth (ft bgs): 19.5	**Boring Location:** Davis St. Community Center parking lot
Hand Auger Depth (ft bgs): 5.0	**Boring Diameter:** 2-inch
Coordinates: X-122.1693232 Y37.7223485	**Boring Type:** Hydropunch

Depth (ft bgs)	Symbol	Lithologic Description	USCS	PID (ppm)	Recovery	Sample ID / Comments
0		CLAY: DARK BROWN to BROWN silty clay with some gravel (55% clay, 30% silt, 15% gravel). Soft, low plasticity, damp, no odor.				Lithology from SB-1.
2						
4		SILT: BROWN clayey silt (35% clay, 65% silt). Soft, no plasticity, damp.				Hand auger 0' to 5' bgs.
6						
8		CLAY: DARK BROWN to BROWN silty clay (60% clay, 40% silt). Soft to moderately stiff, low plasticity, damp.				
10		SILT: BROWN clayey silt (30% clay, 70% silt). CLAY: DARK BROWN silty clay (65% clay, 35% silt). Moderately stiff, low plasticity, damp.				
12						
14		SILT: BROWN silt (100% silt). Soft, no plasticity, moist.				
16		SAND: BROWN fine sand with little clay (10% clay, 90% sand). Poorly graded, loose, wet. 15;.color change to LIGHT BROWN				Screen 15' - 17' bgs- DRY
18		16;, trace sand, moist				Screen 19.5' - 20.5' bgs - DRY ▽
20		GRAVELLY CLAY: (20.25') grades to..BROWN gravelley clay (70% clay, 30% gravel). Well graded, wet				Screen 20.5' - 21.5' bgs - DRY
22		CLAY: BROWN silty clay (70% clay, 35% silt). Moderately stiff, no plasticity, damp.				Screen 20' - 24' bgs - DRY
24		SAND: BROWN fine sand with little clay (10% clay, 90% sand). Poorly graded, loose, saturated. CLAY: BROWN silty clay with trace fine to coarse sand (65% clay, 30% silt, 5% sand). Moderately stiff to stiff, no plasticity, damp to moist.				
26		slight increased fine to coarse sand. Soft, low plasticity, saturated.				H-4-27 sampled at 1145. Screen 23' - 27' bgs.
28						

URS

LOG OF BORING

Borehole ID: H-4

Depth (ft bgs)	Symbol	Lithologic Description	USCS	PID (ppm)	Recovery	Sample ID / Comments
30		same silty clay.				H-4-35 sampled at 1155. Screen 32' - 35' bgs.
32						
34		End of Boring at 35' bgs.				

URS

1333 Broadway, Suite 800
Oakland, California 94612

LOG OF BORING

Borehole ID: H-5

Total Depth: 40 feet

PROJECT INFORMATION	DRILLING INFORMATION
Project: BP - Site #2111	**Drilling Company:** Gregg Drilling & Testing
Site Location: 1156 Davis St., San Leandro, CA	**Driller:** Germaine/Jose
Project Manager: Scott Robinson	**Type of Drilling Rig:** DP13 Geoprobe
RG:	**Drilling Method:** Direct Push
Geologist: Christopher Sheridan	**Sampling Method:** Continuous
Job Number: 38486896	**Date(s) Drilled:** 3/20/04 - 3/21/04

BORING INFORMATION

Groundwater Depth (ft bgs): 19.5	**Boring Location:** Davis St. Community Center parking lot
Hand Auger Depth (ft bgs): 5.0	**Boring Diameter:** 2-inch
Coordinates: X -122.1692432 Y37.7223855	**Boring Type:** Hydropunch

Depth (ft bgs)	Symbol	Lithologic Description	USCS	PID (ppm)	Recovery	Sample ID / Comments
0		CLAY: DARK BROWN to BROWN silty clay with some gravel (55% clay, 30% silt, 15% gravel). Soft, low plasticity, damp, no odor.	CL			Lithology from SB-1.
2						
4		SILT: BROWN clayey silt (35% clay, 65% silt). Soft, no plasticity, damp.	ML			Hand auger to 5' bgs.
6						
8		CLAY: DARK BROWN to BROWN silty clay (60% clay, 40% silt). Soft to moderately stiff, low plasticity, damp.	CL			
10		SILT: BROWN clayey silt (30% clay, 70% silt).	ML			
		CLAY: DARK BROWN silty clay (65% clay, 35% silt). Moderately stiff, low plasticity, damp.	ML			
12						
14		SILT: BROWN silt (100% silt). Soft, no plasticity, moist.	CL			
16		SAND: BROWN fine sand with little clay (10% clay, 90% sand). Poorly graded, loose, wet.	ML			
		15', color change to LIGHT BROWN				
18		16', trace sand, moist				Screen 17' - 20' bgs - DRY
20		GRAVELLY CLAY: (20.25') grades to..BROWN gravelley clay (70% clay, 30% gravel). Well graded, wet	SP			▽
			CL			
22		CLAY: BROWN silty clay (70% clay, 35% silt). Moderately stiff, no plasticity, damp.	SP			
		SAND: BROWN fine sand with little clay (10% clay, 90% sand). Poorly graded, loose, saturated.				Screen 19' - 23' bgs - DRY
24		CLAY: BROWN silty clay with trace fine to coarse sand (65% clay, 30% silt, 5% sand). Moderately stiff to stiff, no plasticity, damp to moist.	CL			
26						
		slight increased fine to coarse sand. Soft, low plasticity, saturated.				H-5-27 sampled at 1530, 3/20/04. Screen 25' - 27' bgs.
28						

