



Atlantic Richfield Company
(a BP affiliated company)

6 Centerpointe Drive, Room 172
La Palma, CA 90623-1066
Phone: (714) 670-5303
Fax: (714) 670-5195

RO 403



October 28, 2005

Re: Former BP Station # 11133
2220 98th Avenue, Oakland, CA
Soil and Water Investigation Report
ACEHS Case No. RO0000403

Alameda County
NOV 01 2005
Environmental Health

"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:

Kyle Christie
Environmental Business Manager



October 28, 2005

Ms. Donna Drogos
Alameda County Environmental Health Services
1131 Harbor Bay Parkway, 2nd Floor
Alameda, California 94502

**Re: Soil and Water Investigation Report
Former BP Service Station #11133
2220 98th Avenue
Oakland, California
ACEHS Case No. RO0000403**

Alameda County
NOV 01 2005
Environmental Health

Dear Ms. Drogos:

On behalf of the Atlantic Richfield Company (a BP affiliated company), URS Corporation (URS) has prepared this *Soil and Water Investigation (SWI) Report* for additional soil and water characterization at the above referenced facility (the Site). The purpose of the work was to further assess the extent of dissolved-phase hydrocarbons in groundwater at the request of Alameda County Environmental Health Services (ACEHS). As proposed within the *Soil and Groundwater Investigation Work Plan (Work Plan)* dated April 28, 2005, the SWI was to include advancing two on-site soil borings and two off-site borings for source area characterization and preferential pathway evaluation. This *SWI Report* discusses the Site background, describes the scope of investigation and field work performed, and presents conclusions and recommendations based on the findings. A copy of the ACEHS Work Plan approval letter dated May 11, 2005 is provided as Attachment A.

1.0 SITE FEATURES AND BACKGROUND

The Site is a fenced lot containing an inactive former service station located at the northern corner of 98th Avenue and Bancroft Avenue in Oakland, California (Figure 1). The land use in the immediate vicinity of the Site is mixed commercial and residential. BP acquired the facility from Mobil Oil Corporation in 1989. In January 1994, BP transferred the property to TOSCO Marketing Company (TOSCO, now ConocoPhillips) and has not operated the facility since that time. TOSCO ceased gasoline retail operations at the Site in 1999.

The Site consists of a service station building, a restroom building, a canopy, former dispenser islands, and a remediation system and associated compound. The Site is covered with asphalt or concrete surfacing except for planters along the northern, eastern and parts of the western property boundaries and areas where the former underground storage tanks (USTs), product piping and dispensers were removed in 1998.

In June 1987, Kaprealian Engineering, Inc. (Kaprealian) removed one 10,000-gallon, one 8,000-gallon and one 5,000-gallon single walled steel gasoline USTs from the southwestern part of the Site. Soil samples (samples A1, A2, B1, B2, and C1) were

URS Corporation
1333 Broadway, Suite 800
Oakland, CA 94612-1924
Tel: 510.893.3600
Fax: 510.874.3268

collected from the base of the tank cavity at depths of approximately 13.5 to 14 feet below ground surface (bgs). The analytical results of the respective soil samples detected total petroleum hydrocarbons (TPH) at concentrations ranging between 12 parts per million (ppm) (C1 at 13.5') and 420 ppm (A1 at 13.5') and benzene concentrations ranging between 0.74 ppm (C1 at 13.5') and 23 ppm (B1 at 13.5'). Subsequently, two 10,000-gallon and one 12,000-gallon USTs were installed at the former UST complex location.

In May 1988, three groundwater monitoring wells (MW-1, MW-2, MW-3) were installed on-site. The analytical results of soil and groundwater samples collected from MW-1 through MW-3 are included in Attachments B and Table 1 and 2. TPH and benzene, toluene, ethylbenzene and xylenes (BTEX) concentrations in soil samples from MW-2 and MW-3 were not detected below reporting limits. However, the soil samples collected between 15 and 20 feet bgs from MW-1 reported TPH concentrations ranging from below the reporting limit (10 feet) to 210 ppm (15 feet), and benzene concentrations ranging from below the reporting limit (10 feet) to 7.1 ppm (15 feet). TPH and BTEX concentrations in groundwater samples from MW-2 and MW-3 were at relatively low concentrations to below the reporting limit, while the groundwater sample from MW-1 reported 76,000 parts per billion (ppb) TPH and 29,000 ppb benzene.

In January 1990, Alton Geosciences (Alton) oversaw the advancement of eight soil borings to various depths ranging between 16 to 35 feet bgs and the installation of eight temporary wells (TW-1 through TW-8) at the Site (Figure 1). Temporary wells TW-2 and TW-3 were installed off-site. The respective temporary wells were installed as part of a Supplemental Site Investigation to conduct a qualitative groundwater survey. Soil samples were not collected for laboratory analysis from the respective well borings. The analytical results of groundwater samples collected from TW-1 through TW-8 and monitoring wells MW-1 through MW-3 are presented in Attachment B. Approximately 0.2 foot of free product was encountered in MW-1 and product sheen was noted in TW-4. TPH ranged from below the detection limit (<50 ppb) to 720,000 ppb (TW-8) in the remaining wells. Temporary wells TW-1 through TW-8 were subsequently abandoned by grouting.

In May and June 1990, Alton oversaw the advancement of five soil borings and installation of four groundwater monitoring wells (AW-1 through AW-4) and one recovery well (RW-1). Wells AW-1 and RW-1 were installed on-site and the remaining wells were installed off-site (Figure 1). The analytical results of soil samples collected from AW-1 through AW-4 and RW-1 reported concentrations below the reporting limits to relatively low concentrations of total petroleum hydrocarbon-gasoline (TPH-g) and BTEX with a maximum of 33 ppm TPH-g at 25 feet bgs in RW-1 (Attachment B). In July 1990, pump test and slug test activities were conducted at the Site, during which, approximately 100-gallons of product/water was pumped from recovery well RW-1 and appropriately disposed off-site to control migration of free product at the Site.

In February 1991, as part of a Phase III-Supplemental Site Investigation Study, Alton oversaw the advancement of four soil borings (SBA-5 through SBA-8) and the installation of four monitoring wells (AW-5 through AW-8). Wells AW-5 and AW-6 were installed on-site and wells AW-7 and AW-8 were installed off-site (Figure 1). The analytical results of soil samples collected from SBA-5 through SBA-8 (AW-5 through AW-8) reported TPH-g concentrations of TPH-g below the reporting limit and relatively low concentrations of BTEX with a maximum of 0.091 ppm benzene at 10.5 to 11 feet bgs in SBA-6 (Attachment B). Groundwater analytical results indicated moderate to high TPH-g concentrations in wells AW-5, AW-6, and AW-8 with a maximum of 1,100 µg/L in well AW-6, and low to moderate concentrations of BTEX in AW-5 through AW-8 with a maximum of 80 µg/L benzene in AW-6 (Attachment B). A groundwater monitoring program was subsequently initiated.

In March 1992, RESNA oversaw the advancement of three soil borings B-9 through B-11 in which three vapor extraction wells VW-1 through VW-3 were installed, respectively. The analytical results of soil samples collected from B-1 through B-11 reported TPH-g and BTEX at concentrations below the reporting limits to relatively low concentrations, except for 320 ppm of TPH-g in B-11 at 16.5 feet bgs (Attachment B). Groundwater samples were not collected from VW-1 through VW-3. In April 1992, a vapor extraction test (VET) was performed on-site using vapor extraction wells VW-1 through VW-3 to evaluate the feasibility of using vapor extraction as a remedial alternative at the Site. Based on the estimated effective radius of influence calculated from the VET, soil vapor extraction was identified as a feasible remedial alternative. A soil vapor extraction system (SVE) combined with a groundwater recovery and treatment system was identified as an effective remedial option for the Site. Also in April 1992, RESNA installed a GRS passive floating product removal system in RW-1 and initiated a program to manually remove the product collected by the system on a monthly basis.

In 1994, an SVE and treatment system was installed on-site and began operating in November 1994. The SVE system consisted of a Lamson Turbotron TBT-2600 cubic feet per minute (cfm) maximum capacity blower and ancillary equipment. The groundwater treatment system consisted of a Gas Space R6p335A Aeration Tank and ancillary equipment. Both systems also had independent A-1, Retox 600 Regenerative Thermal Oxidizers of 600 cfm capacities. The SVE and treatment system was initially connected to eight vapor extraction wells (VEW-1 through VEW-8) and recovery well RW-1 (Figure 1). Vapor extraction wells VEW-4 through VEW-8 were installed in 1994 as part of the remediation system installed on-site. However, the drilling and installation activities associated with VEW-4 through VEW-8 are not on file and it is not known if soil or groundwater samples were collected from the respective borings. Vapor extraction well VEW-9 was installed and connected to the SVE and treatment system in April 1996. No TPH-g, BTEX or methyl tertiary butyl-ether (MTBE) was detected in soil samples collected from VEW-9 (Attachment B).

Based on available records, the SVE and treatment system was operated intermittently until December 1998. Based on available operational data for the SVE system, as of December 27, 1995, a total of approximately 13,495.8 pounds of hydrocarbons had been removed by the system from on-site soils. Based on available operational data for the groundwater treatment system, as of December 14, 1998, a total of approximately 344.4 pounds of hydrocarbons had been removed by the system from on-site groundwater.

In 1994, EMCON collected supplemental soil boring samples at the Site. However, a report documenting the investigation results is not on file. A soil sample (TD-5-0.5) collected from 0.5 feet bgs at the southern most dispenser reportedly had TPH-diesel (TPH-d) concentrations of 3,900 ppm but TPH-g and BTEX concentrations were below the reporting limit (Figure 1, Attachment B).

In December 1996, Allisto drilled soil-boring AW-9 to further delineate the extent of petroleum hydrocarbons. Soil boring AW-9 was converted to monitoring well AW-9. No TPH-g, BTEX or MTBE was detected in any soil samples collected from VEW-9 (Attachment B). Well AW-9 was subsequently included into the ongoing groundwater monitoring program.

In October 1998, Gettler-Ryan, Inc. (GR) oversaw the removal of two 10,000-gallon and one 12,000-gallon USTs and associated product piping. After the removal of the USTs and product piping, four tank-pit sidewall soil samples (SW-1 through SW-4) two tank-pit groundwater samples (Water-1 and Water-2) and eight product piping soil samples (P1 through P8) were collected and analyzed (Figure 1 and Attachment B). No TPH-g or BTEX was detected in sidewall soil samples SW-1 through SW-4. MTBE was detected at concentrations below 0.5 ppm in these samples. The groundwater samples (Water-1 and Water-2) reported TPH-g concentrations ranging between 430 ppb and 3,700 ppb, benzene concentrations between 46 and 98 ppb, and MTBE concentrations between 1,200 and 4,100 ppb. The product piping soil samples (P1 through P8), which were collected at approximately 3.5 feet bgs reported a maximum of 1.2 ppm of TPH-g, a maximum of 0.067 ppm of benzene, and a maximum of 4.0 ppm of MTBE.

In May 2000, Newfields, Inc. (Newfields) performed a Risk-Based Corrective Action (RBCA) Evaluation for the Site using Oakland and ASTM RBCA processes. The residual gasoline and diesel constituent concentrations in on-site soils and groundwater were initially compared to concentrations presented in the Oakland RBCA Tier 1 and Tier 2 look-up tables, whose values are based on conservative, generic exposure and modeling parameters, resulting in conservative risk-based screening levels. Where Site conditions exceeded Oakland RBCA Tier 1 and Tier 2 levels, those conditions were further assessed under the Oakland RBCA Tier 3 analysis. The Tier 3 analysis replaces some of the conservative generic assumptions of Tiers 1 and 2 with data that is representative of actual site conditions, thereby providing a more accurate representation of existing and potential future risks. Accordingly, the results of the Oakland RBCA Tier 3 evaluation indicated

that the residual levels of petroleum hydrocarbons in on-site soils and groundwater were below City of Oakland and US EPA acceptable cancer risks and non-cancer risk levels. It was thereby concluded that on-site soil and groundwater conditions should not pose a risk to current and future on-site workers or off-site residents.

In December 2000, Newfields submitted a revised RBCA evaluation for the Site to ACEHS incorporating agency feedback and further detailing previously provided information. However, the conclusions remained the same as in the May 2000 RBCA for the Site.

In compliance with regulatory requests and feedback on the December 2000 Newfields RBCA evaluation, a supplemental investigation was conducted in October 2001 to assess inhalation potential exposure risks from residual subsurface hydrocarbon concentrations particularly to off-site residents. As part of the supplemental investigation, six soil borings (B-1 through B-6) were drilled in the eastern and southeastern property boundaries and soil, soil-vapor and groundwater samples were collected from the respective borings and analyzed (Figure 1, Attachment B). Two soil samples each were collected from borings B-1, B-2, B-3, B-5, and B-6, and four soil samples, including a duplicate, was collected from B-4 at depths ranging between 4.5 to 19.5 feet bgs. The analytical results of the respective soil samples reported a maximum of 1.6 micrograms per kilogram (mg/kg) of TPH-g, no benzene or MTBE concentrations and low concentrations to below the reporting limits for the remaining gasoline constituents (Attachment B). Three soil-vapor samples were collected from each boring B-1 through B-6 at 5 foot depth intervals between 5 and 15 feet bgs. The analytical results of the respective soil-vapor samples reported TPH-g concentrations ranging between 1.3 to 11 parts per million by volume (ppmv), BTEX concentrations ranging between 0.0033 to 0.34 ppmv, 0.0033 to 0.23 ppmv, 0.0027 to 0.15 ppmv, and 0.0031 to 0.59 ppmv, respectively. MTBE concentrations in the soil-vapor samples ranged between 0.0033 to 0.062 ppmv (Attachment B). One groundwater sample was collected from each boring B-1 through B-6 and the analytical results reported TPH-g concentrations ranging between <50 to 110,000 micro grams per liter ($\mu\text{g/L}$), benzene concentrations ranging between <2.0 to 30,600 $\mu\text{g/L}$, and MTBE concentrations ranging between <200 to 1,500 $\mu\text{g/L}$ (Attachment B).

In May 2002, Montgomery Watson Hazra (MWH) performed a revised RBCA evaluation for the Site using Oakland and ASTM Tier 1 through Tier 3 RBCA values. This revised RBCA evaluation primarily incorporated the October 2001 supplemental investigation soil, soil-vapor and groundwater analytical results to adequately evaluate potential exposure risks to the residential properties adjacent to the Site. The risks to off-site residents were addressed by the soil vapor data collected adjacent to the off-site residential structures, as soil vapor data is considered more representative of potential off-site residential exposures than soil or groundwater data. The results of the respective RBCA evaluation indicated that the theoretical upper-bound incremental lifetime cancer risks and

non-cancer hazard indices associated with levels of TPH, BTEX, and MTBE in on-site soils and groundwater were below acceptable levels. Accordingly, it was concluded that no further action was necessary for the protection of human health at the Site. Further details of the respective RBCA evaluation can be found in the May 2002, Montgomery Watson Harza report titled "*Risk-Based Corrective Action Evaluation for BP Oil Site No. 11133, Oakland, CA*".

In April 2005, a Soil and Water Investigation Work Plan was submitted in response to the January 25, 2005 letter from the ACEHS to RM. The work plan addressed ACEHS' comments to the URS Additional Investigation Work Plan dated October 29, 2004. The April 2005 Work Plan included the results of a comprehensive well sampling event, which included the collection of geochemical and microbiological parameters and collection of aerobic and anaerobic biodegradation data on select wells; evaluation of the remediation system historically used at the Site; and proposed plume delineation and preferential pathway sampling. The details of the proposed plume delineation and preferential pathway sampling are detailed within this report.

In July 2005, a Nitrate Sulfate Feasibility Study Work Plan was submitted to ACEHS. The feasibility study work plan proposed to evaluate the effectiveness of nitrate/sulfate injections as a remedial approach for the Site; the effect of the injections on the Site conditions; and to provide a basis for design parameters for long-term application. Upon receiving approval from ACEHS, we will begin preparation for the feasibility study.

To date, a total of twenty-three groundwater monitoring and extraction wells have been installed at the Site and in the Site vicinity (Figure 1). These include thirteen groundwater monitoring wells, seven of which are on-site (MW-1, MW-2, MW-3, AW-1, AW-5, AW-6, and RW-1), and six are off-site (AW-2, AW-3, AW-4, AW-7, AW-8, and AW-9). Well RW-1 is a dual extraction and monitoring well. There are eight on-site vapor extraction wells (VW-1 through VW-3 and VEW-4 through VEW-8) and one off-site extraction well (VEW-9). A quarterly groundwater monitoring program was initiated at the Site in April 1991 and is ongoing on a modified sampling schedule. Since the first quarter of 2001, the monitoring program at the Site began operating on a semi-annual basis. Monitoring of off-site wells AW-7, AW-8 and AW-9 was discontinued in 1998. Monitoring of on-site well MW-2 and off-site well AW-3 was discontinued in 2000. Currently, wells MW-1, MW-3, AW-1, AW-4, AW-5, AW-6, RW-1 are monitored semi-annually (1st and 3rd quarters), well AW-2 is monitored annually (1st quarter), and wells MW-2, AW-3, AW-7, AW-8, and AW-9 are not sampled. Free product gauging of well RW-1 is conducted semi-annually and a summary of the free product removal program from wells RW-1 and MW-1 are provided in Attachment B. As of June 15, 2000, a total of 0.70 gallons of free product was removed from MW-1 and free product has not been encountered in MW-1 since June 1998. As of February 2002, a total of 161.29 gallons of free product was removed from RW-1 and free product has not been encountered in RW-1 since September 2001.

1.1 SITE GEOLOGY AND HYDROLOGY

The Site elevation is approximately 40 feet above mean sea level, where regional topography slopes to the west (USGS Topographic Map, Oakland East Quadrangle -7.5 Minute Series). The topography of the surrounding area is characterized by valleys and gentle slopes. The underlying unit in this region consists of Undivided Quaternary deposits (QU). The QU units composition and physical properties vary, but consist predominantly of Temescal Formation, which probably includes covered or unrecognized San Antonio Formation and gravel, sand, and clay (Qg), as well as recent alluvium and colluvium and artificial fill. The Site is located in the 580-Square-mile Alameda Bay Plain Groundwater Basin. The water-bearing material is comprised of younger and older alluvium. The area is located within the Oakland Upland and Alluvial Plain, a groundwater subarea of the East Bay Plain. Groundwater in the water-bearing units of the Oakland Upland and Alluvial Plain meets recommended primary and secondary standards for drinking water.

According to the San Francisco Bay Regional Water Quality Control Board (SFRWQCB) "*East Bay Plain Groundwater Basin Beneficial Use Evaluation Report*", Figure 19, June 1999, the groundwater in the Site area is designated as Zone A, which is identified as a moderate to significant drinking water resource. The shallow aquifer in Zone A is identified as a potential drinking water source and the deep aquifer is identified as existing or probable drinking water source. The most productive water wells in the Oakland Upland and Alluvial Plain are those completed within the older alluvium units. The older alluvium units in the area are reported to be approximately 500-600 feet thick. Lesser amounts of groundwater occur in the younger alluvium, fluvial deposits, interfluvial basin deposits, and Bay Mud estuarine deposits. These deposits are generally relatively thin (less than 120 feet thick) and yield only small amounts of groundwater to wells (Note: the aforementioned regional geological information sourced from RESNA 1993, *Remedial Action Plan*, or as indicated).

The Site is approximately 2 miles east of the San Leandro Bay, which is a small portion of the San Francisco Bay. The nearest surface water drainage is San Leandro Creek, approximately 1¼-miles to the south, which drains into San Leandro Bay. Another creek, Arroyo Viejo, is located approximately 1 mile north of the Site. Both creeks originate in the East Bay Hills and drain directly into San Leandro Bay.

The regional surface and groundwater flow is to the southwest, towards San Francisco Bay. The historical groundwater flow direction at the Site between July 1992 and July 2005 has ranged between northwest through south through northeast but has predominantly been easterly and secondarily southeasterly (Attachment B). The groundwater flow directions in the western and eastern sections of the Site have predominantly been easterly and westerly, respectively, converging to a generally northwest-southeast trending potentiometric depression or trough across the center of the Site. The groundwater flow direction along the axis of the trough is generally to the east and southeast, which represents the overall predominant groundwater flow direction at the Site. During the same time frame, the

hydraulic gradient has ranged between 0.02 to 0.30 feet per foot (Attachment B). During the last five years since January 2000, the depth to groundwater at the Site and the immediate vicinity ranged between 8.40 and 23.11 feet bgs (Table 1). The Site is typically underlain by clay, silty clay, and clayey silt to depths of approximately 18 to 20 feet. The cross sections (Figures 4 and 5) show a silty sand lens at approximately three to four feet bgs and several silty sand and silty gravel lenses from approximately 13 to 17 feet bgs. Sandy clays, sandy silts, and silty sands are encountered at depths of approximately 19 to 40 feet bgs beneath the Site. The silty to clayey sand lens tapers to the south and is not encountered in downgradient well AW-4, which consists of silty clays to 35 feet bgs. The lens of sandy clays, sandy silts, and silty sands is underlain by silty clays, which extend to the total explored depth of all borings (Figure 3; Attachment C). Historical hydro-geologic cross-sections are presented in Attachment C. Copies of boring logs and well construction details are included as Attachment D.

Based on a rising head or slug test conducted at the Site in July 1990, the transmissivity, hydraulic conductivity, and linear velocity of the aquifer material at the Site were calculated to be 9.0 feet²/day, 0.6 feet/day (2.1×10^{-4} centimeter/second), and 6.0×10^{-3} feet/day, respectively. These values were reported to be representative of low permeability soil encountered at the Site and are within accepted values for clayey to silty sand. The results of an aquifer pump test conducted at the Site in April 1991, on recovery well RW-1 with nine observation wells located between 35 and 135 feet from the pumping well reported storativity and transmissivity values of 0.3493 and 0.1491 feet²/minute, respectively. Assuming a 25 foot screened interval for recovery well RW-1, the calculated hydraulic conductivity value is 8.588 feet/day (3.029×10^{-3} centimeter/second). This hydraulic conductivity value corresponds to typical published values for silty sands (Fetter, 1988).

A cross-section representing the subsurface geology using soil borings from this investigation and previous/historical soil boring and well logs are presented as Figures 3 and 4 and Attachment C. Boring logs are provided in Attachment D.

The depth to groundwater in Site wells is typically between 8 to 17 feet bgs. Groundwater flow direction during the 2005 third quarter monitoring event on July 22, 2005 was to the east and southeast at a gradient of 0.03 ft/ft (Figure 2).

2.0 SCOPE OF WORK

The scope of this investigation included plume delineation and a preferential pathway evaluation. The plume delineation scope of work included advancing both off-site and on-site soil boring pairs (SB-1 and SB-2). The boring pair SB-1 was advanced to assess the extent of dissolved or free-phase hydrocarbons and evaluate the potential off-site migration of light non-aqueous phase liquid (LNAPL) in the predominant down-gradient groundwater direction (southeast), in front of the neighboring residence. The boring pair SB-2 was

advanced to assess the extent of dissolved hydrocarbons cross-gradient of wells AW-5 and AW-6, which currently or historically have shown elevated concentrations of GRO and MTBE. The preferential pathway evaluation scope of work included advancing two soil borings (SB-3 and SB-4) along the sanitary sewer line running beneath the north to northwestern section of the Site at approximately 6.5 to 7 feet bgs to assess the potential of the sanitary sewer line being used as a preferential pathway. In addition, the three existing downgradient vapor extraction wells (VEW-4, VEW-5 and VEW-8) were sampled, if measurable groundwater was encountered. Wells VEW-4, VEW-5 and VEW-8 are in the vicinity of the sanitary sewer line running along the north to northwestern section of the property. The water samples collected would help assess the potential of impacted groundwater migrating via the higher permeability trench material of the sanitary sewer.

2.1 Plume Delineation

The scope of work performed included advancing one off-site soil boring pair (SB-1) to assess the extent of dissolved or free-phase hydrocarbons and evaluate the potential off-site migration of LNAPL in the predominant down-gradient groundwater direction (southeast), in front of the neighboring residence to a total depth of 42 feet bgs. In addition to the off-site and down-gradient soil boring (SB-1), URS proposed advancing one soil boring pair (SB-2) on-site in the northern corner of the property. Boring SB-2 was advanced to a depth of approximately 32 feet bgs to assess the extent of dissolved hydrocarbons cross-gradient of wells AW-5 and AW-6, which currently or historically have shown elevated GRO and MTBE concentrations. The location of the soil borings are shown on Figure 1.

2.1.1 Preliminary Field Activities

Before initiating field activities, URS obtained a soil boring permit from Alameda County Public Works Agency (ACPWA) and an obstruction and excavation permit from the City of Oakland. A site-specific Health and Safety Plan (HASP) was prepared describing hazards associated with the proposed work. The HASP addressed safety concerns associated with the well installation and groundwater sampling. A copy of the HASP was available on-site at all times. The URS Site supervisor held a tailgate meeting covering aspects of the HASP before the start of all workdays.

Pre-field activities also included notifying Underground Service Alert (USA) of the pending work a minimum of 48-hours before initiating the field investigation, and securing the services of a private utility-locating company to confirm the absence of underground utilities at the well location. In addition, the top 5 feet of soil was cleared using an airknife or hand auger at each boring location. A copy of the permits are included in Attachment E.

2.1.2 Soil Boring Advancement and Soil Sampling

On July 22, 2005 and September 16, 2005, a URS geologist observed Gregg Drilling and Testing, Inc. (Gregg) of Martinez, California advance off-site soil boring SB-1 to a depth of approximately 42 feet bgs and SB-2 to a depth of approximately 32 feet bgs for lithologic description and soil sampling. The first five feet of each boring was physically cleared to at least five feet bgs using a hand auger. The soil borings were continuously cored using direct-push technology. The approximate soil boring location is illustrated on Figure 1. During soil boring advancement, groundwater was encountered in the lithologic borings at depths of 25 feet bgs (SB-1) and 22 feet bgs (SB-2).

Soil samples were collected in clear acetate sleeves for laboratory analysis near the groundwater interface and from areas of obvious soil impacts. Soil samples were classified by URS personnel under the supervision of a State of California Professional Geologist, according to the Unified Soil Classification System (USCS) and examined using visual and manual methods for parameters including odor, staining, color, grain size, and moisture content. Samples for chemical analysis were covered at each end with Teflon™ sheeting, capped with plastic end caps, labeled, and placed in an ice-filled cooler for preservation. Soil samples were collected in clear acetate sleeves for laboratory analysis near the groundwater interface and from areas of obvious soil impacts and were submitted to Sequoia Analytical Laboratories (Sequoia) for analysis of gasoline range organics (GRO), benzene, toluene, ethylbenzene and total xylenes (BTEX), and fuel additives (methyl tert-butyl ether [MTBE], tert-butyl alcohol [TBA], di-isopropyl ether [DIPE], ethyl tert-butyl ether [ETBE], tert-amyl methyl ether [TAME], 1,2-dichloroethane [1,2-DCA], 1,2-dibromoethane [EDB], and ethanol) by EPA Method 8260B. The sample with the highest GRO concentration was analyzed for total lead by EPA Method 6010B for disposal characterization. Following completion of sampling activities, the borings were sealed to the surface using a neat Portland cement grout slurry.

2.1.3 Groundwater Sampling

On July 22, 2005, a URS geologist observed Gregg attempt to advance the depth discrete groundwater or Hydropunch® soil boring SB-1. Due to an incident that occurred, work was stopped. On September 16, 2005, a URS geologist returned to observed Gregg advance the depth discrete groundwater or Hydropunch® soil borings, at two soil boring locations (SB-1 and SB-2) approximately 1 to 2 feet laterally from the respective initial soil boring location. The Hydropunch® boring locations were cleared to at least five feet bgs using a hand auger.

After clearing the depth discrete groundwater boring locations to five feet bgs using a hand auger, the Hydropunch® sampler was advanced to the appropriate depth intervals in which groundwater was observed in the initial lithologic soil boring. Care was taken to expose the Hydropunch® screen only to the saturated zone, so that no cross-contamination would occur. The boring was then allowed to sit for a approximately 1-hour for groundwater to accumulate.

After approximately 1-hour, an attempt was made to collect a groundwater sample. If groundwater was not present in the Hydropunch® screen, then the Hydropunch® tool was retracted from the boring, a new drive tip was installed on the drive rods, and the next depth interval was attempted for sample collection. Groundwater samples were collected at the groundwater interface in soil boring SB-1 (24'-27') and SB-2 (21'-24')

Following completion of the Hydropunch® boring activities, all borings were sealed to the surface with a neat Portland cement grout slurry.

On July 22, 2005, Blaine Tech Services, Inc. (Blaine Tech) of San Jose, California mobilized to the Site to conduct the third quarter 2005 monitoring event. Blaine Tech measured the total well depth and depth to water in the wells, and subsequently purged and sampled the wells. Periodic measurements of pH, conductivity, and temperature were recorded during purging activities. All purge water generated during sampling was transported by Blaine Tech to its storage facility pending disposal at an ARCO approved facility. The groundwater samples were submitted to Sequoia and analyzed for GRO, BTEX, and fuel additives (MTBE, tert-butyl alcohol [TBA], di-isopropyl ether [DIPE], tert-amyl methyl ether [TAME], ethyl tert-butyl ether [ETBE], 1,2-dichloroethane [1,2-DCA], 1,2-dibromoethane [EDB], and ethanol) by EPA Method 8260B. A copy of the field procedures and field data sheets are provided in Attachment F.

2.1.4 ANALYTICAL RESULTS

2.1.4.1 Soil Analytical Results

URS submitted soil samples collected at approximately 5-foot intervals, near the groundwater interface and from areas of obvious soil impacts to Sequoia Analytical, a State of California DHS Certified Laboratory for analysis. The soil samples were analyzed for GRO, BTEX, MTBE, TAME, ETBE, DIPE, TBA, EDB, 1,2-DCA, and ethanol using EPA Method 8260B. Cumulative soil analytical results are presented in Table 3. Copies of laboratory analytical reports and chain-of-custody records are presented in Attachment G.

Soil sample analytical results for the plume delineation can be summarized as follows:

- GRO was detected in four of the 11 samples from boring SB-1 between 25 and 35 feet bgs in the saturated zone only. Concentrations ranged from 0.19 mg/kg [SB-1 (34.5-35')] to 64 mg/kg [SB-1 (25-25.5')].
- Ethylbenzene was detected in only one soil sample at a concentration of 0.20 mg/kg in saturated soil sample SB-1 (25-25.5').

- MTBE was detected in three of the 18 soil samples collected from borings SB-1 and SB-2 at concentrations ranging from 0.0097 mg/kg [SB-1 (37.5-38')] to 0.068 mg/kg [SB-2 @ 25'].
- TAME was detected in 2 of the 18 soil samples from boring SB-2 at concentrations of 0.015 mg/kg (SB-2 @ 30') and 0.017 mg/kg (SB-2 @ 25').
- No benzene, toluene, or other fuel additives (ethanol, TBA, ETBE, DIPE, EDB, or 1,2-DCA) were detected at or above their respective laboratory reporting limits in any of the soil samples analyzed.

The following is a comparison of the soil analytical results from this investigation to the Regional Water Quality Control Board's (RWQCB's) Environmental Screening Levels (ESLs). The ESLs are summarized in lookup tables in the "Screening For Environmental Concerns At Sites With Contaminated Soil and Groundwater" guidelines, as revised in February 2005, "Volume 1: Summary Tier 1 Lookup Tables". As specified in the Tier 1 Lookup Table A and C, ESLs for the constituents of concern (COC) are the same for commercial/industrial and residential use sites where groundwater is a potential drinking water resource, regardless of whether subsurface soil impact is less than or greater than 10 feet (or 3 meters) bgs.

Constituent	ESL (mg/kg)
GRO/TPH-g	100
Benzene	0.044
Toluene	2.9
Ethylbenzene	3.3
Xylenes	2.3
MTBE	0.023
TBA	0.073

No soil samples analyzed reported concentrations at or above their respective ESLs, except MTBE from boring SB-2.

2.1.4.2 Groundwater Analytical Results

Groundwater samples from the nine monitoring wells (MW-1, MW-3, AW-1, AW-4, AW-5, AW-6, RW-1, VEW-4 and VEW-8) and two soil borings (SB-1 and SB-2) were submitted to Sequoia for GRO, BTEX, and fuel additives (including MTBE, TAME, ETBE, DIPE, TBA, EDB, 1,2-DCA, and ethanol) analysis using EPA Method 8260B. Groundwater analytical results are presented in Tables 1, 2 and 4. Copies of laboratory analytical reports and chain-of-custody records are presented in Attachment G.

The groundwater analytical results for the plume delineation can be summarized as follows:

- GRO was detected in five wells and the two soil borings sampled this quarter at concentrations ranging from 260 micrograms per liter ($\mu\text{g/L}$) [SB-2 (21'-24')] to 15,000 $\mu\text{g/L}$ (RW-1).
- Benzene was detected at or above the laboratory reporting limit in five wells and one soil boring at concentrations ranging from 2.6 $\mu\text{g/L}$ [SB-1 (24'-27')] to 770 $\mu\text{g/L}$ (AW-1).
- MTBE was detected at or above the laboratory reporting limit in six wells and the two soil borings at concentrations ranging from 4.1 $\mu\text{g/L}$ (MW-3) to 5,500 $\mu\text{g/L}$ (AW-6). TBA was detected at or above the laboratory reporting limit in one well at a concentration of 370 $\mu\text{g/L}$ (AW-5). TAME was detected at or above the laboratory reporting limit in four wells and one soil boring at concentrations ranging from 5.6 $\mu\text{g/L}$ (RW-1) to 1,400 $\mu\text{g/L}$ (AW-6). 1,2-DCA was detected at or above the laboratory reporting limit in one well at a concentration of 31 $\mu\text{g/L}$ (AW-1).
- No ethanol, DIPE, ETBE or EDB was detected at or above their respective laboratory reporting limits.

The following is a comparison of the groundwater analytical results from this investigation to the RWQCB ESLs. The ESLs are summarized in lookup tables in the "Screening For Environmental Concerns At Sites With Contaminated Soil and Groundwater" guidelines, as revised in February 2005, "*Volume 1: Summary Tier 1 Lookup Tables*". As specified in the Tier 1 Lookup Table A and C, ESLs for the COC are the same for commercial/industrial and residential use sites where groundwater is a potential drinking water resource, regardless of whether subsurface soil impact is less than or greater than 10 feet (or 3 meters) bgs.

Constituent	ESL ($\mu\text{g/L}$)
GRO/TPH-g	100
Benzene	1.0
Toluene	40
Ethylbenzene	30
Xylenes	20
MTBE	5
TBA	12

Of the groundwater monitoring wells samples collected on July 22, 2005, samples collected from 5 of the wells and the two soil borings exceeded the ESL for GRO with concentrations of 680 $\mu\text{g/L}$ (VEW-4) and 15,000 $\mu\text{g/L}$ (MW-1). Benzene concentrations in five of the monitoring wells and one of the soil borings exceeded the ESL with concentrations ranging from 5.2 $\mu\text{g/L}$ (AW-5) to 770 $\mu\text{g/L}$ (AW-1). MTBE was detected in five wells and two soil borings above the ESL at concentrations of 51 $\mu\text{g/L}$ (RW-1) to 5,500 $\mu\text{g/L}$ (AW-6). TBA was detected in AW-5 above the ESL at concentrations of 370 $\mu\text{g/L}$.

2.2 Preferential Pathway Evaluation

The scope of work performed included advancing two soil borings (SB-3 and SB-4) along the sanitary sewer line running beneath the north to northwestern section of the Site at approximately 6.5 to 7 feet bgs to assess the potential of the sanitary sewer line being used as a preferential pathway. Boring SB-3 was advanced to a total depth of 8 feet bgs and boring SB-4 was advanced to a total depth of 12 feet bgs. In addition, the three existing downgradient vapor extraction wells (VEW-4, VEW-5 and VEW-8) were sampled, if measurable groundwater was encountered. Wells VEW-4, VEW-5 and VEW-8 are in the vicinity of the sanitary sewer line running along the north to northwestern section of the property. The water samples collected would help assess the potential of impacted groundwater migrating via the higher permeability trench material of the sanitary sewer. The location of the soil borings are shown on Figure 1.

2.2.1 Preliminary Field Activities

Preliminary field activities were conducted in accordance and in conjunction with the plume definition preliminary field activities (Section 2.1.1).

2.2.2 Soil Boring Advancement and Soil Sampling

On July 22, 2005 and September 16, 2005, a URS geologist observed Gregg Drilling and Testing, Inc. (Gregg) of Martinez, California advance soil boring SB-3 to a depth of approximately 8 feet bgs and boring SB-4 to a depth of approximately 12 feet bgs for lithologic description and soil sampling. The first eight feet of each boring was physically cleared using a hand auger or air knife to help ensure no damage to the sanitary sewer line. Soil boring SB-4 was continuously cored using direct-push technology from 8 to 12 feet bgs. The approximate soil boring locations are illustrated on Figure 1. During soil boring advancement, no groundwater was encountered.

Soil samples were collected in clear acetate sleeves for laboratory analysis near the groundwater interface and from areas of obvious soil impacts. Soil samples were classified by URS personnel under the supervision of a State of California Professional Geologist, according to the Unified Soil Classification System (USCS) and examined using visual and manual methods for parameters including odor, staining, color, grain size, and moisture content. Samples for chemical analysis were covered at each end with Teflon™ sheeting, capped with plastic end caps, labeled, and placed in an ice-filled cooler for preservation. Soil samples were collected in clear acetate sleeves for laboratory analysis near the groundwater interface and from areas of obvious soil impacts and were submitted to Sequoia Analytical Laboratories (Sequoia) for analysis of GRO, BTEX, and fuel additives (MTBE, TBA, DIPE, ETBE, TAME, 1,2-DCA, EDB and ethanol) by EPA Method 8260B. Following completion of sampling activities, the borings were sealed to the surface using a neat Portland cement grout slurry.

2.2.3 Groundwater Sampling

On September 16, 2005, groundwater samples were attempted at both soil boring locations (SB-3 and SB-4) approximately 1 to 2 feet laterally from the respective initial soil boring location.

After the total depth of borings SB-3 and SB-4 was reached, the boring was allowed to sit for approximately one hour to allow groundwater to accumulate. No groundwater was encountered or accumulated within boring SB-3 and SB-4. No groundwater samples were collected.

Following completion of groundwater sampling activities, all borings were sealed to the surface with a neat Portland cement grout slurry.

As described in Section 2.1.3, Blaine Tech mobilized to the Site on July 22, 2005, to conduct the third quarter 2005 monitoring event. As part of the preferential pathway study, vapor extraction wells VEW-4, VEW-5 and VEW-8 were included in the quarterly sampling event on a one time basis. No water was encountered in vapor extraction well VEW-5 which is completed to a depth of approximately 10.5 feet bgs. The groundwater samples were submitted to Sequoia and analyzed for GRO, BTEX, and fuel additives (MTBE, TBA, DIPE, TAME, ETBE, 1,2-DCA, EDB, and ethanol) by EPA Method 8260B. A copy of the field procedures and field data sheets are provided in Attachment F.

2.2.4 ANALYTICAL RESULTS FOR PREFERENTIAL PATHWAY EVALUATION

2.2.4.1 Soil Analytical Results

URS submitted soil samples collected at approximately 3-foot intervals, near the groundwater interface and from areas of obvious soil impacts to Sequoia Analytical, a State of California DHS Certified Laboratory for analysis. The soil samples were analyzed for GRO, BTEX, MTBE, TAME, ETBE, DIPE, TBA, EDB, 1,2-DCA, and ethanol using EPA Method 8260B. Cumulative soil analytical results are presented in Table 4. Copies of laboratory analytical reports and chain-of-custody records are presented in Attachment G.

Soil sample analytical results from SB-4 can be summarized as follows:

- No GRO, BTEX, or fuel additives (MTBE, TAME, ETBE, DIPE, TBA, EDB, 1,2-DCA, or ethanol) were detected at or above their respective laboratory reporting limits in any soil sample analyzed.
- No PID readings, visual observations, indications of odor were present in boring SB-3 to 8 feet bgs, the total depth of the boring. Therefore, no soil samples were collected.

2.2.4.2 Groundwater Analytical Results

Groundwater samples from the two soil vapor extraction wells (VEW-4 and VEW-8) and two soil borings (SB-3 and SB-4) were submitted to Sequoia for GRO, BTEX, and fuel additives (including MTBE, TAME, ETBE, DIPE, TBA, EDB, 1,2-DCA, and ethanol) analysis using EPA Method 8260B. No groundwater samples were able to be collected from soil borings SB-3 and SB-4. Groundwater analytical results are presented in Tables 1, 2 and 4. Copies of laboratory analytical reports and chain-of-custody records are presented in Attachment G.

The groundwater analytical results can be summarized as follows:

- GRO and benzene were detected in well VEW-4 at concentrations of 680 µg/L and 41 µg/L, respectively.

- No MTBE, TAME, ETBE, DIPE, TBA, EDB, 1,2-DCA, or ethanol were detected at or above their respective laboratory reporting limits.

The following is a comparison of the groundwater analytical results from this investigation to the RWQCB ESLs. The ESLs are summarized in lookup tables in the "Screening For Environmental Concerns At Sites With Contaminated Soil and Groundwater" guidelines, as revised in February 2005, "*Volume 1: Summary Tier 1 Lookup Tables*". As specified in the Tier 1 Lookup Table A and C, ESLs for the COC are the same for commercial/industrial and residential use sites where groundwater is a potential drinking water resource, regardless of whether subsurface soil impact is less than or greater than 10 feet (or 3 meters) bgs.

Constituent	ESL ($\mu\text{g/L}$)
GRO/TPH-g	100
Benzene	1.0
Toluene	40
Ethylbenzene	30
Xylenes	20
MTBE	5
TBA	12

The groundwater sample collected from vapor extraction well VEW-4 exceeded the ESL for GRO and benzene with concentrations of 680 $\mu\text{g/L}$ and 41 $\mu\text{g/L}$, respectively. No fuel additives were reported in the vapor extraction wells sampled.

3.0 GeoTracker

In accordance with GeoTracker requirements, URS will upload soil and groundwater analytical data and associated information into the GeoTracker database as soon as the final electronic data files have been obtained from the laboratory.

4.0 Investigation Derived Waste Disposal

Investigation derived waste generated during Site investigation activities was stored temporarily on-site in DOT approved 55-gallon drums pending analytical results and

profiling. On October 19, 2005, following waste characterization, Dillard Environmental (Dillard) transported the soil to Republic Landfill, Livermore, California. Upon receipt, URS will forward the waste manifests to the ACEHS upon request.

5.0 CONCLUSIONS AND RECOMMENDATIONS

Plume Delineation

The purpose of the investigation was to provide plume delineation and a preferential pathway evaluation. Plume delineation fieldwork was conducted to assess the extent of dissolved or free-phase hydrocarbons, evaluate the potential off-site migration of LNAPL in the predominant down-gradient groundwater direction (southeast), in front of the neighboring residence, and to assess the extent of dissolved hydrocarbons cross-gradient of wells AW-5 and AW-6, which currently or historically have shown elevated concentrations of GRO and MTBE. The results of the investigation performed by URS can be summarized as follows:

- GRO was detected in four saturated samples from boring SB-1 between 25 and 35 feet bgs. Concentrations ranged from 0.19 mg/kg [SB-1 (34.5-35')] to 64 mg/kg [SB-1 (25-25.5')].
- Ethylbenzene was detected in one saturated soil sample at a concentration of 0.20 mg/kg in sample SB-1 (25-25.5').
- MTBE was detected in three saturated samples collected from borings SB-1 and SB-2 at concentrations ranging from 0.0097 mg/kg [SB-1 (37.5-38')] to 0.068 mg/kg [SB-2 @ 25'].
- TAME was detected in 2 saturated samples from boring SB-2 at concentrations of 0.015 mg/kg (SB-2 @ 30') and 0.017 mg/kg (SB-2 @ 25').
- No benzene, toluene, or other fuel additives (ethanol, TBA, ETBE, DIPE, EDB, or 1,2-DCA) were detected at or above their respective laboratory reporting limits in any soil sample analyzed.
- No hydrocarbons or oxygenated were detected in unsaturated soil samples collected during this investigation. This indicates that groundwater in the area may be somewhat confined since groundwater is first encountered between 22 and 25 feet bgs and raises to its static water level only after a well is installed.
- GRO was detected in five wells and two soil borings sampled this quarter at concentrations ranging from 260 µg/L [SB-2 (21'-24')] to 15,000 µg/L (RW-1). Benzene was detected at or above the laboratory reporting limit in five wells and one

soil boring at concentrations ranging from 2.6 µg/L [SB-1 (24'-27')] to 770 µg/L (AW-1).

