



Atlantic Richfield Company (a BP affiliated company)

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By lopprojectop at 8:54 am, Jun 06, 2006

November 30, 2005

Re:

Soil and Water Investigation

Former BP Service Station #11117

7210 Bancroft Ave. Oakland, CA

ACEHS Case No. RO0000356

"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** 

November 30, 2005

Ms. Donna Drogos Hazardous Material Specialist Alameda County Environmental Health Services 1131 Harbor Bay Parkway, Suite 250 Alameda, California 94502-6577

SUBJECT: Soil and Water Investigation Report

Former BP Service Station #11117

7210 Bancroft Avenue Oakland, California

ACEHS Case No. RO0000356

Dear Ms. Drogos:

On behalf of the Atlantic Richfield Company, RM - 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, Figure 1). The purpose of the work was to further assess the extent of dissolved-phase hydrocarbons in soil and groundwater, on-and off-site, at the request of Alameda County Environmental Health Services (ACEHS). The work was proposed in URS' *Soil and Groundwater Investigation Work Plan* dated May 9, 2005 and approved by ACEHS on May 11, 2005. This *SWI Report* discusses the Site background, describes the scope of investigation and fieldwork performed, and presents conclusions and recommendations based on the findings. A copy of the ACEHS correspondences are provided as Attachment A.

#### 1.0 SITE BACKGROUND

The Site is an active 76-branded gasoline retail outlet located on the northern corner of Bancroft Avenue and 73<sup>rd</sup> 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) and has not operated the facility since that time.

The Site consists of a service station building and three 12,000-gallon gasoline underground storage tanks (USTs) and one 10,000-gallon diesel UST with associated piping and dispensers. The Site is covered with asphalt or concrete surfacing except for planters along the southeastern and southwestern property boundaries and at the north corner of the property (Figures 2).

In 1984, the preexisting USTs at the Site were removed and three gasoline USTs (6,000-gallon, 10,000-gallon, and 12,000-gallon) and one 6,000-gallon diesel UST were installed immediately to the east. The newly installed USTs were single-walled fiberglass USTs. An associated UST removal report is not on file and may not have been prepared. No documentation was found

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referencing the conditions of the removed USTs or reporting evidence of hydrocarbon impacts in the soil and groundwater, if any, at the time of the UST removal.

In December 1989, a Phase II environmental audit was conducted on the adjacent Eastmont Town Center site located to the north and the northwest of the former BP Site. Part of the respective Phase II study relevant to the former BP Site included installing monitoring well MW-3 near the western boundary of the former BP Site. The analytical results of soil samples collected from 10 and 20 feet below ground surface (bgs) from MW-3 reported total petroleum hydrocarbons (TPH), benzene, toluene, ethyl benzene, and xylenes (BTEX), and oil and grease concentrations below their respective laboratory reporting limits. The analytical results of groundwater samples from MW-3 reported TPH and benzene concentrations of 2,700 micrograms per liter ( $\mu$ g/L) and 530  $\mu$ g/L, respectively.

In December 1991, two soil borings (MW-1 and MW-2) were drilled on-site to total depths of 40 feet bgs, soil samples were collected at 10 foot intervals between 5 and 25 feet bgs and the respective borings were subsequently converted into monitoring wells MW-1 and MW-2. First groundwater was encountered at approximately 30 feet bgs. The analytical results of the soil samples from MW-1 and MW-2 reported total petroleum hydrocarbons as gasoline (TPH-g) and BTEX at concentrations below their respective laboratory reporting limits.

Borings MW-4 and MW-6 were advanced to total depths of 40 feet bgs, and boring B-5 were advanced to 50 feet bgs. First groundwater was encountered at approximately 30 feet bgs in borings MW-4 and MW-6, and no free water was encountered in boring B-5. The analytical results of soil samples collected at 30 feet bgs from B-5 and MW-6 reported TPH-g and BTEX at concentrations below their respective laboratory reporting limits. The maximum TPH-g and BTEX concentrations reported in MW-4 were 6,000 milligrams per kilograms (mg/kg) and 34 mg/kg, respectively, from 20 feet bgs. Borings MW-4 and MW-6 were subsequently converted into monitoring wells.

In September 1994, a supplemental Site assessment was conducted at the Site. Four exploratory soil borings (THP-1, TB-2, TB-3 and TB-4) were advanced to a maximum depth of 45 feet bgs, north of the former and existing UST complexes (THP-1), at the former service bays (TB-2), north of the northern pump island (TB-3), and at a former pump island (TB-4). Additionally, one soil sample was collected from beneath each of the five dispensers (TD-1 through TD-5). Groundwater was encountered in TB-2 and TB-3 at approximately 33 to 36 feet bgs and groundwater samples were collected from TB-2 and TB-3 via temporary well points. Maximum concentrations of 16 mg/kg TPH-g (TD-3), TPH as diesel (TPH-d) at concentrations ranging from 110 mg/kg to 5,800 mg/kg TPH-d (TD-1 through TD-5), and benzene at concentrations below laboratory reporting limits were reported in soil samples. No TPH-g was detected at concentrations above the laboratory reporting limits and a maximum concentration of 0.7 μg/L benzene (TB-3) was reported in groundwater samples.

Boring MW-7 was advanced to a total depth of 45 feet bgs and boring MW-8 and MW-9 was advanced to total depths of 40 feet bgs. First encountered groundwater was at approximately 27 feet bgs to 32 feet bgs. No TPH-g or BTEX were detected above their respective laboratory

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reporting limits in soil samples collected from 25 feet bgs in each boring. The three borings were subsequently converted into monitoring wells MW-7 through MW-9.

In July 1997, one boring (MW-10) was drilled off-site to a depth of approximately 37.5 feet bgs. Soil samples were collected and the boring was subsequently converted into a monitoring well. First groundwater was encountered at approximately 26 feet bgs. No TPH-g, BTEX or methyl tertiary butyl ether (MTBE) was detected at concentrations above their respective laboratory reporting limits in MW-10.

In August 1998, the three gasoline USTs (6,000-gallon, 10,000-gallon, and 12,000-gallon) and one 6,000-gallon diesel UST, and associated dispensers and piping were removed from the Site. There was no visible evidence of leakage from the USTs removed. A total of eight native soil samples were collected from beneath each end of the removed USTs at depths of 14 to 16 feet bgs, and a total of 18 soil samples were collected from the former dispenser locations and from beneath the associated product lines at 3 feet bgs.

TPH-g was detected in five of the eight UST excavation samples at concentrations ranging from 3.7 mg/kg (S-15-T2S) to 5,300 mg/kg (S-15-T1S). TPH-d was detected at 630 mg/kg (S-15-T1N) and 800 mg/kg (S-15-T1S) in two samples, benzene concentrations ranged between 0.40 mg/kg (S-15-T1N) to 0.95 mg/kg (S-16-T3N) in three samples, MTBE concentrations ranged between 0.028 mg/kg (S-14-T4S) to 5.3 mg/kg (S-16-T3N) in seven samples, and lead was not detected in the sample analyzed for lead. TPH-g was detected in nine of the eighteen dispenser and product line samples with concentrations ranging between 1.4 mg/kg (S-3-PL12) to 7,200 mg/kg (S-3-D4). TPH-d was detected between 4.8 mg/kg (S-3-PL3) to 190 mg/kg (S-3-PL11) in five samples, benzene was detected between 0.0089 mg/kg (S-3-PL12) to 22 mg/kg (S-3-D4) in three samples, and MTBE was detected between 0.048 mg/kg (S-3-PL12) to 15 mg/kg (S-3-PL1) in ten samples. During the 1998 UST replacement activities, approximately 389 tons of soil and backfill were transported off-site for disposal. The existing 10,000-gallon diesel and three 12,000-gallon gasoline USTs were installed as replacements.

In April 1999, a groundwater recovery test was performed on wells MW-1 through MW-4, MW-6, MW-7 and MW-10 to assess the spatial variation in hydraulic conductivity in the shallow water-bearing zone across the Site. The hydraulic conductivity values estimated from the recovery testing are presented in Alisto Engineering Group's *Results of Recover Testing* dated June 4, 1999. The geometric mean of the hydraulic conductivity values and the flow velocity were calculated to be 1.37 x 10<sup>-5</sup> feet per second and 73.85 feet per year, respectively.

In November 1999, two 4-inch diameter wells (EX-1 and EX-2) were installed on-site to facilitate potential remedial activities at the Site. Well EX-1 was drilled to 39.5 feet bgs and EX-2 was drilled to 36.5 feet bgs. Groundwater was first encountered at 26 feet bgs. Relatively low to no TPH-g, BTEX and MTBE concentrations were reported in soil samples collected from EX-1 and EX-2.

Between March 16 and April 30, 2000, interim remedial activities were conducted at the Site to evaluate the effectiveness of hydrocarbon and MTBE reduction using short-term groundwater

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extraction. From eight extraction events, approximately 10,900 gallons of groundwater was extracted from wells EX-1, EX-2 and MW-2. During the extraction events, stable to slightly decreasing hydrocarbon and MTBE concentration trends were exhibited in samples collected from wells MW-2 and EX-1, located immediately southwest of the existing USTs. Samples from well EX-2, which is located north of the existing USTs, exhibited lower hydrocarbon and MTBE concentrations than MW-2 and EX-1.

In April 2000, during the batch extraction events, recovery tests were conducted on wells EX-1, EX-2 and MW-2. Based on the recovery test measurements, the geometric mean of the hydraulic conductivity values and flow velocities for wells EX-1, EX-2 and MW-2 was calculated as  $3.0 \times 10^{-4}$  feet per minute and 26 feet per year, respectively.

During October 29, through November 2, 2001, a dual-phase soil vapor and groundwater extraction (DPE) pilot test was performed on the monitoring wells with the highest historical hydrocarbon concentrations (i.e., MW-2 and MW-4) and the extraction wells (EX-1 and EX-2) at the Site. The DPE test results indicated that the vacuum influence was limited to within 18 to 28 feet of the extraction well. Water levels typically decreased several feet in the extraction wells and had a varied response in the observation wells. Estimated vapor-phase removal rates were approximately 200-pounds of hydrocarbon per day in wells MW-4 and EX-1, and less than 5-pounds of hydrocarbon per day in wells MW-2 and EX-2. Soil vapor concentrations showed a decreasing trend in wells MW-4 and EX-1 during the short-term pilot tests. Grab water samples collected before and after the pilot tests remained the same order of magnitude. A total of 6,500 gallons of water was extracted during the DPE pilot test and appropriately disposed off-Site. Overall, the test results indicated that DPE is a feasible remedial alternative for the Site and ACHCS approved Cambria's August 8, 2002, 'Dual Phase Extraction Pilot Test Report' as a Corrective Action Plan (CAP).

A total of eleven wells have been installed at the Site: wells MW-1 through MW-4, MW-6 through MW-10, and EX-1 and EX-2. Wells MW-1 and MW-2 screen from approximately 20 feet bgs to 40 feet bgs; well MW-3 screens from 30 to 45 feet bgs; wells MW-4 and MW-6 screen from approximately 20 to 40 feet bgs; and wells MW-7 through MW-9 screen from approximately 25 to 40 or 45 feet bgs. Wells EX-1 and EX-2 screen from approximately 18 feet bgs to 38 feet bgs and 15 feet bgs to 35 feet bgs, respectively.

A quarterly groundwater monitoring program was initiated at the Site in January 1992 and is ongoing. Currently wells MW-1, MW-2, MW-4, MW-6, MW-7 and MW-10 are sampled quarterly, wells MW-3 and MW-9 are sampled semi-annually (first and third quarter), and well MW-8 is sampled annually (first quarter). The laboratory analytical data of the groundwater monitoring program are included as Table 1 and Table 2. Historical groundwater flow directions at the Site are presented in Table 3.



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#### 2.0 SITE GEOLOGY AND HYDROGEOLOGY

The Site is typically underlain by clays with 1 to 4 foot thick intervals of sands and gravels to a total explored depth of approximately 45 feet bgs. Boring logs for wells MW-1, MW-2, MW-6 and MW-7 indicate less than 5 feet of sand and/or gravel encountered, while those for wells MW-3, MW-4, MW-8, MW-9, MW-10, EX-1 and EX-2 indicate more than 10 feet of sand and/or gravel encountered.

The lithology observed in soil borings A-1 through A-5 and A-7 through A-10 was predominantly a clay gravel layer in the first foot. Silty clays and clayey silts were then encountered to a depth of approximately 14 ft bgs to 20 ft bgs. Clayey sands and sandy and clayey gravels were then encountered to a depth of approximately 25 ft bgs to 30 ft bgs. Gravels and sands were then encountered to a depth of approximately 45 ft bgs. A silty clay was encountered below 45 ft bgs, specifically in boring A-1, where the total depth explored was 46 ft bgs. Off-site borings to the east were similar with the exception that clayey silt was encountered at a depth of approximately 35 ft bgs. Off-site boring A-10varied greatly from all other borings. An angular gravel fill was encountered beneath the mulch to 3 feet bgs. Predominantly silt or silty sand underlies the fill to approximately 35 feet bgs. A silty gravel was encountered from 35 to the total depth sampled of 39 feet bgs. Groundwater was first encountered during drilling at depths ranging from 19 feet to 25 feet bgs. Soil boring logs are included as Attachment B.

The water table fluctuates seasonally and has risen about 10 feet since 1992. The static depth to water in monitoring wells at the Site has ranged between 9.49 and 34.07 feet bgs (Table 1). Groundwater flow direction during the 2005 fourth quarter monitoring event on November 3, 2005 was to the north at a gradient of 0.008 ft/ft (Figure 3).

#### 3.0 SCOPE OF WORK

The scope of work proposed in URS' May 2005 *Work Plan* included activities to complete source area characterization and groundwater plume delineation in two phases. The first phase of work was on-site source area assessment. Six soil boring locationss (A-1 through A-6) (two borings per location) were proposed to be advanced in the vicinity of the possible hydrocarbon source areas such as the locations of the former and current USTs, product dispensers, and in the vicinity of MW-4 to adequately characterize the lateral and vertical extent of petroleum hydrocarbons in soils in the identified source areas. An off-site assessment was completed during the second phase of work, using the first phase of work to confirm that the proposed off-site locations were adequate. To further define the downgradient, cross-gradient and upgradient (i.e., northern through eastern through southern) extent of the groundwater plume, URS proposed advancing borings at four sample locations (two borings per location) using a GeoProbe™ or equivalent direct push sampling rig.



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#### 3.1 PHASE ONE – ON-SITE SOURCE AREA CHARACTERIZATION

URS' proposed scope of work included advancing six soil borings (A-1 through A-6), to help assess the lateral and vertical extent of petroleum hydrocarbons in soils in the identified source areas. Soil boring A-1 was proposed to assess the extent of hydrocarbons in soil in the vicinity of well MW-1 below 25 feet bgs, the total depth explored during the 1991 well installation. During historical low groundwater levels (greater than 25 feet bgs) groundwater concentrations in well MW-1 are elevated. Soil borings A-2 and A-3 are proposed to provide soil and groundwater data between wells MW-1 and MW-4. Soil boring A-4 is proposed in the vicinity of well MW-4. Soil boring A-5 and A-6 were proposed in the vicinity of the former and current USTs and product dispensers. Soil boring A-6 was unable to be advanced due to the close proximity of electric lines and product piping. The soil boring locations are presented on Figure 2.

### 3.1.1 Preliminary Field Activities

Prior to initiating field activities, URS obtained anAlameda County Public Works permit, prepared a Site-specific Health and Safety Plan (HASP) for the proposed work, and conducted a subsurface utility clearance. The utility clearance included notifying Underground Service Alert (USA) of the pending work a minimum of 48-hours prior to initiating the field investigation, and securing the services of a private utility locating company to confirm the absence of underground utilities at each boring location. The HASP addressed the proposed boring/well installations and groundwater sampling.

# 3.1.1.1 Soil Boring Advancement and Soil Sampling

On September 26 and 27, 2005, a URS geologist observed Gregg Drilling and Testing, Inc. (Gregg) of Martinez, California advance five on-site soil borings (A-1 through A-5) to depths of approximately 30 to 40 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 an air-knife rig. The soil borings A-2 through A-5 were continuously cored using direct-push technology to a total depth of approximately 30 feet bgs. Soil boring A-1 was advanced using five-inch Simco hollow stem augers and sampled using a modified split spoon sampler to a total depth of approximately 40 feet bgs due to limitations of the direct-push technology. In order to collect depth discrete groundwater samples or conduct soil sampling while using depth discrete groundwater sampling probes. URS advanced a closely spaced pair of borings (within 2 feet apart) at each boring location. The lithologic characterization of the initial boring provided the information necessary to determine the proper discrete groundwater sampling depths. Soil samples were collected for analysis every five-feet, at the capillary fringe and at signs of obvious soil impacts. Depth discrete groundwater samples were collected at the saturated/unsaturated zone interface, 10 feet below the saturated/unsaturated zone interface, and at multiple discrete water-bearing zones and lithologic changes, if encountered within the initial boring. The approximate soil boring

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locations are illustrated on Figure 2. During soil boring advancement, groundwater was encountered in the lithologic borings at depths between 20 feet bgs and 25 feet bgs.

Soil samples were logged by URS personnel under the supervision of a State of California Professional Geologist, according to the Unified Soil Classification System (USCS), and monitored for grain size, color, consistency, staining, and odor using a photoionization detector (PID). Soil samples collected for potential chemical analysis were sealed with Teflon® tape, capped, and placed in an ice-filled cooler for transportation to the laboratory. Soil samples collected during this investigation were submitted to a California State-certified analytical laboratory for analysis of gasoline range organics (GRO), BTEX, and fuel additives (MTBE, tert-butyl alcohol [TBA], ethyl tert-butyl ether [ETBE], tert-amyl methyl ether [TAME], di-isopropyl ether [DIPE], 1,2-dichloroethane [1,2-DCA], 1,2-dibromoethane [EDB], and ethanol) using EPA Method 8260B. Field procedures are included as Attachment C.

### 3.1.1.2 Groundwater Sampling

On September 26 and 27, 2005, a URS geologist observed Gregg advance the depth discrete groundwater or Hydropunch<sup>®</sup> soil borings, at all four soil boring locations approximately 1 to 2 feet laterally from the respective initial soil boring location. The Hydropunch<sup>®</sup> boring locations were cleared to at least five feet bgs using a or air knife rig.

After clearing the depth discrete groundwater boring locations to five feet bgs using a hand auger or air knife rig, 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 hydro-punch screen only to the saturated zone, so that no cross-contamination would occur. The boring was then allowed to sit for a minimum of 1-hour for groundwater to accumulate. After a minimum of 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.

Depth discrete groundwater samples collected, were labeled and placed in ice-filled coolers for preservation, and sent under standard chain-of-custody procedures to a California state-certified laboratory. The groundwater samples were analyzed for the presence of GRO, BTEX, and fuel additives (MTBE, TBA, ETBE, TAME, DIPE, 1,2-DCA, EDB, and ethanol) using EPA Method 8260B.

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

#### 3.2 PHASE TWO - OFF-SITE PLUME DELINEATION

URS' proposed scope of work included the advancement of four soil borings (A-7 through A-10) to assess the extent of the groundwater plume in the area southeast and north to northeast of the source area (Figure 2). Soil borings A-7 through A-9 assessed the extent of hydrocarbons in soil

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and groundwater downgradient of the source area. Soil boring A-10 assessed groundwater upgradient in the vicinity of well MW-9. The off-site soil boring locations are presented on Figure 2.

### 3.2.1 Preliminary Field Activities

Prior to initiating field activities, URS obtained an Alameda County Public Works permit and City of Oakland excavation permit, prepared a HASP for the proposed work, and conducted a subsurface utility clearance as described in the previous preliminary field activities section.

### 3.2.1.1 Soil Boring Advancement and Soil Sampling

On November 3 and 7, 2005, a URS geologist observed Gregg advance four off-site soil borings (A-7 through A-10) to a total depth of approximately 30 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 or air-knife rig. The soil borings A-7 through A-10 were advanced using five-inch Simco hollow stem augers and sampled using a modified split spoon sampler to a total depth of approximately 30 feet bgs due to limitations of the direct-push technology. In order to collect depth discrete groundwater samples or conduct soil sampling while using depth discrete groundwater sampling probes, URS advanced a closely spaced pair of borings (within 2 feet apart) at each boring location. The lithologic characterization of the initial boring provided the information necessary to determine the proper discrete groundwater sampling depths. Soil samples were collected for analysis every five-feet, at the capillary fringe and at signs of obvious soil impacts. Depth discrete groundwater samples were collected at the saturated/unsaturated zone interface, 10 feet below the saturated/unsaturated zone interface, and at multiple discrete water-bearing zones and lithologic changes, if encountered within the initial boring. The approximate soil boring locations are illustrated on Figure 2. During soil boring advancement, groundwater was encountered in the lithologic borings at a depth of approximately 25 feet bgs.

Soil samples were logged by URS personnel under the supervision of a State of California Professional Geologist, according to the USCS, and monitored for grain size, color, consistency, staining, and odor using a PID. Soil samples collected for chemical analysis were sealed with Teflon® tape, capped, and placed in an ice-filled cooler for transportation to the laboratory. Soil samples collected during this investigation were submitted to a California State-certified analytical laboratory for analysis of GRO, BTEX and fuel additives (MTBE, TBA, ETBE, TAME, DIPE, 1,2-DCA, EDB, and ethanol) using EPA Method 8260B. Upon completing sampling activities, each boring was grouted to ground surface with Portland cement.

# 3.2.1.2 Groundwater Sampling

On November 3 and 7, 2005, a URS geologist observed Gregg advance the depth discrete groundwater or Hydropunch<sup>®</sup> soil borings, at all four soil boring locations approximately 1 to 2 feet laterally from the respective initial soil boring location. The Hydropunch<sup>®</sup> boring locations were cleared to at least five feet bgs using a hand auger or air knife rig.

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After clearing the depth discrete groundwater boring locations to five feet bgs using a hand auger or air knife rig, 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 hydro-punch screen only to the saturated zone, so that no cross-contamination would occur. The boring was then allowed to sit for a minimum of 1-hour for groundwater to accumulate. After a minimum of 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. No groundwater sample was able to be collected from boring location A-7. Although no water samples were collected, soil samples were collected from the saturated zones.

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

Depth discrete groundwater samples collected, were labeled and placed in ice-filled coolers for preservation, and sent under standard chain-of-custody procedures to a California state-certified laboratory. The groundwater samples will be analyzed for the presence of GRO, BTEX, and fuel additives (MTBE, TBA, ETBE, TAME, DIPE, 1,2-DCA, EDB, and ethanol) using EPA Method 8260B.

### 4.0 ANALYTICAL RESULTS

#### 4.1 SOIL ANALYTICAL RESULTS

#### PHASE ONE – ON-SITE SOURCE AREA CHARACTERIZATION

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. Soil analytical results are presented in Table 4. Copies of laboratory analytical reports and chain-of-custody records are presented in Attachment D.

Soil sample analytical results for the on-site characterization can be summarized as follows:

• In soil boring A-1, GRO was detected in only one sample at 76 mg/kg [A-1 (39-39.5')]. In soil boring A-2, GRO was detected in three samples ranging from 17 mg/kg [A-2 (33.5-34')], to 120 mg/kg, A-2 (30-30.5')]. In soil boring A-3, GRO was detected in three samples ranging from 0.13 mg/kg [A-3 (14.5-15')] to 220 mg/kg [A-3 (26-26.5')]. In soil boring A-4, GRO was detected in three samples ranging from 0.44 mg/kg [A-4 (19.5-20')] to 490 mg/kg [A-4 (23.5-24')]. In boring A-5, GRO was detected in four samples ranging from 0.23 mg/kg [A-5 (15-15.5')] to 28 mg/kg [A-5 (35-35.5')].

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- In soil boring A-4, benzene was detected in only one sample at 0.15 mg/kg [A-4 (31.5-32')]. In soil boring A-5, benzene was detected in two samples at 0.0068 mg/kg [A-5 (30-30.5')] and 0.11 mg/kg [A-5 (35-35.5')].
- In soil boring A-1, MTBE was detected in only one sample at 0.84 mg/kg [A-1 (46-46.5')]. In soil boring A-3, MTBE was detected in only one sample at 0.0050 mg/kg [A-3 (5-5.5')]. In soil boring A-4, MTBE was detected in only one sample at 0.48 mg/kg [A-4 (31.5-32')]. In boring A-5, MTBE was detected in six samples ranging from 0.0053 mg/kg [A-5 (19.5-20')] to 0.035 mg/kg [A-5 (25-25.5')]. No MTBE was detected above the laboratory reporting limit in boring A-2.
- In soil boring A-5, TBA was detected in only one sample at 0.022 mg/kg [A-5 (25-25.5')].
- No DIPE, EDB, 1,2-DCA, ETBE, TAME or ethanol was detected above laboratory reporting limits in borings A-1 through A-5.

#### PHASE TWO - OFF-SITE PLUME DELINEATION

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

- In soil boring A-7, MTBE was detected in two samples at 0.0064 mg/kg [A-7 (36-36.5')] and 0.43 mg/kg [A-7 (25.5-26')]. In soil boring A-9, MTBE was detected in only one sample at 0.16 mg/kg [A-9 (31-31.5')].
- No GRO, BTEX, TBA, DIPE, EDB, 1,2-DCA, ETBE, TAME or ethanol was detected above laboratory reporting limits in borings A-7 through A-10.

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 I 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

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Ethylbenzene	3.3
Xylenes	1.5
MTBE	0.023
TBA	0.073

Of the soil samples collected on September 26 and 27, 2005 and November 3 and 7, 2005, samples collected from six (A-2 through A-5, A-7, and A-9) of the nine borings had concentrations at or above the ESLs for GRO, benzene, ethylbenzene, xylenes, and MTBE.

#### 4.2 GROUNDWATER ANALYTICAL RESULTS

Twelve depth discrete groundwater samples and six groundwater monitoring well samples (MW-2, MW-4, MW-7, MW-10, EX-1 and EX-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 Table 1, 2 and 5. Copies of laboratory analytical reports and chain-of-custody records are presented in Attachment D.

The groundwater analytical results can be summarized as follows:

- GRO was detected in six of the soil borings and five monitoring wells sampled at concentrations ranging from 51 micrograms per liter (μg/L) [boring A-10 (39')] to 510,000 μg/L [A-2 (21.3)].
- Benzene was detected in four of the soil borings sampled at concentrations ranging from 0.50 μg/L (well EX-2) to 11,000 μg/L [A-4 (34'-36')].
- MTBE was detected in six of the soil borings sampled at concentrations ranging from 8.3 μg/L [A-3 (34'-36')] to 39,000 μg/L [boringA-4 (34'-36')].
- TBA was detected in one boring sampled at a concentration of 350 μg/L [A-5 (19.5')].
- No TAME, 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



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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 (μg/L)
GRO/TPH-g	100
Benzene	1.0
Toluene	40
Ethylbenzene	30
Xylenes	13
MTBE	5.0
TBA	12

Of the groundwater samples collected on September 26 and 27, 2005 and November 3 and 7, 2005, ten samples (wells A-2, A-4, A-7, MW-10 and EX-1; borings A-2 through A-5, A-9, and A-10) reported concentrations at or above the ESLs for GRO and MTBE. Nine samples (wells A-2, A-4, A-7 and EX-1; borings A-2 through A-5, A-9, and A-10) reported concentrations at or above the ESLs for benzene. One sample, A-5 (19.5'), reported concentrations above the ESL for TBA.

#### 5.0 GEOTRACKER

In accordance with GeoTracker requirements, URS will upload soil and groundwater analytical data and associated information into the GeoTracker database.

#### 6.0 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. Following waste characterization, Dillard Environmental (Dillard) will transport the soil to an RM approved disposal facility. Upon receipt, URS will forward the waste manifests to the ACEHS upon request.



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### 7.0 CONCLUSIONS AND RECOMMENDATIONS

The purpose of this investigation was to further assess the extent of dissolved-phase hydrocarbons in soil and groundwater both laterally and vertically, on- and off-site. The results of the soil boring activities performed by URS can be summarized as follows:

- Maximum GRO, benzene and MTBE concentrations were detected in soil at concentrations of 490 mg/kg [A-4 (23.5-24')], 28 mg/kg [A-5 (35-35.5')] and 0.84 mg/kg [A-1 (46-46.5')], respectively. No DIPE, EDB, 1,2-DCA, ETBE, TAME or ethanol were detected above laboratory reporting limits in borings A-1 through A-5.
- Maximum GRO, benzene and MTBE concentrations were detected in groundwater at concentrations of 510,000 μg/L [A-2 (21.3)], 11,000 μg/L [A-4 (34'-36')] and 39,000 μg/L [boring A-4 (34'-36')], respectively. No TAME, ethanol, DIPE, ETBE or EDB was detected at or above their respective laboratory reporting limits.
- Borings A-1, A-2, A-7, A-8, A-9 and A-10 showed low to below their respective laboratory reporting limits for the constituents of concern in soil.
- The crossgradient and downgradient extent of the dissolved hydrocarbon plume has been completely characterized, as elevated dissolved hydrocarbon concentrations were reported in groundwater at locations A-4 and A-5.

Based on a review of the data, the lateral extent of dissolved phase hydrocarbons in soil and groundwater has been completed. The vertical extent of dissolved phase hydrocarbons on the south-southeastern portion of the Site has not been defined.

#### 8.0 PROPOSED SCHEDULE

Upon completing vertical assessment of the Site including potentially installing additional remediation wells, a CAP will be prepared and submitted to ACEHS, as requested.

#### 9.0 LIMITATIONS

This report is based on data, Site conditions and other information that is generally applicable as of the date of the report, and the conclusions and recommendations herein are therefore applicable only to that time frame. Background information including but not limited to previous field measurements, analytical results, Site plans and other data have been furnished to URS by RM, their previous consultants, and/or third parties, which URS has used in preparing this report. URS has relied on this information as furnished, and is neither responsible for nor has confirmed the accuracy of this information.

Analytical data provided by the RM approved laboratory has been reviewed and verified by the laboratory. URS has not performed an independent review of the data and is neither responsible for nor has confirmed the accuracy of this data. Field measurements have been supplied by a

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groundwater sampling subcontractor. URS has not performed an independent review of the field sampling data and is neither responsible for nor has confirmed the accuracy of this data.

If you have any questions or concerns, please contact Lynelle Onishi at (510) 874-1758.

Sincerely,

URS CORPORATION

Lynelle Onishi

Project Manager

Barbara J. Jakub, P.G.

D GEO

BARBARA J JAKUB No. 7304

Senior Geologist

cc:

Ms. Sherry Boles, Eastmont Town Center, 7200 Bancroft Ave., Oakland, CA 94605-1907

Mr. Kyle Christie, RM (electronic file uploaded to ENFOS)

Mr. Ade Fagorala, San Francisco Bay Regional Water Quality Control Board, 1515 Clay Street, Suite 1400, Oakland, California 94612

Ms. Liz Sewell, ConocoPhilips (electronic file uploaded to URS ftp server)

#### **ATTACHMENTS**

Figure 1 - Site Location Map

Figure 2 - Soil Boring Locations

Figure 3 – Groundwater Elevation Contour Map Fourth Quarter 2005

(November 3, 2005)

Table 1 - Groundwater Elevation and Analytical Results

Table 2 - Fuel Oxygenate Analytical Results

Table 3 - Historical Groundwater Flow Direction and Gradient

Table 4 - Soil Analytical Results

Table 5 - Soil Boring Groundwater Analytical Results

Attachment A - ACEHS Correspondences

Attachment B - Soil Boring Logs

Attachment C - Field Procedures and Field Data Sheets

Attachment D - Laboratory Analytical Reports and Chain-Of-Custody Records

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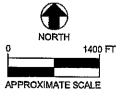
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- Cambria Environmental Technology, Inc. *Dual Phase Extraction Pilot Test Report*. Former BP Oil Site No. 11117, 7210 Bancroft Avenue, Oakland, California. August 8, 2002.
- URS Corporation. Soil and Groundwater Investigation Work Plan. Former BP Service Station No. 11117, 7210 Bancroft Avenue, Oakland, California. May 9, 2005.

# **FIGURES**

REF: BASE MAP FROM USGS TOPOI 7.5 MINUTE TOPOGRAPHIC PHOTOREVISED 1998





**URS** 

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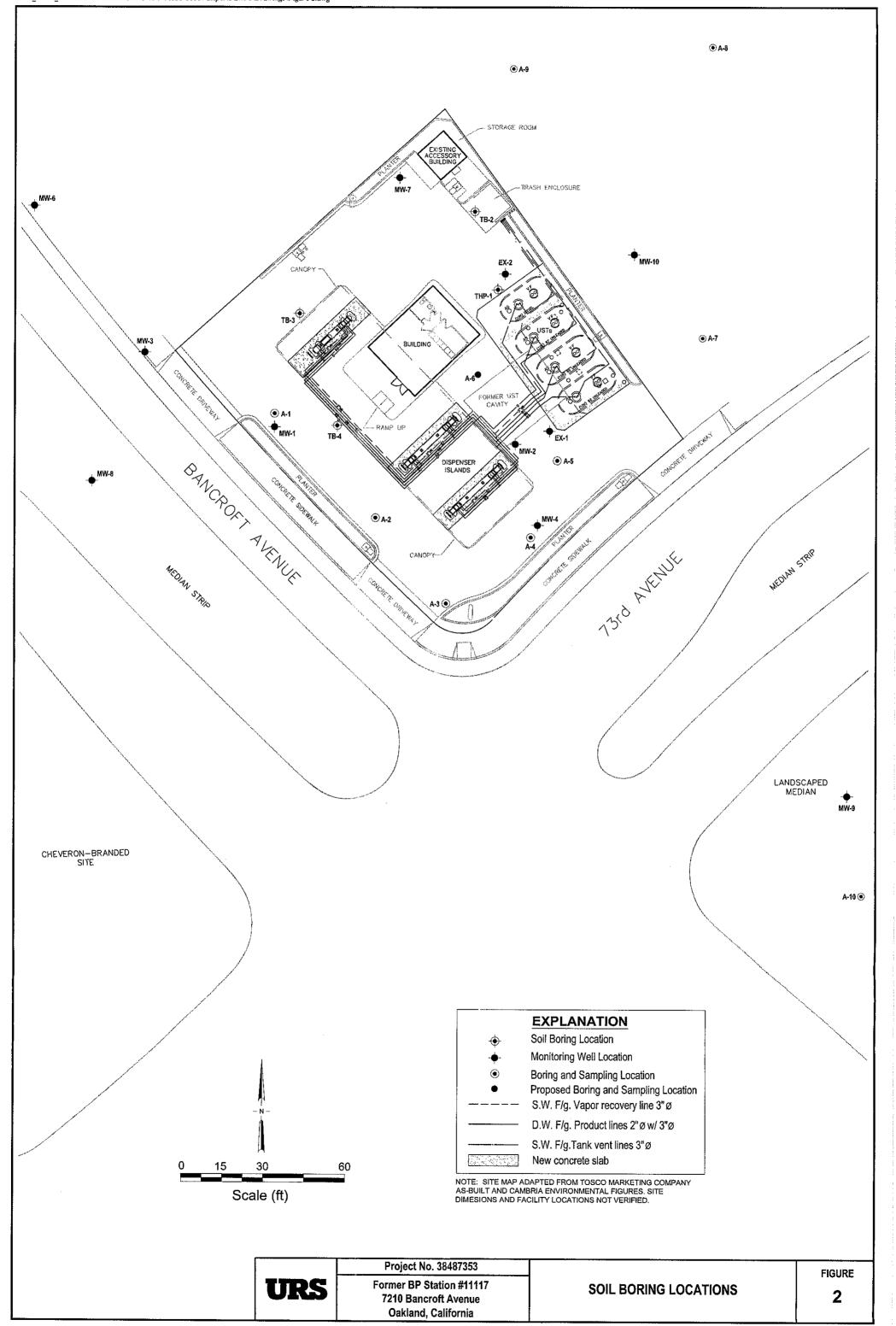
Project No. 38486396

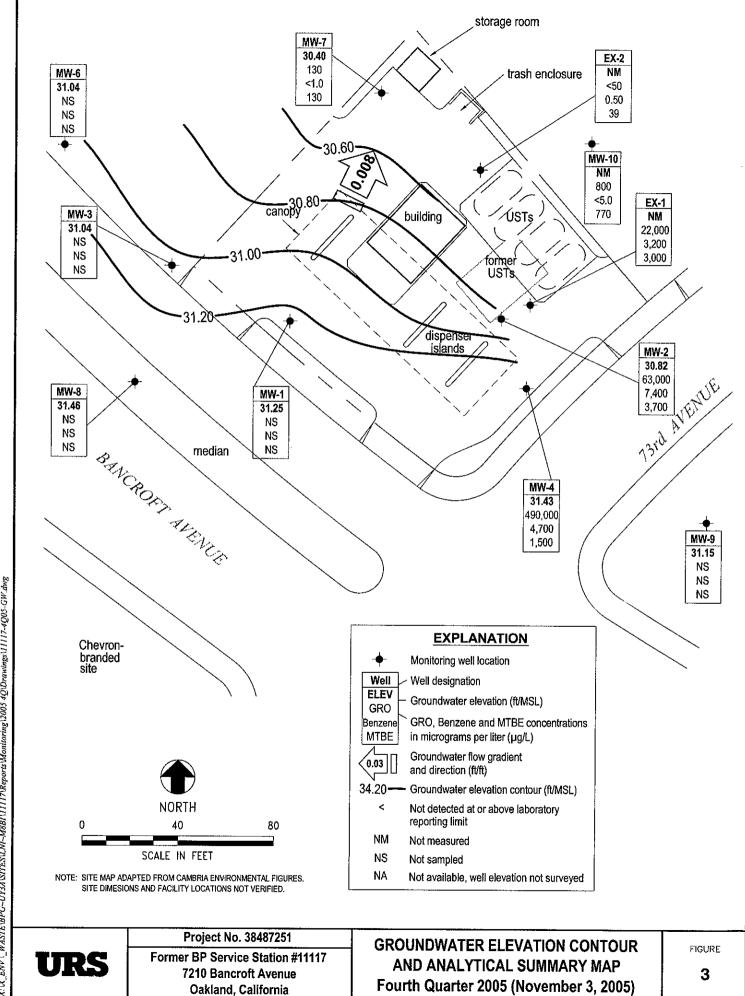
Former BP Service Station #11117 7210 Bancroft Avenue Oakland, California

SITE LOCATION MAP

FIGURE

1





Nov 30, 2005 - 10:31am X: W\_ENV'\_WASTE (BPG-UT3A \SITES\LNI-M&BI\!!!!T\Reports\Monitoring\!2005 4Q\Drawings\!!!!7-4Q05-GW:dwg

# **TABLES**

Table 1

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)	L.ab	рН	Comments
EX-1	05/04/2004	Р		16.29			12,000	2,300	430	740	1,100	2,500	<del> </del>	SEQM	6.8	h
	08/31/2004	P	-	19.39			13,000	2,500	95	650	1,500	2,100		SEQM	6.7	h
	11/23/2004	Р	-	17.90			13,000	2,700	94	460	1,700	3,000	T	SEQM		
	01/18/2005	P		14.20			16,000	2,100	390	570	2,500	2,200		SEQM		
	06/29/2005	Р		14.22			6,400	1,100	52	280	790	1,400		SEQM		
	09/01/2005	Р		17.22			7,900	2,000	94	400	870	2,000		SEQM		
	11/03/2005	Р		19.92			22,000	3,200	640	550	3,300	3,000	0.88	SEQM	6.8	
EX-2	05/04/2004	Р	_	16.65			<50	0.63	<0.50	<0.50	0.66	46		SEQM	6.7	h
	08/31/2004	Р		19.90			<250	<2.5	<2.5	<2.5	<2.5	130		SEQM	1 1	h
	11/23/2004	Р	-	18.36			<50	0.74	<0.50	0.83	3.0	5.8		SEQM	1	
	01/18/2005	Р		14.67			<50	<0.50	<0.50	<0.50	0.69	6.5		SEQM		
	06/29/2005	Р		14.60			<50	<0.50	<0.50	<0.50	0.50	24		SEQM		s
	09/01/2005	Р	-	17.28			<50	<0.50	1.4	<0.50	1.4	55		SEQM		
	11/03/2005	Р		20.42	-		<50	0.50	<0.50	<0.50	1.4	39	0.77	SEQM	I	
MW-1	1/5/1992		49.8	33.16		16.64	57,000	2,400	1,000	1,100	3,100					
	1/10/1992		49.8	33.16		16.64										
	6/5/1992		49.8	29.01		20.79	31,000	2,800	2,100	800	2,300					
	7/24/1992		49.8	29.45		20.35					-,					
	7/27/1992		49.8	29.45		20.35		**				-				<del></del>
	9/15/1992			-	-		36,000	3,800	3,400	1,400	3,800			ANA		d
	9/15/1992		49.8	30.53		19.27	40,000	3,400	3,000	1,300	3,400			ANA		c
	12/15/1992	- 1					22,000	1,500	440	510	1,300			ANA		d
	12/15/1992		49.8	31.26		18.54	27,000	1,700	580	700	1,900	***		ANA		C
	3/15/1993		_	_			15,000	1,100	860	440	1,400			PACE		d, I
	3/15/1993		49.8	24.80		25.00	17,000	1,700	1,200	590	1,800			PACE		
	6/7/1993	_					720	0.7	0.7	<0.5	<0.5			PACE		d, I
	6/7/1993		49.8	25.01		24.79	750	8,0	0.8	<0.5	<0.5			PACE		1
	9/23/1993	-	49.8	28.70		21.10	40,000	4,000	500	920	3,000	6,619		PACE		e, I
-	12/27/1993						21,000	1,700	380	830	2,400	9,219		PACE		e,I, d
	12/27/1993		49.8	28.66		21.14	27,000	2,000	400	940	2,600	13,558		PACE		e, I
	4/5/1994				-		29,000	3,700	1,000	1,000	3,100	9,672	1.3	PACE		e.l, d
<u></u>	4/5/1994	-	49.8	26.37		23.43	27,000	3,400	930	950	2,900	8,595		PACE		e,l,
	7/22/1994		49.8	26.54	-	23.26	1,700	220	2.3	2	3.4	262	2.0	PACE		e,l
	10/13/1994		49.8	27.46		22.34	1,200	250	21	<0.5	3.2	321	2.6	PACE		e,l