URS

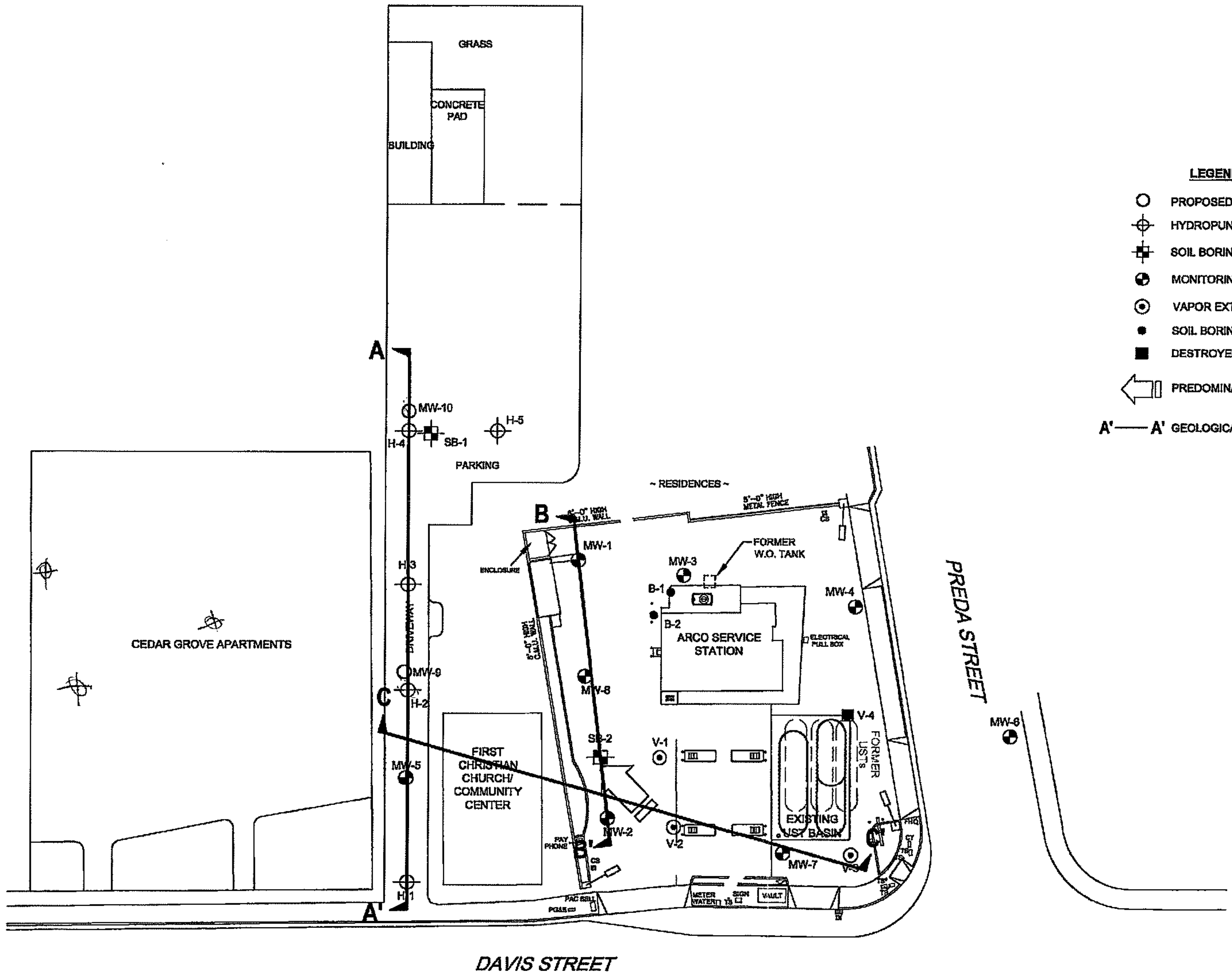
LOG OF BORING

Borehole ID: H-5

Depth (ft bgs)	Symbol	Lithologic Description	USCS	PID (ppm)	Recovery	Sample ID / Comments
30		same silty clay.				H-5-35 sampled at 1540, 3/20/04. Screen 32' - 35' bgs
32						
34						
36		same silty clay.				
38		Not logged.				H-5-40 sampled at 0710, 3/21/04. Screen 38' - 40' bgs.
40		End of Boring at 40' bgs.				

APPENDIX D

Geologic Cross-Sections

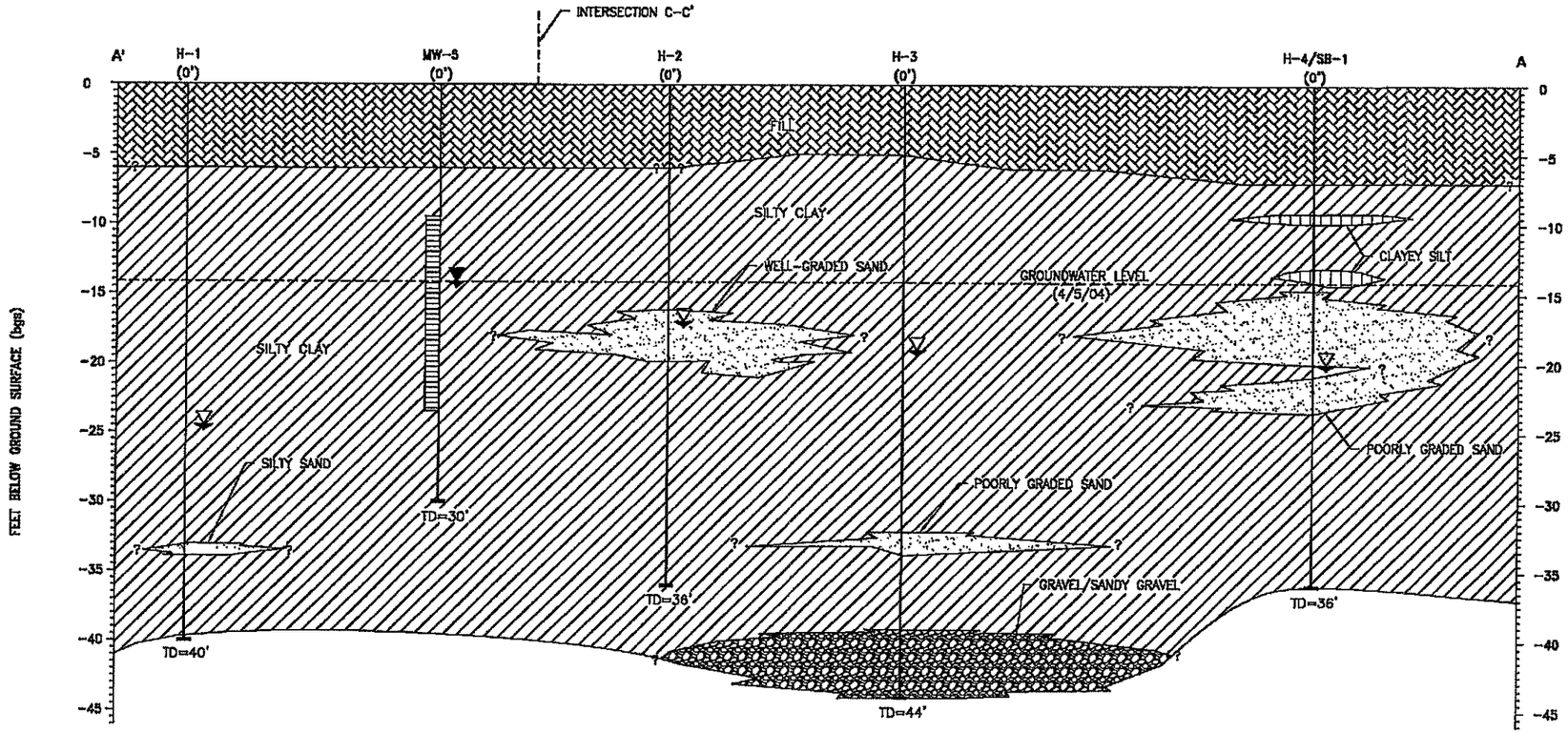


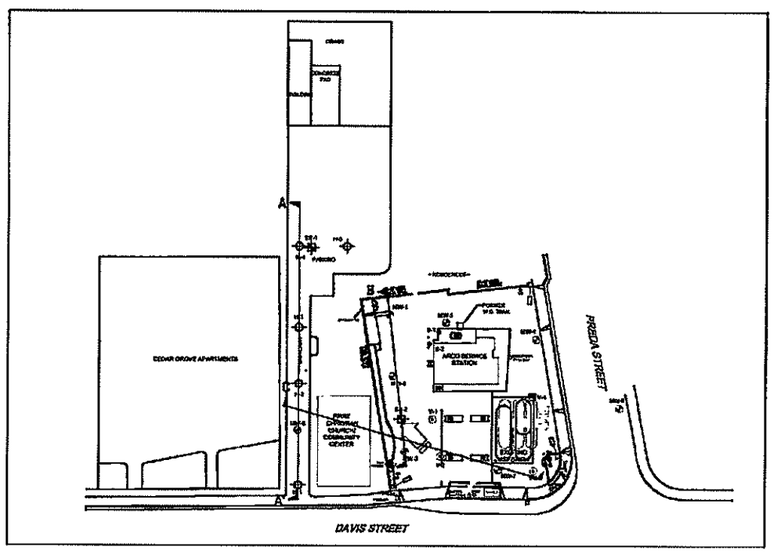
LEGEND

- PROPOSED MONITORING WELL LOCATION
- HYDROPUNCH LOCATION
- SOIL BORING LOCATION
- MONITORING WELL
- VAPOR EXTRACTION WELL
- SOIL BORING
- DESTROYED WELL
- PREDOMINANT GROUNDWATER FLOW DIRECTION
- A'—A' GEOLOGICAL CROSS SECTION LINE