- MTBE was detected at or above the laboratory reporting limit in six wells and two soil borings at concentrations ranging from 4.1 µg/L (MW-3) to 5,500 µg/L (AW-6). TBA was detected at or above the laboratory reporting limit in one well at a concentration of 370 µg/L (AW-5). TAME was detected at or above the laboratory reporting limit in four wells and one soil boring at concentrations ranging from 5.6 µg/L (RW-1) to 1,400 µg/L (AW-6). 1,2-DCA was detected at or above the laboratory reporting limit in one well at a concentration of 31 µg/L (AW-1).
- No ethanol, DIPE, ETBE or EDB were detected at or above their respective laboratory reporting limits.
- Recent sampling events indicate groundwater flow direction is to the east to southeast at a calculated hydraulic gradient of 0.03 feet per foot.

Based on the low to non-detectable residual concentrations and the absence of detectable benzene concentrations in soil in boring SB-1 and soil and groundwater in boring SB-2, URS contends LNAPL is not migrating in the predominant down-gradient groundwater flow direction (east/southeast and northeast), and beneath neighboring residence. In addition, soil boring SB-2 appears to be in the vicinity of the cross-gradient extent of dissolved hydrocarbons to the northeast in the vicinity of wells AW-5 and AW-6. These wells currently or historically have shown elevated concentrations of GRO, benzene and MTBE.

Preferential Pathway

The preferential pathway evaluation was conducted to assess the potential of the sanitary sewer line being used as a preferential pathway. In addition, the three existing downgradient vapor extraction wells (VEW-4, VEW-5 and VEW-8) were sampled, if measurable groundwater was encountered. Wells VEW-4, VEW-5 and VEW-8 are in the vicinity of the sanitary sewer line running along the north to northwestern section of the property. The water samples collected would help assess the potential of impacted groundwater migrating via the higher permeability trench material of the sanitary sewer. The results of the investigation performed by URS can be summarized as follows:

- No GRO, BTEX, or fuel additives (MTBE, TAME, ETBE, DIPE, TBA, EDB, 1,2-DCA, and ethanol) were detected at or above their respective laboratory reporting limits in any soil sample analyzed from soil boring SB-4. No groundwater was encountered to a depth of 12 feet bgs.
- No PID readings, visual observations, indications of odor were present in boring SB-3 to 8 feet bgs, the total depth of the boring.

- GRO and benzene were detected in well VEW-4 at a concentration of 680 µg/L and 41 µg/L, respectively.
- No MTBE, TAME, ETBE, DIPE, TBA, EDB, 1,2-DCA, or ethanol were detected at or above their respective laboratory reporting limits in the water samples collected from vapor extraction well VEW-4.
- No hydrocarbons or oxygenates were detected in vapor extraction well VEW-8 and no groundwater was encountered in vapor extraction well VEW-5 (total depth 10.5 feet bgs).

Based on the non-detectable concentrations in soil and no groundwater encountered in the soil borings in the vicinity of the sanitary sewer line (SB-3 and SB-4), URS contends that the sanitary sewer is not being used as a preferential pathway, even during seasons of high water levels. After reviewing cross-sections and boring logs for the Site, it appears that there may be a confining layer that prevents groundwater from entering the sanitary sewer line. It appears that the sanitary sewer lines do not act as preferential pathways.

6.0 PROPOSED SCHEDULE

Upon obtaining approval from of the Nitrate/Sulfate Feasibility Study Work Plan from ACEHS, URS will commence coordination and execution of the approved Work Plan.

7.0 LIMITATIONS

This report is based on data, Site conditions, and other information that are generally applicable as of the date of the report, and the conclusions and recommendations herein are therefore applicable only to that time frame. This report has been prepared solely for the use of RM and the lead regulatory agency, and should not be used by any third party.

Background information, including but not limited to previous field measurements, analytical results, site plans, and other data has been furnished to URS by RM, its previous consultants, and/or third parties that URS has used in preparing this report. URS has relied on this information as furnished. URS is not responsible for nor has it confirmed the accuracy of this information.

The analytical data provided by the laboratory approved by RM have been reviewed and verified by that laboratory. URS has not performed an independent review of the data and is neither responsible for nor has confirmed the accuracy of these data.

We appreciate the opportunity to present this SWI Report to the ACEHS on behalf of RM and trust that this document meets with your approval. Please do not hesitate to contact Lynelle Onishi at (510) 874-1758 with any questions or comments.

Sincerely,

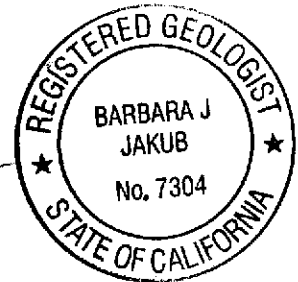
URS CORPORATION



Lynelle Onishi
Project Manager



Barbara J. Jakub, P.G.
Senior Geologist



cc: Mr. Kyle Christie, Remediation Management, (electronic file uploaded to ENFOS)
Ms. Shelby Lathrop, ConocoPhillips (electronic file upload to URS FTP site)

Attachments:

- Figure 1 - Site Map with Boring, Well, and Cross-Section Locations
- Figure 2 - Groundwater Elevation Contour and Analytical Summary Map,
Third Quarter 2005 (July 22, 2005)
- Figure 3 - Site Map Cross-Section Location
- Figure 4 - Cross Section C-C'

- Table 1 - Groundwater Elevation and Analytical Results
- Table 2 - Fuel Oxygenate Analytical Results
- Table 3 - Soil Analytical Results
- Table 4 - Soil Boring Groundwater Analytical Results
- Table 5 - Historical Groundwater Flow Direction and Gradient

- Attachment A - ACEHS Correspondence Dated May 11, 2005
- Attachment B - Historical Soil and Groundwater Analytical Data
- Attachment C - Historic Cross-Sections
- Attachment D - Soil Boring Logs
- Attachment E - Alameda County Public Works Agency Soil Boring Permit,
City of Oakland Excavation Permit and City of Oakland Obstruction
Permit
- Attachment F - Field Procedures and Field Data Sheets
- Attachment G - Laboratory Analytical Reports and Chain-Of-Custody Records

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Ms. Donna Drogos
October 28, 2005
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URS Corporation. 2005. Nitrate/Sulfate Feasibility Study Work Plan, Former BP Service Station #11133, 2220 98th Avenue, Oakland, California, ACHCS Fuel Leak Case No. RO00000403. July.

URS Corporation. 2005. Third 2005 Semi-Annual Groundwater Monitoring Report. Former BP Service Station No. 11133, 2220 98th Avenue, Oakland, California. October.

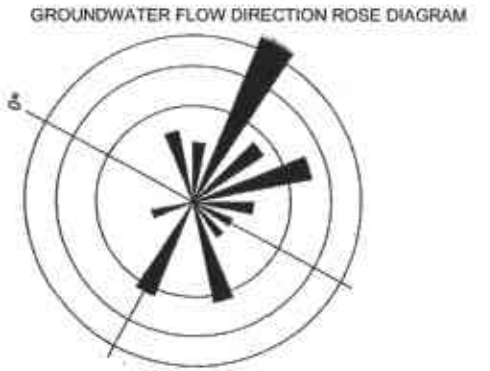
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EXPLANATION

- ◆ Existing Monitoring Well
- Temporary Wells (January, 1990)
- ▲ Existing Vapor Extraction Well
- ⊕ Combined Groundwater Recovery/ Vapor Extraction Well
- ⊙ Tosco Dispenser Grab Sample Location (Dec. 1994)
- ◆ Grab Sample Location (Oct. 2001)
- ⊙ Soil Sample Location (Oct. 1998)
- ⊙ Soil Boring Location (July and September 2005)

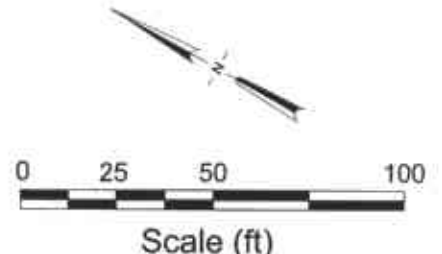
▨ Trench/Excavation
 - - - Existing Trench



N=52
Interval= 10

Notes:

- 1) Data from available Historical Quarterly Monitoring Reports (Table 3)
- 2) Complex groundwater gradients at the Site resulted in multiple directions and gradients reported in a single monitoring event.



NOTES: SITE MAP ADAPTED FROM CAMBRIA ENVIRONMENTAL FIGURES. SITE DIMENSIONS AND FACILITY LOCATIONS NOT VERIFIED.

URS	Project No. 38487351	SOIL BORING AND WELL LOCATION SITE MAP	FIGURE 1
	Former BP Service Station #11133 2220 98th Avenue Oakland, California		

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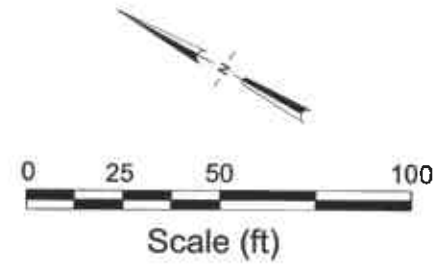
EXPLANATION

- Monitoring Well
- Vapor Extraction Well
- Combined Groundwater Recovery/Vapor Extraction Well
- Groundwater Flow Gradient and Direction (Feet/Foot)
- 22.50 Groundwater Elevation Contour (Feet above MSL), dashed where inferred

Well	Well Designation
ELEV	Groundwater Elevation (Ft above MSL)
GRO	GRO, Benzene and MTBE Concentrations in Micrograms Per Liter (µg/L)
Benzene	
MTBE	

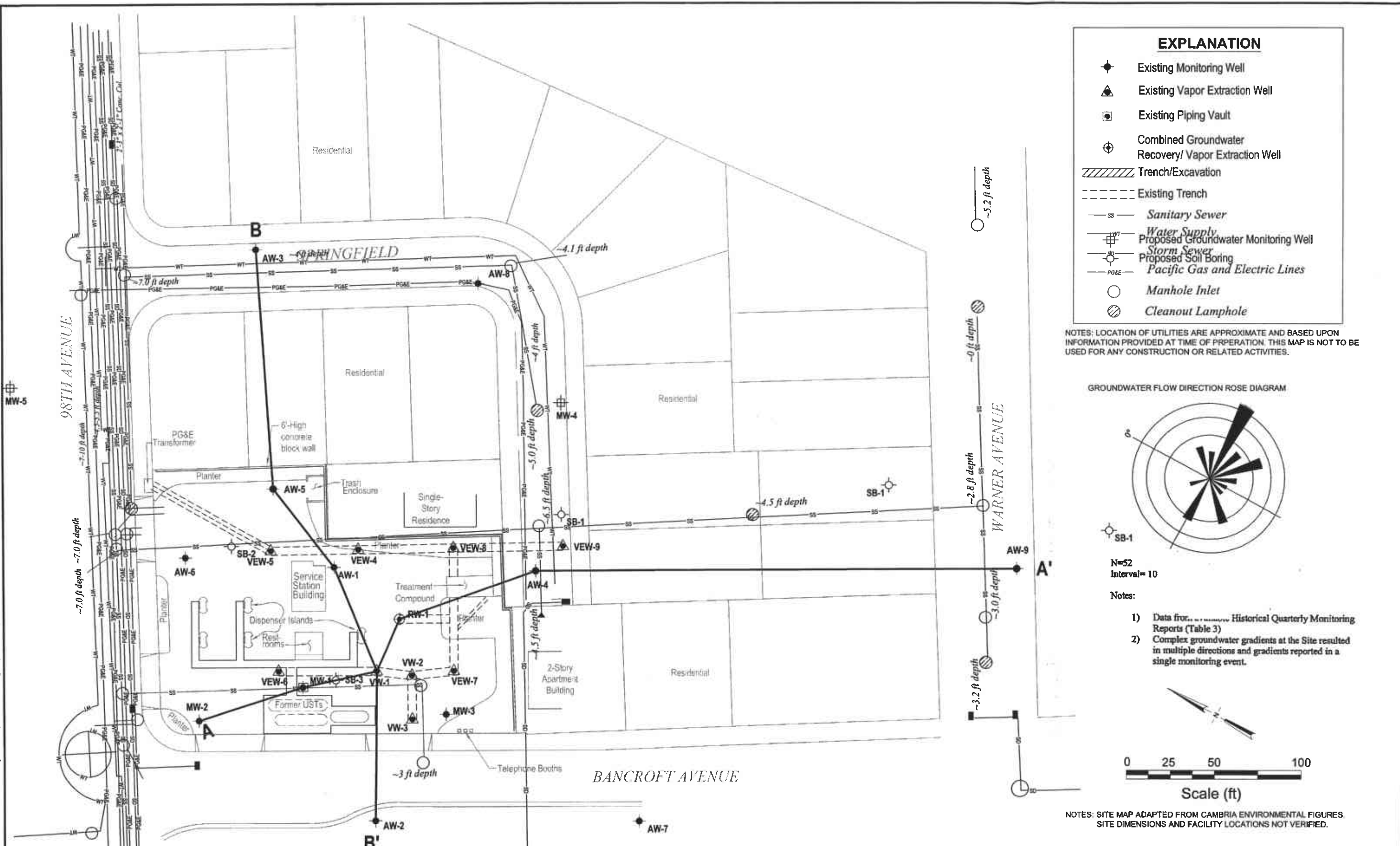
- < Not Detected at or Above Laboratory Reporting Limits
- NM Not Measured
- NS Not Sampled

NOTES: WELL AW-7 COULD NOT BE SAMPLED DUE TO INACCESSIBILITY.
 SITE MAP ADAPTED FROM CAMBRIA ENVIRONMENTAL FIGURES.
 SITE DIMENSIONS AND FACILITY LOCATIONS NOT VERIFIED.



URS	Project No. 38487259	GROUNDWATER ELEVATION CONTOUR AND ANALYTICAL SUMMARY MAP	FIGURE
	Former BP Service Station #11133 2220 98th Avenue Oakland, California		
		Third Quarter 2005 (July 22, 2005)	

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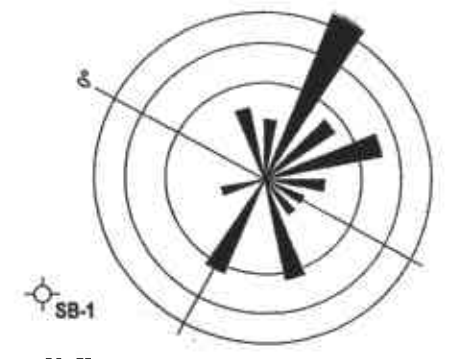


EXPLANATION

- Existing Monitoring Well
- Existing Vapor Extraction Well
- Existing Piping Vault
- Combined Groundwater Recovery/Vapor Extraction Well
- Trench/Excavation
- Existing Trench
- Sanitary Sewer
- Water Supply
- Proposed Groundwater Monitoring Well
- Storm Sewer
- Proposed Soil Boring
- Pacific Gas and Electric Lines
- Manhole Inlet
- Cleanout Lamphole

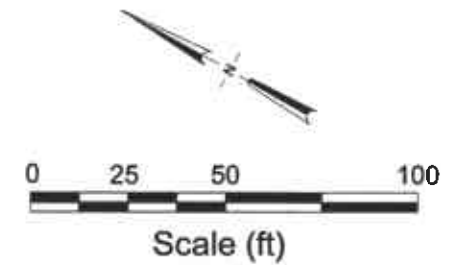
NOTES: LOCATION OF UTILITIES ARE APPROXIMATE AND BASED UPON INFORMATION PROVIDED AT TIME OF PREPERATION. THIS MAP IS NOT TO BE USED FOR ANY CONSTRUCTION OR RELATED ACTIVITIES.

GROUNDWATER FLOW DIRECTION ROSE DIAGRAM



N=52
Interval= 10

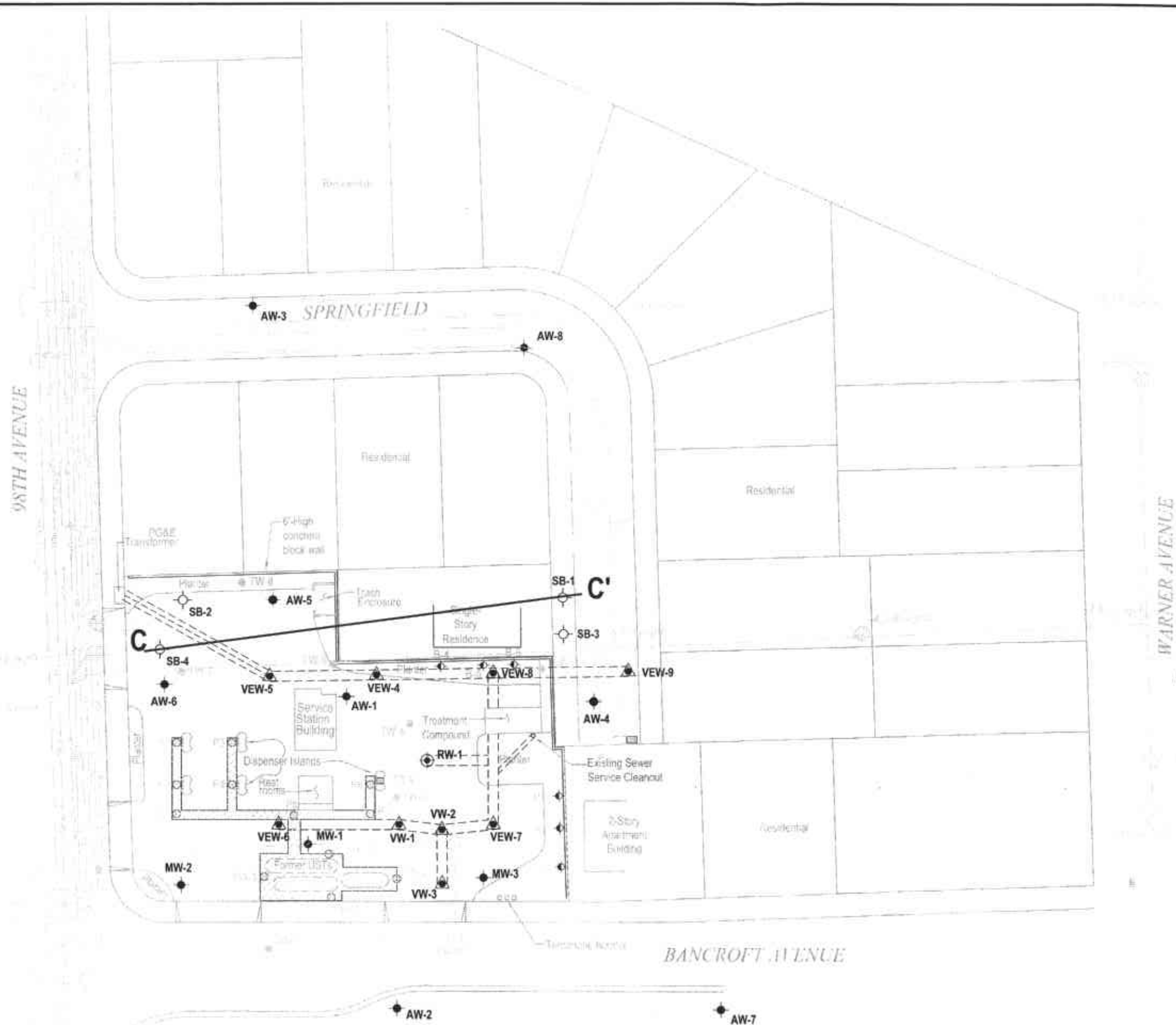
- Notes:
- 1) Data from... Historical Quarterly Monitoring Reports (Table 3)
 - 2) Complex groundwater gradients at the Site resulted in multiple directions and gradients reported in a single monitoring event.



NOTES: SITE MAP ADAPTED FROM CAMBRIA ENVIRONMENTAL FIGURES. SITE DIMENSIONS AND FACILITY LOCATIONS NOT VERIFIED.

URS	Project No. 38486823	SITE MAP WITH CROSS SECTION TRANSECTS AND UNDERGROUND UTILITIES	FIGURE 3
	Former BP Service Station #11133 2220 98th Avenue Oakland, California		

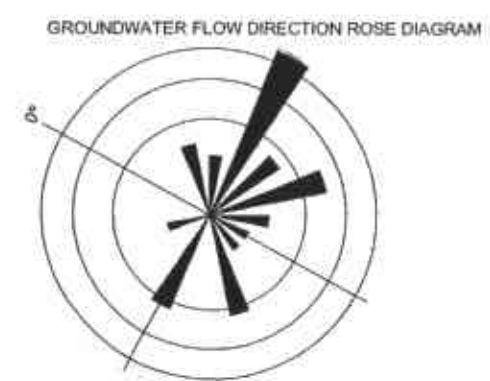
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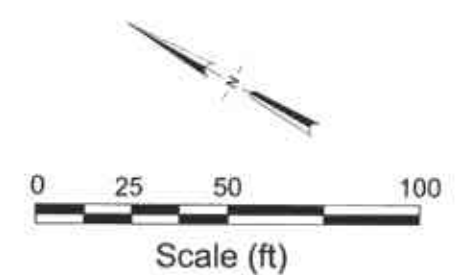
EXPLANATION

- ◆ Existing Monitoring Well
- Temporary Wells (January, 1990)
- ▲ Existing Vapor Extraction Well
- ⊕ Combined Groundwater Recovery/ Vapor Extraction Well
- ⊙ Tosco Dispenser Grab Sample Location (Dec. 1994)
- ⊙ Grab Sample Location (Oct. 2001)
- ⊙ Soil Sample Location (Oct. 1998)
- ⊕ Proposed Groundwater Monitoring Well
- ⊙ Proposed Soil Boring

▨▨▨▨ Trench/Excavation
 - - - - Existing Trench

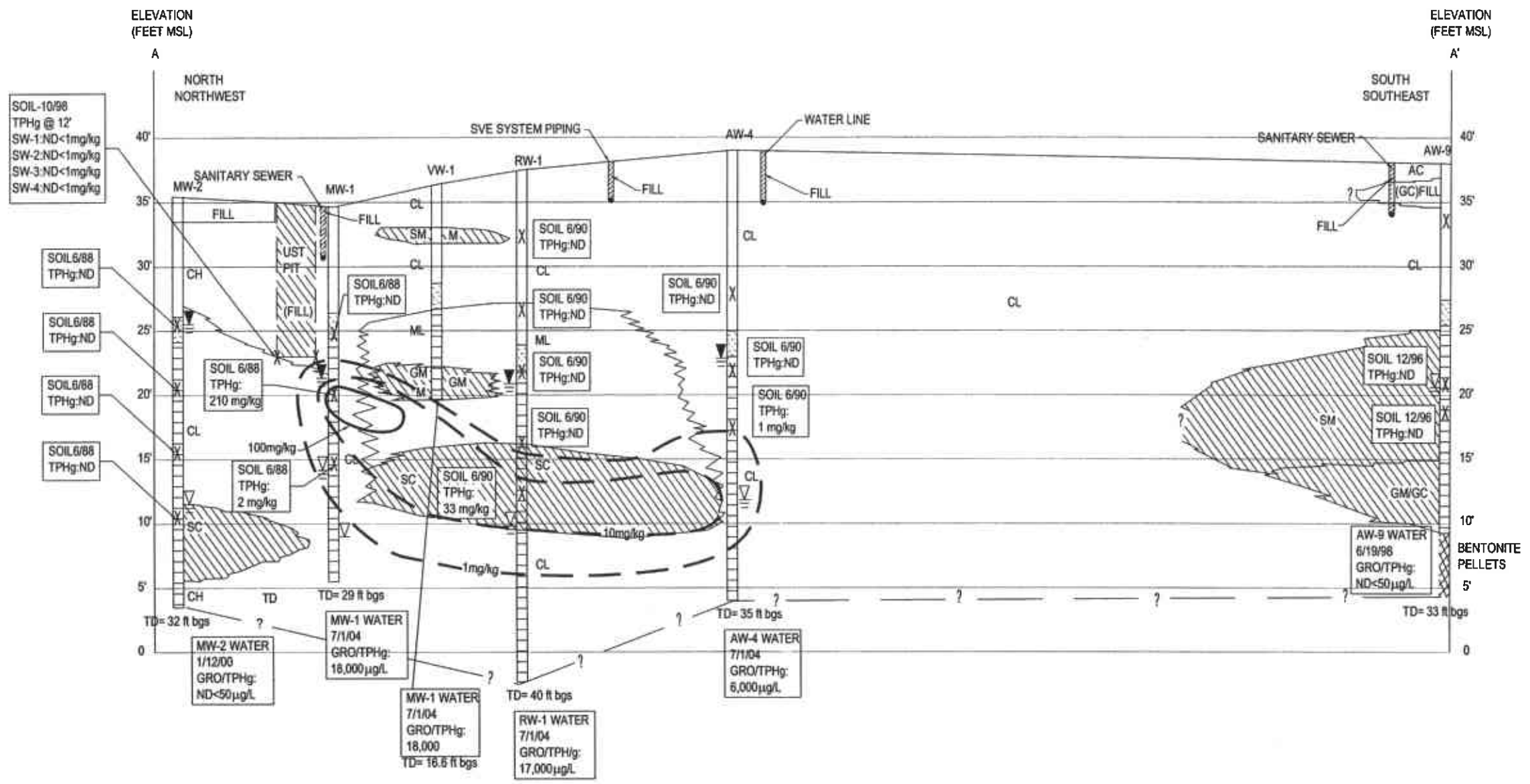


- Notes:
- 1) Data from available Historical Quarterly Monitoring Reports (Table 3)
 - 2) Complex groundwater gradients at the Site resulted in multiple directions and gradients reported in a single monitoring event.



NOTES: SITE MAP ADAPTED FROM CAMBRIA ENVIRONMENTAL FIGURES. SITE DIMENSIONS AND FACILITY LOCATIONS NOT VERIFIED.

URS	Project No. 38487351	SITE MAP WITH CROSS-SECTION TRANSECT AND UNDERGROUND UTILITIES	FIGURE 3
	Former BP Service Station #11133 2220 98th Avenue Oakland, California		

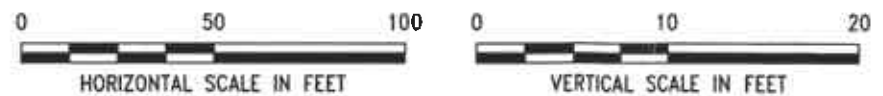


EXPLANATION

- WELL CASING
- FILTER PACK INTERVAL
- SCREENED INTERVAL
- FIRST ENCOUNTERED WATER WHILE DRILLING
- STATIC WATER LEVEL IN COMPLETED WELL, JULY 1, 2004
- MSL

- LITHOLOGY CONTACT; INFERRED WHERE DASHED OR QUERIED
- UST EXCAVATION; BACKFILLED WITH GRAVEL
- GP= GRAVEL
- GW= GRAVEL } HIGH PERMEABILITY
- SP= SAND
- SW= SAND
- SM= SILTY SAND
- GM= SILTY GRAVEL
- GC= CLAYEY GRAVEL
- SC= CLAYEY SAND } MODERATE PERMEABILITY
- ML= SILT
- CL= CLAY
- CH= CLAY } LOW PERMEABILITY

- UTILITY LINE BACKFILLED TRENCH
- 10 mg/kg ISOCONCENTRATION CONTOUR, TPH-g IN mg/kg



X-SOIL-TPH-G 0.018mg/kg

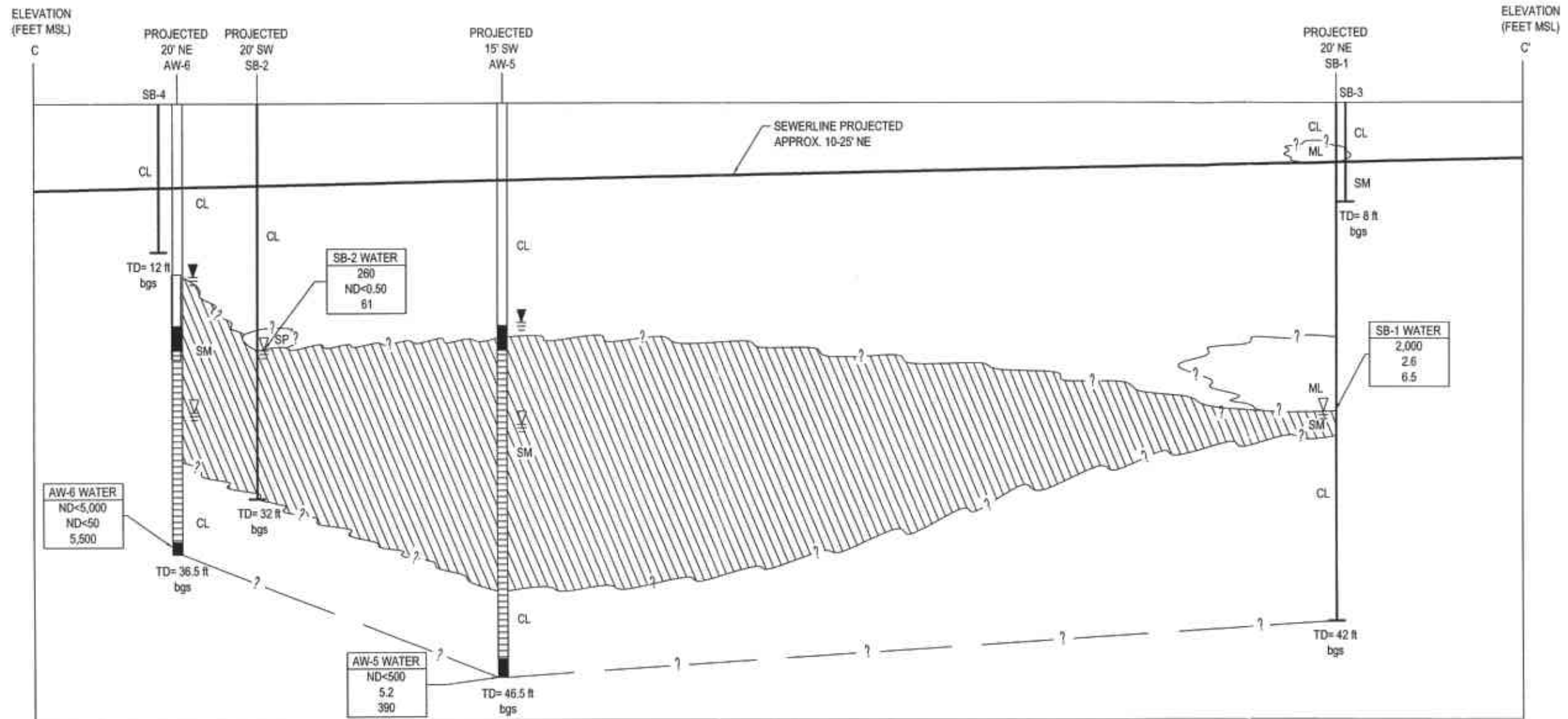
SOIL SAMPLE ANAYNTICAL RESULTS IN MILLIGRAMS PER KILOGRAM

WATER-GRO/TPH-G .75 µg/L

WATER SAMPLE ANAYNTICAL RESULTS IN MICROGRAMS PER LITER

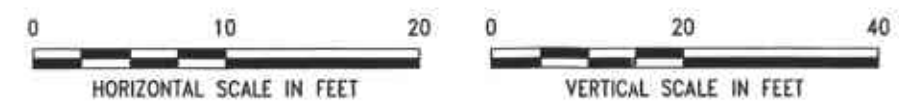
URS	Project No. 38486828	HYDROGEOLOGIC CROSS-SECTION A-A'
	Former BP Service Station #11133 2220 98th Avenue Oakland, California	

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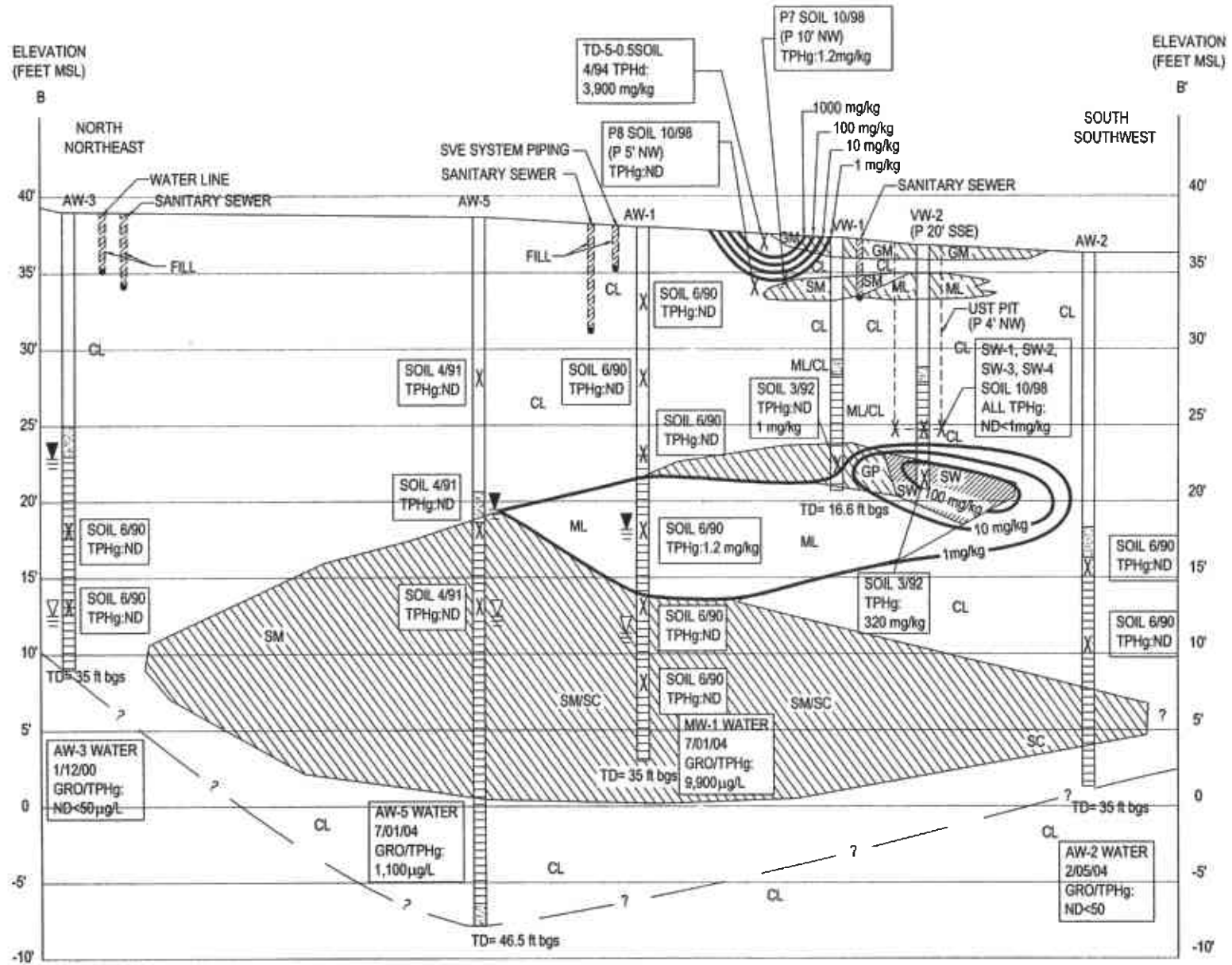
EXPLANATION

- WELL CASING
- FILTER PACK INTERVAL
- SCREENED INTERVAL
- FIRST ENCOUNTERED WATER WHILE DRILLING
- STATIC WATER LEVEL IN COMPLETED WELL, JULY 22, 2005
- MSL
- FEET ABOVE MEAN SEA LEVEL
- WATER SAMPLE
- GRO, BENZENE, AND MTBE CONCENTRATIONS IN MICROGRAMS PER LITER (µg/L)
- NOT DETECTED AT OR ABOVE THE SPECIFIED LABORATORY REPORTING LIMIT
- LITHOLOGY CONTACT; INFERRED WHERE DASHED OR QUERIED
- GP= GRAVEL
GW= GRAVEL } HIGH PERMEABILITY
SP= SAND
SW= SAND
- SM= SILTY SAND
GM= SILTY GRAVEL } MODERATE PERMEABILITY
GC= CLAYEY GRAVEL
SC= CLAYEY SAND
- ML= SILT
CL= CLAY } LOW PERMEABILITY
CH= CLAY



URS	Project No. 38486828	HYDROGEOLOGIC CROSS-SECTION C-C'	FIGURE 4
	Former BP Service Station #11133 2220 98th Avenue Oakland, California		

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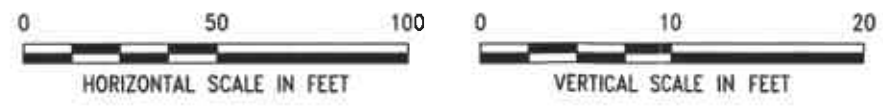


EXPLANATION

- (P 20' SSE) BORING IS PROJECTED, WITH DISTANCE IN FEET AND DIRECTION FROM CROSS-SECTION LINE.
- WELL CASING
- FILTER PACK INTERVAL
- SCREENED INTERVAL
- FIRST ENCOUNTERED WATER WHILE DRILLING
- STATIC WATER LEVEL IN COMPLETED WELL, JULY 1, 2004
- MSL FEET ABOVE MEAN SEA LEVEL
- X-SOIL-TPH-G 0.018mg/kg SOIL SAMPLE ANALYTICAL RESULTS IN MILLIGRAMS PER KILOGRAM
- WATER-GRO/TPH-G .75 µg/L WATER SAMPLE ANALYTICAL RESULTS IN MICROGRAMS PER LITER

- LITHOLOGY CONTACT; INFERRED WHERE DASHED OR QUERIED
- UST EXCAVATION; BACKFILLED WITH GRAVEL
- GP= GRAVEL
GW= GRAVEL } HIGH PERMEABILITY
SP= SAND
SW-SAND
- SM=SILTY SAND
GM=SILTY GRAVEL
GC=CLAYEY GRAVEL
SC=CLAYEY SAND } MODERATE PERMEABILITY
- ML=SILT
CL=CLAY
CH=CLAY } LOW PERMEABILITY

- UTILITY LINE BACKFILLED TRENCH
- 10 mg/kg ISOCONCENTRATION CONTOUR, TPH-g IN mg/kg



URS	Project No. 38486828	HYDROGEOLOGIC CROSS-SECTION B-B'	FIGURE 5
	Former BP Service Station #11133 2220 98th Avenue Oakland, California		

Table 1

Groundwater Elevation and Analytical Data

Former BP Station #11133
2220 98th Ave., Oakland, CA

Well No.	Date	P/ NP	TOC (ft MSL)	DTW (ft bgs)	Product Thickness (feet)	GWE (ft MSL)	GRO/TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	DO (mg/L)	Lab	pH	Comments
AW-1	4/5/1991	--	38.11	25.44	--	12.67	4,100	1,500	69	100	83	--	--	SUP	--	
	4/1/1992	--	38.11	23.22	--	14.89	--	--	--	--	--	--	--	---	--	
	4/2/1992	--	38.11	--	--	--	11,000	1,800	210	210	490	--	--	APP	--	
	7/6/1992	--	38.11	24.89	--	13.22	6,500	4,000	40	290	530	--	--	ANA	--	
	10/7/1992	--	38.11	--	--	--	2,900	1,200	25	37	210	--	--	ANA	--	e
	10/7/1992	--	38.11	26.55	--	11.56	4,700	1,500	41	47	300	--	--	ANA	--	
	1/14/1993	--	38.11	--	--	--	4,100	1,700	28	130	230	--	--	PACE	--	m, e
	1/14/1993	--	38.11	23.73	--	14.38	2,800	830	31	140	240	--	--	PACE	--	m
	4/22/1993	--	38.11	--	--	--	39,000	14,000	530	1,800	6,100	987	--	PACE	--	c, m
	7/15/1993	--	38.11	22.50	--	15.61	6,200	2,200	28	210	540	838	--	PACE	--	c, m
	10/21/1993	--	38.11	24.32	--	13.79	2,400	820	13	55	120	832	--	PACE	--	c, m
	1/27/1994	--	38.11	23.72	--	14.39	3,500	1,400	26	130	220	650	--	PACE	--	c, n
	4/21/1994	--	38.11	22.48	--	15.63	40,000	12,000	1,900	1,600	5,000	1,119	1.4	PACE	--	m
	9/9/1994	--	38.11	--	--	--	3,900	1,900	5.5	190	240	--	--	PACE	--	e
	9/9/1994	--	38.11	23.04	--	15.07	3,500	1,600	5	200	250	--	2.1	PACE	--	m
	12/21/1994	--	38.11	21.70	--	16.41	7,600	3,100	36	370	320	855	1.6	PACE	--	m
	1/30/1995	--	38.11	17.71	--	20.40	35,000	23,000	650	3,200	4,100	--	1.7	ATI	--	
	4/10/1995	--	38.11	--	--	--	56,000	17,000	2,000	3,900	10,000	--	--	ATI	--	e
	4/10/1995	--	38.11	20.04	--	18.07	60,000	18,000	2,000	4,300	11,000	--	7.9	ATI	--	
	6/29/1995	--	38.11	--	--	--	86,000	12,000	8,400	4,800	18,000	--	--	ATI	--	e
	6/29/1995	--	38.11	20.60	--	17.51	72,000	10,000	7,300	4,200	15,000	--	6.2	ATI	--	
	9/18/1995	--	38.11	21.87	--	16.24	--	--	--	--	--	--	--	---	--	
	9/19/1995	--	38.11	--	--	--	65,000	12,000	3,100	4,400	14,000	1,000	8.5	ATI	--	
	12/7/1995	--	38.11	22.06	--	16.05	25,000	8,700	<50	2,500	1,300	1,100	2.9	ATI	--	
	3/28/1996	--	38.11	16.91	--	21.20	24,000	11,000	<100	3,200	3,390	<1000	6.6	SPL	--	
	6/20/1996	--	38.11	20.82	--	17.29	38,000	6,900	1,100	3,200	7,300	<100	6.4	SPL	--	
	10/11/1996	--	38.11	23.20	--	14.91	33,000	8,500	69	3,300	4,230	580	6.3	SPL	--	
	1/2/1997	--	38.11	20.41	--	17.70	32,000	8,000	<50	3,100	2,300	700	6.7	SPL	--	
	4/14/1997	--	38.11	21.61	--	16.50	--	--	--	--	--	--	--	---	--	
	4/15/1997	--	38.11	--	--	--	31,000	5,000	160	2,400	4,540	340	5.4	SPL	--	
	7/2/1997	--	38.11	21.17	--	16.94	26,000	5,800	<100	2,600	2,200	<1000	6.2	SPL	--	
	9/30/1997	--	38.11	21.48	--	16.63	29,000	9,200	17	1,400	130	560	6.9	SPL	--	
	1/21/1998	--	38.11	20.02	--	18.09	50,000	6,900	450	3,200	4,450	720	5.8	SPL	--	
	4/9/1998	--	38.11	13.37	--	24.74	--	--	--	--	--	--	--	---	--	
	4/10/1998	--	38.11	--	--	--	46,000	5,800	1,900	3,000	7,400	1,000	4.3	SPL	--	