Table 1

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	рН	Comments
MW-1	1/25/1995	-	49.8	20.96	-	28.84	1,000	420	8	13	4			ATI		
	4/19/1995	-	49.8	19.59		30.21	5,200	420	51	230	340	-	6.0	ATI		
	7/5/1995	-	49.8	19.61		30.19	320	4.2	<0.50	<0.50	<1.0		4.6	ATI		
	10/5/1995		49.8	24.40		25.40	5,800	1,000	40	31	180	7,800	2.3	ATI		
	1/12/1996		49.8	25.44		24.36	370	<0.50	<0.50	<0.50	<1.0	<5.0	3.7	ATI	<b>   </b>	
	4/22/1996		49.8	18.02	_	31.78	<50	<0.5	<1	<1	<1	<10	3.9	SPL		
	7/2/1996	-	49.8	19.72	-	30.08			-							
	7/3/1996		49.8		-		<250	<2.5	<5	<5	<5	<50	3.6	SPL		- · · · · · · · · · · · · · · · · · · ·
	11/8/1996	-	49.8	19.98		29.82	<50	<0.5	<1.0	<1.0	<1.0	<10	4.3	SPL		
	1/3/1997		49.8	19.49		30.31	<50	<0.5	14	<1.0	<1.0	<10	4.6	SPL		
	4/28/1997		49.8	20.20		29.60	<50	<0.5	<1.0	<1.0	<1.0	<10	3.9	SPL		
	7/1/1997		49.8	22.53		27.27	<50	<0.5	<1.0	<1.0	<1.0	<10	3.9	SPL		
	10/2/1997	-	49.8	24.27		25.53	<50	<0.5	<1.0	<1.0	<1.0	<10	4.6	SPL		
	1/9/1998		49.8	21.07		28.73	<50	<0,5	<1.0	<1.0	<1.0	<10	4.2	SPL		
	5/6/1998	-	49.8	14.94		34.86	60	<0.5	<1.0	<1.0	<1.0	<10	3.8	SPL		
	7/21/1998		49.8	15.11		34.69	70	<0.5	<1.0	<1.0	<1.0	<10	3.8	SPL		
	12/30/1998		49.8	19.95		29.85			, <b></b> -							
	2/2/1999	-	49.8	19.12		30.68	420	<1.0	<1.0	<1.0	<1.0	390		SPL		
	5/10/1999		49.8	15.51		34.29					-		_			
	9/23/1999		49.8	21.65		28.15	440	49	<1.0	<1.0	<1.0	910		SPL		
	12/23/1999	-	49.8	22.32	-	27.48		-	'	-						<del></del>
	3/27/2000		49.8	15.72	-	34.08	2,500	230	3	83	36	4,400		PACE		
	5/22/2000	-	49.8	16.92	-	32.88						***	_			
	8/31/2000	-	49.8	20.12		29.68	1,700	18	5.5	7.9	5	510		PACE		
	12/11/2000		49.8	20.72		29.08	-			-						
	3/20/2001		49.8	15.91	-	33.89	880	38.2	<0.5	24.1	<1.5	391		PACE		
	6/19/2001	-	49.8	18.38		31.42					-					
	9/20/2001		49.8	21.23		28.57	3,200	400	19.8	42	32.5	2,510		PACE		
	12/27/2001		49.8	16.72		33.08	750	70.1	0.536	4,74	3.76	649		PACE		····
	2/28/2002		49.8	15.25		34.55	<50	<0.5	<0.5	<0.5	<1.0	8.7	-	PACE		
	6/28/2002		49.8	16.57		33.23	110	0.977	<0.5	0.818	<1.0	8.35		PACE		
	9/12/2002		49.8	18.41		31.39	98	2.7	1.5	1.5	5.4	48		SEQ	6.9	······································
	12/12/2002		49.8	20.26		29.54	210	1.9	<0.50	<0.50	<0.50	32		SEQ	6.8	
	3/10/2003		49.8	16.22	-	33.58	<50	<0.50	<0.50	<0.50	<0.50	3.2		SEQ	6.9	
	5/12/2003		49.8	14.30		35.50	<50	<0.50	<0.50	<0.50	<0.50	<2.5		SEQ	7.1	

Table 1

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	рН	Comments
MW-1	8/27/2003		49.8	18.15		31.65	<50	<0.50	<0.50	<0.50	<0.50	4.2		SEQ	7.1	n
	11/10/2003	Р	49.80	19.24		30.56	<50	<0.50	<0.50	<0.50	<0.50	0.51	_	SEQM	6.8	
	02/03/2004	Р	49.80	14.84		34.96	<50	<0.50	<0.50	<0.50	<0.50	<0.50		SEQM		
	05/04/2004	P.	49.80	14.67		<b>35.1</b> 3	<50	<0.50	<0.50	<0.50	<0.50	<0.50		SEQM	7.1	
	08/31/2004	Ρ	49.80	17.75		32.05	<50	<0.50	<0.50	<0.50	<0.50	0.50		SEQM	<del></del>	
	11/23/2004		49.80	16.03		33.77										
	01/18/2005	Р	49.80	12.47		37.33	<50	<0.50	<0.50	<0.50	<0.50	<0.50		SEQM	6.9	
	06/29/2005	-	49.80	12.65		37.15						-				
	09/01/2005		49.80	15.79		34.01	-									
	11/03/2005	-	49.80	18.55		31.25										
MW-2	1/5/1992		51.07							7			-			r
	1/10/1992		51.07													r
	6/5/1992		51.07	30.05		21.02	11,000	2,000	180	490	1,900	<del></del>	<del></del>			-
	7/24/1992		51.07	30.72		20.35										
	7/27/1992		51.07	30.52		20.55										
	9/15/1992		51.07	31.56		<b>19.5</b> 1	75,000	2,000	6,500	2,300	13,000			ANA		С
	12/15/1992	-	51.07	32.40		18.67	34,000	6,200	8,900	2,000	7,900			ANA		C
	3/15/1993		51.07	26.14	-	24.93	150,000	12,000	18,000	3,200	22,000	82,000		PACE		e
	6/7/1993		51.07	26.38		24.69										f
	9/23/1993	-	51.07	31.43	1.92	17.72	-									f
	12/27/1993		51.07	34.07	1.07	15.93	-									f
·	4/5/1994		51.07	30.44	3.30	17.33										f
	7/22/1994		51.07	28.51	0.80	21.76										f
	10/13/1994		51.07	29.33	0.70	21.04										f
	1/25/1995		51.07	25.55	4.25	21.27										f
···	4/19/1995		51.07	19.78	0.12	31.17										f
	7/5/1995		51.07	20.88	0.09	30.10	140,000	14,000	30,000	3,500	26,000	By an		ATI		
	10/5/1995	-	51.07	24.68	0.10	26.29										f
	1/12/1996		51.07	25.72	0.06	<b>25.2</b> 9										f
	4/22/1996		51.07	19.33	80.0	31.66						***	_			f
<del></del>	7/2/1996		51.07	20.01	0.04	31.02							1 1			f
	11/8/1996	-	51.07	20.28	0.01	30.78										f
	1/3/1997		51.07	19.87	0.02	31.18	-									f
	4/28/1997	-	51.07	20.59	0.01	30.47	560,000	1,200	1,300	290	2,310	6,100	3.9	SPL		· · · · · · · · · · · · · · · · · · ·
	7/1/1997		-				150,000	14,000	13,000	1,800	14,200	57,000		SPL		ď

Table 1

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	рН	Comments
MW-2	7/1/1997	_	51.07	22.90	0.01	28.16	24,000	15,000	16,000	4,900	24,400	63,000	3.7	SPL		
	10/2/1997		51.07	24.65	0.02	26.40										
	10/3/1997	-	51.07				250,000	32,000	39,000	6,000	42,000	160,000	4.5	SPL		
	1/9/1998	-					300,000	20,000	25,000	5,200	37,000	84,000		SPL		d
	1/9/1998		51.07	21.22	0.01	29.84	420,000	23,000	29,000	5,800	43,000	75,000	4.0	SPL		
	2/2/1998		51.07	20.11		30.96	410,000	27,000	43,000	6,700	50,000	20,000		SPL		
	5/6/1998		51.07	15.10	0.01	35.96	180,000	25,000	26,000	3,400	22,900	35,000	3.7	SPL		
	7/21/1998	1	51.07	15.31	0.01	35.75	270,000	21,000	20,000	2,700	18,800	34,000	3.8	SPL		
	12/30/1998	-	51.07	21.10	0.10	29.87	300,000	22,000	24,000	4,200	26,000	89000/95000		SPL		i
	5/10/1999	-	51.07	16.68		34.39	220,000	20,000	20,000	2,800	20,000	100,000		SPL		
	9/23/1999		51.07	22.50		28.57	160,000	21,000	24,000	2,900	20,000	44,000		SPL		
	12/23/1999		51.07	22.64		28.43	170,000	25,000	41,000	3,100	24,000	40,000		PACE		k
	3/27/2000		51.07	16.88		34.19	140,000	15,000	25,000	3,400	21,000	19,000		PACE		
	5/22/2000		51.07	17.75	_	33.32	150,000	18,000	31,000	3,500	22,000	26,000		PACE	<u></u> -	
	8/31/2000		51.07	21.97		29.10	200,000	16,000	26,000	2,500	16,000	38,000		PACE		
	12/11/2000		51.07	22.05		29.02	130,000	18,600	30,000	3,250	20,600	21,700		PACE		
	3/20/2001		51.07	17.75		33.32	140,000	15,900	24,800	3,700	22,100	12,900		PACE		
	6/19/2001		51.07	20.15		30.92	130,000	15,100	19,500	3,300	21,400	20,300	-	PACE		·····
	9/20/2001		51.07	22.14	_	28.93	110,000	12,400	12,600	2,230	13,000	39,500	_	PACE		
	12/27/2001		51.07	18.17	-	32.90	150,000	17,500	26,000	3,050	19,500	27,500		PACE		<del></del>
	2/28/2002	-	51.07	17.42	-	33.65	120,000	13,900	18,800	3,030	19,600	17,300		PACE		<del></del>
	6/28/2002		51.07	17.04		34.03	3,700	190	23.3	139	287	826		PACE		u
	9/12/2002		51.07	19.52		31.55	100,000	13,000	22,000	3,600	20,000	18,000		SEQ	6.6	<del></del>
	12/12/2002		51.07	21.08	-	29.99	120,000	13,000	21,000	4,400	25,000	16,000		SEQ	6.6	
	3/10/2003		51.07	17.84		33.23	100,000	17,000	21,000	3,400	20,000	4,400		SEQ	6.8	
	5/12/2003		51.07	16.66		34.41	150,000	16,000	24,000	3,500	22,000	3,600		SEQ	7.1	
	8/27/2003		51.07	19.65		31.42	120,000	14,000	12,000	3,900	20,000	5,100		SEQ	6.9	n
	11/10/2003	Р	51.07	20.80	-	30.27	97,000	12,000	9,500	3,600	15,000	4,200		SEQM	6.7	
	02/03/2004	Р	51.07	16.82	_	34.25	130,000	14,000	19,000	3,400	20,000	1,900		SEQM	6.8	
	05/04/2004	Р	51.07	16.19		34.88	120,000	12,000	16,000	3,700	22,000	2,500		SEQM	6.7	
	08/31/2004	Р	51.07	19.50		31.57	99,000	10,000	13,000	3,700	18,000	3,400		SEQM	6.8	
	11/23/2004	P	51.07	18.20		32.87	110,000	8,200	17,000	4,000	23,000	2,400		SEQM	6.7	s
	01/18/2005	Р	51.07	14.91		36.16	96,000	6,500	14,000	3,500	21,000	3,700		SEQM	6.6	
	06/29/2005	Р	51.07	13.98		37.09	54,000	6,200	4,900	3,300	12,000	3,600		SEQM	7.3	
	09/01/2005	Р	51.07	17.00		34.07	58,000	6,300	6,000	3,300	15,000	5,100		SEQM	7.0	

Table 1

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	pН	Comments
MW-2	11/03/2005	P	51.07	20.25		30.82	63,000	7,400	3,700	3,300	10,000	3,700	0.66	SEQM	6.7	
MW-3	1/5/1992		49.95	33.69		16.26	7,400	790	23	210	40			l		
	1/10/1992		49.95	33.74		16.21										
	6/5/1992		49.95	29.65	**	20.30	2,000	130	5.3	93	20	_				
	7/24/1992		49.95	30.14	-	19.81		_								
	7/27/1992		49.95	30.14		19.81										
	9/15/1992	_	49.95	31.07	***	18.88	450	55	3.1	34	7.1			ANA		
	12/15/1992	_	49.95	31.93		18.02	12,000	940	<50	310	120			ANA		С
	3/15/1993		49.95	25.71		24.24	<50	<0.5	<0.5	<0.5	<0.5	_		PACE		
	6/7/1993		49.95	25.80	-	24.15	150	3.6	<0.5	0.9	1.3	-		PACE		
	9/23/1993		49.95	29.18		20.77										· · · · · · · · · · · · · · · · · · ·
	9/24/1993		49.95	-			160	8.4	<0.5	3.7	1.3	15.3		PACE		1
	12/27/1993		49.95	29.25		20.70	9,400	1,100	48	530	120	2,871		PACE		e,I
	4/5/1994		49.95	26.84		23.11	7,000	860	19	330	52	10,414	2.0	PACE		1
	7/22/1994		49.95	26.90		23.11	<50	<0.5	<0.5	<0.5	<0.5	<5.0	2.1	PACE		1
	10/13/1994		49.95	27.83		22.12	<50	<0.5	<0.5	<0.5	<0.5	<5.0	2.6	PACE		l
	1/25/1995		49.95	21.65		28.30	<50	<0.5	<0.5	<0.5	<1			ATI		
···	4/19/1995	-	49.95	19.33		30.62	2,400	170	8	130	27	***	5.0	ATI		
	7/5/1995	-	49.95	20.27		29.68	<50	<0.50	<0.50	<0.50	<1.0		4.4	ATI		
	10/5/1995		49.95	23.73		26.22	2,300	210	3.1	10	5.1	2,400	4.2	ATI		
***	1/12/1996		49.95	24.84		25.11	<50	<0.50	<0.50	<0.50	<1.0	<5.0	4.1	ATI		
	4/22/1996	-	49.95	18.60		31.35	<50	<0.5	<1	<1	<1	<10	4.4	SPL		*
	7/2/1996		49.95	18.88		31.07	<50	<0.5	<1	<1	<1	<10	4.2	SPL		
	11/8/1996		49.95	19.14		30.81	<50	<0.5	<1.0	<1.0	<1.0	<10	4.4	SPL		
	1/3/1997		49.95	18.72		31.23	<50	<0.5	<1.0	<1.0	<1.0	<10	4.6	SPL		
	4/28/1997		49.95	19.38		30.57	<50	<0.5	<1.0	<1.0	<1.0	<10	4.2	SPL		
	7/1/1997	-	49.95	21.65		28.30	<50	<0.5	<1.0	<1.0	<1.0	<10	3.8	SPL		<u> </u>
	10/2/1997		49.95	23.45		26.50	<50	<0.5	<1.0	<1.0	<1.0	<10	4.5	SPL		
	1/9/1998	_	49.95	20.10		29.85	<50	<0.5	<1.0	<1.0	<1.0	<10	4.1	SPL		
	5/6/1998		49.95	15.57	-	34.38	<50	<0.5	<1.0	<1.0	<1.0	<10	3.8	SPL		<del></del>
	7/21/1998	-		-			60	<0.5	<1.0	<1.0	<1.0	<10	-	SPL		d
	7/21/1998		49.95	15.88		34.07	51	<0.5	<1.0	<1.0	<1.0	<10	3.8	SPL		
	12/30/1998		49.95	20.30		29.65								SPL		
<del></del>	2/2/1999		49.95	19.75	-	30.20	<50	<1.0	<1.0	<1.0	<1.0	<10	† <u></u> †	SPL		
	5/10/1999		49.95	16.17		33.78										

Table 1

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	рН	Comments
MW-3	9/23/1999		49.95	22.05		27.90					-					
	12/23/1999		49.95	22.55		27.40						-				
	3/27/2000	_	49.95	16.40		33.55	350	22	<0.5	<0.5	<0.5	580		PACE	-	
	5/22/2000		49.95	9.49		40.46							<del> </del>		† <u>-</u>	t
	8/31/2000		49.95	13.02	_	36.93			_				<del> </del>			t
	12/11/2000	_	49.95	13.30		36.65									-	t
	3/20/2001		49.95	16.49		33.46	1,000	66.4	0.597	6.96	<1.5	398		PACE	+=	t .
	6/19/2001	-	49.95	18.82		31.13							+			
	9/20/2001		49.95	21.59		28.36	230	<0.5	0.593	<0.5	<1.5	289	<del>                                     </del>	PACE		
	12/27/2001		49.95	17.37	_	32.58							+ =	TACE	<del></del>	
	2/28/2002	-	49.95	15.81		34.14	<50	<0.5	<0.5	<0.5	<1.0	0.58	<del>  -</del>	PACE		: 
	6/28/2002		49.95	17.09		32.86							<del></del>	FACE		
	9/12/2002	-	49.95	18.80		31.15	52	3.3	8.6	1.7	12	11		SEQ	7.0	
	12/12/2002	-	49.95	20.57		29.38	-									
	3/10/2003		49.95	16.68		33.27	<50	<0.50	<0.50	<0.50	<0.50	<2.5			7.0	
	5/12/2003		49.95	14.72		35.23						~2.0		SEQ	7.0	
	8/27/2003		49.95	18.50		31.45	<50	<0.50	<0.50	<0.50	0.5	<0.50				······································
	11/10/2003		49.95	19.66		30.29						~0.50			7.1	n
	02/03/2004	Р	49.95	15.33		34.62	<50	<0.50	<0.50	<0.50	<0.50	<0.50		SEQM		-
	08/31/2004	Р	49.95	18.13		31.82	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<del> </del>		7.0	<del></del>
	11/23/2004		49.95	16.48		33.47					10.50	<u> </u>		SEQM		
	01/18/2005	Р	49.95	13.06	_	36.89	<50	<0.50	<0.50	<0.50	<0.50	<0.50				
	06/29/2005	-	49.95	13.00		36.95				10.50			<del>-</del>	SEQM	6.9	<del></del>
	09/01/2005		49.95	16.00		33.95										
	11/03/2005		49.95	18.91		31.04			44				<del>-</del>			
MW-4	7/04/4000											**				
17177-4	7/24/1992	_	50.76	30.02		20.74	42,000	3,200	3,600	1,400	4,100		1			
	7/27/1992		50.76	30.02		20.74										
	9/15/1992	-	50.76	31.14		19.62	55,000	7,600	13,000	2,800	9,500			ANA		C
	12/15/1992		50.76	31.98		18.78	36,000	3,700	4,700	1,200	4,000			ANA		С С
	3/15/1993	-	50.76	25.34		25.42	69,000	7,600	15,000	2,500	11,000			PACE		<u> </u>
	6/7/1993		50.76	25.67		25.09	73,000	10,000	19,000	3,400	14,000			PACE		1
<del></del>	9/23/1993	_	50.76	29.37		21.39						<del>-</del>				1
	9/24/1993						59,000	5,300	10,000	2,200	8,400	309		PACE		d
	9/24/1993	-	50.76				68,000	11,000	2,100	8,600	990	390		PACE		
<del> , ,</del> ,	12/27/1993		50.76	29.40	-	21.36	32,000	2,500	4,400	1,300	4,400	387		PACE		<u> </u>

Table 1

MW-4 4/5/19 7/22/15 7/22/15 7/22/15 10/13/1 10/13/1 10/13/1 1/25/15 4/19/15 4/19/15 7/5/19 10/5/19 1/12/19 4/22/19 4/22/19 7/2/19 11/8/19 11/8/19 1/3/195 1/3/195 10/3/195 10/3/195 1/9/199	/1994 /1994 8/1994 8/1995 /1995 /1995	   	50.76  50.76  50.76	27.09  27.33		23.67		(µg/L)	(µg/Ļ)	(µg/L)	Xylenes (µg/L)	MTBE (µg/L)	DO (mg/L)	Lab	рН	Comments
7/22/19 10/13/1 10/13/1 10/13/1 10/13/1 1/25/19 1/25/19 4/19/19 10/5/19 1/12/19 4/22/19 4/22/19 11/8/19 11/8/19 1/3/199 4/28/19 10/3/199 10/3/199 5/6/199	/1994 3/1994 3/1994 /1995 /1995	  		4			64,000	6,500	14,000	1,900	9,600	413	1.4	PACE		1
10/13/1 10/13/1 10/13/1 1/25/19 1/25/19 4/19/19 10/5/19 1/12/19 4/22/19 4/22/19 7/2/19 11/8/19 11/8/19 1/3/199 4/28/19 10/3/199 10/3/199 5/6/199	3/1994 3/1994 71995 71995 71995	 		27.33	1		85,000	11,000	21,000	3,300	14,000	435		PACE		ď, l
10/13/1 1/25/19 1/25/19 4/19/19 4/19/19 10/5/19 11/2/19 4/22/19 7/2/19 11/8/19 11/8/19 4/28/19 4/28/19 10/3/199 10/3/199 5/6/199	3/1994 /1995 /1995 /1995		 50.76			23.43	85,000	10,000	20,000	3,200	13,000	796	0.8	PACE		
1/25/19 1/25/19 1/25/19 4/19/19 4/19/19 10/5/19 11/2/19 1/12/19 4/22/19 7/2/19 11/8/19 11/8/19 1/3/199 4/28/19 10/3/199 10/3/199 1/9/199 5/6/199	/1995 /1995 /1995		50.76	-	-		51,000	7,400	13,000	2,100	9,100	773		PACE		d, I
1/25/19 4/19/19 4/19/19 7/5/19 10/5/19 1/12/19 1/12/19 4/22/19 7/2/19 7/2/19 11/8/19 11/8/19 4/28/19 4/28/19 10/3/19 10/3/19 1/9/199 5/6/199	/1995 /1995			28.25		22.51	51,000	7,100	13,000	2,100	8,900	506	2.9	PACE		e,l
4/19/19 4/19/19 7/5/19 10/5/19 11/12/19 4/22/19 4/22/19 7/2/19 11/8/19 11/8/19 1/3/199 4/28/19 7/1/199 10/3/199 10/3/199 5/6/199	1995		-				28,000	4,200	12,000	1,500	7,800			ATI		d, I
4/19/19 7/5/19 10/5/19 110/5/19 1/12/19 4/22/19 4/22/19 7/2/199 11/8/19 11/8/19 1/3/199 4/28/19 4/28/19 10/3/199 10/3/199 1/9/199 5/6/199			50.76	21.85		28.91	26,000	3,600	9,600	1,200	6,400			ATI		
7/5/19: 10/5/19: 11/2/19 1/12/19 4/22/19 4/22/19 7/2/19: 11/8/19 11/8/19 1/3/19: 4/28/19 4/28/19 10/3/19: 1/3/19: 1/3/19: 5/6/19:	1995	-					100,000	12,000	26,000	3,800	21,000	<del>-</del>		ATI		ď
10/5/19 1/12/19 1/12/19 4/22/19 4/22/19 7/2/19 7/2/19 11/8/19 11/8/19 4/28/19 4/28/19 10/3/19 10/3/19 1/9/199 5/6/199			50.76	19.44		31.32	89,000	12,000	24,000	3,500	18,000		5.1	ATI		
1/12/19 1/12/19 4/22/19 4/22/19 7/2/199 7/2/199 11/8/19 11/8/19 1/3/199 4/28/19 4/28/19 10/3/199 10/3/199 1/9/199 5/6/199			50.76	20.52		30.24	130,000	13,000	29,000	3,300	25,000		4.3	ATI		
1/12/19 4/22/19 4/22/19 7/2/19 7/2/19 7/2/19 11/8/19 11/8/19 1/3/19 4/28/19 4/28/19 7/1/19 10/2/19 10/3/19 1/9/199 5/6/199			50.76	24.23		26.53	110,000	10,000	23,000	3,600	17,000	34,000	2.1	ATI		
4/22/19 4/22/19 7/2/19 7/2/19 7/2/19 11/8/19 11/8/19 1/3/19 4/28/19 4/28/19 7/1/19 10/2/19 10/3/19 1/9/199 5/6/199	1996						40,000	3,500	9,000	1,200	8,700	4,300		ATI		d
4/22/19 7/2/199 7/2/199 11/8/19 11/8/19 11/3/199 1/3/199 4/28/19 4/28/19 10/2/199 10/3/199 1/9/199 5/6/199	1996	-	50.76	25.34		25.42	46,000	3,500	8,300	1,100	8,000	3,000	3.3	ATI		
7/2/199 7/2/199 11/8/19 11/8/19 1/3/199 4/28/19 4/28/19 7/1/199 10/2/199 10/3/199 5/6/199	1996		-				61,000	8,300	16,000	1,600	15,200	36,000		SPL		d
7/2/199 11/8/19 11/8/19 1/3/199 1/3/199 4/28/19 4/28/19 7/1/199 10/2/199 10/3/199 5/6/199	1996		50.76	19.13		31.63	40,000	5,100	9,600	980	11,800	29,000	3.2	SPL		<u> </u>
11/8/19 11/8/19 1/3/198 1/3/198 4/28/19 4/28/19 7/1/198 10/2/19 10/3/198 1/9/199 5/6/199	1996	-	-	-			78,000	9,800	21,000	1,900	15,300	42,000		SPL		d
11/8/19 1/3/199 1/3/199 4/28/19 4/28/19 7/1/199 10/2/19 10/3/199 1/9/199 5/6/199	1996		50.76	20.67		30.09	74,000	9,800	21,000	2,100	16,600	41,000	3.4	SPL		
1/3/199 1/3/199 4/28/19 4/28/19 7/1/199 10/2/199 10/3/199 1/9/199 5/6/199	1996				_		110,000	9,100	20,000	3,000	15,400	39,000		SPL		d
1/3/198 4/28/19 4/28/19 7/1/198 10/2/199 10/3/199 1/9/199 5/6/199			50.76	20.95		29.81	100,000	7,900	16,000	2,500	13,700	37,000	3.7	SPL		<u>u</u>
4/28/19 4/28/19 7/1/199 10/2/19 10/3/19 10/3/19 1/9/199 5/6/199				-			66,000	12,000	19,000	2,900	15,000	69,000		SPL		d
4/28/19 7/1/199 10/2/19 10/3/199 10/3/199 1/9/199 5/6/199	997		50.76	20.54		30.22	99,000	17,000	30,000	4,300	22,700	79,000	4.2	SPL		u
7/1/199 10/2/19 10/3/19 10/3/199 1/9/199 5/6/199							110,000	11,000	26,000	3,200	18,200	34,000		SPL		d
10/2/19 10/3/19 10/3/19 1/9/199 5/6/199	1997		50.76	21.28		29.48	130,000	12,000	28,000	3,800	21,000	37,000	3.9	SPL		u
10/3/19 10/3/19 1/9/199 5/6/199	997		50.76	23.61		27.15	110,000	16,000	25,000	4,900	24,400	37,000	3.6	SPL		
10/3/199 1/9/199 5/6/199	1997		50.76	25.39		25.37										
1/9/199 5/6/199	1997						71,000	8,600	8,700	2,900	13,500	84,000		SPL		
5/6/199	1997		50.76				66,000	8,200	8,600	2,700	13,400	80.000	4.4	SPL		d
	998	-	50.76	21.25		29.51	100.000	9,700	3,200	1,500	4,700	92,000	3.8	SPL		
	998		**				440,000	8.000	39,000	14,000	70,000	<5000 <5000		SPL	-	
5/6/199	998		50.76	15.96		34.80	430,000	6,900	31,000	11,000	56,000	<5000 <5000	3.9			d
7/21/199	1998	-					210,000	11,000	27,000	5,600	26,800	29,000		SPL		
7/21/199	1998	_	50.76	16.10			250,000	11,000	26,000	5,500	26,900	29,000	2.7	SPL		d
12/30/19	1998		50.76	20.91			370,000	11,000	22,000	8,500	40,000	90000/92000	3.7	SPL		
2/2/199			50.76	20.13		30.63	190.000	4,100	19,000	4,800	32,000			SPL		<u> </u>
5/10/199		_	50.76	16.63		34.13	2,700	23	7.1	8.1	25	28,000 120		SPL SPL		

Table 1

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	рН	Comments
MW-4	9/23/1999		50.76	22.48		28.28	180,000	11,000	29,000	7,000	38,000	12,000		SPL		
	12/23/1999		50.76	22.94		27.82	66,000	6,300	5,200	2,200	7,800	35,000	<b>-</b> -	PACE		k
	3/27/2000		50.76	16.84		33.92	120,000	8,700	12,000	3,800	16,000	27,000		PACE		,,
	5/22/2000	-	50.76	17.85		32.91	110,000	7,600	16,000	4,400	20,000	25,000		PACE		
	8/31/2000		50.76	21.71		29.05	110,000	8,800	7,600	3,400	14,000	18,000		PACE		
	12/11/2000		50.76	22.05		28.71	70,000	4,580	3,480	2,550	9,220	24,400		PACE		
	3/20/2001		50.76	17.68		33.08	100,000	7,100	4,530	2,540	9,370	63,100	<del></del>	PACE		
	6/19/2001		50.76	19.40		31.36	180,000	7,430	14,600	5,400	25,300	36,100		PACE		
	9/20/2001	_	50.76	22.01	0.03	28.75				**						f, m
	12/27/2001	1	50.76	17.96		32.80	120,000	6,880	9,030	2,840	14,600	32,300	<del>  _</del>	PACE		7, 111
	2/28/2002		50.76	17.06		33.70	80,000	4,920	5,450	2,220	12,300	35,900		PACE		
	6/28/2002		50.76	17.76	_	33.00	48,000	2,780	2,770	1,530	6,790	25,100		PACE		· · · · · · · · · · · · · · · · · · ·
	9/12/2002		50.76	19.45		31.31	46,000	4,500	6,800	2,600	10,000	9,100		SEQ	6.8	
	12/12/2002		50.76	21.29	*-	29.47	36,000	5,200	3,400	2,000	6,500	12,000	<b>-</b> -	SEQ	6.7	
	3/10/2003		50.76	17.16		33.60	70,000	7,000	4,800	3,300	13,000	29,000		SEQ	6.7	
	5/12/2003		50.76	14.51		36.25	75,000	7,600	3,700	3,400	13,000	26,000		SEQ	6.8	
	8/27/2003		50.76	19.32		31.44	77,000	7,500	1,300	2,100	4,000	32,000	-	SEQ	6.8	n, s
	11/10/2003	Ρ	50.76	20.36		30.40	110,000	7,100	3,100	2,100	5,800	25,000		SEQM	6.6	11, 0
	02/03/2004	Р	50.76	16.51		34.25	160,000	8,400	9,700	5,000	23,000	26,000		SEQM		
	05/04/2004	Р	50.76	16.47		34.29	110,000	8,100	7,500	4,300	17,000	<250		SEQM	6.7	
	08/31/2004	Р	50.76	19.16		31.60	91,000	6,600	8,400	3,700	14,000	14,000		SEQM	6.7	
	11/23/2004	Р	50.76	18.02		32.74	7,400,000	20,000	150,000	320,000	1,400,000	23,000		SEQM	6.6	\$
	01/18/2005	Р	50.76	14.21		36.55	170,000	5,400	14,000	6,900	33,000	8,800	_	SEQM	6.5	s
	06/29/2005	Р	50.76	13.86		36.90	640,000	3,500	25,000	24,000	110,000	1,700		SEQM		
	09/01/2005	Р	50.76	16.89		33.87	100,000	3,800	11,000	4,900	33,000	1,100		SEQM		
	11/03/2005	Р	50.76	19.33	**	31.43	490,000	4,700	11,000	10,000	49,000	1,500	- <del></del>	SEQM		<del></del>
MW-6	7/24/1992		50.32	30.63		19.69	ND	1.6	ND	ND	ND		<del>' '</del>			
	7/27/1992		50.32	30.63		19.69	-			IND						
-	9/15/1992		50.32	31.52		18.80	<50	<0.5	<0.5	<0.5	<0.5					
	12/15/1992	_	50.32	32.42		17.90	58	1,3	<0.5	<0.5			-	ANA		
	3/15/1993		50.32	26.29		24.03	<50	<0.5	0.6	<0.5	<0.5			ANA		
	6/7/1993		50.32	26.33		23.99	<50 <50	<0.5	<0.5	<0.5	0.7			PACE		<u> </u>
",	9/23/1993		50.32	29.64		20.68				<u> </u>	1.5			PACE		
	9/24/1993		50.32				<50	<0.5	<0.5	<0.5						
	12/27/1993	†	50.32	29.75		20.57	<50 <50	<0.5	<0.5	<0.5	<0.5	28.5		PACE		<u> </u>
						20.01	730	~0.0	<u> </u>	C.U.5	<0.5	55.4		PACE		e,l

Table 1

MW-6	4/5/1994 7/22/1994 10/13/1994 1/25/1995		50.32		(feet)	GWE (ft MSL)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	benzene (µg/L)	Xylenes (µg/L)	MTBE (µg/L)	DO (mg/L)	Lab	рН	Comments
	10/13/1994	-		27.26	_	23.06	<50	<0.5	<0.5	<0.5	<0.5	295	1.7	PACE		e,l
	<del> </del>		50.32	27.34		22.98	350	<0.5	<0.5	<0.5	<0.5	419	4.5	PACE		e,I
	1/25/1005		50.32	-			-				<u>-</u>					g
	łi		50.32	22.16		28.16	240	6	<0.5	<0.5	<1	<del>-</del>		ATI	1	9
	4/19/1995		50.32						:	-			-			g
	7/5/1995		50.32	20.80		29.52	180	<0.50	<0.50	<0.50	<1.0		4.9	ATI		<del>y</del>
	10/5/1995		50.32	24.20		26.12	860	<5.0	<5.0	<5.0	<10	3,600	2.8	ATI		
	1/12/1996		50.32	25.30		25.02	860	<5.0	<5.0	<5.0	<10	2,800	4.2	ATI		<del></del>
	4/22/1996	-	50.32	19.13		31.19	<50	<0.5	<1	<1	<1	470	4.3	SPL		
	7/2/1996		50.32	20.66		29.66	100	<0.5	<1	<1	<1	1,100	4.2	SPL		
	11/8/1996		50.32	20.98		29.34	1,100	<5	<10	<10	<10	1,500	4.3	SPL		
	1/3/1997	_	50.32	20.53	**	29.79	<50	<0.5	<1.0	<1.0	<1.0	450	4.5	SPL		
	4/28/1997		50.32	21.25		29.07	1,400	<0.5	<1.0	<1.0	<1.0	3,500	4.4	SPL		
	7/1/1997	-	50.32	23.40		26.92	6,100	<0.5	<1.0	<1.0	<1.0	9,100	3.9	SPL		<del></del>
	10/2/1997		50.32	25.16		25.16										
	10/3/1997		50.32				330	<0.5	<1.0	<1.0	<1.0	2,600	4.4	SPL		
	1/9/1998		50.32	21.13		29.19	<50	<0.5	<1.0	<1.0	<1.0	<10	4.3	SPL		
	5/6/1998		50.32	16.11		34.21	410	<0.5	<1.0	<1.0	<1.0	500	3.6	SPL		
	7/21/1998		50.32	16.33		33.99	4,300	<5	<10	<10	<10	3,800	4.0	SPL		
	12/30/1998		50.32	20.89		29.43										
	2/2/1999		50.32	20.20		30.12										
	5/10/1999		50.32	16.75		33.57		<del></del>					<del></del>			
	9/23/1999	-	50.32	22.55	- 1	27.77	<50	<1.0	<1.0	<1.0	<1.0	1,600		SPL		
	12/23/1999		50.32	23.00		27.32		+-				1,000		OPL		
	3/27/2000		50.32	16.89		33.43	1,700	4.4	0.54	<0.5	1	14,000	<del> </del>	PACE		
	5/22/2000		50.32	18.02		32.30						14,000		PACE		
	8/31/2000		50.32	21.62		28.70	1,200	<0.5	<0,5	<0.5	<0.5	3,900		DACE		
	12/11/2000		50.32	21.81		28.51						3,300		PACE		
	3/20/2001		50.32	16.97	-	33.35	3,300	<0.5	<0.5	<0.5	<1.5	3,760		 DACE		·
	6/19/2001	-	50.32	19.30		31.02					- 1.0	3,700	<del> </del>	PACE		
	9/20/2001	_	50.32	22.00		28.32	2,200	2.04	8.1	3.62	13.7					
1	12/27/2001		50.32	17.85	-	32.47	830	0.59	<0.5	<0.5	<1.0	2,460	+	PACE		
:	2/28/2002		50.32	16.31		34.01	1,100	<0.5	<0.5	<0.5	<1.0	1,040		PACE		
1	6/28/2002		50.32	17.57		32.75	<50	<0.5	<0.5	<0.5	<1.0	1,450		PACE		
	9/12/2002	_	50.32	19.27		31.05	190	1.9	4.6	1	7.3	1,020 480	_	PACE SEQ	7.1	

Table 1

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	рН	Comments
MW-6	12/12/2002		50.32	20.94	-	29.38	270	<2.5	<2.5	<2.5	<2.5	500	<del> </del>	SEQ	6.9	
	3/10/2003		50.32	17.11		33.21	110	<0.50	<0.50	<0.50	<0.50	190		SEQ	7.0	
	5/12/2003		50.32	15.18		35.14	<50	<0.50	<0.50	<0.50	<0.50	36		SEQ	7.0	
	8/27/2003	-	50.32	18.90		31.42	<50	<0.50	<0.50	<0.50	<0.50	8.9		SEQ	7.0	П
	11/10/2003	Р	50.32	20.13		30.19	<50	<0.50	<0.50	<0.50	<0.50	4.5	<b>—</b>	SEQM	6.8	* * * * * * * * * * * * * * * * * * * *
	02/03/2004	NP	50.32	15.83		34.49	<50	<0.50	<0.50	<0.50	<0.50	<0.50		SEQM	6.9	
	05/04/2004	Р	50.32	15.62		34.70	<50	<0.50	<0.50	<0.50	<0.50	24		SEQM	6.9	
·	08/31/2004	Р	50.32	18.56		31.76	<50	<0.50	<0.50	<0.50	<0.50	27		SEQM	7.0	
	11/23/2004		50.32	16.95		33.37						-+			_	-
	01/18/2005	Р	50.32	13.61		36.71	<50	<0.50	<0.50	<0.50	<0.50	1.3		SEQM	6.8	
	06/29/2005		50.32	13.55		36.77					-					
	09/01/2005	-	50.32	16.52	_	33.80						-				
	11/03/2005		50.32	19.28		31.04	***									-
MW-7	1/25/1995		51.4	21.67		29.73	<50	<0.5	<0.5	<0.5	<1		7.0	ATI		
	4/19/1995		51.4	25.27		26.13	<50	<0.5	<0.5	<0.5	<1		5.0	ATI		·
	7/5/1995		51.4	24.63		26.77	<50	<0.50	<0.50	<0.50	<1.0		4.2	ATI		
	10/5/1995		51.4	28.21		23.19	83	<0.50	<0.50	<0.50	<1.0	77	4.5	ATI		
	1/12/1996	-	51.4	29.29		22.11	63	<0.50	<0.50	<0.50	<1.0	120	4.8	ATI		
	4/22/1996		51.4	23.11		28.29	<50	<0.5	<1	<1	<1	13	4.8	SPL		
	7/2/1996		51.4	23.56		27.84	<50	<0.5	<1	<1	<1	<10	4.8	SPL		
	11/8/1996		51.4	20.06	-	31.34	<50	<0.5	<1.0	<1.0	<1.0	<10	5.1	SPL		
	1/3/1997		51.4	23.42	-	27.98	<50	<0.5	<1.0	<1.0	<1.0	<10	4.7	SPL		
	4/28/1997		51.4	24.12		27.28	<50	<0.5	<1.0	<1.0	<1.0	<10	3.9	SPL		
	7/1/1997	-	51.4	26.40		25.00	<50	<0.5	<1.0	<1.0	<1.0	<10	4.2	SPL		
	10/2/1997		51.4	28.14		23.26	<50	<0.5	<1.0	<1.0	<1.0	<10	4.7	SPL		
	1/9/1998		51.4	24.02		27.38	<50	<0.5	<1.0	<1.0	<1.0	<10	4.1	SPL		
	5/6/1998		51,4	21.00		30.40	1,900	<0.5	<1.0	<1.0	<1.0	1,800	3.5	SPL		
	7/21/1998	-	51.4	21.17		30.23	50	<0.5	<1.0	<1.0	<1.0	<10	3.7	SPL		
	12/30/1998	-	51.4	22.13		29.27	_									
	2/2/1999		51.4	22.08		29.32										
	5/10/1999		51.4	18.58	-	32.82			-							
	9/23/1999		51.4	24.29		27.11	70	<1.0	<1.0	<1.0	<1.0	4,700		SPL		
	12/23/1999		51.4	24.53	-	26.87										
	3/27/2000	-	51.4	18.58		32.82	910	<0.5	<0.5	<0.5	<0.5	2,600		PACE		
	5/22/2000		51.4	19.49		31.91			·							