NOTE: SITE MAP ADAPTED FROM DELTA ENVIRONMENTAL FIGURES. SITE DIMESIONS AND FACILITY LOCATIONS NOT VERIFIED.

URS	Project No. 38486896 Arco Service Station #2111 1156 Davis Street San Leandro, California	SITE PLAN	FIGURE 1





LEGEND:

- FIRST ENCOUNTER GROUNDWATER (3/20/04–3/21/04)
- STATIC WATER LEVEL (4/5/04)
- FILL
- GRAVEL/SILTY GRAVEL/SANDY GRAVEL (GM/GP)
- SAND/SILTY SAND/GRAVELLY SAND (SP/SM/SP/SW)
- SILT/CLAYEY SILT (ML)
- SILTY CLAY (CL)
- MW-5 (X') — WELL OR SOIL BORING NUMBER; DISTANCE AND DIRECTION OF PROJECTION
- MONITORING WELL SCREENED INTERVAL
- TD=38' — TOTAL DEPTH (FEET BELOW GROUND SURFACE)

0 10 20
VERT. SCALE IN FEET

0 20 40
HORIZ. SCALE IN FEET

URS	Project No. 38486896 Arco Service Station #2111 1156 Davis Street San Leandro, California	GEOLOGIC CROSS-SECTION A'-A	FIGURE 2

Apr 27, 2004 -- 1:15pm
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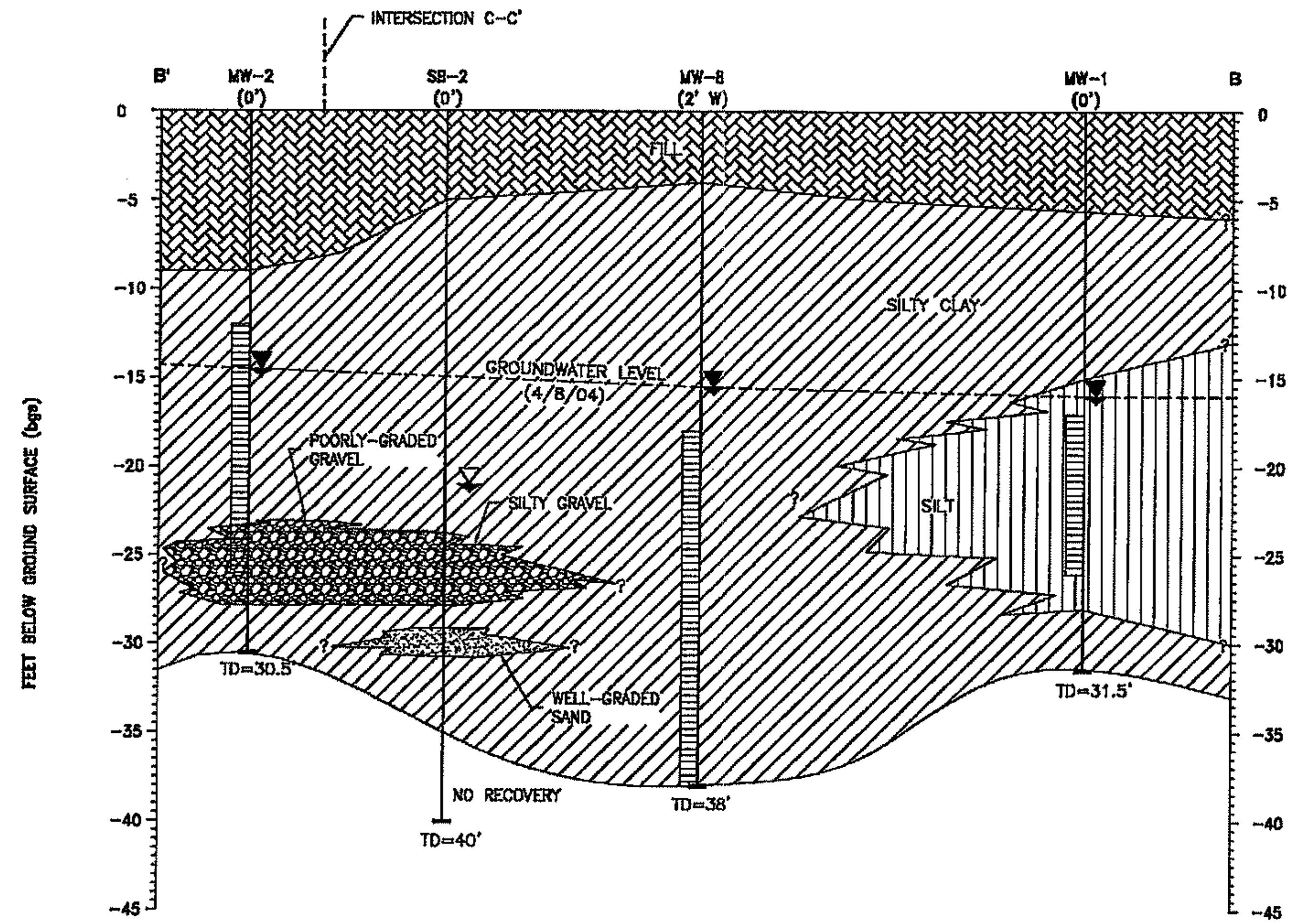
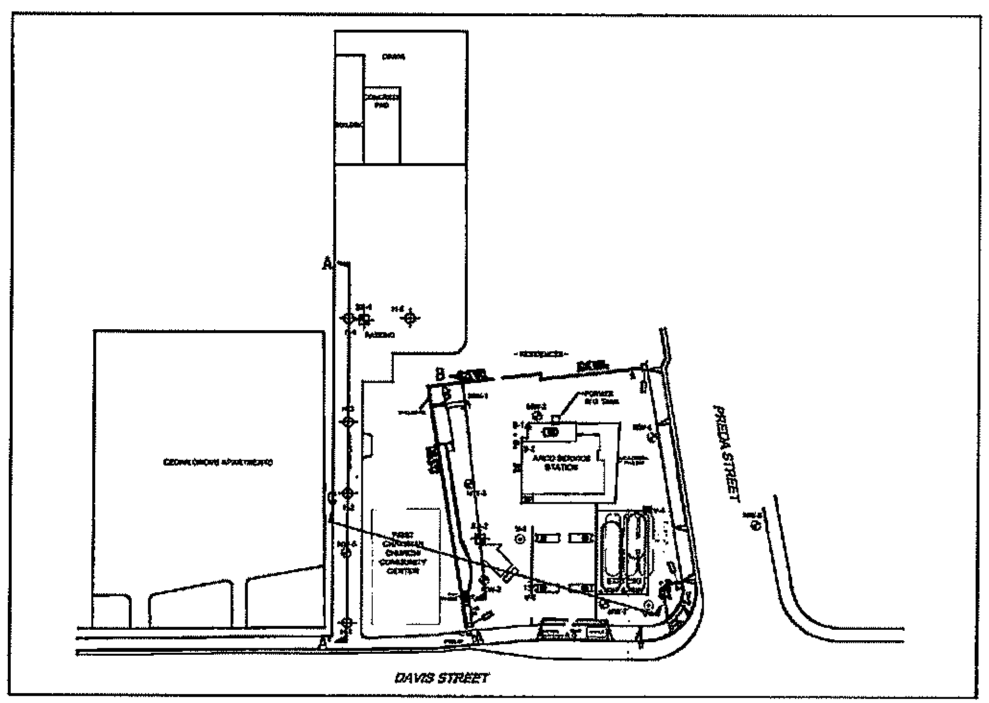