Table 1

Groundwater Elevation and Analytical Data

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Well No.	Date	P/ NP	TOC (ft MSL)	DTW (ft bgs)	Product Thickness (feet)	GWE (ft MSL)	GRO/ TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	DO (mg/L)	Lab	pH	Comments
AW-1	6/19/1998	--	38.11	--	--	--	43,000	6,800	260	3,100	3,490	620	--	SPL	--	e
	6/19/1998	--	38.11	19.12	--	18.99	42,000	6,600	200	3,000	3,350	660	4.9	SPL	--	
	11/30/1998	--	38.11	21.13	--	16.98	23,000	6,700	<25	3,100	130	710/820	--	SPL	--	g
	1/21/1999	--	38.11	20.77	--	17.34	25,000	4,800	54	2,800	780	1,000	--	SPL	--	
	4/30/1999	--	38.11	20.80	--	17.31	21,000	5,300	67	2,800	750	1,500	--	SPL	--	
	7/9/1999	--	38.11	20.41	--	17.70	11,000	3,000	<10	760	180	1,300	--	SPL	--	
	11/3/1999	--	38.11	20.82	--	17.29	--	--	--	--	--	--	--	---	--	
	1/12/2000	--	38.11	19.99	--	18.12	330,000	5,300	10	2,900	560	2,200	--	PACE	--	
	4/13/2000	--	38.11	20.14	--	17.97	--	--	--	--	--	--	--	---	--	
	5/24/2000	--	38.11	20.17	--	17.94	--	--	--	--	--	--	--	---	--	
	6/1/2000	--	38.11	23.05	--	15.06	--	--	--	--	--	--	--	---	--	
	6/8/2000	--	38.11	17.08	--	21.03	--	--	--	--	--	--	--	---	--	
	6/15/2000	--	38.11	16.93	--	21.18	--	--	--	--	--	--	--	---	--	
	7/26/2000	--	38.11	20.07	--	18.04	15,000	290	98	77	220	37,000	--	PACE	--	
	10/24/2000	--	38.11	20.10	--	18.01	--	--	--	--	--	--	--	---	--	
	1/19/2001	--	38.11	19.82	--	18.29	7,600	2,220	10.9	415	58.4	1,630	--	PACE	--	
	7/24/2001	--	38.11	19.86	--	18.25	9,600	2,140	6.34	281	43	1,440	--	PACE	--	
	1/18/2002	--	38.11	15.60	--	22.51	20,000	2,170	75.2	1,800	2,080	1,250	--	PACE	--	
	8/1/2002	--	38.11	19.55	--	18.56	14,000	2,150	<12.5	197	42.4	1,120	--	PACE	--	
	1/16/2003	--	38.11	16.32	--	21.79	15,000	2,300	75	1,600	1,800	1,100	--	SEQ	--	p
	7/7/2003	--	38.11	19.80	--	18.31	9,700	1,600	<25	540	110	1,100	--	SEQ	--	q, u
	02/05/2004	--	38.11	18.75	--	19.36	12,000	2,000	<50	820	590	930	--	SEQM	6.7	
	07/01/2004	P	38.11	19.72	--	18.39	9,900	2,600	<25	300	<25	1,100	--	SEQM	6.5	
	03/16/2005	P	38.11	18.78	--	19.33	10,000	1,100	30	630	560	720	0.80	SEQM	6.7	
	07/22/2005	P	38.11	15.53	--	22.58	8,000	770	5.4	520	50	510	--	SEQM	6.5	
AW-2	4/5/1991	--	36.83	22.36	--	14.47	<50	<0.3	<0.3	<0.3	<0.3	--	--	SUP	--	
	4/1/1992	--	36.83	20.81	--	16.02	--	--	--	--	--	--	--	---	--	
	4/2/1992	--	36.83	--	--	--	130	25	2.3	0.7	2.1	--	--	APP	--	
	7/6/1992	--	36.83	23.57	--	13.26	<50	<0.5	<0.5	<0.5	<0.5	--	--	ANA	--	
	10/7/1992	--	36.83	25.24	--	11.59	<50	<0.5	<0.5	<0.5	<0.5	--	--	ANA	--	
	1/14/1993	--	36.83	20.82	--	16.01	<50	<0.5	<0.5	<0.5	<0.5	--	--	PACE	--	m
	4/22/1993	--	36.83	19.37	--	17.46	<50	<0.5	<0.5	<0.5	<0.5	--	--	PACE	--	m
	7/15/1993	--	36.83	21.29	--	15.54	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	PACE	--	m
	10/21/1993	--	36.83	23.14	--	13.69	<50	1.3	1.1	0.9	2.1	<5.0	--	PACE	--	m
	1/27/1994	--	36.83	22.34	--	14.49	<50	<0.5	<0.5	<0.5	<0.5	--	--	PACE	--	m

Table 1
Groundwater Elevation and Analytical Data
Former BP Station #11133
2220 98th Ave., Oakland, CA

Well No.	Date	P/ NP	TOC (ft MSL)	DTW (ft bgs)	Product Thickness (feet)	GWE (ft MSL)	GRO/ TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	DO (mg/L)	Lab	pH	Comments
AW-2	4/21/1994	--	36.83	21.15	--	15.68	<50	<0.5	<0.5	<0.5	<0.5	<5.0	2.0	PACE	--	m
	9/9/1994	--	36.83	22.09	--	14.74	<50	<0.5	<0.5	<0.5	<0.5	--	4.1	PACE	--	m
	12/21/1994	--	36.83	20.12	--	16.71	<50	<0.5	<0.5	<0.5	<0.5	<5.0	2.0	PACE	--	m
	1/30/1995	--	36.83	16.65	--	20.18	<50	<0.50	<0.50	<0.50	<1.0	--	2.5	ATI	--	
	4/10/1995	--	36.83	16.22	--	20.61	<50	<0.50	<0.50	<0.50	<1.0	--	4.4	ATI	--	
	6/29/1995	--	36.83	17.55	--	19.28	<50	<0.50	<0.50	<0.50	<1.0	--	7.8	ATI	--	
	9/18/1995	--	36.83	19.87	--	16.96	--	--	--	--	--	--	--	--	--	
	9/19/1995	--	36.83	--	--	--	<50	<0.50	<0.50	<0.50	<1.0	<5.0	--	ATI	--	e
	9/19/1995	--	36.83	--	--	--	<50	<0.50	<0.50	<0.50	<1.0	<5.0	4.5	ATI	--	
	12/7/1995	--	36.83	21.31	--	15.52	<50	<0.50	<0.50	<0.50	<1.0	<5.0	4.9	ATI	--	
	3/28/1996	--	36.83	15.61	--	21.22	<50	<0.5	<1	<1	<1	<10	4.1	SPL	--	
	6/20/1996	--	36.83	16.30	--	20.53	<50	<0.5	<1	<1	<1	<10	5.2	SPL	--	
	10/11/1996	--	36.83	19.60	--	17.23	<50	<0.5	<1.0	<1.0	<1.0	<10	6.0	SPL	--	
	1/2/1997	--	36.83	15.97	--	20.86	<50	<0.5	<1.0	<1.0	<1.0	<10	6.1	SPL	--	
	4/14/1997	--	36.83	17.19	--	19.64	<50	<0.5	<1.0	<1.0	<1.0	<10	5.3	SPL	--	
	7/2/1997	--	36.83	18.11	--	18.72	<50	<0.5	<1.0	<1.0	<1.0	<10	5.7	SPL	--	
	9/30/1997	--	36.83	18.52	--	18.31	<50	<0.5	<1.0	<1.0	<1.0	860	5.4	SPL	--	
	1/21/1998	--	36.83	14.46	--	22.37	160	13	<1.0	<1.0	<1.0	110	4.9	SPL	--	
	4/9/1998	--	36.83	12.85	--	23.98	--	--	--	--	--	--	--	--	--	
	4/10/1998	--	36.83	--	--	--	<50	<0.5	<1.0	<1.0	<1.0	<10	3.9	SPL	--	
	6/19/1998	--	36.83	14.37	--	22.46	60	<0.5	<1.0	<1.0	<1.0	<10	3.6	SPL	--	
	11/30/1998	--	36.83	16.90	--	19.93	--	--	--	--	--	--	--	--	--	
	1/21/1999	--	36.83	16.87	--	19.96	<50	<1.0	<1.0	<1.0	<1.0	<1.0	--	SPL	--	
	4/30/1999	--	36.83	17.01	--	19.82	--	--	--	--	--	--	--	--	--	
	7/9/1999	--	36.83	17.83	--	19.00	--	--	--	--	--	--	--	--	--	
	11/3/1999	--	36.83	19.74	--	17.09	--	--	--	--	--	--	--	--	--	
	1/12/2000	--	36.83	19.90	--	16.93	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--	PACE	--	
	4/13/2000	--	36.83	19.75	--	17.08	--	--	--	--	--	--	--	--	--	
	7/26/2000	--	36.83	19.86	--	16.97	--	--	--	--	--	--	--	--	--	
	10/24/2000	--	36.83	18.77	--	18.06	--	--	--	--	--	--	--	--	--	
	1/19/2001	--	36.83	--	--	--	--	--	--	--	--	--	--	--	--	f
	7/24/2001	--	36.83	--	--	--	--	--	--	--	--	--	--	--	--	f
	1/18/2002	--	36.83	15.17	--	21.66	<50	<0.5	<0.5	<0.5	<1.0	<0.5	--	PACE	--	
	8/1/2002	--	36.83	17.17	--	19.66	--	--	--	--	--	--	--	--	--	
	1/16/2003	--	36.83	14.81	--	22.02	<50	<0.50	<0.50	<0.50	<0.50	<2.5	--	SEQ	--	p

Table 1

Groundwater Elevation and Analytical Data

Former BP Station #11133
2220 98th Ave., Oakland, CA

Well No.	Date	P/ NP	TOC (ft MSL)	DTW (ft bgs)	Product Thickness (feet)	GWE (ft MSL)	GRO/ TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	DO (mg/L)	Lab	pH	Comments	
AW-2	7/7/2003	--	36.83	16.65	--	20.18	--	--	--	--	--	--	--	--	--		
	02/05/2004	--	36.83	15.37	--	21.46	<50	3.0	<0.50	<0.50	<0.50	5.1	--	SEQM	--		
	07/01/2004	--	36.83	17.55	--	19.28	--	--	--	--	--	--	--	--	--		
	03/16/2005	P	36.83	14.58	--	22.25	<50	0.75	<0.50	1.1	1.1	<0.50	1.70	SEQM	6.7		
	07/22/2005	--	36.83	15.41	--	21.42	--	--	--	--	--	--	--	--	--		
AW-3	4/5/1991	--	39.13	23.90	--	15.23	5,200	980	450	95	310	--	--	SUP	--		
	4/1/1992	--	39.13	22.50	--	16.63	4,700	890	47	43	110	--	--	APP	--		
	7/6/1992	--	39.13	23.26	--	15.87	3,900	3,100	30	80	99	--	--	ANA	--		
	10/7/1992	--	39.13	24.75	--	14.38	5,000	2,600	<0.5	<0.5	59	--	--	ANA	--		
	1/14/1993	--	39.13	23.59	--	15.54	350	250	<0.5	<0.5	<0.5	--	--	PACE	--	m	
	4/22/1993	--	39.13	19.42	--	19.71	240	71	2.4	0.6	4	--	--	PACE	--	m	
	7/15/1993	--	39.13	20.09	--	19.04	650	71	2.8	1.5	1.1	37.3	--	PACE	--	c, m	
	10/21/1993	--	39.13	--	--	--	170	6.1	2	1.7	4.4	--	--	PACE	--	e	
	10/21/1993	--	39.13	21.88	--	17.25	160	4.8	1.7	1.6	3.6	8.95	--	PACE	--	m	
	1/27/1994	--	39.13	--	--	--	90	2.9	0.5	<0.5	<0.5	--	--	PACE	--	e	
	1/27/1994	--	39.13	22.33	--	16.80	92	2.1	<0.5	<0.5	<0.5	7.37	--	PACE	--	m	
	4/21/1994	--	39.13	20.96	--	18.17	150	3.6	0.8	0.9	2.5	9.36	1.3	PACE	--	m	
	9/9/1994	--	39.13	21.60	--	17.53	53	<0.5	<0.5	<0.5	<0.5	--	1.9	PACE	--	m	
	12/21/1994	--	39.13	--	--	--	--	--	--	--	--	--	--	--	--	--	f
	1/30/1995	--	39.13	--	--	--	--	--	--	--	--	--	--	--	--	--	f
	4/10/1995	--	39.13	--	--	--	--	--	--	--	--	--	--	--	--	--	f
	6/29/1995	--	39.13	15.41	--	23.72	<50	<0.50	<0.50	<0.50	<1.0	--	8.0	ATI	--		
	9/18/1995	--	39.13	17.83	--	21.30	--	--	--	--	--	--	--	--	--	--	
	9/19/1995	--	39.13	--	--	--	--	61,000	11,000	2,900	4,100	13,000	790	7.4	ATI	--	
	12/7/1995	--	39.13	--	--	--	--	<50	<0.50	<0.50	<0.50	<1.0	<5.0	--	ATI	--	e
	12/7/1995	--	39.13	19.27	--	19.86	<50	<0.50	<0.50	<0.50	<1.0	<5.0	3.4	ATI	--		
	3/28/1996	--	39.13	--	--	--	<50	<0.5	<1	<1	<1	<10	--	SPL	--	e	
	3/28/1996	--	39.13	13.85	--	25.28	<50	<0.5	<1	<1	<1	<10	4.1	SPL	--		
6/20/1996	--	39.13	--	--	--	<50	<0.5	<1	<1	<1	<10	--	SPL	--	e		
6/20/1996	--	39.13	14.47	--	24.66	<50	<0.5	<1	<1	<1	<10	4.2	SPL	--			
10/11/1996	--	39.13	--	--	--	<50	<0.5	<1.0	<1.0	<1.0	<10	--	SPL	--	e		
10/11/1996	--	39.13	17.97	--	21.16	<50	<0.5	<1.0	<1.0	<1.0	<10	4.7	SPL	--			
1/2/1997	--	39.13	13.00	--	26.13	<50	<0.5	<1.0	<1.0	<1.0	<10	5.6	SPL	--			
4/14/1997	--	39.13	14.36	--	24.77	<50	<0.5	<1.0	<1.0	<1.0	<10	5.0	SPL	--			
4/15/1997	--	39.13	--	--	--	<50	<0.5	<1.0	<1.0	<1.0	<10	--	SPL	--	e		

Table 1

Groundwater Elevation and Analytical Data

Former BP Station #11133
2220 98th Ave., Oakland, CA

Well No.	Date	P/ NP	TOC (ft MSL)	DTW (ft bgs)	Product Thickness (feet)	GWE (ft MSL)	GRO/ TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	DO (mg/L)	Lab	pH	Comments
AW-3	7/2/1997	--	39.13	15.87	--	23.26	<50	<0.5	<1.0	<1.0	<1.0	<10	5.4	SPL	--	
	9/30/1997	--	39.13	17.50	--	21.63	<250	<2.5	<5.0	<5.0	<5.0	810	5.7	SPL	--	
	1/21/1998	--	39.13	--	--	--	150	<0.5	<1.0	<1.0	1.2	110	--	SPL	--	e
	1/21/1998	--	39.13	11.98	--	27.15	140	<0.5	<1.0	<1.0	<1.0	99	4.6	SPL	--	
	4/9/1998	--	39.13	9.45	--	29.68	--	--	--	--	--	--	--	--	--	
	4/10/1998	--	39.13	--	--	--	<50	<0.5	<1.0	<1.0	1.6	<10	4.5	SPL	--	
	4/10/1998	--	39.13	--	--	--	<50	<0.5	<1.0	1.4	1.7	<10	--	SPL	--	e
	6/19/1998	--	39.13	12.13	--	27.00	<50	<0.5	<1.0	<1.0	<1.0	<10	4.4	SPL	--	
	11/30/1998	--	39.13	15.91	--	23.22	--	--	--	--	--	--	--	--	--	
	1/21/1999	--	39.13	15.93	--	23.20	<50	<1.0	<1.0	<1.0	<1.0	<1.0	--	SPL	--	
	4/30/1999	--	39.13	15.98	--	23.15	--	--	--	--	--	--	--	--	--	
	7/9/1999	--	39.13	14.58	--	24.55	--	--	--	--	--	--	--	--	--	
	11/3/1999	--	39.13	17.43	--	21.70	--	--	--	--	--	--	--	--	--	
	1/12/2000	--	39.13	18.30	--	20.83	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--	PACE	--	
	4/13/2000	--	39.13	18.89	--	20.24	--	--	--	--	--	--	--	--	--	
	7/26/2000	--	39.13	18.67	--	20.46	--	--	--	--	--	--	--	--	--	
	10/24/2000	--	39.13	18.98	--	20.15	--	--	--	--	--	--	--	--	--	
	1/19/2001	--	39.13	16.74	--	22.39	--	--	--	--	--	--	--	--	--	
	7/24/2001	--	39.13	18.55	--	20.58	--	--	--	--	--	--	--	--	--	
	1/18/2002	--	39.13	14.49	--	24.64	--	--	--	--	--	--	--	--	--	
8/1/2002	--	39.13	14.27	--	24.86	--	--	--	--	--	--	--	--	--		
1/16/2003	--	39.13	14.25	--	24.88	--	--	--	--	--	--	--	--	--		
7/7/2003	--	39.13	14.70	--	24.43	--	--	--	--	--	--	--	--	--		
02/05/2004	--	39.13	14.61	--	24.52	--	--	--	--	--	--	--	--	--		
07/01/2004	--	39.13	15.62	--	23.51	--	--	--	--	--	--	--	--	--		
03/16/2005	P		39.13	12.70	--	26.43	<50	<0.50	<0.50	<0.50	<0.50	<0.50	1.10	SEQM	7.3	
07/22/2005	--		39.13	13.44	--	25.69	--	--	--	--	--	--	--	--	--	
AW-4	4/5/1991	--	39.08	25.12	--	13.96	110,000	40,000	13,000	2,000	5,500	--	--	SUP	--	
	4/1/1992	--	39.08	--	--	--	210,000	55,000	23,000	2,900	7,000	--	--	APP	--	e
	4/1/1992	--	39.08	23.56	--	15.52	230,000	57,000	31,000	2,900	7,600	--	--	APP	--	
	7/6/1992	--	39.08	25.87	--	13.21	38,000	16,000	5,400	2,000	6,100	--	--	ANA	--	
	10/7/1992	--	39.08	27.53	--	11.55	120,000	41,000	26,000	4,700	13,000	--	--	ANA	--	
	1/14/1993	--	39.08	24.12	--	14.96	62,000	18,000	14,000	2,700	7,700	1,400	--	PACE	--	c, m
	4/22/1993	--	39.08	21.47	--	17.61	18,000	1,100	2,100	320	3,500	--	--	PACE	--	m
7/15/1993	--	39.08	23.30	--	15.78	21,000	820	2,300	590	3,800	1,978	--	PACE	--	c, m	

Table 1

Groundwater Elevation and Analytical Data

Former BP Station #11133
2220 98th Ave., Oakland, CA

Well No.	Date	P/ NP	TOC (ft MSL)	DTW (ft bgs)	Product Thickness (feet)	GWE (ft MSL)	GRO/ TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	DO (mg/L)	Lab	pH	Comments
AW-4	10/21/1993	--	39.08	25.08	--	14.00	11,000	570	83	630	2,300	4,600	--	PACE	--	c, m
	1/27/1994	--	39.08	24.61	--	14.47	12,000	420	460	600	2,200	6,400	--	PACE	--	c, m
	4/21/1994	--	39.08	--	--	--	14,000	71	160	29	1,200	13,000	--	PACE	--	c, e
	4/21/1994	--	39.08	22.96	--	16.12	12,000	110	250	150	1,900	16,010	1.5	PACE	--	c, m
	9/9/1994	--	39.08	23.85	--	15.23	9,700	75	64	280	2,000	--	2.1	PACE	--	m
	12/21/1994	--	39.08	--	--	--	--	--	--	--	--	--	--	--	--	f
	1/30/1995	--	39.08	--	--	--	--	--	--	--	--	--	--	--	--	f
	4/10/1995	--	39.08	18.07	--	21.01	3,700	69	8.7	44	130	--	8.5	ATI	--	
	6/29/1995	--	39.08	19.25	--	19.83	8,000	62	190	190	1,100	--	7.5	ATI	--	
	9/18/1995	--	39.08	20.73	--	18.35	--	--	--	--	--	--	--	--	--	
	9/19/1995	--	39.08	--	--	--	12,000	660	1,600	200	1,900	7,100	8.3	ATI	--	
	12/7/1995	--	39.08	22.49	--	16.59	41,000	8,400	7,200	710	6,300	5,200	3.6	ATI	--	
	3/28/1996	--	39.08	16.49	--	22.59	--	--	--	--	--	--	--	--	--	f
	6/20/1996	--	39.08	16.00	--	23.08	<50	<0.5	<1	<1	<1	12	--	SPL	--	
	10/11/1996	--	39.08	19.52	--	19.56	36,000	12,000	5,500	<25	3,800	880/1000	6.2	SPL	--	g
	1/2/1997	--	39.08	--	--	--	<50	61	3.8	3.5	8.1	110	--	SPL	--	e
	1/2/1997	--	39.08	15.80	--	23.28	<50	<0.5	<1.0	<1.0	<1.0	22	6.4	SPL	--	
	4/14/1997	--	39.08	17.01	--	22.07	--	--	--	--	--	--	--	--	--	
	4/15/1997	--	39.08	--	--	--	<50	<0.5	<1.0	<1.0	<1.0	<10	5.4	SPL	--	
	7/2/1997	--	39.08	19.68	--	19.40	<50	21	<1.0	<1.0	<1.0	41	4.1	SPL	--	
	9/30/1997	--	39.08	22.71	--	16.37	--	--	--	--	--	--	--	--	--	f
	1/21/1998	--	39.08	15.89	--	23.19	13,000	2,900	<10	230	314	3,100	3.9	SPL	--	
	4/9/1998	--	39.08	13.50	--	25.58	--	--	--	--	--	--	--	--	--	
	4/10/1998	--	39.08	--	--	--	890	<0.5	<1	<1	<1	730	4.9	SPL	--	
	6/19/1998	--	39.08	14.75	--	24.33	60	<0.5	<1.0	<1.0	<1.0	34	4.3	SPL	--	
	11/30/1998	--	39.08	19.25	--	19.83	--	--	--	--	--	--	--	--	--	
	1/21/1999	--	39.08	18.94	--	20.14	3,700	830	93	200	360	30	--	--	--	
	4/30/1999	--	39.08	19.10	--	19.98	--	--	--	--	--	--	--	--	--	
	7/9/1999	--	39.08	18.93	--	20.15	76,000	12,000	6,600	2,000	8,700	320	--	SPL	--	
	11/3/1999	--	39.08	20.65	--	18.43	--	--	--	--	--	--	--	--	--	
	1/12/2000	--	39.08	21.21	--	17.87	67,000	12,000	3,500	2,900	15,000	280	--	PACE	--	
	4/13/2000	--	39.08	21.33	--	17.75	--	--	--	--	--	--	--	--	--	
	5/24/2000	--	39.08	19.84	--	19.24	--	--	--	--	--	--	--	--	--	
	6/1/2000	--	39.08	19.04	--	20.04	--	--	--	--	--	--	--	--	--	
	6/8/2000	--	39.08	18.32	--	20.76	--	--	--	--	--	--	--	--	--	

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Groundwater Elevation and Analytical Data

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2220 98th Ave., Oakland, CA

Well No.	Date	P/ NP	TOC (ft MSL)	DTW (ft bgs)	Product Thickness (feet)	GWE (ft MSL)	GRO/TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	DO (mg/L)	Lab	pH	Comments	
AW-4	6/15/2000	--	39.08	16.70	--	22.38	--	--	--	--	--	--	--	---	--		
	7/26/2000	--	39.08	21.50	--	17.58	910	<0.5	<0.5	<0.5	<0.5	3,500	--	PACE	--		
	10/24/2000	--	39.08	22.00	--	17.08	--	--	--	--	--	--	--	---	--		
	1/19/2001	--	39.08	18.97	--	20.11	6,600	2,460	24	497	534	267	--	PACE	--		
	7/24/2001	--	39.08	18.55	--	20.53	5,100	1,080	143	409	827	115	--	PACE	--		
	1/18/2002	--	39.08	17.22	--	21.86	3,900	442	241	157	681	85.3	--	PACE	--		
	8/1/2002	--	39.08	--	--	--	--	--	--	--	--	--	--	---	--	f	
	1/16/2003	--	39.08	16.85	--	22.23	2,900	260	160	120	590	<120	--	SEQ	--	p	
	7/7/2003	--	39.08	17.94	--	21.14	600	90	7.9	18	36	56	--	SEQ	--	q	
	02/05/2004	--	39.08	16.94	--	22.14	420	40	3.1	15	27	40	--	SEQM	6.8		
	07/01/2004	P	39.08	18.24	--	20.84	6,000	970	200	310	1,500	64	--	SEQM	6.7		
	03/16/2005	P	39.08	16.16	--	22.92	3,600	71	31	200	870	23	0.60	SEQM	6.5		
	07/22/2005	P	39.08	15.89	--	23.19	4,800	750	48	300	840	59	--	SEQM	6.7		
	AW-5	4/5/1991	--	38.51	25.48	--	13.03	420	31	7.5	20	68	--	--	SUP	--	
		4/1/1992	--	38.51	23.95	--	14.56	--	--	--	--	--	--	--	---	--	
4/2/1992		--	38.51	--	--	--	4,000	270	63	190	290	--	--	APP	--		
7/6/1992		--	38.51	26.48	--	12.03	1,400	160	<2.5	250	58	--	--	ANA	--		
10/7/1992		--	38.51	28.18	--	10.33	360	12	0.6	8.7	5	--	--	ANA	--		
1/14/1993		--	38.51	24.15	--	14.36	1,700	270	7.5	130	62	--	--	PACE	--	m	
4/22/1993		--	38.51	--	--	--	3,500	780	29	240	210	--	--	PACE	--	m, e	
4/22/1993		--	38.51	22.43	--	16.08	2,700	780	30	220	180	--	--	PACE	--	m	
7/15/1993		--	38.51	--	--	--	1,300	68	8.3	64	99	<50	--	PACE	--	m, e	
7/15/1993		--	38.51	24.31	--	14.20	1,300	69	16	67	120	<50	--	PACE	--	m	
10/21/1993		--	38.51	26.05	--	12.46	510	9.6	1.5	17	45	75	--	PACE	--	c, m	
1/27/1994		--	38.51	26.42	--	12.09	420	3.3	<0.5	1	0.9	48.9	--	PACE	--	m	
4/21/1994		--	38.51	24.36	--	14.15	1,000	110	25	56	27	75	1.3	PACE	--	c, m	
9/9/1994		--	38.51	24.55	--	13.96	210	<0.5	<0.5	0.5	0.9	--	2.7	PACE	--	m	
12/21/1994		--	38.51	--	--	--	340	<0.5	15	3.3	1.4	104	--	PACE	--	m, e	
12/21/1994		--	38.51	22.30	--	16.21	410	<0.5	20	4.3	1.4	114	1.1	PACE	--	m	
1/30/1995		--	38.51	18.88	--	19.63	210	0.6	11	8.8	2	--	1.5	ATI	--		
4/10/1995		--	38.51	18.44	--	20.07	500	1.4	0.59	6.5	4.3	--	8.3	ATI	--		
6/29/1995		--	38.51	19.92	--	18.59	490	1.2	0.58	7.3	2.2	--	6.9	ATI	--	d	
9/18/1995	--	38.51	22.15	--	16.36	--	--	--	--	--	--	--	---	--			
9/19/1995	--	38.51	--	--	--	260	0.62	<0.50	3.1	1.1	110	8.2	ATI	--			
12/7/1995	--	38.51	23.75	--	14.76	60	<0.50	<0.50	<0.50	<1.0	210	4.3	ATI	--			

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2220 98th Ave., Oakland, CA

Well No.	Date	P/ NP	TOC (ft MSL)	DTW (ft bgs)	Product Thickness (feet)	GWE (ft MSL)	GRO/ TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	DO (mg/L)	Lab	pH	Comments
AW-5	3/28/1996	--	38.51	17.76	--	20.75	<50	<0.5	<1	<1	<1	63	3.0	SPL	--	
	6/20/1996	--	38.51	18.46	--	20.05	<50	<0.5	<1	<1	<1	<10	3.6	SPL	--	
	10/11/1996	--	38.51	21.84	--	16.67	<50	<0.5	<1.0	<1.0	<1.0	<10	4.5	SPL	--	
	1/2/1997	--	38.51	18.01	--	20.50	<50	<0.5	<1.0	<1.0	<1.0	<10	4.6	SPL	--	
	4/14/1997	--	38.51	19.35	--	19.16	<50	<0.5	<1.0	<1.0	<1.0	<10	5.1	SPL	--	
	7/2/1997	--	38.51	20.29	--	18.22	<50	<0.5	<1.0	<1.0	<1.0	<10	4.0	SPL	--	
	9/30/1997	--	38.51	23.15	--	15.36	<250	<2.5	<5.0	<5.0	<5.0	1,300	6.3	SPL	--	
	1/21/1998	--	38.51	17.33	--	21.18	6,100	<0.5	2.1	<1.0	<1.0	3,700	4.5	SPL	--	
	4/9/1998	--	38.51	15.25	--	23.26	--	--	--	--	--	--	--	--	--	
	4/10/1998	--	38.51	--	--	--	3,500	<0.5	<1.0	<1.0	<1.0	3,000	5.4	SPL	--	
	6/19/1998	--	38.51	17.39	--	21.12	3,300	<0.5	<1.0	<1.0	<1.0	2,500	5.2	SPL	--	
	11/30/1998	--	38.51	--	--	--	--	--	--	--	--	--	--	--	--	f
	1/21/1999	--	38.51	21.22	--	17.29	2,800	<1.0	<1.0	<1.0	<1.0	1,800	--	SPL	--	
	4/30/1999	--	38.51	21.50	--	17.01	--	--	--	--	--	--	--	--	--	
	7/9/1999	--	38.51	20.15	--	18.36	4,000	<1.0	<1.0	<1.0	<1.0	3400/3500	--	SPL	--	g
	11/3/1999	--	38.51	22.04	--	16.47	--	--	--	--	--	--	--	--	--	
	1/12/2000	--	38.51	22.59	--	15.92	1,000	7.3	30	6.7	40	4,600	--	PACE	--	j (TPH-g/GRO)
	4/13/2000	--	38.51	23.11	--	15.40	--	--	--	--	--	--	--	--	--	
	7/26/2000	--	38.51	22.72	--	15.79	1,800	94	35	5.9	27	16,000	--	PACE	--	
	10/24/2000	--	38.51	20.15	--	18.36	--	--	--	--	--	--	--	--	--	
	1/19/2001	--	38.51	19.79	--	18.72	2,600	<0.5	<0.5	<0.5	<0.5	4,580	--	PACE	--	
	7/24/2001	--	38.51	20.17	--	18.34	5,400	18.4	17.2	<12.5	40.8	5,170	--	PACE	--	
	1/18/2002	--	38.51	17.34	--	21.17	3,800	343	0.738	<0.5	<1.0	3,750	--	PACE	--	
	8/1/2002	--	38.51	19.49	--	19.02	5,300	<12.5	<12.5	<12.5	<25	3,470	--	PACE	--	
	1/16/2003	--	38.51	17.30	--	21.21	1,400	140	<10	<10	<10	1,600	--	SEQ	--	p
	7/7/2003	--	38.51	18.43	--	20.08	1,400	<10	<10	<10	<10	980	--	SEQ	--	q
	02/05/2004	--	38.51	17.24	--	21.27	1,800	<10	<10	<10	<10	810	--	SEQM	6.7	
	07/01/2004	P	38.51	19.43	--	19.08	1,100	<5.0	<5.0	<5.0	<5.0	550	--	SEQM	6.6	
	03/16/2005	P	38.51	15.30	--	23.21	<5,000	<50	<50	<50	130	890	2.10	SEQM	6.7	
	07/22/2005	P	38.51	17.22	--	21.29	<500	5.2	<5.0	<5.0	6.9	390	--	SEQM	6.6	
AW-6	4/5/1991	--	37.08	22.48	--	14.60	1,100	80	19	1.4	230	--	--	SUP	--	
	4/1/1992	--	37.08	22.50	--	14.58	--	--	--	--	--	--	--	--	--	
	4/2/1992	--	37.08	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--	APP	--	
	7/6/1992	--	37.08	22.74	--	14.34	<50	<0.5	<0.5	<0.5	<0.5	--	--	ANA	--	
	10/7/1992	--	37.08	24.64	--	12.44	<50	<0.5	<0.5	<0.5	<0.5	--	--	ANA	--	

Table 1

Groundwater Elevation and Analytical Data

Former BP Station #11133
2220 98th Ave., Oakland, CA

Well No.	Date	P/ NP	TOC (ft MSL)	DTW (ft bgs)	Product Thickness (feet)	GWE (ft MSL)	GRO/ TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	DO (mg/L)	Lab	pH	Comments
AW-6	1/14/1993	--	37.08	22.36	--	14.72	<50	<0.5	<0.5	<0.5	<0.5	--	--	PACE	--	m
	4/22/1993	--	37.08	22.82	--	14.26	<50	<0.5	<0.5	<0.5	<0.5	--	--	PACE	--	m
	7/15/1993	--	37.08	20.49	--	16.59	<50	<0.5	<0.5	<0.5	0.8	<5.0	--	PACE	--	m
	10/21/1993	--	37.08	22.84	--	14.24	<50	0.5	0.6	<0.5	0.7	<5.0	--	PACE	--	m
	1/27/1994	--	37.08	22.33	--	14.75	<50	<0.5	0.9	3.1	12	<5.0	--	PACE	--	m
	4/21/1994	--	37.08	20.66	--	16.42	<50	<0.5	<0.5	<0.5	<0.5	<5.0	1.7	PACE	--	m
	9/9/1994	--	37.08	21.57	--	15.51	<50	0.9	<0.5	<0.5	0.5	--	2.9	PACE	--	m
	12/21/1994	--	37.08	19.40	--	17.68	<50	1.8	0.8	0.8	3.2	5.19	1.1	PACE	--	m
	1/30/1995	--	37.08	--	--	--	<50	<0.50	<0.50	<0.50	<1.0	--	--	ATI	--	e
	1/30/1995	--	37.08	16.74	--	20.34	<50	<0.50	<0.50	<0.50	<1.0	--	2.2	ATI	--	
	4/10/1995	--	37.08	16.01	--	21.07	<50	<0.50	<0.50	<0.50	<1.0	--	8.6	ATI	--	
	6/29/1995	--	37.08	17.54	--	19.54	<50	<0.50	<0.50	<0.50	<1.0	--	6.3	ATI	--	
	9/18/1995	--	37.08	19.65	--	17.43	--	--	--	--	--	--	--	--	--	
	9/19/1995	--	37.08	--	--	--	<50	<0.50	<0.50	<0.50	<1.0	25	8.3	ATI	--	
	12/7/1995	--	37.08	20.35	--	16.73	<50	<0.50	<0.50	<0.50	<1.0	16	4.7	ATI	--	
	3/28/1996	--	37.08	14.99	--	22.09	<50	<0.5	<1	<1	<1	<10	4.0	SPL	--	
	6/20/1996	--	37.08	15.59	--	21.49	<50	<0.5	<1	<1	<1	<10	4.6	SPL	--	
	10/11/1996	--	37.08	19.09	--	17.99	<50	<0.5	<1.0	<1.0	<1.0	<10	5.3	SPL	--	
	1/2/1997	--	37.08	15.11	--	21.97	<50	<0.5	<1.0	<1.0	<1.0	<10	5.5	SPL	--	
	4/14/1997	--	37.08	16.25	--	20.83	<50	<0.5	<1.0	<1.0	<1.0	<10	3.9	SPL	--	
	7/2/1997	--	37.08	17.99	--	19.09	<50	<0.5	<1.0	<1.0	<1.0	<10	5.2	SPL	--	
	9/30/1997	--	37.08	20.50	--	16.58	<50	<0.5	<1.0	<1.0	<1.0	<10	6.0	SPL	--	
	1/21/1998	--	37.08	15.72	--	21.36	160	<0.5	<1.0	<1.0	<1.0	110	5.0	SPL	--	
	4/9/1998	--	37.08	13.31	--	23.77	--	--	--	--	--	--	--	--	--	
	4/10/1998	--	37.08	--	--	--	370	<0.5	<1.0	<1.0	<1.0	300	4.3	SPL	--	
	6/19/1998	--	37.08	15.18	--	21.90	830	2	<1.0	<1.0	<1.0	690	4.0	SPL	--	
	11/30/1998	--	37.08	--	--	--	--	--	--	--	--	--	--	--	--	f
	1/21/1999	--	37.08	15.78	--	21.30	2,300	<1.0	<1.0	<1.0	<1.0	1,900	--	SPL	--	
	4/30/1999	--	37.08	16.01	--	21.07	--	--	--	--	--	--	--	--	--	
	7/9/1999	--	37.08	17.63	--	19.45	--	--	--	--	--	--	--	--	--	
	11/3/1999	--	37.08	18.42	--	18.66	--	--	--	--	--	--	--	--	--	
	1/12/2000	--	37.08	19.92	--	17.16	<50	<0.5	<0.5	<0.5	<0.5	2,700	--	PACE	--	
	4/13/2000	--	37.08	19.87	--	17.21	--	--	--	--	--	--	--	--	--	
	7/26/2000	--	37.08	19.99	--	17.09	--	--	--	--	--	--	--	--	--	
	10/24/2000	--	37.08	18.12	--	18.96	--	--	--	--	--	--	--	--	--	

Table 1

Groundwater Elevation and Analytical Data

Former BP Station #11133
2220 98th Ave., Oakland, CA

Well No.	Date	P/ NP	TOC (ft MSL)	DTW (ft bgs)	Product Thickness (feet)	GWE (ft MSL)	GRO/TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	DO (mg/L)	Lab	pH	Comments
AW-6	1/19/2001	--	37.08	17.04	--	20.04	2,700	<0.5	<0.5	<0.5	<0.5	4,850	--	PACE	--	
	7/24/2001	--	37.08	17.83	--	19.25	--	--	--	--	--	--	--	---	--	
	1/18/2002	--	37.08	15.54	--	21.54	5,500	614	<0.5	<0.5	<1.0	5,390	--	PACE	--	
	8/1/2002	--	37.08	16.98	--	20.10	--	--	--	--	--	--	--	---	--	
	1/16/2003	--	37.08	15.05	--	22.03	2,900	<20	<20	<20	63	2,500	--	SEQ	--	p
	7/7/2003	--	37.08	16.58	--	20.50	--	--	--	--	--	--	--	---	--	
	02/05/2004	--	37.08	15.84	--	21.24	7,000	<50	<50	<50	<50	5,400	--	SEQM	6.7	
	07/01/2004	P	37.08	17.91	--	19.17	9,600	<50	<50	<50	<50	4,600	--	SEQM	6.5	
	03/16/2005	P	37.08	16.04	--	21.04	6,700	<25	<25	<25	<25	4,400	3.0	SEQM	6.8	
	07/22/2005	P	37.08	14.20	--	22.88	<5,000	<50	<50	<50	<50	5,500	--	SEQM	6.7	
AW-7	4/5/1991	--	37.60	23.38	--	14.22	<50	0.4	0.7	<0.3	<0.3	--	--	SUP	--	
	4/1/1992	--	37.60	21.92	--	15.68	--	--	--	--	--	--	--	---	--	
	4/2/1992	--	37.60	--	--	--	<50	<0.5	3.2	1	5.4	--	--	APP	--	
	7/6/1992	--	37.60	24.50	--	13.10	<50	<0.5	<0.5	<0.5	<0.5	--	--	ANA	--	
	10/7/1992	--	37.60	26.18	--	11.42	<50	<0.5	<0.5	<0.5	<0.5	--	--	ANA	--	
	1/14/1993	--	37.60	22.03	--	15.57	<50	<0.5	<0.5	<0.5	<0.5	--	--	PACE	--	m
	4/22/1993	--	37.60	21.18	--	16.42	<50	<0.5	<0.5	<0.5	<0.5	--	--	PACE	--	m
	7/15/1993	--	37.60	22.09	--	15.51	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	PACE	--	m
	10/21/1993	--	37.60	24.05	--	13.55	51	5	4.2	3.5	8.2	<5.0	--	PACE	--	m
	1/27/1994	--	37.60	23.40	--	14.20	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	PACE	--	m
	4/21/1994	--	37.60	22.24	--	15.36	<50	<0.5	<0.5	<0.5	<0.5	<5.0	2.5	PACE	--	m
	9/9/1994	--	37.60	22.94	--	14.66	<50	<0.5	<0.5	<0.5	0.5	--	4.3	PACE	--	m
	12/21/1994	--	37.60	20.86	--	16.74	<50	<0.5	<0.5	<0.5	<0.5	<5.0	2.2	PACE	--	m
	1/30/1995	--	37.60	17.51	--	20.09	<50	<0.50	<0.50	<0.50	<1.0	--	2.7	ATI	--	
	4/10/1995	--	37.60	16.69	--	20.91	<50	<0.50	<0.50	<0.50	<1.0	--	4.8	ATI	--	
	6/29/1995	--	37.60	18.33	--	19.27	<50	<0.50	<0.50	<0.50	<1.0	--	7.6	ATI	--	
	9/18/1995	--	37.60	20.68	--	16.92	--	--	--	--	--	--	--	---	--	
	9/19/1995	--	37.60	--	--	--	<50	<0.50	<0.50	<0.50	<1.0	<5.0	5.1	ATI	--	
	12/7/1995	--	37.60	22.15	--	15.45	<50	<0.50	<0.50	<0.50	<1.0	<5.0	5.2	ATI	--	
	3/28/1996	--	37.60	16.38	--	21.22	<50	<0.5	<1	<1	<1	<10	3.9	SPL	--	
6/20/1996	--	37.60	17.02	--	20.58	<50	<0.5	<1	<1	<1	<10	5.0	SPL	--		
10/11/1996	--	37.60	20.47	--	17.13	<50	<0.5	<1.0	<1.0	<1.0	<10	6.3	SPL	--		
1/2/1997	--	37.60	16.70	--	20.90	<50	<0.5	<1.0	<1.0	<1.0	<10	6.2	SPL	--		
4/14/1997	--	37.60	17.96	--	19.64	<50	<0.5	<1.0	<1.0	<1.0	<10	5.0	SPL	--		
7/2/1997	--	37.60	19.11	--	18.49	<50	<0.5	<1.0	<1.0	<1.0	<10	5.4	SPL	--		

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2220 98th Ave., Oakland, CA

Well No.	Date	P/ NP	TOC (ft MSL)	DTW (ft bgs)	Product Thickness (feet)	GWE (ft MSL)	GRO/ TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	DO (mg/L)	Lab	pH	Comments
AW-7	9/30/1997	--	37.60	22.97	--	14.63	<250	<2.5	<5.0	<5.0	<5.0	1,100	6.5	SPL	--	
	1/21/1998	--	37.60	16.50	--	21.10	<50	<0.5	<1.0	<1.0	<1.0	<10	4.9	SPL	--	
	4/9/1998	--	37.60	13.56	--	24.04	<50	<0.5	<1.0	<1.0	<1.0	<10	4.9	SPL	--	
	6/19/1998	--	37.60	15.41	--	22.19	<50	<0.5	<1.0	<1.0	<1.0	<10	4.4	SPL	--	
	11/30/1998	--	37.60	18.90	--	18.70	--	--	--	--	--	--	--	--	--	
	1/21/1999	--	37.60	18.39	--	19.21	--	--	--	--	--	--	--	--	--	
	4/30/1999	--	37.60	18.54	--	19.06	--	--	--	--	--	--	--	--	--	
	7/9/1999	--	37.60	17.98	--	19.62	--	--	--	--	--	--	--	--	--	
	11/3/1999	--	37.60	20.22	--	17.38	--	--	--	--	--	--	--	--	--	
	1/12/2000	--	37.60	19.46	--	18.14	--	--	--	--	--	--	--	--	--	
	4/13/2000	--	37.60	19.59	--	18.01	--	--	--	--	--	--	--	--	--	
	7/26/2000	--	37.60	19.69	--	17.91	--	--	--	--	--	--	--	--	--	
	10/24/2000	--	37.60	18.78	--	18.82	--	--	--	--	--	--	--	--	--	
	1/19/2001	--	37.60	--	--	--	--	--	--	--	--	--	--	--	--	f
	7/25/2001	--	37.60	--	--	--	--	--	--	--	--	--	--	--	--	f
	1/18/2002	--	37.60	--	--	--	--	--	--	--	--	--	--	--	--	o
	8/1/2002	--	37.60	--	--	--	--	--	--	--	--	--	--	--	--	o
	1/16/2003	--	37.60	--	--	--	--	--	--	--	--	--	--	--	--	o
	7/7/2003	--	37.60	--	--	--	--	--	--	--	--	--	--	--	--	o
	02/05/2004	--	37.60	--	--	--	--	--	--	--	--	--	--	--	--	o
	07/01/2004	--	37.60	--	--	--	--	--	--	--	--	--	--	--	--	o
	03/16/2005	--	37.60	--	--	--	--	--	--	--	--	--	--	--	--	o
	07/22/2005	--	37.60	--	--	--	--	--	--	--	--	--	--	--	--	o
AW-8	4/5/1991	--	40.86	26.68	--	14.18	80	1.9	2.2	0.5	1.3	--	--	SUP	--	
	4/1/1992	--	40.86	25.11	--	15.75	73	<0.5	0.7	<0.5	0.6	--	--	APP	--	
	7/6/1992	--	40.86	26.43	--	14.43	<50	<0.5	<0.5	<0.5	<0.5	--	--	ANA	--	
	10/7/1992	--	40.86	28.59	--	12.27	<50	<0.5	<0.5	<0.5	<0.5	--	--	ANA	--	
	1/14/1993	--	40.86	25.55	--	15.31	<50	<0.5	<0.5	<0.5	<0.5	--	--	PACE	--	m
	4/22/1993	--	40.86	22.29	--	18.57	<50	<0.5	<0.5	<0.5	<0.5	--	--	PACE	--	m
	7/15/1993	--	40.86	23.42	--	17.44	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	PACE	--	m
	10/21/1993	--	40.86	25.15	--	15.71	<50	1.9	1.8	1.3	3.3	<5.0	--	PACE	--	m
	1/27/1994	--	40.86	25.42	--	15.44	<50	<0.5	0.5	0.6	8.5	<5.0	--	PACE	--	m
	4/21/1994	--	40.86	24.14	--	16.72	<50	<0.5	<0.5	<0.5	<0.5	<5.0	1.5	PACE	--	m
	9/9/1994	--	40.86	24.55	--	16.31	<50	<0.5	<0.5	<0.5	<0.5	--	2.4	PACE	--	m
	12/21/1994	--	40.86	22.72	--	18.14	<50	<0.5	<0.5	<0.5	<0.5	<5.0	1.1	PACE	--	m