Table 1

			r	<del>,</del>	T			icroit Ave.,	Cuntana	·						
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	Нq	Comments
MW-7	8/31/2000		51.4	22.53		28.87	440	<0.5	<0.5	<0.5	<0.5	900		PACE		
	12/11/2000	_	51.4	22.75		28.65										<u></u> -
	3/20/2001		51.4	18.79		32.61	1,100	<0.5	<0.5	<0.5	<1.5	1,210		PACE		
	6/19/2001		51.4	19.82		31.58	-#		-							· · · · · · · · · · · · · · · · · · ·
	9/20/2001	-	51.4	21.35		30.05	1,300	1.21	<0.5	<0.5	<1.5	1,550		PACE		
	12/27/2001		51.4	20.36		31.04	510	<0.5	<0.5	<0.5	<1.0	643	-	PACE		
	2/28/2002		51.4	21.86		29.54	250	<0.5	<0.5	<0.5	<1.0	317		PACE	11	
	6/28/2002		51.4	22.64		28.76	<50	<0.5	<0.5	<0.5	<1.0	102		PACE		
	9/12/2002		51.4	23.51		27.89	<50	<0.5	<0.5	<0.5	1	14		SEQ	7.5	
	12/12/2002		51.4	23.75	-	27.65	<50	<0.5	<0.5	<0.5	<0.5	<2.5		SEQ	7.5	
	3/10/2003		51.4	21.25		30.15	61	<0.50	<0.50	<0.50	<0.50	99		SEQ	7.6	
	5/12/2003		51.4	21.44		29.96	<100	<1.0	<1.0	<1.0	<1.0	120		SEQ	7.6	-
	8/27/2003	-	51.4	23.30		28.10	120	<0.50	<0.50	<0.50	<0.50	84		SEQ	7.6	n
·-··	11/10/2003	Ρ	51.40	20.24		31.16	230	<1.0	<1.0	<1.0	<1.0	92	<b></b>	SEQM		0
	02/03/2004	Р	51.40	20.63		30.77	<250	<2.5	<2.5	<2.5	<2.5	91		SEQM		
	05/04/2004	Р	51.40	21.89		29.51	<250	<2.5	<2.5	<2.5	<2.5	190		SEQM		k
	08/31/2004	Р	51.40	23.16		28.24	<500	<5.0	<5.0	<5.0	<5.0	220		SEQM		
	11/23/2004	Р	51.40	21.65	_	29.75	590	<2.5	5.0	11	51	290		SEQM		····
	01/18/2005	Р	<b>51.4</b> 0	16.28		35.12	<250	<2.5	<2.5	<2.5	2.5	92	-	SEQM		
	06/29/2005	Р	51.40	14.50		36.90	2,200	43	97	92	390	250		SEQM		
	09/01/2005	Р	51.40	20.41		30.99	<500	<5.0	<5.0	<5.0	<5.0	60		SEQM		
	11/03/2005	P	51.40	21.00		30.40	130	<1.0	<1.0	<1.0	1.0	130	0.63	SEQM		w
MW-8	1/25/1995		50.88	31.59		19.29	54	<0.5	<0.5	<0.5		***************************************				
	4/19/1995		50.88	19.18		31.70	<50	<0.5	<0.5	<0.5	<1		7.1	ATI		
	7/5/1995		50.88	19.03		31.85	<50	<0.50	<0.50	<0.50	<1 <1.0		5.1	ATI		
<del></del>	10/5/1995		50.88	24.40		26.48	<50	<0.50	<0.50	<0.50			4.5	ATI		
	1/12/1996		50.88	25.51		25.37	<50	<0.50	<0.50	<0.50	<1.0 <1.0	<5.0	4.1	ATI		
	4/22/1996		50.88	18.00		32.88	<50 <50	<0.5	<1	<1		<5.0	4.6	ATI		
	7/2/1996		50.88	19.83		31.05	<50 <50	<0.5	<1	<1	<1	<10	4.8	SPL		
	11/8/1996		50.88	20.09		30.79	<50	<0.5	<1.0	<1.0	<1	<10	4.5	SPL		
	1/3/1997		50.88	19.72	-	31.16	<50	<0.5	<1.0	<1.0	<1.0 <1.0	<10	4.7	SPL		
	4/28/1997		50.88	20.44		30.44	<50 <50	<0.5	<1.0	<1.0	<1.0	<10	4.4	SPL		
	7/1/1997	~	50.88	22.72		28.16	<50	<0.5	<1.0	<1.0	<1.0	<10	4.1	SPL		<del></del>
	10/2/1997		50.88	24.51		26.37	<50 <50	<0.5	<1.0	<1.0	<1.0	<10	3.8	SPL		
	1/9/1998		50.88	21.17		29.71	<50	<0.5	<1.0	<1.0	<1.0	<10 <10	4.2 3.5	SPL SPL		
	1 1								11.0	<u> </u>	>1.0	<u> </u>	3.5	SPL		

Table 1

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	рН	Comments
8-WM	5/6/1998		50.88	18.34		32.54	<50	<0.5	<1.0	<1.0	<1.0	<10	3.6	SPL		
	7/21/1998		50.88	18.55		32.33	90	<0.5	<1.0	<1.0	<1.0	<10	3.3	SPL		
	12/30/1998	1	50.88	20.40	_	30.48										
	2/2/1999		50.88	19.28		31.60							<del> </del>			
	5/10/1999		50.88	15.62	-	35.26			-			_				<del>.</del>
	9/23/1999	_	50.88	21.74		29.14										
	12/23/1999		50.88	22.83		28.05										
	3/27/2000		50.88	16.25		<b>34.6</b> 3	<50	<0.5	<0.5	<0.5	<0.5	<0.5		PACE		
	5/22/2000		50.88	17.06		33.82					+-	<del></del>				
	8/31/2000		50.88	21.72	W-+	29.16				-		<b>-</b>				
	12/11/2000		50.88	22.03		28.85									1 1	
	3/20/2001		50.88	16.23		34.65	<50	<0.5	<0.5	<0.5	<1.5	0.991		PACE		
	6/19/2001		50.88	19.35	<del>-</del>	31.53						-				
	9/20/2001	-	50.88	21.95		28.93				-						
	12/27/2001		50.88	16.98		33.90					_					
	2/28/2002		50.88	15.38	-	35.50	<50	<0.5	<0.5	<0.5	<1.0	<0.5		PACE		
	6/28/2002		50.88	16.97	-	33.91										
/=:Maha	9/12/2002	-	50.88	19.47		31.41										
	12/12/2002		50.88	20.84		30.04										
	3/10/2003		50.88	16.56		34.32	<50	<0.50	<0.50	<0.50	<0.50	3		SEQ	7.1	
	5/12/2003		50.88	13.63		37.25	-		in-							
	8/27/2003		50.88	18.90		31.98										n
	11/10/2003		50.88	19.68		31.20			-							· · · · · · · · · · · · · · · · · · ·
	02/03/2004	Р	50.88	14.76		36.12	<50	<0.50	<0.50	<0.50	<0.50	<0.50		SEQM	7.5	
	05/04/2004		50.88	14.69		36.19										
	08/31/2004		50.88	18.08		32.80						-				
	11/23/2004	NP	50.88	15.77		35.11										
	01/18/2005	Р	50.88	12.04		38.84	<50	<0.50	<0.50	<0.50	<0.50	<0.50		SEQM	7.0	
	06/29/2005		50.88				-				_		T			V
	09/01/2005		50.88	16.12		34.76										•
	11/03/2005		50.88	19.42		31.46			**			-				
MW-9	1/25/1995		51.05	22.32	I	28.73	<50	<0.5	<0.5	<0.5	<1		7.4	ATI		
	4/19/1995	-	51.05	19.86		31.19	<50	<0.5	<0.5	<0.5	<1		5.2	ATI		
	7/5/1995	-	51.05	20.78		30.27	<50	<0.50	<0.50	<0.50	<1.0	F	4.4	ATI		
	10/5/1995	]					52	<0.50	<0.50	<0.50	<1.0	160		ATI		d

Table 1

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	рН	Comments
MW-9	10/5/1995		51.05	24.33		26.72	<50	<0.50	<0.50	<0.50	<1.0		2.3	ATI	<b>   </b>	
	1/12/1996		51.05	25.44		25.61	<50	<0.50	<0.50	<0.50	<1.0	<5.0	3.2	ATI		
	4/22/1996	-	51.05	18.01	-	33.04	<50	<0.5	<1	<1	<1	11	3.5	SPL		
	7/2/1996	-	51.05	19.70		31.35	<50	<0.5	<1	<1	<1	<10	3.3	SPL		
	11/8/1996	_	51.05	19.96		31.09	<50	<0.5	<1.0	<1.0	<1.0	<10	3.7	SPL		
	1/3/1997		51.05	19.52		31.53	<250	<2.5	<5.0	<5.0	<5.0	<50	4.4	SPL	<u> </u>	
	4/28/1997		51.05	20.22		30.83	<50	<0.5	<1.0	<1.0	<1.0	<10	4.0	SPL		
	7/1/1997	-	51.05	22.59		28.46	<50	<0.5	<1.0	<1.0	<1.0	<10	3.9	SPL		
****	10/2/1997		51.05	24.33		26.72						-	-			• •
	10/3/1997		51.05		_		<50	<0.5	<1.0	<1.0	<1.0	<10	4.4	SPL		
	1/9/1998		51.05	21.11		29.94	<50	<0.5	<1.0	<1.0	<1.0	<10	3.9	SPL		·
	5/6/1998		51.05	18.26		32.79	<50	<0.5	<1.0	<1.0	<1.0	<10	4.0	SPL	<del>   </del>	
	7/21/1998		51.05	18.46		32.59	70	<0.5	<1.0	<1.0	<1.0	<10	3.7	SPL		
-1	12/30/1998		51.05						,							g
	2/2/1999		51.05										<del></del>			g
	5/10/1999		51.05					·								g
	9/23/1999		51.05	_	-											g
	12/23/1999	-	51.05			-										g
	3/27/2000		51.05													g
	5/22/2000		51.05													g g
	8/31/2000		51.05	_	_		-									
	12/11/2000		51.05	44		**										g
	3/20/2001	_	51.05				**						-			g
	6/19/2001		51.05	_												g
	9/20/2001		51.05	22.20		28.85	6,300	2.87	<0.5	<0.5	<1.5	8,640		PACE		g
	12/27/2001		51.05	18.92		32.13							<u> </u>			
	2/28/2002	-	51.05	17.22		33.83	19,000	1,560	61.3	84	111	20,200		PACE		
	6/28/2002	_	51.05	18.20	-	32.85						20,200				
	9/12/2002		51.05	19.92		31.13	5,100	570	180	<25	220	6,400		SEQ	6.8	· · · · · · · · · · · · · · · · · · ·
	12/12/2002	-	51.05	21.78		29.27							<del>                                     </del>	3EQ		
	3/10/2003	-	51.05	18.25		32.80	26,000	2,500	<100	<100	<100	33,000	<del></del>	SEQ	6.9	
	5/12/2003		51.05	16.29		34.76								SEQ		
	8/27/2003		51.05	19.69	-	31.36	11,000	830	<50	<50	<50	6,300		SEQ	7.1	n
	11/10/2003		51.05	19.97		31.08						5,000		OLG.		[]
	02/03/2004	P	51.05	17.23		33.82	6,200	180	<50	<50	<50	2,100		SEQM	7.2	

Table 1

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	рН	Comments
MW-9	05/04/2004		51.05	17.17		33.88				_			<del> </del>			
	08/31/2004	P	51.05	19.71		31.34	<2,500	210	<25	<25	<25	1,500	<del>  _</del>	SEQM	7.0	
	11/23/2004		51.05	18.58		32.47				-						
	01/18/2005	Р	51.05	14.98		36.07	490	32	<2.5	<2.5	8.9	130		SEQM	6.9	
	06/29/2005		51.05	14.74		36.31										
	09/01/2005	P	51.05	17.42	-	<b>33</b> .63	3,500	1,300	<25	<25	28	240		SEQM	6.9	
	11/03/2005		51.05	19.90		31.15										
MW-10	1/9/1998			20.97			<50	<0.5	<1.0	<1.0	<1.0	<10	4.3	SPL		h
	5/6/1998	_		18.07			800	<0.5	<1.0	<1.0	<1.0	980	3.9	SPL		h
	7/21/1998			18.28			80	<0.5	<1.0	<1.0	<1.0	<10	4.0	SPL		h
	12/30/1998		-	22.22												
	2/2/1999		-	21.83			940	<10	<10	<10	<10	690	<del></del>	SPL		h
	5/10/1999		-	17.99												<u></u>
	9/23/1999		<del>-</del>	22.61			<50	<1.0	<1.0	<1.0	1.4	1,000		SPL		h
	12/23/1999			23.75												h
	3/27/2000			18.83			1,900	<0.5	<0.5	<0.5	<0.5	28,000		PACE		h
	5/22/2000			19.47						_						h
***	8/31/2000		-	22.64	-		1,700	<0.5	<0.5	<0.5	<0.5	13,000		PACE		h
	12/11/2000			22.84	**								<b></b>			h
	3/20/2001			19.57			16,000	<0.5	<0.5	<0.5	<1.5	11,900		PACE		h
	6/19/2001			20.63								***	_			h
	9/20/2001		-	23.07		***	5,800	<0.5	<0.5	<0.5	<1.5	8,160		PACE		h
	12/27/2001			20.92			6,600	17.3	14.5	<12.5	<25	7,750		PACE		h
	2/28/2002			18.52			3,600	10.8	<0.5	<0.5	<1.0	5,380	-	PACE		h
	6/28/2002			18.41			<50	<0.5	<0.5	<0.5	<1.0	2,570		PACE		h
	9/12/2002	-		20.57			660	<5.0	<5.0	<5.0	<5.0	3,300		SEQ	7.2	h
	12/12/2002		<del></del>	22.80			1,400	<5.0	<5.0	<5.0	<5.0	3,300		SEQ	6.9	h
	3/10/2003	-		19.26	-		1,700	<5.0	<5.0	5.3	15	2,800		SEQ	6.9	h
	5/12/2003	-		17.90			1,500	<12	<12	<12	<12	2,200	-	SEQ	6.9	h
	8/27/2003			20.82			4,100	<25	<25	<25	<25	2,800		SEQ	7.0	n, h
	11/10/2003	Р		21.92			<5,000	<50	<50	<50	<50	3,300		SEQM	6.8	
	02/03/2004	Р		18.52			5,100	<50	<50	<50	<50	2,300		SEQM	7.0	q
	05/04/2004	_P		17.63			<2,500	<25	<25	<25	<25	1,600		SEQM	6.8	
	08/31/2004	Р		20.67			<5,000	<50	<50	<50	<50	1,900	<b></b>	SEQM	7.0	
	11/23/2004	Р		19.79			2,600	<25	<25	<25	<25	2,300			6.8	

Table 1

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	рН	Comments
MW-10	01/18/2005	Р		16.13			560	<5.0	<5.0	<5.0	<5.0	530		SEQM	6.9	
	06/29/2005	P		15.56			110	1.9	4.6	4.2	17	71		SEQM	6.8	
	09/01/2005	Р	-	18.10			<250	<2.5	<2.5	<2.5	<2.5	280		SEQM	6.9	
	11/03/2005	Р		20.90		-+	800	<5.0	<5.0	<5.0	7.0	770	0.71	SEQM	6.8	w
QC-2	9/15/1992		-				<50	<0.5	<0.5	<0.5	<0.5			ANA		<u> </u>
	12/15/1992		-				<50	<0.5	<0.5	<0.5	<0.5	**		ANA		i
	3/15/1993						<50	<0.5	<0.5	<0.5	<0.5			PACE		i, l
	6/7/1993						<50	<0.5	<0.5	<0.5	<0.5			PACE		i, I
	9/24/1993		-				<50	<0.5	<0.5	<0.5	<0.5	<5.0		PACE		i, I
	12/27/1993				-	**	<50	<0.5	<0.5	<0.5	<0.5	<5.0		PACE		i, I
	4/5/1994						<50	<0.5	<0.5	<0.5	<0.5	<5.0	_	PACE		i, I
	7/22/1994	_					<50	<0.5	<0.5	<0.5	<0.5	<5.0		PACE		ì, l
	10/13/1994			-			<50	<0.5	<0.5	<0.5	<0.5	<5.0		PACE		i, I
	1/25/1995			-			<50	<0.5	2	0.6	1			ATI		i
	4/19/1995						<50	<0.5	<0.5	<0.5	<0.5	_		ATI		i
	7/5/1995						<50	<0.50	<0.50	<0.50	<1.0			ATI		i
	10/5/1995						<50	<0.50	<0.50	<0.50	<1.0	<5.0		ATI		i
	1/12/1996		444				<50	<0.50	<0.50	<0.50	<1.0	<5.0		ATI		i
	4/22/1996						<50	<0.5	<1	<1	<1	<10		SPL		i
	7/2/1996	-					<50	<0.5	<1	<1	<1	<10		SPL		i

#### **Groundwater Elevation and Analytical Data**

Former BP Station #11117 7210 Bancroft Ave., Oakland, CA

#### ABBREVIATIONS AND SYMBOLS:

< = Not detected at or laboratory reporting limit

--- = Not analyzed/applicable/measurable

μg/L = Micrograms per liter

AMA = Anamatrix, Inc.

ATI = Analytical Technologies, Inc.

DO = Dissolved Oxygen - field measurement

DTW = Depth to water in ft bgs

ft bgs = Feet below ground surface

ft MSL = Feet above mean sea level

GRO = Gasoline range organics, C4 to C12

GWE = Groundwater elevation in ft MSL

mg/L = Milligrams per liter

MTBE = Methyl tert butyl ether

NP = Well casing was not purged prior to sampling

P = Well casing was purged prior to sampling

PACE = Pace, Inc.

pH = pH Level - field measurement

SEQ/SEQM = Sequoia/Sequoia Morgan Hill Analytical

SPL = Southern Petroleum Laboratories

TOC = Top of casing in ft MSL

TPH-g = Total petroleum hydrocarbons as gasoline

#### FOOTNOTES:

- c = Concentrations reported as diesel from MW-1, MW-2 and MW-4 are primarily due to the presence of alighter petroleum product, possibly gasoline or kerosene.
- d = Blind duplicate
- e = A copy of the documentation for this data is included in Appendix C of Alisto report 10-018-05-004.
- f = Well not sampled due to presence of free product.
- g = Well inaccessible
- h = Top of casing not surveyed.
- i = Travel blank
- j = EPA method by 8020\8260
- k = Samples ran outside of EPA recommended hold time.
- I = A copy of the documentation for this data can be found in Blaine Tech Services report 010619-C-2. The MTBE data for the March 15, 1993 and June 7, 1993 events have been destroyed.
- m = Thickness of SPH is only an estimate. The resulting groundwater elevation will not be used in contouring.
- n = Samples analyzed by EPA Method 8260B for TPH-g, BTEX, and fuel oxygenates
- o = Discrete Peak @ C6-C7
- g = Discrete Peak @ C5-C6
- r = Well dry
- s = Sheen in well
- t = Depth to water and resulting groundwater elevation is anomalous and not used in groundwater contouring.
- u = Anomalously low concentrations reported from Cambria. Do not appear to support historic trends.
- v = Unable to locate well
- w = The hydrocarbon result for GRO was partly due to individual peaks in the quantitation range.

#### NOTES:

The data within this table collected prior to June 2002 was provided to URS by RM and their previous consultants. URS has not verified tenaccuracy of this information. Casing elevations surveyed to the nearest 0.01 foot relative to mean sea level.

#### **Groundwater Elevation and Analytical Data**

Former BP Station #11117 7210 Bancroft Ave., Oakland, CA

Groundwater elevations adjusted assuming a specific gravity of 0.75 for free product.

During the third quarter of 2002, URS Corporation assumed groundwater monitoring activities for BP.

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

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

Table 2

#### Fuel Additives Analytical Data

Former BP Station #11117 7210 Bancroft Ave., Oakland, CA

Well	Date	Ethanol	TBA	MTBE	DIPE	ETBE		T 40004	1	
Number	Sampled	(µg/L)	(µg/L)	(µg/L)	(µg/L)	μg/L)	TAME (µg/L)	1,2-DCA (μg/L)	EDB (µg/L)	Footnotes/ Comments
EX-1	05/04/2004	<5,000	<1,000	2,500	<25	<25	38	<25	<25	
	08/31/2004	<10,000	<2,000	2,100	<50	<50	<50	<50	<50	
	11/23/2004	<5,000	<1,000	3,000	<25	<25	74	<25	<25	
	01/18/2005	<5,000	<1,000	2,200	<25	<25	54	<25	<25	а
	06/29/2005	<5,000	<1,000	1,400	<25	<25	30	<25	<25	-
	09/01/2005	<5,000	<1,000	2,000	<25	<25	46	<25	<25	
<del>-</del> ·· ·	11/03/2005	<5,000	<1,000	3,000	<25	<25	87	<25	<25	
EX-2	05/04/2004	<100	<20	46	<0.50	<0.50	<0.50	<0.50	-0.50	
	08/31/2004	<500	<100	130	<2.5	<2.5	3.4	<0.50	<0.50	
	11/23/2004	<100	<20	5.8	<0.50	<0.50	<0.50	<2.5	<2.5	
	01/18/2005	<100	<20	6.5	<0.50	<0.50	<0.50	<0.50	<0.50	
	06/29/2005	<100	<20	24	<0.50	<0.50	<0.50	<0.50	<0.50	а
· · · · · · · · · · · · · · · · · · ·	09/01/2005	<100	<20	55	<0.50	<0.50	0.56	<0.50	<0.50	
	11/03/2005	<100	<20	39	<0.50	<0.50		<0.50	<0.50	
LDAL 4		L			10.50	<0.50	0.80	<0.50	<0.50	
MW-1	8/27/2003	<100	<20	4.2	<0.50	<0.50	<0.50			
	11/10/2003	<100	<20	0.51	<0.50	<0.50	<0.50		_	
· · · · · · · · · · · · · · · · · · ·	02/03/2004	<100	<20	<b>&lt;0</b> .50	<0.50	<0.50	<0.50	<0.50	<0.50	
	05/04/2004	<100	<20	<b>&lt;0</b> .50	<0.50	<0.50	<0.50	<0.50	<0.50	
<del></del>	08/31/2004	<100	<20	0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
	01/18/2005	<100	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	а
MW-2	8/27/2003	<25,000	<5,000	5,100	<120	<120	140			
	11/10/2003	<50,000	<10,000	4,200	<250	<250	<250			
	02/03/2004	<100,000	<20,000	1,900	<500	<500	<500	<500	<500	
<u> </u>	05/04/2004	<50,000	<10,000	2,500	<250	<250	<250	<250	<250	
	08/31/2004	<50,000	<10,000	3,400	<250	<250	<250	<250	<250	
	11/23/2004	<50,000	<10,000	2,400	<250	<250	<250	<250	<250	
	01/18/2005	<20,000	<4,000	3,700	<100	<100	<100	<100	<100	а
	06/29/2005	<10,000	<2,000	3,600	<50	<50	72	<50	<50	a
	09/01/2005	<20,000	<4,000	5,100	<100	<100	100	<100	<100	
	11/03/2005	<20,000	<4,000	3,700	<100	<100	100	<100	<100	
MW-3	8/27/2003	<100	<20	<0.50	<0.50	<0.50	<0.50			
	02/03/2004	<100	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
	08/31/2004	<100	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
							0.00	-0.00	~0.30	

Table 2

#### **Fuel Additives Analytical Data**

Former BP Station #11117 7210 Bancroft 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	01/18/2005	<100	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	a
MW-4	8/27/2003	<50,000	<10,000	32,000	<250	<250	250			
	11/10/2003	<100,000	<20,000	25,000	<500	<500	<500			
	02/03/2004	<100,000	<20,000	26,000	<500	<500	<500	<500	<500	
	05/04/2004	<50,000	<10,000	<250	<250	<250	<250	<250	<250	
	08/31/2004	<50,000	<10,000	14,000	<250	<250	<250	<250	<250	
	11/23/2004	<500,000	<100,000	23,000	<2,500	<2,500	<2,500	<2,500	<2,500	
	01/18/2005	<50,000	<10,000	8,800	<250	<250	<250	<250	<250	
	06/29/2005	<50,000	<10,000	1,700	<250	<250	<250	<250	<250	а
	09/01/2005	<100,000	<20,000	1,100	<500	<500	<500	<500	<500	
	11/03/2005	<100,000	<20,000	1,500	<500	<500	<500	<500 <500	<500 <500	
MW-6	8/27/2003	<100	<20	8.9				1000	1000	
	11/10/2003	<100	<20		<0.50	<0.50	<0.50			
	02/03/2004	<100		4.5	<0.50	<0.50	<0.50			
	05/04/2004	<100	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	а
	08/31/2004	<100	<20	24	<0.50	<0.50	<0.50	<0.50	<0.50	
	01/18/2005		<20	27	<0.50	<0.50	<0.50	<0.50	<0.50	
	· · · · · · · · · · · · · · · · · · ·	<100	<20	1.3	<0.50	<0.50	<0.50	<0.50	<0.50	а
MW-7	8/27/2003	<100	<20	84	<0.50	<0.50	<0.50			
	11/10/2003	<200	<40	92	<1.0	<1.0	<1.0	<u></u>		
	02/03/2004	<500	<100	91	<2.5	<2.5	<2.5	<2.5	<2.5	
	05/04/2004	<500	<100	190	<2.5	<2.5	<2.5	<2.5	<2.5	
	08/31/2004	<1,000	<200	220	<5.0	<5.0	<5.0	<5.0	<5.0	
	11/23/2004	<500	<100	290	<2.5	<2.5	<2.5	<2.5		
	01/18/2005	<500	<100	92	<2.5	<2.5	<2.5	<2.5	<2.5	
	06/29/2005	<500	<100	250	<2.5	<2.5	<2.5	<2.5	<2.5	а
	09/01/2005	<1,000	<200	60	<5.0	<5.0	<5.0	<5.0	<2.5	
	11/03/2005	<200	<40	130	<1.0	<1.0	<1.0	<1.0	<5.0 <1.0	
MW-8	02/03/2004	<100	<20							
	01/18/2005	<100		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
	<u> </u>	100	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	. а
MW-9	8/27/2003	<10,000	<2,000	6,300	<50	<50	<50			
	02/03/2004	<10,000	<2,000	2,100	<50	<50	<50	<50	<50	a
	08/31/2004	<5,000	<1,000	1,500	<25	<25	<25	<25	<25	

Table 2

#### Fuel Additives Analytical Data

Former BP Station #11117 7210 Bancroft Ave., Oakland, CA

Weil 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-9	01/18/2005	<500	150	130	<2.5	<2.5	<2.5	<2.5	<2.5	a
	09/01/2005	<5,000	2,700	240	<25	<25	<25	<25	<25	a
MW-10	8/27/2003	<5,000	<1,000	2,800	<25	<25	<25			
	11/10/2003	<10,000	<2,000	3,300	<50	<50	<50	 	-	
	02/03/2004	<10,000	<2,000	2,300	<50	<50	<50	<50	<50	2
	05/04/2004	<5,000	<1,000	1,600	<25	<25	<25	<25	<25	a
	08/31/2004	<10,000	<2,000	1,900	<50	<50	<50	<50	<50	
	11/23/2004	<5,000	<1,000	2,300	<25	<25	<25	<25	<25	
	01/18/2005	<1,000	<200	530	<5.0	<5.0	<5.0	<5.0	<5.0	a
	06/29/2005	<100	<20	71	<0.50	<0.50	<0.50	<0.50	<0.50	
<del></del>	09/01/2005	<500	<100	280	<2.5	<2.5	<2.5	<2.5	<2.5	
	11/03/2005	<1,000	<200	770	<5.0	<5.0	<5.0	<5.0	<5.0	

#### Fuel Additives Analytical Data

Former BP Station #11117 7210 Bancroft Ave., Oakland, CA

ABBREVIATIONS AND SYMBOLS:

<= Not detected above reported detection limit 1,2-DCA = 1,2-Dichloroethane µg/L = Micrograms per Liter 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

#### FOOTNOTES:

a = The continuing calibration verification for ethanol was outside of client contractual acceptance limits. However, it was within method acceptance limits. The data should still be useful for its intended purpose.

#### NOTES:

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

### **Groundwater Gradient Data**

### Former BP Station #11117 7210 Bancroft Ave., Oakland, CA

Date Sampled	Approximate Flow Direction	Approximate Hydraulic Gradient
09/12/2002	Northeast	0.03
12/12/2002	Northeast	0.02
03/10/2003	Northeast	0.03
05/12/2003	North-Northeast	0.055
08/27/2003	North-Northeast	0.036
11/10/2003	North-Northeast	0.012
02/03/2004	Northeast	0.013
05/04/2004	Northeast	0.015
08/31/2004	Northeast	0.010
11/23/2004	North-Northeast	0.04
01/18/2005	Northeast	0.02
06/29/2005	Variable	0.003, 0.006
09/01/2005	North	0.03
11/03/2005	North	0.008

Table 4

Soil Analytical Data Former BP #11117

7210 Bancroft 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)	MTBE (mg/kg)	Lead (mg/kg)
A-1 (6-6.5')	6.0	09/27/05	ND<0.10	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.020	ND<0.0050	NA
A-1 (11-11.5')	11.0	09/27/05	ND<0.10	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.020	ND<0.0050	
A-1 (16-16.5')	16.0	09/27/05	ND<0.099	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.020 ND<0.020		NA NA
A-1 (21-21.5')	21.0	09/27/05	ND<0.099	ND<0.0050	ND<0.0050	ND<0.0050			ND<0.0050	NA
A-1 (25.5-26')	25.5	09/27/05	ND<0.10	ND<0.0050	ND<0.0050		ND<0.0050	ND<0.0050	ND<0.0050	NA
A-1 (30.5-31')	30.5	09/27/05				ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	NA
			ND<0.099	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.020	ND<0.0050	NA
A-1 (35.5-36')	35.5	09/27/05	ND<0.10	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	NA
A-1 (39-39.5')	39.0	09/27/05	76	ND<0.10	ND<0.10	0.11	0.11	ND<10	ND<0.050	NA
A-1 (46-46.5')	46.0	09/27/05	ND<2.5	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<5.0	0.84	NA
A-2 (5-5.5')	5.0	09/27/05	ND<0.099	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.020	ND<0.0050	NA
A-2 (10-10.5')	10.0	09/27/05	ND<0.099	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.020	ND<0.0050	NA
A-2 (15-15.5')	15.0	09/27/05	ND<0.10	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	NA
A-2 (19.5-20')	19.5	09/27/05	ND<0.10	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	NA
A-2 (25-25.5')	25.0	09/27/05	34	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<10	ND<0.050	NA
A-2 (30-30.5')	30.0	09/27/05	120	ND<0.25	ND<0.25	ND<0.25	ND<0.25	ND<25	ND<0.12	NA
A-2 (33.5-34')	33.5	09/27/05	17	ND<0.050	ND<0.050	0.25	0.99	ND<5.0	ND<0.025	NA
A-3 (5-5.5')	5.0	09/27/05	0.27	ND<0.0050	ND<0.0050	ND<0.0050	NTD <0.0050	NTD -0 000	0.0070	
A-3 (14.5-15')	14.5	09/27/05	0.13	ND<0.0050		ND<0.0050	ND<0.0050	ND<0.020	0.0050	NA
A-3 (14.5-15)	19.5				ND<0.0050	ND<0.0050	ND<0.0050	ND<0.020	ND<0.0050	NA
·····		09/27/05	ND<0.10	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.020	ND<0.0050	NA
A-3 (23.5-24')	23.5	09/27/05	ND<0.10	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.020	ND<0.0050	NA
A-3 (26-26.5')	26.0	09/27/05	220	ND<1.0	ND<1.0	4.5	18	ND<100	ND<0.50	8.5

Table 4

#### Soil Analytical Data

Former BP #11117

7210 Bancroft 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)	MTBE (mg/kg)	Lead (mg/kg)
A-4 (5-5.5')	5.0	09/26/05	ND<0.10	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.020	ND<0.0050	NA
A-4 (15-15.5')	15.0	09/26/05	ND<0.10	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.020	ND<0.0050	NA
A-4 (19.5-20')	19.5	09/26/05	0.44	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	NA
A-4 (23.5-24')	23.5	09/26/05	490	ND<1.0	18	18	87	ND<100	ND<0.0050	11
A-4 (31.5-32')	31.5	09/26/05	5.1	0.15	0.088	0.24	1.1	ND<5.0	0.48	NA
A-5 (5-5.5')	5.0	09/26/05	ND<0.10	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.020	ND<0.0050	NTA
A-5 (10-10.5')	10.0	09/26/05	ND<0.10	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.020	ND<0.0050	NA
A-5 (15-15.5')	15.0	09/26/05	0.34	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.020		NA NA
A-5 (19.5-20')	19.5	09/26/05	ND<0.10	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.020	0.0085 0.0053	NA NA
A-5 (22-22.5')	22.0	09/26/05	ND<0.099	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.020	0.0058	NA NA
A-5 (25-25.5')	25.0	09/26/05	0.23	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	0.022	0.035	NA NA
A-5 (30-30.5')	30.0	09/26/05	1.3	0.0068	0.014	0.032	0.18	ND<0.020	0.035	NA NA
A-5 (35-35.5')	35.0	09/26/05	28	0.11	0.81	0.57	3.1	ND<5.0	0.030	NA NA
A-7 (6-6.5')	6.0	11/03/05	ND<0.10	ND<0.0050	ND<0.0050	NID <0.0000	3.TD +0.0050	3773 -0.000		
A-7 (11-11.5')	11.0				ND<0.0050	ND<0.0050	ND<0.0050	ND<0.020	ND<0.0050	NA
		11/03/05	ND<0.099	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.020	ND<0.0050	NA
A-7 (16-16.5')	16.0	11/03/05	ND<0.10	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.020	ND<0.0050	NA
A-7 (21-21.5')	21.0	11/03/05	ND<0.098	ND<0.0049	ND<0.0049	ND<0.0049	ND<0.0049	ND<0.020	ND<0.0049	NA
A-7 (25.5-26')	25.5	11/03/05	ND<25	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<50	0.43	NA
A-7 (36-36.5')	36.0	11/03/05	ND<0.10	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.020	0.0064	NA

Table 4

#### Soil Analytical Data

Former BP #11117
7210 Bancroft 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)	MTBE (mg/kg)	Lead (mg/kg)
A-8 (6-6.5')	6.0	11/03/05	ND<0.10	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.020	ND<0.0050	NA
A-8 (11-11.5')	11.0	11/03/05	ND<0.10	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.020	ND<0.0050	NA
A-8 (15.5-16')	15.5	11/03/05	ND<0.099	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.020	ND<0.0050	NA
A-8 (21-21.5')	21.0	11/03/05	ND<0.10	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.020	ND<0.0050	NA
A-8 (25-25.5')	25.0	11/03/05	ND<0.099	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.020	ND<0.0050	NA
A-8 (30-30.5')	30.0	11/03/05	ND<0.10	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.020	ND<0.0050	NA
A-8 (36-36.5')	36.0	11/03/05	ND<0.10	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.020	ND<0.0050	NA
A-9 (6-6.5')	6.0	11/03/05	ND<0.099	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	NID<0.020	NTD <0.0050	D.T.A
A-9 (11-11.5')	11.0	11/03/05	ND<0.10	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.020	ND<0.0050	NA
A-9 (16-16.5')	16.0	11/03/05	ND<0.099	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.020 ND<0.020	ND<0.0050 ND<0.0050	NA
A-9 (21-21.5')	21.0	11/03/05	ND<0.098	ND<0.0049	ND<0.0030	ND<0.0030 ND<0.0049	ND<0.0030 ND<0.0049	ND<0.020 ND<0.020		NA
A-9 (25-25.5')	25.0	11/03/05	ND<0.099	ND<0.0050	ND<0.0049	ND<0.0049	ND<0.0049	ND<0.020 ND<0.020	ND<0.0049	NA
A-9 (31-31.5')	31.0	11/03/05	ND<2.5	ND<0.050	ND<0.0030	ND<0.050	ND<0.0030	ND<0.020	ND<0.0050	NA NA
A-9 (36-36.5')	36.0	11/03/05	ND<0.099	ND<0.0050	ND<0.0050	ND<0.050			0.16	NA
117 (50 50.5)		· · · · · · · · · · · · · · · · · · ·	ND <0.099	ND~0.0030	14D~0.0030	ND~0.0030	ND<0.0050	ND<0.020	ND<0.0050	NA
A-10 (5.5-6')	5.5	11/07/05	ND<0.10	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.020	ND<0.0050	NA
A-10 (10.5-11')	10.5	11/07/05	ND<0.10	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.020	ND<0.0050	NA
A-10 (15.5-16')	15.5	11/07/05	ND<0.10	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.020	ND<0.0050	NA
A-10 (20.5-21')	20.5	11/07/05	ND<0.10	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.020	ND<0.0050	NA
A-10 (25.5-26')	25.5	11/07/05	ND<0.10	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.020	ND<0.0050	NA
A-10 (30.5-31')	30.5	11/07/05	ND<0.10	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.020	ND<0.0050	NA
A-10 (35.5-36')	35.5	11/07/05	ND<0.10	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.020	ND<0.0050	NA

#### 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, tertiary amyl methyl 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

MTBE = Methyl tert-butyl ether

mg/kg = milligrams per kilogram

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

NA = Not analyzed

Table 5

#### Soil Boring Groundwater Analytical Data

Former BP #11117

7210 Bancroft Ave., Oakland, CA

Sample ID	DTW or Hydropunch screen interval (feet bgs)	Date Sampled	GRO (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Xylenes (ug/L)	TBA (ug/L)	MTBE (ug/L)
A-1 (22.6')	22.6	09/27/05	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<20	ND<0.50
A-2 (21.3')	21.3	09/27/05	510,000	ND<250	ND<250	7,200	29,000	ND<10,000	ND<250
A-2 (40'-42')	40-42	09/27/05	36,000	1,800	97	1,300	1,200	ND<1,000	110
A-3 (19.4')	19.4	09/27/05	25,000	12	43	500	1,900	ND<500	ND<12
A-3 (34'-36')	34-36	09/27/05	12,000	21	24	ND<5.0	130	ND<200	8.3
A-4 (21.6')	21.6	09/26/05	150,000	2,500	7,300	5,500	18,000	ND<2,000	820
A-4 (34'-36')	34-36	09/26/05	120,000	11,000	2,400	4,000	19,000	ND<10,000	39,000
A-5 (19.5')	19.5	09/26/05	790	10	ND<2.5	2.8	3.8	350	510
A-8 (24.6')	24.6	11/03/05	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<20	ND<0.50
A-9 (24.2')	24.2	11/03/05	68	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<20	20
A-10 (25')	25	11/07/05	ND<50	ND<0.50	ND<0.50	ND<0.50	0.50	ND<20	ND<0.50
A-10 (39')	39	11/07/05	51	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<20	27

#### Soil Boring Groundwater Analytical Data

Former BP #11117 7210 Bancroft Ave., Oakland, CA

Notes:

All Samples analyzed by EPA Method 8260B. Di-isopropyl ether, 1,2-dibromoethane, 1,2-dichloroethane, ethyl tertiary butyl ether, tertiary amyl methyl 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.

DTW = Depth to water

bgs = below ground surface

GRO = Gasoline range organics

TBA = tert-butyl alcohol

MTBE = Methyl tert-butyl ether

ug/L = micrograms per liter

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

NA = Not analyzed

# ATTACHMENT A ACEHS CORRESPONDENCES

#### ALAMEDA COUNTY

#### **HEALTH CARE SERVICES**

#### **AGENCY**

DAVID J. KEARS, Agency Director



December 29, 2004

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

Jim Givens One Eastmont Mall Oakland, CA 94605. ENVIRONMENTAL HEALTH SERVICE
ENVIRONMENTAL PROTECTION
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700
FAX (510) 337-9335

Liz Sewell ConocoPhillips 76 Broadway Sacramento, CA 95818

Subject:

Fuel Leak Case No. RO0000356, BP #11117, 7210 Bancroft Avenue, Oakland,

California - Workplan Approval

Dear Mssrs. Christie and Givens, and Ms. Sewell:

Alameda County Environmental Health (ACEH) has reviewed your November 28, 2003, Soil and Groundwater 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. Source area borings will be advanced to define the vertical extent of contamination.