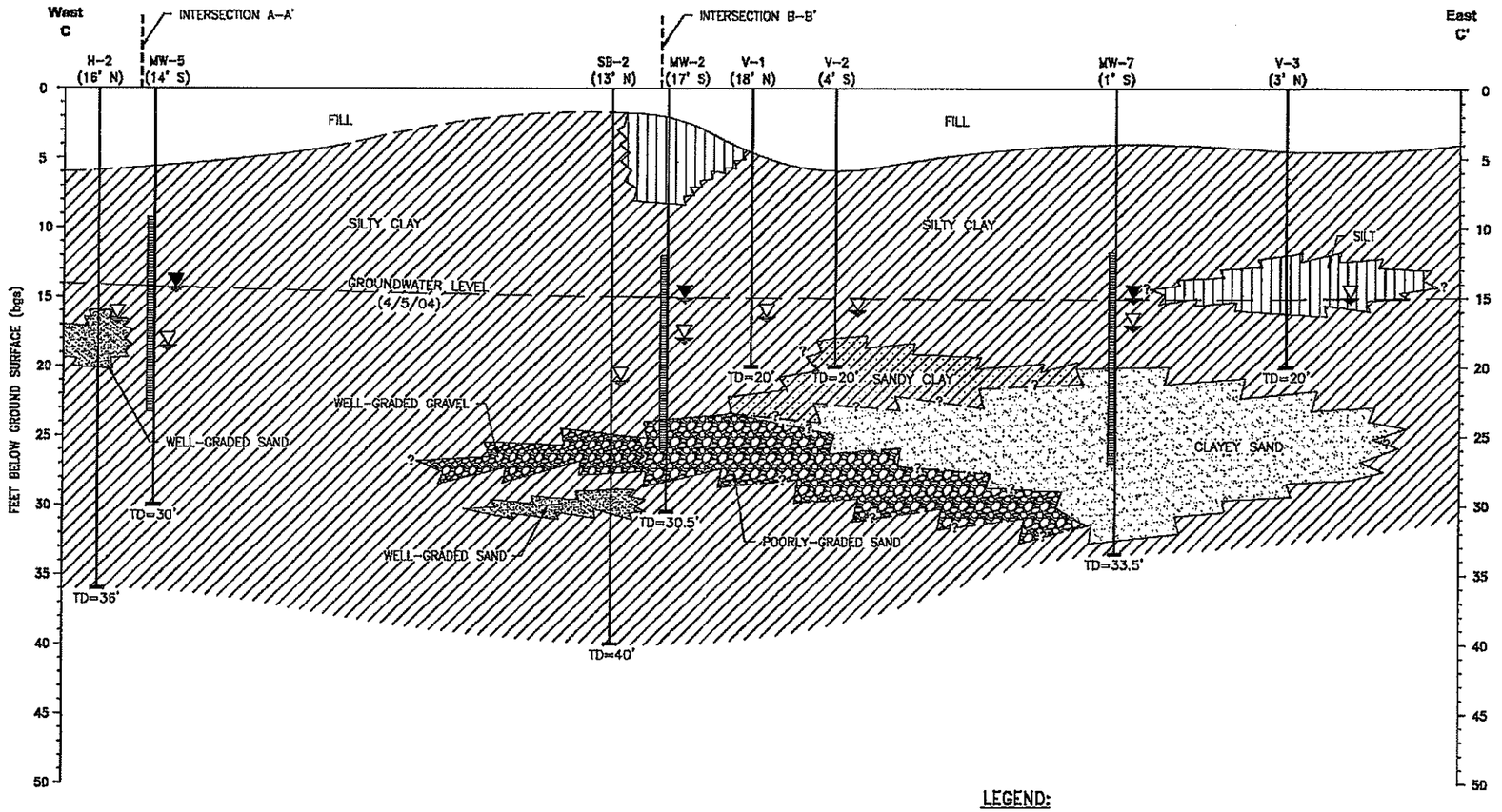
LEGEND:

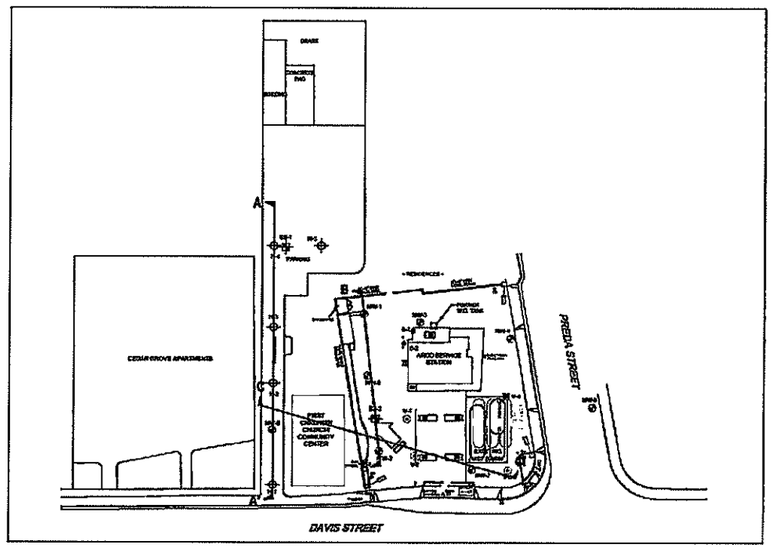
- FIRST ENCOUNTER GROUNDWATER (3/20/04-3/21/04)
- STATIC WATER LEVEL (4/5/04)
- FILL
- GRAVEL/SILTY GRAVEL/SANDY GRAVEL (GM/GP)
- SAND/SILTY SAND/GRAVELLY SAND (SP/SM/SP/SW)
- SILT/CLAYEY SILT (ML)
- SILTY CLAY (CL)
- MW-5 (X') — WELL OR SOIL BORING NUMBER, DISTANCE AND DIRECTION OF PROJECTION
- MONITORING WELL SCREENED INTERVAL
- TD=36' — TOTAL DEPTH (FEET BELOW GROUND SURFACE)