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Groundwater Elevation and Analytical Data

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Well No.	Date	P/ NP	TOC (ft MSL)	DTW (ft bgs)	Product Thickness (feet)	GWE (ft MSL)	GRO/ TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	DO (mg/L)	Lab	pH	Comments
AW-8	1/30/1995	--	40.86	19.75	--	21.11	<50	<0.50	1	<0.50	1	--	0.8	ATI	--	
	4/10/1995	--	40.86	17.78	--	23.08	<50	<0.50	<0.50	<0.50	<1.0	--	8.3	ATI	--	
	6/29/1995	--	40.86	18.18	--	22.68	<50	<0.50	<0.50	<0.50	<1.0	--	8.3	ATI	--	
	9/18/1995	--	40.86	20.20	--	20.66	--	--	--	--	--	--	--	--	--	
	9/19/1995	--	40.86	--	--	--	<50	<0.50	<0.50	<0.50	<1.0	<5.0	7.7	ATI	--	
	12/7/1995	--	40.86	21.54	--	19.32	<50	<0.50	<0.50	<0.50	<1.0	<5.0	4.4	ATI	--	
	3/28/1996	--	40.86	15.77	--	25.09	<50	<0.5	<1	<1	<1	<10	3.8	SPL	--	
	6/20/1996	--	40.86	16.41	--	24.45	<50	<0.5	<1	<1	<1	<10	3.6	SPL	--	
	10/11/1996	--	40.86	19.90	--	20.96	<50	<0.5	<1.0	<1.0	<1.0	<10	6.4	SPL	--	
	1/2/1997	--	40.86	15.89	--	24.97	<50	<0.5	<1.0	<1.0	<1.0	<10	5.9	SPL	--	
	4/14/1997	--	40.86	17.07	--	23.79	<50	<0.5	<1.0	<1.0	<1.0	<10	4.6	SPL	--	
	7/2/1997	--	40.86	18.67	--	22.19	<50	<0.5	<1.0	<1.0	<1.0	<10	5.6	SPL	--	
	9/30/1997	--	40.86	22.52	--	18.34	<50	<5	<10	<10	<10	820	6.7	SPL	--	
	1/21/1998	--	40.86	16.01	--	24.85	<50	<0.5	<1.0	<1.0	<1.0	<10	5.2	SPL	--	
	4/9/1998	--	40.86	11.18	--	29.68	<50	<0.5	<1.0	<1.0	<1.0	<10	4.4	SPL	--	
	6/19/1998	--	40.86	13.01	--	27.85	<50	<0.5	<1.0	<1.0	<1.0	<10	4.1	SPL	--	
	11/30/1998	--	40.86	17.46	--	23.40	--	--	--	--	--	--	--	--	--	
	1/21/1999	--	40.86	17.47	--	23.39	--	--	--	--	--	--	--	--	--	
	4/30/1999	--	40.86	17.60	--	23.26	--	--	--	--	--	--	--	--	--	
	7/9/1999	--	40.86	16.50	--	24.36	--	--	--	--	--	--	--	--	--	
	11/3/1999	--	40.86	19.29	--	21.57	--	--	--	--	--	--	--	--	--	
	1/12/2000	--	40.86	21.49	--	19.37	--	--	--	--	--	--	--	--	--	
	4/13/2000	--	40.86	21.60	--	19.26	--	--	--	--	--	--	--	--	--	
	7/26/2000	--	40.86	21.53	--	19.33	--	--	--	--	--	--	--	--	--	
	10/24/2000	--	40.86	19.37	--	21.49	--	--	--	--	--	--	--	--	--	
	1/19/2001	--	40.86	18.60	--	22.26	--	--	--	--	--	--	--	--	--	
	7/24/2001	--	40.86	18.22	--	22.64	--	--	--	--	--	--	--	--	--	
	1/18/2002	--	40.86	16.29	--	24.57	--	--	--	--	--	--	--	--	--	
	8/1/2002	--	40.86	17.25	--	23.61	--	--	--	--	--	--	--	--	--	
	1/16/2003	--	40.86	15.82	--	25.04	--	--	--	--	--	--	--	--	--	
	7/7/2003	--	40.86	18.55	--	22.31	--	--	--	--	--	--	--	--	--	
	02/05/2004	--	40.86	--	--	--	--	--	--	--	--	--	--	--	--	t
	07/01/2004	--	40.86	18.25	--	22.61	--	--	--	--	--	--	--	--	--	t
	03/16/2005	P	40.86	15.20	--	25.66	<50	<0.50	<0.50	<0.50	<0.50	<0.50	1.50	SEQM	7.3	
	07/22/2005	--	40.86	--	--	--	--	--	--	--	--	--	--	--	--	f

Table 1

Groundwater Elevation and Analytical Data

Former BP Station #11133
2220 98th Ave., Oakland, CA

Well No.	Date	P/ NP	TOC (ft MSL)	DTW (ft bgs)	Product Thickness (feet)	GWE (ft MSL)	GRO/TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	DO (mg/L)	Lab	pH	Comments
AW-9	1/2/1997	--	37.78	10.00	--	27.78	<50	<0.5	<1.0	<1.0	<1.0	<10	6.7	SPL	--	
	4/14/1997	--	37.78	--	--	--	--	--	--	--	--	--	--	--	--	f
	7/2/1997	--	37.78	12.71	--	25.07	<50	<0.5	<1.0	<1.0	<1.0	<10	6.0	SPL	--	
	9/30/1997	--	37.78	21.22	--	16.56	<50	<0.5	<1.0	<1.0	<1.0	<10	6.8	SPL	--	
	1/21/1998	--	37.78	10.26	--	27.52	<50	<0.5	<1.0	<1.0	<1.0	<10	5.3	SPL	--	
	4/9/1998	--	37.78	6.77	--	31.01	<50	<0.5	<1.0	<1.0	<1.0	<10	5.6	SPL	--	
	6/19/1998	--	37.78	8.96	--	28.82	<50	<0.5	<1.0	<1.0	<1.0	<10	4.8	SPL	--	
MW-1	4/5/1991	--	34.46	--	--	--	--	--	--	--	--	--	--	--	--	
	4/1/1992	--	34.46	11.25	0.01	23.20	--	--	--	--	--	--	--	--	--	
	7/6/1992	--	34.46	13.61	0.02	20.83	--	--	--	--	--	--	--	--	--	
	10/7/1992	--	34.46	15.15	0.09	19.22	--	--	--	--	--	--	--	--	--	
	1/14/1993	--	34.46	10.73	0.01	23.72	--	--	--	--	--	--	--	--	--	
	4/22/1993	--	34.46	11.64	0.16	22.66	--	--	--	--	--	--	--	--	--	
	7/15/1993	--	34.46	13.50	1.11	19.85	--	--	--	--	--	--	--	--	--	
	10/21/1993	--	34.46	15.21	1.00	18.25	--	--	--	--	--	--	--	--	--	
	1/27/1994	--	34.46	17.48	0.81	16.17	--	--	--	--	--	--	--	--	--	
	4/21/1994	--	34.46	10.94	--	23.52	110,000	1,400	9,100	3,400	30,000	11,000	1.6	PACE	--	c
	9/9/1994	--	34.46	13.80	--	20.66	--	--	--	--	--	--	--	--	--	
	12/21/1994	--	34.46	12.60	0.02	21.84	--	--	--	--	--	--	--	--	--	
	1/30/1995	--	34.46	--	--	--	--	--	--	--	--	--	--	--	--	
	4/10/1995	--	34.46	10.62	--	23.84	--	--	--	--	--	--	--	--	--	
	6/29/1995	--	34.46	18.72	--	15.74	--	--	--	--	--	--	--	--	--	
	9/18/1995	--	34.46	12.92	--	21.54	--	--	--	--	--	--	--	--	--	
	12/7/1995	--	34.46	13.82	--	20.64	--	--	--	--	--	--	--	--	--	
	3/28/1996	--	34.46	10.03	0.01	24.42	--	--	--	--	--	--	--	--	--	
	6/20/1996	--	34.46	11.29	0.02	23.15	--	--	--	--	--	--	--	--	--	
	10/11/1996	--	34.46	14.86	0.01	19.59	--	--	--	--	--	--	--	--	--	
	1/2/1997	--	34.46	11.03	0.01	23.42	--	--	--	--	--	--	--	--	--	
	4/14/1997	--	34.46	12.25	0.01	22.20	--	--	--	--	--	--	--	--	--	
	4/15/1997	--	34.46	--	--	--	35,000	130	650	1,700	8,200	4,800	--	SPL	--	
	7/2/1997	--	34.46	14.11	--	20.35	42,000	<250	<500	2,000	9,600	<5000	5.5	SPL	--	
	9/30/1997	--	34.46	14.40	--	20.06	61,000	130	1,100	2,700	14,600	2,000	6.7	SPL	--	
	1/21/1998	--	34.46	7.99	0.01	26.46	14,000	11	60	310	1,790	1,300	4.5	SPL	--	
	4/9/1998	--	34.46	7.89	--	26.57	--	--	--	--	--	--	--	--	--	
	4/10/1998	--	34.46	--	--	--	45,000	380	520	2,100	6,800	9,300	5.3	SPL	--	

Table 1

Groundwater Elevation and Analytical Data

Former BP Station #11133
2220 98th Ave., Oakland, CA

Well No.	Date	P/ NP	TOC (ft MSL)	DTW (ft bgs)	Product Thickness (feet)	GWE (ft MSL)	GRO/ TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	DO (mg/L)	Lab	pH	Comments
MW-1	6/19/1998	--	34.46	10.31	--	24.15	35,000	170	100	1,100	3,590	5,000	4.9	SPL	--	
	11/30/1998	--	34.46	11.16	--	23.30	10,000	100	24	350	1,040	1800/2800	--	SPL	--	g
	1/21/1999	--	34.46	10.76	--	23.70	18,000	120	37	590	1,800	2,700	--	SPL	--	
	4/30/1999	--	34.46	10.78	--	23.68	17,000	240	89	1,100	1,900	1,600	--	SPL	--	
	7/9/1999	--	34.46	12.62	--	21.84	58,000	140	100	1,800	6,900	1,200	--	SPL	--	
	11/3/1999	--	34.46	14.00	--	20.46	20,000	62	42	620	2,100	630	--	PACE	--	
	1/12/2000	--	34.46	15.25	--	19.21	72,000	110	120	2,400	8,200	630	--	PACE	--	
	4/13/2000	--	34.46	15.57	--	18.89	37,000	300	32	1,000	1,700	810	--	PACE	--	
	5/24/2000	--	34.46	11.75	--	22.71	--	--	--	--	--	--	--	--	--	
	6/1/2000	--	34.46	11.41	--	23.05	--	--	--	--	--	--	--	--	--	
	6/8/2000	--	34.46	11.68	--	22.78	--	--	--	--	--	--	--	--	--	
	6/15/2000	--	34.46	11.85	--	22.61	--	--	--	--	--	--	--	--	--	
	7/26/2000	--	34.46	16.19	--	18.27	10,000	480	210	470	710	1,100	--	PACE	--	
	10/24/2000	--	34.46	13.89	--	20.57	9,900	31	7.2	550	1,200	4,400	--	PACE	--	
	1/19/2001	--	34.46	12.90	--	21.56	57,000	199	7.66	1,170	3,260	514	--	PACE	--	
	7/24/2001	--	34.46	13.55	--	20.91	27,000	96.7	<5.0	548	1,460	285	--	PACE	--	
	1/18/2002	--	34.46	10.91	--	23.55	25,000	150	31.5	597	1,040	138	--	PACE	--	
	8/1/2002	--	34.46	12.97	--	21.49	25,000	80.2	17.7	714	1,280	489	--	PACE	--	
	1/16/2003	--	34.46	10.45	--	24.01	22,000	170	110	630	670	<500	--	SEQ	--	p
	7/7/2003	--	34.46	12.40	--	22.06	9,900	42	<5.0	160	150	24	--	SEQ	--	q, u
	02/05/2004	--	34.46	10.26	--	24.20	6,200	56	11	250	210	9.2	--	SEQM	6.9	
	07/01/2004	--	34.46	13.20	--	21.26	18,000	<50	<50	210	300	<50	--	SEQM	--	u
	03/16/2005	P	34.46	9.62	--	24.84	7,600	33	5.4	200	130	<5.0	0.90	SEQM	6.9	
	07/22/2005	P	34.46	11.23	--	23.23	15,000	<10	<10	110	130	<10	--	SEQM	6.8	u
MW-2	4/5/1991	--	35.50	16.62	--	18.88	<50	0.6	0.9	<0.3	<0.3	--	--	SUP	--	
	4/1/1992	--	35.50	11.25	--	24.25	--	--	--	--	--	--	--	--	--	
	4/2/1992	--	35.50	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--	APP	--	
	7/6/1992	--	35.50	12.72	--	22.78	<50	<0.5	<0.5	<0.5	<0.5	--	--	ANA	--	
	10/7/1992	--	35.50	15.08	--	20.42	<50	<0.5	1.8	<0.5	2.3	--	--	ANA	--	
	1/14/1993	--	35.50	9.69	--	25.81	<50	<0.5	<0.5	<0.5	<0.5	--	--	PACE	--	m
	4/22/1993	--	35.50	10.46	--	25.04	<50	<0.5	<0.5	<0.5	<0.5	30	--	PACE	--	c
	7/15/1993	--	35.50	12.02	--	23.48	<50	<0.5	<0.5	<0.5	<0.5	21.7	--	PACE	--	c, m
	10/21/1993	--	35.50	13.12	--	22.38	<50	0.7	0.9	<0.5	0.9	14.9	--	PACE	--	m
	1/27/1994	--	35.50	12.01	--	23.49	<50	0.6	<0.5	<0.5	<0.5	11.5	--	PACE	--	m
	4/21/1994	--	35.50	10.60	--	24.90	<50	<0.5	<0.5	<0.5	<0.5	11.4	1.1	PACE	--	m

Table 1

Groundwater Elevation and Analytical Data

Former BP Station #11133
2220 98th Ave., Oakland, CA

Well No.	Date	P/ NP	TOC (ft MSL)	DTW (ft bgs)	Product Thickness (feet)	GWE (ft MSL)	GRO/ TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	DO (mg/L)	Lab	pH	Comments
MW-2	9/9/1994	--	35.50	12.42	--	23.08	<50	<0.5	<0.5	<0.5	0.6	--	2.2	PACE	--	m
	12/21/1994	--	35.50	10.85	--	24.65	<50	<0.5	<0.5	<0.5	<0.5	<5.0	1.2	PACE	--	m
	1/30/1995	--	35.50	8.38	--	27.12	<50	<0.50	<0.50	<0.50	<1.0	--	1.7	ATI	--	
	4/10/1995	--	35.50	9.00	--	26.50	<50	<0.50	<0.50	<0.50	<1.0	--	7.8	ATI	--	
	6/29/1995	--	35.50	9.91	--	25.59	<50	<0.50	<0.50	<0.50	<1.0	--	9.1	ATI	--	
	9/18/1995	--	35.50	10.98	--	24.52	--	--	--	--	--	--	--	--	--	
	9/19/1995	--	35.50	--	--	--	<50	<0.50	<0.50	<0.50	<1.0	<5.0	7.2	ATI	--	
	12/7/1995	--	35.50	12.30	--	23.20	<50	<0.50	<0.50	<0.50	<1.0	<5.0	2.4	ATI	--	
	3/28/1996	--	35.50	8.57	--	26.93	<50	<0.5	<1	<1	<1	<10	3.2	SPL	--	
	6/20/1996	--	35.50	9.77	--	25.73	<50	<0.5	<1	<1	<1	<10	4.2	SPL	--	
	10/11/1996	--	35.50	13.32	--	22.18	<50	<0.5	<1.0	<1.0	<1.0	<10	6.3	SPL	--	
	1/2/1997	--	35.50	9.60	--	25.90	<50	<0.5	<1.0	<1.0	<1.0	<10	6.7	SPL	--	
	4/14/1997	--	35.50	10.93	--	24.57	<50	<0.5	<1.0	<1.0	<1.0	<10	5.7	SPL	--	
	7/2/1997	--	35.50	12.57	--	22.93	<50	<0.5	<1.0	<1.0	<1.0	<10	5.9	SPL	--	
	9/30/1997	--	35.50	12.91	--	22.59	<50	<0.5	<1.0	<1.0	<1.0	<10	6.3	SPL	--	
	1/21/1998	--	35.50	10.12	--	25.38	160	<0.5	<1.0	<1.0	<1.0	100	5.4	SPL	--	
	4/9/1998	--	35.50	6.82	--	28.68	--	--	--	--	--	--	--	--	--	
	4/10/1998	--	35.50	--	--	--	<50	1	<1.0	<1.0	<1.0	23	5.0	SPL	--	
	6/19/1998	--	35.50	9.00	--	26.50	<50	<0.5	<1.0	<1.0	<1.0	<10	4.9	SPL	--	
	11/30/1998	--	35.50	9.44	--	26.06	--	--	--	--	--	--	--	--	--	
	1/21/1999	--	35.50	8.96	--	26.54	<50	<1.0	<1.0	<1.0	<1.0	1.9	--	SPL	--	
	4/30/1999	--	35.50	9.15	--	26.35	--	--	--	--	--	--	--	--	--	
	7/9/1999	--	35.50	10.82	--	24.68	--	--	--	--	--	--	--	--	--	
	11/3/1999	--	35.50	11.86	--	23.64	--	--	--	--	--	--	--	--	--	
	1/12/2000	--	35.50	12.35	--	23.15	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--	PACE	--	
	4/13/2000	--	35.50	13.01	--	22.49	--	--	--	--	--	--	--	--	--	
	7/26/2000	--	35.50	13.01	--	22.49	--	--	--	--	--	--	--	--	--	
	10/24/2000	--	35.50	11.57	--	23.93	--	--	--	--	--	--	--	--	--	
	1/19/2001	--	35.50	10.52	--	24.98	--	--	--	--	--	--	--	--	--	
	7/24/2001	--	35.50	11.13	--	24.37	--	--	--	--	--	--	--	--	--	
	1/18/2002	--	35.50	8.85	--	26.65	--	--	--	--	--	--	--	--	--	
	8/1/2002	--	35.50	10.47	--	25.03	--	--	--	--	--	--	--	--	--	
	1/14/2003	--	35.50	8.49	--	27.01	--	--	--	--	--	--	--	--	--	
	7/7/2003	--	35.50	9.63	--	25.87	--	--	--	--	--	--	--	--	--	
	02/05/2004	--	35.50	8.40	--	27.10	--	--	--	--	--	--	--	--	--	

Table 1

Groundwater Elevation and Analytical Data

Former BP Station #11133
2220 98th Ave., Oakland, CA

Well No.	Date	P/ NP	TOC (ft MSL)	DTW (ft bgs)	Product Thickness (feet)	GWE (ft MSL)	GRO/ TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	DO (mg/L)	Lab	pH	Comments	
MW-2	07/01/2004	NP	35.50	9.94	--	25.56	--	--	--	--	--	--	--	--	--		
	03/16/2005	P	35.50	8.39	--	27.11	<50	<0.50	<0.50	<0.50	<0.50	<0.50	1.30	SEQM	7.1		
	07/22/2005	--	35.50	8.80	--	26.70	--	--	--	--	--	--	--	--	--		
MW-3	4/5/1991	--	36.53	17.84	--	18.69	<50	<0.3	<0.3	<0.3	<0.3	--	--	SUP	--		
	4/1/1992	--	36.53	15.64	--	20.89	--	--	--	--	--	--	--	--	--		
	4/2/1992	--	36.53	--	--	--	<50	1.4	<0.5	<0.5	<0.5	--	--	APP	--		
	7/6/1992	--	36.53	19.03	--	17.50	<50	<0.5	<0.5	<0.5	<0.5	--	--	ANA	--		
	10/7/1992	--	36.53	21.83	--	14.70	<50	<0.5	<0.5	<0.5	<0.5	--	--	ANA	--		
	1/14/1993	--	36.53	15.96	--	20.57	350	<0.5	<0.5	<0.5	<0.5	714	--	PACE	--	c, m	
	4/22/1993	--	36.53	16.20	--	20.33	2,800	<0.5	<0.5	<0.5	<0.5	3,600	--	PACE	--	c, m	
	7/15/1993	--	36.53	16.82	--	19.71	1,400	1.2	<0.5	2	3.5	2,204	--	PACE	--	c, m	
	10/21/1993	--	36.53	18.84	--	17.69	370	2.1	2.3	2.3	6	847	--	PACE	--	c, m	
	1/27/1994	--	36.53	18.00	--	18.53	1,300	6.3	<0.5	<0.5	<0.5	3,892	--	PACE	--	c, m	
	4/21/1994	--	36.53	16.62	--	19.91	2,000	<0.5	<0.5	<0.5	<0.5	3,864	1.4	PACE	--	c, m	
	9/9/1994	--	36.53	18.38	--	18.15	1,300	<0.5	<0.5	0.5	1.2	--	3.0	PACE	--	m	
	12/21/1994	--	36.53	15.28	--	21.25	420	16	0.7	3.5	5.9	800	1.9	PACE	--	m	
	1/30/1995	--	36.53	12.62	--	23.91	<50	<0.50	<0.50	<0.50	<1.0	--	2.5	ATI	--		
	4/10/1995	--	36.53	12.41	--	24.12	150	<0.50	<0.50	<0.50	<1.0	--	6.9	ATI	--		
	6/29/1995	--	36.53	14.95	--	21.58	100	<0.50	<0.50	<0.50	<1.0	--	6.4	ATI	--	d (TPH-g)	
	9/18/1995	--	36.53	15.82	--	20.71	--	--	--	--	--	--	--	--	--	--	
	9/19/1995	--	36.53	--	--	--	82	<0.50	<0.50	<0.50	<1.0	260	7.0	ATI	--		
	12/7/1995	--	36.53	17.09	--	19.44	<50	<0.50	<0.50	<0.50	<1.0	91	4.5	ATI	--		
	3/28/1996	--	36.53	11.90	--	24.63	<50	<0.5	<1	<1	<1	230	4.2	SPL	--		
	6/20/1996	--	36.53	12.66	--	23.87	260	<0.5	<1	<1	<1	370	4.4	SPL	--		
10/11/1996	--	36.53	16.23	--	20.30	330	<0.5	<1.0	<1.0	<1.0	440	5.8	SPL	--			
1/2/1997	--	36.53	12.17	--	24.36	<50	<0.5	<1.0	<1.0	<1.0	140	6.0	SPL	--			
4/14/1997	--	36.53	13.45	--	23.08	--	--	--	--	--	--	--	--	--	--		
4/15/1997	--	36.53	--	--	--	1,500	<0.5	<1.0	<1.0	<1.0	1,800	5.6	SPL	--			
7/2/1997	--	36.53	15.60	--	20.93	880	<0.5	<1.0	<1.0	<1.0	940	5.3	SPL	--			
9/30/1997	--	36.53	17.16	--	19.37	40,000	13,000	2,400	870	3,100	510	6.6	SPL	--			
1/21/1998	--	36.53	11.77	--	24.76	120	<0.5	<1.0	<1.0	<1.0	98	4.7	SPL	--			
4/9/1998	--	36.53	9.42	--	27.11	950	<0.5	<1.0	<1.0	<1.0	890	5.7	SPL	--			
6/19/1998	--	36.53	12.09	--	24.44	1,800	<0.5	<1.0	<1.0	<1.0	1,900	4.7	SPL	--			
6/19/1998	--	36.53	15.28	--	21.25	1,800	<0.5	<1.0	<1.0	<1.0	1,900	4.7	SPL	--			
1/21/1999	--	36.53	14.67	--	21.86	1,100	<1.0	<1.0	<1.0	<1.0	1,200	--	SPL	--			

Table 1

Groundwater Elevation and Analytical Data

Former BP Station #11133
2220 98th Ave., Oakland, CA

Well No.	Date	P/ NP	TOC (ft MSL)	DTW (ft bgs)	Product Thickness (feet)	GWE (ft MSL)	GRO/ TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	DO (mg/L)	Lab	pH	Comments
MW-3	4/30/1999	--	36.53	16.00	--	20.53	--	--	--	--	--	--	--	--	--	
	7/9/1999	--	36.53	14.64	--	21.89	470	<1.0	<1.0	<1.0	<1.0	460/470	--	SPL	--	g
	11/3/1999	--	36.53	16.39	--	20.14	--	--	--	--	--	--	--	--	--	
	1/12/2000	--	36.53	16.80	--	19.73	<50	<0.5	<0.5	<0.5	<0.5	34	--	PACE	--	
	4/13/2000	--	36.53	16.43	--	20.10	--	--	--	--	--	--	--	--	--	
	7/26/2000	--	36.53	16.93	--	19.60	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--	PACE	--	
	10/24/2000	--	36.53	15.69	--	20.84	--	--	--	--	--	--	--	--	--	
	1/19/2001	--	36.53	14.84	--	21.69	<50	<0.5	<0.5	<0.5	1	25.9	--	PACE	--	
	7/23/2001	--	36.53	15.11	--	21.42	62	<0.5	<0.5	<0.5	<1.5	28.7	--	PACE	--	
	1/18/2002	--	36.53	12.37	--	24.16	<50	<0.5	<0.5	<0.5	<1.0	17.8	--	PACE	--	
	8/1/2002	--	36.53	14.44	--	22.09	66	<0.5	<0.5	<0.5	<1.0	<0.5	--	PACE	--	
	1/16/2003	--	36.53	12.07	--	24.46	<50	<0.50	<0.50	<0.50	<0.50	20	--	SEQ	--	p
	7/7/2003	--	36.53	13.90	--	22.63	<50	<0.50	<0.50	<0.50	<0.50	8.8	--	SEQ	--	q
	02/05/2004	--	36.53	12.60	--	23.93	<50	<0.50	<0.50	<0.50	<0.50	4.6	--	SEQM	7.0	
	07/01/2004	--	36.53	14.57	--	21.96	<50	<0.50	<0.50	<0.50	<0.50	3.3	--	SEQM	--	
	03/16/2005	P	36.53	11.03	--	25.50	<50	<0.50	<0.50	<0.50	<0.50	4.4	1.50	SEQM	6.8	
	07/22/2005	P	36.53	12.68	--	23.85	<50	<0.50	<0.50	<0.50	<0.50	4.1	--	SEQM	6.8	
QC-2	10/7/1992	--	37.73	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--	ANA	--	i
	1/14/1993	--	37.73	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--	PACE	--	i, m
	4/22/1993	--	37.73	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--	PACE	--	i, m
	7/15/1993	--	37.73	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	PACE	--	i, m
	10/21/1993	--	37.73	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--	PACE	--	i
	1/27/1994	--	37.73	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--	PACE	--	i
	4/21/1994	--	37.73	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--	PACE	--	i
	9/9/1994	--	37.73	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--	PACE	--	i
	12/21/1994	--	37.73	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--	PACE	--	i
	1/30/1995	--	37.73	--	--	--	<50	<0.50	<0.50	<0.50	<1.0	--	--	ATI	--	i
	4/10/1995	--	37.73	--	--	--	<50	<0.50	<0.50	<0.50	<1.0	--	--	ATI	--	i
	6/27/1995	--	37.73	--	--	--	<50	<0.50	<0.50	<0.50	<1.0	--	--	ATI	--	i
	9/19/1995	--	37.73	--	--	--	<50	<0.50	<0.50	<0.50	<1.0	<5.0	--	ATI	--	i
	12/7/1995	--	37.73	--	--	--	<50	<0.50	<0.50	<0.50	<1.0	<5.0	--	ATI	--	i
	3/28/1996	--	37.73	--	--	--	<50	<0.5	<1	<1	<1	<10	--	SPL	--	i
	6/20/1996	--	37.73	--	--	--	<50	<0.5	<1	<1	<1	<10	--	SPL	--	i
RW-1	4/5/1991	--	37.73	--	--	--	--	--	--	--	--	--	--	--	--	

Table 1

Groundwater Elevation and Analytical Data

Former BP Station #11133
2220 98th Ave., Oakland, CA

Well No.	Date	P/ NP	TOC (ft MSL)	DTW (ft bgs)	Product Thickness (feet)	GWE (ft MSL)	GRO/ TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	DO (mg/L)	Lab	pH	Comments
RW-1	4/1/1992	--	37.73	22.81	0.30	14.62	--	--	--	--	--	--	--	--	--	
	7/6/1992	--	37.73	26.92	0.41	10.40	--	--	--	--	--	--	--	--	--	
	10/7/1992	--	37.73	28.51	1.26	7.96	--	--	--	--	--	--	--	--	--	
	1/14/1993	--	37.73	23.75	0.25	13.73	--	--	--	--	--	--	--	--	--	
	4/22/1993	--	37.73	22.70	1.38	13.65	--	--	--	--	--	--	--	--	--	
	7/15/1993	--	37.73	26.10	0.81	10.82	--	--	--	--	--	--	--	--	--	
	10/21/1993	--	37.73	25.40	0.49	11.84	--	--	--	--	--	--	--	--	--	
	1/27/1994	--	37.73	28.02	0.37	9.34	--	--	--	--	--	--	--	--	--	
	4/21/1994	--	37.73	23.10	0.91	13.72	--	--	--	--	--	--	--	--	--	
	9/9/1994	--	37.73	24.39	1.04	12.30	--	--	--	--	--	--	--	--	--	
	12/21/1994	--	37.73	--	--	--	--	--	--	--	--	--	--	--	--	h
	12/7/1995	--	37.73	25.71	1.04	10.98	150,000	34,000	35,000	4,300	21,000	2,700	--	ATI	--	
	3/28/1996	--	37.73	16.75	0.18	20.80	--	--	--	--	--	--	--	--	--	
	6/20/1996	--	37.73	25.10	0.02	12.61	--	--	--	--	--	--	--	--	--	h
	10/11/1996	--	37.73	25.51	0.00	12.22	130,000	20,000	32,000	2,800	20,700	1400/1200	7.4	SPL	--	g
	1/2/1997	--	37.73	24.49	0.01	13.23	--	--	--	--	--	--	--	--	--	
	4/14/1997	--	37.73	23.99	0.04	13.70	--	--	--	--	--	--	--	--	--	
	4/15/1997	--	37.73	--	--	--	1,800,000	38,000	190,000	48,000	281,000	<25000	--	SPL	--	
	7/2/1997	--	37.73	--	--	--	130,000	19,000	54,000	4,700	33,400	<10000	--	SPL	--	e
	7/2/1997	--	37.73	16.40	0.20	21.13	140,000	19,000	55,000	4,400	32,400	<10000	5.7	SPL	--	
	9/30/1997	--	37.73	--	--	--	140,000	17,000	29,000	2,500	15,900	1,200	--	SPL	--	e
	9/30/1997	--	37.73	27.97	0.02	9.74	110,000	13,000	22,000	2,000	12,500	1,100	7.0	SPL	--	
	1/21/1998	--	37.73	14.14	0.44	23.15	270,000	21,000	48,000	3,500	25,000	1,100	4.8	SPL	--	
	4/9/1998	--	37.73	25.01	0.05	12.67	--	--	--	--	--	--	--	--	--	
	4/10/1998	--	37.73	--	--	--	220,000	26,000	46,000	4,400	24,500	<2500	5.1	SPL	--	
	6/19/1998	--	37.73	11.43	--	26.30	180,000	19,000	32,000	3,000	17,400	<2500	4.6	SPL	--	
	11/30/1998	--	37.73	7.87	--	29.86	--	--	--	--	--	--	--	--	--	
	1/21/1999	--	37.73	18.90	0.03	18.80	260,000	24,000	46,000	5,100	30,000	1,700	--	SPL	--	
	7/9/1999	--	37.73	18.58	0.26	18.89	--	--	--	--	--	--	--	--	--	
	11/3/1999	--	37.73	20.85	0.60	16.28	160,000	19,000	37,000	3,800	25,000	1,500	--	PACE	--	
	1/12/2000	--	37.73	21.20	0.23	16.30	240,000	18,000	46,000	5,800	26,000	2,100	--	PACE	--	
	4/13/2000	--	37.73	21.71	0.11	15.91	120,000	2,100	33,000	2,800	28,000	1,500	--	PACE	--	
	5/24/2000	--	37.73	21.89	0.24	15.60	--	--	--	--	--	--	--	--	--	
	6/1/2000	--	37.73	16.30	0.01	21.42	--	--	--	--	--	--	--	--	--	
	6/8/2000	--	37.73	17.88	0.20	19.65	--	--	--	--	--	--	--	--	--	

Table 1

Groundwater Elevation and Analytical Data

Former BP Station #11133
2220 98th Ave., Oakland, CA

Well No.	Date	P/ NP	TOC (ft MSL)	DTW (ft bgs)	Product Thickness (feet)	GWE (ft MSL)	GRO/ TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	DO (mg/L)	Lab	pH	Comments
RW-1	6/15/2000	--	37.73	16.72	0.04	20.97	--	--	--	--	--	--	--	--	--	
	6/20/2000	--	37.73	21.04	0.20	16.49	--	--	--	--	--	--	--	--	--	
	7/7/2000	--	37.73	17.21	0.01	20.51	--	--	--	--	--	--	--	--	--	
	7/20/2000	--	37.73	21.87	0.18	15.68	--	--	--	--	--	--	--	--	--	
	7/26/2000	--	37.73	21.45	0.13	16.15	67,000	160	5,300	2,100	18,000	1,100	--	PACE	--	
	7/31/2000	--	37.73	22.11	--	15.62	--	--	--	--	--	--	--	--	--	
	8/8/2000	--	37.73	17.80	0.01	19.92	--	--	--	--	--	--	--	--	--	
	8/16/2000	--	37.73	17.92	--	19.81	--	--	--	--	--	--	--	--	--	
	8/23/2000	--	37.73	18.11	0.02	19.60	--	--	--	--	--	--	--	--	--	
	10/24/2000	--	37.73	18.93	--	18.80	--	--	--	--	--	--	--	--	--	
	10/25/2000	--	37.73	19.04	--	18.69	360,000	18,000	78,000	34,000	180,000	2,100	--	PACE	--	k
	1/19/2001	--	37.73	18.19	0.05	19.49	110,000	9,450	19,600	3,510	21,100	1,270	--	PACE	--	
	7/24/2001	--	37.73	17.93	--	19.80	--	--	--	--	--	--	--	--	--	
	1/18/2002	--	37.73	14.87	--	22.86	63,000	2,060	4,370	1,770	13,900	491	--	PACE	--	
	8/1/2002	--	37.73	16.84	--	20.89	60,000	1,210	2,200	1,520	10,600	390	--	PACE	--	
1/16/2003	--	37.73	14.42	--	23.31	34,000	2,500	2,700	780	5,300	680	--	SEQ	--	p	
7/7/2003	--	37.73	16.11	--	21.62	50,000	640	280	1,600	10,000	<250	--	SEQ	--	q, u	
07/01/2004	P	37.73	16.75	--	20.98	47,000	320	87	1,900	7,500	72	--	SEQM	6.7		
03/16/2005	P	37.73	12.48	--	25.25	17,000	28	23	350	590	53	1.0	SEQM	6.8		
07/22/2005	P	37.73	14.40	0.01	23.34	5,900	50	35	120	220	51	--	SEQM	6.7	u	
VEW-4	07/22/2005	P	--	14.04	--	--	680	41	24	20	67	<0.50	--	SEQM	6.8	
VEW-5	07/22/2005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	v
VEW-8	07/22/2005	P	--	14.24	--	--	<50	<0.50	<0.50	<0.50	<0.50	<0.50	--	SEQM	6.8	

Table 1

Groundwater Elevation and Analytical Data

Former BP Station #11133
2220 98th Ave., Oakland, CA

ABBREVIATIONS & SYMBOLS:

-- = Not analyzed/applicable/measured/available
< = Not detected at or above laboratory reporting limit
DO = Dissolved oxygen
DTW = Depth to water in feet below ground surface
ft bgs = feet below ground surface
ft MSL = feet above mean sea level
GRO = Gasoline Range Organics, range C4-C12
GWE = Groundwater elevation measured in feet above mean sea level
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 measured in feet above mean sea level
TPH-g = Total petroleum hydrocarbons as gasoline
ug/L = Micrograms per liter
ANA = Anametrix, Inc.
PACE = Pace, Inc.
ATI = Analytical Technologies, Inc.
CEI = Ceimic Corporation
SPL = Southern Petroleum Laboratories
SEQ/SEQM= Sequoia Analytical/Sequoia Morgan Hill Laboratories

FOOTNOTES:

c = A copy of the documentation for this data is included in Appendix C of Alistoreport 10-025-13-003.
d = MTBE peak. See documentation in Appendix C of Alisto report 10-025-13-003.
e = Blind duplicate.
f = Well inaccessible.
g = EPA Methods 8020/8260 used.
h = Well not monitored and/or sampled due to vapor extraction system.
i = Travel blank.
j = This gasoline does not include MTBE.
k = Well was sampled on a different date from the other wells due to lack of proper equipment.
l = Unable to sample due to nature of product.
m = A copy of the documentation for this data is included in Blaine Tech Services, Inc., Report 010724-B-2. The data for sampling events January 14, 1993 and April 22, 1993 has been destroyed. No chromatograms could be located for samples AW-2 on January 27, 1994, and for samples AW-1, AW-2, AW-3, AW-4, AW-5, AW-6, AW-7, AW-8, MW-2 and MW-3 on September 9, 1994.
n = On June 1, 2001, after reviewing chromatograms, Sequoia reported the value as <5.0.
o = Unable to locate well.
p = TPH-g data analyzed by EPA Method 8015B modified; BTEX and MTBE by EPA Method 8021B
q = TPH-g, BTEX, and MTBE analyzed by EPA method 8260B beginning on the third quarter 2003 sampling event 07/07/03 =
r = Discrete peak at C5
t = Well was not gauged during the quarter due to an oversite by the technician.
u = Sheen in well
v = Well was dry

NOTES:

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-TPHg analytes within the requested fuel range resulting in a higher concentration being reported.

Table 1

Groundwater Elevation and Analytical Data

Former BP Station #11133
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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.

The data within this table collected prior to August 2002 was provided to URS by RM and their previous consultants. URS has not verified the accuracy of this information.

GWEs adjusted assuming a specific gravity of 0.75 for free product

Table 2

Fuel Additives Analytical Data

Former BP Station #11133
2220 98th Ave., Oakland, CA

Well Number	Date Sampled	Ethanol (µg/L)	TBA (µg/L)	MTBE (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)	Footnotes/ Comments
AW-1	7/7/2003	<5,000	<1,000	1,100	<25	<25	190	–	–	
	02/05/2004	<10,000	<2,000	930	<50	<50	160	<50	<50	
	07/01/2004	<5,000	<1,000	1,100	<25	<25	170	<25	<25	
	03/16/2005	<5,000	<1,000	720	<25	<25	130	<25	<25	
	07/22/2005	<1,000	<200	510	<5.0	<5.0	93	31	<5.0	
AW-2	02/05/2004	<100	<20	5.1	<0.50	<0.50	<0.50	<0.50	<0.50	
	03/16/2005	<100	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
AW-3	03/16/2005	<100	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
AW-4	7/7/2003	<1,000	<200	56	<5.0	<5.0	<5.0	–	–	
	02/05/2004	<200	<40	40	<1.0	<1.0	3.7	<1.0	<1.0	
	07/01/2004	<1,000	<200	64	<5.0	<5.0	9.6	<5.0	<5.0	
	03/16/2005	<500	<100	23	<2.5	<2.5	<2.5	<2.5	<2.5	
	07/22/2005	<2,000	<400	59	<10	<10	<10	<10	<10	
AW-5	7/7/2003	<2,000	1,200	980	<10	<10	210	–	–	
	02/05/2004	<2,000	1,200	810	<10	<10	160	<10	<10	
	07/01/2004	<1,000	1,600	550	<5.0	<5.0	94	<5.0	<5.0	
	03/16/2005	<10,000	2,100	890	<50	<50	190	<50	<50	
	07/22/2005	<1,000	370	390	<5.0	<5.0	78	<5.0	<5.0	
AW-6	02/05/2004	<10,000	<2,000	5,400	<50	<50	1,800	<50	<50	
	07/01/2004	<10,000	<2,000	4,600	<50	<50	1,600	<50	<50	
	03/16/2005	<5,000	<1,000	4,400	<25	<25	1,400	<25	<25	
	07/22/2005	<10,000	<2,000	5,500	<50	<50	1,400	<50	<50	
AW-8	03/16/2005	<100	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	a
MW-1	7/7/2003	<1,000	<200	24	<5.0	<5.0	<5.0	–	–	
	02/05/2004	<1,000	<200	9.2	<5.0	<5.0	<5.0	<5.0	<5.0	
	07/01/2004	<10,000	<2,000	<50	<50	<50	<50	<50	<50	
	03/16/2005	<1,000	<200	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	
	07/22/2005	<2,000	<400	<10	<10	<10	<10	<10	<10	
MW-2	03/16/2005	<100	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
MW-3	7/7/2003	<100	<20	8.8	<0.50	<0.50	0.65	–	–	

Table 2

Fuel Additives Analytical Data

Former BP Station #11133
2220 98th Ave., Oakland, CA

Well Number	Date Sampled	Ethanol (µg/L)	TBA (µg/L)	MTBE (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)	Footnotes/ Comments
MW-3	02/05/2004	<100	<20	4.6	<0.50	<0.50	<0.50	<0.50	<0.50	
	07/01/2004	<100	<20	3.3	<0.50	<0.50	<0.50	<0.50	<0.50	
	03/16/2005	<100	<20	4.4	<0.50	<0.50	<0.50	<0.50	<0.50	
	07/22/2005	<100	<20	4.1	<0.50	<0.50	<0.50	<0.50	<0.50	
RW-1	7/7/2003	<50,000	<10,000	<250	<250	<250	<250	--	--	
	07/01/2004	<10,000	<2,000	72	<50	<50	<50	<50	<50	
	03/16/2005	<2,000	<400	53	<10	<10	<10	<10	<10	
	07/22/2005	<500	<100	51	<2.5	<2.5	5.6	<2.5	<2.5	
VEW-4	07/22/2005	<100	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
VEW-8	07/22/2005	<100	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	

Table 2

Fuel Additives Analytical Data

Former BP Station #11133
2220 98th Ave., Oakland, CA

ABBREVIATIONS & SYMBOLS:

-- = Not analyzed/applicable/measured/available

< = Not detected at or above the laboratory reporting limit.

1,2-DCA = 1,2-Dichloroethane

DIPE = Di-isopropyl ether

EDB = 1,2-Dibromoethane

ETBE = Ethyl tert-butyl ether

MTBE = Methyl tert-butyl ether

TAME = tert-Amyl methyl ether

TBA = tert-Butyl alcohol

ug/L = Micrograms per Liter

FOOTNOTES:

a = Calibration verification for ethanol is within method limits but outside contractual limits.