2. 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.

3. Sufficient data will be collected in the field and/or from historical site investigation to evaluate the present, historical and likely future rates and efficacy of intrinsic bioremediation. If deemed necessary by your geologist or engineer, groundwater analysis conducted during the current investigation will include the bioparameters DO, ORP, alkalinity, nitrate, sulfate, ferrous iron, and methane.

4. 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. Corrective Action Plan

URS states that a CAP will be prepared for the site 180 days after completion of an investigation report. To reduce the overall project costs and the time period to case closure, we request that

you present the investigation results in a single document together with your 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, including offsite groundwater use, and need to address potential nuisance conditions. Prior to discontinuation of active remediation, the appropriate cleanup levels will need to be achieved. Please submit your CAP in the report requested below.

#### 2. Groundwater Flow Direction

The calculated groundwater flow direction at your site and at the nearby Chevron service station has historically been to the north-northeast. Regionally, groundwater is expected to flow toward the southwest. The well survey for the site identified two water supply wells within 1/2 mile of the site: an industrial well and an irrigation well, both located to the north. Please address the apparent inconsistency of the local groundwater flow direction with the anticipated regional flow regime in the report requested below.

#### REPORT REQUEST

Please submit your Soil and Water Investigation Report and Corrective Action Plan by August 1, 2005. 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.

#### Professional Certification and Conclusions/Recommendations

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

#### Perjury Statement

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

#### UNDERGROUND STORAGE TANK CLEANUP FUND

Please note that delays in investigation, late reports or enforcement actions by ACEH may result in you becoming ineligible to receive cleanup cost reimbursement from the state's Underground Storage Tank Cleanup Fund (senate Bill 2004).

#### AGENCY OVERSIGHT

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

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

Sincerely,

Robert W. Schultz, R.G.

Hazardous Materials Specialist

cc: Diane Clark, Eastmont Town Center, LLC, 7200 Bancroft Ave., Oakland, CA 94605-

Leonard Niles, URS Corporation, 500 12th St., Ste. 200, Oakland, CA 94607-4014
Donna Drogos, ACEH
Barney Chan, ACEH

Robert W. Schultz, ACEH

#### ALAMEDA COUNTY

#### **HEALTH CARE SERVICES**







May 11, 2005

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

Jim Givens One Eastmont Mall Oakland, CA 94605 ENVIRONMENTAL HEALTH SERVICES ENVIRONMENTAL PROTECTION 1131 Harbor Bay Parkway, Suite 250 Alameda, CA 94502-6577 (510) 567-6700 FAX (510) 337-9335

Liz Sewell ConocoPhillips 76 Broadway Sacramento, CA 95818

Subject:

Fuel Leak Case No. RO0000356, BP #11117, 7210 Bancroft Avenue, Oakland,

California – Workplan Approval

Dear Mssrs. Christie and Givens, and Ms. Sewell:

Alameda County Environmental Health (ACEH) has reviewed your May 9, 2005, Soil and Groundwater Investigation Workplan Addendum 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. The technical comments listed below will be addressed prior to conducting field work, and documentation will be provided in the report requested below.
- 3. 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**

#### 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, and TBA, only (TBA is a COC due to its potential occurrence as a MTBE degradation product). Ongoing analysis for TAME, 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. Corrective Action Plan - notatthistime - once
To reduce the overall project costs and the time period to case closure, we request that you

To reduce the overall project costs and the time period to case closure, we request that you present the investigation results in a single document together with your 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 in the report requested below.

#### REPORT REQUEST

Please submit your Soil and Water Investigation Report and Corrective Action Plan by September 1, 2005. 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.

#### Professional Certification and Conclusions/Recommendations

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

#### **Periury Statement**

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

#### UNDERGROUND STORAGE TANK CLEANUP FUND

Please note that delays in investigation, late reports or enforcement actions by ACEH may result in you becoming ineligible to receive cleanup cost reimbursement from the state's Underground Storage Tank Cleanup Fund (senate Bill 2004).

#### **AGENCY OVERSIGHT**

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

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

Sincerely,

Robert W. Schultz, R.G.

Hazardous Materials Specialist

cc: Diane Clark, Eastmont Town Center, LLC, 7200 Bancroft Ave., Oakland, CA 94605-1907

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

File

# ATTACHMENT B SOIL BORING LOGS

### **LOG OF BORING**

Borehole ID: A-1

Total Depth: 46.5 feet bgs.

PROJECT INFORMATION	DRILLING INFORMATION						
Project: Former BP Site# 11117 Soil and Water Investigation	Drilling Company: Gregg Drilling and Testing, Inc.						
Site Location: 7210 Bancroft Ave, Oakland, CA	Driller: Paul Rogers						
Project Manager: Lynelle Onishi	Type of Drilling Rig: Geoprobe						
PG: Barbara Jakub	Drilling Method: 4.25" Simco Augers						
Geologist: Andrew Fowler	Sampling Method: Split spoon, every 5'						
Job Number: 38487353.0A034	Date(s) Drilled: 9/27/05						
BORING	INFORMATION						
Groundwater Depth: 22.6 feet bgs.	Boring Location: Adjacent to north west enreance on Bancroft Ave.						
Air Knife or Hand Auger Depth: 5.0 feet	Boring Diameter: 4.25"						
Coordinates: X Y	Boring Type: Exploratory						

<u> </u>						
Depth (ft bgs)	Lithologic Description	nscs	PID (ppm)	Sample ID	Recovery	Comments
E 0	ASPHALT	-i	1		T	
2	CLAYEY SANDY GRAVEL: Very dark grayish brown (10YR 3/2), dense, dry, 40% angular gravel, 30% fine - coarse angular sand, 20% clay, 10% silt.  SILTY CLAY: Very dark grayish brown (10YR 3/2), stiff, dry, 80% clay,	GP	-			Boring grouted with neat Portland Cement. Top 3" finished to grade
- <b>4</b>	15% silt, 5% fine med sand, minor gravel, medium plasticity, no odor.  SILTY SANDY CLAY: Dark yellowish brown (10YR 4/4), stiff, dry, 50% clay, 30% fine - medium angular sand, 20% silt, minor angular gravel up to 1 cm diameter, no odor.	1				with cement.
1,LL.			0	07:45 A-1 @ 6 - 6.5		Top 5' logged from hand auger / airknife cuttings.
10	SiLTY CLAY: Dark yellowish brown (10YR 4/4), stiff, dry, 70% clay,		1	07:50		
12 12	25%silt, 5% medium sand, no odor.			A-1 @ 11 - 11.5		
<b>14</b>	CLAYEY SAND: Grayish brown (10YR 5/2), medium dense, dry, 70% fine sand, 30% clay, no odor.  @15.5' silt content increases 65% fine - medium sand, 25% clay.	SM	0	07:52 A-1 @		
16 	10% silt			16 - 16.5		
20	10% silt		0	07:58 A-1 @		
<b>22</b>	CLAYEY GRAVEL: Yellowish brown(10YR 5/4), dense, moist, 65% angular medium gravel up to 1 cm diameter, 20% clay, 15% angular medium sand, no odor.	GM		21 - 21.5 08:00 A-1 @ 22.6		<b>▼</b>
		ıı	ļļ	l ,	I I	

儿	5	LOG OF BORING	E	Bore	hole I	D: A	-1
Depth (π bgs)	Symbol	Lithologic Description	USCS	PID (ppm)	Sample I.D.	Recovery	Comments
- 24 - - 26 - - 28		@25' becomes wet.		1	grab water sample 08:05 A-1 @ 25.5 - 26		
- 30 - 32 - 34	000000	GRAVELLY SAND: Gray (5Y 5/1), loose, wet, 70% fine -coarse rounded sand, 30% subrounded gravel up to 1.5cm diameter, no odor.	SM	2	08:15 A-1 @ 30.5 - 31		
- 34 - - 36 -	00000			2	08:205 A-1 @ 35.5 - 36		
- 38 - - 40 -	00000	SANDY GRAVEL: Dark gray (5Y 4/1), loose, wet, 65% fine angular gravel up to 30 mm diameter, 20% fine - coarse sand, 15% silt, no odor.	GM	116	08:25 A-1 @ 39 - 39.5		Hydropunch drivifrom 32' to 34 in separate hole, 3 feet from A-1. Aft 1 hour, no water was availible for sampling.
- 42  44 -	00000	CLAYEY SILT: Light olive brown (2.5Y 5/4), soft, wet, 60% silt, 40%	ML	22	08:43 A-1 @ 46 - 46.5		
<b>- 46</b>		clay, medium plasticity, no odor.			+0.0		

### **LOG OF BORING**

Borehole ID: A-2

Total Depth: 42 feet bgs.

PROJECT INFORMATION	DRILLING INFORMATION
Project: Former BP Site # 11117 Soil and Water Investigation	Drilling Company: Gregg Drilling and Testing, Inc.
Site Location: 7210 Bancroft Ave, Oakland, CA	Driller: Paul Rogers
Project Manager: Lynelle Onishi	Type of Drilling Rig: Geoprobe
PG: Barbara Jakub	Drilling Method: 2" Direct Push
Geologist: Andrew Fowler	Sampling Method: Continuous Core
Job Number: 38487353.0A034	Date(s) Drilled: 9/27/05
BORING I	NFORMATION
Groundwater Depth: 21.3 feet bgs.	Boring Location: Adjacent to south west enreance on Bancroft Ave.
Air Knife or Hand Auger Depth: 5.0 feet	Boring Diameter: 2"
Coordinates: X Y	Boring Type: Exploratory

	· ^	f Bonnig Type: Ex	pioratory				
Depth (ft bgs)	Symbol	Lithologic Description	SOSA	PID (ppm)	Sample ID	Recovery	Comments
2		ASPHALT  CLAYEY SANDY GRAVEL: Very dark gray (10YR 3/1), dense, dry, 40% angular gravel, 30% fine - coarse angular sand, 20% clay, 10% silt. Hydrocarbon staining @1.5'  @2 -2.5' Angular cobbles up to 10cm.  SILTY CLAY: Very dark gray (10YR 3/1), stiff, dry, 80% clay, 15% silt, 5% fine med sand, minor gravel, medium plasticity, slight hydrocarbo odor.  SILTY SANDY CLAY: Dark yellowish brown (10YR 4/4), stiff, dry, 50% clay, 30% fine - medium angular sand, 20% silt, minor angular gravel up to 1cm diameter, no odor.	n /		10:35 A-2 @ 5 - 5.5		Boring grouted with neat Portland Cement. Top 3" finished to grade with cement.  Top 5' logged from hand auger / airknife cuttings.
10		CLAYEY SILT: Brown (10YR 4/3), very stiff, dry, 70% silt, 30% clay, n odor.  NO RECOVERY	o Mi	2	10:40 A-2 @10 - 10.5		
14	- 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1	CLAYEY GRAVEL: Olive brown (10YR 4/3), medium dense, dry, 60% subrounded gravel up to 30 mm diameter, 20% coarse angular sand, 20% clay, slight hydrocarbon odor.  CLAYEY SILT: Dark greenish gray (Gley1 4/10Y), soft, dry, 65% silt, 30% clay, 5% fine sand, medium plasticity, slight hydrocarbon odor.	GM	2.5	10:45 A-2 @ 15 - 15.5		
18 		CLAYEY GRAVEL: Very dark greenish gray (Gley2 3/10G), dense, dr. 70% rounded gravel, 30% clay, minor fine sand, strong hydrocarbon odor.	y, GN	9	10:46 A-2 @ 19.5 - 20 11:22 A-2 @ 21.3' grab water sample		<b>*</b>

UR	S LOG OF BORING	E	Bore	hole I	D: A	2
Depth (ft bgs)	Lithologic Description	nscs	PID (ppm)	Sample I.D.	Recovery	Comments
24 26 28 30 32 34 36 36	@27' 1" layer of red, well indurated sandstone  @30' gravel clasts become angular  SAND: Dark greenish gray (Gley 1 3/10Y), loose, wet, 100% medium - coarse well rounded sand, minor clay, strong hydrocarbon odor.  NO RECOVERY: Refusal @ 38.5'	SP	40	11:00 A-2 @ 25 - 25.5 11:15 A-2 @ 30 - 30.5 11:20 A-2 @ 33.5 - 34		Hydropunch driven from 40' to 42' in separate hole, 3 feet from A-2. Sample collected (A-2 @40-42'). Strong resistance encountered from 32' to 42'

#### **LOG OF BORING**

Borehole ID: A-3

Total Depth: 36 feet bgs.

DRILLING INFORMATION
Drilling Company: Gregg Drilling and Testing, Inc.
Driller: Paul Rogers
Type of Drilling Rig: Geoprobe
Drilling Method: 2" Direct Push
Sampling Method: Continuous Core
Date(s) Drilled: 9/27/05
NFORMATION
Boring Location: South corner of property
Boring Diameter: 2"
Boring Type: Exploratory

oooidinates.	_ ^		oring type: Explorator	у				
Depth (ft bgs)	Symbol	Lithologic Description		SOSN	PID (ppm)	Sample ID	Recovery	Comments
2 4 4 10 10		ASPHALT  CLAYEY SANDY GRAVEL: Very dark gray (10YR 3/40% angular gravel, 30% fine - coarse angular sand silt, no odor.  SILTY CLAY: Very dark gray (10YR 3/1), stiff, dry, 8/5% fine med sand, minor gravel, medium plasticity, odor.  SILTY SANDY CLAY: Dark yellowish brown (10YR clay, 30% fine - medium angular sand, 20% silt, minup to 10 mm diameter, no odor.	3/1), dense, dry, 1, 20% clay, 10% 30% clay, 15% silt, slight hydrocarbon	GP CL	2	13:05 A-3 @ 5 - 5.5		Boring grouted with neat Portland Cement. Top 3" finished to grade with cement.  Top 5' logged from hand auger / airknife cuttings.
112 114 116 118 118 119 120		CLAYEY GRAVEL: Dark greenish gray (Gley1 4/100 dense, dry, 60% angular medium gravel, 25% fine sight hydrocarbon odor.  @17' color change (Gley1 3/10G) green staining. Sthydrocarbon odor.  CLAYEY SILT: Dark greenish gray (Gley1 4/10GY), silt, 30% clay, 10% fine sand, minor gravel, medium hydrocarbon odor.  CLAYEY GRAVEL: Dark greenish gray (Gley1 4/10GY), silt, 30% clay, 10% fine sand, minor gravel, medium hydrocarbon odor.  CLAYEY GRAVEL: Dark greenish gray (Gley1 4/10G) dense, moist, 60% angular medium gravel, 30% clay strong hydrocarbon odor.	GY), medium and, 15% clay, rong soft, moist, 60% plasticity, strong	GM ML	3	13:15 A-3 @ 14.5 - 15 13:35 A-3 @ 19.24 grab water sample 13:20 A-3 @ 19.5 - 20		<b>▼</b>

Depth (ft bgs) Symbol						
Depth (ft b	Lithologic Description	SOSO	PID (ppm)	Sample I.D.	Recovery	Comments
28 CL de str	AND: Olive brown (2.5Y 4/3), very loose, wet, 100% fine - medium and, minor clay, strong hydrocarbon odor.  LAYEY GRAVEL: Dark greenish gray (Gley1 4/10GY), medium ense, dry, 60% angular medium gravel, 30% clay, 10% fine sand, rong hydrocarbon odor.  O RECOVERY: Sluffing.  227' 1" layer of red (5YR 5/6), well indurated sandstone.	SP GM	649	13:25 A-3 @ 23.5 - 24 13:50 A-3 @ 26 - 26.5 14:15 A-3 @ 34 - 36 grab water sample		Hydropnuch driven from 34' to 36' in separate hole, 3 feet from A-3. Sample collected (A-3@ 34-36').



#### **LOG OF BORING**

Borehole ID: A-4

Total Depth: 36 feet bgs.

PROJECT INFORMATION	DRILLING INFORMATION
Project: Former BP Site #11117 Soil and Water Investigation	Drilling Company: Gregg Drilling and Testing, Inc.
Site Location: 7210 Bancroft Ave, Oakland, CA	Driller: Paul Rogers
Project Manager: Lynelle Onishi	Type of Drilling Rig: Geoprobe
PG: Barbara Jakub	Drilling Method: 2" Direct Push
Geologist: Andrew Fowler	Sampling Method: Continuous Core
<b>Job Number:</b> 38487353.0A034	Date(s) Drilled: 9/26/05
BORING	INFORMATION
Groundwater Depth: 21.6 feet bgs.	Boring Location: South west side of property.
Air Knife or Hand Auger Depth: 5.0 feet	Boring Diameter: 2"
Coordinates: X Y	Boring Type: Exploratory

	Doming Type: Exploited	,				
Depth (ft bgs)	Lithologic Description	USCS	PID (ppm)	Sample ID	Recovery	Comments
E 0	ASPHALT	· 			T	
2	CLAYEY SANDY GRAVEL: Very dark gray (10YR 3/1), dense, dry, 40% angular gravel, 30% fine - coarse angular sand, 20% clay, 10% silt, no odor.	GP		!		Boring grouted with neat Portland
4	SILTY CLAY: Very dark gray (10YR 3/1), stiff, dry, 80% clay, 15% silt, 5% fine med sand, minor gravel, medium plasticity, slight hydrocarbon odor.	CL				Cement. Top 3" finished to grade with cement.
<b>1 2 4</b>	SILTY SANDY CLAY: Dark yellowish brown (10YR 4/4), stiff, dry, 50% clay, 30% fine - medium angular sand, 20% silt, no odor. Roots visible.				,	
6	CLAYEY SANDY GRAVEL: Dark yellowish brown (10YR 4/4), dense, dry, 60% angular gravel up to 2 cm diameter, 30% medium - coarse angular sand, 10% clay, no odor.	GM	16.3	12:55 A-4 @ 5 - 5.5	7	Top 5' logged from hand auger / airknife cuttings.
10	NO RECOVERY		- A			
12	CLAYEY SAND: Olive gray (5Y 4/2), medium dense, dry, 85% fine - medium angular sand, 15% clay, no odor.	SM				
16	GRAVELLY SAND: Olive gray (5Y 4/2), medium dense, dry, 70% fine - medium angular sand, 20% angular gravel up to 2 cm diameter, 10% clay, no odor.		2.0	13:15 A-4 @		
	CLAYEY GRAVEL: Dark greenish gray (Gley1 4/10GY), medium dense, dry, 60% angular medium gravel, 25% fine sand, 15% clay, slight hydrocarbon odor.	GM		15 - 15.5		
<b>⊢ 18</b>	@17' color change (Gley1 3/5G) green staining. Strong hydrocarbon odor.			13:25		
- 20			16.7	13:25 A-4 @ 19.5 - 20		
22	CLAYEY SILT: Yellowish brown (10YR 5/4), soft, dry, 60% silt, 30% clay, 10% fine sand, minor gravel, medium plasticity, strong hydrocarbon odor.	ML		13:32 A-4 @ 21.6 grab		<b>Y</b>

UR	LOG OF BORING	E	Bore	hole l	D: A	-4
Depth (ft bgs)	Lithologic Description	nscs	PID (ppm)	Sample I.D.	Recovery	Comments
24 - 26 - 28 - 30 - 32 - 34	SAND: Olive brown (2.5Y 4/3), loose, wet, 100% medium sand, minor angular gravel up to 3 cm diameter, strong hydrocarbon odor.  NO RECOVERY: No recovery due to sluffing from 28' to 35'  Refusal @ 35' bgs.	SP		water sample 13:35 A-4 @ 23.5 - 24  13:55 A-4 @ 31.5 - 32 14:50 A-4 @ 34 - 36 hydro -punch sample		Hydropunch driven from 34' to 36' in separate hole, 3 feet from A-4. Sample collected (A-4@34-36').

### URS

### 1333 Broadway, Suite 800 Oakland, California 94612

#### **LOG OF BORING**

Borehole ID: A-5

Total Depth: 40 feet bgs.

PROJECT INFORMATION	DRILLING INFORMATION
Project: Former BP Site #11117 Soil and Water Investigation	Drilling Company: Gregg Drilling and Testing, Inc.
Site Location: 7210 Bancroft Ave, Oakland, CA	Driller: Paul Rogers
Project Manager: Lynelle Onishi	Type of Drilling Rig: Geoprobe
PG: Barbara Jakub	Drilling Method: 2" Direct Push
Geologist: Andrew Fowler	Sampling Method: Continuous Core
<b>Job Number:</b> 38487353.0A034	Date(s) Drilled: 9/26/05
BORING	INFORMATION
Groundwater Depth: 21.6 feet bgs.	Boring Location: East side of property, near 73rd Ave entrance.
Air Knife or Hand Auger Depth: 5.0 feet	Boring Diameter: 2"
Coordinates: X Y	Boring Type: Exploratory

	A 1 Botting Type. Exploi	atory				
Depth (ft bgs)	Lithologic Description	USCS	PID (ppm)	Sample ID	Recovery	Comments
F 0	ASPHALT	<u> </u>	<u>'</u>	i	<u> </u>	
2	SP: Very dark greenish gray (Gley1 3/5GY), loose, dry, coarse angular sand, no odor.  SILTY CLAY: Very dark gray (10YR 3/1), stiff, dry, 80% clay, 15% silt, 5% fine med sand, minor gravel, medium plasticity.  CLAYEY SAND: Dark yellowish brown (10YR 4/4), loose, dry, 60% fine coarse angular sand, 30% clay, 10% silt, no odor.	SP CL SP				Boring grouted with neat Portland Cement. Top 3" finished to grade with cement.
6	SANDY CLAY: Brown (10YR 4/3), medium stiff dry 60% clay 40%	CL	1.6	10:25 A-5 @ 5 - 5.5		Top 5' logged from hand auger / airknife cuttings.
8	medium angular sand, minor angular gravel, medium plasticity.  @ 9' grades to clayey sand.	SM	1.9	10:35 A-5 @		
12	SANDY SILTY GRAVEL: Olive gray (5Y 5/2), 45% angular gravel up to 5 cm diameter, 35% silt, 15% medium sand, 5% clay.	GM		10 - 10.5		
16	@ 16' color change (Gley1 3/5G). Strong hydrocarbon odor.		12.3	10:45 A-5 @ 15 - 15.5 A-5 @ 19.5 grab water sample		<b>▼</b>
20	@ 22' Red layer (5YR 4/6) 1" thick of well indurated sandstone.		3.1 6.2	10:47 A-5 @ 19.5 - 20 11:00 A-5 @		▽
	SAND: Dark greenish gray (Gley1 4/10Y), loose, wet, 100% well sorted,	SP		22 -		

UR		LOG OF BORING	E	Bore	hole l	D: A	-5
Depth (ft bgs)	Symbol	Lithologic Description	USCS	PID (ppm)	Sample I.D.	Recovery	Comments
24 		rounded coarse sand, minor gravel.  @ 25' gravel increase to 30%		3.6	22.5 11:05 A-5 @ 25 - 25.5		
		CLAYEY SANDY GRAVEL: Dark grayish brown (2.5Y 4/2), medium dense, dry, 60% angular gravel upto 5cm diameter, 20% coarse angular sand, 15% clay, 5% silt, strong hydrocarbon odor, green staining.	GM	8.5	11:10 A-5 @ 30 - 30.5.		Hydropunch driven from 28' to 30' in separate hole, 3 feet from A-5. No water in hydropunch hole after 1 hour.
36 - 38 - 40		NO RECOVERY: Stuffing.		0.0	A-5 @ 35 - 35.5	pegusha Sun	



#### 1333 Broadway, Suite 800 Oakland, California 94612

**LOG OF BORING** 

Borehole ID: A-7

Total Depth: 36.5 feet bgs.

PROJECT INFORMATION DRILLING INFORMATION										
Project: Form	ner BP	Station # 11117 Soil and Water Investigation	Drilling Company: Gregg Drilling and Testing, Inc.							
Site Location	: 7210	Bancroft Ave, Oakland, CA	Driller: Paul Rogers							
Project Mana	ger: I	ynelle Onishi	Type of Drilling Rig: Geoprobe							
PG: Barbara Ja	kub		Drilling Method: 4.5"	Simco	Auge	rs				
Geologist: A	ndrew	Fowler	Sampling Method: 18	" Split	spoor	, 5' Samp	ling Ir	ntervals		
Job Number:	38487	7353.0A034	Date(s) Drilled: 11/3/0	15						
		BORING IN	FORMATION							
-		h: not encountered	Boring Location: South	east C	orner	of Parkin	g Lot	for DD's Discounts		
		Auger Depth: 5.0 feet	Boring Diameter: 4.5"							
Coordinates:	X	Y	Boring Type: Explorate	ory						
Depth (ft bgs)	Symbol	Lithologic Description	3	nscs	PID (ppm)	Sample ID	Recovery	Comments		
F 0		ASPHALT				i I	<u> </u>			
- <b>2</b>		BLANK: Boring logs for soil boring A-7 were stoll logged on 11/16/05 from samples submitted to S Boring airknifed to 5 feet bgs.	en, lithologies were Sequoia Analytical.					Boring grouted with neat Portland Cement. Top 3" finished to grade with concrete.		
8 11 10		CLAYEY SILT: Dark yellowish brown (10YR 4/4) 70% silt, 30% clay, minor gravel up to 8 mm, me	), medium stiff, dry, dium plastic.	ML		12:55 A-7 @ 6-6.5				
12	1000000 1000000	SANDY GRAVEL: Brown (10YR 4/3), loose, dan gravel up to 20 mm, 25% medium sand, 5% silt,	np, 70% sub-rounded no plasticity.	GM		13:00 A-7 @ 11-11.5'				
16 18 18 1- 20		SILTY SAND: Brown (10YR 5/3), medium dense to coarse angular sand, 25% clay, 10% sub-roun mm.	, moist, 65% medium ided gravel up to 10	SM		13:05 A-7 @ 16-16.5'				
		@ 21 feet bgs, color change and gravel disappea brown (10YR 4/4), moist, 75% medium to coarse 25% silt, slight odor.	ars; Dark yellowish angular sand,			13:10 A-7 @ 21-21.5'				

JR	LOG OF BORING	E	Borehole ID: A-7					
Depth (ft bgs)	Lithologic Description	nscs	PID (ppm)	Sample I.D.	Recovery	Comments		
- 24 - 26 - 28 - 30	CLAYEY GRAVEL: Brown (10YR 4/3), loose, moist, 70% sub-rounded to sub-angular gravel up to 10 mm, 25% clay, 5% silt, slight hydrocarbon odor.  NO RECOVERY	GC		13:20 A-7@ 25.5-26'		No water encountered in boring A-7 after 1 hour.  Hydropunch driven from 28' to 30' in separate hole, 3		
32 - 34 - 36	CLAYEY SILT: Brown (10YR 5/3), medium stiff, wet, 80% silt, 20% clay, black specks throughout.	ML		13:45 A-7 @ 36-36.5'		feet from A-7. No water in hydropunch hole after 1 hour.  Boring terminated a 36.5.		



### 1333 Broadway, Suite 800 Oakland, California 94612 Oakland, California 94612

**LOG OF BORING** 

Borehole ID: A-8

	Total Depth: 36.5 feet bgs.								
PROJECT INFORMATION	DRILLING INFORMATION								
Project: Former BP Station #11117 Soil and Water Investigation	Drilling Company: Gregg Drilling and Testing, Inc.								
Site Location: 7210 Bancroft Ave, Oakland, CA	Driller: Paul Rogers								
Project Manager: Lynelle Onishi	Type of Drilling Rig: Geoprobe								
PG: Barbara Jakub	Drilling Method: 4.5" Simco Augers								
Geologist: Andrew Fowler	Sampling Method: 18" Splitspoon, 5' Sampling Intervals								
Job Number: 38487353.0A034	Date(s) Drilled: 11/3/05								
BORING I	NFORMATION								
Groundwater Depth: 24.6 feet bgs.	Boring Location: Adjacent to entrance into DD's Discounts								
Air Knife or Hand Auger Depth; 5.0 feet	Boring Diameter: 4.5"								
Coordinates: X Y	Boring Type: Exploratory								

	Symbol	Lithologic Description	nscs	PID (ppm)	Sample ID	Recovery	Comments
2 14		ASPHALT BLANK: Boring logs for soilboring A-8 were stolen, lithologies were logged on 11/16/05 from samples submitted to Sequoia Analytical. Boring Airknifed to 5 feet bgs.					Boring grouted with neat Portland Cement. Top 3" finished to grade with concrete.
8 10		SILTY SAND: Yellowish brown (10YR 5/4), dense, dry, 80% fine sand, 20% silt, no plasticity. 1" layer; reddish brown (5YR 4/3), very hard, well indurated sandstone.	SM		09:00 A-8 @ 6-6.5		
— 12 — 14					09:05 A-8 @ 11-11.5'		
16 16 10 10 10 10 10 10 10 10 10 10 10 10 10		SANDY GRAVEL: Yellowish brown (10YR 5/4), loose, damp, 65% sub-angular gravel up to 30 mm, 3% medium to coarse sand, 5% silt, no plasticity, no odor.	GM		09:10 A-8 @ 15.5-16'		
22		CLAYEY GRAVEL: Yellowish brown (10YR 5/4), medium dense, damp, 60% sub-rounded to sub-angular gravel up to 20 mm, 20% clay, 10% coarse angular sand, 10% silt.	GC		09:15 A-8 @ 21-21.5'		

UR		LOG OF BORING	Borehole ID: A-8					
Depth (ft bgs)	Symbol	Lithologic Description	nscs	PID (ppm)	Sample I.D.	Recovery	Comments	
24 26 28 30 31 32	000000000000000000000000000000000000000	SANDY GRAVEL: Brown (10YR 5/3), loose, wet, 55% sub-angular gravel up to 35 mm, 35% medium sand and rounded coarse sand, 10% silt.  @ 30 feet bgs, gravel increases; loose, wet, 75% sub-rounded gravel up to 10 mm, 15% coarse sand, 55% silt.	GM		09:36 A-8 @ 24.6' (water) 09:40 A-8 @ 25-25.5' 09:45 A-8 @ 30-30.5' 09:50 A-8 @ 36-36.5'		Hydropunch driven from 28' to 30' in separate hole, 3 feet from A-8. No water in hydropunch hole after 1 hour.  Boring terminated at 36.5'.	
<del>-</del> 36		CLAYEY SILT: Brown (10YR 5/3), medium stiff, wet, 80% silt, 20% clay. Black specs throughout, light olive brown mottling.	ML					



### 1333 Broadway, Suite 800 Oakland, California 94612

LOG OF BORING

Borehole ID: A-9

Total Depth: 36.5 feet bgs.

			Total Bepti		10 10	ot 250.				
					LLING INFORMATION					
Project:         Former BP Site #11117 Soil and Water Investigation         Drilling Compa			Drilling Company: Gr	y: Gregg Drilling and Testing, Inc.						
Site Location: 7210 Bancroft Ave, Oakland, CA Driller			Driller: Paul Rogers							
Project Manager: Lynelle Onishi Type of Drilli			Type of Drilling Rig:	of Drilling Rig: Geoprobe						
PG: Barbara Jakub Drilling Method:			Drilling Method: 4.5"	d: 4.5" Simco Augers						
Geologist: Andrew Fowler Sampling Met			Sampling Method: 18	ing Method: 18" Splitspoon, 5' Sampling Intervals						
Job Number: 38487353.0A034			Date(s) Drilled: 11/3/0	3/05						
BORING INFORMATION										
Groundwater Depth: 24.2 feet bgs. Boring Location: Off			Boring Location: Offsi	te: Noi	th co	rner of site	e in ac	ljacent parking lot		
Air Knife or H	ir Knife or Hand Auger Depth: 5.0 feet Boring Diameter: 4.5"									
Coordinates:	Х	Υ	Boring Type: Explorate	ory						
Depth (ft bgs)	Symbol	Lithologic Description	1	sosn	PID (ppm)	Sample ID	Recovery	Comments		
0 2 2 4 6		ASPHALT  BLANK: Boring logs for soilboring A-9 were stole logged on 11/16/05 from samples submitted to S  Boring Airknifed to 5 feet bgs.  SILTY SAND: Yellowish brown (10YR 5/4), med medium to coarse sand, 20% silt, low plasticity.		SM		11:15 A-9 @		Boring grouted with neat Portland Cement. Top 3" finished to grade with concrete.		
		GRAVELLY SAND: Yellowish brown (10YR 5/4) sorted medium sand, 30% gravel up to 20 mm, 1 no odor.	, loose, damp, 60% well 10% silt, no plasticity,	SP		11:20 A-9@ 11-11.5'				
16		CLAYEY GRAVEL: Yellowish brown (10YR 5/4), 60% sub-rounded to sub-angular gravel up to 30 coarse angular sand, 10% silt, no odor.	, medium dense, damp, ) mm, 20% clay, 10%	GC		11:30 A-9 @ 16-16.5'				
20 		SANDY GRAVEL: Brown (10YR 5/3), loose, dan angular gravel up to 35 mm, 35% medium sand sand, 10% silt, no plasticity, no odor.	np, 55% sub-rounded and rounded coarse	GM		11:31 A-9 @ 21-21.5'				

UR		LOG OF BORING	Borehole ID: A-9							
Depth (ft bgs)	Symbol	Lithologic Description	nscs	PID (ppm)	Sample I.D.	Recovery	Comments			
- 24 - 26		SILTY SAND: Yellowish brown (10YR 5/4), loose, wet, 65% medium to coarse sub-rounded to sub-angular sand, 30% silt, 5% clay, no plasticity, no odor.	SM		11:35 A-9 @ 24.2' (water)		▼			
28					11:40 A-9 @ 25-25.5'		Hydropunch driven from 28' to 30' in			
32 		CLAY: Dark grayish brown (10YR 4/2), medium stiff, dry, 90% clay, 10% silt, medium to high plasticity.  CLAYEY GRAVEL: Brown (7.5YR 5/2), loose to medium dense, dry, 80% sub angular gravel up to 10 mm, 15% clay, 5% silt.	႕) မ		11:45 A-9 @ 31-31.5'		separate hole, 3 feet from A-9. No water in hydropunch hole after 1 hour.			
- - - 36		CLAYEY SILT: Brown (10YR 5/3), medium stiff, wet, 80% silt, 20% clay, no odor. Black specs throughout.	ML		A-9 @ 36-36.5'		Boring terminated at 36.5'.			

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- 12

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### 1333 Broadway, Suite 800

LOG OF BORING

Oakland, California 94						I Dorellole ID. A-10												
	Period and		Oa	ıkıar	1a, C	Jaili	rornia	946	12		Total D	epth	1: 39	) feet	bgs.			
PI	ROJE	ECT IN	FOR	MAT	ION				DRILLING INFORMATION									
Project: Form	er BP	Site #11	1117 5	Soil an	d Wat	ter Inv	estigatio	on	Drilling Company: Gregg Drilling and Testing, Inc.									
Site Location: 7210 Bancroft Ave, Oakland, CA							aul Rogei											
Project Manager: Lynelle Onishi					Туре	of D	rilling R	lig: G	eopro	be								
PG: Barbara Jakub					Drillin	g M	ethod: 4	1.5" S	imco	Auge	rs							
Geologist: Ba	rbara .	Jakub							Sampi	ling	Method	<b>i</b> : 18'	Split	Spoo	n			<u> </u>
Job Number:	38487	7353.0A(	034						Date(s	s) Dr	illed: 1	1/7/0:	5	•				
							BOR	ING IN	FORMA	TIC	N							
Groundwater Depth: 25 feet bgs						Boring Location: In center of planter, across 73rd Ave. from Site.								Ave. from Site.				
Air Knife or Hand Auger Depth: 5.0 feet						Boring Diameter: 4.5"												
Coordinates: X Y							Boring	Тур	e: Expl	orato	ry							
Depth (ft bgs)	Symbol				ι	Litholo	ogic De	scription	1				nscs	PID (ppm)	Sample ID	Весомеру	i recovery	Comments
0 2 4		FILL: A	UCLH: Mulch cover to 0.2 feet bgs.  LL: Angular gravel fill with clasts up to 120 mr  AYEY SILT: Dark brown (10YR 3/3). 80% Sil							sand.		FILL					Boring grouted with neat Portland Cement. Top 3" finished to grade with cement.	
6		SILT: B fine san Trace b	nd, 1%	6 angul	YR 4/3), medium stiff, damp, 85% igular gravel up to 80 mm diameterss.				% silt, 109 ter, low pl	% cla	ay, 4% ity.				09:48 A-10 @ 5.5-6'			Top 5' logged from hand auger / airknife cuttings.

SILTY SAND: Brown (7.5YR 4/3), loose, damp, 55% fine sand, 40% silt, 3% clay, 2% gravel, non plastic. Fines downward.

SILT: Yellowish brown (10YR 5/4), stiff, damp, 85% silt, 10% clay, 5% fine sand, low plasticity. Manganese staining.

Silt content increases, 95% Silt, 5% clay, Medium stiff.

10:02 A-10 @ 10.5-11

10:05 A-10

@ 15.5-16'

10:10 A-10 @ 20.5-21'

SM

ML.

UR	LOG OF BORING Borehole ID: A-10						
Depth (ft bgs)	Lithologic Description	nscs	PID (ppm)	Sample I.D.	Recovery	Comments	
24 26 28 30 32 34 34 36 38	SANDY SILT: Yellowish brown (10YR 5/4), soft, moist, 80% silt, 17% fine sand, 3% clay. Trace black specs and white granules (possibly feldspar) up to 30 mm in diameter.  SILT: Yellowish brown (10YR 5/4), soft, wet to saturated, 75% silt, 10% clay, 10% gravel, 5% sand. Angular chert gravel at base up to 30 mm in diameter.  SILTY GRAVEL: Yellowish brown (10YR 5/4), dense, wet, 70% angular to sub-angular gravel up to 30 mm in diameter with chert and sandstone clasts, 17% silt, 10% sand, 3% clay.	GM		10:19 A-10 @ 25.5-26' 10:20 A-10 @ 25' (water) 10:33 A-10 @ 30.5-31' 10:42 A-10 @ 35.5-36' 11:07 A-10 @ 39' (water)		Hydropunch driven from 39' to 41' in separate hole, 3 feet from A-10. Sample taken (A-10@39').  Total depth 39 feet bgs.	