0 10 20
VERT. SCALE IN FEET

0 20 40
HORIZ. SCALE IN FEET

URS	Project No. 38486896 Arco Service Station #2111 1156 Davis Street San Leandro, California	GEOLOGIC CROSS-SECTION B'-B	FIGURE 3





LEGEND:

- FIRST ENCOUNTER GROUNDWATER (3/20/04–3/21/04)
- STATIC WATER LEVEL (4/5/04)
- GRAVEL/SILTY GRAVEL/SANDY GRAVEL (GM/GP)
- SAND/SILTY SAND/GRAVELLY SAND (SP/SM/SP/SW)
- SILT/CLAYEY SILT (ML)
- SILTY CLAY (CL)
- SANDY CLAY (CL)
- MW–5 (X') — WELL OR SOIL BORING NUMBER; DISTANCE AND DIRECTION OF PROJECTION
- MONITORING WELL SCREENED INTERVAL
- TD=36' — TOTAL DEPTH (FEET BELOW GROUND SURFACE)

0 10 20
VERT. SCALE IN FEET

0 20 40
HORIZ. SCALE IN FEET

URS	Project No. 38486896 Arco Service Station #2111 1156 Davis Street San Leandro, California	GEOLOGIC CROSS-SECTION C - C'	FIGURE 4

May 04, 2004 – 11:29am
X:\C_and_L_ecords\SF GEL\Sites\Scott Robinson\Final Sample\2111\MXD\MXD Addendum– Field & Report\Report\Figures\C–C'_XSECTION_Fig–4.dwg

APPENDIX E

Draft Closure Checklist

Agency Name : Alameda County Environmental Health Local Oversight Program	Date: 10/25/12
Case Worker: Dilan Roe	Fuel Leak Case No: RO0000494
Site Name: 2111	GeoTracker Global ID: T0600101764
Site Address: 1156 Davis Street, San Leandro, CA	USTCF Claim No:

☐ PASS ☐ FAIL-*DRAFT*

The site does [complies/does not comply] with the requirements of the Low-Threat Underground Storage Tank Case Closure Policy (LTCP) as described below.[1]

General Criteria (must be satisfied by all candidate sites)

a. Is the unauthorized release located within the service area of a public water system? ☒ Yes ☐ No

If Yes, then Provide Name of Water System:

Water system info will be presented upon completion of proposed field work and revision of this checklist.

If Yes, are there Site Specific Conditions that Need to be Considered in Evaluation?

Does the property owner use the water system? ☒ Yes ☐ No

Do property owners in the vicinity of the site use the water system? ☒ Yes ☐ No

Are there other sources of water for property owners in the vicinity of the site?

☐ Irrigation Wells ☐ Water Supply Wells

☐ Other Capture Systems:

Pertinent Information Provided:

DWR Well Search ☒ Yes ☐ No

Name/Date Of Document:

Reference Lists will be compiled upon completion of proposed field work and revision of this checklist.

General Criteria (continued)	

b. Does the unauthorized release consist only of petroleum? ☒ Yes ☐ No

If No, then List Other Contaminants:

☐ Chlorobenzene ☐ PCE ☐ TCE ☐ Chloroform ☐ Vinyl Chloride

☐ Bromoform ☐ Other

If Other, then:

☐ PCBs ☐ Phenol ☐ 1,4-dioxane ☐ Dibenzofurans ☐ Dioxins

☐ Metals:

☐ Other SVOCs:

☐ Other VOCs:

Pertinent Information Provided:

Description of Site History, Types of Products or Chemicals Used at the Site ☒ Yes ☐ No

History of Types of Releases other than Petroleum ☒ Yes ☐ No

Tabulation and Discussion of Sampling Results for All Chemicals other than Petroleum ☒ Yes ☐ No

Name/Date of Document:

Reference Lists will be compiled upon completion of proposed field work and revision of this checklist.

General Criteria (continued)

c. Has the unauthorized ("primary") release from the UST system been stopped? ☒ Yes ☐ No

If No, then Explain:

Pertinent Information Provided:

Description of the history of release(s) and the actions that were taken to stop each release not provided or incomplete ☒ Yes ☐ No

Evaluation and accounting for changing contaminant concentrations over the full time period of site investigation ☒ Yes ☐ No

Name/Date of Document:

Reference Lists will be compiled upon completion of proposed field work and revision of this checklist.

General Criteria (continued)

d. Has free product been removed to the maximum extent practicable?

☒ FP Not Encountered

☐ Yes ☐ No

If No, then,

Removal Methods Tried: ☐ HVDPE ☐ Skimmer ☐ Bailing ☐ Absorbent Materials ☐ Did Not Try to Remove FP ☐ Other

If Other, then Explain:

Pertinent Information Provided:

Description of investigation and monitoring activities that have been undertaken to assess whether free product is present.	☒ Yes ☐ No
Data including tables and figures showing any observation and measurements of free product.	☒ Yes ☐ No
Description of corrective action(s) that were taken to remove free product, dates of removal actions, and volumes removed	☒ Yes ☐ No
An evaluation of whether free product removal is practicable, or if not practicable, a description of the conditions that prevent free product removal	☒ Yes ☐ No

Name(s)/Date(s) of Document(s):

Reference Lists will be compiled upon completion of proposed field work and revision of this checklist.

General Criteria (continued)

e. Has a conceptual site model that assesses the nature, extent, and mobility of the release been developed? ☐ Yes ☒ No

If No, Then:

☐ GW Not Evaluated

☒ Groundwater Assessment Incomplete – Areal Extent of Contamination Not Defined

☐ Hydrogeology Not Adequately Defined

☐ Potential Receptors Not Identified

☐ Soil Assessment Incomplete – Aerial Extent Not Defined

☐ Soil Assessment Incomplete – Depth Unknown

☐ Soil Vapor Not Evaluated

☐ Other

Pertinent Information Provided:

Sensitive Receptor Survey	☒ Yes ☐ No
Preferential Pathway Study	☐ Yes ☐ No
Cross Sections	☒ Yes ☐ No
Bore Logs	☒ Yes ☐ No
Rose Diagrams	☒ Yes ☐ No
Monitoring Well Construction Logs	☒ Yes ☐ No
Table Providing Details of Monitoring Well Network	☒ Yes ☐ No
Evaluation of Groundwater Flow Direction and Gradient	☒ Yes ☐ No
Description of Type and Effectiveness of Corrective Action	☒ Yes ☐ No

Name(s)/Date(s) of Documents:

Reference Lists will be compiled upon completion of proposed field work and revision of this checklist.

General Criteria (continued)

f. Has secondary source been removed to the extent practicable? ☒ Yes ☐ No

The secondary source is the petroleum-impacted soil, free product, or groundwater that acts as a long-term source releasing contamination to the surrounding area. Unless site conditions prevent secondary source removal petroleum-release sites are required to undergo secondary source removal to the maximum extent practicable.