NOTES:

All volatile organic compounds (Ethanol, TBA, MTBE, DIPE, ETBE, and TAME) analyzed using EPA Method 8260B.

Table 3

Soil Analytical Data
Former BP #11133
2220 98th Ave., Oakland, CA

Soil Sample ID	Sample Depth (feet bgs)	Date Sampled	GRO (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)	TBA (mg/kg)	TAME (mg/kg)	MTBE (mg/kg)	Lead (mg/kg)
SB-1 (5-5.5')	5	07/22/05	ND<0.091	ND<0.0046	ND<0.0046	ND<0.0046	ND<0.0046	ND<0.018	ND<0.0046	ND<0.0046	NA
SB-1 (9.5-10')	9.5	07/22/05	ND<0.096	ND<0.0048	ND<0.0048	ND<0.0048	ND<0.0048	ND<0.019	ND<0.0048	ND<0.0048	NA
SB-1 (14.5-15')	14.5	07/22/05	ND<0.099	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.020	ND<0.0050	ND<0.0050	NA
SB-1 (19.5-20')	19.5	07/22/05	ND<0.095	ND<0.0048	ND<0.0048	ND<0.0048	ND<0.0048	ND<0.019	ND<0.0048	ND<0.0048	NA
SB-1 (21.5-22')	21.5	07/22/05	ND<0.096	ND<0.0048	ND<0.0048	ND<0.0048	ND<0.0048	ND<0.019	ND<0.0048	ND<0.0048	NA
SB-1 (25-25.5')	25	07/22/05	64	ND<0.050	ND<0.050	0.20	ND<0.050	ND<5.0	ND<0.050	ND<0.050	ND<5.0
SB-1 (27.5-28')	27.5	07/22/05	0.39	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.020	ND<0.050	ND<0.050	NA
SB-1 (31.5-32')	31.5	07/22/05	7.0	ND<0.024	ND<0.024	ND<0.024	ND<0.024	ND<0.098	ND<0.024	ND<0.024	NA
SB-1 (34.5-35')	34.5	07/22/05	0.19	ND<0.0048	ND<0.0048	ND<0.0048	ND<0.0048	ND<0.019	ND<0.0048	ND<0.0048	NA
SB-1 (37.5-38')	37.5	07/22/05	ND<0.094	ND<0.0047	ND<0.0047	ND<0.0047	ND<0.0047	ND<0.019	ND<0.0047	0.0097	NA
SB-1 (41.5-42')	41.5	07/22/05	ND<0.096	ND<0.0048	ND<0.0048	ND<0.0048	ND<0.0048	ND<0.019	ND<0.0048	ND<0.0048	NA
SB-2 @ 5'	5	09/16/05	ND<0.10	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.020	ND<0.0050	ND<0.0050	NA
SB-2 @ 10'	10	09/16/05	ND<0.10	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.020	ND<0.0050	ND<0.0050	NA
SB-2 @ 15'	15	09/16/05	ND<0.10	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.020	ND<0.0050	ND<0.0050	NA
SB-2 @ 20'	20	09/16/05	ND<0.10	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.020	ND<0.0050	ND<0.0050	NA
SB-2 @ 22'	22	09/16/05	ND<0.10	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.020	ND<0.0050	ND<0.0050	NA
SB-2 @ 25'	25	09/16/05	ND<0.20	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.040	0.017	0.068	NA
SB-2 @ 30'	30	09/16/05	ND<0.20	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.040	0.015	0.062	NA
SB-4 @ 3'	3	09/16/05	ND<0.088	ND<0.0044	ND<0.0044	ND<0.0044	ND<0.0044	ND<0.018	ND<0.0044	ND<0.0044	NA
SB-4 @ 6'	6	09/16/05	ND<0.088	ND<0.0044	ND<0.0044	ND<0.0044	ND<0.0044	ND<0.018	ND<0.0044	ND<0.0044	NA
SB-4 @ 9'	9	09/16/05	ND<0.10	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.020	ND<0.0050	ND<0.0050	NA
SB-4 @ 12'	12	09/16/05	ND<0.10	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.020	ND<0.0050	ND<0.0050	NA

Table 3

Soil Analytical Data

Former BP #11133
2220 98th Ave., Oakland, CA

Notes: All Samples analyzed by EPA Method 8260B. Di-isopropyl ether, 1,2-dibromoethane, 1,2-dichloroethane, ethyl tertiary butyl ether, and ethanol were not detected at or above their respective laboratory reporting limit.

Total lead analyzed by EPA Method 6000/7000 series for soil disposal purposes.

bgs = below ground surface

GRO = Gasoline range organics

TBA = tert-butyl alcohol

TAME = tert-amyl methyl ether

MTBE = Methyl tert-butyl ether

mg/kg = milligrams per kilogram

ND< = Not detected at or above stated laboratory reporting limit

NA = Not analyzed

Table 4

Soil Boring Groundwater Analytical Data
Former BP #11133
2220 98th Ave., Oakland, CA

Soil Sample ID	Sample Depth (feet bgs)	Date Sampled	GRO (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Xylenes (ug/L)	TBA (ug/L)	TAME (ug/L)	MTBE (ug/L)
SB-1 (24'-27')	24-27	09/16/05	2,000	2.6	ND<1.0	52	1.3	ND<40	ND<1.0	6.5
SB-2 (21'-24')	21-24	09/16/05	260	ND<0.50	ND<0.50	2.3	0.69	ND<20	15	61

Notes: All Samples analyzed by EPA Method 8260B. Di-isopropyl ether, 1,2-dibromoethane, 1,2-dichloroethane, ethyl tertiary butyl ether, and ethanol were not detected at or above their respective laboratory reporting limit.

Total lead analyzed by EPA Method 6000/7000 series for soil disposal purposes.

bgs = below ground surface

GRO = Gasoline range organics

TBA = tert-butyl alcohol

TAME = tert-amyl methyl ether

MTBE = Methyl tert-butyl ether

ug/L = micrograms per liter

ND< = Not detected at or above stated laboratory reporting limit

NA = Not analyzed

Table 5
Historical Groundwater Flow Direction and Gradient
Former BP Site 11133
2220 98th Ave., Oakland, CA

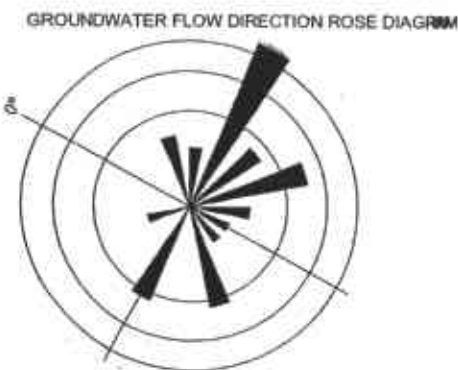
Date Measured	Flow Direction	Hydraulic Gradient (Feet/foot)
07/06/92	South	0.04
07/06/92	Northwest	0.04
07/06/92	East	0.04
10/07/92	Southeast	0.13
01/14/93	East-northeast	0.20
01/14/93	East	0.30
04/22/93	Northeast	0.20
04/22/93	Southeast	0.20
07/15/93	East	0.10
07/15/93	Southeast	0.20
10/21/93	Northeast	0.13
10/21/93	Southeast	0.15
01/27/94	East-southeast	0.13
01/27/94	East	0.20
04/21/94	East-southeast	0.14
09/09/94	Southeast	0.10
12/21/94	East	0.07
01/30/95	South-southeast	0.06
04/10/95	East	0.07
06/29/95	South-southeast	0.14
09/18/95	Southeast	0.07
12/07/95	Southeast	0.11
03/28/96	East	0.05
06/20/96	East	0.07
06/20/96	West	0.04
10/11/96	East	0.06
01/02/97	East	0.15
04/14/97	East	0.08
07/02/97	East-northeast	0.05
01/21/98	Southwest	0.04
01/12/00	East	0.07
01/12/00	West	0.07
04/13/00	East	0.05
04/13/00	Southwest	0.05
07/26/00	Southwest	0.03
10/24/00	Southeast	0.04
01/19/01	East-southeast	0.04
07/24/01	East	0.08
07/24/01	West	0.03
01/18/02	West	0.04
08/01/02	East	0.05
08/01/02	South-southwest	0.04
01/16/03	East-southeast	0.06
01/16/03	West	0.02
03/14/03	East	0.06
03/14/03	West	0.02

Table 5
Historical Groundwater Flow Direction and Gradient
Former BP Site 11133
2220 98th Ave., Oakland, CA

Date Measured	Flow Direction	Hydraulic Gradient (Feet/foot)
02/05/04	Southwest	0.03
02/05/04	Northeast	0.06
07/07/03	Southwest	0.03
07/07/03	East	0.08
07/01/04	Southwest	0.03
07/01/04	East	0.08
03/16/05	Southw-west	0.03
03/17/05	Northeast	0.08
07/22/05	East	0.03
07/22/05	Southeast	0.03

EXPLANATION

- ◆ Existing Monitoring Well
- Temporary Wells (January, 1990)
- ▲ Existing Vapor Extraction Well
- ⊕ Combined Groundwater Recovery/ Vapor Extraction Well
- ⊖ Tosco Dispenser Grab Sample Location (Dec. 1994)
- ⊙ Grab Sample Location (Oct. 2001)
- ⊗ Soil Sample Location (Oct. 1998)
- ⊞ Proposed Groundwater Monitoring Well
- ⊚ Proposed Soil Boring
- ▨ Trench/Excavation
- - - Existing Trench



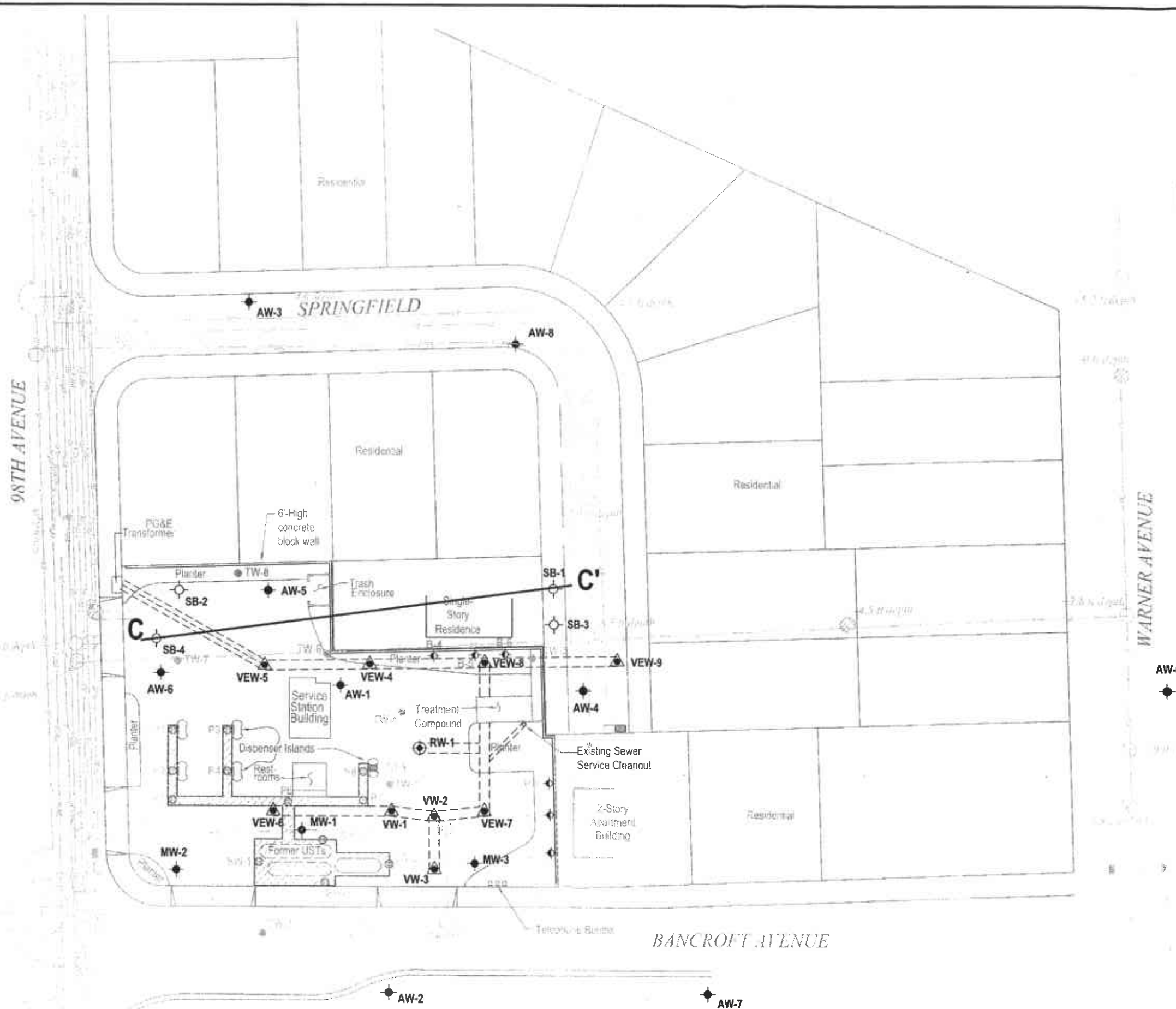
N=52
Interval= 10

Notes:

- 1) Data from available Historical Quarterly Monitoring Reports (Table 3)
- 2) Complex groundwater gradients at the Site resulted in multiple directions and gradients reported in a single monitoring event.



NOTES: SITE MAP ADAPTED FROM CAMBRIA ENVIRONMENTAL FIGURES
SITE DIMENSIONS AND FACILITY LOCATIONS NOT VERIFIED.



Oct 21, 2005 - 11:42am
 \\saw\BP_GEM\Users\Chiller_Sites\11133\Reports\Windsor-SW\Drawings\Fig. 2b.dwg

ATTACHMENT A

ACEHS CORRESPONDENCE DATED MAY 11, 2005

ALAMEDA COUNTY
HEALTH CARE SERVICES



AGENCY

DAVID J. KEARS, Agency Director

May 11, 2005

Kyle Christie
Atlantic Richfield Company
6 Centerpointe Drive, LPR6-161
La Palma, CA 90623-1066

Liz Sewell
ConocoPhillips
76 Broadway
Sacramento, CA 95818

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

Subject: Fuel Leak Case No. RO0000403, BP #11133, Former Service Station at 2220 98th Avenue, Oakland, California – Workplan Approval

Dear Mr. Christie, and Ms. Sewell:

Alameda County Environmental Health (ACEH) has reviewed your April 28, 2005, *Soil and Water Investigation Workplan* prepared by URS Corporation, Inc., and the case file for the above-referenced site. We concur with your workplan provided the following conditions are met:

1. If deemed necessary by your geologist or engineer to fully define the vertical and lateral extent of contamination, additional soil or groundwater samples will be collected as part of the current investigation efforts. ACEH will be informed via telephone or email of any additions to the sampling and analysis plan. Any additional work will follow the workplan-specified procedures. Dynamic investigations are consistent with USEPA protocol for expedited site assessments, which are scientifically valid and offer a cost-effective approach to fully define a plume and to help progress a case toward closure.
2. 72-hr advance written notification (email preferred) will be provided to ACEH prior to field sampling activities.

Please implement the proposed investigation and submit technical reports following the schedule below. In addition, we request that you address the following technical comments in your report.

TECHNICAL COMMENTS

1. Contaminants of Concern

URS proposes sample analysis for TPHg, BTEX, MTBE, TBA, ETBE, TAME, DIPE, 1,2-DCA, EDB and ethanol. Based on our review of the recent groundwater data, contaminants of concern (COCs) at the site include: TPHg, BTEX, MTBE, TBA, and TAME only (TBA is a COC due to its potential occurrence as a MTBE degradation product). Ongoing analysis for DIPE, ETBE, EDB and 1,2-DCA may not be necessary. Prior to conducting the proposed investigation, we request that you review all historical analytical data for the site in order to 1) confirm compliance with the minimum verification analyses listed in the Tri-Regional Guidelines, and 2) confirm the COCs at the site. Please identify appropriate COCs for the site in the report requested below.

2. Feasibility Study Workplan

Please specify the procedures for nitrate and sulfate injection in your feasibility study workplan. The workplan needs to propose groundwater monitoring procedures and other sampling activities, including specification of analytes, to ensure that pre-injection and post-injection geochemical conditions are well documented and understood. Please submit your Feasibility Study Workplan following the schedule specified below.

3. Corrective Action Plan

In accordance with 23 CCR 2725, an assessment of the impacts, a feasibility study, and applicable cleanup levels need to be included in your CAP. We request that 1) your assessment summarize all subsurface investigation performed at the site, 2) your feasibility study evaluate at least three potentially feasible remedial technologies, and 3) your CAP propose cleanup goals and cleanup levels for the site. Your cleanup goals need to be consistent with water quality objectives for the basin. Soil and groundwater cleanup levels for the site need to be protective of human health and the environment. Prior to discontinuation of active remediation, the appropriate cleanup levels will need to be achieved. Please submit your CAP following the schedule specified below.

REPORT REQUEST

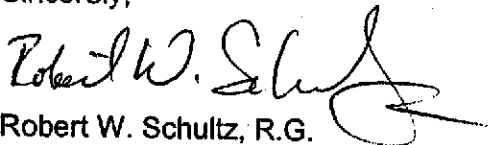
Please submit reports according to the following schedule:

Feasibility Study Workplan	July 11, 2005
Soil and Water Investigation Report	August 11, 2005
Corrective Action Plan	90 days after FS approval

ACEH makes this request pursuant to California Health & Safety Code Section 25296.10. 23 CCR Sections 2652 through 2654, and 2721 through 2778 outline the responsibilities of a responsible party for an unauthorized release from an UST system, and require your compliance with this request.

Please call me at (510) 567-6719 with any questions regarding this case.

Sincerely,



Robert W. Schultz, R.G.
Hazardous Materials Specialist

cc: ✓ Lynelle Onishi, URS Corporation, 1333 Broadway, Ste. 800, Oakland, CA 94612-1924
Donna Drogos, ACEH
File

ATTACHMENT B

HISTORICAL SOIL AND GROUNDWATER ANALYTICAL DATA

**TABLE
PRODUCT REMOVAL STATUS**

**Former BP 11133
2220 98th Avenue
Oakland, CA**

WELL ID	DATE OF MONITORING	PRODUCT REMOVED (Gallons)	PRODUCT REMOVED CUMULATIVE (Gallons)
RW-1	10/6/1993	1.00	1.00
	10/14/1994	1.00	2.00
	10/20/1994	18.00	20.00
	10/26/1994	3.00	23.00
	11/2/1993	5.00	28.00
	11/10/1994	6.00	34.00
	11/16/1994	2.50	36.50
	11/23/1994	5.00	41.50
	11/30/1993	2.00	43.50
	12/7/1993	4.00	47.50
	12/17/1993	1.50	49.00
	1/4/1994	5.00	54.00
	1/12/1994	3.50	57.50
	1/20/1994	2.50	60.00
	2/11/1994	4.00	64.00
	2/18/1993	3.50	67.50
	2/25/1994	3.00	70.50
	3/4/1994	3.50	74.00
	3/18/1994	5.50	79.50
	3/30/1994	4.00	83.50
	4/13/1994	4.60	88.10
	4/21/1994	4.20	92.30
	4/29/1994	4.50	96.80
	5/6/1994	5.50	102.30
	5/13/1994	3.50	105.80
	5/20/1994	3.50	109.30
	5/26/1994	4.50	113.80
	6/2/1994	3.50	117.30
	6/9/1994	2.50	119.80
	6/16/1994	3.50	123.30
6/23/1994	4.00	127.30	
6/29/1994	2.50	129.80	
7/7/1994	2.00	131.80	
7/12/1994	3.00	134.80	
7/20/1994	1.50	136.30	
7/29/1994	3.50	139.80	
8/5/1994	1.50	141.30	
8/12/1994	2.00	143.30	
8/18/1994	2.50	145.80	
9/9/1994	3.50	149.30	
9/16/1994	4.00	153.30	

**TABLE
PRODUCT REMOVAL STATUS**

**Former BP 11133
2220 98th Avenue
Oakland, CA**

WELL ID	DATE OF MONITORING	PRODUCT REMOVED (Gallons)	PRODUCT REMOVED CUMULATIVE (Gallons)
RW-1 (cont'd)	9/23/1994	2.00	155.30
	12/7/1995	0.00	155.30
	3/28/1996	0.01	155.31
	06/20/96	0.00	155.31
	4/14/1997	<0.05	155.31
	7/2/1997	0.25	155.56
	9/30/1997	<0.01	155.56
	1/21/1998	0.5	156.06
	4/10/1998	0.09	156.15
	6/19/1998	<0.01	156.15
	11/30/1998	0.00	156.15
	1/21/1999	0.00	156.15
	4/30/1999	0.11	156.26
	7/9/1999	0.00	156.26
	11/3/1999	1.06	157.32
	1/12/2000	0.53	157.85
	4/13/2000	0.26	158.11
	5/24/2000	0.53	158.64
	6/1/2000	0.00	158.64
	6/8/2000	0.26	158.90
	6/15/2000	0.13	159.03
	6/20/2000	0.53	159.56
	7/7/2000	0.01	159.57
	7/20/2000	0.11	159.68
	7/26/2000	0.13	159.81
	7/31/2000	0.00	159.81
	8/8/2000	0.01	159.82
	8/16/2000	0.00	159.82
	8/23/2000	0.13	159.95
	8/31/2000	0.40	160.35
	9/8/2000	0.53	160.88
	9/25/2000	0.01	160.89
	10/24/2000	0.00	160.89
	2/14/2000	0.01	160.90
	3/20/2000	0.13	161.03
	4/26/2000	0.00	161.03
	5/17/2000	0.00	161.03
	6/28/2000	0.00	161.03
	1/19/2001	0.11	161.14
	2/14/2001	0.01	161.15
3/20/2001	0.13	161.28	
4/26/2001	0.00	161.28	

**TABLE
PRODUCT REMOVAL STATUS**

**Former BP 11133
2220 98th Avenue
Oakland, CA**

WELL ID	DATE OF MONITORING	PRODUCT REMOVED (Gallons)	PRODUCT REMOVED CUMULATIVE (Gallons)
RW-1 (cont'd)	5/17/2001	0.00	161.28
	6/28/2001	0.00	161.28
	7/24/2001	0.00	161.28
	9/21/2001	0.01	161.29
	10/23/2001	0.00	161.29
	11/30/2001	0.00	161.29
	1/18/2002	0.00	161.29
	2/7/2002	0.00	161.29
MW-1	10/20/1993	0.10	0.10
	11/10/1993	0.10	0.20
	9/9/1994	SHEEN	0.20
	10/26/1994	SHEEN	0.20
	11/16/1994	SHEEN	0.20
	12/21/1994	0.25	0.45
	2/8/1995	0.00	0.45
	4/10/1995	0.25	0.70
	6/29/1995	SHEEN	0.70
	9/18/1995	SHEEN	0.70
	12/7/1995	SHEEN	0.70
	3/28/1996	<.001	0.70
	06/20/96	0.002	0.70
	10/11/1996	<0.001	0.70
	1/2/1997	<0.01	0.70
	4/14/1997	<0.01	0.70
	7/2/1997	<0.01	0.70
	1/21/1998	<0.01	0.70
	6/19/1998	<0.01	0.70
	11/30/1998	0.00	0.70
	1/21/1999	SHEEN	0.70
	4/30/1999	SHEEN	0.70
	7/9/1999	SHEEN	0.70
	11/3/1999	0.00	0.70
1/12/2000	0.00	0.70	
4/13/2000	0.00	0.70	
5/24/2000	0.00	0.70	
6/1/2000	0.00	0.70	
6/8/2000	0.00	0.70	
6/15/2000	0.00	0.70	

NOTE: Groundwater and soil vapor extraction equipment installed in RW-1 in October 1994.

January 20, 1993
BP Oil Facility No. 11133, Oakland, California

RESNA
Working To Restore Nature

TABLE 1
RESULTS OF ANALYSES OF SOIL SAMPLES FROM TANK EXCAVATION
BP Oil Company Service Station No. 11133
2220 - 98th Avenue
Oakland, California

Sample Number	Sample Depth	TPHg	Benzene	Toluene	Total Xylenes
June 17, 1987					
A1	13.5	420	15	42	30
A2	13.5	16	2.3	2.2	0.95
B1	13.5	400	23	41	22
B2	14.0	150	4.6	11	12
C1	13.5	12	0.74	0.46	0.65

Results in parts per million (ppm)

< = less than detection limits

TPHg = Total petroleum hydrocarbons as gasoline

TABLE - 1

Results of Soil Analyses - Parts Per Million

<u>Sample Number</u>	<u>Depth (feet)</u>	<u>TPH</u>	<u>Benzene</u>	<u>Toluene</u>	<u>Xylene</u>	<u>Ethylbenzene</u>
MW-1	10	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
MW-1	15	210	7.1	20	23	4.5
MW-1	20	2	1.24	0.07	0.021	0.0035
MW-2	10	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
MW-2	15	<0.05	0.0007	0.0008	<0.0005	<0.0005
MW-2	20	<0.05	0.0008	<0.0005	<0.0005	<0.0005
MW-2	25	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
MW-3	10	<0.05	0.00081	0.0018	<0.0005	0.0012
MW-3	15	<0.05	0.0007	0.0007	<0.0005	<0.0005
MW-3	20	<0.05	0.0016	0.0035	<0.0005	<0.0005
MW-3	25	<0.05	0.00076	0.0014	<0.0005	<0.0005

Results of Water Analyses - parts per billion

<u>Sample Number</u>	<u>Depth (feet)</u>	<u>TPH</u>	<u>Benzene</u>	<u>Toluene</u>	<u>Xylene</u>	<u>Ethylbenzene</u>
MW-1	16.583	76,000	29,000	23,000	12,000	2600
MW-2	23.833	ND	0.55	0.66	0.58	ND
MW-3	23.667	ND	ND	ND	ND	ND

* TPH = Total Petroleum Hydrocarbon
ND = Not Detected

January 20, 1993
 BP Oil Facility No. 11133, Oakland, California

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 Working To Restore Nature

TABLE 2
 RESULTS OF ANALYSES OF SOIL SAMPLES FROM BORINGS
 BP Oil Company Service Station No. 11133
 2220 - 98th Avenue, Oakland, California
 (page 1 of 2)

Boring Number	Sample Depth	TPHg	Benzene	Toluene	Ethyl-benzene	Total Xylenes
June 1990						
AW-1	5.0	ND	ND	ND	ND	ND
AW-1	10.0	ND	0.011	ND	ND	ND
AW-1	15.0	ND	0.007	ND	ND	ND
AW-1	20.0	1.2	0.470	ND	ND	ND
AW-1	25.0	ND	0.013	ND	ND	ND
AW-1	30.0	ND	ND	ND	ND	ND
AW-2	21.0	ND	ND	ND	ND	ND
AW-2	26.0	ND	ND	ND	ND	ND
AW-3	21.0	ND	0.074	0.027	0.010	0.049
AW-3	26.0	ND	0.083	0.010	0.004	0.018
AW-4	11.0	ND	ND	ND	ND	ND
AW-4	16.0	ND	0.170	0.010	0.024	0.045
AW-4	21.0	1.0	0.150	0.013	0.040	0.090
RW-1	5.0	ND	ND	ND	ND	ND
RW-1	10.0	ND	0.006	ND	ND	ND
RW-1	15.0	ND	0.031	ND	ND	ND
RW-1	20.0	ND	0.230	0.088	0.010	0.040
RW-1	25.0	33.0	1.000	0.710	ND	2.300
April 1991						
SBA-5	10.5-11.0	<1	0.016	<0.003	<0.003	<0.003
(AW-5)	20.5-21.0	<1	0.020	<0.003	0.007	0.008
	25.5-26.0	<1	0.0077	<0.003	0.003	0.011
SBA-6	10.5-11.0	<1	0.091	0.022	0.008	0.040
(AW-6)	20.5-21.0	<1	<0.003	<0.003	<0.003	<0.003
	25.5-26.0	<1	0.005	0.010	<0.003	0.0066

Results in parts per million (ppm)

< = less than detection limits

TPHg = Total petroleum hydrocarbons as gasoline

January 20, 1993
BP Oil Facility No. 11133, Oakland, California

RESNA
Working To Restore Nature

TABLE 2
RESULTS OF ANALYSES OF SOIL SAMPLES FROM BORINGS
BP Oil Company Service Station No. 11133
2220 - 98th Avenue, Oakland, California
(page 2 of 2)

Boring Number	Sample Depth	TPHg	Benzene	Toluene	Ethyl-benzene	Total Xylenes
April 1991						
SBA-7	10.5-11.0	<1	<0.003	<0.003	<0.003	<0.003
(AW-7)	20.5-21.0	<1	<0.003	<0.003	<0.003	<0.003
	25.5-26.0	<1	<0.003	<0.003	<0.003	<0.003
SBA-8	10.5-11.0	<1	<0.003	<0.003	<0.003	<0.003
(AW-8)	20.5-21.0	<1	<0.003	<0.003	<0.003	<0.003
March 1992						
S-B9-16.0	9	<1	0.008	0.011	0.018	0.0064
S-B10-6.5	10	<1	<0.005	<0.005	<0.005	<0.005
S-B10-11.5	10	<1	<0.005	<0.005	<0.005	<0.005
S-B10-16.0	10	<1	<0.005	<0.005	<0.005	<0.005
S-B11-16.5	11	320	0.074	0.25	3.2	11

Results in parts per million (ppm)

< = less than detection limits

TPHg = Total petroleum hydrocarbons as gasoline

TABLE 1 - SUMMARY OF RESULTS OF SOIL SAMPLING
 BP OIL COMPANY SERVICE STATION NO. 11133
 2220 98TH AVENUE, OAKLAND, CALIFORNIA

ALISTO PROJECT NO. 10-025

BORI ID	SAMPLE DEPTH (feet)	DATE OF SAMPLING	TPH-G (mg/kg)	B (mg/kg)	T (mg/kg)	E (mg/kg)	X (mg/kg)	MTBE (mg/kg)	LAB
AW-9	16.5-17	12/03/96	ND<0.1	ND<0.001	ND<0.002	ND<0.002	ND<0.002	ND<0.1	SPL
AW-9	19-19.5	12/03/96	ND<0.1	ND<0.001	ND<0.002	ND<0.002	ND<0.002	ND<0.1	SPL

ABBREVIATIONS:

TPH-G	Total petroleum hydrocarbons as gasoline
B	Benzene
T	Toluene
E	Ethylbenzene
X	Total xylenes
MTBE	Methyl tert butyl ether
mg/kg	Milligrams per kilograms
SPL	Southern Petroleum Laboratories

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Table 1 - Chemical Analytical Data
 Former Tosco BP Branded Facility No. 11133
 2220 98th Avenue
 Oakland, California

Sample ID	Date Collected	Sample Depth (feet)	TPHg (ppm)	Benzene (ppm)	Toluene (ppm)	Ethyl-Benzene (ppm)	Xylenes (ppm)	MTBE (ppm)	Lead (ppm)
<u>GASOLINE UST PIT (SOIL)</u>									
SW1	10/1/98	12	ND	ND	ND	ND	ND	ND	NR
SW2	10/1/98	12	ND	ND	ND	ND	ND	0.43	NR
SW3	10/1/98	12	ND	ND	ND	ND	ND	0.099	NR
SW4	10/1/98	12	ND	ND	ND	ND	ND	ND	NR
<u>PRODUCT LINES (SOIL)</u>									
P1	10/1/98	3.5	ND	ND	ND	ND	0.029	ND	NR
P2	10/1/98	3.5	ND	ND	ND	ND	ND	4.0	NR
P3	10/1/98	3.5	ND	ND	ND	ND	ND	ND	NR
P4	10/1/98	3.5	ND	ND	ND	ND	ND	ND	NR
P5	10/1/98	3.5	ND	0.0085	0.047	0.0071	0.057	0.74	NR
P6	10/1/98	3.5	ND	ND	ND	ND	ND	ND	NR
P7	10/1/98	3.5	1.2 ¹	0.067	0.090	ND	0.042	2.0	NR
P8	10/1/98	3.5	ND	ND	ND	ND	ND	ND	NR
<u>STOCKPILES</u>									
Comp A	10/1/98	NA	ND	ND	ND	ND	ND	ND	5.0
Comp B	10/1/98	NA	ND	ND	ND	ND	0.026	ND	1.4
Comp C	10/1/98	NA	ND	ND	ND	ND	ND	ND	2.4
Comp D	10/1/98	NA	ND	ND	ND	ND	ND	ND	2.0
Comp E	10/1/98	NA	ND	ND	ND	ND	ND	ND	ND
Comp F	10/1/98	NA	ND	ND	ND	ND	0.0091	ND	1.2

Table 1 - Chemical Analytical Data
 Former Tosco BP Branded Facility No. 11133
 2220 98th Avenue
 Oakland, California

Sample ID	Date Collected	Depth to Water (feet)	TPHg (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl-Benzene (ppb)	Xylenes (ppb)	MTBE (ppb)	Lead (ppm)
<u>GASOLINE UST PIT (WATER)</u>									
Water-1	10/1/98	12.5	430	46	20	0.65	89	1,200	NR
Water-2	10/1/98	12.5	3,700	98	450	56	360	4,100	NR

EXPLANATION:

ND = none detected
 NA = not applicable
 ppm = parts per million
 ppb = parts per billion
 NR = analysis not requested

ANALYTICAL LABORATORY:

Sequoia Analytical (ELAP # 1271)

NOTES:

¹ = Laboratory report indicates unidentified hydrocarbons C6-C12

ANALYTICAL METHODS:

TPHg = Total petroleum hydrocarbons as gasoline according to EPA Method 8015 Modified.
 BTEX = Benzene, toluene, ethylbenzene, and xylenes according to EPA Method 8020.
 MTBE = Methyl tert-butyl ether according to EPA Method 8020.

Table
Soil Analytical Data
 BP Site No. 11133
 2220 98th Avenue, Oakland, California

Sample ID	Date Sampled	Sample Depth (feet bgs)	TPH-g (mg/kg)	TPH-d (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Xylenes (mg/kg)	MTBE (mg/kg)	Total Lead (mg/kg)
VEW-9	May-96	16.5	<0.1	NA	<0.001	<0.002	<0.002	<0.002	<0.1	NA
VEW-9	May-96	Composite	<0.1	NA	<0.001	<0.002	<0.002	<0.002	<0.1	4.0
TD-5-0.5	Dec-94	0.5	ND	3,900	ND	ND	ND	ND	NA	NA

Source: MWH 2002, "Risk-based Corrective Action (RBCA) Evaluation for BP Oil Facility No. 11133. March.

Abbreviations and Notes:

- mg/kg = Milligrams per kilogram
- MTBE = Methyl tert-butyl ether
- TPH-g = Total petroleum hydrocarbons as gasoline
- TPH-d = Total petroleum hydrocarbons as diesel
- <n = Below detection limit of n mg/kg
- NA = Not analyzed
- ND = Not detected

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**Table 1. Soil Analytical Data - BP Site No. 11133,
2220 98th Avenue, Oakland, California**

Sample ID (Depth in feet)	Date Sampled	TPHg (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl- benzene (mg/kg)	Xylenes (mg/kg)	MTBE (mg/kg)	Total Lead (mg/kg)
Analytical Method:		8015m	8021	8021	8021	8021	8021	6010
B-1-4.5	10/22/01	0.49	<0.005	<0.005	<0.005	<0.005	<0.005	-
B-1-13.5	10/22/01	<0.050	<0.005	<0.005	<0.005	<0.005	<0.005	-
B-2-5	10/22/01	1.6	<0.005	<0.005	<0.005	<0.005	<0.005	-
B-2-13.5	10/22/01	<0.050	<0.005	<0.005	<0.005	<0.005	<0.005	-
B-3-4.5	10/22/01	<0.050	<0.005	<0.005	<0.005	<0.005	<0.005	-
B-3-13.5	10/22/01	<0.050	<0.005	<0.005	<0.005	<0.005	<0.005	-
B-4-4.5	10/22/01	<0.050	<0.005	<0.005	<0.005	<0.005	<0.005	-
B-4-13.5	10/22/01	<0.050	<0.005	<0.005	<0.005	<0.005	<0.005	-
DUP	10/22/01	<0.050	<0.005	<0.005	<0.005	<0.005	<0.005	-
B-4-19.5	10/22/01	<0.050	<0.005	<0.005	<0.005	<0.005	<0.005	-
B-5-5.5	10/23/01	0.084	<0.005	<0.005	<0.005	<0.005	<0.005	-
B-5-19.5	10/23/01	<0.050	<0.005	<0.005	<0.005	<0.005	<0.005	-
B-6-5.5	10/23/01	<0.250	<0.005	<0.005	<0.005	0.013	<0.005	-
B-6-19.5	10/23/01	<0.050	<0.005	<0.005	<0.005	<0.005	<0.005	-
Composite	10/23/01	<0.050	<0.005	<0.005	<0.005	<0.005	<0.005	<4.72

Abbreviations and Notes:

mg/kg = Milligrams per kilogram

MTBE = Methyl tert-butyl ether

TPHg = Total petroleum hydrocarbons as gasoline

<n = Below detection limit of n mg/kg

--- = Not analyzed

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**Table 2. Soil-Vapor Analytical Data - BP Site No. 11133,
2220 98th Avenue, Oakland, California**

Sample ID (Depth in feet)	Date Sampled	TPHg (ppmv)	Benzene (ppmv)	Toluene (ppmv)	Ethyl- benzene (ppmv)	Xylenes (ppmv)	MTBE (ppmv)	Oxygen (%)	Total Methane (%)	Carbon Dioxide (%)
Analytical Method:		TO-3	TO-3	TO-3	TO-3	TO-3	TO-3	D-1946	D-1946	D-1946
B-1-V1 (5')	10/22/01	6.6	0.0073	0.0062	<0.0020	0.0049	0.0038	-	-	-
B-1-V2 (10')	10/22/01	9.9	<0.0027	0.0033	<0.0027	0.0031	<0.0027	-	-	-
B-1-V3 (15')	10/22/01	1.8	0.0033	0.0096	<0.0025	0.0067	0.0050	-	-	-
B-2-V1 (5')	10/22/01	2.4	0.0080	0.0070	<0.0026	0.0038	<0.0026	22	<0.0026	0.28
B-2-V2 (10')	10/22/01	11	0.0062 a	0.0063	<0.0026	<0.0026	<0.0026	21	<0.0026	0.33
B-2-V3 (15')	10/22/01	4.5	0.0072	0.0072	<0.0025	0.0035	<0.0025	20	<0.0025	0.33
B-3-V1 (5')	10/22/01	7.0	0.026	0.019	<0.0025	0.0098	0.0047	-	-	-
B-3-V2 (10')	10/22/01	2.2	0.0079	0.0055	<0.0036	0.0039	<0.0036	-	-	-
B-3-V3 (15')	10/22/01	1.6	0.0064	0.0074	0.0027	0.0063	0.0040	-	-	-
B-4-V1 (5')	10/22/01	1.3	0.010 a	0.0082	<0.0029	0.0043	<0.0029	20	<0.0029	0.066
B-4-V2 (10')	10/22/01	1.3	0.0042 a	0.0060	<0.0026	0.0051	<0.0026	20	<0.0026	0.070
B-4-V3 (15')	10/22/01	2.1	0.013	0.011	0.0040 a	0.0090	0.0042	20	<0.0025	0.092
B-5-V1 (5')	10/23/01	6.2	0.023 a	0.020	<0.0040	0.012	0.0070	-	-	-
B-5-V2 (10')	10/23/01	2.0	0.0058	0.0094	<0.0024	0.0084	0.0033	-	-	-
B-5-V3 (15')	10/23/01	1.7	<0.0042 b	0.0055	<0.0042 b	<0.0042 b	<0.0042 b	-	-	-
B-6-V1 (5')	10/23/01	4.2	0.030 a	0.017	0.0078	0.11	0.0062	-	-	-
B-6-V2 (10')	10/23/01	2.3	0.029	0.060	0.0070	0.025	0.0061	-	-	-
B-6-V3 (15')	10/23/01	2.4	0.34	0.23	0.15	0.59	0.062	-	-	-

Abbreviations and Notes:

ppmv = Parts per million by volume

MTBE = Methyl tert-butyl ether

TPHg = Total petroleum hydrocarbons as gasoline

<n = Below detection limit of n ppmv or %

- = Not analyzed

a = Reported value may be biased due to apparent matrix interferences.

b = Elevated reporting limits due to high residual canister vacuum.