# ATTACHMENT C 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<sup>TM</sup> 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 # <u>051103-M71</u>	Date 11/5/05	Client Arco	<u> </u>
Site 7210 Bancroft	Deland, CA		

Well ID	Well Size (in.)	Sheen / Odor	Depth to Immiscible Liquid (ft.)			Depth to water (ft.)	Depth to well bottom (ft.)	Survey Point: TOB or 700	
UN-1	2	-				18.55	36.45		
mw.2	2	day				20.25	39.43		
HW-3	1					18.91	40.80		
HW-4	2	day		<u>.</u>		19.33	39.63		
Hw-6	2					1928	39.50		
HW-7	2					2(37)	44.75	T	
MW-8	2					19.42	39.60		
MW-9	2				P P P P P P P P P P P P P P P P P P P	19.90	39.10		
Mn-10	2					20.90	35.75		
EV-1	4	Odox				19.92	37.37		
Ex-2	4					20.42	35.00	Ý	
		'n							
						,			
	į								

Biaine Tech Services, Inc. 1680 Rogers Ave., San Jose, CA 95112 (408) 573-0555

BTS#: (	51103-LA	a .		Station # 11117							
Sampler:	M			Date: 11 3/05							
Well I.D.:	EX-1			Well Diameter	: 2	3	Ð	6	8	<del></del>	
Total Wel	l Depth: 3	7.87		Depth to Wate	r: <i>19</i>						
	Free Produ			Thickness of Free Product (feet):							
Reference	ed to:	(PVE)	Grade	D.O. Meter (if	******			SI	LI	ACH	
	Well Diamete 1" 2" 3"		1 <u>uttiplier V</u> 0.04 0.16 0.37	Vell Diameter h 4" 6"	Aultiplier 0.65 1.47 us <sup>1</sup> * 0.163	<del></del>	*			ACII	
Purge Metho		Bailer		Sampling Method: Bailer							
		sposable Baile				sable Bai	-				
		e Air Displac tric Submersi		Othou		action Po					
	E	traction Pum	p	Other.							
	Other:										
Top of Scree	en:		If well is listed as a of screen. Otherwi	no-purge, confirm se, the well must be	that wa	iter level 3.	is be	low th	ne top		
	1 Case Voh	? ıme (Gals.)	X	***************************************	35/1	Gal Volume	s.		<del></del>		
			Conductivity		T T	<del></del>			<del></del>		
Time	Temp (°F)	pН	(mS or µS)	Gals. Removed	Obs	ervation	ns				
1539	69.4	6.9	778	11.7	ode	6Y			-		
1541	70.2	6.8	785	23.4	"					•	
1544	69.0	6.8	792	35.1	11				*******		
		4							·		
Did well	Did well dewater? Yes No Gallons actually evacuated: 35.1										
	Time: /4	<del> </del>		Sampling Date							
Sample I	.D.: Ex-			Laboratory:	Pace	Segue	da	Ot	her		
Analyzed	i for:	RO OTEN M	TBE DRO QUY 2-D	S Ethanol	Other	•					
D.O. (if r	eq'd):		Pre-purge	ma	L	Post-pu	rge:	B	38	mg/L	
O.R.P. (if req'd): Pre-purg				mV	7	Post-pu	rge:		VO	mV	
Blaine 7	Tech Serv	icas Inc	. 1680 Roger	s Ave San I	i	38 OF		1		411 7	

BTS #: 05	1103-MT			Station # 116	17				•
Sampler:	MT	<del></del>		Date: 1 3 05					<u>''</u>
Well I.D.:	Ex-2			Well Diameter	r: 2	3 🧸	$\overline{\mathbb{D}}$ 6	8	···
Total Wel	l Depth:	35.00		Depth to Wate	er: 20.	42			
Depth to I	Free Produ	ct:		Thickness of I	Free Pro	oduct (f	eet):		***************************************
Reference	d to:	CYO	Grade	D.O. Meter (if			YSI	····	HACH
	1" 0.04 2" 0.16 3" 0.37		0.04 0.16	Well Diameter         Multiplier           4"         0.65           6"         1.47           Other         radius² + 0.163					
Purge Metho	Di Positiv Elec Ex	Bailer sposable Bail e Air Displace stric Submers straction Pun	rement ible	Sampling Method Other	Dispos	Bailer able Baile ction Port		<b></b> J	
Top of Scree	en:		If well is listed as a of screen. Otherwi	no-purge, confirmise, the well must b	that wat	er level i	s below	the top	,
	1 Case Vol	.5 Ime (Gals.)	x	=	285 Iculated V	Gals. 'olume			
Time	Temp (°F)	рН	Conductivity (mS or µS)	Gals. Removed	Obse	ervations			
1000	19.5	7.4	565	9.5	Ode				<del></del>
1602	71.1	6.9	550	19	11		<del></del>	- · · · ·	
1005	71.0	6.9	561	23.5	//		····		<del></del>
		•							
Did well dewater? Yes Gallons actually evacuated: 13.5									
Sampling	Time:	10		Sampling Dat			and the said	<u></u>	
Sample I.	D.: Ex-2	_		Laboratory:	Pace	Sequo	. (	Other	······································
Analyzed	for:	M. MIRA ON	ibe dro (179) (2)	Q (EDB) (Clean)	Other:				
D.O. (if re	· · · · · · · · · · · · · · · · · · ·		Pre-purge:	mg	L P	ost-purg	e: 7	137	mg/ <sub>L</sub>
O.R.P. (if	req'd): ech Serv		m\	_	ost-purg	-		mV	

BTS #: 2	51103-1477			Station #	11117	· <del></del>			· ·	······································
Sampler:				Date: 11 3				<del></del>		<del> </del>
Well I.D.	1/W-2			Well Diam		<b>2</b> ) 3	4	6	8	
Total We	ll Depth:	39.43	<u> </u>	Depth to W		<u> </u>				
1	Free Produ	<del></del>		Thickness of			vt (fo	at).		
Reference	ed to:	<b>9</b> VC	Grade.	D.O. Meter			<i>γι</i> (10		<del></del>	
	Well Diamen		Multiplier y 0.04 0.16 0.37	Vell Diameter  4"  6"  Other	Multip 0.65 1.47 radius <sup>2</sup> * 0	lier			H	ACH
Purge Metho		Bailer		Sampling Met	hod:	Bailer			.J	
	Positiv	sposable Bail e.Air Displace entic Submers extraction Pun	O	Ē	sposable I	Port				
				•						
Top of Scree	en:		If well is listed as a of screen. Otherwi	a no-purge, consise, the well mu	firm that st be pur	water lev	vel is t	pelow t	he top	
	l Case Volu	3 ume (Gals.)	x	=	9 Calculat	ed Volum	Jals. e			
Time	Temp (°F)	рН	Conductivity (mS or µS)	Gals. Remov		Observati				
1450	63.7	7.0	751	3		de				<del></del>
1453	69.4	6.6	723	6		11		<del></del>	<del> </del>	
145/0	69.0	6.7	715	9		ji.				
		4								
Did										
Did well		Yes	(No)	Gallons act	ually e	vacuate	d: 9	<b>&gt;</b>	٠.	
1	Time: 15	_		Sampling D	Date: 11	305		•		
Sample I.	D.: MW-7	<u> </u>		Laboratory	: Pac	e (eqi	iola	Oti	her	
Analyzed	for:	во бтех ма	BE DRO ON 2-DO	A DB Shanol	Oth					
D.O. (if r	eq'd):		Pre-purge:		mg/L	Post-p	urge:	0.6	lela	mg/L
O.R.P. (if			Pre-purge:	1	mV	Post -		V.0		mV
biaine T	ech Serv	ices, Inc	. 1680 Roger	AVA San	Loca	CA O				411 4

BTS #: 0	51103-MI	Ī-		Station# ////	2	<del></del>	<del></del>		`.		
Sampler:				Date: 11 3 05	7			<del></del>			
Well I.D.	: NW-4			Well Diameter	r: <b>②</b>	3 4	6	8			
Total We	ll Depth:	39.63		Depth to Wate							
ŀ	Free Produ	,	· · · · · · · · · · · · · · · · · · ·	Thickness of I			eet).	· · · · · · · · · · · · · · · · · · ·	······································		
Reference	ed to:	PVC	Grade.	D.O. Meter (if			YSI	<del></del>	T. CII		
·	Well Diamet 1" 2" 3*	er ]	Multiplier y 0.04 0.16 0.37	Vall Diameter 4" 6"	Multiplier 0.65 1.47 us <sup>2</sup> * 0.163		131	1	HACH		
Purge Meth		Bailer		Sampling Method: Bailer							
	Positiv Ele	isposable Bail The Air Display ctric Submers extraction Pun	sement ible ip	Other	Extrac	able Baile	<del>-</del>				
Top of Scre		· ·	If well is listed as a of screen. Otherwi	no-purge, confirm	that wate	er level is	below t	the top			
		.2 ume (Gals.)	X 3	= _4	6 6 culated V	Gals.					
Time	Temp (°F)	pН	Conductivity (mS or µS)								
1510	18.2	6.60	49Ω	Gals. Removed	Obse	rvations		<del></del>			
1514	188	6.6	92A	3.2	1000						
1518	19.6	6.6	996	6.4	11						
· Dio	101.00	<i>v.v</i>	003	9.6			····				
						<u>-</u> -					
Did well	dewater?	Yes	W	Gallons actual	ly evac	uated:	7.10		· .		
Sampling	Time: /5	26		Sampling Date				<del></del>	···		
Sample I.	D.: MW-	4		Laboratory:	Pace	Sequoia	Ot	ther			
Analyzed		11 📵 🔞	THE DRO ON CODO		Other:						
D.O. (if r		· · · · · · · · · · · · · · · · · · ·	Pre-purge:	mg/I	P	ost-purge	12	50	mg/L		
O.R.P. (i			Pre-purge:	mV	n.						
Diaine I	ecn Serv	ices, Inc	. 1680 Roger	s Ave., San J	ose, C	A 9511	2 (40	B) 57	3-0555		

BTS #: ¿	51103-47	2		Station # 111	12	<del>•</del>		·. ·
Sampler:	HT			Date: 11/3/55		<del></del>		
Well I.D.	: NW-7			Well Diamete		4	6 8	
Total We		44.75		Depth to Wate				
Depth to	Free Produ	ct:	·····	Thickness of I		(feet)	<del></del>	<del></del>
Reference	ed to:	PVC	Grade.	D.O. Meter (if		/(1001). /S		TI A CITI
	Well Diamet 1" 2" 3"	er	Multiplier <u>v</u> 0.04 0.16 0.37	Vel) <u>Diameter</u> 4" 6"	Multiplier 0.65 1.47 ius <sup>2</sup> * 0.163			НАСН
Purge Metho		Bailer		Sampling Method				
		sposable Bail e Air Displac			Disposable B			
		tric Submers		Othor	Extraction P			
	E	xtraction Pun		Other	*	`		
Top of Scree			If well is listed as a of screen. Otherwi	no-purge, confirmise, the well must h	n that water leve	el is belo	w the top	)
	2	8	•		o purgeu.	<del></del>	<del></del>	<del></del>
	1 Case Volu		X 3 Specified Vo	=	11.4 Ga			1
			Conductivity	Ca	lculated Volume	-		
Time	Temp (°F)	pН	(mS or µS)	Gals. Removed	Observation	me		
1400	69.5	6.4	527	3.9	O S S I VIII	118	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
1405	70.3	7.2	435	7.6				4- <u></u>
1410	70.3	7.2	484	11.4				M+
		•				<del></del> -	<del></del>	
								<u> </u>
Did well dewater? Yes Gallons actually evacuated: //.4								*
Sampling	Time:	115		Sampling Date	e: 11/3/05			<del></del>
Sample I.	D.: NW 7			Laboratory:	Pace Seque	oio	Other	*** · · · · · · · · · · · · · · · · · ·
Analyzed	for:	ВО ФЕР МТ	BE DRO ONYS (2-DO	EDB (Ethang)	Other:			
D.O. (if r	eq'd):		Pre-purge:			irge:	0.63	mg/
O.R.P. (i			Pre-purge:	m\	<del>-</del>			,
Blaine T	ech Servi	ces. Inc	. 1680 Roger	Ava San I	_1 P			mV

BTS#: 0	51103 ·LHZ			Station #	11117	· · · · · · · · · · · · · · · · · · ·		·	· · · · · · · · · · · · · · · · · · ·		
Sampler:				Date: 11\3			<del></del>	<del></del>			
Well I.D.:	MW-11			Well Diam	-	3 4	6	8			
Total Wel	l Deptha	35.25		Depth to Water: 20.90							
Depth to I	Free Produ	ct:		Thickness of Free Product (feet):							
Reference	d to:	€¥©	Grade	D.O. Meter (if req'd): (S) HACH							
	1" 0.04 2" 0.16 3" 0.37			Well Diameter 4" 6" Other	Multiplier 0.65 1.47 radius <sup>2</sup> * 0.16;		<u> CSN</u>	HA	CH		
Purge Metho	d:	Bailer		Sampling Method: Bailer							
	Positiv Élec	sposable Bail e Air Displac tric Submers straction Pun	ement ible	-	(Dispo	sable Bailer action Port					
		CRACION 1 (II)	ıħ								
Top of Scree	n:		If well is listed as of screen. Otherw	a no-purge, con ise, the well m	ifirm that wa	iter level is	below	the top	-		
	2. 1 Case Volu		X	=	7.2 Calculated	Gals. Volume					
Time	Temp (°F)	pН	Conductivity (mS or µS)	Gals. Remo		servations					
1426	70.3	6.8	905	2.4							
1429	70,5	6.8	913	4.8			<del> </del>	·•			
1432	71.2	6,8	932	7.2							
		4							· · · · · · · · · · · · · · · · · · ·		
Did well	dawataw	V			***		72 t				
		Yes	M)	Gallons ac			7.2	**.			
Sampling		35		Sampling l	Date: 11/3	<b>25</b>					
	D.: MW-1	U		Laboratory	: Pace	Seguoia	0	ther			
Analyzed	-	MTEN MI	TBE DRO ONYS Z-D	CA (EDB) (Mano)		•					
D.O. (if re		· · · · · · · · · · · · · · · · · · ·	Pre-purge	:	mg/L	Post-purg	e: (	7,71	mg/L		
O.R.P. (if		icge lu-	S Ave. Sa	mV	Post-purg	e;		mV			

#### BP GEM OIL COMPANY TYPE A BILL OF LADING

RECORD BILL OF LADING FOR NON-SOURCE **HAZARDOUS** RECOVERED PURGEWATER **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 PLAINE 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; from a 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:

Station #	
Station #	
7210 BurROFT, Oakhud	
Station Address	
Total Gallons Collected From Gr	oundwater Monitoring Wells:
added equip.	any other adjustments
TOTAL GALS. RECOVERED <u>/0</u> 3	loaded onto BTS vehicle # 43
BTS event#	time date
051103-272	1620 11/3/05
signature — H	
******	****
REC'D AT	time date
<u>Br3</u>	11   3  05
unloaded by signature	

#### ATTACHMENT D

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

#### LABORATORY PROCEDURES

#### **Laboratory Procedures**

The groundwater samples were analyzed for the presence of the chemicals mentioned in the chain of custody using standard EPA methods. The methods of analysis for the groundwater samples are documented in the certified analytical report. The certified analytical reports and chain-of-custody record are presented in this attachment. The analytical data provided by the laboratory approved by RM have been reviewed and verified by that laboratory.



14 October, 2005

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

RE: BP Heritage #11117, Oakland, CA

chobad

Work Order: MOI0835

Enclosed are the results of analyses for samples received by the laboratory on 09/27/05 17:25. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jamshid Kekobad Project Manager

CA ELAP Certificate #1210

The results in this laboratory report pertain only to the samples tested in the laboratory. The analyses contained in this report were performed in accordance with the BPGCLN Technical Specifications, applicable Federal, State, local regulations and certification requirements as well as the methodologies as described in laboratory SOPs reviewed by the BPGCLN. This entire report was reviewed and approved for release.





Project:BP Heritage #11117,Oakland, CA Project Number:G07TK-0022 Project Manager:Lynelle Onishi MOI0835 Reported: 10/14/05 10:54

#### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
A-1 6-6.5'	MOI0835-01	Soil	09/27/05 07:45	09/27/05 17:25
A-1 11-11.5'	MOI0835-02	Soil	09/27/05 07:50	09/27/05 17:25
A-1 16-16.5'	MOI0835-03	Soil	09/27/05 07:52	09/27/05 17:25
A-1 21-21.5'	MOI0835-04	Soil	09/27/05 07:58	09/27/05 17:25
A-1 25.5-26'	MOI0835-05	Soil	09/27/05 08:05	09/27/05 17:25
A-1 30.5-31'	MOI0835-06	Soil	09/27/05 08:15	09/27/05 17:25
A-1 35-5-36'	MOI0835-07	Soil	09/27/05 08:20	09/27/05 17:25
A-1 39-39.5'	MOI0835-08	Soil	09/27/05 08:25	09/27/05 17:25
A-1 46-46.5'	MOI0835-09	Soil	09/27/05 08:45	09/27/05 17:25
A-1 22.6	MOI0835-10	Water	09/27/05 08:00	09/27/05 17:25
A-2 5-5.5'	MOI0835-11	Soil	09/27/05 10:35	09/27/05 17:25
A-2 10-10.5'	MOI0835-12	Soil	09/27/05 10:40	09/27/05 17:25
A-2 15-15.5'	MOI0835-13	Soil	09/27/05 10:45	09/27/05 17:25
A-2 19.5-20'	MOI0835-14	Soil	09/27/05 10:46	09/27/05 17:25
A-2 21.3	MOI0835-15	Water	09/27/05 11:22	09/27/05 17:25
A-2 25-25.5'	MOI0835-16	Soil	09/27/05 11:00	09/27/05 17:25
A-2 30-30.5'	MOI0835-17	Soil	09/27/05 11:15	09/27/05 17:25
A-2 33.5-34'	MOI0835-18	Soil	09/27/05 11:20	09/27/05 17:25
A-2 40-42'	MOI0835-19	Water	09/27/05 12:35	09/27/05 17:25
A-3 5-5.5'	MOI0835-20	Soil	09/27/05 13:05	09/27/05 17:25
A-3 14.5-15'	MOI0835-21	Soil	09/27/05 13:15	09/27/05 17:25
A-3 19.5-20'	MOI0835-22	Soil	09/27/05 13:20	09/27/05 17:25
A-3 23.5-24'	MOI0835-23	Soil	09/27/05 13:25	09/27/05 17:25
A-3 26-26.5'	MOI0835-24	Soil	09/27/05 13:50	09/27/05 17:25
A-3 19.4	MOI0835-25	Water	09/27/05 13:35	09/27/05 17:25
A-3 34-36'	MOI0835-26	Water	09/27/05 14:15	09/27/05 17:25
Trip Blank	MOI0835-27	Water	09/27/05 00:00	09/27/05 17:25

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.





Project:BP Heritage #11117,Oakland, CA Project Number:G07TK-0022 Project Manager:Lynelle Onishi MOI0835 Reported: 10/14/05 10:54

These samples were received with no custody seals.





Project:BP Heritage #11117,Oakland, CA Project Number:G07TK-0022 Project Manager:Lynelle Onishi MOI0835 Reported: 10/14/05 10:54

Total Metals by EPA 6000/7000 Series Methods

Sequoia Analytical - Morgan Hill

	R	eporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
A-3 26-26.5' (MOI0835-24) Soil	Sampled: 09/27/05 13:50	Receiv	ed: 09/27	//05 17:25					
Lead	8.5	5.0	mg/kg	1	5 <b>J</b> 13039	10/13/05	10/13/05	EPA 6010B	





Project:BP Heritage #11117,Oakland, CA Project Number:G07TK-0022 Project Manager:Lynelle Onishi MOI0835 Reported: 10/14/05 10:54

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
A-1 6-6.5' (MOI0835-01) Soil	Sampled: 09/27/05 07:45	Received	: 09/27/05	17:25					
tert-Amyl methyl ether	ND	0.0050	mg/kg	1	5J06008	10/06/05	10/06/05	EPA 8260B	
Benzene	ND	0.0050	*1	*1	*1	II .	n	71	
tert-Butyl alcohol	ND	0.020	*1	41	n	II .	н	**	
Di-isopropyl ether	ND	0.0050	*1	ti	tt	U	u	tt	
1,2-Dibromoethane (EDB)	ND	0.0050	Ħ	(I	U	11	U	ŧi	
1,2-Dichloroethane	ND	0.0050	U	11	U	17	U	U	
Ethanol	ND	0.10	п	II .	ij	P	н	U	
Ethyl tert-butyl ether	ND	0.0050	п	U	17	77	11	U	
Ethylbenzene	ND	0.0050	U	ıı	19	71	11	n	
Methyl tert-butyl ether	ND	0.0050	u	11	17	*1	17	11	
Toluene	ND	0.0050	19	11	и	н	17	11	
Xylenes (total)	ND	0.0050	17	"	11	U	н	11	
Gasoline Range Organics (C4-C1.	2) ND	0.10	17	**	11	п	II	78	
Surrogate: 1,2-Dichloroethane-d4	1	89 %	60	125	"	"	"	n	
A-1 11-11.5' (MOI0835-02) Soil	Sampled: 09/27/05 07:5	0 Receive	ed: 09/27/	05 17:25					
tert-Amyl methyl ether	ND	0.0050	mg/kg	1	5J06008	10/06/05	10/06/05	EPA 8260B	<del></del>
Benzene	ND	0.0050	tt	0	n	IP .	17	İİ	
tert-Butyl alcohol	ND	0.020	H	11	17	**	"	II	
Di-isopropyl ether	ND	0.0050	u	17	P	*1	*	n	
1,2-Dibromoethane (EDB)	ND	0.0050	U	"	it	**	**	11	
1,2-Dichloroethane	ND	0.0050	H	19	tr	н	er	**	
Ethanol	ND	0.10	17	**	11	II	н	**	
Ethyl tert-butyl ether	ND	0.0050	11	**	71	н	IJ	н	
Ethylbenzene	ND	0.0050	19	*	H	11	D	н	
Methyl tert-butyl ether	ND	0.0050	11	п	н	n	11	ij	
Toluene	ND	0.0050	#1	U	U	**	11	n	
Xylenes (total)	ND	0.0050	**	D	II .	11	"	H	
Gasoline Range Organics (C4-C1)	2) ND	0.10	*1	"	11	*1	**	17	
Surrogate: 1,2-Dichloroethane-d4	f	93 %	60-	125	tt	н	р	n	





Project:BP Heritage #11117,Oakland, CA Project Number:G07TK-0022

Project Manager:Lynelle Onishi

MOI0835 Reported: 10/14/05 10:54

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
A-1 16-16.5' (MOI0835-03) Soil	Sampled: 09/27/05 07:52	Receive	ed: 09/27/	05 17:25				**************************************	
tert-Amyl methyl ether	ND	0.0050	mg/kg	0.99	5J06008	10/06/05	10/06/05	EPA 8260B	
Benzene	ND	0.0050	**	n	**	**	Ħ	11	
tert-Butyl alcohol	ND	0.020	*1	U	**	n	п	Ħ	
Di-isopropyl ether	ND	0.0050	н	11	**	н	U	71	
1,2-Dibromoethane (EDB)	ND	0.0050	н	11	**	II .	ij	n	
1,2-Dichloroethane	ND	0.0050	Œ	17	ŧŧ	U	H	Ħ	
Ethanol	ND	0.099	II .	**	u	v	н	H	
Ethyl tert-butyl ether	ND	0.0050	II .	**	II .	n	n	U	
Ethylbenzene	ND	0.0050	D	**	U	17	11	U	
Methyl tert-butyl ether	ND	0.0050	19	п	n	n	16	n	
Toluene	ND	0.0050	n	Ø	n	11	11	n	
Xylenes (total)	ND	0.0050	**	II .	19	Ħ	**	19	
Gasoline Range Organics (C4-C12)	) ND	0.099	78	ш	11	11	II .	11-	
Surrogate: 1,2-Dichloroethane-d4		93 %	60-	125	"	п	"	n	
A-1 21-21.5' (MOI0835-04) Soil	Sampled: 09/27/05 07:58	Receive	ed: 09/27/	05 17:25					
tert-Amyl methyl ether	ND	0.0050	mg/kg	1.01	5J06008	10/06/05	10/06/05	EPA 8260B	•
Benzene	ND	0.0050	ш	Ħ	II	n	17	II	
tert-Butyl alcohol	ND	0.020	II .	rt	II .	III	11	n	
Di-isopropyl ether	ND	0.0050	D	tt	IJ	17	18	n	
1,2-Dibromoethane (EDB)	ND	0.0050	11	н	U	11	**	I†	
1,2-Dichloroethane	ND	0.0050	"	н	n	"	Ħ	18	
	3.773	0.10	**	п	17	н	н	91	
Ethanol	ND	0.10							
Ethanol Ethyl tert-butyl ether	ND ND	0.10	•	n	"	н	0	**	
Ethyl tert-butyl ether Ethylbenzene	ND ND		47 17	"	"	н	0	11	
Ethyl tert-butyl ether	ND	0.0050							
Ethyl tert-butyl ether Ethylbenzene	ND ND	0.0050 0.0050	**	"	"	II	n	11	
Ethyl tert-butyl ether Ethylbenzene Methyl tert-butyl ether Toluene Xylenes (total)	ND ND ND ND ND	0.0050 0.0050 0.0050	11	11	"	II U	u u	11	
Ethyl tert-butyl ether Ethylbenzene Methyl tert-butyl ether Toluene	ND ND ND ND ND	0.0050 0.0050 0.0050 0.0050	fi fi	17 38 88	17 19	H H	n n	n 11	





Project:BP Heritage #11117,Oakland, CA Project Number:G07TK-0022 Project Manager:Lynelle Onishi MOI0835 Reported: 10/14/05 10:54

							***************************************		
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
A-1 25.5-26' (MOI0835-05) Soil	Sampled: 09/27/05 08:05	Receiv	ed: 09/27/	05 17:25				· · · · · · · · · · · · · · · · · · ·	**
tert-Amyl methyl ether	ND	0.0050	mg/kg	1	5J06008	10/06/05	10/06/05	EPA 8260B	
Benzene	ND	0.0050	n	Ħ	11	rı .	u	. "	
tert-Butyl alcohol	ND	0.020	17	н	**	Ħ	tt	11	
Di-isopropyl ether	ND	0.0050	17	Ħ	**	н	п	78	
1,2-Dibromoethane (EDB)	ND	0.0050	IT.	н	11	н	Ш	76	
1,2-Dichloroethane	ND	0.0050	11	u	11	II .	IJ	72	
Ethanol	ND	0.10	17	н	**	U	n	**	
Ethyl tert-butyl ether	ND	0.0050	17	п	**	U	ıı	Ħ	
Ethylbenzene	ND	0.0050	11	II .	H	U	17	Ħ	
Methyl tert-butyl ether	ND	0.0050	**	n	et	U	It.	ti	
Toluene	ND	0.0050	**	19	Ħ	17	12	tt	
Xylenes (total)	ND	0.0050	11	"	II.	п	11	II .	
Gasoline Range Organics (C4-C12)	) ND	0.10	**	17	н	19	11	II	
Surrogate: 1,2-Dichloroethane-d4		91 %	60-	125	"	"	n	n.	
A-1 30.5-31' (MOI0835-06) Soil	Sampled: 09/27/05 08:15	Receive	ed: 09/27/	05 17:25					
tert-Amyl methyl ether	ND	0.0050	mg/kg	0.99	5J06008	10/06/05	10/06/05	EPA 8260B	
Benzene	ND	0.0050	п	*1	11	**	п	n	
tert-Butyl alcohol	ND	0.020	II	ti ti	11	**	п	IT	
Di-isopropyl ether	ND	0.0050	D	u	19	**	U	ur .	
1,2-Dibromoethane (EDB)	ND	0.0050	'n	U	**	tt	I)	11	
1,2-Dichloroethane	ND	0.0050	n	II .	11	ti	n	11	
Ethanol	ND	0.099	II.	II .	**	0	17	**	
Ethyl tert-butyl ether	ND	0.0050		17	**	n	n	tı	
Ethylbenzene	ND	0.0050	IP.	19	**	n	11	ęı	
Methyl tert-butyl ether	ND	0.0050	**	n	ŧ	n	11	ti	
Toluene	ND	0.0050	11	17	tt	19	**	U	
Xylenes (total)	ND	0.0050	**	*	ti	17	H	n	
Gasoline Range Organics (C4-C12)	) ND	0.099	+1	11	п	19	tı	11	
Surrogate: 1,2-Dichloroethane-d4		93 %	60-	125	н	n	н	п	





Project:BP Heritage #11117,Oakland, CA Project Number:G07TK-0022 Project Manager:Lynelle Onishi MOI0835 Reported: 10/14/05 10:54

### Volatile Organic Compounds by EPA Method 8260B

Sequoia Analytical - Morgan Hill												
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note			
A-1 35-5-36' (MOI0835-07) Soil	Sampled: 09/27/05 08:2	0 Receiv	ed: 09/27	/05 17:25				•				
tert-Amyl methyl ether	ND	0.0050	mg/kg	1.01	5J06008	10/06/05	10/06/05	EPA 8260B				
Benzene	ND	0.0050	Ħ	Ħ	17	14	n	IT				
tert-Butyl alcohol	ND	0.020	11	tt	17	IF	n	II.				
Di-isopropyl ether	ND	0.0050	Ħ	н	"	**	11	IF				
1,2-Dibromoethane (EDB)	ND	0.0050	Ħ	н	17	11	17	**				
1,2-Dichloroethane	ND	0.0050	II .	II	11	н	19	Ħ				
Ethanol	ND	0.10		U	"	*1	11	**				
Ethyl tert-butyl ether	ND	0.0050		U	**	*1	11	11				
Ethylbenzene	ND	0.0050		D	**	*1	**	11				
Methyl tert-butyl ether	ND	0.0050	Ð	п	н	ti	. "	н				
Toluene	ND	0.0050	17	IJ	н	n	**	п				
Xylenes (total)	ND	0.0050	19	n	(I	u	Ħ	u				
Gasoline Range Organics (C4-C12	) ND	0.10	I†	11	н		U .	H				
Surrogate: 1,2-Dichloroethane-d4		93 %	60-	125	n	н	н	"				
A-1 39-39.5' (MOI0835-08) Soil	Sampled: 09/27/05 08:25	Receive	ed: 09/27/	05 17:25								
tert-Amyl methyl ether	ND	0.050	mg/kg	2	5J06050	10/06/05	10/08/05	EPA 8260B				
Benzene	ND	0.10	17	91	19	. 19	n	tt .				
tert-Butyl alcohol	ND	10	**	**	19	le .	n	11				
Di-isopropyl ether	ND	0.050	11	n	11	39	11	*1				
1,2-Dibromoethane (EDB)	ND	0.050	**	**	10	37	19	n				
1,2-Dichloroethane	ND	0.050	*1	*1	11	ft.	19	n				
Ethanol	ND	20	H	u	**	н	**	tt				
Ethyl tert-butyl ether	ND	0.050	n	п	**	tt	11	п				
Ethylbenzene	0.11	0.10	n	II .	н	ti	**	п				
Methyl tert-butyl ether	ND	0.050	п	п	u	п	п	U				
*												

ND

0.11

76

0.10

0.10

5.0

60-125

112%

Gasoline Range Organics (C4-C12)

Surrogate: 1,2-Dichloroethane-d4

Toluene

Xylenes (total)





Project:BP Heritage #11117,Oakland, CA Project Number: G07TK-0022 Project Manager:Lynelle Onishi

MOI0835 Reported: 10/14/05 10:54

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

				11101 6					
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
A-1 46-46.5' (MOI0835-09) Soil	Sampled: 09/27/05 08:45	Receive	ed: 09/27/	05 17:25		1-4.3 3			
tert-Amyl methyl ether	ND	0.025	mg/kg	1	5J07032	10/07/05	10/08/05	EPA 8260B	
Benzene	ND	0.050	U	u	17	11	**	11	
tert-Butyl alcohol	ND	5.0	n	"	**	11	*1	**	
Di-isopropyl ether	ND	0.025	n	II .	**	11	п	17	
1,2-Dibromoethane (EDB)	ND	0.025	n	II .	i,	Ħ	II	N	
1,2-Dichloroethane	ND	0.025	17	11	*1	u	U	Ħ	
Ethanol	ND	10	"	n	н	II .	II .	n .	
Ethyl tert-butyl ether	ND	0.025	**	11	n	i)	n	п	
Ethylbenzene	ND	0.050	**	17	II	l <del>y</del>	) <del>?</del>	n .	
Methyl tert-butyl ether	0.84	0.025	n	**	11	71	17	n	
Toluene	ND	0.050	Ħ	"	IJ	17	*	n	
Xylenes (total)	ND	0.050	н	Ħ	n	11	10	n	
Gasoline Range Organics (C4-C12)	ND	2.5	п	Ħ	17	#1	**	n	
Surrogate: 1,2-Dichloroethane-d4		102 %	60-	125	"	n	"	"	
A-1 22.6 (MOI0835-10) Water S	Sampled: 09/27/05 08:00	Receive	ł: 09/27/0	5 17:25					
tert-Amyl methyl ether	ND	0.50	ug/l	1	5J04002	10/04/05	10/04/05	EPA 8260B	
Benzene	ND	0.50	17	п	Ħ	u	n	0	
tert-Butyl alcohol	ND	20	"	n	н	II .	19	U	
Di-isopropyl ether	ND	0.50	**	10	н	11	**	U	
1,2-Dibromoethane (EDB)	ND	0.50	**	11	н	В	11	11	
1,2-Dichloroethane	ND	0.50	Tt.	11	11	19	n	11	
Ethanol	ND	100	Ħ	**	н	If	Ħ	11	
Ethyl tert-butyl ether	ND	0.50	II .	н	19	11	II.	**	
Ethylbenzene	ND	0.50	U	н	11	*1	II .	W)	
Methyl tert-butyl ether	ND	0.50	II	U	Ħ	11	n	ti	
Toluene	ND	0.50	n	IJ	**	ti	11	n .	
Xylenes (total)	ND	0.50	11	H	Ħ	II .	11	U	
Gasoline Range Organics (C4-C12)	ND	50	#	,,		11	10	n	
Surrogate: 1,2-Dichloroethane-d4		91%	60-1	135	н	n	n	"	





Project:BP Heritage #11117,Oakland, CA Project Number:G07TK-0022 Project Manager:Lynelle Onishi MOI0835 Reported: 10/14/05 10:54

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
A-2 5-5.5' (MOI0835-11) Soil	Sampled: 09/27/05 10:35	Received	1: 09/ <b>27</b> /0:	5 17:25				-	
tert-Amyl methyl ether	ND	0.0050	mg/kg	0.99	5 <b>J</b> 06008	10/06/05	10/06/05	EPA 8260B	
Benzene	ND	0.0050	н	н	II	19	11	II.	
tert-Butyl alcohol	ND	0.020	"	"	11	**	**	P	
Di-isopropyl ether	ND	0.0050	0	U	11	"	H	11	
1,2-Dibromoethane (EDB)	ND	0.0050	n	19	14	Ħ	U	n	
1,2-Dichloroethane	ND	0.0050	17	11	11	II	U	n .	
Ethanol	ND	0.099	n	17	*1	U	n	U	
Ethyl tert-butyl ether	ND	0.0050	19	**	н	n	"	U	
Ethylbenzene	ND	0.0050	11	#	II.	lt .	11	n	
Methyl tert-butyl ether	ND	0.0050	11	н	0	19	**	n	
Toluene	ND	0.0050	н	u	ij	н	*	R	
Xylenes (total)	ND	0.0050	Ħ	0	n	**	u	*1	
Gasoline Range Organics (C4-C12	l) ND	0.099	н	ti	"	†I	п	tı	
Surrogate: 1,2-Dichloroethane-d4		95 %	60	125	tt	"	н	"	
A-2 10-10.5' (MOI0835-12) Soil	Sampled: 09/27/05 10:4	0 Receiv	ed: 09/27	/05 17:25					
tert-Amyl methyl ether	ND	0.0050	mg/kg	0.99	5J06008	10/06/05	10/06/05	EPA 8260B	
Benzene	ND	0.0050	Ħ	**	u	11	ii.	B	
tert-Butyl alcohol	ND	0.020	**	Ħ	n	11	tr	11	
Di-isopropyl ether	ND	0.0050	Ħ	O	17	**	II .	Ħ	
1,2-Dibromoethane (EDB)	ND	0.0050	п	U	P	н	n	0	
1,2-Dichloroethane	ND	0.0050	U	n	#	u	19	ш	
Ethanol	ND	0.099	n	II.	11	U	19	n	
Ethyl tert-butyl ether	ND	0.0050	"	11	**	n	11	11	
Ethylbenzene	ND	0.0050	11	11	IJ	IF.	#1	11	
Methyl tert-butyl ether	ND	0.0050	¥F	**	0	11	ti	et .	
Toluene	ND	0.0050	77	Ħ	11	71	H	u	
Xylenes (total)	ND	0.0050	O .	н	14	**	n	II.	
Gasoline Range Organics (C4-C12	) ND	0.099	ıı .	U	"	II	n	U	
Surrogate: 1,2-Dichloroethane-d4		102 %	60	125	n	"	"	"	





Project:BP Heritage #11117,Oakland, CA Project Number:G07TK-0022 Project Manager:Lynelle Onishi MOI0835 Reported: 10/14/05 10:54

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
A-2 15-15.5' (MOI0835-13) Soil	Sampled: 09/27/05 10	0:45 Receiv	ed: 09/27	/05 17:25		· · · · · · · · · · · · · · · · · · ·			
tert-Amyl methyl ether	ND	0.0050	mg/kg	1	5J07009	10/07/05	10/07/05	EPA 8260B	
Benzene	ND	0.0050	"	п	II	h	11	"	
tert-Butyl alcohol	ND	0.020	•	a	**	11	II .	17	
Di-isopropyl ether	ND	0.0050	**	п	*1	Ħ	11	77	
1,2-Dibromoethane (EDB)	ND	0.0050	**	н	Ħ	er	19	77	
1,2-Dichloroethane	ND	0.0050	n	H	U	н	**	Ħ	
Ethanol	ND	0.10	н	11	n	U	**	ti	
Ethyl tert-butyl ether	ND	0.0050	п	*	n	u	и	n	
Ethylbenzene	ND	0.0050	н	*1	II.	n	II	H	
Methyl tert-butyl ether	ND	0.0050	II .	tt.	R	n	ŋ	n	
Toluene	ND	0.0050	11	u	11	19	I†	IT.	
Xylenes (total)	ND	0.0050	***	п	71	70	5 11	11	
Gasoline Range Organics (C4-C12)	ND	0.10	**	n	**	**	11 '	**	
Surrogate: 1,2-Dichloroethane-d4		79 %	60-	125	"	n	"	н	
A-2 19.5-20' (MOI0835-14) Soil	Sampled: 09/27/05 10	0:46 Receiv	ed: 09/27	/05 17:25					
tert-Amyl methyl ether	ND	0.0050	mg/kg	1	5J07009	10/07/05	10/07/05	EPA 8260B	
Benzene	ND	0.0050	n	N	11	17	n	II.	
tert-Butyl alcohol	ND	0.020	17	н	11	77	17	110	
Di-isopropyl ether	ND	0.0050	77	U	77	Ħ	17	**	
1,2-Dibromoethane (EDB)	ND	0.0050	77	11	n	Ħ	19	**	
1,2-Dichloroethane	ND	0.0050	H	b	U	u	Ħ	II	
Ethanol	ND	0.10	Ħ	H	11	II	Ħ	II	
Ethyl tert-butyl ether	ND	0.0050	e	"	n	II	IF	II.	
Ethylbenzene	ND	0.0050	n	11	19	n	11	II.	
Methyl tert-butyl ether	ND	0.0050	11	н	11	11	17	10	
Foluene	ND	0.0050	11	II .	#1	**	11		
Xylenes (total)	ND	0.0050	11	II .	11	**	**	**	
Gasoline Range Organics (C4-C12)	ND	0.10	+1	11	ti	H	**	u	
Surrogate: 1,2-Dichloroethane-d4		83 %	60-	125	н	#	"	. "	





Project:BP Heritage #11117,Oakland, CA Project Number:G07TK-0022 Project Manager:Lynelle Onishi MOI0835 Reported: 10/14/05 10:54

### Volatile Organic Compounds by EPA Method 8260B

Sequoia Analytical - Morgan Hill

Sequoia Analytical - Morgan Hill												
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note			
A-2 21.3 (MOI0835-15) Water	Sampled: 09/27/05 11:22	Receive	d: 09/27/0	5 17:25					BZ,BU			
tert-Amyl methyl ether	ND	250	ug/l	500	5J04002	10/04/05	10/04/05	EPA 8260B	<del>.</del>			
Benzene	ND	250	11	U	H	H	Ħ	H.				
tert-Butyl alcohol	ND	10000	u	19	"	N	u	*1				
Di-isopropyl ether	ND	250	II	IF.	11	*1	U	tı				
1,2-Dibromoethane (EDB)	ND	250	17	11	Ħ	п	U	e				
1,2-Dichloroethane	ND	250	10	Ħ	n	н	III	17				
Ethanol	ND	50000	16	п		19	#	IP.				
Ethyl tert-butyl ether	ND	250	**	п	n	H	н	**				
Ethylbenzene	7200	250	Ħ	n	n	ŧ	u	71				
Methyl tert-butyl ether	ND	250	п	ı+	11	n	n	tt				
Toluene	ND	250	II .	Ħ	*1	u	ıt .	O				
Xylenes (total)	29000	250	It.	**	11	It.	. 34	, 19				
Gasoline Range Organics (C4-C1	510000	25000	1r	н		Ħ	11	It				
Surrogate: 1,2-Dichloroethane-d4		89 %	60-	135	"	n	"	77				
A-2 25-25.5' (MOI0835-16) Soil	Sampled: 09/27/05 11:00	0 Receiv	ed: 09/27	/05 17:25								
tert-Amyl methyl ether	ND	0.050	mg/kg	2	5J06050	10/06/05	10/08/05	EPA 8260B				
Benzene	ND	0.10	R	tı	н		n	If				
tert-Butyl alcohol	ND	10	**	u	IJ	17	u	н				
Di-isopropyl ether	ND	0.050	11	U	17	11	"	*1				
1,2-Dibromoethane (EDB)	ND	0.050	U	17	11	н	n	u				
1,2-Dichloroethane	ND	0.050	n	17	**	Ħ	p	n				
Ethanol	ND	20	17	**	н	n	**	R				
Ethyl tert-butyl ether	ND	0.050	11	Ħ	IJ	"	tt	Yf .				
Ethylbenzene	ND	0.10	*1	0	11	19	0	n				
Methyl tert-butyl ether	ND	0.050	H	n	10	tt	n	u				
l Foluene	ND	0.10	11		**	п	17	17				
Xylenes (total)	ND	0.10	19	11	Ħ	II.	11	IF				
Gasoline Range Organics (C4-C1	2) 34	5.0		*1	11	**	"	**				
Surrogate: 1,2-Dichloroethane-d4		105 %	60-1	125	"	#	н	н				





Project:BP Heritage #11117,Oakland, CA Project Number:G07TK-0022 Project Manager:Lynelle Onishi MOI0835 Reported: 10/14/05 10:54

### Volatile Organic Compounds by EPA Method 8260B

Sequoia Analytical - Morgan Hill

Analyte	Result	eporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
A-2 30-30.5' (MOI0835-17) Soil	Sampled: 09/27/05 11:15	Receiv	ed: 09/27	/05 17:25		**** <del>********************************</del>			
tert-Amyl methyl ether	ND	0.12	mg/kg	5	5J06050	10/06/05	10/08/05	EPA 8260B	
Benzene	ND	0.25	п	N	II.	II .	17	II.	
tert-Butyl alcohol	ND	25	11	11	77	n	10	π	
Di-isopropyl ether	ND	0.12	U	*1	**	"	11	er	
1,2-Dibromoethane (EDB)	ND	0.12	IJ	U	н	#	**	Ħ	
1,2-Dichloroethane	ND	0.12	IT.	U	0	#	fi	II .	
Ethanol	ND	50	"	0		**	н	U	
Ethyl tert-butyl ether	ND	0.12	#	*	U	**	II	n	
Ethylbenzene	ND	0.25	11	17	11	н	IJ	n	
Methyl tert-butyl ether	ND	0.12	*1	P	19	п	н	n	
Toluene	ND	0.25	**	#	11	п	lt.	11	
Xylenes (total)	ND	0.25	Ħ	11	71		17	#1	
Gasoline Range Organics (C4-C12	2) 120	12	н	*1	ш	**	**	Ħ	
Surrogate: 1,2-Dichloroethane-d4		104 %	60	125	n	n	"	п	
A-2 33.5-34' (MOI0835-18) Soil	Sampled: 09/27/05 11:20	Receiv	ed: 09/27	/05 17:25					
tert-Amyl methyl ether	ND	0.025	mg/kg	1	5J06050	10/06/05	10/08/05	EPA 8260B	*****
Benzene	ND	0.050	11	,,	19	u	n	n	
tert-Butyl alcohol	ND	5.0	10	11	19	ш	n	11	
Di-isopropyl ether	ND	0.025	**	11	"	II .	17	**	
1,2-Dibromoethane (EDB)	ND	0.025	*1	**	**	11	**	ti	
1,2-Dichloroethane	ND	0.025	н	11	Ħ	ir	н	II.	
Ethanol	ND	10	п	tt	н	11	Ħ	II	
Ethyl tert-butyl ether	ND	0.025	11	п	II .	"	0	n	
Ethylbenzene	0.25	0.050	11	U	11	II	n	II .	
Methyl tert-butyl ether	ND	0.025	19	n	n	н	17	n	
Toluene	ND	0.050	11	"	19	II	**	n	
Xylenes (total)	0.99	0.050	**	11	n	11:	**	н	
Gasoline Range Organics (C4-C12		2.5	**	11	II.	**	ŧŧ	ti	
Surrogate: 1,2-Dichloroethane-d4		105 %	60-	125	n	#	н	u .	