If No, then identify Impediments to Removing Secondary Source:

☐ Remediation Has Not Been Attempted

☐ Remediation Was Designed Incorrectly

☐ Remediation Was Shut Off Prematurely

☐ Poor Remediation O&M

☐ Other

If Other, then:

Site Conditions Prevent Secondary Source Removal (e.g., physical or infrastructural constraints exist whose removal or relocation would be technically or economically infeasible) ☐ Yes ☐ No

Pertinent Information Provided:

History of corrective actions for the site including the types of cleanup actions taken, dates of the actions, and mass removed ☒ Yes ☐ No

Figures depicting the location of the removal action ☒ Yes ☐ No

Confirmation sampling results which demonstrate the effectiveness of secondary source removal ☒ Yes ☐ No

Narrative description of the actions and areas of success or infeasibility of actions ☒ Yes ☐ No

Long-term monitoring data for in-situ corrective actions that demonstrate the concentrations have not rebounded following the cessation of corrective actions ☒ Yes ☐ No

Name(s)/Date(s) of Document(s):

Reference Lists will be compiled upon completion of proposed field work and revision of this checklist.

General Criteria (continued)	
g. Has soil or groundwater been tested for MTBE and results reported in accordance with Health and Safety Code Section 25296.15?	☒ Yes ☐

Pertinent Information Required:

Sufficient data including tables and figures to assess whether MTBE is or was present in soil and groundwater at the site ☐ Yes ☒ No

Name(s)/Dates(s) of Document(s):

Reference Lists will be compiled upon completion of proposed field work and revision of this checklist.

General Criteria (continued)	
h. Does a nuisance as defined by Water Code section 13050 exist at the site?	☐ Yes ☒ No

If Yes, then Describe Nuisance Condition:

Pertinent Information Required:

Sufficient data to evaluate whether site contamination is present in locations that currently exist or potentially could exist in the future to pose nuisance conditions during common or reasonably expected site activities.	☒ Yes ☐ No
Descriptions of the type and vertical and lateral extent of shallow soil	☒ Yes ☐ No
Data on the lateral extent of surface soil contamination	☒ Yes ☐ No
Discussion of odors or visual evidence of contamination	☒ Yes ☐ No
Preferential pathway and utility conduit surveys	☐ Yes ☐ No
Review of potential points for exposure (such as groundwater seeps into basements)	☒ Yes ☐ No
Current use of the site	☒ Yes ☐ No
Expected use of the site	☒ Yes ☐ No
Description of surface water runoff from the property to storm drains or other sites	☒ Yes ☐ No

Name(s)/Date(s) of Documents:

Reference Lists will be compiled upon completion of proposed field work and revision of this checklist.

1. Media Specific Criteria: Groundwater

Exemption – Soil Only Case (Release has not Affected Groundwater) Sites with soil that does not contain sufficient mobile constituents [leachate, vapors, or light non-aqueous-phase liquids (LNAPL)] to cause groundwater to exceed the groundwater criteria in this policy shall be considered low-threat sites for the groundwater medium. For older releases, the absence of current groundwater impact is often a good indication that residual concentrations present in the soil are not a source for groundwater pollution.	☐ Yes ☒ No
If Site Does Not Qualify for Soil Only Exemption, then, Is the contaminant plume stable or decreasing in areal extent (i.e. has the contaminant mass expanded to its maximum extent defined as the distance from the release where attenuation exceeds migration)? Has sufficient data been presented to demonstrate that site characterization activities have defined the horizontal and vertical extent of the plume? ☐ Yes ☒ No Has plume stability has been demonstrated using a valid technical analysis that considers: ☐ Yes ☒ No The accuracy of data from the wells ☐ Yes ☐ No Placement within the plume ☐ Yes ☐ No Changes in areal extent of the plume ☐ Yes ☐ No Valid concentration trends within the plume (Note:plotting of decreasing concentrations using data from a single well is not likely to be sufficient) ☐ Yes ☐ No Have the following factors been considered: Seasonal variability ☐ Yes ☐ No Water level changes ☐ Yes ☐ No Sampling methods ☐ Yes ☐ No Well construction ☐ Yes ☐ No Other factors that can affect data quality ☐ Yes ☐ No Has a recent well survey that uses all available wells from both the Department of Water Resources and local agencies (Zone 7 Water Agency or Alameda County Public Works as appropriate) been presented? ☐ Yes ☐ No Are supply wells located within 2,000 feet of the site presented on a site figure with a table identifying each well along with the well construction details been presented? ☐ Yes ☐ No	☒ Yes ☐ No
Media Specific Criteria: Groundwater (continued)	

If the Contaminant Plume is Stable or Decreasing, then

Does it meet all of the additional characteristics of one of the five (5) classes of sites listed below? ☐ Yes ☒ No

(1) a. Is < 100 feet in length ☐ Yes ☐ No

b. There is no free product ☐ Yes ☐ No

c. The nearest existing water supply well is > 250 feet from the defined plume boundary ☐ Yes ☐ No

d. The nearest existing surface water body is > 250 feet from the defined plume boundary ☐ Yes ☐ No

(2) a. Is < 250 feet in length ☐ Yes ☐ No

b. There is no free product ☐ Yes ☐ No

c. The nearest existing water supply well is > 1,000 feet from the defined plume boundary ☐ Yes ☐ No

d. The nearest existing surface water body is > 1,000 feet from the defined plume boundary ☐ Yes ☐ No

e. The dissolved concentration of benzene is <3,000 µg/L ☐ Yes ☐ No

f. The dissolved concentration of MTBE is is <1,000 µg/L ☐ Yes ☐ No

(3) a. Is < 250 feet in length ☐ Yes ☐ No

b. Free product has been removed to the maximum extent practicable, may still be present below the site where the release originated, but does not extend off-site ☐ Yes ☐ No

c. The plume has been stable or decreasing for a minimum of 5 years ☐ Yes ☐ No

d. The nearest existing water supply well is > 1,000 feet from the defined plume boundary ☐ Yes ☐ No

e. The nearest existing surface water body is > 1,000 feet from the defined plume boundary ☐ Yes ☐ No

f. The property owner is willing to accept a land use restriction if the regulatory agency requires a land use restriction as a condition for closure ☐ Yes ☐ No

(continued on next page)

Media Specific Criteria: Groundwater (continued):

(4) a. Is < 1,000 feet in length ☐ Yes ☐ No

b. There is no free product ☐ Yes ☐ No

c. The nearest existing water supply well or surface water body is > 1,000 feet from the defined plume boundary ☐ Yes ☐ No

d. The nearest existing surface water body is > 1,000 feet from the defined plume boundary ☐ Yes ☐ No

e. The dissolved concentration of benzene is <1,000 µg/L ☐ Yes ☐ No

f. The dissolved concentration of MTBE is <1,000 µg/L ☐ Yes ☐ No

(5) The regulatory agency determines, based on an analysis of site specific conditions, that the site under current and reasonable anticipated near-term future scenarios, the contaminant plume poses a low threat to human health and safety and to the environment and water quality objectives will be achieved within a reasonable time frame. ☐ Yes ☐ No

If the Site Does Not Meet any of the 5 Groundwater Specific Criteria Scenarios Listed Above, then Answer the Additional Questions Below

Plume Length (That Exceeds Water Quality Objectives):