TABLE 2
RESULTS OF ANALYSIS
GROUND WATER SAMPLES

Well	TPH (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl- benzene (ppb)	Total Xylenes (ppb)
MW-1	FP	---	---	---	---
MW-2	ND <50	ND <0.5	ND <0.5	ND <0.5	ND <0.5
MW-3	ND <50	ND <0.5	ND <0.5	ND <0.5	ND <0.5
TW-1	77,000	6,600	5,500	2,900	1,500
TW-2	ND <50	1.4	1.4	0.6	5.0
TW-3	72,000	0.80	2.3	1.4	11
TW-4	FP	---	---	---	---
TW-5	66,000	19,000	15,000	1,800	8,600
TW-6	170,000	32,000	41,000	4,500	24,000
TW-7	470,000	11,000	29,000	9,700	48,000
TW-8	720,000	4,200	38,000	12,000	71,000

ND = Nondetectable
 FP = Free Product
 ppb = parts per billion
 MW = Monitoring Well
 TW = Temporary Well

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**Table 3. Water Analytical Data - BP Oil Site No. 11133,
2220 98th Avenue, Oakland, California**

Well ID (Sample ID)	Date Sampled	TPHg (ug/l)	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Xylenes (ug/l)	MTBE (ug/l)
Analytical Method:		8015m	8260	8260	8260	8260	8260
B-1-W1	10/22/01	<50	<2.0	2.29	<2.0	<2.0	71.6
B-2-W1	10/22/01	15,000	3,610	1,120	383	1,330	1,500
B-3-W1	10/22/01	4,600	1,410	171	1,010	1,290	1,420
B-4-W1	10/23/01	71,000	7,300	10,800	7,060	36,600	177
DUP	10/23/01	52,000	7,600	9,650	4,230	21,600	<200
B-5-W1	10/23/01	100,000	16,800	42,100	6,720	33,300	244
B-6-W1	10/23/01	110,000	30,600	36,800	5,410	26,900	1,010

Abbreviations and Notes:

ug/l = micrograms per liter

TPHg = Total petroleum hydrocarbons as gasoline

MTBE = Methyl tert-butyl ether

<n = Below detection limit of n ug/L

ATTACHMENT C
HISTORIC CROSS-SECTIONS

ATTACHMENT D
SOIL BORING LOGS



1333 Broadway, Suite 800
Oakland, California 94612

LOG OF BORING

Borehole ID: SB-1

Total Depth: 42 ft bgs

PROJECT INFORMATION		DRILLING INFORMATION	
Project: BP #11133 Soil and Water Investigation		Drilling Company: Gregg Drilling & Testing	
Site Location: 2220 98th Avenue, Oakland, CA		Driller: Don Pearson, Chris Garner (DP)/Paul Rogers, Marco Ramirez (HP)	
Project Manager: Lynelle Onishi		Type of Drilling Rig: Marl M2.5 DP	
RG:		Drilling Method: Direct Push (DP)/Hydro Punch (HP)	
Geologist: John McCain		Sampling Method: Macro-Core/Hydro Punch	
Job Number: 38487352.0013001		Date(s) Drilled: 07/22/05 & 09/16/05	
BORING INFORMATION			
Groundwater Depth: 25 ft bgs		Boring Location: In front of 9857 Springfield Ct. residence	
Air Knife or Hand Auger Depth: 5.0 feet bgs/Hand Auger		Boring Diameter: 2.5-inch	
Coordinates: X Y		Boring Type: Exploratory	

Depth (ft. bgs)	Symbol	Lithologic Description	USCS	PID (ppm)	Sample ID	Recovery	Comments
0		AC/Baserock: Dirt cover, dirt and baserock (2") beneath.	FILL				Borehole grouted to grade with neat Portland cement
2		SANDY SILTY CLAY: FILL, dark brown (10YR 3/1), 80% clay, 10% sand, 8% silt, 2% gravel, fine sands, angular gravel to 0.5" diameter, moist, med. plasticity, no petroleum odor.	CL	3.5			
4		SANDY SILTY CLAY: brown (10YR 4/4), 60% clay, 35% sand, 5% silt, fine sands, med. dense, moist, low plasticity, no petroleum odor.	ML	5.0			
6		CLAYEY SANDY SILT: brown (10YR 4/4), 70% silt, 20% sand, 10% clay, fine sands, med. stiff, moist, low plasticity, no petroleum odor.	CL	4.4	SB-1 (5-5.5')		
8				3.6			
10					SB-1 (9.5-10')		
12		@ 12 ft bgs, Sandy Gravelly Clay layer, 4-inches thick, angular gravels to 1", becomes stiff at 12 ft bgs, dry, no petroleum odor.					
14							
16				4.0	SB-1 (14.5-15')		

Depth (ft bgs)	Symbol	Lithologic Description	USCS	PID (ppm)	Sample I.D.	Recovery	Comments
18							
20		CLAYEY SANDY SILT: light brown (10YR 5/4), 70% silt, 20% sand, 10% clay, fine sands, soft, moist, no petroleum odor.	ML	2.8	SB-1 (19.5-20')		
22				1.7	SB-1 (21.5-22')		
24							
26	\\	SILTY CLAYEY SAND: gray (Gley 1 3/10Y), 60% sand, 20% silt, 15% clay, 5% gravel, fine sands, soft to med. dense, wet, trace gravels at bottom of sand @ 27', petroleum odor.	SM				
28	///	SANDY SILTY CLAY: brown (10YR 4/3 to 10YR 5/4), 60% clay, 35% sand, 5% silt, fine sands, stiff, moist, drilling resistance decreased below 27', no petroleum odor.	CL	4.6	SB-1 (27.5-28')		
30		@ 28-32 ft bgs, Sandy Silty Clay continues, color grades from gray to brown at 32 ft bgs, no petroleum odor.					
32				28	SB-1 (31.5-32')		
34				5.7	SB-1 (34.5-35')		
36							
38		@ 37 ft bgs, Sandy Silty Clay continues, trace gravels, no petroleum odor.		0.8	SB-1 (37.5-38')		
40		On September 16, 2005, a depth discrete groundwater sample (SB-1) was collected at 27 ft bgs from separate Hydropunch boring completed 1 foot laterally from soil boring SB-1 location. An attempt was made to collect a discrete groundwater sample (SB-1) at 35 ft bgs, but no groundwater accumulated after Hydropunch sampler was left exposed for approximately 1 hour.			SB-1 (41.5-42')		
42							Bottom of Boring = 42 ft bgs



1333 Broadway, Suite 800
Oakland, California 94612








LOG OF BORING

Borehole ID: SB-2

Total Depth: 32 ft bgs

PROJECT INFORMATION		DRILLING INFORMATION	
Project: BP #11133 Soil and Water Investigation		Drilling Company: Gregg Drilling & Testing	
Site Location: 2220 98th Avenue, Oakland, CA		Driller: Paul Rogers	
Project Manager: Lynelle Onishi		Type of Drilling Rig: Marl M2.5 DP	
RG:		Drilling Method: Direct Push (DP)/Hydro Punch (HP)	
Geologist: Lynelle Onishi		Sampling Method: Macro-Core/Hydro Punch	
Job Number: 38487352.0013001		Date(s) Drilled: 09/16/05	
BORING INFORMATION			
Groundwater Depth: 22 ft bgs		Boring Location: Northern corner of site	
Air Knife or Hand Auger Depth: 5.0 feet bgs/Air Knife		Boring Diameter: 2.5-inch	
Coordinates: X Y		Boring Type: Exploratory	

Depth (ft bgs)	Symbol	Lithologic Description	USCS	PID (ppm)	Sample ID	Recovery	Comments
0		ASPHALT: 2" Asphalt	FILL				Borehole grouted to grade with neat Portland cement
0 - 2		FILL: SANDY GRAVEL, Brown (10YR 4/3), 40% angular gravel, 30% angular fine-grained sand, 20% clay, 10% silt, moist, no petroleum odor.					
2 - 8		SANDY SILTY CLAY: Dark brown (10YR 3/2), 50% clay, 35% silt, 10% fine-grained sand, 5% sub angular gravel, moist, soft, medium plasticity, no petroleum odor.	CL				
8		@ 8' bgs, penetration resistance increased to medium stiff - stiff.					
5.5 - 5.5				0.1	SB-2 (5-5.5')		
10 - 10.5				0.9	SB-2 (10-10.5')		
15.5 - 16				0.7	SB-2 (15.5-16')		

Depth (ft bgs)	Symbol	Lithologic Description	USCS	PID (ppm)	Sample I.D.	Recovery	Comments
18							
20				1.1	SB-2 (20-20.5')		
22		GRAVELLY SAND: Brown (10YR 4/4), 50% fine-grained sand, 30% angular to sub-angular gravel, 10% silt, 10% clay, moist, loose, medium plasticity.	SP				
22		SILTY SAND: Light brown (10YR 5/4), 40% fine-grained sand, 35% silt, 15% clay, 10% fines, sub-angular gravel, wet, medium plasticity, no petroleum odor.	SM	2.8	SB-2 (22-22.5')		
24							
26		@ 25' bgs, no petroleum odor.		1.9	SB-2 (25-25.5')		
28							
30		A depth-discrete groundwater sample (SB-2) was collected at 22 ft bgs from a separate boring completed 1 foot laterally from the original soil boring location using a Hydropunch sampler. An attempt was made to collect a depth-discrete groundwater sample at approximately 32 ft bgs, but no water accumulated after the Hydropunch sampler was left for approximately 1 hour.		1.1	SB-2 (30-30.5')		
32							Bottom of Boring = 32 ft bgs



1333 Broadway, Suite 800
Oakland, California 94612

LOG OF BORING

Borehole ID: SB-3

Total Depth: 8 ft bgs

PROJECT INFORMATION	DRILLING INFORMATION
Project: BP #11133 Soil and Water Investigation	Drilling Company: Gregg Drilling & Testing
Site Location: 2220 98th Avenue, Oakland, CA	Driller: Don Pearson, Chris Garner
Project Manager: Lynelle Onishi	Type of Drilling Rig: Hand Auger
RG:	Drilling Method: Hand Auger
Geologist: John McCain	Sampling Method: Hand Auger
Job Number: 38487352.0013001	Date(s) Drilled: 07/22/05

BORING INFORMATION

Groundwater Depth: Not Encountered	Boring Location: In front of 9857 Springfield Ct. residence
Air Knife or Hand Auger Depth: 8.0 feet bgs/Hand Auger	Boring Diameter: 3.25-inch
Coordinates: X Y	Boring Type: Exploratory

Depth (ft bgs)	Symbol	Lithologic Description	USCS	PID (ppm)	Sample ID	Recovery	Comments
0		AC/Baserock: Dirt cover, dirt and baserock (2") beneath	FILL				
0 - 2		SANDY SILTY CLAY: FILL, dark brown (10YR 3/1), 80% clay, 10% sand, 8% silt, 2% gravel, fine-grained sands, angular gravel to 0.5" diameter, moist, soft, med. plasticity, no petroleum odor.	CL	4.5			Borehole grouted to grade with neat Portland cement.
2 - 4		SANDY SILTY CLAY: brown (10YR 3/4 to 10YR 5/4), 80% clay, 10% sand, 10% silt, fine sands, med. stiff, moist, med. plasticity, no petroleum odor. @ 4 ft bgs, Sandy Silty Clay continues, color change to light brown (10YR 5/4), sand increases with depth.		5.2			
4 - 6		SILTY CLAYEY SAND: brown (10YR 4/3 to 10YR 5/4), 60% sand, 20% silt, 20% clay, fine sands, med. dense, moist, no petroleum odor. @ 6.5 ft bgs, Silty Clay continues, coarse sands/subangular gravels up to 0.25" diameter.	SM	5.5			Bottom of Boring = 8 ft bgs
6 - 8		No soil samples collected from boring SB-3. Groundwater not encountered.		3.5 4.1 6.4			



1333 Broadway, Suite 800
Oakland, California 94612

LOG OF BORING

Borehole ID: SB-4

Total Depth: 12 ft bgs

PROJECT INFORMATION		DRILLING INFORMATION	
Project: BP #11133 Soil and Water Investigation		Drilling Company: Gregg Drilling & Testing	
Site Location: 2220 98th Avenue, Oakland, CA		Driller: Paul Rogers	
Project Manager: Lynelle Onishi		Type of Drilling Rig: Hand Auger, Geoprobe Direct Push Rig	
RG:		Drilling Method: Hand Auger, Geoprobe	
Geologist: Lynelle Onishi		Sampling Method: Hand Auger, Geoprobe	
Job Number: 38487352.0013001		Date(s) Drilled: 09/16/05	
BORING INFORMATION			
Groundwater Depth: Not Encountered		Boring Location: Northern corner of site, east of AW-6	
Air Knife or Hand Auger Depth: 8.0 feet bgs/Hand Auger		Boring Diameter: 3.25-inch	
Coordinates: X Y		Boring Type: Exploratory	

Depth (ft bgs)	Symbol	Lithologic Description	USCS	PID (ppm)	Sample ID	Recovery	Comments
0		ASPHALT: 2" Asphalt.	FILL				
0 - 2		SANDY GRAVEL: FILL, brown (10YR 4/3), 40% fine to coarse angular gravel, 30% sandy gravel, 20% clay, 10% silt, moist, loose, no petroleum odor.					
2 - 6		SANDY SILTY CLAY: dark yellowish brown (10YR 4/4), 50% clay, 30% silt, 15% sand, 5% sub angular gravel, moist, soft to medium stiff, medium plasticity, no petroleum odor.	CL		1113 SB-4 @3'		
6		@ 6 ft bgs, penetration resistance increased to medium stiff - stiff.			1127 SB-4 @6'		
9		@ 9 ft bgs, direct push sampler advanced from 9 - 12 ft bgs.			1250 SB-4 @9'		
10 - 12		After reaching total depth, the boring was allowed to sit for approximately 1 hour for groundwater to accumulate. No water was encountered or accumulated within the boring during this time.			1250		Bottom of Boring = 12 ft bgs

ALTON GEOSCIENCE, Inc.
LOG OF EXPLORATORY
BORING



PROJECT NO. 30-080-01 DATE DRILLED 2-27-91
 CLIENT BP Oil Company
 LOCATION 2201 98th Ave, Oakland
 LOGGED BY M. Taylor APPROVED BY M. Hopwood

BORING NO. SBA-5
 WELL NO. AW-5
 Page 1 of 2

FIELD SKETCH OF BORING LOCATION

TOP OF CASING ELEVATION 39.35'

DRILLING METHOD Hollow stem auger HOLE DIAM. 10"
 SAMPLER TYPE Modified split spoon
 CASING DATA See well construction details
 DRILLER Soils Exploration Services, Inc.

BLOWING PER FOOT (N)	CGI (PPM)	SAMPLE	DEPTH	WELL CONSTRUCTION (CHIPPING CLOSURE)	UGCS	PROFILE	WATER LEVEL		
							26.00'	25.48'	
							DATE	2/27/91	4/5/91
							TIME	2:00 pm	1:00 pm
DESCRIPTION									
			0	Christy Box					1" Asphalt
			2						
			4						
3,5,9			6	4" sch. 40 PVC Casing		CL			SILTY CLAY: brown, damp, stiff, medium plasticity
			8						
4,10,15			10						Same, becomes very stiff
			12						
			14						
3,4,6			16						Same, becomes moist, stiff
			18						
			20						SILTY SAND: black to brownish green, moist, firm, low plasticity
2,2,4			22						
			24						
			26	4" 40 sch. PVC 0.020" Slot		SM			Same, becomes brownish green, wet, stiff
3,5,5			28						≅ 26'
			30						
3,8,11			32						Same, becomes very stiff, low to medium plasticity
			34						

ALTON GEOSCIENCE, Inc.
LOG OF EXPLORATORY
BORING



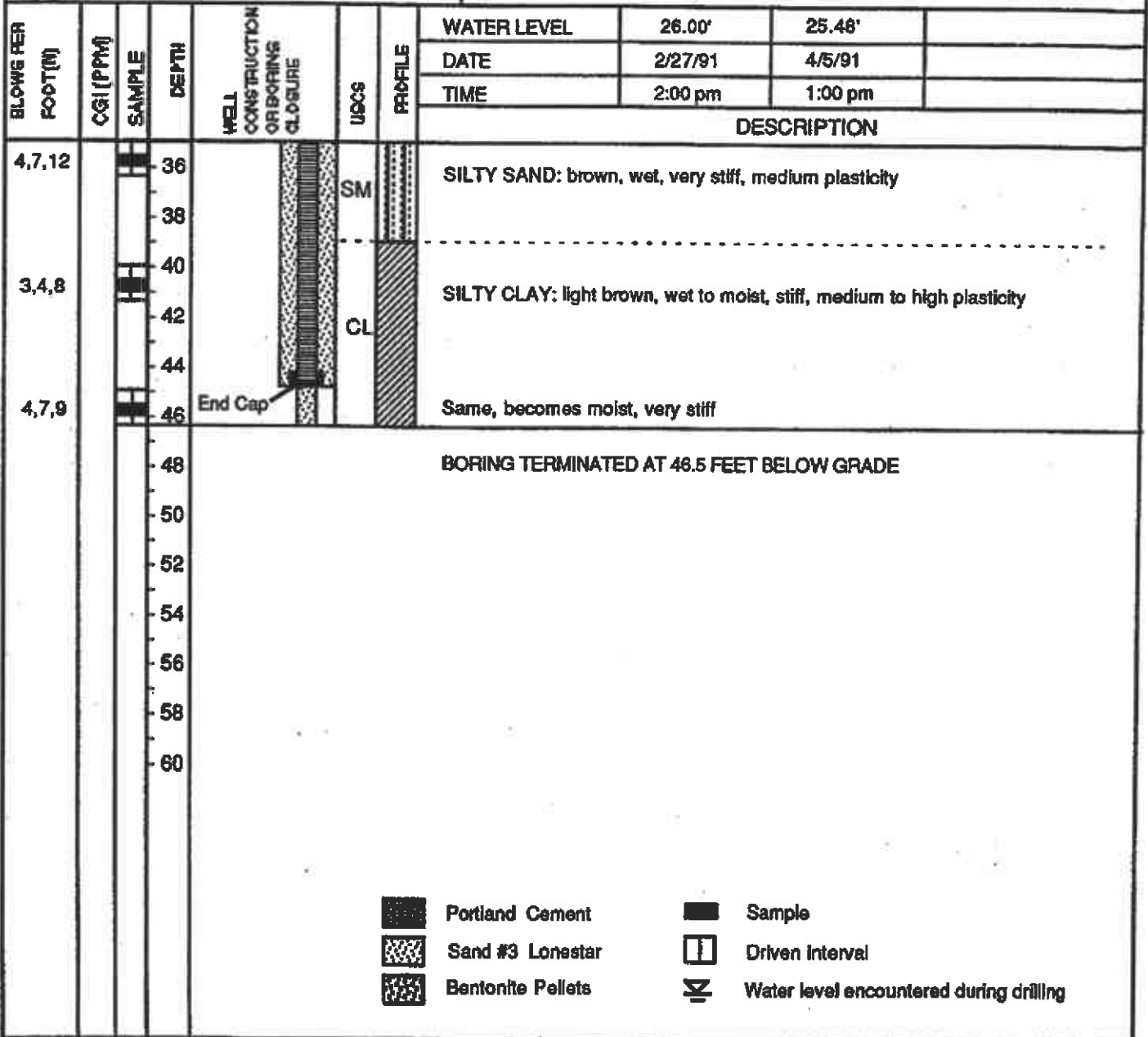
PROJECT NO. 30-080-01 DATE DRILLED 2/27/91
 CLIENT BP Oil Company
 LOCATION 2201 98th Ave., Oakland
 LOGGED BY M. Taylor APPROVED BY M. Hopwood

BORING NO.
 SBA-5
 WELL NO.
 AW-5
 Page 2 of 2

FIELD SKETCH OF BORING LOCATION

TOP OF CASING ELEVATION 39.35'

DRILLING METHOD Hollow stem auger HOLE DIAM. 10"
 SAMPLER TYPE Modified split spoon
 CASING DATA See well construction detail
 DRILLER Soils Explorations Services, Inc.



ALTON GEOSCIENCE, Inc.
LOG OF EXPLORATORY
BORING



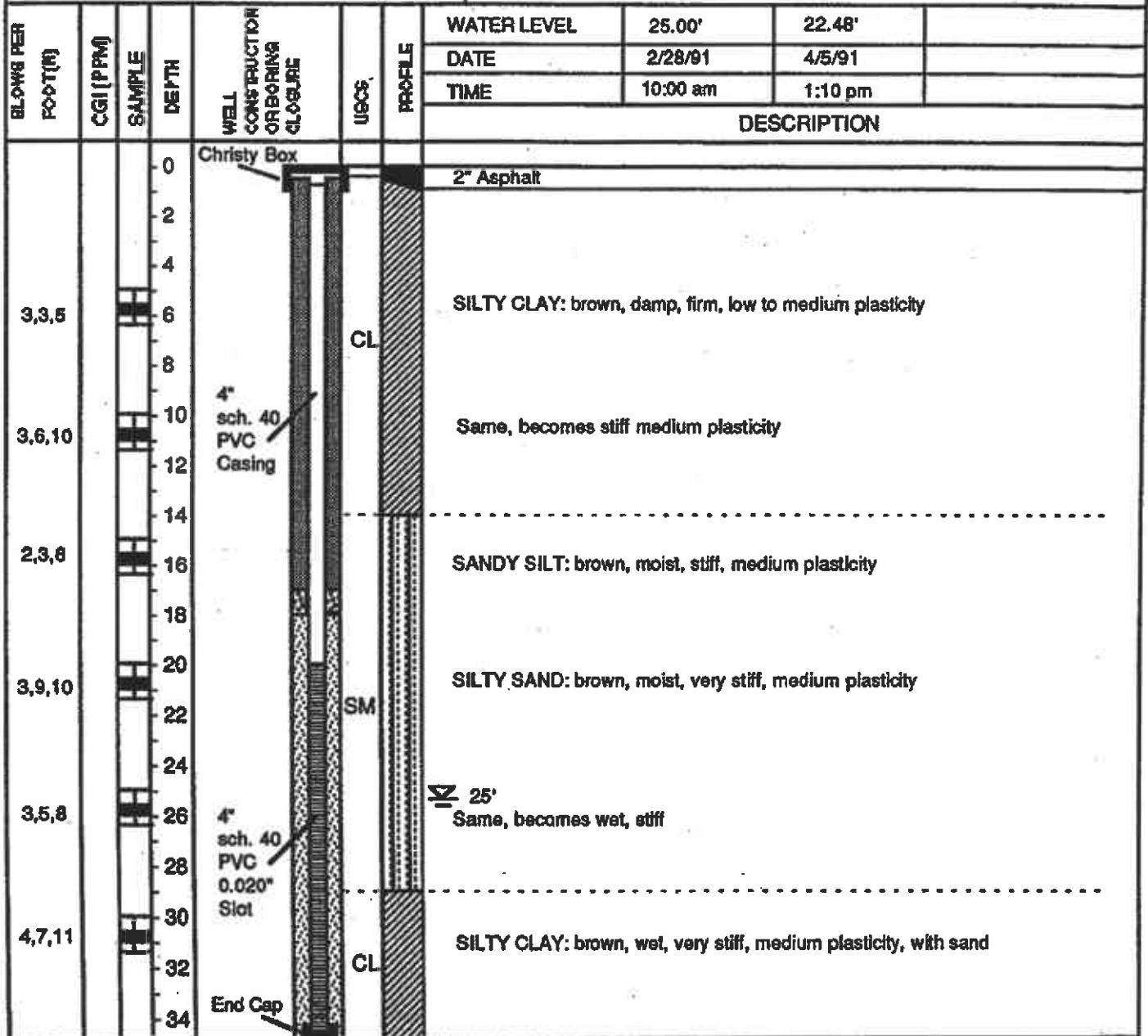
PROJECT NO. 30-080-01 DATE DRILLED 2-28-91
 CLIENT BP Oil Company
 LOCATION 2201 98th Ave, Oakland
 LOGGED BY M. Taylor APPROVED BY M. Hopwood

BORING NO.
 SBA-6
 WELL NO.
 AW-6
 Page 1 of 2

FIELD SKETCH OF BORING LOCATION

DRILLING METHOD Hollow stem auger HOLE DIAM. 10"
 SAMPLER TYPE Modified split spoon
 CASING DATA See well construction details
 DRILLER Soils Exploration Services, Inc.

TOP OF CASING ELEVATION 37.95'



ALTON GEOSCIENCE, Inc.
LOG OF EXPLORATORY BORING



PROJECT NO. 30-080-01 DATE DRILLED 2/28/91
 CLIENT BP Oil Company
 LOCATION 2201 98th Ave., Oakland
 LOGGED BY M. Taylor APPROVED BY M. Hopwood

BORING NO. SBA-6
 WELL NO. AW-6
 Page 2 of 2

FIELD SKETCH OF BORING LOCATION

TOP OF CASING ELEVATION 37.95'

DRILLING METHOD Hollow stem auger HOLE DIAM. 10"
 SAMPLER TYPE Modified split spoon
 CASING DATA See well construction detail
 DRILLER Soils Explorations Services, Inc.

BLOWS PER FOOT (N)	CGI (PPM)	SAMPLE	DEPTH	WELL CONSTRUCTION OR BORING CLOSURE	USCS	PROFILE	WATER LEVEL			
								25.00'	22.48'	
								2/28/91	4/5/91	
								10:00 am	1:10 pm	
DESCRIPTION										
4,7,12			36		CL		SILTY CLAY: brown, wet, very stiff, medium plasticity, with some sand			
			38				BORING TERMINATED AT 36.5 FEET BELOW GRADE			
			40							
			42							
			44							
			46							
			48							
			50							
			52							
			54							
			56							
			58							
			60							



Portland Cement
 Sand #3 Lonestar
 Bentonite Pellets



Sample
 Driven Interval
 Water level encountered during drilling

ATTACHMENT E

**ALAMEDA COUNTY PUBLIC WORKS AGENCY SOIL BORING PERMIT,
CITY OF OAKLAND EXCAVATION PERMIT AND
CITY OF OAKLAND OBSTRUCTION PERMIT**

Alameda County Public Works Agency - Water Resources Well Permit



399 Elmhurst Street
Hayward, CA 94544-1395
Telephone: (510)670-6633 Fax:(510)782-1939

Application Approved on: 06/28/2005 By suel
Permits Issued: W2005-0685

Permits Valid from 07/22/2005 to 07/22/2005

Application Id: 1119999986539
Site Location: Former BP Service Station #11133
2220 98th Avenue

City of Project Site:Oakland

Project Start Date: Oakland
07/22/2005

Completion Date:07/22/2005

Applicant: URS CORPORATION - LYNELLE ONISHI
1333 BROADWAY, SUITE 800, OAKLAND, CA 94612
Property Owner: Conoco Phillips
76 Broadway, Sacramento, CA 95818
Client: Atlantic Richfield Company
4 Centerpointe Drive, Rm 172, La Palma, CA 90623

Phone: 510-874-1758

Phone: 916-558-7604

Phone: 714-670-5303

	Total Due:	\$200.00
	Total Amount Paid:	\$200.00
Paid By: CHECK		PAID IN FULL

Works Requesting Permits:

Borehole(s) for Geo Probes-Sampling 24 to 72 hours only - 6 Boreholes
Driller: Gregg Drilling - Lic #: 57485165 - Method: other

Work Total: \$200.00

Specifications

Permit Number	Issued Dt	Expire Dt	# Boreholes	Hole Diam	Max Depth
W2005-0685	06/28/2005	10/20/2005	6	2.50 in.	45.00 ft

Specific Work Permit Conditions

1. Boreholes shall not be left open for a period of more than 24 hours. All boreholes left open more than 24 hours will need approval from Alameda County Public Works Agency, Water Resources Section. All boreholes shall be backfilled according to permit destruction requirements and all concrete material and asphalt material shall be to Caltrans Spec or County/City Codes. No borehole(s) shall be left in a manner to act as a conduit at any time.
2. Permit is valid only for the purpose specified herein. No changes in construction procedures, as described on this permit application. Boreholes shall not be converted to monitoring wells, without a permit application process.
3. Applicant shall contact Mike Chun for a inspection time at 510-670-5786 at least five (5) working days prior to starting, once the permit has been approved. Confirm the scheduled date(s) at least 24 hours prior to drilling.

Job Site 9857 SPRINGFIELD ST Parcel# 046 -5477-022-00 Appl# X0500880
Descr soil borings related to property located at 2220 98th Av Permit Issued 07/20/05

Work Type EXCAVATION-PRIVATE P

USA #

City Co. Job #
Fund

Applicant Phone# Lic# License Classes--

Owner EIDEN DONALD B. ROSE

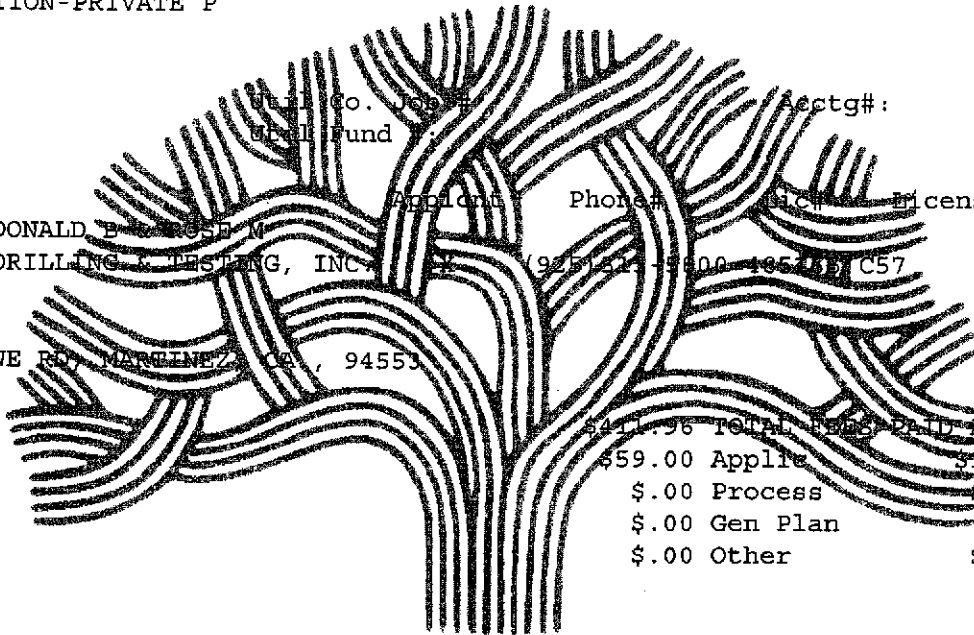
Contractor GREGG DRILLING & TESTING, INC.

(951) 521-1100 (951) 521-1100 C57

Arch/Engr

Agent

Applic Addr 950 HOWE RD, MARTINEZ, CA, 94553



\$411.96 TOTAL FEE DUE AT ISSUANCE	
\$59.00 Applie	\$300.00 Permit
\$.00 Process	\$34.11 Rec Mgmt
\$.00 Gen Plan	\$.00 Invstg
\$.00 Other	\$18.85 Tech Enh

JOB SITE

CITY OF OAKLAND

DIST: ADDRESS:



*good thru 9/17/05

EXCAVATION PERMIT

CIVIL
ENGINEERING

TO EXCAVATE IN STREETS OR OTHER SPECIFIED WORK

PAGE 2 of 2

Permit valid for 90 days from date of issuance.

PERMIT NUMBER X 0 5 0 0 8 8 0		SITE ADDRESS/LOCATION <u>9857 Springfield St</u>
APPROX. START DATE <u>7/22/05</u>	APPROX. END DATE <u>7/22/05</u>	24-HOUR EMERGENCY PHONE NUMBER (Permit not valid without 24-Hour number) <u>866-661-5830</u>
CONTRACTOR'S LICENSE # AND CLASS <u>C57 485165</u>		CITY BUSINESS TAX # <u>585033</u>

ATTENTION:

- 1- State law requires that the contractor/owner call Underground Service Alert (USA) two working days before excavating. This permit is not valid unless applicant has secured an inquiry identification number issued by USA. The USA telephone number is 1-800-642-2444. Underground Service Alert (USA) # 247567
- 2- 48 hours prior to starting work, you **MUST CALL** (510) 238-3651 to schedule an inspection.
- 3- 48 hours prior to re-paving, a compaction certificate is required (waived for approved slurry backfill).

OWNER/BUILDER

I hereby affirm that I am exempt from the Contractor's License Law for the following reason (Sec. 7031.5 Business and Professions Code: Any city or county which requires a permit to construct, alter, improve, demolish, or repair any structure, prior to its issuance, also requires the applicant for such permit to file a signed statement that he is licensed pursuant to the provisions of the Contractor's License law Chapter 9 (commencing with Sec. 7000) of Division 3 of the Business and Professions Code, or that he is exempt therefrom and the basis for the alleged exemption. Any violation of Section 7031.5 by any applicant for a permit subjects the applicant to a civil penalty of not more than \$500):

- I, as an owner of the property, or my employees with wages as their sole compensation, will do the work, and the structure is not intended or offered for sale (Sec. 7044, Business Professions Code: The Contractor's License Law does not apply to an owner of property who builds or improves thereon, and who does such work himself or through his own employees, provided that such improvements are not intended or offered for sale. If however, the building or improvement is sold within one year of completion, the owner-builder will have the burden of proving that he did not build or improve for the purpose of sale).
- I, as owner of the property, am exempt from the sale requirements of the above due to: (1) I am improving my principal place of residence or appurtenances thereto, (2) the work will be performed prior to sale, (3) I have resided in the residence for the 12 months prior to completion of the work, and (4) I have not claimed exemption on this subdivision on more than two structures more than once during any three-year period. (Sec. 7044 Business and Professions Code).
- I, as owner of the property, am exclusively contracting with licensed contractors to construct the project, (Sec. 7044, Business and Professions Code: The Contractor's License Law does not apply to an owner of property who builds or improves thereon, and who contracts for such projects with a contractor(s) licensed pursuant to the Contractor's License law).
- I am exempt under Sec. _____, B&PC for this reason _____

WORKER'S COMPENSATION

- I hereby affirm that I have a certificate of consent to self-insure, or a certificate of Worker's Compensation Insurance, or a certified copy thereof (Sec. 3700, Labor Code).
Policy # _____ Company Name _____
- I certify that in the performance of the work for which this permit is issued, I shall not employ any person in any manner so as to become subject to the Worker's Compensation Laws of California (not required for work valued at one hundred dollars (\$100) or less).

NOTICE TO APPLICANT: If, after making this Certificate of Exemption, you should become subject to the Worker's Compensation provisions of the Labor Code, you must forthwith comply with such provisions or this permit shall be deemed revoked. This permit is issued pursuant to all provisions of Title 12 Chapter 12.12 of the Oakland Municipal Code. It is granted upon the express condition that the permittee shall be responsible for all claims and liabilities arising out of work performed under the permit or arising out of permittee's failure to perform the obligations with respect to street maintenance. The permittee shall, and by acceptance of the permit agrees to defend, indemnify, save and hold harmless the City, its officers and employees, from and against any and all suits, claims, or actions brought by any person for or on account of any bodily injuries, disease or illness or damage to persons and/or property sustained or arising in the construction of the work performed under the permit or in consequence of permittee's failure to perform the obligations with respect to street maintenance. This permit is void 90 days from the date of issuance unless an extension is granted by the Director of the Office of Planning and Building.

I hereby affirm that I am licensed under provisions of Chapter 9 of Division 3 of the Business and Professions Code and my license is in full force and effect (if contractor), that I have read this permit and agree to its requirements, and that the above information is true and correct under penalty of law.

Signature of Permittee <u>Jh Inli</u>		Date <u>7-20-05</u>	
<input type="checkbox"/> Agent for <input type="checkbox"/> Contractor <input type="checkbox"/> Owner			
DATE STREET LAST RESURFACED	SPECIAL PAVING DETAIL REQUIRED? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	HOLIDAY RESTRICTION? (NOV 1 - JAN 1) <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	LIMITED OPERATION AREA? (7AM-9AM & 4PM-6PM) <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
ISSUED BY <u>[Signature]</u>		DATE ISSUED <u>7</u>	

Dates: 07/21/05 Amt Paid: \$411.96
By: ANL Register R03 Receipt# 097670

Job Site 9857 SPRINGFIELD ST

Parcel# 046 -5477-022-00

Appl# OB050648

soil borings related to property located at 2220 98th Av Permit Issued 09/12/05
reserve parking - post 72 hours prior to start date

9857 SPRINGFIELD ST

Nbr of days: 1
Effective: 09/16/05

Linear feet: 25
Expiration: 09/16/05

SHORT TERM NON-METERED

Address Phone# Ord# License Classes--

Owner EIDEN DONALD

Contractor GREGG DRILLING & TESTING, INC

(925) 313-5800 485065 C57

Arch/Engr

Agent JOHN MCCAIN

(510) 874-2026

Applic Addr 950 HOWE RD, MARTINEZ, CA., 94553

TOTAL FEES PAID AT ISSUANCE	
\$59.00 Applic	\$14.50 Permit
\$.00 Process	\$6.98 Rec Mgmt
\$.00 Gen Plan	\$.00 Invstg
\$.00 Other	\$3.86 Tech Enh

JOB SITE

CITY OF OAKLAND

DIST: ADDRESS:

Applicant: _____

Issued by: _____  _____ 

ATTACHMENT F
FIELD PROCEDURES AND FIELD DATA SHEETS

FIELD PROCEDURES

Sampling Procedures

The sampling procedure for each well consists first of measuring the water level and depth to bottom, and checking for the presence of free phase petroleum product (free product), using either an electronic indicator and a clear Teflon™ bailer or an oil-water interface probe. Wells not containing free product are purged approximately three casing volumes of water (or until dewatered) using a centrifugal pump, gas displacement pump, or bailer. Equipment and purging method used for the current sampling event is noted on the attached field data sheets. During purging, temperature, pH, and electrical conductivity are monitored to document that these parameters are stable prior to collecting samples. After purging, water levels are allowed to partially (approximately 80%) recover. Groundwater samples (both purge and no purge) are collected using a Teflon bailer, placed into appropriate Environmental Protection Agency- (EPA) approved containers, labeled, logged onto chain-of-custody records, and transported on ice to a California State-certified laboratory. Wells with free product are not sampled and free product is removed according to California Code of Regulation, Title 23, Div. 3, Chap. 16, Section 2655, UST Regulations.

WELL GAUGING DATA

Project # 050722-MW2 Date 7/22/05 Client BP 1183

Site 2220 98th Ave, Oakland

Well ID	Well Size (in.)	Sheen / Odor	Depth to Immiscible Liquid (ft.)	Thickness of Immiscible Liquid (ft.)	Volume of Immiscibles Removed (ml)	Depth to water (ft.)	Depth to well bottom (ft.)	Survey Point: TOB or TOC
MW-1	2					11.23	28.34	
MW-2	2					8.80 31.32	31.32	9
MW-3	2					12.68	34.15	
AW-1	2					15.53	38.70	
AW-2	2					15.41	34.94	9
AW-3	2					13.94	35.45	9
AW-4	2					15.89	32.86	
AW-5	4					17.22	42.90	
AW-6	4					14.20	34.09	
AW-7			unable to locate					9
AW-8			parked over					9
AW-1	6	9/0	14.39	.01		14.40	37.70	SP ✓
VEW-4	4					14.04	18.56	
VEW-5	4					Dry	10.41	
VEW-8	4					14.24	16.95	

ARCO / BP WELL MONITORING DATA SHEET

BTS #: <u>050722-MD2</u>	Station # <u>1133</u>
Sampler: <u>MD</u>	Date: <u>7/22/05</u>
Well I.D.: <u>MW-1</u>	Well Diameter: <u>2</u> 3 4 6 8
Total Well Depth: <u>28.34</u>	Depth to Water: <u>11.23</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	D.O. Meter (if req'd): YSI HACH

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius ² * 0.163

Purge Method: <u>Bailer</u> <input type="checkbox"/> Disposable Bailer <input type="checkbox"/> Positive Air Displacement <input type="checkbox"/> Electric Submersible Extraction Pump Other: _____	Sampling Method: <u>Bailer</u> <input type="checkbox"/> Disposable Bailer <input type="checkbox"/> Extraction Port Other: _____
--	--

Top of Screen: _____ If well is listed as a no-purge, confirm that water level is below the top of screen. Otherwise, the well must be purged.

<u>2.7</u>	x	<u>3</u>	=	<u>8.1</u>	Gals.
1 Case Volume (Gals.)		Specified Volumes		Calculated Volume	

Time	Temp (°F)	pH	Conductivity (mS or μ S)	Gals. Removed	Observations
<u>1134</u>	<u>68.8</u>	<u>6.8</u>	<u>551</u>	<u>2.7</u>	<u>cloudy, sheen, odor</u>
<u>1138</u>	<u>68.5</u>	<u>6.8</u>	<u>568</u>	<u>5.4</u>	<u>" " "</u>
<u>1141</u>	<u>68.4</u>	<u>6.8</u>	<u>595</u>	<u>8.1</u>	<u>cloudy, sheen, odor</u>
					<u>Bailer is ridged & dark grey. OK odor sheen</u>

Did well dewater? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Gallons actually evacuated: <u>8.1</u>
Sampling Time: <u>1145</u>	Sampling Date: <u>7/22/05</u>
Sample I.D.: <u>MW-1</u>	Laboratory: Pace <u>Sequoia</u> Other _____
Analyzed for: GRO BTEX MTBE DRO	Other: <u>See Scope</u>
D.O. (if req'd): Pre-purge: _____ mg/L	Post-purge: _____ mg/L
O.R.P. (if req'd): Pre-purge: _____ mV	Post-purge: _____ mV

ARCO / BP WELL MONITORING DATA SHEET

BTS #: <u>050722-MD2</u>	Station # <u>11133</u>
Sampler: <u>MW</u>	Date: <u>7/22/05</u>
Well I.D.: <u>MW-3</u>	Well Diameter: <u>(2)</u> 3 4 6 8 <u> </u>
Total Well Depth: <u>34.15</u>	Depth to Water: <u>12.68</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: Grade	D.O. Meter (if req'd): YSI HACH

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius ² * 0.163

Purge Method: Bailer <input checked="" type="checkbox"/> Disposable Bailer Positive Air Displacement Electric Submersible Extraction Pump Other: _____	Sampling Method: Bailer <input checked="" type="checkbox"/> Disposable Bailer Extraction Port Other: _____
--	--

Top of Screen: _____ If well is listed as a no-purge, confirm that water level is below the top of screen. Otherwise, the well must be purged.

<u>3.4</u>	x	<u>3</u>	=	<u>10.2</u>	Gals.
1 Case Volume (Gals.)		Specified Volumes		Calculated Volume	

Time	Temp (°F)	pH	Conductivity (mS or <u>µS</u>)	Gals. Removed	Observations
<u>1050</u>	<u>66.2</u>	<u>6.9</u>	<u>540</u>	<u>3.4</u>	<u>cloudy</u>
<u>1053</u>	<u>67.0</u>	<u>6.9</u>	<u>586</u>	<u>6.8</u>	<u>"</u>
<u>1056</u>	<u>66.1</u>	<u>6.8</u>	<u>472</u>	<u>10.2</u>	<u>cloudy</u>

Did well dewater? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Gallons actually evacuated: <u>10.2</u>
Sampling Time: <u>1100</u>	Sampling Date: <u>7/22/05</u>
Sample I.D.: <u>MW-3</u>	Laboratory: Pace <u>Sequoia</u> Other _____
Analyzed for: GRO BTEX MTBE DRO	Other: <u>See Scope</u>
D.O. (if req'd):	Pre-purge: _____ mg/L Post-purge: _____ mg/L
O.R.P. (if req'd):	Pre-purge: _____ mV Post-purge: _____ mV

ARCO / BP WELL MONITORING DATA SHEET

BTS #: <u>050722-MD2</u>	Station # <u>1133</u>
Sampler: <u>ms</u>	Date: <u>7/22/05</u>
Well I.D.: <u>AW-1</u>	Well Diameter: <u>3</u> 4 6 8
Total Well Depth: <u>3250</u>	Depth to Water: <u>1533</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>DVE</u> Grade	D.O. Meter (if req'd): YSI HACH

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius ² * 0.163

Purge Method: <input type="checkbox"/> Bailer <input checked="" type="checkbox"/> Disposable Bailer <input type="checkbox"/> Positive Air Displacement <input type="checkbox"/> Electric Submersible Extraction Pump Other: _____	Sampling Method: <input type="checkbox"/> Bailer <input checked="" type="checkbox"/> Disposable Bailer <input type="checkbox"/> Extraction Port Other: _____
---	---

Top of Screen: _____ If well is listed as a no-purge, confirm that water level is below the top of screen. Otherwise, the well must be purged.

<u>3.7</u>	x	<u>3</u>	=	<u>11.1</u>	Gals.
1 Case Volume (Gals.)		Specified Volumes		Calculated Volume	

Time	Temp (°F)	pH	Conductivity (mS or μ S)	Gals. Removed	Observations
<u>1235</u>	<u>66.9</u>	<u>6.6</u>	<u>809</u>	<u>3.7</u>	<u>cloudy, odor</u>
<u>1239</u>	<u>66.6</u>	<u>6.5</u>	<u>796</u>	<u>7.4</u>	<u>" "</u>
<u>1242</u>	<u>66.6</u>	<u>6.5</u>	<u>782</u>	<u>11.1</u>	<u>cloudy, odor</u>

Did well dewater? Yes <input checked="" type="checkbox"/>	Gallons actually evacuated: <u>11.1</u>	
Sampling Time: <u>1245</u>	Sampling Date: <u>7/22/05</u>	
Sample I.D.: <u>AW-1</u>	Laboratory: Pace <u>Sequoia</u> Other _____	
Analyzed for: GRO BTEX MTBE DRO	Other: <u>See Scope</u>	
D.O. (if req'd):	Pre-purge: _____ mg/L	Post-purge: _____ mg/L
O.R.P. (if req'd):	Pre-purge: _____ mV	Post-purge: _____ mV

ARCO / BP WELL MONITORING DATA SHEET

BTS #: <u>050722-MD2</u>	Station # <u>11133</u>
Sampler: <u>MU</u>	Date: <u>7/22/05</u>
Well I.D.: <u>AW-4</u>	Well Diameter: <u>2</u> 3 4 6 8
Total Well Depth: <u>32.86</u>	Depth to Water: <u>15.89</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	D.O. Meter (if req'd): YSI HACH

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius ² * 0.163

Purge Method: Bailer Sampling Method: Bailer

Disposable Bailer Disposable Bailer

Positive Air Displacement Extraction Port

Electric Submersible Other: _____

Extraction Pump

Other: _____

Top of Screen: _____ If well is listed as a no-purge, confirm that water level is below the top of screen. Otherwise, the well must be purged.

<u>2.7</u>	x	<u>3</u>	=	<u>8.1</u>	Gals.
1 Case Volume (Gals.)		Specified Volumes		Calculated Volume	

Time	Temp (°F)	pH	Conductivity (mS or µS)	Gals. Removed	Observations
1003	<u>65.8</u>	<u>6.7</u>	<u>1224</u>	<u>2.7</u>	<u>clear</u>
1007	<u>65.9</u>	<u>6.6</u>	<u>1327</u>	<u>5.4</u>	<u>·1</u>
1011	<u>65.7</u>	<u>6.7</u>	<u>1295</u>	<u>8.1</u>	<u>clear</u>

Did well dewater? Yes No Gallons actually evacuated: 8.1

Sampling Time: 1015 Sampling Date: 7/22/05

Sample I.D.: AW-4 Laboratory: Pace Sequoia Other _____

Analyzed for: GRO BTEX MTBE DRO Other: See Scope

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

ARCO / BP WELL MONITORING DATA SHEET

BTS #: <u>050722-MW2</u>	Station #: <u>11133</u>
Sampler: <u>MX</u>	Date: <u>7/22/05</u>
Well I.D.: <u>AW-5</u>	Well Diameter: <u>2</u> 3 4 6 8
Total Well Depth: <u>42.90</u>	Depth to Water: <u>17.22</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	D.O. Meter (if req'd): YSI HACH

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius ² * 0.163

Purge Method: Bailer Sampling Method: Bailer
 Disposable Bailer Disposable Bailer
 Positive Air Displacement Extraction Port
 Electric Submersible Other: _____
 Extraction Pump

Top of Screen: _____ If well is listed as a no-purge, confirm that water level is below the top of screen. Otherwise, the well must be purged.