Project:BP Heritage #11117,Oakland, CA Project Number:G07TK-0022 Project Manager:Lynelle Onishi MOI0835 Reported: 10/14/05 10:54

		Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
A-2 40-42' (MOI0835-19) Water	Sampled: 09/27/05 12:35	Receiv	ved: 09/27	7/05 17:25					
tert-Amyl methyl ether	ND	25	ug/l	50	5J04002	10/04/05	10/04/05	EPA 8260B	
Benzene	1800	25	17	H	ŋ	IT.	Ħ	II .	
tert-Butyl alcohol	ND	1000	H.	n	ęı	n	*1	II .	
Di-isopropyl ether	ND	25	11	**	0	"	н	19	
1,2-Dibromoethane (EDB)	ND	25	11	19	U	n	п	n	
1,2-Dichloroethane	28	25	**	11	IF.	11	U	II .	
Ethanol	ND	5000	Ħ	**	II .	11	n	P	
Ethyl tert-butyl ether	ND	25	#1	**	н	H	U	P	
Ethylbenzene	1300	25	tı	*1	11	e	17	11	
Methyl tert-butyl ether	110	25	Ħ	н	*1	U	n	tt	
Toluene	97	25	Ħ	п	*1	II .	19	ti	
Xylenes (total)	1200	25	U	п	tt		11	н	
Gasoline Range Organics (C4-C12	36000	2500	U	ıı	Ħ	n	n	п	
Surrogate: 1,2-Dichloroethane-d4		88 %	60-	135	#	н	"	"	
A-3 5-5.5' (MOI0835-20) Soil Sa	mpled: 09/27/05 13:05	Received	l: 09/27/0	5 17:25					
tert-Amyl methyl ether	ND	0.0050	mg/kg	1	5J07009	10/07/05	10/07/05	EPA 8260B	
Benzene	ND	0.0050	IF.	19	U	19	п	Ħ	
tert-Butyl alcohol	ND	0.020	19	**	Ħ	"	H	78	
Di-isopropyl ether	ND	0.0050	11	**	11	18	)1	**	
1,2-Dibromoethane (EDB)	ND	0.0050	11	**	19	17	)7	H	
1,2-Dichloroethane	ND	0.0050	*1	n	17	Ħ	**	ti	
Ethanol	ND	0.10	н	н	11	Ħ	11	U	
Ethyl tert-butyl ether	ND	0.0050	11	II .	11	н	**	D	
Ethylbenzene	ND	0.0050	II.	II.	*1	**	Ħ	11	
Methyl tert-butyl ether		0.0050	ii	n	U	n	н	17	
Toluene	ND	0.0050	11	11	n	U	п	10	
Xylenes (total)		0.0050	17	11	Ð	n	n .	77	
Gasoline Range Organics (C4-C12)		0.10	n	"	17	11	n	**	
Surrogate: 1,2-Dichloroethane-d4		107 %	60-	125	"	n	"	η	





Project:BP Heritage #11117,Oakland, CA Project Number:G07TK-0022 Project Manager:Lynelle Onishi MOI0835 Reported: 10/14/05 10:54

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
A-3 14.5-15' (MOI0835-21) Soil	Sampled: 09/27/05 13	3:15 Receiv	ed: 09/27	/05 17:25					
tert-Amyl methyl ether	ND	0.0050	mg/kg	1	5J07009	10/07/05	10/07/05	EPA 8260B	
Benzene	ND	0.0050	19	D	Ħ	n	п	***	
tert-Butyl alcohol	ND	0.020	19	"	II .	n	II .	*1	
Di-isopropyl ether	ND	0.0050	11	"	п	H	1)	n	
1,2-Dibromoethane (EDB)	ND	0.0050	19	n	п	11	n	n	
1,2-Dichloroethane	ND	0.0050	11	"	U	77	II.	II	
Ethanol	ND	0.10	**	H	II .	31	19	U	
Ethyl tert-butyl ether	ND	0.0050	71	19	II	78	"	U	
Ethylbenzene	ND	0.0050	**	**	n	**	n	D	
Methyl tert-butyl ether	ND	0.0050	tt	17	n	ţ1	11	U	
Toluene	ND	0.0050	п	**	ıı	*1	**	n	
Xylenes (total)	ND	0.0050	н	**	n	Ħ	11	D	
Gasoline Range Organics (C4-C12	0.13	0.10	п	**	Ħ	n	**	11	
Surrogate: 1,2-Dichloroethane-d4		84 %	60	125	#	"	"	"	
A-3 19.5-20' (MOI0835-22) Soil	Sampled: 09/27/05 13	3:20 Receiv	ed: 09/27	/05 17:25					
tert-Amyl methyl ether	ND	0.0050	mg/kg	i	5J07009	10/07/05	10/07/05	EPA 8260B	
Benzene	ND	0.0050	II.	II .	Ħ	n	n	Ħ	
tert-Butyl alcohol	ND	0.020	"	н	**	n	n	tt	
Di-isopropyl ether	ND	0.0050	17	n	Ħ	"	n	н	
1,2-Dibromoethane (EDB)	ND	0.0050	17	n	u	"	**	U	
1,2-Dichloroethane	ND	0.0050	**	11	п	*	18	II	
Ethanol	ND	0.10	**	17	U	#	11	II	
Ethyl tert-butyl ether	ND	0.0050	**	**	п	**	**	H	
Ethylbenzene	ND	0.0050	n	"	n	**	Ħ	ii	
Methyl tert-butyl ether	ND	0.0050	н	**	11	ti	н	19	
Toluene	ND	0.0050	п	Ħ	11	ti	II .	11	
Xylenes (total)	ND	0.0050	U	н	11	ti	U	11	
Gasoline Range Organics (C4-C12)	ND	0.10	II .	U	**	"	n	**	
Surrogate: 1,2-Dichloroethane-d4		81 %	60-	125	n	"	n	n	





Project:BP Heritage #11117,Oakland, CA Project Number:G07TK-0022 Project Manager:Lynelle Onishi MOI0835 Reported: 10/14/05 10:54

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
A-3 23.5-24' (MOI0835-23) Soil	Sampled: 09/27/05 13:	25 Receiv	ed: 09/27	/05 17:25		**************************************		****	
tert-Amyl methyl ether	ND	0.0050	mg/kg	1	5J07009	10/07/05	10/07/05	EPA 8260B	
Benzene	ND	0.0050	n	U	11	ti	I7	II	
tert-Butyl alcohol	ND	0.020	17	n	P	n	17	11	
Di-isopropyl ether	ND	0.0050	17	n	H	IT.	11*	19	
1,2-Dibromoethane (EDB)	ND	0.0050	Ħ	If	Ħ	17	11	19	
1,2-Dichloroethane	ND	0.0050	9	17	**	19	Ħ	P	
Ethanol	ND	0.10	**	и	**	17	"	11	
Ethyl tert-butyl ether	ND	0.0050	**	17	*1	**	H	n	
Ethylbenzene	ND	0.0050	**	17	u	**	ti	**	
Methyl tert-butyl ether	ND	0.0050	н	n	n	11	п	ęı .	
Toluene	ND	0.0050	n	11	0	11	п	H	
Xylenes (total)	ND	0.0050	U	ti	n.	н	0	u	
Gasoline Range Organics (C4-C12)	ND	0.10	u	Ħ	U	н	n	n	
Surrogate: 1,2-Dichloroethane-d4		82 %	60	125	n	"	"	"	
A-3 26-26.5' (MOI0835-24) Soil	Sampled: 09/27/05 13:	50 Receiv	ed: 09/27	/05 17:25					
tert-Amyl methyl ether	ND	0.50	mg/kg	20	5J06050	10/06/05	10/08/05	EPA 8260B	
Benzene	ND	1.0	17	ш	H	19	**	11	
tert-Butyl alcohol	ND	100	17	17	11	11	**	**	
Di-isopropyl ether	ND	0.50	17	n	*1	Ħ	**	**	
1,2-Dibromoethane (EDB)	ND	0.50	10	17	*1	**	н	u	
1,2-Dichloroethane	ND	0.50	11	19	ti	ŧr	II .	н	
Ethanol	ND	200	77	11	н	ŧı	ii .	ш	
Ethyl tert-butyl ether	ND	0.50	**	*1	a	ш	п	U	
Ethylbenzene	4.5	1.0	**	**	10		н	n	
Methyl tert-butyl ether	ND	0.50	ti	ti	17	п	H	n	
Toluene	ND	1.0	н	U	17	н	10	m .	
Xylenes (total)	18	1.0	п	U	tı	*	19	11	
Gasoline Range Organics (C4-C12	2) 220	50	n		H	11	**	**	
Surrogate: 1,2-Dichloroethane-d4		104 %	60-	125	11	17	н	n	





Project:BP Heritage #11117,Oakland, CA Project Number:G07TK-0022 Project Manager:Lynelle Onishi MOI0835 Reported: 10/14/05 10:54

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
A-3 19.4 (MOI0835-25) Water 8	Sampled: 09/27/05 13:35	Received	1: 09/27/0	)5 17:25			<del></del>	11. 4. 11. 1	
tert-Amyl methyl ether	ND	12	ug/l	25	5J04002	10/04/05	10/05/05	EPA 8260B	
Benzene	12	12	п	11	n	u	11	II.	
tert-Butyl alcohol	ND	500	n	*	U	**	**	II.	
Di-isopropyl ether	ND	12	II .	**	II .	*1	**	n	
1,2-Dibromoethane (EDB)	ND	12	п	11	U	Ħ	rt	17	
1,2-Dichloroethane	ND	12	ij.	Ħ	U	Ħ	н	It.	
Ethanol	ND	2500	U	11	n	U	II .	"	
Ethyl tert-butyl ether	ND	12	19	tt	11	U	п	11	
Ethylbenzene	500	12	11	II	și ,	Ħ	п	Ħ	
Methyl tert-butyl ether	ND	12	**	U	11	н	n	71	
Toluene	43	12	#	U	II .	ff	n	Ħ	
Xylenes (total)	1900	12	17	ıı	II .	*1	17	TI .	
Gasoline Range Organics (C4-C1	2) 25000	1200	**	n	IJ	п	11	U	
Surrogate: 1,2-Dichloroethane-d4		85 %	60-	135	н	,	"	"	
A-3 34-36' (MOI0835-26) Water	Sampled: 09/27/05 14:1	5 Receiv	ed: 09/27	7/05 17:25					
tert-Amyl methyl ether	ND	5.0	ug/l	10	5J04002	10/04/05	10/05/05	EPA 8260B	
Benzene	21	5.0	II .	**	77	n	н	P	
tert-Butyl alcohol	ND	200	II .	Ħ	17	IJ	u	It	
Di-isopropyl ether	ND	5.0	19	н	lt	U	II .	71	
1,2-Dibromoethane (EDB)	ND	5.0	19	II	**	17	н	71	
1,2-Dichloroethane	ND	5.0	17	II	ŧŧ	P	n	n	
Ethanol	ND	1000	71	н	tr	IF	n	u	
Ethyl tert-butyl ether	ND	5.0	**	n	II .	11	"	н	
Ethylbenzene	ND	5.0	**	n		**	77	U	
Methyl tert-butyl ether	8.3	5.0	Ħ	11	11	U	n	n	
Toluene	24	5.0	U	11	17	U	Ħ	II.	
Xylenes (total)	130	5.0	II .	**	**	n	tt	II,	
Gasoline Range Organics (C4-C1	2) 12000	500	D	n	**	11	п	<b>1</b> f	
Surrogate: 1,2-Dichloroethane-d4	****	90 %	60-	135	#	**	н	n	





Project:BP Heritage #11117,Oakland, CA Project Number:G07TK-0022 Project Manager:Lynelle Onishi MOI0835 Reported: 10/14/05 10:54

#### 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 5J13039 - EPA 3050B / EPA 60	)10B									
Blank (5J13039-BLK1)				Prepared	& Analyzo	ed: 10/13/	05			
Lead	ND	5.0	mg/kg							
Laboratory Control Sample (5J13039-BS	1)			Prepared	& Analyzo	ed: 10/13/	05			
Lead	44.0	5.0	mg/kg	50.0		88	75-120			
Matrix Spike (5J13039-MS1)	Source: M	OJ0644-01		Prepared	& Analyz	ed: 10/13/	05	,		
Lead	49.9	5.0	mg/kg	50.0	6.4	87	75-120			
Matrix Spike Dup (5J13039-MSD1)	Source: M	OJ0644-01		Prepared	& Analyzo	ed: 10/13/	05			
Lead	50.2	5.0	mg/kg	50.0	6.4	88	75-120	0.6	20	•





Project:BP Heritage #11117,Oakland, CA Project Number:G07TK-0022 Project Manager:Lynelle Onishi MOI0835 Reported: 10/14/05 10:54

#### 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 5J04002 - EPA 5030B Modi	fied / EPA 8260	)B								
Blank (5J04002-BLK1)				Prepared	& Analyze	ed: 10/04/0	05			•
tert-Amyl methyl ether	ND	0.50	ug/l							
Benzene	ND	0.50	11							
tert-Butyl alcohol	ND	20	n							
Di-isopropyl ether	ND	0.50	n							
1,2-Dibromoethane (EDB)	ND	0.50	n							
1,2-Dichloroethane	ND	0.50	n							
Ethanol	ND	100	17							
Ethyl tert-butyl ether	ND	0.50	11							
Ethylbenzene	ND	0.50	It.							
Methyl tert-butyl ether	ND	0.50	n							
Toluene	ND	0.50	17							
Xylenes (total)	ND	0.50	19							
Gasoline Range Organics (C4-C12)	ND	50	"							
Surrogate: 1,2-Dichloroethane-d4	4.44		"	5.00		89	60-135			
Blank (5J04002-BLK2)				Prepared a	& Analyze	ed: 10/04/0	05			
tert-Amyl methyl ether	ND	0.50	ug/l							
Benzene	ND	0.50	10							
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	n							
Ethylbenzene	ND	0.50	N							
Methyl tert-butyl ether	ND	0.50	**							
Toluene	ND	0.50	н							
Xylenes (total)	ND	0.50	Ħ							
Gasoline Range Organics (C4-C12)	ND	50	н							
Surrogate: 1,2-Dichloroethane-d4	4.46		"	5.00		89	60-135			





Project:BP Heritage #11117,Oakland, CA Project Number:G07TK-0022 Project Manager:Lynelle Onishi MOI0835 Reported: 10/14/05 10:54

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

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 5J04002 - EPA 5030B Modified	/ EPA 8260	)B								
Laboratory Control Sample (5J04002-BS1)		Prepared	& Analyze	d: 10/04/	05					
tert-Amyl methyl ether	14.1	0.50	ug/l	15.0		94	80-115			
Benzene	4.85	0.50	0	5.16		94	65-115			
tert-Butyl alcohol	155	20	11	143		108	75-150			
Di-isopropyl ether	14.3	0.50	17	15.1		95	75-125			
1,2-Dibromoethane (EDB)	16.4	0.50	n	14.9		110	85-120			
1,2-Dichloroethane	15.6	0.50	11	14.7		106	85-130			
Ethanol	173	100	11	142		122	70-135			
Ethyl tert-butyl ether	13.2	0.50	**	15.0		88	75-130			
Ethylbenzene	6.52	0.50	II.	7.54		86	75-135			
Methyl tert-butyl ether	6.94	0.50	11	7.02		99	65-125			
Toluene	35.3	0.50	*1	37.2		95	85-120			
Xylenes (total)	39.9	0.50	76	41.2		97	85-125			
Gasoline Range Organics (C4-C12)	471	50	Ħ	440		107	70-124			
Surrogate: 1,2-Dichloroethane-d4	4.75	·· ·· · · · · · · · · · · · · · · · ·	n	5.00		95	60-135			
Laboratory Control Sample (5J04002-BS2)	)			Prepared	& Analyze	d: 10/04/	05			
tert-Amyl methyl ether	13.5	0.50	ug/l	15.0		90	80-115			
Benzene	4.72	0.50	U	5.16		91	65-115			
tert-Butyl alcohol	155	20	D	143		108	75-150			
Di-isopropyl ether	15.4	0.50	19	15.1		102	75-125			
1,2-Dibromoethane (EDB)	16.4	0.50	I†	14.9		110	85-120			
1,2-Dichloroethane	14.0	0.50	IF.	14.7		95	85-130			
Ethanol	178	100	n	142		125	70-135			
Ethyl tert-butyl ether	13.5	0.50	77	15.0		90	75-130			
Ethylbenzene	6.61	0.50	"	7.54		88	75-135			
Methyl tert-butyl ether	6.81	0.50	*1	7.02		97	65-125			
Toluene	36.0	0.50	ŧi	37.2		97	85-120			
Xylenes (total)	38.1	0.50	n	41.2		92	85-125			
Gasoline Range Organics (C4-C12)	485	50	U	440		110	70-124			
Surrogate: 1,2-Dichloroethane-d4	4.30		"	5.00		86	60-135			





Project:BP Heritage #11117,Oakland, CA Project Number:G07TK-0022 Project Manager:Lynelle Onishi MOI0835 Reported: 10/14/05 10:54

#### 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 5J04002 - EPA 5030B Modifi						70200	211112	142		110103
Matrix Spike (5J04002-MS1)	Source: Me			Prepared	& Analyzo	ed: 10/04/	05			
tert-Amyl methyl ether	804	25	ug/l	752	48	101	80-115			<del></del>
Benzene	461	25	**	258	210	97	65-115			
tert-Butyl alcohol	16000	1000	++	7160	9000	98	75-120			
Di-isopropyl ether	743	25	п	756	ND	98	75-125			
1,2-Dibromoethane (EDB)	814	25	п	744	ND	109	85-120			
1,2-Dichloroethane	755	25	U	736	ND	103	85-130			
Ethanol	8200	5000	n	7080	ND	116	70-135			
Ethyl tert-butyl ether	707	25		752	ND	94	75-130			
Ethylbenzene	3140	25	10	377	2900	64	75-135			BB,LN
Methyl tert-butyl ether	1280	25	**	351	1000	80	65-125			,
Toluene	2080	25	ti	1860	280	97	85-120			
Xylenes (total)	9650	25	II	2060	8200	70	85-125			LN
Gasoline Range Organics (C4-C12)	60500	2500	U	22000	42000	84	70-124			
Surrogate: 1,2-Dichloroethane-d4	4.71			5.00		94	60-135			
Matrix Spike Dup (5J04002-MSD1)	Source: Mo	OI0747-02		Prepared	& Analyze	d: 10/04/	05			
tert-Amyl methyl ether	770	25	ug/l	752	48	96	80-115	4	15	
Benzene	461	25	tt	258	210	97	65-115	0	20	
tert-Butyl alcohol	15900	1000	н	7160	9000	96	75-120	0.6	25	
Di-isopropyl ether	764	25	11	756	ND	101	75-125	3	15	
1,2-Dibromoethane (EDB)	844	25	II.	744	ND	113	85-120	4	15	
1,2-Dichloroethane	708	25	н	736	ND	96	85-130	6	20	
Ethanol	7740	5000	"	7080	ND	109	70-135	6	35	
Ethyl tert-butyl ether	694	25	11	752	ND	92	75-130	2	25	
Ethylbenzene	3070	25	**	377	2900	45	75-135	2	15	BB,LN
Methyl tert-butyl ether	1250	25	rr	351	1000	71	65-125	2	20	•
Toluene	2080	25	u	1860	280	97	85-120	0	20	
Xylenes (total)	9050	25	n .	2060	8200	41	85-125	6	20	LN
Gasoline Range Organics (C4-C12)	59200	2500	н	22000	42000	78	70-124	2	20	
Surrogate: 1,2-Dichloroethane-d4	4.48		"	5.00		90	60-135			-





Project:BP Heritage #11117,Oakland, CA Project Number:G07TK-0022 Project Manager:Lynelle Onishi MOI0835 Reported: 10/14/05 10:54

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 5J06008 - EPA 5030B P/T	/ EPA 8260B		***************************************				7 1 P 2 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			
Blank (5J06008-BLK1)		<del></del>		Prepared	& Analyzo	ed: 10/06/	05			
tert-Amyl methyl ether	ND	0.0050	mg/kg		_					
Benzene	ND	0.0050	17							
tert-Butyl alcohol	ND	0.020	17							
Di-isopropyl ether	ND	0.0050	77							
1,2-Dibromoethane (EDB)	ND	0.0050	**							
1,2-Dichloroethane	ND	0.0050	11							
Ethanol	ND	0.10	11							
Ethyl tert-butyl ether	ND	0.0050	**							
Ethylbenzene	ND	0.0050	77							
Methyl tert-butyl ether	ND	0.0050	Ħ							
Toluene	ND	0.0050	**							
Xylenes (total)	ND	0.0050	ŧı							
Gasoline Range Organics (C4-C12)	ND	0.10	ti							
Surrogate: 1,2-Dichloroethane-d4	0.00507		п	0.00500		101	60-125			
Laboratory Control Sample (5J0600)	8-BS1)			Prepared	& Analyze	ed: 10/06/	05			
tert-Amyl methyl ether	0.0172	0.0050	mg/kg	0.0150		115	80-130			
Benzene	0.00470	0.0050		0.00516		91	65-125			
tert-Butyl alcohol	0.142	0.020	U	0.143		99	80-165			
Di-isopropyl ether	0.0160	0.0050	H	0.0151		106	85-115			
1,2-Dibromoethane (EDB)	0.0155	0.0050	11	0.0149		104	85-130			
1,2-Dichloroethane	0.0143	0.0050	17	0.0147		97	63-124			
Ethanol	0.116	0.10	11	0.142		82	35-150			
Ethyl tert-butyl ether	0.0166	0.0050	19	0.0150		111	80-125			
Ethylbenzene	0.00691	0.0050	10	0.00754		92	80-135			
Methyl tert-butyl ether	0.00728	0.0050	17	0.00702		104	75-115			
Toluene	0.0361	0.0050	79	0.0372		97	85-125			
Xylenes (total)	0.0398	0.0050	**	0.0412		97	80-140			
Gasoline Range Organics (C4-C12)	0.424	0.10	tt	0.440		96	53-126			
Surrogate: 1,2-Dichloroethane-d4	0.00433		"	0.00500		87	60-125			





Project:BP Heritage #11117,Oakland, CA Project Number:G07TK-0022 Project Manager:Lynelle Onishi MOI0835 Reported: 10/14/05 10:54

## 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 5J06008 - EPA 5030B P/T	/ EPA 8260B									
Laboratory Control Sample Dup (5J	06008-BSD1)			Prepared &	& Analyze	ed: 10/06/	05			
tert-Amyl methyl ether	0.0176	0.0050	mg/kg	0.0150		117	80-130	2	25	
Benzene	0.00494	0.0050	"	0.00516		96	65-125	5	20	
tert-Butyl alcohol	0.145	0.020	IP.	0.143		101	80-165	2	25	
Di-isopropyl ether	0.0169	0.0050	IP.	0.0151		112	85-115	5	20	
1,2-Dibromoethane (EDB)	0.0157	0.0050	11	0.0149		105	85-130	1	15	
1,2-Dichloroethane	0.0147	0.0050	*1	0.0147		100	63-124	3	25	
Ethanol	0.118	0.10	**	0.142		83	35-150	2	40	
Ethyl tert-butyl ether	0.0169	0.0050	Ħ	0.0150		113	80-125	2	25	
Ethylbenzene	0.00760	0.0050	п	0.00754		101	80-135	10	20	
Methyl tert-butyl ether	0.00724	0.0050	ij	0.00702		103	75-115	0.6	35	
Toluene	0.0394	0.0050	n	0.0372		106	85-125	9	15	
Xylenes (total)	0.0435	0.0050	n	0.0412		106	80-140	9	20	
Gasoline Range Organics (C4-C12)	0.467	0.10	"	0.440		106	53-126	10	25	
Surrogate: 1,2-Dichloroethane-d4	0.00431		Ħ	0.00500		86	60-125			

#### Batch 5J06050 - EPA 5030B/5035A MeOH / EPA 8260B

Blank (5J06050-BLK1)				Prepared: 10/06/05 Analyzed: 10/07/05
tert-Amyl methyl ether	ND	0.025	mg/kg	
Benzene	ND	0.050	11	
tert-Butyl alcohol	ND	5.0	11	,
Di-isopropyl ether	ND	0.025	19	
1,2-Dibromoethane (EDB)	ND	0.025	10	
1,2-Dichloroethane	ND	0.025	11	
Ethanol	ND	10	**	
Ethyl tert-butyl ether	ND	0.025	Ħ	
Ethylbenzene	ND	0.050	u	
Methyl tert-butyl ether	ND	0.025	п	
Toluene	ND	0.050	n	
Xylenes (total)	ND	0.050	19	
Gasoline Range Organics (C4-C12)	ND	2.5		
Surrogate: 1,2-Dichloroethane-d4	0.00531		"	0.00500 106 60-125





Project:BP Heritage #11117,Oakland, CA Project Number:G07TK-0022 Project Manager:Lynelle Onishi MOI0835 Reported: 10/14/05 10:54

Analyto	Result	Reporting Limit	Units	Spike	Source Result	0/DE∕	%REC	מממ	RPD	<b>N</b> T-4-
Analyte	Result	Limit	Onnes	Level	Kesuit	%REC	Limits	RPD	Limit	Notes
Batch 5J06050 - EPA 5030B/5035	A MeOH / EPA	8260B						<del></del>		
Laboratory Control Sample (5J06050	)-BS1)			Prepared:	10/06/05	Analyzed:	10/07/05			
tert-Amyl methyl ether	0.541	0.025	mg/kg	0.500		108	80-130			
Benzene	0.520	0.050	n	0.500		104	65-125			
tert-Butyl alcohol	2.19	5.0	п	2.50		88	80-165			
Di-isopropyl ether	0.550	0.025	II .	0.500		110	85-115			
1,2-Dibromoethane (EDB)	0.543	0.025	19	0.500		109	85-130			
1,2-Dichloroethane	0.568	0.025	ŋ	0.500		114	63-124			
Ethanol	8.43	10	n	10.0		84	35-150			
Ethyl tert-butyl ether	0.526	0.025	n	0.500		105	80-125			
Ethylbenzene	0.481	0.050	п	0.500		96	80-135			
Methyl tert-butyl ether	0.501	0.025	II .	0.500		100	75-115			
Toluene	0.559	0.050	1)	0.500		112	85-125			
Xylenes (total)	1.37	0.050	U	1.50		91	80-140			
Surrogate: 1,2-Dichloroethane-d4	0.00528		"	0.00500		106	60-125		•	
Laboratory Control Sample (5J06056		Prepared:	10/06/05	Analyzed:	10/07/05					
Benzene	0.222	0.050	mg/kg	0.228		97	65-125			
Ethylbenzene	0.286	0.050	н	0.294		97	80-135			
Methyl tert-butyl ether	0.370	0.025	n	0.360		103	75-115			
l'oluene	1.43	0.050	U	1.23		116	85-125			
Xylenes (total)	1.33	0.050	n	1.44		92	80-140			
Gasoline Range Organics (C4-C12)	15.5	2.5	13	16.5		94	60-140			
Surrogate: 1,2-Dichloroethane-d4	0.00530		"	0.00500		106	60-125			
Laboratory Control Sample Dup (5J	06050-BSD1)			Prepared:	10/06/05	Analyzed:	10/07/05			
tert-Amyl methyl ether	0.556	0.025	mg/kg	0.500		111	80-130	3	25	
Benzene	0.523	0.050	I+	0.500		105	65-125	0.6	20	
tert-Butyl alcohol	2.22	5.0	19	2.50		89	80-165	1	25	
Di-isopropyl ether	0.549	0.025	19	0.500		110	85-115	0.2	20	
1,2-Dibromoethane (EDB)	0.574	0.025	)Ŧ	0.500		115	85-130	6	15	
1,2-Dichloroethane	0.570	0.025	19	0.500		114	63-124	0.4	25	
Ethanol	8.00	10	19	10.0		80	35-150	5	40	
Ethyl tert-butyl ether	0.532	0.025	**	0.500		106	80-125	1	25	
Ethylbenzene	0.501	0.050	H.	0.500		100	80-135	4	20	
Methyl tert-butyl ether	0.524	0.025	18	0.500		105	75-115	4	35	
Toluene	0.575	0.050	Ħ	0.500		115	85-125	3	15	
Xylenes (total)	1.45	0.050	10	1.50		97	80-140	6	20	





Project:BP Heritage #11117,Oakland, CA Project Number:G07TK-0022 Project Manager:Lynelle Onishi MOI0835 Reported: 10/14/05 10:54

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

Sequoia Analytical - Morgan Hill										
Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 5J06050 - EPA 5030B/5035	SA MeOH / EPA	8260B								
Laboratory Control Sample Dup (5J	06050-BSD1)			Prepared:	10/06/05	Analyzed	l: 10/07/05			
Surrogate: 1,2-Dichloroethane-d4	0.00516		mg/kg	0.00500		103	60-125			
Laboratory Control Sample Dup (5J	06050-BSD2)			Prepared:	10/06/05	Analyzed	l: 10/07/05			
Benzene	0.197	0.050	mg/kg	0.228		86	65-125	12	20	
Ethylbenzene	0.268	0.050	19	0.294		91	80-135	6	20	
Methyl tert-butyl ether	0.338	0.025	"	0.360		94	75-115	9	35	
Toluene	1.32	0.050		1.23		107	85-125	8	15	
Xylenes (total)	1.26	0.050	I†	1.44		87	80-140	5	20	
Gasoline Range Organics (C4-C12)	13.9	2.5	11	16.5		84	60-140	11	25	
Surrogate: 1,2-Dichloroethane-d4	0.00537		"	0.00500		107	60-125			
Batch 5J07009 - EPA 5030B P/T	/ EPA 8260B									
Blank (5J07009-BLK1)				Prepared &	& Analyz	ed: 10/07/	05			
tert-Amyl methyl ether	ND	0.0050	mg/kg							
Benzene	ND	0.0050	"							
tert-Butyl alcohol	ND	0.020	11							
Di-isopropyl ether	ND	0.0050	11							
1,2-Dibromoethane (EDB)	ND	0.0050	11							
1,2-Dichloroethane	ND	0.0050	11							
Ethanol	ND	0.10	Ħ							
Ethyl tert-butyl ether	ND	0.0050	11							
Ethylbenzene	ND	0.0050	**							
Methyl tert-butyl ether	ND	0.0050	78							
Toluene	ND	0.0050	11							
Xylenes (total)	ND	0.0050	**							
Gasoline Range Organics (C4-C12)	ND	0.10	11							

0.00500

Surrogate: 1,2-Dichloroethane-d4

0.00497

99

60-125





Project:BP Heritage #11117,Oakland, CA Project Number:G07TK-0022 Project Manager:Lynelle Onishi MOI0835 Reported: 10/14/05 10:54

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 5J07009 - EPA 5030B P/T	/ EPA 8260B									
Laboratory Control Sample (5J07009	9-BS1)			Prepared &	& Analyze	d: 10/07/	05			
tert-Amyl methyl ether	0.0178	0.0050	mg/kg	0.0150	<del></del>	119	80-130			
Benzene	0.00486	0.0050	71	0.00516		94	65-125			
tert-Butyl alcohol	0.147	0.020	71	0.143		103	80-165			
Di-isopropyl ether	0.0166	0.0050	**	0.0151		110	85-115			
1,2-Dibromoethane (EDB)	0.0158	0.0050	*1	0.0149		106	85-130			
1,2-Dichloroethane	0.0146	0.0050	Ħ	0.0147		99	63-124			
Ethanol	0.120	0.10	*1	0.142		85	35-150			
Ethyl tert-butyl ether	0.0171	0.0050	U	0.0150		114	80-125			
Ethylbenzene	0.00721	0.0050	u	0.00754		96	80-135		-	
Methyl tert-butyl ether	0.00743	0.0050	n n	0.00702		106	75-115			
Toluene	0.0387	0.0050	ш	0.0372		104	85-125			
Xylenes (total)	0.0420	0.0050	b	0.0412		102	80-140			
Gasoline Range Organics (C4-C12)	0.516	0.10	n n	0.440		117	53-126			
Surrogate: 1,2-Dichloroethane-d4	0.00419		"	0.00500		84	60-125			
Matrix Spike (5J07009-MS1)	Source: M	OI0835-20		Prepared &	& Analyze	d: 10/07/0	05			
tert-Amyl methyl ether	0.0176	0.0050	mg/kg	0.0150	0.00020	116	80-130			
Benzene	0.00487	0.0050	11	0.00516	ND	94	65-125			
tert-Butyl alcohol	0.146	0.020	11	0.143	0.0022	101	80-135			
Di-isopropyl ether	0.0165	0.0050	11	0.0151	ND	109	85-115			
1,2-Dibromoethane (EDB)	0.0158	0.0050	11	0.0149	ND	106	85-130			
1,2-Dichloroethane	0.0151	0.0050	78	0.0147	ND	103	63-124			
Ethanol	0.111	0.10	ŧŧ	0.142	ND	78	35-150			
Ethyl tert-butyl ether	0.0168	0.0050	n	0.0150	ND	112	80-125			
Ethylbenzene	0.00730	0.0050	н	0.00754	0.00017	95	80-135			
Methyl tert-butyl ether	0.0121	0.0050	п	0.00702	0.0050	101	75-115			
Toluene	0.0370	0.0050	н	0.0372	0.00014	99	85-125			
Xylenes (total)	0.0405	0.0050	U	0.0412	0.00041	97	80-140			
Gasoline Range Organics (C4-C12)	0.587	0.10	11	0.440	0.27	72	53-126			
Surrogate: 1,2-Dichloroethane-d4	0.00422		"	0.00500		84	60-125			





Surrogate: 1,2-Dichloroethane-d4

Project:BP Heritage #11117,Oakland, CA Project Number:G07TK-0022 Project Manager:Lynelle Onishi

0.00500

86

60-125

MOI0835 Reported: 10/14/05 10:54

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

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 5J07009 - EPA 5030B P/T / E	PA 8260B									
Matrix Spike Dup (5J07009-MSD1)	Source: M	IOI0835-20		Prepared 4	& Analyze	d: 10/07/	05			
tert-Amyl methyl ether	0.0175	0.0050	mg/kg	0.0150	0.00020	115	80-130	0.6	25	
Benzene	0.00480	0.0050	78	0.00516	ND	93	65-125	Í	20	
tert-Butyl alcohol	0.160	0.020	11	0.143	0.0022	110	80-135	9	20	
Di-isopropyl ether	0.0166	0.0050	19	0.0151	ND	110	85-115	0.6	20	
1,2-Dibromoethane (EDB)	0.0153	0.0050	11	0.0149	ND	103	85-130	3	15	
1,2-Dichloroethane	0.0145	0.0050	19	0.0147	ND	99	63-124	4	25	
Ethanol	0.132	0.10	17	0.142	ND	93	35-150	17	40	
Ethyl tert-butyl ether	0.0171	0.0050	19	0.0150	ND	114	80-125	2	25	
Ethylbenzene	0.00740	0.0050	11	0.00754	0.00017	96	80-135	1	20	
Methyl tert-butyl ether	0.0124	0.0050	11	0.00702	0.0050	105	75-115	2	35	
Toluene	0.0391	0.0050	n	0.0372	0.00014	105	85-125	6	15	
Xylenes (total)	0.0425	0.0050	n n	0.0412	0.00041	102	80-140	5	20	
Gasoline Range Organics (C4-C12)	0.552	0.10	0	0.440	0.27	64	53-126	6	25	

#### Batch 5J07032 - EPA 5030B/5035A MeOH / EPA 8260B

0.00429

Blank (5J07032-BLK1)				Prepared & Ana	alyzed: 10/07/	05	
tert-Amyl methyl ether	ND	0.025	mg/kg				
Benzene	ND	0.050	п				
tert-Butyl alcohol	ND	5.0	ij				
Di-isopropyl ether	ND	0.025	II				
1,2-Dibromoethane (EDB)	ND	0.025	0				
1,2-Dichloroethane	ND	0.025	0				
Ethanol	ND	10	tt				
Ethyl tert-butyl ether	ND	0.025	u				
Ethylbenzene	ND	0.050	H				
Methyl tert-butyl ether	ND	0.025	**				
Toluene	ND	0.050	ri .				
Xylenes (total)	ND	0.050	**				
Gasoline Range Organics (C4-C12)	ND	2.5	tt				
Surrogate: 1,2-Dichloroethane-d4	0.00502		n	0.00500	100	60-125	





Project:BP Heritage #11117,Oakland, CA Project Number:G07TK-0022 Project Manager:Lynelle Onishi MOI0835 Reported: 10/14/05 10:54

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
			Onto	Level	TOTAL	/ultic	Linus	M.D	Pullit	110163
Batch 5J07032 - EPA 5030B/5035		8260B			······································	·····				
Laboratory Control Sample (5J0703)					10/07/05	<u>-</u>	1: 10/08/05			
tert-Amyl methyl ether	0.592	0.025	mg/kg	0.564		105	80-130			
Benzene	0.181	0.050	"	0.194		93	65-125			
tert-Butyl alcohol	6.09	5.0	II .	5.37		113	80-165			
Di-isopropyl ether	0.606	0.025	"	0.567		107	85-115			
1,2-Dibromoethane (EDB)	0.522	0.025	"	0.558		94	85-130			
1,2-Dichloroethane	0.582	0.025	ıı	0.552		105	63-124			
Ethanol	5.95	10		5.31		112	35-150			
Ethyl tert-butyl ether	0.593	0.025	II .	0.564		105	80-125			
Ethylbenzene	0.265	0.050	11	0.283		94	80-135			
Methyl tert-butyl ether	0.276	0.025	"	0.263		105	75-115			
Toluene	1.35	0.050	U	1.39		97	85-125			
Xylenes (total)	1.43	0.050	n	1.55		92	80-140			
Gasoline Range Organics (C4-C12)	14.5	2.5	н	16.5		88	60-140			
Surrogate: 1,2-Dichloroethane-d4	0.00510		"	0.00500		102	60-125			
Matrix Spike (5J07032-MS1)	Source: M	O10835-09		Prepared:	10/07/05	Analyzed	I: 10/08/05			
tert-Amyl methyl ether	0.614	0.025	mg/kg	0.564	ND	109	80-130			
Benzene	0.184	0.050	19	0.194	ND	95	65-125			
tert-Butyl alcohol	6.36	5.0	**	5.37	ND	118	80-135			
Di-isopropyl ether	0.617	0.025	11	0.567	ND	109	85-115			
1,2-Dibromoethane (EDB)	0.560	0.025	**	0.558	ND	100	85-130			
1,2-Dichloroethane	0.576	0.025	**	0.552	ND	104	63-124			
Ethanol	5.85	10	**	5.31	ND	110	35-150			
Ethyl tert-butyl ether	0.603	0.025	**	0.564	ND	107	80-125			
Ethylbenzene	0.266	0.050	**	0.283	ND	94	80-135			
Methyl tert-butyl ether	0.550	0.025	**	0.263	0.84	0	75-115			BB,LN
Toluene	1.39	0.050	**	1.39	0.0062	100	85-125			
Xylenes (total)	1.45	0.050	**	1.55	0.034	91	80-140			
Gasoline Range Organics (C4-C12)	14.7	2.5	tr	16.5	1.7	79	60-140			
Surrogate: 1,2-Dichloroethane-d4	0.00509		n	0.00500	•	102	60-125	· · · · · · · · · · · · · · · · · · ·		





Project:BP Heritage #11117,Oakland, CA
Project Number:G07TK-0022

MOI0835 Reported: 10/14/05 10:54

Project Number:G0/1K-0022
Project Manager:Lynelle Onishi

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 5J07032 - EPA 5030B/5035A	МеОН / ЕРА	8260B								
Matrix Spike Dup (5J07032-MSD1)	Source: M	OI0835-09		Prepared:	10/07/05	Analyzed	1: 10/08/05			
tert-Amyl methyl ether	0.617	0.025	mg/kg	0.564	ND	109	80-130	0.5	25	
Benzene	0.189	0.050	**	0.194	ND	97	65-125	3	20	
tert-Butyl alcohol	6.31	5.0	**	5.37	ND	118	80-135	8.0	20	
Di-isopropyl ether	0.622	0.025	**	0.567	ND	110	85-115	0.8	20	
1,2-Dibromoethane (EDB)	0.557	0.025	**	0.558	ND	100	85-130	0.5	15	
1,2-Dichloroethane	0.574	0.025	**	0.552	ND	104	63-124	0.3	25	
Ethanol	5.82	10	**	5.31	ND	110	35-150	0.5	40	
Ethyl tert-butyl ether	0.606	0.025	**	0.564	ND	107	80-125	0.5	25	
Ethylbenzene	0.283	0.050	17	0.283	ND	100	80-135	6	20	
Methyl tert-butyl ether	0.548	0.025	**	0.263	0.84	0	75-115	0.4	35	BB,LN
Toluene	1.40	0.050	17	1.39	0.0062	100	85-125	0.7	15	
Xylenes (total)	1.52	0.050	11	1.55	0.034	96	80-140	5	20	
Gasoline Range Organics (C4-C12)	15.0	2.5	17	16.5	1.7	81	60-140	2	25	
Surrogate: 1,2-Dichloroethane-d4	0.00510		#	0.00500		102	60-125			





URS Corporation [Ar	co] Project:BP	Heritage #11117,Oakland, CA MOI0835
1333 Broadway, Suite	800 Project Number:G0	7TK-0022 Reported:
Oakland CA, 94612	Project Manager:Ly	nelle Onishi 10/14/05 10:54

#### **Notes and Definitions**

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

BZ,BU Sample preserved improperly. Sample analyzed after holding time expired.