☐ ≥ 100 Feet and < 250 Feet ☐ ≥ 100 Feet and < 250 Feet ☐ ≥ 100 Feet and < 250 Feet

☐ ≥ 1,000 Feet ☒ ≥ Unknown

Free Product in Groundwater: ☐ Yes ☒ No ☐ Unknown

Free Product Has Been Removed to the Maximum Extent Practicable: ☐ No ☐ Unknown

For Sites with Free Product, the Plume has Been Stable or Decreasing for 5-Years: ☐ No ☐ Unknown

For Sites with Free Product, owner Willing to Accept a Land Use Restriction (if Required):

☐ No ☐ Unknown

Free Product Extends Offsite: ☐ Yes ☐ Unknown

Benzene Concentration: ☐ ≥ 1,000 µg/L and < 3,000 µg/L ☐ ≥ 3,000 µg/L ☐ Unknown

MTBE Concentration: ☐ ≥ 1,000 µg/L ☐ Unknown

Nearest Supply Well (From Plume Boundary):

☐ ≤ 250 Feet ☐ > 250 Feet and ≤ 1,000 Feet ☐ Unknown

Nearest Surface Water Body (From Plume Boundary):

☐ ≤ 250 Feet ☐ > 250 Feet and ≤ 1,000 Feet ☐ Unknown

2. Media Specific Criteria: Petroleum Vapor Intrusion to Indoor Air

The low-threat vapor-intrusion criteria described below apply to sites where the release originated and impacted or potentially impacted adjacent parcels when: (1) existing building are occupied or may be reasonably expected to be occupied in the future, or (2) buildings for human occupancy are reasonably expected to be constructed in the near future. Appendices 1 through 4 (attached) illustrate four potential exposure scenarios and describe characteristics and criteria associated with each scenario.

EXEMPTION – Active Commercial Petroleum Facility

☒ Yes ☐ No

According to the Policy, exposures to petroleum vapors associated with historical fuel system releases are comparatively insignificant relative to exposures from small surface spills and fugitive vapor releases that typically occur at active fueling facilities. Therefore, satisfaction of the media-specific criteria for petroleum vapor intrusion to indoor air is not required at active commercial petroleum fueling facilities, except in cases where release characteristics can be reasonably believed to pose an unacceptable health risk.

Do release characteristics pose an unacceptable health risk to facility users or nearby facilities? ☐ Yes ☒ No

If Yes, Provide Explanation:

2. Media Specific Criteria: Petroleum Vapor Intrusion to Indoor Air (continued)

If Site Does Not Qualify for Vapor Intrusion to Indoor Air Exemption, then,

Does the release site meet one of the three petroleum vapor intrusion to indoor air specific criteria listed below (a, b, or c)?

☐ Yes

☐ No

a. Do site-specific conditions at the release site satisfy all of the applicable characteristics and criteria of **Scenarios 1 through 3 or** all of the applicable characteristics and criteria of **Scenario 4**?

If YES, check applicable scenarios: ☐ **1** ☐ **2** ☐ **3** ☐ **4**

Scenario 1: Unweathered LNAPL in Groundwater *(App. 1)* ☐ Yes ☐ No

1. The bioattenuation zone is a continuous zone provides a separation of at least 30 feet vertically between the LNAPL in groundwater and the foundation of existing or potential buildings; and
2. Total TPH (TPH-g and TPH-d combined) are less than 100 mg/kg throughout the entire depth of the bioattenuation zone

Scenario 2: Unweathered LNAPL in Soil *(App. 2)* ☐ Yes ☐ No

1. The boattenuation zone is a continuous zone that provides a separation of at least 30 feet vertically between the LNAPL in soil and the foundation of existing or potential buildings; and
2. Total TPH (TPH-g and TPH-d combined) are <100 mg/kg throughout the entire lateral and vertical extent of the bioattenuation zone

Scenario 3: Dissolved Phase Benzene Concentrations in Groundwater *(App. 3)* ☐ Yes ☐ No

Defining the Bioattenuation Zone For Sites without Oxygen Data or Where Oxygen is <4%

Figure A: For Benzene concentrations < 100 µg/l

a. The bioattenuation zone is a continuous zone that provides a separation of at least 5 feet vertically between the dissolved phase benzene and the foundation of existing or potential buildings; and

b. Contains total TPH (TPH-g and TPH-d combined) < 100 mg/kg throughout the entire depth of the bioattenuation zone

Figure B: For Benzene concentrations ≥ 100 µg/L but < 1,000 µg/L

a. The bioattenuation zone is a continuous zone that provides a separation of at least 10 feet vertically between the dissolved phase benzene and the foundation of existing or potential buildings

Defining the Bioattenuation Zone For Sites with Oxygen ≥ 4%

Figure C: For Benzene concentrations < 1,000 µg/L

1. A continuous zone that provides a separation of at least 10 feet vertically between the dissolved phase benzene and the foundation of existing or potential buildings
2. Contains total TPH (TPH-g and TPH-d combined) < 100 mg/kg throughout the entire depth of the bioattenuation zone

Scenario 4: Direct Measurement of Soil Gas Concentrations (see Next Page)

2. Media Specific Criteria: Petroleum Vapor Intrusion to Indoor Air (continued)

a. Do site-specific conditions at the release site satisfy all of the applicable characteristics and criteria of **Scenarios 1 through 3 <u>or</u>** all of the applicable characteristics and criteria of **Scenario 4**?

Scenario 4: Direct Measurement of Soil Gas Concentrations *(App 4)*

Soil Gas Sampling Locations (According to the Policy, when applying the criteria listed below, the soil gas sample must be obtained from the following locations)

Was the soil gas sample obtained from the following locations:

a. Beneath or adjacent to an existing building: Soil gas sample collected at least 5 feet below the bottom of the building foundation ☐ Yes ☐ No

b. Future construction: Soil gas sample collected from at least five feet below ground surface ☐ Yes ☐ No

If no, then provide justification for the validity of the soil gas data:

Soil Gas Sampling Protocol

Were soil gas samples collected in accordance with DTSC Advisory – Active Soil Gas Investigations (April 2012) ☐ Yes ☐ No

Soil Gas Criteria – With Bioattenuation Zone

Are the following criteria for a bioattenuation zone satisfied?