<u>16.7</u>	x	<u>3</u>	=	<u>50.1</u>	Gals.
1 Case Volume (Gals.)		Specified Volumes		Calculated Volume	

Time	Temp (°F)	pH	Conductivity (mS or <u>µS</u>)	Gals. Removed	Observations
1114	69.0	6.8	509	17	clear
1117	68.0	6.5	560	34	"
1120	68.2	6.6	539	50.5	clear

Did well dewater? Yes No Gallons actually evacuated: 50.5

Sampling Time: 1125 Sampling Date: 7/22/05

Sample I.D.: AW-5 Laboratory: Pace Sequoia Other: _____

Analyzed for: GRO BTEX MTBE DRO Other: Sec Sept

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

ARCO / BP WELL MONITORING DATA SHEET

BTS #: <u>050722-MD2</u>	Station #: <u>11133</u>
Sampler: <u>mg</u>	Date: <u>7/22/05</u>
Well I.D.: <u>AW-6</u>	Well Diameter: 2 3 <u>4</u> 6 8
Total Well Depth: <u>34.90</u>	Depth to Water: <u>14.20</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	D.O. Meter (if req'd): YSI HACH

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius ² * 0.163

Purge Method: <input type="checkbox"/> Bailer <input type="checkbox"/> Disposable Bailer <input type="checkbox"/> Positive Air Displacement <input checked="" type="checkbox"/> Electric Submersible <input type="checkbox"/> Extraction Pump Other: _____	Sampling Method: <input type="checkbox"/> Bailer <input checked="" type="checkbox"/> Disposable Bailer <input type="checkbox"/> Extraction Port Other: _____
---	---

Top of Screen: _____ If well is listed as a no-purge, confirm that water level is below the top of screen. Otherwise, the well must be purged.

<u>13.5</u>	x	<u>3</u>	=	<u>40.5</u> Gals.
1 Case Volume (Gals.)		Specified Volumes		Calculated Volume

Time	Temp (°F)	pH	Conductivity (mS or <u>µS</u>)	Gals. Removed	Observations
1154	68.4	6.8	386	13.5	Cloudy
1157					Well dewatered to 18'
1335	69.4	6.7	445	-	Water clear

Did well dewater? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Gallons actually evacuated: <u>18</u>
Sampling Time: <u>1335</u>	Sampling Date: <u>7/22/05</u>
Sample I.D.: <u>AW-6</u>	Laboratory: Pace <input checked="" type="checkbox"/> Sequoia <input type="checkbox"/> Other _____
Analyzed for: GRO BTEX MTBE DRO	Other: <u>See Scope</u>
D.O. (if req'd):	Pre-purge: _____ mg/L Post-purge: _____ mg/L
O.R.P. (if req'd):	Pre-purge: _____ mV Post-purge: _____ mV

ARCO / BP WELL MONITORING DATA SHEET

BTS #: <u>050722-M02</u>	Station #: <u>11133</u>
Sampler: <u>NM</u>	Date: <u>7/22/01</u>
Well I.D.: <u>AW-1</u>	Well Diameter: <input checked="" type="checkbox"/> 3 <input type="checkbox"/> 4 <input checked="" type="checkbox"/> 6 <input type="checkbox"/> 8 <input type="checkbox"/> _____
Total Well Depth: <u>37.70</u>	Depth to Water: <u>19.40</u>
Depth to Free Product: <u>14.39</u>	Thickness of Free Product (feet): <u>.01</u> *
Referenced to: <u>PVC</u> Grade	D.O. Meter (if req'd): YSI HACH

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius ² * 0.163

Purge Method: <u>Bailer</u> <u>Disposable Bailer</u> <u>Positive Air Displacement</u> <input checked="" type="checkbox"/> <u>Electric Submersible</u> <u>Extraction Pump</u> Other: _____	Sampling Method: <u>Bailer</u> <input checked="" type="checkbox"/> <u>Disposable Bailer</u> <u>Extraction Port</u> Other: _____
--	--

Top of Screen: _____ If well is listed as a no-purge, confirm that water level is below the top of screen. Otherwise, the well must be purged.

<u>34.3</u>	x	<u>3</u>	=	<u>102.9</u>	Gals.
1 Case Volume (Gals.)		Specified Volumes		Calculated Volume	

Time	Temp (°F)	pH	Conductivity (mS or µS)	Gals. Removed	Observations
1210	68.3	6.8	699	35	cloudy, odor
				42	well dewatered @ DFW = 34.6
1345	67.1	6.7	710	-	clear, odor
✗ Heavy screen No SPH Detected during gauging. Bailed prior to purging well. Usable during sampling.					
Did well dewater? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			Gallons actually evacuated: <u>42</u>		
Sampling Time: <u>1345</u>			Sampling Date: <u>7/22/01</u>		
Sample I.D.: <u>RW-1</u>			Laboratory: Pace <u>Squoia</u> Other _____		
Analyzed for: GRO BTEX MTBE DRO			Other: <u>See Scope</u>		
D.O. (if req'd):		Pre-purge:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):		Pre-purge:	mV	Post-purge:	mV

ARCO / BP WELL MONITORING DATA SHEET

BTS #: <u>050722-M02</u>	Station #: <u>11133</u>
Sampler: <u>MD</u>	Date: <u>7/22/05</u>
Well I.D.: <u>VEW-4</u>	Well Diameter: 2 3 <u>4</u> 6 8
Total Well Depth: <u>18.56</u>	Depth to Water: <u>14.04</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>YVS</u> Grade	D.O. Meter (if req'd): YSI <input type="checkbox"/> HACH <input type="checkbox"/>

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius ² * 0.163

Purge Method: <input type="radio"/> Bailer <input checked="" type="radio"/> Disposable Bailer <input type="radio"/> Positive Air Displacement <input type="radio"/> Electric Submersible <input type="radio"/> Extraction Pump Other: _____	Sampling Method: <input type="radio"/> Bailer <input checked="" type="radio"/> Disposable Bailer <input type="radio"/> Extraction Port Other: _____
--	--

Top of Screen: _____ If well is listed as a no-purge, confirm that water level is below the top of screen. Otherwise, the well must be purged.

<u>2.9</u>	x	<u>3</u>	=	<u>8.7</u>	Gals.
1 Case Volume (Gals.)		Specified Volumes		Calculated Volume	

Time	Temp (°F)	pH	Conductivity (mS or µS)	Gals. Removed	Observations
<u>1255</u>	<u>67.3</u>	<u>7.1</u>	<u>577</u>	<u>2.9</u>	<u>cloudy</u>
<u>1258</u>	<u>67.1</u>	<u>6.8</u>	<u>585</u>	<u>5.8</u>	<u>"</u>
<u>1300</u>	<u>67.0</u>	<u>6.8</u>	<u>568</u>	<u>8.7</u>	<u>cloudy</u>

Did well dewater? Yes: <input type="checkbox"/> No: <input checked="" type="checkbox"/>	Gallons actually evacuated: <u>8.7</u>
Sampling Time: <u>1305</u>	Sampling Date: <u>7/22/05</u>
Sample I.D.: <u>VEW-4</u>	Laboratory: Pace <input checked="" type="checkbox"/> Sequoia <input type="checkbox"/> Other _____
Analyzed for: GRO BTEX MTBE DRO	Other: <u>Six Scope</u>
D.O. (if req'd):	Pre-purge: _____ mg/L Post-purge: _____ mg/L
O.R.P. (if req'd):	Pre-purge: _____ mV Post-purge: _____ mV

ARCO / BP WELL MONITORING DATA SHEET

BTS #: <u>65092-MD2</u>	Station # <u>3 11133</u>
Sampler: <u>MD</u>	Date: <u>7/22/85</u>
Well I.D.: <u>VEW-5</u>	Well Diameter: 2 3 <u>4</u> 6 8
Total Well Depth: <u>10.41</u>	Depth to Water: <u>Dry</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	D.O. Meter (if req'd): YSI HACH

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius ² * 0.163

Purge Method: <u>Bailer</u> Disposable Bailer Positive Air Displacement Electric Submersible Extraction Pump Other: _____	Sampling Method: <u>Bailer</u> Disposable Bailer Extraction Port Other: _____
--	--

Top of Screen: _____ If well is listed as a no-purge, confirm that water level is below the top of screen. Otherwise, the well must be purged.

_____	X	_____	=	_____ Gals.
1 Case Volume (Gals.)		Specified Volumes		Calculated Volume

Time	Temp (°F)	pH	Conductivity (mS or μS)	Gals. Removed	Observations
					<u>well is dry</u>

Did well dewater? Yes <input type="checkbox"/> No <input type="checkbox"/>	Gallons actually evacuated: _____
Sampling Time: _____	Sampling Date: _____
Sample I.D.: _____	Laboratory: <u>Pace</u> Sequoia Other _____
Analyzed for: GRO BTEX MTBE DRO Other: _____	
D.O. (if req'd): Pre-purge: _____ mg/L	Post-purge: _____ mg/L
O.R.P. (if req'd): Pre-purge: _____ mV	Post-purge: _____ mV

ARCO / BP WELL MONITORING DATA SHEET

BTS #: <u>050722-MR2</u>	Station # <u>11133</u>
Sampler: <u>MA</u>	Date: <u>7/22/05</u>
Well I.D.: <u>NEW-8</u>	Well Diameter: 2 3 <u>4</u> 6 8
Total Well Depth: <u>16.95</u>	Depth to Water: <u>14.25</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	D.O. Meter (if req'd): YSI HACH

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius ² * 0.163

Purge Method: Bailer
 Disposable Bailer
 Positive Air Displacement
 Electric Submersible Extraction Pump
 Other: _____

Sampling Method: Bailer
 Disposable Bailer
 Extraction Port
 Other: _____

Top of Screen: _____ If well is listed as a no-purge, confirm that water level is below the top of screen. Otherwise, the well must be purged.

<u>MA</u> 3.5 18x	<u>3</u>	=	12.5 5.4 Gals.
1 Case Volume (Gals.)	Specified Volumes		Calculated Volume

Time	Temp (°F)	pH	Conductivity (mS or μ S)	Gals. Removed	Observations
1319	65.2	6.9	1044	1.2	cloudy
1321	64.7	6.8	1059	3.6	" " red
			well dewatered $\text{\textcircled{D}}$		4 gals
1330	64.9	6.8	1065	-	cloudy

Did well dewater? Yes No Gallons actually evacuated: 4

Sampling Time: 1330 @ site Sampling Date: 7/22/05

Sample I.D.: NEW-8 Laboratory: Pace Sequoia Other _____

Analyzed for: GRO BTEX MTBE DRO Other: Sequoia

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV



Chain of Custody Record

Project Name: Analytical for QMR sampling
 BP BU/AR Region/Enfos Segment: BP > Americas > West Coast > Retail > WCBU > CA > Central > 11133 > Historical/BL
 State or Lead Regulatory Agency: California Regional Water Quality Control Board - San Fr
 Requested Due Date (mm/dd/yy): 10 Day TAT

On-site Time: <u>1545</u>	Temp: <u>69</u>
Off-site Time: <u>1400</u>	Temp: <u>80</u>
Sky Conditions:	
Meteorological Events:	
Wind Speed:	Direction:

Lab Name: <u>Sequoia</u>	BP/AR Facility No.: <u>11133</u>	Consultant/Contractor: <u>URS</u>
Address: <u>885 Jarvis Drive</u> <u>Morgan Hill, CA 95037</u>	BP/AR Facility Address: <u>2220 98th Ave., Oakland, CA 94603</u>	Address: <u>1333 Broadway, Suite 800</u> <u>Oakland, CA 94612</u>
Lab PM: <u>Lisa Race</u>	California Global ID No.: <u>T0600100210</u>	Consultant/Contractor Project No.: <u>38487139</u>
Tele/Fax: <u>408.782.8156 / 408.782.6308</u>	Enfos Project No.: <u>G07TT-0019</u>	Consultant/Contractor PM: <u>Lynelle Onishi</u>
BP/AR PM Contact: <u>Kyle Christie</u>	Provision or RCOP: <u>Provision</u>	Tele/Fax: <u>510.874.1758 / 510.874.3268</u>
Address: <u>4 Centerpointe Dr.</u> <u>La Palma, CA 90623</u>	Phase/WBS: <u>04 - Mon/Remed by Natural Attenuation</u>	Report Type & QC Level: <u>Level 1 with EDF</u>
Tele/Fax: <u>(714) 670-5303 / (714) 670-5195</u>	Sub Phase/Task: <u>03 - Analytical</u>	E-mail EDD To: <u>Donna.Cosper@urscorp.com</u>
	Cost Element: <u>05 - Subcontracted Costs</u>	Invoice to: <u>Atlantic Richfield Company</u>

Item No.	Sample Description	Time	Date	Matrix			Laboratory No.	No. of Containers	Preservative					Requested Analysis					Sample Point Lat/Long and Comments		
				Soil/Solid	Water/Liquid	Air			Unpreserved	H ₂ SO ₄	HNO ₃	HCl	Methanol	GRO / BTEX (8260)	MTBE, TAME, ETBE (8260)	DIPE, TBA (8260)	EDB, 1,2-DCA (8260)	Ethanol (8260)			
1	MW-1	1145	7/22/05	X			W						X	X	X	X					
2	MW-3	1100		X			W						X	X	X	X					
3	AW-1	1245		X			W						X	X	X	X					
4	AW-4	1015		X			W						X	X	X	X					
5	AW-5	1135		X			W						X	X	X	X					
6	AW-6	1335		X			W						X	X	X	X					
7	RW-1	1245		X			W						X	X	X	X					
8	VEW-4	1305		X			W						X	X	X	X					
9	VEW-8	1300		X			W						X	X	X	X					
10	IB-1103-0722005	-		X			W						X	X	X	X					<i>On Hold</i>

Sampler's Name: <u>John D. Don</u>	Relinquished By / Affiliation: <u>[Signature]</u>	Date: <u>7/22/05</u>	Time: <u>1557</u>	Accepted By / Affiliation: <u>[Signature] SAMPLE CUSTODIAN</u>	Date: <u>7/22/05</u>	Time: <u>1557</u>
Sampler's Company: <u>Blain-Tech</u>						
Shipment Date:						
Shipment Method:						
Shipment Tracking No:						

Special Instructions:

Custody Seals In Place Yes No Temp Blank Yes No Cooler Temperature on Receipt F/C Trip Blank Yes No

BP GEM OIL COMPANY TYPE A BILL OF LADING

SOURCE RECORD BILL OF LADING FOR NON-HAZARDOUS PURGEWATER RECOVERED FROM GROUNDWATER WELLS AT BP GEM OIL COMPANY FACILITIES IN THE STATE OF CALIFORNIA. THE NON-HAZARDOUS PURGE- WATER WHICH HAS BEEN RECOVERED FROM GROUND- WATER WELLS IS COLLECTED BY THE CONTRACTOR, MADE UP INTO LOADS OF APPROPRIATE SIZE AND HAULED BY DILLARD ENVIRONMENTAL TO THE ALTAMONT LANDFILL AND RESOURCE RECOVERY FACILITY IN LIVERMORE, CALIFORNIA.

The contractor performing this work is BLAINE TECH SERVICES, INC. (BTS), 1680 Rogers Avenue, San Jose, CA 95112 (phone [408] 573-0555). Blaine Tech Services, Inc. is authorized by BP GEM OIL COMPANY to recover, collect, apportion into loads the Non-Hazardous Well Purgewater that is drawn from wells at the BP GEM Oil Company facility indicated below and deliver that purgewater to BTS. Transport routing of the Non-Hazardous Well Purgewater may be direct from one BP GEM facility to the designated destination point; from one BP GEM facility to the designated destination point via another BP GEM facility; from a BP GEM facility to the designated destination point via the contractor's facility, or any combination thereof. The Non-Hazardous Well Purgewater is and remains the property of BP GEM Oil Company.

This Source Record BILL OF LADING was initiated to cover the recovery of Non-Hazardous Well Purgewater from wells at the BP GEM Oil Company facility described below:

11133

Station # _____

Station Address 2220 98th Ave, Oakland

Total Gallons Collected From Groundwater Monitoring Wells:
155

added equip. _____ any other adjustments _____
rinse water 10

TOTAL GALS. RECOVERED 155 loaded onto BTS vehicle # 59

BTS event # _____ time _____ date _____
050722 - 1400 7/22/05

signature [Signature]

REC'D AT _____ time _____ date _____

unloaded by _____
signature _____



WELLHEAD INSPECTION CHECKLIST
BP / GEM

Date 7/22/05

Site Address 2220 98th Ave, Oakland

Job Number 050722-MW2 Technician MMJ

Well ID	Well Inspected - No Corrective Action Required	Water Bailed From Wellbox	Wellbox Components Cleaned	Cap Replaced	Debris Removed From Wellbox	Lock Replaced	Other Action Taken (explain below)	Well Not Inspected (explain below)
MW-1	✓							
MW-2	✓							
MW-3	✓							
AW-1	X							
AW-2	✓							
AW-3		X						
AW-4		X						
AW-5							⊙	
AW-6							⊙	
AW-7								✓
AW-8	✓							✓
RW-1							⊙	
VEW-4							⊙	
VEW-5	X						⊙	
VEW-8	X						⊙	

NOTES: ① Flaps Broken
② No Bolts

ATTACHMENT G

**LABORATORY ANALYTICAL REPORTS AND
CHAIN-OF-CUSTODY RECORDS**



**Sequoia
Analytical**

885 Jarvis Drive
Morgan Hill, CA 95037
(408) 776-9600
FAX (408) 782-6308
www.sequoialabs.com

17 August, 2005

Lynelle Onishi
URS Corporation [Arco]
1333 Broadway, Suite 800
Oakland, CA 94612

RE: BP Heritage #11133, Oakland, CA
Work Order: MOG0771

Enclosed are the results of analyses for samples received by the laboratory on 07/22/05 18:30. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jamshid Kekobad
Project Manager

CA ELAP Certificate #1210

URS Corporation [Arco]
1333 Broadway, Suite 800
Oakland CA, 94612

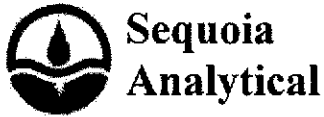
Project:BP Heritage #11133, Oakland, CA
Project Number:G07TT-0025
Project Manager:Lynelle Onishi

MOG0771
Reported:
08/17/05 12:22

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SB-1 (5.5-5')	MOG0771-01	Soil	07/22/05 09:52	07/22/05 18:30
SB-1 (9.5-10')	MOG0771-02	Soil	07/22/05 09:57	07/22/05 18:30
SB-1 (14.5-15')	MOG0771-03	Soil	07/22/05 10:05	07/22/05 18:30
SB-1 (19.5-20')	MOG0771-04	Soil	07/22/05 10:12	07/22/05 18:30
SB-1 (21.5-22')	MOG0771-05	Soil	07/22/05 10:24	07/22/05 18:30
SB-1 (25-25.5')	MOG0771-06	Soil	07/22/05 10:29	07/22/05 18:30
SB-1 (27.5-28')	MOG0771-07	Soil	07/22/05 10:42	07/22/05 18:30
SB-1 (31.5-32')	MOG0771-08	Soil	07/22/05 10:46	07/22/05 18:30
SB-1 (34.5-35')	MOG0771-09	Soil	07/22/05 11:05	07/22/05 18:30
SB-1 (37.5-38')	MOG0771-10	Soil	07/22/05 11:24	07/22/05 18:30
SB-1 (41.5-42')	MOG0771-11	Soil	07/22/05 11:39	07/22/05 18:30
Trip Blank	MOG0771-12	Soil	07/22/05 15:00	07/22/05 18:30

The carbon range for the TPH-GRO has been changed from C6-C10 to C4-C12. The carbon range for TPH-DRO has been changed from C10-C28 to C10-C36. EPA 8015B has been modified to better meet the requirements of California regulatory agencies. These samples were received with no custody seals.



1885 Jarvis Drive
 Morgan Hill, CA 95037
 (408) 776-9600
 FAX (408) 782-6308
 www.sequoialabs.com

URS Corporation [Arco]
 1333 Broadway, Suite 800
 Oakland CA, 94612

Project:BP Heritage #11133, Oakland, CA
 Project Number:G07TT-0025
 Project Manager:Lynelle Onishi

MOG0771
 Reported:
 08/17/05 12:22

Total Metals by EPA 6000/7000 Series Methods
Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
SB-1 (25-25.5') (MOG0771-06) Soil Sampled: 07/22/05 10:29 Received: 07/22/05 18:30										
Lead	ND	5.0		mg/kg	1	5H16012	08/16/05	08/16/05	EPA 6010B	

Sequoia Analytical - Morgan Hill

The results in this report apply to the samples analyzed in accordance with the chain of custody document. Unless otherwise stated, results are reported on a wet weight basis. This analytical report must be reproduced in its entirety.

URS Corporation [Arco]
 1333 Broadway, Suite 800
 Oakland CA, 94612

 Project:BP Heritage #11133, Oakland, CA
 Project Number:G07TT-0025
 Project Manager:Lynelle Onishi

 MOG0771
 Reported:
 08/17/05 12:22

Volatile Organic Compounds by EPA Method 8260B
Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SB-1 (5-5.5') (MOG0771-01) Soil Sampled: 07/22/05 09:52 Received: 07/22/05 18:30									
tert-Amyl methyl ether	ND	0.0046	mg/kg	0.91	5G26004	07/26/05	07/27/05	EPA 8260B	
Benzene	ND	0.0046	"	"	"	"	"	"	
tert-Butyl alcohol	ND	0.018	"	"	"	"	"	"	
Di-isopropyl ether	ND	0.0046	"	"	"	"	"	"	IC
1,2-Dibromoethane (EDB)	ND	0.0046	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.0046	"	"	"	"	"	"	
Ethanol	ND	0.091	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	0.0046	"	"	"	"	"	"	
Ethylbenzene	ND	0.0046	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	0.0046	"	"	"	"	"	"	
Toluene	ND	0.0046	"	"	"	"	"	"	
Xylenes (total)	ND	0.0046	"	"	"	"	"	"	
Gasoline Range Organics (C4-C12)	ND	0.091	"	"	"	"	"	"	
<i>Surrogate: 1,2-Dichloroethane-d4</i>		98 %		60-125	"	"	"	"	
SB-1 (9.5-10') (MOG0771-02) Soil Sampled: 07/22/05 09:57 Received: 07/22/05 18:30									
tert-Amyl methyl ether	ND	0.0048	mg/kg	0.96	5G26004	07/26/05	07/27/05	EPA 8260B	
Benzene	ND	0.0048	"	"	"	"	"	"	
tert-Butyl alcohol	ND	0.019	"	"	"	"	"	"	
Di-isopropyl ether	ND	0.0048	"	"	"	"	"	"	IC
1,2-Dibromoethane (EDB)	ND	0.0048	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.0048	"	"	"	"	"	"	
Ethanol	ND	0.096	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	0.0048	"	"	"	"	"	"	
Ethylbenzene	ND	0.0048	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	0.0048	"	"	"	"	"	"	
Toluene	ND	0.0048	"	"	"	"	"	"	
Xylenes (total)	ND	0.0048	"	"	"	"	"	"	
Gasoline Range Organics (C4-C12)	ND	0.096	"	"	"	"	"	"	
<i>Surrogate: 1,2-Dichloroethane-d4</i>		81 %		60-125	"	"	"	"	



1885 Jarvis Drive
 Morgan Hill, CA 95037
 (408) 776-9600
 FAX (408) 782-6308
 www.sequoialabs.com

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 1333 Broadway, Suite 800
 Oakland CA, 94612

Project:BP Heritage #11133, Oakland, CA
 Project Number:G07TT-0025
 Project Manager:Lynelle Onishi

MOG0771
 Reported:
 08/17/05 12:22

Volatile Organic Compounds by EPA Method 8260B
Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SB-1 (14.5-15') (MOG0771-03) Soil Sampled: 07/22/05 10:05 Received: 07/22/05 18:30

tert-Amyl methyl ether	ND	0.0050	mg/kg	0.99	5G26004	07/26/05	07/27/05	EPA 8260B	
Benzene	ND	0.0050	"	"	"	"	"	"	
tert-Butyl alcohol	ND	0.020	"	"	"	"	"	"	
Di-isopropyl ether	ND	0.0050	"	"	"	"	"	"	IC
1,2-Dibromoethane (EDB)	ND	0.0050	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.0050	"	"	"	"	"	"	
Ethanol	ND	0.099	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	0.0050	"	"	"	"	"	"	
Toluene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Organics (C4-C12)	ND	0.099	"	"	"	"	"	"	
<i>Surrogate: 1,2-Dichloroethane-d4</i>		91 %	60-125	"	"	"	"	"	

SB-1 (19.5-20') (MOG0771-04) Soil Sampled: 07/22/05 10:12 Received: 07/22/05 18:30

tert-Amyl methyl ether	ND	0.0048	mg/kg	0.95	5G26004	07/26/05	07/27/05	EPA 8260B	
Benzene	ND	0.0048	"	"	"	"	"	"	
tert-Butyl alcohol	ND	0.019	"	"	"	"	"	"	
Di-isopropyl ether	ND	0.0048	"	"	"	"	"	"	IC
1,2-Dibromoethane (EDB)	ND	0.0048	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.0048	"	"	"	"	"	"	
Ethanol	ND	0.095	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	0.0048	"	"	"	"	"	"	
Ethylbenzene	ND	0.0048	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	0.0048	"	"	"	"	"	"	
Toluene	ND	0.0048	"	"	"	"	"	"	
Xylenes (total)	ND	0.0048	"	"	"	"	"	"	
Gasoline Range Organics (C4-C12)	ND	0.095	"	"	"	"	"	"	
<i>Surrogate: 1,2-Dichloroethane-d4</i>		94 %	60-125	"	"	"	"	"	

Sequoia Analytical - Morgan Hill

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URS Corporation [Arco]
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 Oakland CA, 94612

 Project:BP Heritage #11133, Oakland, CA
 Project Number:G07TT-0025
 Project Manager:Lynelle Onishi

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 Reported:
 08/17/05 12:22

Volatile Organic Compounds by EPA Method 8260B
Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SB-1 (21.5-22') (MOG0771-05) Soil Sampled: 07/22/05 10:24 Received: 07/22/05 18:30									
tert-Amyl methyl ether	ND	0.0048	mg/kg	0.96	5G26004	07/26/05	07/27/05	EPA 8260B	
Benzene	ND	0.0048	"	"	"	"	"	"	
tert-Butyl alcohol	ND	0.019	"	"	"	"	"	"	
Di-isopropyl ether	ND	0.0048	"	"	"	"	"	"	IC
1,2-Dibromoethane (EDB)	ND	0.0048	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.0048	"	"	"	"	"	"	
Ethanol	ND	0.096	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	0.0048	"	"	"	"	"	"	
Ethylbenzene	ND	0.0048	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	0.0048	"	"	"	"	"	"	
Toluene	ND	0.0048	"	"	"	"	"	"	
Xylenes (total)	ND	0.0048	"	"	"	"	"	"	
Gasoline Range Organics (C4-C12)	ND	0.096	"	"	"	"	"	"	
<i>Surrogate: 1,2-Dichloroethane-d4</i>		79 %	60-125	"	"	"	"	"	
SB-1 (25-25.5') (MOG0771-06) Soil Sampled: 07/22/05 10:29 Received: 07/22/05 18:30									
tert-Amyl methyl ether	ND	0.025	mg/kg	1	5G29008	07/29/05	08/02/05	EPA 8260B	
Benzene	ND	0.050	"	"	"	"	"	"	
tert-Butyl alcohol	ND	5.0	"	"	"	"	"	"	
Di-isopropyl ether	ND	0.025	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.025	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.025	"	"	"	"	"	"	
Ethanol	ND	10	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	0.025	"	"	"	"	"	"	
Ethylbenzene	0.20	0.050	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	0.025	"	"	"	"	"	"	
Toluene	ND	0.050	"	"	"	"	"	"	
Xylenes (total)	ND	0.050	"	"	"	"	"	"	
Gasoline Range Organics (C4-C12)	64	2.5	"	"	"	"	"	"	
<i>Surrogate: 1,2-Dichloroethane-d4</i>		90 %	60-125	"	"	"	"	"	



1885 Jarvis Drive
Morgan Hill, CA 95037
(408) 776-9600
FAX (408) 782-6308
www.sequoialabs.com

URS Corporation [Arco] 1333 Broadway, Suite 800 Oakland CA, 94612	Project:BP Heritage #11133, Oakland, CA Project Number:G07TT-0025 Project Manager:Lynelle Onishi	MOG0771 Reported: 08/17/05 12:22
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Volatile Organic Compounds by EPA Method 8260B
Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SB-1 (27.5-28') (MOG0771-07) Soil Sampled: 07/22/05 10:42 Received: 07/22/05 18:30									
tert-Amyl methyl ether	ND	0.0050	mg/kg	1	5G26004	07/26/05	07/27/05	EPA 8260B	
Benzene	ND	0.0050	"	"	"	"	"	"	
tert-Butyl alcohol	ND	0.020	"	"	"	"	"	"	
Di-isopropyl ether	ND	0.0050	"	"	"	"	"	"	IC
1,2-Dibromoethane (EDB)	ND	0.0050	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.0050	"	"	"	"	"	"	
Ethanol	ND	0.10	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	0.0050	"	"	"	"	"	"	
Toluene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Organics (C4-C12)	0.39	0.10	"	"	"	"	"	"	
<i>Surrogate: 1,2-Dichloroethane-d4</i>		93 %	60-125	"	"	"	"	"	
SB-1 (31.5-32') (MOG0771-08) Soil Sampled: 07/22/05 10:46 Received: 07/22/05 18:30									
tert-Amyl methyl ether	ND	0.024	mg/kg	4.9	5G26004	07/26/05	07/27/05	EPA 8260B	
Benzene	ND	0.024	"	"	"	"	"	"	
tert-Butyl alcohol	ND	0.098	"	"	"	"	"	"	
Di-isopropyl ether	ND	0.024	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.024	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.024	"	"	"	"	"	"	
Ethanol	ND	0.49	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	0.024	"	"	"	"	"	"	
Ethylbenzene	ND	0.024	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	0.024	"	"	"	"	"	"	
Toluene	ND	0.024	"	"	"	"	"	"	
Xylenes (total)	ND	0.024	"	"	"	"	"	"	
Gasoline Range Organics (C4-C12)	7.0	0.49	"	"	"	"	"	"	
<i>Surrogate: 1,2-Dichloroethane-d4</i>		92 %	60-125	"	"	"	"	"	

Sequoia Analytical - Morgan Hill

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1333 Broadway, Suite 800
Oakland CA, 94612

Project:BP Heritage #11133, Oakland, CA
Project Number:G07TT-0025
Project Manager:Lynelle Onishi

MOG0771
Reported:
08/17/05 12:22

Volatile Organic Compounds by EPA Method 8260B
Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SB-1 (34.5-35') (MOG0771-09) Soil Sampled: 07/22/05 11:05 Received: 07/22/05 18:30									
tert-Amyl methyl ether	ND	0.0048	mg/kg	0.95	5G26004	07/26/05	07/27/05	EPA 8260B	
Benzene	ND	0.0048	"	"	"	"	"	"	
tert-Butyl alcohol	ND	0.019	"	"	"	"	"	"	
Di-isopropyl ether	ND	0.0048	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.0048	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.0048	"	"	"	"	"	"	
Ethanol	ND	0.095	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	0.0048	"	"	"	"	"	"	
Ethylbenzene	0.015	0.0048	"	"	"	"	"	"	
Methyl tert-butyl ether	0.0066	0.0048	"	"	"	"	"	"	
Toluene	ND	0.0048	"	"	"	"	"	"	
Xylenes (total)	ND	0.0048	"	"	"	"	"	"	
Gasoline Range Organics (C4-C12)	0.19	0.095	"	"	"	"	"	"	
<i>Surrogate: 1,2-Dichloroethane-d4</i>		101 %	60-125	"	"	"	"	"	
SB-1 (37.5-38') (MOG0771-10) Soil Sampled: 07/22/05 11:24 Received: 07/22/05 18:30									
tert-Amyl methyl ether	ND	0.0047	mg/kg	0.94	5G26004	07/26/05	07/27/05	EPA 8260B	
Benzene	ND	0.0047	"	"	"	"	"	"	
tert-Butyl alcohol	ND	0.019	"	"	"	"	"	"	
Di-isopropyl ether	ND	0.0047	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.0047	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.0047	"	"	"	"	"	"	
Ethanol	ND	0.094	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	0.0047	"	"	"	"	"	"	
Ethylbenzene	ND	0.0047	"	"	"	"	"	"	
Methyl tert-butyl ether	0.0097	0.0047	"	"	"	"	"	"	
Toluene	ND	0.0047	"	"	"	"	"	"	
Xylenes (total)	ND	0.0047	"	"	"	"	"	"	
Gasoline Range Organics (C4-C12)	ND	0.094	"	"	"	"	"	"	
<i>Surrogate: 1,2-Dichloroethane-d4</i>		102 %	60-125	"	"	"	"	"	

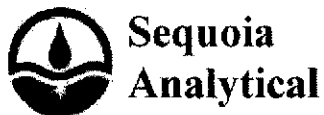
URS Corporation [Aero]
1333 Broadway, Suite 800
Oakland CA, 94612

Project:BP Heritage #11133, Oakland, CA
Project Number:G07TT-0025
Project Manager:Lynelle Onishi

MOG0771
Reported:
08/17/05 12:22

Volatile Organic Compounds by EPA Method 8260B
Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SB-1 (41.5-42') (MOG0771-11) Soil Sampled: 07/22/05 11:39 Received: 07/22/05 18:30									
tert-Amyl methyl ether	ND	0.0048	mg/kg	0.96	5G26004	07/26/05	07/27/05	EPA 8260B	
Benzene	ND	0.0048	"	"	"	"	"	"	
tert-Butyl alcohol	ND	0.019	"	"	"	"	"	"	
Di-isopropyl ether	ND	0.0048	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.0048	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.0048	"	"	"	"	"	"	
Ethanol	ND	0.096	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	0.0048	"	"	"	"	"	"	
Ethylbenzene	ND	0.0048	"	"	"	"	"	"	
Methyl tert-butyl ether	0.0079	0.0048	"	"	"	"	"	"	
Toluene	ND	0.0048	"	"	"	"	"	"	
Xylenes (total)	ND	0.0048	"	"	"	"	"	"	
Gasoline Range Organics (C4-C12)	ND	0.096	"	"	"	"	"	"	
<i>Surrogate: 1,2-Dichloroethane-d4</i>		100 %		60-125					



1885 Jarvis Drive
 Morgan Hill, CA 95037
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 www.sequoialabs.com

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 Oakland CA, 94612

Project:BP Heritage #11133, Oakland, CA
 Project Number:G07TT-0025
 Project Manager:Lynelle Onishi

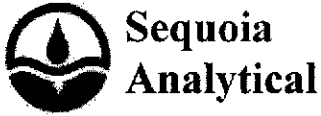
MOG0771
 Reported:
 08/17/05 12:22

Total Metals by EPA 6000/7000 Series Methods - Quality Control
Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 5H16012 - EPA 3050B / EPA 6010B										
Blank (5H16012-BLK1)										
Lead	ND	5.0	mg/kg							Prepared & Analyzed: 08/16/05
Laboratory Control Sample (5H16012-BS1)										
Lead	49.3	5.0	mg/kg	50.0		99	75-120			Prepared & Analyzed: 08/16/05
Matrix Spike (5H16012-MS1)										
Lead	54.4	5.0	mg/kg	50.0	12	85	75-120			Source: MOH0598-02 Prepared & Analyzed: 08/16/05
Matrix Spike Dup (5H16012-MSD1)										
Lead	55.6	5.0	mg/kg	50.0	12	87	75-120	2	20	Source: MOH0598-02 Prepared & Analyzed: 08/16/05

Sequoia Analytical - Morgan Hill

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URS Corporation [Arco]
1333 Broadway, Suite 800
Oakland CA, 94612

Project:BP Heritage #11133, Oakland, CA
Project Number:G07TT-0025
Project Manager:Lynelle Onishi

MOG0771
Reported:
08/17/05 12:22

Volatile Organic Compounds by EPA Method 8260B - Quality Control
Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 5G26004 - EPA 5030B P/T / EPA 8260B

Blank (5G26004-BLK1)

Prepared & Analyzed: 07/26/05

tert-Amyl methyl ether	ND	0.0050	mg/kg							
Benzene	ND	0.0050	"							
tert-Butyl alcohol	ND	0.020	"							
Di-isopropyl ether	ND	0.0050	"							IC
1,2-Dibromoethane (EDB)	ND	0.0050	"							
1,2-Dichloroethane	ND	0.0050	"							
Ethanol	ND	0.10	"							
Ethyl tert-butyl ether	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Methyl tert-butyl ether	ND	0.0050	"							
Toluene	ND	0.0050	"							
Xylenes (total)	ND	0.0050	"							
Gasoline Range Organics (C4-C12)	ND	0.10	"							

Surrogate: 1,2-Dichloroethane-d4

0.00476

0.00500

95 60-125

Blank (5G26004-BLK2)

Prepared: 07/26/05 Analyzed: 07/27/05

tert-Amyl methyl ether	ND	0.0050	mg/kg							
Benzene	ND	0.0050	"							
tert-Butyl alcohol	ND	0.020	"							
Di-isopropyl ether	ND	0.0050	"							
1,2-Dibromoethane (EDB)	ND	0.0050	"							
1,2-Dichloroethane	ND	0.0050	"							
Ethanol	ND	0.10	"							
Ethyl tert-butyl ether	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Methyl tert-butyl ether	ND	0.0050	"							
Toluene	ND	0.0050	"							
Xylenes (total)	ND	0.0050	"							
Gasoline Range Organics (C4-C12)	ND	0.10	"							

Surrogate: 1,2-Dichloroethane-d4

0.00403

0.00500

81 60-125

Sequoia Analytical - Morgan Hill

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URS Corporation [Arco]
 1333 Broadway, Suite 800
 Oakland CA, 94612

 Project:BP Heritage #11133, Oakland, CA
 Project Number:G07TT-0025
 Project Manager:Lynelle Onishi

 MOG0771
 Reported:
 08/17/05 12:22

Volatile Organic Compounds by EPA Method 8260B - Quality Control
Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 5G26004 - EPA 5030B P/T / EPA 8260B
Laboratory Control Sample (5G26004-BS1)

Prepared & Analyzed: 07/26/05

tert-Amyl methyl ether	0.00938	0.0050	mg/kg	0.0100	94	80-130				
Benzene	0.00916	0.0050	"	0.0100	92	65-125				
tert-Butyl alcohol	0.0468	0.020	"	0.0500	94	80-165				
Di-isopropyl ether	0.00964	0.0050	"	0.0100	96	85-115				
1,2-Dibromoethane (EDB)	0.00960	0.0050	"	0.0100	96	85-130				
1,2-Dichloroethane	0.00990	0.0050	"	0.0100	99	63-124				
Ethanol	0.202	0.10	"	0.200	101	35-150				
Ethyl tert-butyl ether	0.00906	0.0050	"	0.0100	91	80-125				
Ethylbenzene	0.00990	0.0050	"	0.0100	99	80-135				
Methyl tert-butyl ether	0.00932	0.0050	"	0.0100	93	75-115				
Toluene	0.00980	0.0050	"	0.0100	98	85-125				
Xylenes (total)	0.0304	0.0050	"	0.0300	101	80-140				
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.00500</i>		"	<i>0.00500</i>	<i>100</i>	<i>60-125</i>				

Laboratory Control Sample (5G26004-BS2)

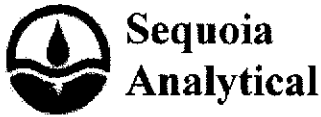
Prepared & Analyzed: 07/26/05

Benzene	0.00533	0.0050	mg/kg	0.00608	88	65-125				
Ethylbenzene	0.00782	0.0050	"	0.00784	100	80-135				
Methyl tert-butyl ether	0.00786	0.0050	"	0.00960	82	75-115				
Toluene	0.0298	0.0050	"	0.0329	91	85-125				
Xylenes (total)	0.0376	0.0050	"	0.0385	98	80-140				
Gasoline Range Organics (C4-C12)	0.374	0.10	"	0.440	85	53-126				
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.00396</i>		"	<i>0.00500</i>	<i>79</i>	<i>60-125</i>				

Laboratory Control Sample Dup (5G26004-BSD1)

Prepared: 07/26/05 Analyzed: 07/27/05

tert-Amyl methyl ether	0.0102	0.0050	mg/kg	0.0100	102	80-130	8	25		
Benzene	0.0100	0.0050	"	0.0100	100	65-125	9	20		
tert-Butyl alcohol	0.0698	0.020	"	0.0500	140	80-165	39	25		BA
Di-isopropyl ether	0.0107	0.0050	"	0.0100	107	85-115	10	20		
1,2-Dibromoethane (EDB)	0.0106	0.0050	"	0.0100	106	85-130	10	15		
1,2-Dichloroethane	0.0114	0.0050	"	0.0100	114	63-124	14	25		
Ethanol	0.188	0.10	"	0.200	94	35-150	7	40		
Ethyl tert-butyl ether	0.00994	0.0050	"	0.0100	99	80-125	9	25		
Ethylbenzene	0.0101	0.0050	"	0.0100	101	80-135	2	20		
Methyl tert-butyl ether	0.0100	0.0050	"	0.0100	100	75-115	7	35		
Toluene	0.0105	0.0050	"	0.0100	105	85-125	7	15		
Xylenes (total)	0.0309	0.0050	"	0.0300	103	80-140	2	20		



URS Corporation [Arco]
1333 Broadway, Suite 800
Oakland CA, 94612

Project:BP Heritage #11133, Oakland, CA
Project Number:G07TT-0025
Project Manager:Lynelle Onishi

MOG0771
Reported:
08/17/05 12:22

Volatile Organic Compounds by EPA Method 8260B - Quality Control
Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 5G26004 - EPA 5030B P/T / EPA 8260B

Laboratory Control Sample Dup (5G26004-BSD1)

Prepared: 07/26/05 Analyzed: 07/27/05

Surrogate: 1,2-Dichloroethane-d4	0.00506		mg/kg	0.00500		101	60-125			
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Laboratory Control Sample Dup (5G26004-BSD2)

Prepared: 07/26/05 Analyzed: 07/27/05

Benzene	0.00535	0.0050	mg/kg	0.00608		88	65-125	0.4	20	
Ethylbenzene	0.00742	0.0050	"	0.00784		95	80-135	5	20	
Methyl tert-butyl ether	0.00929	0.0050	"	0.00960		97	75-115	17	35	
Toluene	0.0322	0.0050	"	0.0329		98	85-125	8	15	
Xylenes (total)	0.0363	0.0050	"	0.0385		94	80-140	4	20	
Gasoline Range Organics (C4-C12)	0.391	0.10	"	0.440		89	53-126	4	25	

Surrogate: 1,2-Dichloroethane-d4	0.00547		"	0.00500		109	60-125			
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Matrix Spike (5G26004-MS1)

Source: MOG0771-01

Prepared: 07/26/05 Analyzed: 07/27/05

Benzene	0.00485	0.0048	mg/kg	0.00608	ND	80	65-125			
Ethylbenzene	0.00691	0.0048	"	0.00784	ND	88	80-135			
Methyl tert-butyl ether	0.00785	0.0048	"	0.00960	ND	82	75-115			
Toluene	0.0303	0.0048	"	0.0329	ND	92	85-125			
Xylenes (total)	0.0344	0.0048	"	0.0385	ND	89	80-140			
Gasoline Range Organics (C4-C12)	0.366	0.097	"	0.440	ND	83	53-126			

Surrogate: 1,2-Dichloroethane-d4	0.00512		"	0.00500		102	60-125			
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Matrix Spike Dup (5G26004-MSD1)

Source: MOG0771-01

Prepared: 07/26/05 Analyzed: 07/27/05

Benzene	0.00431	0.0047	mg/kg	0.00608	ND	71	65-125	12	20	
Ethylbenzene	0.00634	0.0047	"	0.00784	ND	81	80-135	9	20	
Methyl tert-butyl ether	0.00703	0.0047	"	0.00960	ND	73	75-115	11	35	LN
Toluene	0.0276	0.0047	"	0.0329	ND	84	85-125	9	15	LN
Xylenes (total)	0.0314	0.0047	"	0.0385	ND	82	80-140	9	20	
Gasoline Range Organics (C4-C12)	0.334	0.094	"	0.440	ND	76	53-126	9	25	