BB,LN Sample > 4x spike concentration.

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

D Please fox Cory to Lynelle Onosh.
510 874 3268
Chain of Custody Record

			·J			. •	
Project Name:	Former BP Site	111173	Soil/G	roundy	vater	Investio	afi
NY WYTH N					racoi		CILI.
BP RII/AR Region/	infac Commonte	mali			_		

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

		Pageof
On-site Time: Zaun	_	Temp: 65°
Off-site Time: // 15	Ç.	Temp: 75°
Sky Conditions: Clouds	Ī	······································
Meteorological Events:		
Wind Speed: 2010h		Direction:

	Sequoia Analytical		_		BP/AR Facility N	0.:		1	1117						7/	One	ulto	nt/C	ontrac	ton		URS				₩	
	885 Jarvis Drive				BP/AR Facility A		s:	7210	Band	croft Ave	e. Oal	cland	CA			\ddr					_	way, S	C:	900			
	Morgan Hill, CA 95037				Site Lat/Long:						, 0		, 02		<b>—</b>  f	raui	C35.							800			
	Lisa Race				California Global	ID N	).:								٦,	2000	14	-4/0				A 946					
ele/Fax:	408-782-8156/408-782-6308				Enfos Project No.			G077	rk-oc	122					-	CODE	ultar	IVC	nnac	tor Pr	ojec	et No.:			53.0A03	4	
BP/AR PM-Contact:					Provision or RCO		rele o			Provision	-					_	_								Onishi ·		
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Item No.	Sample Description	Date Soi7/Solid	Water/Liquid	Laboratory No.	Ne of Containers	Unpreserved		HNO3	loi		GRO (8260)	BTEX (8260)	Fuel Add. (8260):	DB, TBA, TAME,	_	Sthanol (8260)	Ī	s				Sampl		t Lat/Lor iments	ng a	nd	
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ining total Pb analy.	sis and result are >50ppm, run STI	C, if STLC	results a	re>5ppn	n, run TCLP												_										
Quy Seals In Place	e YesNo_		Ter	nn Rian	k Yes Nio				Co	ooler Te	mper	ature	e on	Rece	ipt		OF.	/C		т.	in I	Blank	Vor				
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& Please fox Copy to Expresse unon 510 874 3268

Page 2 of 3



## Chain of Custody Record

Project Name: Former BP Site 11117 Soil/Gro

Former BP Site 11117 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:					BP/AR Facility No.	:			11117							·	Con	sult	nt/C					URS						
Address:	885 Jarvis Drive				BP/AR Facility Add	iress	:	721	0 Ban	croft	Ave, (	Dakk	and,	CA			Add	ress	:						Suite	800				
	Morgan Hill, CA 95037				Site Lat/Long:																) Jak	land,	CA	946			<del>`</del>			
Lab PM:	Lisa Race				California Global II	) No	),:										_			_				No.:			<del>_/</del> -	0A034	·	
Tele/Fax:	408-782-8156/408-782-6308				Enfos Project No.:			G07	/TK-0	022							Con	sult	ant/C			or PN				<u> </u>	JE On	ishi		
BP/AR PM Contact:	Kyle Christie				Provision or RCOP	(cit	cle o	ne)		Prov	ision						Tele	/Fa	<u>(:</u>		510-	874-	175	<u>8/51</u>	0-874	<del>1/32</del> 6	8			
Address: 4 Centerpoir	te Dr.				Phase/WBS:	01-	Asse	ssme	nt																1 & I					
La Palma, CA					Sub Phase/Task:	03 -	Ana	lytic	al		<u> </u>																rp.co	<u>m</u>		
Tele/Fax: 714-670-53	)3/714-6705195				Cost Element:	05 -	Sub		racted			<u>.</u>						_			West	Coa	st Gl	obal	Alliar	100			<del>4</del> =	
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Item No.	Sample Description	Time	Soil/Solid	Water/Liquid Air	Laboratory No.	No. of Containers	Unpreserved	H <sub>2</sub> SO <sub>4</sub>	HNO,	HCI	Methanol		GRO (8260)	BTEX (8260)	Fuel Add. (8260):	MTBE, 1,2-DCA,	DIPE, ETBE	(V) (O) (	Emznoj (8200)	Total Lead						ile Po		at/Lo	ng ar	nd
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5	A-2 21.6	11:22		X	ır	3				X																				
6	A-2 25-25-5	1100	又		64	1	X						П	П	$\prod$	T		$\parallel$												
7	A-Z 30-30-5	1115			17	T	X					$\blacksquare$	Ţ	П	П															
8	4-2 33.5-34	1120	V		18	1	X					$\blacksquare$	T	П	П	T	Π	П	П	П			$\neg$							
9	A-2 40.5-42'	1255		X	19	3				X			$\prod$		$\prod$	1		П		$\prod$										
10		13:05			20	1	X					7	V,	V	11	V	V	T	1	W										
Sampler's Name:	Andrew Fowle				/ Reling	uish	ed By	/ <u>A</u> ff	filatio	1			Dat	le .	Tir	nie				A	ccept	ied By	7 A1	ffiliati	ion			Dat		Time
Sampler's Company					CAMAN	یک	7 9	矢	7	L		70	7/z	7/0	7/4	.40	Γ.	5-4	٦,	5,6	,~	l		~·	5			92	7	1440
Shipment Date:	9/27/08			1	Janson	Ţ,	ē		<b>₽</b>				C/1	37	17	75	•		/V	~	_	-						1/2:	1	17:2
Shipment Method:	Couver												7	]				7										1		
Shipment Tracking	No:																													
Special Instructions	Analyze soil sample with higher	st GRO conc	entratio	n for T	otal Lead (Pb).											,														
cumning total Pb an	alysis and result are >50ppm, run ST	ILC, if STLC	results ar	e >5pp	m, run TCLP															``										
dy Seals In Pl	ace Yes No		Ten	np Bla	nk Yes No					Coo	ler Te	mpe	eratu	ire o	n Re	ecei	pt _		OF/	/C		-	Ггір	Blar	nk Yo	es	No	)		

## bp

A Please fax Copy to Lynelle On the

**Chain of Custody Record** 

Project	Name:	r
rioject	ranne.	1

Former BP Site 11117 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

Temp:

Sky Conditions:

Meteorological Events: Wind Speed:

On-site Time:

Off-site Time:

Direction:

	Sequoia Analytical					BP/AR Facility No	).;			111	17				.,,			llco	nsult	ant/C	ontr	racto	r:	ī	JRS				
Address:	885 Jarvis Drive					BP/AR Facility Ac	idres	s:	72	10 B	ancro	of Ave	e, Oa	klan	d, C	A			dress							ite 80	<u></u>		
	Morgan Hill, CA 95037					Site Lat/Long:						· · ·						1							9461		<del>-</del>		
	Lisa Race					California Global	DΝ	0.:										Co	กรษได้	ant/C			r Proj					3.0A034	
	408-782-8156/408-782-6308					Enfos Project No.:			G0	7TK	-0022	2											r PM		110		nelle O		
BP/AR PM Contact:						Provision or RCO	ci (ci	rcle	one)		Pro	visior	1					<b></b>	e/Fa	**********					8/510-	874-3		mon.	·
Address: 4 Centerpoint	te Dr.					Phase/WBS:	01-	Ass	essm	ent		-								_						& EDI			
La Palma, CA						Sub Phase/Task:	03	- Ana	alytic	cal																	corp.co	om	
Tele/Fax: 714-670-530						Cost Element:	05	- Sub	cont	tracte	d Co	sts		:												lliance		<u>0111</u>	
Lab Bottle Order No:				M	atrix				1	Pres	crvat	ive					Reg		_	nnly				╗	-				<del></del>
Item No.	Sample Description	/ Time	Date ·	Soil/Solid	Water/Liquid Air	Laboratory No.	No. of Containers	Unpreserved	H <sub>2</sub> SO,	HNO,	HCI	Methanol		GRO (8260)	BTEX (8260)	Fuel Add. (8250):	MTBE, 1,2-DCA,	EDB, TBA, TAME, DIPE, ETBE	100 CO	Fotal ( ead	700				. /		Comn	Lat/Long nents	; and
i	A-3 14.5-15	13:15	9/22/2	FXI		21	n	ΪV	T	T	<del>                                     </del>			X	X	X	$\overline{\overline{\mathbf{y}}}$	$\nabla$	-   3	光	十	÷	┿	╬	七				
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				HH		12	╟┼	₽	<del> </del>	╄	┼			$\mathbb{H}$	-	-	Н	11	- -	-11	1	+		╨					
3	A-3 23-5-201	1325				_23	Щ		ļ.	_		$oxed{oxed}$		$\perp \sqcup$	$\perp$	Ш	$\coprod$	Ш	_		L								
4	A-3 26-26-51	1320		M		29	A	V	1		1		l			П,		7	/		1		Ţ	╗				·········	
5	A-3 19.41	1335	A		X	25	3			$\top$	İΧ			W	٧V	$\blacksquare$	7	107		W /	1	-	1	╫╴					
6	A-3 34-36'	1145			XI-		3	╟╌	╁╴	-	ĸ	1-	╢	4	A	7	W.	<del>  ''</del>	+-	+	╫	+-	<del> </del>	╬					
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ampler's Name:	Andria Fouler					, Reling	uicha	d Rv	145	lietic	<u></u>	<u> </u>		Dn	<u></u>	Τi		1		<u>ا</u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>				1	
ampler's Company:	Andher Fouter					MANA	7	7	70.		75	<del></del>				74		┡	1	_			<u> </u>		liation			Date	Time
hipment Date:	9/27/05					Jayson	<u>-                                    </u>	$\overrightarrow{l}$		~~	<u></u>			r/n		_		<b>-</b>	EM!	2		ا-		<u> 24</u>	1-5				1440
hipment Method:	Courter	i				200-(-70)	<u></u>						-	11-5		17	<u> </u>							—				1/27	17.25
hipment Tracking N	o:		·										╼╢	_	$\dashv$			┢─						—				ļ	<b>∦</b>
pecial Instructions: /	Analyze soil sample with highes	t GRO o	oncent	ation	ı for T	otal Lead (Pb).										<u> </u>	****	<u> </u>				_		<del></del>				<u> </u>	<u> </u>
running total Pb analy	sis and result are >50ppm, run ST	LC, if ST	LC resu	lts are	: >5ppi	n, run TCLP														_				—					
wdy Seals In Place	e YesNo				p Blan				_		Coc	oler T	emne	erati	ire c	n R	ecei	nt		<sup>O</sup> F/C	•		Trai		Blank '				
I	Distribution: White Copy - Lab	oratory /	Yellov	v Cop	y - Bl	/Atlantic Richfiel	d Co	o. / ]	Pink	Con	ov - (	Consu	Itani	/Co	ntra	ctor		<u></u>					111				No 10/1/04		J

## SEQUOIA ANALYTICAL SAMPLE RECEIPT LOG

CLIENT NAME: REC. BY (PRINT) WORKORDER:  MOI 6	P35	- -	DATE REC'D AT LAB: TIME REC'D AT LAB: DATE LOGGED IN:	7. 4.70	-3			_	tory Purposes? WATER YES/NO TER YES/NO
CIRCLE THE APPROPRIATE RESPONS	SE LAB SAMPLE#	DASH #	CLIENT ID .	DESCRIPTION	PRESERV ATIVE	pH ·	SAMPLE MATRIX	DATE . SAMPLED	REMARKS: CONDITION (ETC.)
1. Custody Seal(s) Present / Absent Intact / Broken*			H-16-6.5	core		5-	1	1/2400	
2. Chain-of-Custody Present / Absent	*		16-165	**		١ .		·	
3. Traffic Reports or		,	. 21-21.5						
Packing List: Present / Absent	<u> </u>		25.5-26						
4. Airbill: Airbill / Sticker		J	30.5-31						
Present / Absent			35,5-36						
5. Airbill #:			39-39.5	1	· \ \		1		
6. Sample Labels: Present / Absent			146-465	4	A				•
7. Sample IDs: Listed / Not Liste	ıd .		22.6	VO4-3	Hec				
on Chain-of-Cus			4-25-5,5	Ore	1		. \		
8. Sample Condition: ntact / Broken* /	, , , , , , , , , , , , , , , , , , , ,	<u> </u>	10-10.5	· (					
Leaking*			15-15.5			·			
Does information on chain-of-custody,	<u></u>		19.5-20	· •	V				
traffic reports and sample labels	**		21.6	V043	Her				
agree? (Yes / No			25-25.5	Core	1				
0. Sample received within			30-30,5						
hold time? (Y)s / No*	tro		. 83.5-39	Æ	4				
i. Adequate sample volume		<u> </u>	40-421	V073	Hec				•
received?			4.5-5.5	-Corre :	ſ				
2. Proper preservatives used? Yes / No*			A-3 14.5-151			7			
3. Trip Blank / Temp Blank Received?			, 19.5-20						·····
(circle which, if yes) - Yes (No*			123,5-24	1				•	
4. Read Temp: /20° q			26-26.5	A	A			1	
Corrected Temp:			19.4	VOA 3	HW	1			
Is corrected temp 4 +/-2°C? Yes / No	* [	1	39-36	VO4 3	Her	M	A	4	
Acceptance range for samples requiring thermal press)		-					<u>'</u>		
Exception (if any): METALS / DEF ON ICE			01/27	105		<del></del>			
or Problem COC	-		P4" 1-1-1	(~)				· · · · · ·	
	Historican and Company of the Company	SALES WEST	Name and the state of the sta					ACCOUNTS OF THE PARTY OF	

CONTACT PROJECT MANAGER AND ATTACH RECORD OF RESOLUTION.



14 October, 2005

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

RE: BP Heritage #11117, Oakland, CA

Lehobad

Work Order: MOI0807

Enclosed are the results of analyses for samples received by the laboratory on 09/26/05 17:45. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jamshid Kekobad Project Manager

CA ELAP Certificate #1210

The results in this laboratory report pertain only to the samples tested in the laboratory. The analyses contained in this report were performed in accordance with the BPGCLN Technical Specifications, applicable Federal, State, local regulations and certification requirements as well as the methodologies as described in laboratory SOPs reviewed by the BPGCLN. This entire report was reviewed and approved for release.





URS Corporation [Arco]	Project:BP Heritage #11117,Oakland, CA	MOI0807
1333 Broadway, Suite 800	Project Number:G07TK-0022	Reported:
Oakland CA, 94612	Project Manager:Lynelle Onishi	10/14/05 09:41

#### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
A-5 5-5.5	MOI0807-01	Soil	09/26/05 10:25	09/26/05 17:45
A-5 10-10.5	MOI0807-02	Soil	09/26/05 10:35	09/26/05 17:45
A-5 15-15.5	MOI0807-03	Soil	09/26/05 10:45	09/26/05 17:45
A-5 19.5-20	MOI0807-04	Soil	09/26/05 10:47	09/26/05 17:45
A-5 22-22.5	MOI0807-05	Soil	09/26/05 11:00	09/26/05 17:45
A-5 25-25.5	MOI0807-06	Soil	09/26/05 11:05	09/26/05 17:45
A-5 30-30.5	MOI0807-07	Soil	09/26/05 11:10	09/26/05 17:45
A-5 35-35.5	MOI0807-08	Soil	09/26/05 11:20	09/26/05 17:45
A-5 19.5'	MOI0807-09	Water	09/26/05 10:42	09/26/05 17:45
A-4 21.6'	MOI0807-10	Water	09/26/05 13:32	09/26/05 17:45
A-4 5-5.5'	MOI0807-11	Soil	09/26/05 12:55	09/26/05 17:45
A-4 15-15.5'	MOI0807-12	Soil	09/26/05 13:15	09/26/05 17:45
A-4 19.5-20'	MOI0807-13	Soil	09/26/05 13:25	09/26/05 17:45
A-4 23.5-24'	MOI0807-14	Soil	09/26/05 13:35	09/26/05 17:45
A-4 31.5-32'	MOI0807-15	Soil	09/26/05 13:55	09/26/05 17:45
A-4 34-36'	MOI0807-16	Water	09/26/05 14:50	09/26/05 17:45
Trip Blank	MOI0807-17	Water	09/26/05 00:00	09/26/05 17:45

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.





Project:BP Heritage #11117,Oakland, CA

Project Number: G07TK-0022

Project Manager:Lynelle Onishi

MOI0807 Reported: 10/14/05 09:41

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
A-4 23.5-24' (MOI0807-14) Soil	Sampled: 09/26/05 13:35	Receive	ed: 09/26	6/05 17:45					
Lead	11	5.0	mg/kg	1	5J13039	10/13/05	10/13/05	EPA 6010B	





Project:BP Heritage #11117,Oakland, CA Project Number:G07TK-0022 Project Manager:Lynelle Onishi MOI0807 Reported: 10/14/05 09:41

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
A-5 5-5.5 (MOI0807-01) Soil	Sampled: 09/26/05 10:25	Received:	09/26/05	17:45					
tert-Amyl methyl ether	ND	0.0050	mg/kg	1	5J05006	10/05/05	10/05/05	EPA 8260B	
Benzene	ND	0.0050	**	tt	*1	"	17	**	
tert-Butyl alcohol	ND	0.020	11	17	**	)†	17	**	
Di-isopropyl ether	ND	0.0050	\$t	n	***	P	P	Ħ	
1,2-Dibromoethane (EDB)	ND	0.0050	77	D	**	17	P	Ħ	
1,2-Dichloroethane	ND	0.0050	**	н	*1	IP	11	#1	
Ethanol	ND	0.10	**	n	<b>†</b> 1	17	"	***	
Ethyl tert-butyl ether	ND	0.0050	**	IJ	Ħ	17	17	Ħ	
Ethylbenzene	ND	0.0050	11	II .	Ħ	10	**	T)	
Methyl tert-butyl ether	ND	0.0050	17	n	**	11	17	Ħ	
Toluene	ND	0.0050	11	n	n	IF.	17	Ħ	
Xylenes (total)	ND	0.0050	¥	II	ŧ	It	11	tt	
Gasoline Range Organics (C4-C	12) ND	0.10	•	н	Ħ	11	10	п	
Surrogate: 1,2-Dichloroethane-a	14	100 %	60	125	n	n	"	n	
A-5 10-10.5 (MOI0807-02) Soil	Sampled: 09/26/05 10:3	5 Receive	d: 09/26/0	05 17:45					
tert-Amyl methyl ether	ND	0.0050	mg/kg	1	5J05006	10/05/05	10/05/05	EPA 8260B	
Benzene	ND	0.0050	**	n	н	"	**	n	
tert-Butyl alcohol	ND	0.020	11	n	tt	"	**	ti	
Di-isopropyl ether	ND	0.0050	**	H	II	11	17	II	
1,2-Dibromoethane (EDB)	ND	0.0050	79	н	H	11	**	ŧi	
1,2-Dichloroethane	ND	0.0050	**	n	U	77	**	II	
Ethanol	ND	0.10	**	,,	tt	"	**	II .	
Ethyl tert-butyl ether	ND	0.0050	**	"	II	**	"	II .	
Ethylbenzene	ND	0.0050	**	17	II	"	н	II	
Methyl tert-butyl ether	ND	0.0050	**	n	H	și.	н	II .	
Toluene	ND	0.0050	**	17	H	*1	н	n	
97.1 (	ND	0.0050	**	P	11	н	н	n	
Xylenes (total)	<del></del>								
Xylenes (total) Gasoline Range Organics (C4-C		0.10	er	11	n	0	ti	n	





Project:BP Heritage #11117,Oakland, CA Project Number:G07TK-0022

Project Manager:Lynelle Onishi

MOI0807 Reported: 10/14/05 09:41

			<u> </u>						
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
A-5 15-15.5 (MOI0807-03) Soil	Sampled: 09/26/05 10:45	Receive	d: 09/26/	05 17:45					
tert-Amyl methyl ether	ND	0.0050	mg/kg	1	5J05006	10/05/05	10/05/05	EPA 8260B	
Benzene	ND	0.0050	*1	n	"	e	n	n	
tert-Butyl alcohol	ND	0.020	*1	11	It.	U	ıı	n	
Di-isopropyl ether	ND	0.0050	n	n	17	U	17	н	
1,2-Dibromoethane (EDB)	ND	0.0050	Ħ	n	tr	II .	II.	n	
1,2-Dichloroethane	ND	0.0050	ti		**	II .	n	II .	
Ethanol	ND	0.10	н	"	11	II .	19	H .	
Ethyl tert-butyl ether	ND	0.0050	н	II.	19	n	10	If	
Ethylbenzene	ND	0.0050	ш	H	19	II	11	Ħ	
Methyl tert-butyl ether	0.0085	0.0050	U	19	tt	79	19	11*	
Toluene	ND	0.0050	U	**	11	n	79	11	
Xylenes (total)	ND	0.0050	ш	"	97	n	10	<b>Tr</b>	
Gasoline Range Organics (C4-C1	12) 0.34	0.10	ш	**	н	Ħ	**	Ħ	
Surrogate: 1,2-Dichloroethane-d4		94 %	60-	125	, ,	"	n	"	
A-5 19.5-20 (MOI0807-04) Soil	Sampled: 09/26/05 10:47	Receive	d: 09/26/	05 17:45					
tert-Amyl methyl ether	ND	0.0050	mg/kg	1	5J05006	10/05/05	10/05/05	EPA 8260B	
Benzene	ND	0.0050	0	**	tı	17	II	Ħ	
tert-Butyl alcohol	ND	0.020	11	**	**	17	n	Ħ	
Di-isopropyl ether	ND	0.0050	17	**	Ħ	11	U	ti	
1,2-Dibromoethane (EDB)	ND	0.0050	D	Ħ	Ħ	**	U	ti	
1,2-Dichloroethane	ND	0.0050	11	tt	e	и	II	II	
Ethanol	ND	0.10	19	tt	ti	**	II	II .	
Ethyl tert-butyl ether	ND	0.0050	19	ti	u	**	II	Ü	
Ethylbenzene	ND	0.0050	18	ti	п	**	n	ij	
Methyl tert-butyl ether	0.0053	0.0050	11	II	17	н	I†	n	
Toluene	ND	0.0050	11	II .	II .	Ħ	н	19	
Xylenes (total)	ND	0.0050	71	II .	U	Ħ	n	n	
Gasoline Range Organics (C4-C12	) ND	0.10	**	II .	II .	U	19	IT	
Surrogate: 1,2-Dichloroethane-d4		99 %	60-	125	"	"	"	"	





Project:BP Heritage #11117,Oakland, CA

Project Number:G07TK-0022 Project Manager:Lynelle Onishi MOI0807 Reported: 10/14/05 09:41

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
A-5 22-22.5 (MOI0807-05) Soil	Sampled: 09/26/05 11:00	Receive	d: 09/26/0	05 17:45					
tert-Amyl methyl ether	ND	0.0050	mg/kg	0.99	5J05006	10/05/05	10/05/05	EPA 8260B	
Benzene	ND	0.0050	n	**	"	11	17	"	
tert-Butyl alcohol	ND	0.020	n	**	17	н	17	**	
Di-isopropyl ether	ND	0.0050	II.	*1	n	н	IT.	**	
1,2-Dibromoethane (EDB)	ND	0.0050	н	**	11	**	17	#	
1,2-Dichloroethane	ND	0.0050	11	*1	11	H	17	Ħ	
Ethanol	ND	0.099	n	**	"	tt	17	**	
Ethyl tert-butyl ether	ND	0.0050	n	11	11	tı	IT.	**	
Ethylbenzene	ND	0.0050	n	Ħ	11	tt	IF.	Tł.	
Methyl tert-butyl ether	0.0058	0.0050	n	**	tr	н	II.	**	
Toluene	ND	0.0050	U	**	17	*1	10	*	
Xylenes (total)	ND	0.0050	n	11	11	**	14	**	
Gasoline Range Organics (C4-C12	ND	0.099	n	11	ìī	tr	19	**	
Surrogate: 1,2-Dichloroethane-d4		95 %	60-	125	"	, ,	"	tt	
A-5 25-25.5 (MOI0807-06) Soil	Sampled: 09/26/05 11:05	Receive	d: 09/26/6	95 17:45					
tert-Amyl methyl ether	ND	0.0050	mg/kg	1	5J06008	10/06/05	10/06/05	EPA 8260B	
Benzene	ND	0.0050	II	11	17	Ħ	10	Ħ	
tert-Butyl alcohol	0.022	0.020	U	**	**	H	19	*	
Di-isopropyl ether	ND	0.0050	D	11	19	tı	ir	**	
1,2-Dibromoethane (EDB)	ND	0.0050	U	tt	19	п	IF	**	
1,2-Dichloroethane	ND	0.0050	II	**	17	II .	IF	**	
Ethanol	ND	0.10	II	*1	"	Ħ	11	tt	
Ethyl tert-butyl ether	ND	0.0050	II	**	19	n	11	Ħ	
Ethylbenzene	ND	0.0050	II	**	11	н	11	H	
Methyl tert-butyl ether	0.035	0.0050	IJ	11	Ħ	19	11	tr	
Toluene	ND	0.0050	II	**	19	u	11	**	
Xylenes (total)	ND	0.0050	n	*1	11	II .	11	el	
Gasoline Range Organics (C4-C	12) 0.23	0.10	U	11	tt	19	1r	Ħ	
Surrogate: 1,2-Dichloroethane-d4		95 %	60-	125	n	,,	n	n	





Project:BP Heritage #11117,Oakland, CA Project Number:G07TK-0022 Project Manager:Lynelle Onishi MOI0807 Reported: 10/14/05 09:41

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
A-5 30-30.5 (MOI0807-07) Soil	Sampled: 09/26/05 11:10	Receive	:d: 09/26/0	)5 17:45					
tert-Amyl methyl ether	ND	0.0050	mg/kg	0.99	5J05006	10/05/05	10/05/05	EPA 8260B	
Benzene	0.0068	0.0050	Ħ	n	"	II .	II .	77	
tert-Butyl alcohol	ND	0.020	u	Ħ	**	н	17	77	
Di-isopropyl ether	ND	0.0050	u	п	11	н	11	n	
1,2-Dibromoethane (EDB)	ND	0.0050	Ħ	п	"	н	17	77	
1,2-Dichloroethane	ND	0.0050	II .	II .	11	"	11	**	
EthanoI	ND	0.099	II .	н	11	tt	17	**	
Ethyl tert-butyl ether	ND	0.0050	п	IJ	#	ti	11	71	
Ethylbenzene	0.032	0.0050	п	u	н	n	17	Ħ	
Methyl tert-butyl ether	0.015	0.0050	U	II .	n	n	**	**	
Toluene	0.014	0.0050	U	II .	tt	17	**	Ħ	
Xylenes (total)	0.18	0.0050	п	п	н	n	11	n	
Gasoline Range Organics (C4-C	12) 1.3	0.099	п	u	U	19	**	π	
Surrogate: 1,2-Dichloroethane-d4		93 %	60	125	rr	"	,,	n	
A-5 35-35.5 (MOI0807-08) Soil	Sampled: 09/26/05 11:20	Receive	d: 09/26/0	05 17:45					
tert-Amyl methyl ether	ND	0.025	mg/kg	1	5J06050	10/06/05	10/07/05	EPA 8260B	
Benzene	0.11	0.050	U	U	н	**	н	II .	
tert-Butyl alcohol	ND	5.0	U	н	"	н	**	II .	
Di-isopropyl ether	ND	0.025	II .	н	**	н	tt	II .	
1,2-Dibromoethane (EDB)	ND	0.025	n	h	**	11	ti .	II .	
1,2-Dichloroethane	ND	0.025	n	n	rt rt	n	u	n	
Ethanol	ND	10	11	n	n	17	н	n	
Ethyl tert-butyl ether	ND	0.025	n	11	**	19	п	H	
Ethylbenzene	0.57	0.050	19	19	n	m	п	n	
Methyl tert-butyl ether	0.030	0.025	n	H	11	Ħ	n .	11	
Toluene	0.81	0.050	17	17	н	н	н	**	
Xylenes (total)	3.1	0.050	"	17	17	u	н	**	
Gasoline Range Organics (C4-C)	12) 28	2.5	11	I†	11	u	n	<b>31</b>	
Surrogate: 1,2-Dichloroethane-d4		110 %	60	125	"	77	"	"	





Project:BP Heritage #11117,Oakland, CA

Project Number:G07TK-0022
Project Manager:Lynelle Onishi

MOI0807 Reported: 10/14/05 09:41

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Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
A-5 19.5' (MOI0807-09) Water	Sampled: 09/26/05 10:42	Receive	d: 09/26/	05 17:45					BZ,BU
tert-Amyl methyl ether	ND	2.5	ug/l	5	5J04002	10/04/05	10/04/05	EPA 8260B	
Benzene	10	2.5	11	U	U	**	n	Ħ	
tert-Butyl alcohol	350	100	It	II .	Ħ	**	n	¥1	
Di-isopropyl ether	ND	2.5		u	ır	*	n	ŧŧ	
1,2-Dibromoethane (EDB)	ND	2.5	"	u	11	"	11	11	
1,2-Dichloroethane	ND	2.5	"	н	"	"	II .	78	
Ethanol	ND	500	n	u	19	11	н	11	
Ethyl tert-butyl ether	ND	2.5	n	н	в		п	Ħ	
Ethylbenzene	2.8	2.5	19	**	**	11-	п	#	
Methyl tert-butyl ether	510	2.5	n	*1	10	10	II .	*	
Toluene	ND	2.5	n	**	11	D	II	I†	
Xylenes (total)	3.8	2.5	U	n	11	IP .	II	19	
Gasoline Range Organics (C4-C1	2) 790	250	п	**	TP	19	п	19	
Surrogate: 1,2-Dichloroethane-d4		93 %	60-	135	"	*	"	rr r	
A-4 21.6' (MOI0807-10) Water	Sampled: 09/26/05 13:32	Receive	d: 09/26/	05 17:45					BZ,BU
tert-Amyl methyl ether	ND	50	ug/l	100	5J04002	10/04/05	10/04/05	EPA 8260B	
Benzene	2500	50	Ħ	**	11	"	u	11	
tert-Butyl alcohol	ND	2000	**	77	U	tt	ti	n	
Di-isopropyl ether	ND	50	*1	17	п	н	Ħ	n	
1,2-Dibromoethane (EDB)	ND	50	н	17	п	u	н	11	
1,2-Dichloroethane	ND	50	tı	10	U	0	tt	ti .	
Ethanol	ND	10000	**	10	n	0	rt .	U	
Ethyl tert-butyl ether	ND	50	**	17	н	u	n	n	
Ethylbenzene	5500	50	**	17	n	ır	"	U .	
Methyl tert-butyl ether	820	50	"1	,	n	н	"	n .	
Toluene	7300	50	**	"	n	n	**	п	
Xylenes (total)	18000	50	"1		n	n	•	n .	
Gasoline Range Organics (C4-C1		5000	**	19	н	11	**	II .	
Surrogate: 1,2-Dichloroethane-d4		104 %	60-	135	,,	ħ	"	"	





Project:BP Heritage #11117,Oakland, CA

Project Number:G07TK-0022 Project Manager:Lynelle Onishi MOI0807 Reported: 10/14/05 09:41

Апаlyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
A-4 5-5.5' (MO10807-11) Soil Sa	mpled: 09/26/05 12:55	Received	: 09/26/05	17:45					
tert-Amyl methyl ether	ND	0.0050	mg/kg	1	5J05006	10/05/05	10/05/05	EPA 8260B	
Benzene	ND	0.0050	н	71	II .	11	17	Ħ	
tert-Butyl alcohol	ND	0.020	**	11	н	n	10	**	
Di-isopropyl ether	ND	0.0050	Ħ	IP	н	II.	17	Ħ	
1,2-Dibromoethane (EDB)	ND	0.0050	11	17	Ħ	II .	t)	**	
1,2-Dichloroethane	ND	0.0050	77	n	11	II .	II	19	
Ethanol	ND	0.10	11	n	78	(I	II	n	
Ethyl tert-butyl ether	ND	0.0050	11	u	19	ţI	II	n	
Ethylbenzene	ND	0.0050	11	u	17	<b>†</b> ‡	н	II .	
Methyl tert-butyl ether	ND	0.0050	U	н	11	**	**	111	
Toluene	ND	0.0050	U	*1	"	17	**	u u	
Xylenes (total)	ND	0.0050	н	10	U	•	"	ч	
Gasoline Range Organics (C4-C12)	) ND	0.10	tt	IF	U	19	11	Ħ	
Surrogate: 1,2-Dichloroethane-d4		89 %	60-	125	"	"	"	"	
A-4 15-15.5' (MOI0807-12) Soil	Sampled: 09/26/05 13:1	15 Receiv	ed: 09/26/	/05 17:45					
tert-Amyl methyl ether	ND	0.0050	mg/kg	I	5J05006	10/05/05	10/05/05	EPA 8260B	
Benzene	ND	0.0050	n	II .	**	u	0	H	
tert-Butyl alcohol	ND	0.020	n	u	11	II	Ħ	n	
Di-isopropyl ether	ND	0.0050	II	**	17	11	Ħ	II .	
1,2-Dibromoethane (EDB)	ND	0.0050	н	n	n	**	**	II	
1,2-Dichloroethane	ND	0.0050	н	17	U	18	11	II	
Ethanol	ND	0.10	**	11	"	**	**	II	
Ethyl tert-butyl ether	ND	0.0050	**	49	"	n,	17	**	
Ethylbenzene	ND	0.0050	**		н	19	17	**	
Methyl tert-butyl ether	ND	0.0050	11	It.	Ħ	19	17	tr	
Toluene	ND	0.0050	10	n	н	н	17	**	
Xylenes (total)	ND	0.0050	n	t)	**	"	n	11	
Gasoline Range Organics (C4-C12)	) ND	0.10	н	b	**	ıı	11	**	
Surrogate: 1,2-Dichloroethane-d4		97 %	60-	125	"	"	н	"	
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Project:BP Heritage #11117,Oakland, CA

Project Number:G07TK-0022

Project Manager:Lynelle Onishi

MOI0807 Reported: 10/14/05 09:41

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
A-4 19.5-20' (MOI0807-13) Soil	Sampled: 09/26/05 13:25	Receive	ed: 09/26/	05 17:45					
tert-Amyl methyl ether	ND	0.0050	mg/kg	1.01	5J05006	10/05/05	10/05/05	EPA 8260B	
Benzene	ND	0.0050	"	II .	**	II .	u	II .	
tert-Butyl alcohol	ND	0.020	17	ıı	11	II .	Ħ	n	
Di-isopropyl ether	ND	0.0050	н	u	n	U	Ħ	u .	
1,2-Dibromoethane (EDB)	ND	0.0050	п	н	r.	ti	**	н	
1,2-Dichloroethane	ND	0.0050	H	+1		**	11	н	
Ethanol	ND	0.10	Ħ	11	17	**	Ħ	ti	
Ethyl tert-butyl ether	ND	0.0050	71	11	ij	**	IF	11	
Ethylbenzene	ND	0.0050	71	17	ij	Ħ	17	Ħ	
Methyl tert-butyl ether	ND	0.0050	11	"	u	11	19	11	
Toluene	ND	0.0050	11	n	н	10	n	H	
Xylenes (total)	ND	0.0050	n	n	H	19	n	11	
Gasoline Range Organics (C4-C1	2) 0.44	0.10	n	U	ij	97	п	11	
Surrogate: 1,2-Dichloroethane-d4		96 %	60-	125	n	"	"	"	
A-4 23.5-24' (MOI0807-14) Soil	Sampled: 09/26/05 13:35	Receiv	ed: 09/26/	05 17:45					
tert-Amyl methyl ether	ND	0.50	mg/kg	20	5J06050	10/06/05	10/10/05	EPA 8260B	
Benzene	ND	1.0	u	*1	"	ti	**	п	
tert-Butyl alcohol	ND	100	Ħ	19	n	"	**	II .	
Di-isopropyl ether	ND	0.50	**	11	11	**	17	tt	
1,2-Dibromoethane (EDB)	ND	0.50	91	11	н	**	"	tt	
1,2-Dichloroethane	ND	0.50	**	19	U	11	и	n	
Ethanol	ND	200	**	17	11	17	11	Ħ	
Ethyl tert-butyl ether	ND	0.50	11	n	u	11	11	0	
Ethylbenzene	18	1.0	11	n	n	ŧŧ	н	n	
Methyl tert-butyl ether	ND	0.50	n	n	Ħ	15	n	11	
Toluene	18	1.0	D	u	II .	**	0		
Xylenes (total)	87	1.0		н	"	17	Ħ	H	
Surrogate: 1,2-Dichloroethane-d4		106 %	60-	125	tī	н	"	"	





Project:BP Heritage #11117,Oakland, CA

Project Number:G07TK-0022
Project Manager:Lynelle Onishi

MOI0807 Reported: 10/14/05 09:41

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Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
A-4 23.5-24' (MOI0807-14RE1) Soil	Sampled: 09/26/05 1	3:35 Re	ceived: 0	9/26/05 17	:45				CL
Gasoline Range Organics (C4-C12)	490	50	mg/kg	20	5J06050	10/06/05	10/11/05	EPA 8260B	
Surrogate: 1,2-Dichloroethane-d4		101 %	60-	125	"	п	"	"	
A-4 31.5-32' (MOI0807-15) Soil Sai	mpled: 09/26/05 13:55	Receive	ed: 09/26	/05 17:45					
tert-Amyl methyl ether	ND	0.025	mg/kg	1	5J06050	10/06/05	10/10/05	EPA 8260B	
Benzene	0.15	0.050	R	II .	II .	Ħ	II .	n	
tert-Butyl alcohol	ND	5.0	H	II.	**	"	0	**	
Di-isopropyl ether	ND	0.025	19	ii.	**		tl	ji	
1,2-Dibromoethane (EDB)	ND	0.025	н	Ħ	11	19	Ħ	16	
1,2-Dichloroethane	ND	0.025	n .	77	10	n	*1	n	
Ethanol	ND	10	п	#	"	U	**	II.	
Ethyl tert-butyl ether	ND	0.025	u	19		II.	11	II.	
Ethylbenzene	0.24	0.050	ţ1	P	**	n	77	n	
Methyl tert-butyl ether	0.48	0.025	**	17	11	н	78	n	
Toluene	0.088	0.050	**	ıı	11	IJ	19	II .	
Xylenes (total)	1.1	0.050	11	n	19	II	11	u	
Surrogate: 1,2-Dichloroethane-d4		101 %	60-	-125	11	n	н	"	
A-4 31.5-32' (MOI0807-15RE1) Soil	Sampled: 09/26/05 1	3:55 Re	eceived: (	9/26/05 17	:45				LA
Gasoline Range Organics (C4-C12)	5.1	2.5	mg/kg	1	5J06050	10/06/05	10/11/05	EPA 8260B	
Surrogate: 1,2-Dichloroethane-d4		105 %	60-	-125	n	#	"	<i>t</i> /	
A-4 34-36' (MOI0807-16) Water Sa	ampled: 09/26/05 14:50	Receiv	ved: 09/2	6/05 17:45					
tert-Amyl methyl ether	ND	250	ug/l	500	5J04002	10/04/05	10/04/05	EPA 8260B	
Benzene	11000	250	II	**	H	11	(f	11	
tert-Butyl alcohol	ND	10000	н	11	17	n	Ħ	tr .	
Di-isopropyl ether	ND	250	#1	11	n	"	H.	"	
1,2-Dibromoethane (EDB)	ND	250	<b>†</b> 1	**	11		17	n	
1,2-Dichloroethane	ND	250	**	n	н	ĮI.	**	10	
Ethanol	ND	50000	11	n	ш	*1	**	n	
Ethyl tert-butyl ether	ND	250	**	n	II .	Ħ	11	n	
Ethylbenzene	4000	250	19	n	"	D	**	II .	
Methyl tert-butyl ether	39000	250	11	U	11	ш	17	u	
Toluene	2400	250	17	U	н	ш	IF.	0	
Xylenes (total)	19000	250	n	II	II.	n	19	п	
Gasoline Range Organics (C4-C12)	120000	25000	19	ıı .	II .	tt	P	н	
Surrogate: 1,2-Dichloroethane-d4		89 %	60-	-135	Ħ	ħ	"	н	