1. There is a minimum of five vertical feet of soil between the soil vapor measurement and the foundation of an existing building or ground surface of future construction; <u>and</u> ☐ Yes ☐ No
2. TPH (TPHg + TPHd) is less than 100 mg/kg (measured in at least two depths within the five-foot zone; <u>and</u> ☐ Yes ☐ No
3. Oxygen is ≥ 4% measured at the bottom of the five-foot zone ☐ Yes ☐ No

If yes, then use Soil Gas Criteria listed below:

	Residential	Commercial
Constituent	**Soil Gas Concentration (µg/m^3)**	
Benzene	**<85,000**	**<280,000**
Ethylbenzene	**<1,100,000**	**<3,600,000**
Napthalene	**<93,000**	**<310,000**

If no, then use No Bioattenuation Zone Criteria listed in the section below

2. Media Specific Criteria: Petroleum Vapor Intrusion to Indoor Air (continued)

Soil Gas Criteria – No Bioattenuation Zone

	Residential	Commercial
Constituent	**Soil Gas Concentration ($\mu g/m^3$)**	
Benzene	**<85**	**<280**
Ethylbenzene	**<1,100**	**<3,600**
Napthalene	**<93**	**<310**

Pertinent Information Provided:

2. Media Specific Criteria: Petroleum Vapor Intrusion to Indoor Air (continued)

b. Has a site-specific risk assessment for the vapor intrusion pathway been conducted and demonstrates that human health is protected to the satisfaction of the regulatory agency? ☐ Yes ☐ No

Was the risk assessment conducted in accordance with the DTSC Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air (October 2011)?	☐ Yes ☐ No
Were the following DTSC Guidance recommendations followed:	
Use of multiple lines of evidence (i.e., soil gas, soil matrix, and groundwater data) to reasonably estimate the level of risk posed by vapor intrusion	☐ Yes ☐ No
Use of maximum contaminant concentrations (i.e., data collected above the source)	☐ Yes ☐ No
Use of reasonable site-specific input parameters in the California version of the USEPA's Vapor Intrusion Model by Johnson and Ettinger, created by the DTSC to include California-specific chemical toxicity factors	☐ Yes ☐ No
Calculation of cumulative health effects conducted	☐ Yes ☐ No
Use of data representing seasonable variability before making a final risk determination as short term measurements rarely represent long-term conditions	☐ Yes ☐ No
No preferential pathways exist at the site	☐ Yes ☐ No
Knowledge of adjacent building construction (e.g., slab-on-grade, crawl spaces, etc.)	☐ Yes ☐ No

Pertinent Information Provided:

2. Media Specific Criteria: Petroleum Vapor Intrusion to Indoor Air (continued)

c. As a result of controlling exposure through the use of mitigation measures or through the use of institutional or engineering controls, has the regulatory agency determined that petroleum vapors migrating from soil or groundwater will have no significant risk of adversely affecting human health?

☐ Yes ☐ No

Mitigation Measures:

Institutional Controls:

Deed Restrictions ☐ Yes ☐ No

Engineering Controls:

Pertinent Information Provided

2. Media Specific Criteria: Petroleum Vapor Intrusion to Indoor Air (continued)

Additional Questions – Please indicate only those conditions that do not meet the policy criteria

Soil Gas Samples:

☐ No soil gas samples ☐ Taken incorrectly ☐ Not taken at two depths within 5 foot zone

Exposure Type:

☐ Residential ☐ Commercial

Free Product:

☐ In Groundwater ☐ In Soil ☐ Unknown

TPH in the Bioattenuation Zone:

☐ ≥ 100 mg/kg ☐ Unknown

Bioattenuation Zone Thickness:

☐ < 5 feet (No Biozone**)** ☐ ≥5 Feet and < 10 Feet ☐ ≥10 Feet and < 30 Feet ☐ ≥30 Feet

☐ 30 Feet BioZone Compromised ☐ Unknown

Oxygen Data in Bioattenuation Zone:

☐ No Oxygen Data ☐ Oxygen < 4% ☐ Oxygen ≥ 4%

Benzene in Groundwater:

☐ ≥ 100 µg/L and < 1,000 µg/L ☐ ≥ 1,000 µg/L ☐ Unknown

Soil Gas Benzene:

☐ ≥ 85 µg/m^3 and < 280 µg/m^3 ☐ ≥ 280 µg/m^3 and < 85,000 µg/m^3 ☐ ≥ 85,000 µg/m^3 and < 280,000 µg/m^3

☐ ≥ 280,000 µg/m^3 ☐ Unknown

Soil Gas Ethylbenzene:

☐ ≥ 1,100 µg/m^3 and < 3,600 µg/m^3 ☐ ≥ 3,600 µg/m^3 and < 1,100,000 µg/m^3

☐ ≥ 1,100,000 µg/m^3 and < 3,600,000 ☐ ≥ 3,600,000 µg/m^3 ☐ Unknown

Soil Gas Napthalene:

☐ ≥ 93 µg/m^3 and < 310 µg/m^3 ☐ ≥ 310 µg/m^3 and < 93,000 µg/m^3 ☐ ≥ 93,000 µg/m^3 and < 310,000 µg/m^3

☐ ≥ 310,000 µg/m^3 ☐ Unknown

Media-Specific Criteria: Direct Contact and Outdoor Air Exposure	
3. Direct Contact and Outdoor Air Exposure: The site is considered low-threat for direct contact and outdoor air exposure if site-specific conditions satisfy one of the three classes of sites (a through c).	
a. Are maximum concentrations of petroleum constituents in soil less than or equal to those listed in Table 1 for the specified depth below ground surface (bgs)?	☒ Yes ☐ No ☐ NA ☐ UND
b. Are maximum concentrations of petroleum constituents in soil less than levels that a site specific risk assessment demonstrates will have no significant risk of adversely affecting human health?	☒ Yes ☐ No ☐ NA ☐ UND
c. As a result of controlling exposure through the use of mitigation measures or through the use of institutional or engineering controls, has the regulatory agency determined that the concentrations of petroleum constituents in soil will have no significant risk of adversely affecting human health?	☒ Yes ☐ No ☐ NA ☐ UND
Media-Specific Criteria: Direct Contact and Outdoor Air Exposure	

Additional Questions – Indicate only those conditions that do not meet the policy

Exposure Type:

☐ Residential ☒ Commercial ☐ Utility Worker

Petroleum Constituents in Soil:

☐ ≤ 5 Feet bgs ☐ > 5 Feet bgs and ≤ 10 Feet bgs ☒ Unknown

Soil Concentrations of Benzene:

☒ > 1.9 mg/kg and ≤ 2.8 mg/kg ☐ > 2.8 mg/kg and ≤ 8.2 mg/kg ☐ > 12 mg/kg and ≤ 14 mg/kg

☐ > 14 mg/kg

Soil Concentrations of EthylBenzene:

☒ > 21 mg/kg and ≤ 32 mg/kg ☐ > 32 mg/kg and ≤ 89 mg/kg ☐ > 89 mg/kg and ≤ 134 mg/kg

☐ > 134 mg/kg and ≤ 314 mg/kg ☐ > 314 mg/kg ☐ Unknown

Soil Concentrations of Naphthalene:

☒ > 9.7 mg/kg and ≤ 45 mg/kg ☐ > 45 mg/kg and ≤ 219 mg/kg ☐ > 219 mg/kg ☐ Unknown

Soil Concentrations of PAH:

☐ > 0.063 mg/kg and ≤ 0,68 mg/kg ☐ > 0.68 mg/kg and ≤ 4.5 mg/kg ☐ > 4.5 mg/kg

☒ Unknown

Area of Impacted Soil :

☐ Area of Impacted Soil > 82 by 82 Feet ☒ Unknown

Notes:

[1]This site [complies/does not comply] with the State Water Resources Control Board (SWRCB) policies and state law. Section 25296.10 of the Health and Safety Code requires that sites be cleaned up to protect human health, safety, and the environment. The current site conceptual model based on information contained in the case file databases (Alameda County Environmental Health ftp site and SWRCB GeoTracker website), is not adequate to determine that residual petroleum constituents at the site do not pose a significant risk to human health, safety, or the environment. See Attachment 2 for details.