Surrogate: 1,2-Dichloroethane-d4	0.00484		"	0.00500		97	60-125			
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URS Corporation [Arco]
 1333 Broadway, Suite 800
 Oakland CA, 94612

 Project:BP Heritage #11133, Oakland, CA
 Project Number:G07TT-0025
 Project Manager:Lynelle Onishi

 MOG0771
 Reported:
 08/17/05 12:22

Volatile Organic Compounds by EPA Method 8260B - Quality Control
Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 5G29008 - EPA 5030B/5035A MeOH / EPA 8260B
Blank (5G29008-BLK1)

Prepared: 07/29/05 Analyzed: 07/30/05

tert-Amyl methyl ether	ND	0.025	mg/kg							
Benzene	ND	0.050	"							
tert-Butyl alcohol	ND	5.0	"							
Di-isopropyl ether	ND	0.025	"							
1,2-Dibromoethane (EDB)	ND	0.025	"							
1,2-Dichloroethane	ND	0.025	"							
Ethanol	ND	10	"							
Ethyl tert-butyl ether	ND	0.025	"							
Ethylbenzene	ND	0.050	"							
Methyl tert-butyl ether	ND	0.025	"							
Toluene	ND	0.050	"							
Xylenes (total)	ND	0.050	"							
Gasoline Range Organics (C4-C12)	ND	2.5	"							
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.00456</i>		<i>"</i>	<i>0.00500</i>		<i>91</i>	<i>60-125</i>			

Laboratory Control Sample (5G29008-BS1)

Prepared & Analyzed: 07/29/05

tert-Amyl methyl ether	0.462	0.025	mg/kg	0.500		92	80-130			
Benzene	0.469	0.050	"	0.500		94	65-125			
tert-Butyl alcohol	2.45	5.0	"	2.50		98	80-165			
Di-isopropyl ether	0.468	0.025	"	0.500		94	85-115			
1,2-Dibromoethane (EDB)	0.444	0.025	"	0.500		89	85-130			
1,2-Dichloroethane	0.471	0.025	"	0.500		94	63-124			
Ethanol	11.9	10	"	10.0		119	35-150			
Ethyl tert-butyl ether	0.438	0.025	"	0.500		88	80-125			
Ethylbenzene	0.493	0.050	"	0.500		99	80-135			
Methyl tert-butyl ether	0.438	0.025	"	0.500		88	75-115			
Toluene	0.513	0.050	"	0.500		103	85-125			
Xylenes (total)	1.59	0.050	"	1.50		106	80-140			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.00450</i>		<i>"</i>	<i>0.00500</i>		<i>90</i>	<i>60-125</i>			

Sequoia Analytical - Morgan Hill

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URS Corporation [Arco] 1333 Broadway, Suite 800 Oakland CA, 94612	Project:BP Heritage #11133, Oakland, CA Project Number:G07TT-0025 Project Manager:Lynelle Onishi	MOG0771 Reported: 08/17/05 12:22
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**Volatile Organic Compounds by EPA Method 8260B - Quality Control
Sequoia Analytical - Morgan Hill**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
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Batch 5G29008 - EPA 5030B/5035A MeOH / EPA 8260B

Laboratory Control Sample (5G29008-BS2)

Prepared & Analyzed: 07/29/05

Benzene	0.193	0.050	mg/kg	0.228		85	65-125		
Ethylbenzene	0.293	0.050	"	0.294		100	80-135		
Methyl tert-butyl ether	0.297	0.025	"	0.360		82	75-115		
Toluene	1.25	0.050	"	1.23		102	85-125		
Xylenes (total)	1.51	0.050	"	1.44		105	80-140		
Gasoline Range Organics (C4-C12)	16.6	2.5	"	16.5		101	60-140		
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.00459</i>		"	<i>0.00500</i>		<i>92</i>	<i>60-125</i>		

Laboratory Control Sample Dup (5G29008-BSD1)

Prepared & Analyzed: 07/29/05

tert-Amyl methyl ether	0.453	0.025	mg/kg	0.500		91	80-130	2	25
Benzene	0.468	0.050	"	0.500		94	65-125	0.2	20
tert-Butyl alcohol	2.44	5.0	"	2.50		98	80-165	0.4	25
Di-isopropyl ether	0.462	0.025	"	0.500		92	85-115	1	20
1,2-Dibromoethane (EDB)	0.454	0.025	"	0.500		91	85-130	2	15
1,2-Dichloroethane	0.475	0.025	"	0.500		95	63-124	0.8	25
Ethanol	11.6	10	"	10.0		116	35-150	3	40
Ethyl tert-butyl ether	0.443	0.025	"	0.500		89	80-125	1	25
Ethylbenzene	0.498	0.050	"	0.500		100	80-135	1	20
Methyl tert-butyl ether	0.439	0.025	"	0.500		88	75-115	0.2	35
Toluene	0.511	0.050	"	0.500		102	85-125	0.4	15
Xylenes (total)	1.58	0.050	"	1.50		105	80-140	0.6	20
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.00469</i>		"	<i>0.00500</i>		<i>94</i>	<i>60-125</i>		

Matrix Spike (5G29008-MS1)

Source: MOG0514-01

Prepared & Analyzed: 07/29/05

Benzene	0.174	0.050	mg/kg	0.228	ND	76	65-125		
Ethylbenzene	0.271	0.050	"	0.294	ND	92	80-135		
Methyl tert-butyl ether	1.58	0.025	"	0.360	0.034	429	75-115		LM
Toluene	1.14	0.050	"	1.23	0.012	92	85-125		
Xylenes (total)	1.39	0.050	"	1.44	0.017	95	80-140		
Gasoline Range Organics (C4-C12)	16.2	2.5	"	16.5	1.7	88	60-140		
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.00452</i>		"	<i>0.00500</i>		<i>90</i>	<i>60-125</i>		



URS Corporation [Arco]
1333 Broadway, Suite 800
Oakland CA, 94612

Project:BP Heritage #11133, Oakland, CA
Project Number:G07TT-0025
Project Manager:Lynelle Onishi

MOG0771
Reported:
08/17/05 12:22

**Volatile Organic Compounds by EPA Method 8260B - Quality Control
Sequoia Analytical - Morgan Hill**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 5G29008 - EPA 5030B/5035A MeOH / EPA 8260B										
Matrix Spike Dup (5G29008-MSD1)	Source: MOG0514-01			Prepared: 07/29/05		Analyzed: 07/30/05				
Benzene	0.176	0.050	mg/kg	0.228	ND	77	65-125	1	20	
Ethylbenzene	0.258	0.050	"	0.294	ND	88	80-135	5	20	
Methyl tert-butyl ether	1.39	0.025	"	0.360	0.034	377	75-115	13	35	LM
Toluene	1.14	0.050	"	1.23	0.012	92	85-125	0	15	
Xylenes (total)	1.32	0.050	"	1.44	0.017	90	80-140	5	20	
Gasoline Range Organics (C4-C12)	16.2	2.5	"	16.5	1.7	88	60-140	0	25	
Surrogate: 1,2-Dichloroethane-d4	0.00462		"	0.00500		92	60-125			

URS Corporation [Arco]
1333 Broadway, Suite 800
Oakland CA, 94612Project:BP Heritage #11133, Oakland, CA
Project Number:G07TT-0025
Project Manager:Lynelle OnishiMOG0771
Reported:
08/17/05 12:22**Notes and Definitions**

LN MS and/or MSD below acceptance limits. See Blank Spike(LCS).

LM MS and/or MSD above acceptance limits. See Blank Spike(LCS).

IC Calib. verif. is within method limits but outside contract limits

BA Relative percent difference out of control

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference



Chain of Custody Record

Project Name: Former BP Site 11133 Soil/Groundwater Investigation
 BP BU/AR Region/Enfos Segment: BP/Americas/WestCoast/Retail/WCBU/CA/Cent
 State or Lead Regulatory Agency: Alameda County Environmental Health
 Requested Due Date (mm/dd/yy): Standard TAT

On-site Time: 8:00am	Temp: 65°F
Off-site Time: 3:30pm	Temp: 80°F
Sky Conditions: clear	
Meteorological Events: none	
Wind Speed: 15-20 mph	Direction: West

Lab Name: Sequoia Analytical	BP/AR Facility No.: 11133	Consultant/Contractor: URS
Address: 885 Jarvis Drive Morgan Hill, CA 95037	BP/AR Facility Address: 2220 98th Ave, Oakland, CA	Address: 1333 Broadway, Suite 800 Oakland, CA 94612
Lab PM: Lisa Race	California Global ID No.: -----	Consultant/Contractor Project No.: 38487352
Tele/Fax: 408-782-8156/408-782-6308	Enfos Project No.: G07T	Consultant/Contractor PM: Lynelle Onishi
BP/AR PM Contact: Kyle Christie	Provision or RCOP (circle one) Provision	Tele/Fax: 510-874-1758/510-874-3268
Address: 4 Centerpointe Dr. La Palma, CA	Phase/WBS: 01 - Assessment	Report Type & QC Level: Level 1 & EDP
Tele/Fax: 714-670-5303/714-6705195	Sub Phase/Task: 03 - Analytical	E-mail BDD To: lynelle_onishi@urscorp.com
	Cost Element: 05 - Subcontracted Costs	Invoice to: BP West Coast Global Alliance

Item No.	Sample Description	Time	Date	Matrix			Laboratory No.	No. of Containers	Preservative					Requested Analysis					Sample Point Lat/Long and Comments
				Soil/Solid	Water/Liquid	Air			Unpreserved	H ₂ SO ₄	HNO ₃	HCl	Methanol	GRO (8260)	BTEX (8260)	Fuel Add. (8260): MTBE, 1,2-DCA, EDB, TBA, TAME, DIPE, ETBE	Ethanol (8260)	Total Lead	
1	SB-1 (5-5.5')	7:52	7/22/05	X			61	1	X					X	X	X	X	* see special instructions	
2	SB-1 (9.5-10')	9:57					62												
3	SB-1 (14.5-15')	10:05					63												
4	SB-1 (19.5-20')	10:12					64												
5	SB-1 (21.5-22')	10:24					65												
6	SB-1 (25-25.5')	10:29					66												
7	SB-1 (27.5-28')	10:42					67												
8	SB-1 (31.5-32')	10:46					68												
9	SB-1 (34.5-35')	11:05					69												
10	SB-1 (37.5-38')	11:24					70												

Sampler's Name: John McCain	Relinquished By / Affiliation: John Kuli	Date: 7/22/05	Time: 16:00	Accepted By / Affiliation: Jason Lewis	Date: 7-22	Time: 18:30
Sampler's Company: URS	Relinquished By / Affiliation: Jason Lewis	Date: 7-22	Time: 18:30	Accepted By / Affiliation: Jason Lewis	Date: 7/22/05	Time: 18:30
Shipment Date: 7-22-05						
Shipment Method: courier						
Shipment Tracking No:						

Special Instructions: Analyze soil sample with highest GRO concentration for Total Lead (Pb).
 Pending total Pb analysis and result are >50ppm, run STLC, if STLC results are >5ppm, run TCLP
 Seals In Place Yes No Temp Blank Yes No Cooler Temperature on Receipt 86 °C Trip Blank Yes No



Chain of Custody Record

Project Name: Former BP Site 11133 Soil/Groundwater Investigation
 BP BU/AR Region/Enfos Segment: BP/Americas/WestCoast/Retail/WCBU/CA/Cent
 State or Lead Regulatory Agency: Alameda County Environmental Health
 Requested Due Date (mm/dd/yy): Standard TAT

On-site Time:	Temp:
Off-site Time:	Temp:
Sky Conditions:	
Meteorological Events:	
Wind Speed:	Direction:

Lab Name: Sequoia Analytical	BP/AR Facility No.: 11133	Consultant/Contractor: URS
Address: 885 Jarvis Drive Morgan Hill, CA 95037	BP/AR Facility Address: 2220 98th Ave, Oakland, CA	Address: 1333 Broadway, Suite 800 Oakland, CA 94612
Lab PM: Lisa Race	Site Lat/Long:	Consultant/Contractor Project No.: 38487352
Tele/Fax: 408-782-8156/408-782-6308	California Global ID No.: -----	Consultant/Contractor PM: Lynelle Onishi
BP/AR PM Contact: Kyle Christie	Enfos Project No.: G07T	Tele/Fax: 510-874-1758/510-874-3268
Address: 4 Centerpointe Dr. La Palma, CA	Provision or RCOP (circle one) Provision	Report Type & QC Level: Level 1 & EDF
Tele/Fax: 714-670-5303/714-6705195	Phase/WBS: 01 - Assessment	E-mail EDD To: <u>lynelle.onishi@urscorp.com</u>
	Sub Phase/Task: 03 - Analytical	Invoice to: BP West Coast Global Alliance
	Cost Element: 05 - Subcontracted Costs	

Item No.	Sample Description	Time	Date	Matrix			Laboratory No.	No. of Containers	Preservative					Requested Analysis					Sample Point Lat/Long and Comments
				Soil/Solid	Water/Liquid	Air			Unpreserved	H ₂ SO ₄	HNO ₃	HCl	Methanol	GRO (8260)	BTEX (8260)	Fuel Add. (8260): MTBE, 1,2-DCA, EDB, TBA, TAME, DPE, ETBE	Ethanol (8260)	Total Lead	
1	SB-1 (41.5-42')	11:39	7/22/05	X			11	1	X					X	X		X	X	MOG6771 *see special instructions *Hold Trip Blank & Temp. Blank
2	Trip Blank	15:00	7/22/05		X		12	2			X								
3	Temp Blank	15:00	7/22/05		X		17	1	X										
4																			
5																			
6																			
7																			
8																			
9																			
10																			

Sampler's Name: <u>John McCain</u>	Relinquished By / Affiliation: <u>John McCain</u>	Date: <u>7/22/05</u>	Time: <u>16:05</u>	Accepted By / Affiliation: <u>Jayson Lewis</u>	Date: <u>7/22/05</u>	Time: <u>18:30</u>
Sampler's Company: <u>URS</u>						
Shipment Date: <u>7-22-05</u>						
Shipment Method: <u>Courier</u>						
Shipment Tracking No:						

Special Instructions: Analyze soil sample with highest GRO concentration for Total Lead (Pb).
 Pending total Pb analysis and result are >50ppm, run STLC, if STLC results are >5ppm, run TCLP
 Seals In Place Yes No X Temp Blank Yes X No Cooler Temperature on Receipt 36°C Trip Blank Yes X No

SEQUOIA ANALYTICAL SAMPLE RECEIPT LOG

CLIENT NAME: URS
 REC. BY (PRINT): DWC Pham
 WORKORDER: MO60771

DATE REC'D AT LAB: 7/22/05
 TIME REC'D AT LAB: 18:30
 DATE LOGGED IN: 7-22-05

For Regulatory Purposes?
 DRINKING WATER YES NO
 WASTE WATER YES NO

CIRCLE THE APPROPRIATE RESPONSE		LAB SAMPLE #	DASH #	CLIENT ID	CONTAINER DESCRIPTION	PRESERVATIVE	pH	SAMPLE MATRIX	DATE SAMPLED	REMARKS: CONDITION (ETC.)
1. Custody Seal(s)	Present / <input checked="" type="radio"/> Absent Intact / Broken*			381 (5-5.5)	Metal Can	-	-	G	7/22/05	
2. Chain-of-Custody	<input checked="" type="radio"/> Present / Absent*			(4.5-10)						
3. Traffic Reports or Packing List:	Present / <input checked="" type="radio"/> Absent			(14.5-15)						
4. Airbill:	Airbill / Sticker Present / <input checked="" type="radio"/> Absent			(19.5-20)						
5. Airbill #:				(21.5-22)						
6. Sample Labels:	<input checked="" type="radio"/> Present / Absent			(25-25.5)						
7. Sample IDs:	<input checked="" type="radio"/> Listed / Not Listed on Chain-of-Custody			(27.5-28)						
8. Sample Condition:	<input checked="" type="radio"/> Intact / Broken* / Leaking*			(31.5-32)						
9. Does information on chain-of-custody, traffic reports and sample labels agree?	<input checked="" type="radio"/> Yes / No*			(34.5-35)						
10. Sample received within hold time?	<input checked="" type="radio"/> Yes / No*			(37.5-38)						
11. Adequate sample volume received?	<input checked="" type="radio"/> Yes / No*			(41.5-42)						
12. Proper preservatives used?	<input checked="" type="radio"/> Yes / No*			Trip Blank	VOA-2	HCL				
13. Trip Blank / Temp Blank Received? (circle which, if yes)	<input checked="" type="radio"/> Yes / No*			Temp Blank	VOA					
14. Read Temp: <u>5.6°C</u> Corrected Temp: Is corrected temp 4 +/- 2°C? <input checked="" type="radio"/> Yes / No**										

(Acceptance range for samples requiring thermal pres.)
 **Exception (if any): METALS / DFF ON ICE or Problem COC

*IF CIRCLED, CONTACT PROJECT MANAGER AND ATTACH RECORD OF RESOLUTION.



9 August, 2005

Lynelle Onishi
URS Corporation [Arco]
1333 Broadway, Suite 800
Oakland, CA 94612

RE: BP Heritage #11133, Oakland, CA
Work Order: MOG0982

Enclosed are the results of analyses for samples received by the laboratory on 07/26/05 09:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jamshid Kekobad
Project Manager

CA ELAP Certificate #1210

URS Corporation [Arco]
1333 Broadway, Suite 800
Oakland CA, 94612

Project:BP Heritage #11133, Oakland, CA
Project Number:G07TT-0019
Project Manager:Lynelle Onishi

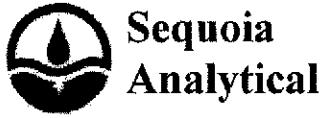
MOG0982
Reported:
08/09/05 10:27

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1	MOG0982-01	Water	07/22/05 11:45	07/26/05 09:00
MW-3	MOG0982-02	Water	07/22/05 11:00	07/26/05 09:00
AW-1	MOG0982-03	Water	07/22/05 12:45	07/26/05 09:00
AW-4	MOG0982-04	Water	07/22/05 10:15	07/26/05 09:00
AW-5	MOG0982-05	Water	07/22/05 11:25	07/26/05 09:00
AW-6	MOG0982-06	Water	07/22/05 13:35	07/26/05 09:00
RW-1	MOG0982-07	Water	07/22/05 13:45	07/26/05 09:00
VEW-4	MOG0982-08	Water	07/22/05 13:05	07/26/05 09:00
VEW-8	MOG0982-09	Water	07/22/05 13:30	07/26/05 09:00
TB-11133-07222005	MOG0982-10	Water	07/22/05 00:00	07/26/05 09:00

The carbon range for the TPH-GRO has been changed from C6-C10 to C4-C12. The carbon range for TPH-DRO has been changed from C10-C28 to C10-C36. EPA 8015B has been modified to better meet the requirements of California regulatory agencies.

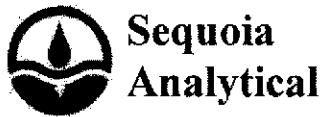
These samples were received with no custody seals.



URS Corporation [Arco] 1333 Broadway, Suite 800 Oakland CA, 94612	Project:BP Heritage #11133, Oakland, CA Project Number:G07TT-0019 Project Manager:Lynelle Onishi	MOG0982 Reported: 08/09/05 10:27
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Volatile Organic Compounds by EPA Method 8260B
Sequoia Analytical - Morgan Hill

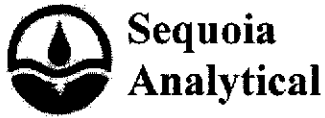
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-1 (MOG0982-01) Water Sampled: 07/22/05 11:45 Received: 07/26/05 09:00									
tert-Amyl methyl ether	ND	10	ug/l	20	5H01007	08/01/05	08/02/05	EPA 8260B	
Benzene	ND	10	"	"	"	"	"	"	
tert-Butyl alcohol	ND	400	"	"	"	"	"	"	
Di-isopropyl ether	ND	10	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	10	"	"	"	"	"	"	
1,2-Dichloroethane	ND	10	"	"	"	"	"	"	
Ethanol	ND	2000	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	10	"	"	"	"	"	"	
Ethylbenzene	110	10	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	10	"	"	"	"	"	"	
Toluene	ND	10	"	"	"	"	"	"	
Xylenes (total)	130	10	"	"	"	"	"	"	
Gasoline Range Organics (C4-C12)	15000	1000	"	"	"	"	"	"	
<i>Surrogate: 1,2-Dichloroethane-d4</i>		93 %	60-135	"	"	"	"	"	
MW-3 (MOG0982-02) Water Sampled: 07/22/05 11:00 Received: 07/26/05 09:00									
tert-Amyl methyl ether	ND	0.50	ug/l	1	5H01007	08/01/05	08/02/05	EPA 8260B	
Benzene	ND	0.50	"	"	"	"	"	"	
tert-Butyl alcohol	ND	20	"	"	"	"	"	"	
Di-isopropyl ether	ND	0.50	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.50	"	"	"	"	"	"	
Ethanol	ND	100	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether	4.1	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Gasoline Range Organics (C4-C12)	ND	50	"	"	"	"	"	"	
<i>Surrogate: 1,2-Dichloroethane-d4</i>		104 %	60-135	"	"	"	"	"	



URS Corporation [Arco] 1333 Broadway, Suite 800 Oakland CA, 94612	Project:BP Heritage #11133, Oakland, CA Project Number:G07TT-0019 Project Manager:Lynelle Onishi	MOG0982 Reported: 08/09/05 10:27
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Volatile Organic Compounds by EPA Method 8260B
Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
AW-1 (MOG0982-03) Water Sampled: 07/22/05 12:45 Received: 07/26/05 09:00										
tert-Amyl methyl ether	93	5.0		ug/l	10	5H03001	08/03/05	08/03/05	EPA 8260B	
Benzene	770	5.0		"	"	"	"	"	"	"
tert-Butyl alcohol	ND	200		"	"	"	"	"	"	"
Di-isopropyl ether	ND	5.0		"	"	"	"	"	"	"
1,2-Dibromoethane (EDB)	ND	5.0		"	"	"	"	"	"	"
1,2-Dichloroethane	31	5.0		"	"	"	"	"	"	"
Ethanol	ND	1000		"	"	"	"	"	"	"
Ethyl tert-butyl ether	ND	5.0		"	"	"	"	"	"	"
Ethylbenzene	520	5.0		"	"	"	"	"	"	"
Methyl tert-butyl ether	510	5.0		"	"	"	"	"	"	"
Toluene	5.4	5.0		"	"	"	"	"	"	"
Xylenes (total)	50	5.0		"	"	"	"	"	"	"
Gasoline Range Organics (C4-C12)	8000	500		"	"	"	"	"	"	"
<i>Surrogate: 1,2-Dichloroethane-d4</i>		<i>115 %</i>		<i>60-135</i>		"	"	"	"	"
AW-4 (MOG0982-04) Water Sampled: 07/22/05 10:15 Received: 07/26/05 09:00										
tert-Amyl methyl ether	ND	10		ug/l	20	5H03001	08/03/05	08/03/05	EPA 8260B	
Benzene	750	10		"	"	"	"	"	"	"
tert-Butyl alcohol	ND	400		"	"	"	"	"	"	"
Di-isopropyl ether	ND	10		"	"	"	"	"	"	"
1,2-Dibromoethane (EDB)	ND	10		"	"	"	"	"	"	"
1,2-Dichloroethane	ND	10		"	"	"	"	"	"	"
Ethanol	ND	2000		"	"	"	"	"	"	"
Ethyl tert-butyl ether	ND	10		"	"	"	"	"	"	"
Ethylbenzene	300	10		"	"	"	"	"	"	"
Methyl tert-butyl ether	59	10		"	"	"	"	"	"	"
Toluene	48	10		"	"	"	"	"	"	"
Xylenes (total)	840	10		"	"	"	"	"	"	"
Gasoline Range Organics (C4-C12)	4800	1000		"	"	"	"	"	"	"
<i>Surrogate: 1,2-Dichloroethane-d4</i>		<i>98 %</i>		<i>60-135</i>		"	"	"	"	"



URS Corporation [Arco] 1333 Broadway, Suite 800 Oakland CA, 94612	Project:BP Heritage #11133, Oakland, CA Project Number:G07TT-0019 Project Manager:Lynelle Onishi	MOG0982 Reported: 08/09/05 10:27
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Volatile Organic Compounds by EPA Method 8260B
Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
AW-5 (MOG0982-05) Water Sampled: 07/22/05 11:25 Received: 07/26/05 09:00									
tert-Amyl methyl ether	78	5.0	ug/l	10	5H01007	08/01/05	08/02/05	EPA 8260B	
Benzene	5.2	5.0	"	"	"	"	"	"	
tert-Butyl alcohol	370	200	"	"	"	"	"	"	
Di-isopropyl ether	ND	5.0	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	5.0	"	"	"	"	"	"	
1,2-Dichloroethane	ND	5.0	"	"	"	"	"	"	
Ethanol	ND	1000	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	5.0	"	"	"	"	"	"	
Ethylbenzene	ND	5.0	"	"	"	"	"	"	
Methyl tert-butyl ether	390	5.0	"	"	"	"	"	"	
Toluene	ND	5.0	"	"	"	"	"	"	
Xylenes (total)	6.9	5.0	"	"	"	"	"	"	
Gasoline Range Organics (C4-C12)	ND	500	"	"	"	"	"	"	
<i>Surrogate: 1,2-Dichloroethane-d4</i>		103 %	60-135	"	"	"	"	"	
AW-6 (MOG0982-06) Water Sampled: 07/22/05 13:35 Received: 07/26/05 09:00									
tert-Amyl methyl ether	1400	50	ug/l	100	5H01007	08/01/05	08/02/05	EPA 8260B	
Benzene	ND	50	"	"	"	"	"	"	
tert-Butyl alcohol	ND	2000	"	"	"	"	"	"	
Di-isopropyl ether	ND	50	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	50	"	"	"	"	"	"	
Ethanol	ND	10000	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	50	"	"	"	"	"	"	
Ethylbenzene	ND	50	"	"	"	"	"	"	
Methyl tert-butyl ether	5500	50	"	"	"	"	"	"	
Toluene	ND	50	"	"	"	"	"	"	
Xylenes (total)	ND	50	"	"	"	"	"	"	
Gasoline Range Organics (C4-C12)	ND	5000	"	"	"	"	"	"	
<i>Surrogate: 1,2-Dichloroethane-d4</i>		100 %	60-135	"	"	"	"	"	

URS Corporation [Arco]
1333 Broadway, Suite 800
Oakland CA, 94612

Project:BP Heritage #11133, Oakland, CA
Project Number:G07TT-0019
Project Manager:Lynelle Onishi

MOG0982
Reported:
08/09/05 10:27

**Volatile Organic Compounds by EPA Method 8260B
Sequoia Analytical - Morgan Hill**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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RW-1 (MOG0982-07) Water Sampled: 07/22/05 13:45 Received: 07/26/05 09:00

tert-Amyl methyl ether	5.6	2.5	ug/l	5	5H01007	08/01/05	08/02/05	EPA 8260B	
Benzene	50	2.5	"	"	"	"	"	"	
tert-Butyl alcohol	ND	100	"	"	"	"	"	"	
Di-isopropyl ether	ND	2.5	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	2.5	"	"	"	"	"	"	
1,2-Dichloroethane	ND	2.5	"	"	"	"	"	"	
Ethanol	ND	500	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	2.5	"	"	"	"	"	"	
Ethylbenzene	120	2.5	"	"	"	"	"	"	
Methyl tert-butyl ether	51	2.5	"	"	"	"	"	"	
Toluene	35	2.5	"	"	"	"	"	"	
Xylenes (total)	220	2.5	"	"	"	"	"	"	
Gasoline Range Organics (C4-C12)	5900	250	"	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4 95 % 60-135 " " " "

VEW-4 (MOG0982-08) Water Sampled: 07/22/05 13:05 Received: 07/26/05 09:00

tert-Amyl methyl ether	ND	0.50	ug/l	1	5H01007	08/01/05	08/02/05	EPA 8260B	
Benzene	41	0.50	"	"	"	"	"	"	
tert-Butyl alcohol	ND	20	"	"	"	"	"	"	
Di-isopropyl ether	ND	0.50	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.50	"	"	"	"	"	"	
Ethanol	ND	100	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	20	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	0.50	"	"	"	"	"	"	
Toluene	24	0.50	"	"	"	"	"	"	
Xylenes (total)	67	0.50	"	"	"	"	"	"	
Gasoline Range Organics (C4-C12)	680	50	"	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4 99 % 60-135 " " " "



1885 Jarvis Drive
 Morgan Hill, CA 95037
 (408) 776-9600
 FAX (408) 782-6308
 www.sequoialabs.com

URS Corporation [Arco] 1333 Broadway, Suite 800 Oakland CA, 94612	Project:BP Heritage #11133, Oakland, CA Project Number:G07TT-0019 Project Manager:Lynelle Onishi	MOG0982 Reported: 08/09/05 10:27
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Volatile Organic Compounds by EPA Method 8260B
Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
VEW-8 (MOG0982-09) Water Sampled: 07/22/05 13:30 Received: 07/26/05 09:00									
tert-Amyl methyl ether	ND	0.50	ug/l	1	5H01007	08/01/05	08/02/05	EPA 8260B	
Benzene	ND	0.50	"	"	"	"	"	"	
tert-Butyl alcohol	ND	20	"	"	"	"	"	"	
Di-isopropyl ether	ND	0.50	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.50	"	"	"	"	"	"	
Ethanol	ND	100	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Gasoline Range Organics (C4-C12)	ND	50	"	"	"	"	"	"	
<i>Surrogate: 1,2-Dichloroethane-d4</i>		<i>103 %</i>		<i>60-135</i>					

Sequoia Analytical - Morgan Hill

The results in this report apply to the samples analyzed in accordance with the chain of custody document. Unless otherwise stated, results are reported on a wet weight basis. This analytical report must be reproduced in its entirety.

URS Corporation [Arco]
1333 Broadway, Suite 800
Oakland CA, 94612

Project: BP Heritage #11133, Oakland, CA
Project Number: G07TT-0019
Project Manager: Lynelle Onishi

MOG0982
Reported:
08/09/05 10:27

**Volatile Organic Compounds by EPA Method 8260B - Quality Control
Sequoia Analytical - Morgan Hill**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 5H01007 - EPA 5030B P/T / EPA 8260B

Blank (5H01007-BLK1)

Prepared & Analyzed: 08/01/05

tert-Amyl methyl ether	ND	0.50	ug/l							
Benzene	ND	0.50	"							
tert-Butyl alcohol	ND	5.0	"							
Di-isopropyl ether	ND	0.50	"							
1,2-Dibromoethane (EDB)	ND	0.50	"							
1,2-Dichloroethane	ND	0.50	"							
Ethanol	ND	100	"							
Ethyl tert-butyl ether	ND	0.50	"							
Ethylbenzene	ND	0.50	"							
Methyl tert-butyl ether	ND	0.50	"							
Toluene	ND	0.50	"							
Xylenes (total)	ND	0.50	"							
Gasoline Range Organics (C4-C12)	ND	50	"							

Surrogate: 1,2-Dichloroethane-d4

2.58

"

2.50

103

60-135

Blank (5H01007-BLK2)

Prepared & Analyzed: 08/01/05

tert-Amyl methyl ether	ND	0.50	ug/l							
Benzene	ND	0.50	"							
tert-Butyl alcohol	ND	5.0	"							
Di-isopropyl ether	ND	0.50	"							
1,2-Dibromoethane (EDB)	ND	0.50	"							
1,2-Dichloroethane	ND	0.50	"							
Ethanol	ND	100	"							
Ethyl tert-butyl ether	ND	0.50	"							
Ethylbenzene	ND	0.50	"							
Methyl tert-butyl ether	ND	0.50	"							
Toluene	ND	0.50	"							
Xylenes (total)	ND	0.50	"							
Gasoline Range Organics (C4-C12)	ND	50	"							

Surrogate: 1,2-Dichloroethane-d4

2.56

"

2.50

102

60-135

URS Corporation [Arco]
 1333 Broadway, Suite 800
 Oakland CA, 94612

 Project:BP Heritage #11133, Oakland, CA
 Project Number:G07TT-0019
 Project Manager:Lynelle Onishi

 MOG0982
 Reported:
 08/09/05 10:27

Volatile Organic Compounds by EPA Method 8260B - Quality Control
Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 5H01007 - EPA 5030B P/T / EPA 8260B
Laboratory Control Sample (5H01007-BS1)

Prepared & Analyzed: 08/01/05

tert-Amyl methyl ether	8.55	0.50	ug/l	10.0		86	80-115			
Benzene	10.7	0.50	"	10.0		107	65-115			
tert-Butyl alcohol	36.7	20	"	50.0		73	75-150			HM
Di-isopropyl ether	10.4	0.50	"	10.0		104	75-125			
1,2-Dibromoethane (EDB)	10.9	0.50	"	10.0		109	85-120			
1,2-Dichloroethane	9.95	0.50	"	10.0		100	85-130			
Ethanol	394	100	"	200		197	70-135			HL
Ethyl tert-butyl ether	8.41	0.50	"	10.0		84	75-130			
Ethylbenzene	8.85	0.50	"	10.0		88	75-135			
Methyl tert-butyl ether	8.06	0.50	"	10.0		81	65-125			
Toluene	11.0	0.50	"	10.0		110	85-120			
Xylenes (total)	26.1	0.50	"	30.0		87	85-125			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>2.14</i>		<i>"</i>	<i>2.50</i>		<i>86</i>	<i>60-135</i>			

Laboratory Control Sample (5H01007-BS2)

Prepared & Analyzed: 08/01/05

Benzene	6.02	0.50	ug/l	6.08		99	65-115			
Ethylbenzene	7.32	0.50	"	7.84		93	75-135			
Methyl tert-butyl ether	9.55	0.50	"	9.60		99	65-125			
Toluene	37.5	0.50	"	32.9		114	85-120			
Xylenes (total)	35.5	0.50	"	38.5		92	85-125			
Gasoline Range Organics (C4-C12)	465	50	"	440		106	70-124			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>2.35</i>		<i>"</i>	<i>2.50</i>		<i>94</i>	<i>60-135</i>			

Laboratory Control Sample Dup (5H01007-BSD1)

Prepared & Analyzed: 08/01/05

tert-Amyl methyl ether	8.65	0.50	ug/l	10.0		86	80-115	1	15	
Benzene	11.1	0.50	"	10.0		111	65-115	4	20	
tert-Butyl alcohol	40.5	20	"	50.0		81	75-150	10	25	
Di-isopropyl ether	10.7	0.50	"	10.0		107	75-125	3	15	
1,2-Dibromoethane (EDB)	11.1	0.50	"	10.0		111	85-120	2	15	
1,2-Dichloroethane	10.4	0.50	"	10.0		104	85-130	4	20	
Ethanol	377	100	"	200		188	70-135	4	35	HL
Ethyl tert-butyl ether	8.43	0.50	"	10.0		84	75-130	0.2	25	
Ethylbenzene	9.08	0.50	"	10.0		91	75-135	3	15	
Methyl tert-butyl ether	8.49	0.50	"	10.0		85	65-125	5	20	
Toluene	11.2	0.50	"	10.0		112	85-120	2	20	
Xylenes (total)	26.6	0.50	"	30.0		89	85-125	2	20	

Sequoia Analytical - Morgan Hill

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URS Corporation [Arco]
 1333 Broadway, Suite 800
 Oakland CA, 94612

 Project:BP Heritage #11133, Oakland, CA
 Project Number:G07TT-0019
 Project Manager:Lynelle Onishi

 MOG0982
 Reported:
 08/09/05 10:27

Volatile Organic Compounds by EPA Method 8260B - Quality Control
Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 5H01007 - EPA 5030B P/T / EPA 8260B
Laboratory Control Sample Dup (5H01007-BSD1)

Prepared & Analyzed: 08/01/05

<i>Surrogate: 1,2-Dichloroethane-d4</i>	2.30		ug/l	2.50		92	60-135			
Matrix Spike (5H01007-MS1)	Source: MOG0967-01			Prepared: 08/01/05		Analyzed: 08/02/05				
Benzene	62.4	5.0	ug/l	60.8	1.4	100	65-115			
Ethylbenzene	72.5	5.0	"	78.4	1.9	90	75-135			
Methyl tert-butyl ether	743	5.0	"	96.0	620	128	65-125			BB,LM
Toluene	385	5.0	"	329	ND	117	85-120			
Xylenes (total)	354	5.0	"	385	5.7	90	85-125			
Gasoline Range Organics (C4-C12)	5310	500	"	4400	340	113	70-124			

<i>Surrogate: 1,2-Dichloroethane-d4</i>	2.42		"	2.50		97	60-135			
Matrix Spike Dup (5H01007-MSD1)	Source: MOG0967-01			Prepared: 08/01/05		Analyzed: 08/02/05				
Benzene	59.7	5.0	ug/l	60.8	1.4	96	65-115	4	20	
Ethylbenzene	71.6	5.0	"	78.4	1.9	89	75-135	1	15	
Methyl tert-butyl ether	729	5.0	"	96.0	620	114	65-125	2	20	
Toluene	366	5.0	"	329	ND	111	85-120	5	20	
Xylenes (total)	344	5.0	"	385	5.7	88	85-125	3	20	
Gasoline Range Organics (C4-C12)	5010	500	"	4400	340	106	70-124	6	20	

<i>Surrogate: 1,2-Dichloroethane-d4</i>	2.41		"	2.50		96	60-135			
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Batch 5H03001 - EPA 5030B P/T / EPA 8260B
Blank (5H03001-BLK1)

Prepared & Analyzed: 08/03/05

tert-Amyl methyl ether	ND	0.50	ug/l							
Benzene	ND	0.50	"							
tert-Butyl alcohol	ND	5.0	"							
Di-isopropyl ether	ND	0.50	"							
1,2-Dibromoethane (EDB)	ND	0.50	"							
1,2-Dichloroethane	ND	0.50	"							
Ethanol	ND	100	"							
Ethyl tert-butyl ether	ND	0.50	"							
Ethylbenzene	ND	0.50	"							
Methyl tert-butyl ether	ND	0.50	"							
Toluene	ND	0.50	"							
Xylenes (total)	ND	0.50	"							
Gasoline Range Organics (C4-C12)	ND	50	"							
<i>Surrogate: 1,2-Dichloroethane-d4</i>	2.46		"	2.50		98	60-135			

Sequoia Analytical - Morgan Hill

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 Oakland CA, 94612

 Project:BP Heritage #11133, Oakland, CA
 Project Number:G07TT-0019
 Project Manager:Lynelle Onishi

 MOG0982
 Reported:
 08/09/05 10:27

Volatile Organic Compounds by EPA Method 8260B - Quality Control
Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 5H03001 - EPA 5030B P/T / EPA 8260B
Laboratory Control Sample (5H03001-BS1)

Prepared & Analyzed: 08/03/05

tert-Amyl methyl ether	9.72	0.50	ug/l	10.0		97	80-115			
Benzene	11.0	0.50	"	10.0		110	65-115			
tert-Butyl alcohol	44.1	20	"	50.0		88	75-150			
Di-isopropyl ether	9.66	0.50	"	10.0		97	75-125			
1,2-Dibromoethane (EDB)	10.6	0.50	"	10.0		106	85-120			
1,2-Dichloroethane	10.3	0.50	"	10.0		103	85-130			
Ethanol	184	100	"	200		92	70-135			
Ethyl tert-butyl ether	9.39	0.50	"	10.0		94	75-130			
Ethylbenzene	10.6	0.50	"	10.0		106	75-135			
Methyl tert-butyl ether	9.19	0.50	"	10.0		92	65-125			
Toluene	11.0	0.50	"	10.0		110	85-120			
Xylenes (total)	32.6	0.50	"	30.0		109	85-125			

Surrogate: 1,2-Dichloroethane-d4 2.31 " 2.50 92 60-135

Laboratory Control Sample (5H03001-BS2)

Prepared & Analyzed: 08/03/05

Benzene	6.03	0.50	ug/l	6.08		99	65-115			
Ethylbenzene	8.40	0.50	"	7.84		107	75-135			
Methyl tert-butyl ether	8.64	0.50	"	9.60		90	65-125			
Toluene	36.2	0.50	"	32.9		110	85-120			
Xylenes (total)	41.8	0.50	"	38.5		109	85-125			
Gasoline Range Organics (C4-C12)	470	50	"	440		107	70-124			

Surrogate: 1,2-Dichloroethane-d4 2.61 " 2.50 104 60-135

Laboratory Control Sample Dup (5H03001-BSD1)

Prepared & Analyzed: 08/03/05

tert-Amyl methyl ether	10.3	0.50	ug/l	10.0		103	80-115	6	15	
Benzene	10.9	0.50	"	10.0		109	65-115	0.9	20	
tert-Butyl alcohol	55.5	20	"	50.0		111	75-150	23	25	
Di-isopropyl ether	9.93	0.50	"	10.0		99	75-125	3	15	
1,2-Dibromoethane (EDB)	10.7	0.50	"	10.0		107	85-120	0.9	15	
1,2-Dichloroethane	10.4	0.50	"	10.0		104	85-130	1	20	
Ethanol	252	100	"	200		126	70-135	31	35	
Ethyl tert-butyl ether	9.62	0.50	"	10.0		96	75-130	2	25	
Ethylbenzene	10.6	0.50	"	10.0		106	75-135	0	15	
Methyl tert-butyl ether	9.13	0.50	"	10.0		91	65-125	0.7	20	
Toluene	11.0	0.50	"	10.0		110	85-120	0	20	
Xylenes (total)	32.8	0.50	"	30.0		109	85-125	0.6	20	

Sequoia Analytical - Morgan Hill

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URS Corporation [Arco]
 1333 Broadway, Suite 800
 Oakland CA, 94612

 Project:BP Heritage #11133, Oakland, CA
 Project Number:G07TT-0019
 Project Manager:Lynelle Onishi

 MOG0982
 Reported:
 08/09/05 10:27

**Volatile Organic Compounds by EPA Method 8260B - Quality Control
Sequoia Analytical - Morgan Hill**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 5H03001 - EPA 5030B P/T / EPA 8260B
Laboratory Control Sample Dup (5H03001-BSD1)

Prepared & Analyzed: 08/03/05

Surrogate: 1,2-Dichloroethane-d4 2.24 ug/l 2.50 90 60-135

Matrix Spike (5H03001-MS1)

Source: MOG0982-03

Prepared & Analyzed: 08/03/05

Benzene	812	5.0	ug/l	60.8	770	69	65-115			
Ethylbenzene	625	5.0	"	78.4	520	134	75-135			
Methyl tert-butyl ether	596	5.0	"	96.0	510	90	65-125			
Toluene	356	5.0	"	329	5.4	107	85-120			
Xylenes (total)	457	5.0	"	385	50	106	85-125			
Gasoline Range Organics (C4-C12)	13300	500	"	4400	8000	120	70-124			

Surrogate: 1,2-Dichloroethane-d4 2.96 " 2.50 118 60-135

Matrix Spike Dup (5H03001-MSD1)

Source: MOG0982-03

Prepared & Analyzed: 08/03/05

Benzene	823	5.0	ug/l	60.8	770	87	65-115	1	20	
Ethylbenzene	640	5.0	"	78.4	520	153	75-135	2	15	LM
Methyl tert-butyl ether	607	5.0	"	96.0	510	101	65-125	2	20	
Toluene	377	5.0	"	329	5.4	113	85-120	6	20	
Xylenes (total)	472	5.0	"	385	50	110	85-125	3	20	
Gasoline Range Organics (C4-C12)	13800	500	"	4400	8000	132	70-124	4	20	LM

Surrogate: 1,2-Dichloroethane-d4 3.26 " 2.50 130 60-135



URS Corporation [Arco]
1333 Broadway, Suite 800
Oakland CA, 94612

Project:BP Heritage #11133, Oakland, CA
Project Number:G07TT-0019
Project Manager:Lynelle Onishi

MOG0982
Reported:
08/09/05 10:27

Notes and Definitions

LM MS and/or MSD above acceptance limits. See Blank Spike(LCS).
HM Analyte recovery below established limit
HL Analyte recovery above established limit
BB,LM Sample > 4x spike concentration. MS and/or MSD above acceptance limits. See Blank Spike(LCS).
DET Analyte DETECTED
ND Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified
NR Not Reported
dry Sample results reported on a dry weight basis
RPD Relative Percent Difference