Project:BP Heritage #11117,Oakland, CA

Project Number: G07TK-0022

MOI0807 Reported: 10/14/05 09:41

Project Manager:Lynelle Onishi

#### 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 5J13039 - EPA 3050B / EPA 6	010B									
Blank (5J13039-BLK1)				Prepared	& Analyz	ed: 10/13/	05			
Lead	ND	5.0	mg/kg							
Laboratory Control Sample (5J13039-BS	51)			Prepared	& Analyz	ed: 10/13/	05			
Lead	44.0	5.0	mg/kg	50.0		88	75-120			
Matrix Spike (5J13039-MS1)	Source: M	OJ0644-01		Prepared	& Analyz	ed: 10/13/	05			
Lead	49.9	5.0	mg/kg	50.0	6.4	87	75-120			
Matrix Spike Dup (5J13039-MSD1)	Source: M	ОЈ0644-01		Prepared	& Analyz	ed: 10/13/	05			
Lead	50.2	5.0	mg/kg	50.0	6.4	88	75-120	0.6	20	





Project:BP Heritage #11117,Oakland, CA Project Number:G07TK-0022

Project Manager:Lynelle Onishi

MOI0807 Reported: 10/14/05 09:41

Batch 5J04002 - EPA 5030B Modified / EPA 8260B           Blank (5J04002-BLK1)           tert-Amyl methyl ether         ND         0.50         ug           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         "	
tert-Amyl methyl ether         ND         0.50         ug           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         "	
tert-Amyl methyl ether         ND         0.50         ug           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         "	
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 "	
Di-isopropyl ether         ND         0.50         "           1,2-Dibromoethane (EDB)         ND         0.50         "           1,2-Dichloroethane         ND         0.50         "           Ethanol         ND         100         "	
1,2-Dibromoethane (EDB)       ND       0.50       "         1,2-Dichloroethane       ND       0.50       "         Ethanol       ND       100       "	
1,2-Dichloroethane ND 0.50 " Ethanol ND 100 "	
Ethanol ND 100 "	
Ethyl tert, hutyl ether ND 0.50 "	
Emyr tere-outly tenter 10.50	
Ethyłbenzene 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 4.44 "	5.00 89 60-135
Blank (5J04002-BLK2)	Prepared & Analyzed: 10/04/05
tert-Amyl methyl ether ND 0.50 ug	/1
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 "	
Surrogate: 1,2-Dichloroethane-d4 4.46 "	5.00 89 60-135





Project:BP Heritage #11117,Oakland, CA Project Number:G07TK-0022 Project Manager:Lynelle Onishi MOI0807 Reported: 10/14/05 09:41

	- 1	Reporting	** **	Spike	Source	Whre	%REC	DDD	RPD	37.4.
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 5J04002 - EPA 5030B Modified /	EPA 8260	В								
Laboratory Control Sample (5J04002-BS1)				Prepared	& Analyze	ed: 10/04/	05			
tert-Amyl methyl ether	14.1	0.50	ug/l	15.0		94	80-115			
Benzene	4.85	0.50	11	5.16		94	65-115			
tert-Butyl alcohol	155	20	"	143		108	75-150			
Di-isopropyl ether	14.3	0.50	11	15.1		95	75-125			
1,2-Dibromoethane (EDB)	16.4	0.50	n	14.9		110	85-120			
1,2-Dichloroethane	15.6	0.50	H	14.7		106	85-130			
Ethanol	173	100	II	142		122	70-135			
Ethyl tert-butyl ether	13.2	0.50	n	15.0		88	75-130			
Ethylbenzene	6.52	0.50	u	7.54		86	75-135			
Methyl tert-butyl ether	6.94	0.50	*1	7.02		99	65-125			
Toluene	35.3	0.50	"	37.2		95	85-120			
Xylenes (total)	39.9	0.50	11	41.2		97	85-125			
Gasoline Range Organics (C4-C12)	471	50	11	440		107	70-124			
Surrogate: 1,2-Dichloroethane-d4	4.75		ŧ	5.00		95	60-135			
Laboratory Control Sample (5J04002-BS2)				Prepared	& Analyze	ed: 10/04/	05			
tert-Amyl methyl ether	13.5	0.50	ug/l	15.0		90	80-115			
Benzene	4.72	0.50	II	5.16		91	65-115			
tert-Butyl alcohol	155	20	п	143		108	75-150			
Di-isopropyl ether	15.4	0.50	Ħ	15.1		102	75-125			
1,2-Dibromoethane (EDB)	16.4	0.50	н	14.9		110	85-120			
1,2-Dichloroethane	14.0	0.50	tt	14.7		95	85-130			
Ethanol	178	100	41	142		125	70-135			
Ethyl tert-butyl ether	13.5	0.50	**	15.0		90	75-130			
Ethylbenzene	6.61	0.50	#	7.54		88	75-135			
Methyl tert-butyl ether	6.81	0.50	Ð	7.02		97	65-125			
Toluene	36.0	0.50	11	37.2		97	85-120			
Xylenes (total)	38.1	0.50	11	41.2		92	85-125			
Gasoline Range Organics (C4-C12)	485	50	n	440		110	70-124			
	4.30		"	5.00		86	60-135			





Project:BP Heritage #11117,Oakland, CA

Project Number:G07TK-0022

Project Manager:Lynelle Onishi

MOI0807 Reported: 10/14/05 09:41

Andrea	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Analyte	Result	Lunt	OIIIS	Peacl	Result	70KUC	Cilinis	NI D	Lillie	Notes
Batch 5J04002 - EPA 5030B Modifi	ed / EPA 8260	В	····							
Matrix Spike (5J04002-MS1)	Source: M	OI0747-02		Prepared	& Analyze	d: 10/04/	05			
tert-Amyl methyl ether	804	25	ug/l	752	48	101	80-115			
Benzene	461	25	19	258	210	97	65-115			
tert-Butyl alcohol	16000	1000	n	7160	9000	98	75-120			
Di-isopropyl ether	743	25	u	756	ND	98	75-125			
1,2-Dibromoethane (EDB)	814	25	11	744	ND	109	85-120			
1,2-Dichloroethane	755	25	u	736	ND	103	85-130			
Ethanol	8200	5000	**	7080	ND	116	70-135			
Ethyl tert-butyl ether	707	25	**	752	ND	94	75-130			
Ethylbenzene	3140	25	**	377	2900	64	75-135			BB,LN
Methyl tert-butyl ether	1280	25	"	351	1000	80	65-125			
Toluene	2080	25	ij	1860	280	97	85-120			
Xylenes (total)	9650	25	ii	2060	8200	70	85-125			Lì
Gasoline Range Organics (C4-C12)	60500	2500	II .	22000	42000	84	70-124			
Surrogate: 1,2-Dichloroethane-d4	4.71		п	5.00		94	60-135			
Matrix Spike Dup (5J04002-MSD1)	Source: M	OI0747-02		Prepared	& Analyzo	ed: 10/04/	05			
tert-Amyl methyl ether	770	25	ug/l	752	48	96	80-115	4	15	
Benzene	461	25	11	258	210	97	65-115	0	20	
tert-Butyl alcohol	15900	1000	19	7160	9000	96	75-120	0.6	25	
Di-isopropyl ether	764	25	H	756	ND	101	75-125	3	15	
1,2-Dibromoethane (EDB)	844	25	"	744	ND	113	85-120	4	15	
1,2-Dichloroethane	708	25	U	736	ND	96	85-130	6	20	
Ethanol	7740	5000	H	7080	ND	109	70-135	6	35	
Ethyl tert-butyl ether	694	25	н	752	ND	92	75-130	2	25	
Ethylbenzene	3070	25	11	377	2900	45	75-135	2	15	BB,L1
Methyl tert-butyl ether	1250	25	77	351	1000	71	65-125	2	20	
Toluene	2080	25	"	1860	280	97	85-120	0	20	
Xylenes (total)	9050	25	11	2060	8200	41	85-125	6	20	Lì
Gasoline Range Organics (C4-C12)	59200	2500	н	22000	42000	<b>7</b> 8	70-124	2	20	
Surrogate: 1,2-Dichloroethane-d4	4.48		"	5.00		90	60-135			





Project:BP Heritage #11117,Oakland, CA

Project Number: G07TK-0022

Project Manager:Lynelle Onishi

MOI0807 Reported: 10/14/05 09:41

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 5J05006 - EPA 5030B P/T	/ EPA 8260B									
Blank (5J05006-BLK1)				Prepared a	& Analyze	ed: 10/05/	05			
tert-Amyl methyl ether	ND	0.0050	mg/kg	·						
Benzene	ND	0.0050	п							
tert-Butyl alcohol	ND	0.020	tı							
Di-isopropyl ether	ND	0.0050	#1							
1,2-Dibromoethane (EDB)	ND	0.0050	Ħ							
1,2-Dichloroethane	ND	0.0050	111							
Ethanol	ND	0.10								
Ethyl tert-butyl ether	ND	0.0050	19							
Ethylbenzene	ND	0.0050	19					$v_{k}=e$		
Methyl tert-butyl ether	ND	0.0050	11							
Toluene	ND	0.0050	ш							
Xylenes (total)	ND	0.0050	U							
Gasoline Range Organics (C4-C12)	ND	0.10	н							
Surrogate: 1,2-Dichloroethane-d4	0.00504		п	0.00500		101	60-125			
Laboratory Control Sample (5J0500)	6-BS1)			Prepared a	& Analyz	ed: 10/05/	05			
tert-Amyl methyl ether	0.0167	0.0050	mg/kg	0.0150		111	80-130			
Benzene	0.00467	0.0050	"	0.00516		91	65-125			
tert-Butyl alcohol	0.130	0.020	11	0.143		91	80-165			
Di-isopropyl ether	0.0158	0.0050	11	0.0151		105	85-115			
1,2-Dibromoethane (EDB)	0.0150	0.0050		0.0149		101	85-130			
1,2-Dichloroethane	0.0159	0.0050	U	0.0147		108	63-124			
Ethanol	0.146	0.10	11	0.142		103	35-150			
Ethyl tert-butyl ether	0.0158	0.0050	H	0.0150		105	80-125			
Ethylbenzene	0.00674	0.0050	n	0.00754		89	80-135			
Methyl tert-butyl ether	0.00765	0.0050	Ħ	0.00702		109	75-115			
Toluene	0.0336	0.0050	**	0.0372		90	85-125			
Xylenes (total)	0.0388	0.0050	11	0.0412		94	80-140			
Gasoline Range Organics (C4-C12)	0.434	0.10	11	0.440		99	53-126			
Surrogate: 1,2-Dichloroethane-d4	0.00520		n	0.00500		104	60-125	•		





Project:BP Heritage #11117,Oakland, CA

Project Number:G07TK-0022

Project Manager:Lynelle Onishi

MOI0807 Reported: 10/14/05 09:41

	<b>35.</b> 1.	Reporting	77 14-	Spike	Source	A/DEC	%REC	DDD	RPD	Ninter
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 5J05006 - EPA 5030B P/T / E	PA 8260B									
Matrix Spike (5J05006-MS1)	Source: M	OI0807-01		Prepared	& Analyze	ed: 10/05/	05			
tert-Amyl methyl ether	0.0167	0.0050	mg/kg	0.0150	0.00017	110	80-130			
Benzene	0.00463	0.0050	71	0.00516	ND	90	65-125			
ert-Butyl alcohol	0.139	0.020	11	0.143	ND	97	80-135			
Di-isopropyl ether	0.0161	0.0050	**	0.0151	ND	107	85-115			
,2-Dibromoethane (EDB)	0.0151	0.0050	tr	0.0149	ND	101	85-130			
,2-Dichloroethane	0.0149	0.0050	11	0.0147	ND	101	63-124			
Ethanol	0.100	0.10	R	0.142	ND	70	35-150			
Ethyl tert-butyl ether	0.0158	0.0050	P	0.0150	ND	105	80-125			
Ethylbenzene	0.00681	0.0050	I+	0.00754	ND	90	80-135			
Methyl tert-butyl ether	0.00725	0.0050	11	0.00702	ND	103	75-115			
Coluene	0.0394	0.0050	19	0.0372	ND	106	85-125			
(ylenes (total)	0.0420	0.0050	n	0.0412	ND	102	80-140			
Gasoline Range Organics (C4-C12)	0.455	0.10	U	0.440	ND	103	53-126			
Currogate: 1,2-Dichloroethane-d4	0.00471		"	0.00500		94	60-125			
Matrix Spike Dup (5J05006-MSD1)	Source: M	OI0807-01		Prepared	& Analyze	d: 10/05/	05			
ert-Amyl methyl ether	0.0178	0.0050	mg/kg	0.0150	0.00017	118	80-130	6	25	
Benzene	0.00507	0.0050	u	0.00516	ND	98	65-125	9	20	
ert-Butyl alcohol	0.159	0.020	*1	0.143	ND	111	80-135	13	20	
Di-isopropyl ether	0.0172	0.0050	*1	0.0151	ND	114	85-115	7	20	
,2-Dibromoethane (EDB)	0.0159	0.0050	71	0.0149	ND	107	85-130	5	15	
,2-Dichloroethane	0.0158	0.0050	**	0.0147	ND	107	63-124	6	25	
Ethanol	0.124	0.10	11	0.142	ND	87	35-150	21	40	
Ethyl tert-butyl ether	0.0171	0.0050	**	0.0150	ND	114	80-125	8	25	
Ethylbenzene	0.00757	0.0050	16	0.00754	ND	100	80-135	11	20	
Methyl tert-butyl ether	0.00776	0.0050	16	0.00702	ND	111	75-115	7	35	
Coluene	0.0423	0.0050	11	0.0372	ND	114	85-125	7	15	
(ylenes (total)	0.0456	0.0050		0.0412	ND	111	80-140	8	20	
Gasoline Range Organics (C4-C12)	0.483	0.10		0.440	ND	110	53-126	6	25	
Surrogate: 1,2-Dichloroethane-d4	0.00470		"	0.00500		94	60-125		***	





Project:BP Heritage #11117,Oakland, CA Project Number:G07TK-0022

Project Manager:Lynelle Onishi

MOI0807 Reported: 10/14/05 09:41

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 5J06008 - EPA 5030B P/T	/ EPA 8260B	· .			· · · · · · · · · · · · · · · · · · ·					
Blank (5J06008-BLK1)				Prepared &	& Analyze	ed: 10/06/	05			
tert-Amyl methyl ether	ND	0.0050	mg/kg	<del></del>						
Benzene	ND	0.0050	n							
tert-Butyl alcohol	ND	0.020								
Di-isopropyl ether	ND	0.0050	н							
1,2-Dibromoethane (EDB)	ND	0.0050	u							
1,2-Dichloroethane	ND	0.0050	II .							
Ethanol	ND	0.10	*1							
Ethyl tert-butyl ether	ND	0.0050	n							
Ethylbenzene	ND	0.0050	**							
Methyl tert-butyl ether	ND	0.0050	*1							
Toluene	ND	0.0050	**							
Xylenes (total)	ND	0.0050	"							
Gasoline Range Organics (C4-C12)	ND	0.10	**							
Surrogate: 1,2-Dichloroethane-d4	0.00507		#	0.00500		101	60-125			
Laboratory Control Sample (5J06008	8-BS1)			Prepared a	& Analyze	d: 10/06/	05			
tert-Amyl methyl ether	0.0172	0.0050	mg/kg	0.0150		115	80-130			
Benzene	0.00470	0.0050	**	0.00516		91	65-125			
ert-Butyl alcohol	0.142	0.020	18	0.143		99	80-165			
Di-isopropyl ether	0.0160	0.0050	H	0.0151		106	85-115			
1,2-Dibromoethane (EDB)	0.0155	0.0050	*	0.0149		104	85-130			
1,2-Dichloroethane	0.0143	0.0050	17	0.0147		97	63-124			
Ethanol	0.116	0.10	10	0.142		82	35-150			
Ethyl tert-butyl ether	0.0166	0.0050		0.0150		111	80-125			
Ethylbenzene	0.00691	0.0050		0.00754		92	80-135			
Methyl tert-butyl ether	0.00728	0.0050	10	0.00702		104	75-115			
Toluene	0.0361	0.0050	10	0.0372		97	85-125			
Xylenes (total)	0.0398	0.0050	n	0.0412		97	80-140			
Gasoline Range Organics (C4-C12)	0.424	0.10	н	0.440		96	53-126			
Surrogate: 1,2-Dichloroethane-d4	0.00433		"	0.00500		87	60-125			





Project:BP Heritage #11117,Oakland, CA Project Number:G07TK-0022

Project Manager:Lynelle Onishi

MOI0807 Reported: 10/14/05 09:41

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

		Reporting		Spike	Source		%REC		RPD					
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes				
Batch 5J06008 - EPA 5030B P/T	EPA 8260B													
Laboratory Control Sample Dup (5J0		Prepared & Analyzed: 10/06/05												
tert-Amyl methyl ether	0.0176	0.0050	mg/kg	0.0150		117	80-130	2	25					
Benzene	0.00494	0.0050	U	0.00516		96	65-125	5	20					
tert-Butyl alcohol	0.145	0.020	IJ	0.143		101	80-165	2	25					
Di-isopropyl ether	0.0169	0.0050	п	0.0151		112	85-115	5	20					
1,2-Dibromoethane (EDB)	0.0157	0.0050	u	0.0149		105	85-130	1	15					
1,2-Dichloroethane	0.0147	0.0050	Ħ	0.0147		100	63-124	3	25					
Ethanol	0.118	0.10	+t	0.142		83	35-150	2	40					
Ethyl tert-butyl ether	0.0169	0.0050	τt	0.0150		113	80-125	2	25					
Ethylbenzene	0.00760	0.0050	H	0.00754		101	80-135	10	20					
Methyl tert-butyl ether	0.00724	0.0050	11	0.00702		103	75-115	0.6	35					
Toluene	0.0394	0.0050	11	0.0372		106	85-125	9	15					
Xylenes (total)	0.0435	0.0050	н	0.0412		106	80-140	9	20					
Gasoline Range Organics (C4-C12)	0.467	0.10	II	0.440		106	53-126	10	25					
Surrogate: 1,2-Dichloroethane-d4	0.00431		н	0.00500		86	60-125							

#### Batch 5J06050 - EPA 5030B/5035A MeOH / EPA 8260B

Blank (5J06050-BLK1)				Prepared: 10/06/05 Analyzed: 10/07/05
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	19	
1,2-Dibromoethane (EDB)	ND	0.025	1+	
1,2-Dichloroethane	ND	0.025	19	
Ethanol	ND	10	n	
Ethyl tert-butyl ether	ND	0.025	U	
Ethylbenzene	ND	0.050	п	
Methyl tert-butyl ether	ND	0.025	u	
Toluene	ND	0.050	II .	
Xylenes (total)	ND	0.050	н	
Gasoline Range Organics (C4-C12)	ND	2.5	Ħ	
Surrogate: 1,2-Dichloroethane-d4	0.00531		17	0.00500 106 60-125





Project:BP Heritage #11117,Oakland, CA Project Number:G07TK-0022

Project Manager:Lynelle Onishi

MOI0807 Reported: 10/14/05 09:41

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
						,,,,,				
<u>Batch 5J06050 - EPA 5030B/503</u> Laboratory Control Sample (5J0605		020UD		Prepared:	10/06/05	Analyzed	L: 10/07/05			
tert-Amyl methyl ether	0.541	0.025	mg/kg	0.500	10,00,00	108	80-130			
Benzene	0.520	0.050	,,	0.500		104	65-125			
tert-Butyl alcohol	2.19	5.0	*1	2.50		88	80-165			
Di-isopropyl ether	0.550	0.025	**	0.500		110	85-115			
1,2-Dibromoethane (EDB)	0.543	0.025	11	0.500		109	85-130			
1,2-Dichloroethane	0.568	0.025	11	0.500		114	63-124			
Ethanol	8.43	10	"	10.0		84	35-150			
Ethyl tert-butyl ether	0.526	0.025	P	0.500		105	80-125			
Ethylbenzene	0.481	0.050	19	0.500		96	80-135			
Methyl tert-butyl ether	0.501	0.025	n	0.500		100	75-115			
Toluene	0.559	0.050	n	0.500		112	85-125			
Xylenes (total)	1.37	0.050	n	1.50		91	80-140			
Surrogate: 1,2-Dichloroethane-d4	0.00528		"	0.00500		106	60-125			
Laboratory Control Sample (5J0605	0-BS2)			Prepared:	10/06/05	Analyzed	l: 10/07/05			
Benzene	0.222	0.050	mg/kg	0.228		97	65-125			
Ethylbenzene	0.286	0.050	0	0.294		97	80-135			
Methyl tert-butyl ether	0.370	0.025	0	0.360		103	75-115			
Toluene	1.43	0.050	u	1.23		116	85-125			
Xylenes (total)	1.33	0.050	Ħ	1.44		92	80-140			
Gasoline Range Organics (C4-C12)	15.5	2.5	"	16.5		94	60-140			
Surrogate: 1,2-Dichloroethane-d4	0.00530		п	0.00500		106	60-125			
Laboratory Control Sample Dup (5.	106050-BSD1)			Prepared:	10/06/05	Analyzed	1: 10/07/05			
tert-Amyl methyl ether	0.556	0.025	mg/kg	0.500		111	80-130	3	25	
Benzene	0.523	0.050	*1	0.500		105	65-125	0.6	20	
tert-Butyl alcohol	2.22	5.0	+1	2.50		89	80-165	1	25	
Di-isopropyl ether	0.549	0.025	**	0.500		110	85-115	0.2	20	
1,2-Dibromoethane (EDB)	0.574	0.025	"	0.500		115	85-130	6	15	
1,2-Dichloroethane	0.570	0.025	41 .	0.500		114	63-124	0.4	25	
Ethanol	8.00	10	**	10.0		80	35-150	5	40	
Ethyl tert-butyl ether	0.532	0.025	"	0.500		106	80-125	1	25	
Ethylbenzene	0.501	0.050	¥	0.500		100	80-135	4	20	
Methyl tert-butyl ether	0.524	0.025	11	0.500		105	75-115	4	35	
Toluene	0.575	0.050	11	0.500		115	85-125	3	15	
Xylenes (total)	1.45	0.050	97	1.50		97	80-140	6	20	





Project:BP Heritage #11117,Oakland, CA

Project Number: G07TK-0022

Project Manager:Lynelle Onishi

MOI0807 Reported: 10/14/05 09:41

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch 5J06050 -	FPA	5030R/5035A	MeOH	/ FPA 8260R
Daten Javovjo -		20200120227	TICOIL	/ IDI (1. UZ-UVD.)

Laboratory Control Sample Dup (5J	06050-BSD1)			Prepared: 10/0	6/05 Analyzeo	l: 10/07/05			
Surrogate: 1,2-Dichloroethane-d4	0.00516		mg/kg	0.00500	103	60-125			
Laboratory Control Sample Dup (5J	06050-BSD2)			Prepared: 10/0					
Benzene	0.197	0.050	mg/kg	0.228	86	65-125	12	20	
Ethylbenzene	0.268	0.050	Ħ	0.294	91	80-135	6	20	
Methyl tert-butyl ether	0.338	0.025	н	0.360	94	75-115	9	35	
Toluene	1.32	0.050	tt	1.23	107	85-125	8	15	
Xylenes (total)	1.26	0.050	ti	1.44	87	80-140	5	20	
Gasoline Range Organics (C4-C12)	13.9	2.5	н	16.5	84	60-140	11	25	
Surrogate: 1,2-Dichloroethane-d4	0.00537		n	0.00500	107	60-125			





	URS Corporation [Arco]	Project:BP Heritage #11117,Oakland, CA	MOI0807
:	1333 Broadway, Suite 800	Project Number:G07TK-0022	Reported:
	Oakland CA, 94612	Project Manager:Lynelle Onishi	10/14/05 09:41

#### **Notes and Definitions**

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

LA Confirmatory analysis was past holding time.

CL Initial analysis within holding time but required dilution

BZ,BU Sample preserved improperly. Sample analyzed after holding time expired.

BB,LN Sample > 4x spike concentration.

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

## \$ Please fax copy to Lynelle Onoth 510 874 3268



**Chain of Custody Record** 

Project Name:	Former BP Site 1	1117 Soil/Ground	water Investigation
BP BU/AR Region/I	Enfos Segment:	BP/Americas/WestCo.	ast/Retail/WCBU/CA/Cent

State or Lead Regulatory Agency:

Alameda County Environmental Health

Requested Due Date (mm/dd/yy):

Standard TAT

		Pageot	
On-site Time:	8am	Temp: 65°	
Off-site Time:	•	Temp:	_
ky Conditions:	Clear		
Aeteorological Ev	ents:		
Vind Speed: 5	mor	Direction:	

				TT		1																								
Lab Name:	Sequoia Analytical					BP/AR Facility No	).:			111	17							Cons	ulta	ıt/Co	ntrac	tor:		URS	}					$\neg$
Address:	885 Jarvis Drive					BP/AR Facility Ac	idres	s:	7:	210 B	ancre	fl Ave	, Oakl	and,	CA			Address: 1333 Broadway, Suite 800										┨		
	Morgan Hill, CA 95037					Site Lat/Long:												Oakland, CA 94612									-1			
Lab PM:	Lisa Race													Consultant/Contractor Project No.: 38487353.0A034										┪						
Tele/Fax:	408-782-8156/408-782-6308															ıt/Co					····		elle O		<del></del>	ᅦ				
BP/AR PM Contact:	Kyle Christie					Provision or RCOP (circle one) Provision								Tele/Fax: 510-874-1758/510-874-3268										ᆌ						
Address: 4 Centerpo	inte Dr.					Phase/WBS: 01- Assessment								Report Type & QC Level: Level 1 & EDF										ᅦ						
La Palma, CA						Sub Phase/Task: 03 - Analytical																			огр.с	om-		ᅱ		
Tele/Fax: 714-670-5																						l/Allia				7	ᅰ			
Lab Bottle Order N	Vo:			][N	latrix		T	lacksquare		Pres	crvat	ive				R				ılysis									7	╡
Item No.	Sample Description	Time	Date	Soil/Solid	Water/Liquid Air	Laboratory No.	No. of Containers	Unpreserved	H.SO.	HNO,	HCI	Methanol	(0) 00) (040	JKO (8280)	BTEX (8260)	Fuel Add. (8260):	EDB, TBA, TAME,	DIPE, ETBE	3thanol (8260)	Potal Lead			[(			ple P		o 7 Lat/Long nents	; and	
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Shipment Date:	9/26/05					John 520 8 9/2605 1523														-	_									
Shipment Method: Charver						John 5208 9/2/1 1745						7	Janyloon 9/26/0-1							<u>  17</u>	4									
Shipment Tracking No:													·									<u> </u>	╂	4						
Special Instructions	: Analyze soil sample with highe	st GRO	oncent	ratio	n for T	otal Tead (Ph)							!											<del>,</del>				<u>1</u>	<u> </u>	ᆜ
unning total Pb an	nalysis and result are >50ppm, run S	T.C. if ST	I C resu	Its a	re >5ppr	n nun TCI P						·				_													<del></del>	
dy Seals In P			1\2U		np Blan					·	Cer	alon T				n_ ·	-1-1		0	e.c.										4
TOWN III	71			1 011	in Dian	k Yes No	<u>.</u>				ŲQ(	DIEF 1	emper	atur	e on	Kec	eipt	·		F/C			<u>Trip</u>	) Blar	nk Ye	2S	No			

Distribution: White Copy - Laboratory / Yellow Copy - BP/Atlantic Richfield Co. / Pink Copy - Consultant/Contractor

BP COC Rev. 4 10/1/04

# A Please fax lopy to Lynelle Onoshis 510 874 3268



**Chain of Custody Record** 

Project Name:

Former BP Site 11117 Soil/Groundwater Investigation BP BU/AR Region/Enfos Segment: BP/Americas/WestConst/Retail/WCBU/CA/Cent

State or Lead Regulatory Agency:

Alameda County Environmental Health

Requested Due Date (mm/dd/yy):

Standard TAT

Page 2 of 2 On-site Time: Temp: Off-site Time: Temp: Sky Conditions: Meteorological Events: Wind Speed:

Direction:

	Sequoia Analytical				BP/AR Facility N	D.:			1111	7				*******			ngul	tent/	Cond	racto	-	ÜR	C				
ddress:	885 Jarvis Drive				BP/AR Facility A	idres	s:	72	10 Bar	neroi	ît Aye,	Oakla	and. (	CA	_	—ı-	Consultant/Contractor: URS Address: 1333 Broadway, Suite 800										
	Morgan Hill, CA 95037				Site Lat/Long:	••••					,			<u> </u>		-	30103	٠.					4612				
	Lisa Race	_			California Global	ID N	0.:									-  -		tant						<del></del>			
	408-782-8156/408-782-6308				Enfos Project No.:			G0	7TK-0	0022				_			Consultant/Contractor Project No.: 38487353.0A034 Consultant/Contractor PM: Lyncile Onishi										
P/AR PM Contact:					Provision or RCO	P (ci	rele c	ne)		Prov	vision					— <u>"</u>	le/Fa						510.00			<u>301</u>	
ddress: 4 Centerpoin	te Dr.				Phase/WBS:		Asso			110	Hoton													74-320	68 <u> </u>		
a Palma, CA					Sub Phase/Task:		- Ana					_											rel 1 &		rp.con		
ele/Fax: 714-670-530					Cost Element:			<u> </u>	racted	Cos	ts						voice	to	RD V	Voot (	'eas	Clob	al Alli:	UISCO	rp.con	<u> </u>	
ab Bottle Order No				Matrix		1	T		Preser			1		-	Re	quesi				V CSE C	Juasi	0.00	A Alli	апсе			$\rightarrow$
Item No.	Sample Description	Time	Date	Soil/Solid Water/Liquid Air	Laboratory No.	No. of Containers	Unpreserved	H <sub>2</sub> SO <sub>4</sub>	HNO3	HCI	Methanol	GBO (8260)	RTFX (8260)	(0070) VTT		மி	_	Ethanol (8260)						ıple Pe	68 Dint Lat Commen	#Long	and
1	1-4 S-5.51	1255 91	26	XIII	1,	ī	V	Ī				拉		7	75	<del>"</del> "	-	<u> </u>	<del>:  -</del>	+	<del></del>	╬-					
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impler's Name:	Andrew Fowler			<del></del> _	b r	<u></u>	<u> </u>					<u> </u>		<del> </del>	<u> </u>	ļ					<u>L_</u>	<u> </u>					
mpler's Company:	URS			<u>-</u>	Reling					<b>&gt;</b>		===	Date		linie	4			Acc	epted	By/	Affilia	tion			Date	Time
ipment Date:	9/28/05				Mag			יואי	<u> </u>		<u></u>		26	14	523	1 _	_		<del>и</del> -								
ipment Method:	Pouver				John	20	<u> </u>	<u> </u>				12	26	4:	114	<u> </u>			4	an	N	15-2	m		7/	16/1	5 17
hipment Tracking N	lo:											#-				┺					/						
pecial Instructions: A	Analyze soil sample with highes	t GRO con	centro	tion for To	to I and (Db)	-						<u> </u>		<u> </u>		<u>ل</u>		===						<del>,</del>			
noing total Pb analy	ysis and result are >50ppm, run ST	C. if STIC	recult	c are >5	nai Leau (PD).			•			<del></del>		-									-					
Scals In Place	ce Yes No	باللفان 11 وتحد	Cault	o arc - spprr	- V >r														<u>,</u>								
	Distribution: White Copy - Laborate	overtown / M	alle:	Cemp Blan!	Yes No					Jool	er Ten	ipera	ture	on F	Recei	pt_		O <sub>F/C</sub>	<u>:</u>		Tri	p Bla	nk Ye	s	No		

#### SEQUOIA ANALYTICAL SAMPLE RECEIPT LOC

Control   Cont	CLIENT NAME:  REC. BY (PRINT)  WORKORDER:		-	DATE REC'D AT LAB: TIME REC'D AT LAB: DATE LOGGED IN:	1.7:		•		DRINKING WASTE W	ATER YES (NO)
Custody Seal(e) Present / Absent	CIRCLE THE APPROPRIATE RESPONSE			CLIENT ID .	DESCRIPTION	ATIVE	pН	SAMPLE MATRIX	1	
19, 5 - 20   19,	Intact / Broken*	VV	1	2.01-01				3	41 66765	for(A-421,6)
Arrill: Present (Abent)	Traffic Reports or Packing List: Present / Absent	K	,	. 19.5 -20 22-22.5	1 6					1
Sample Labels: Present/ Absent	Present / Absent	<i>1</i> 7.		30-35.S 35-35.S		_		<del></del>		
Sample Condition: (Intact) Broken* / Leaking* / /3	Sample Labels: (Present)/ Absent Sample IDs: (Listed / Not Listed	10	A-D	A-4 21,6'	Voa-4	\\\\\		V		
traffic reports and sample labels agree?  Sample received within hold time?  Adequate sample volume received?  Proper preservatives used?  Corrected Temp:  Gorrected Temp:  Gor	Sample Condition: (Intact) Broken*/ Leaking*	/v		15-15.5 19.5-20	1					
Sample received within hold time?  Adequate sample volume received?  Proper preservatives used? (Yes)/No*  Trip Blank / Temp Blank Received?  (circle which, if yes) / Yes) No*  Read Temp: 4.7 C  Is corrected Temp: 4.7 C  Is corrected temp 4 +/-2°C? (Yes) No**  Appliance range for samples requiring thermal press.)  We lie (if any): METALS / DFF ON ICE	traffic reports and sample labels	14 ""	AU	31.5-37 V 34-311	V0a-3	HCL	V	W		-
received?  Proper preservatives used?  Proper preservatives used?  Trip Blank / Temp Blank Received?  (circle which, if yes)  Read Temp:  Corrected Temp:  Is corrected temp 4 +/-2°C?  (res) No**  (seplance range for samples requiring thermal pres.)  Seplance range for samples requiring thermal pres.)	hold time? (Yes.) No*			Trip Blank	Voa-					
Corrected Temp:    September   Content   Conte	received? (Yes)/ No*  Proper preservatives used? (Yes)/ No*				Ye	74	9/26	HS.		
Corrected Temp:  Is corrected temp 4 +/-2°C? (Yes) No**  Septance range for samples requiring thermal pres.)  Septance range for samples requiring thermal pres.)	(circle which, if yes) . Yes y No*							*	1	
Scention (If any): METALS / DFF ON ICE	Corrected Temp: 4.2°C? (Yes) No**							•		
	Septence range for samples requiring thermal pres.)  Seption (if any): METALS / DFF ON ICE  Official COC									

### **PROBLEM CHAIN-OF-CUSTODY**

DATE/TIME 9	126/05	DATE RECEIVED _	9126105
CLIENT	bo	TURN AROUND TIME _	standard
DATE/TIME CLIENT CLIENT SERVICES REP	Tanshid		JT
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	RESOLU	ΠON	
Client Instruction*			
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Client Contact for Instruction:		·	
Data and The confidence of the street of the			
Date and Time of Instruction:	·	·	<u> </u>
Date & Time Form Given to Samp	ole Control:		
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CLIENT SERVICES REP. SIGNA	TURE:		÷
	/TIME:		

\*If client does not return call within 24 hours, please route this form to the Laboratory Director.



22 November, 2005

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

RE: BP Heritage #11117, Oakland, CA

Keholad

Work Order: MOK0175

Enclosed are the results of analyses for samples received by the laboratory on 11/04/05 17:15. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jamshid Kekobad Project Manager

CA ELAP Certificate #1210

The results in this laboratory report pertain only to the samples tested in the laboratory. The analyses contained in this report were performed in accordance with the BPGCLN Technical Specifications, applicable Federal, State, local regulations and certification requirements as well as the methodologies as described in laboratory SOPs reviewed by the BPGCLN. This entire report was reviewed and approved for release.





URS Corporation [Arco]	Project:BP Heritage #11117,Oakland, CA	MOK0175
1333 Broadway, Suite 800	Project Number:G07TK-0022	Reported:
Oakland CA, 94612	Project Manager:Lynelle Onishi	11/22/05 16:32

#### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
A-8 6-6.5'	MOK0175-01	Soil	11/03/05 09:00	11/04/05 17:15
A-8 11-11.5'	MOK0175-02	Soil	11/03/05 09:05	11/04/05 17:15
A-8 15.5-16'	MOK0175-03	Soil	11/03/05 09:10	11/04/05 17:15
A-8 21-21.5'	MOK0175-04	Soil	11/03/05 09:15	11/04/05 17:15
A-8 (24.6)	MOK0175-05	Water	11/03/05 09:36	11/04/05 17:15
A-8 25-25.5'	MOK0175-06	Soil	11/03/05 09:40	11/04/05 17:15
A-8 30-30.5'	MOK0175-07	Soil	11/03/05 09:45	11/04/05 17:15
A-8 36-36.5'	MOK0175-08	Soil	11/03/05 09:50	11/04/05 17:15
A-9 6-6.5'	MOK0175-09	Soil	11/03/05 11:15	11/04/05 17:15
A-9 11-11.5'	MOK0175-10	Soil	11/03/05 11:20	11/04/05 17:15
A-9 16-16.5'	MOK0175-11	Soil	11/03/05 11:30	11/04/05 17:15
A-9 21-21.5'	MOK0175-12	Soil	11/03/05 11:31	11/04/05 17:15
A-9 (24.2)	MOK0175-13	Water	11/03/05 11:35	11/04/05 17:15
A-9 25-25.5'	MOK0175-14	Soil	11/03/05 11:40	11/04/05 17:15
A-9 31-31.5'	MOK0175-15	Soil	11/03/05 11:45	11/04/05 17:15
A-9 36-36.5'	MOK0175-16	Soil	11/03/05 11:50	11/04/05 17:15
A-7 6-6.5'	MOK0175-17	Soil	11/03/05 12:55	11/04/05 17:15
A-7 11-11.5'	MOK0175-18	Soil	11/03/05 13:00	11/04/05 17:15
A-7 16-16.5'	MOK0175-19	Soil	11/03/05 13:05	11/04/05 17:15
A-7 21-21.5'	MOK0175-20	Soil	11/03/05 13:10	11/04/05 17:15
A-7 25.5-26'	MOK0175-21	Soil	11/03/05 13:20	11/04/05 17:15
A-7 36-36.5'	MOK0175-22	Soil	11/03/05 13:45	11/04/05 17:15
Trip Blank	MOK0175-23	Water	11/03/05 00:00	11/04/05 17:15

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.





Project:BP Heritage #11117,Oakland, CA

Project Number:G07TK-0022

Project Manager:Lynelle Onishi

MOK0175 Reported: 11/22/05 16:32

****	Д		<i>-</i>	- 0					
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
A-8 6-6.5' (MOK0175-01) Soil	Sampled: 11/03/05 09:00	Received	3: 11/04/0	5 17:15					
tert-Amyl methyl ether	ND	0.0050	mg/kg	1	5K09007	11/09/05	11/09/05	EPA 8260B	
Benzene	ND	0.0050	u	19	**	n	11	II .	
tert-Butyl alcohol	ND	0.020	H	17	11	н	п	n	
Di-isopropyl ether	ND	0.0050	"	19	re	n	11	II .	
1,2-Dibromoethane (EDB)	ND	0.0050	**	**	"	11	11	D	
1,2-Dichloroethane	ND	0.0050	n	**	IP.	11	**	H	
Ethanol	ND	0.10	n	17	11	11	11	н	IC
Ethyl tert-butyl ether	ND	0.0050	17	#	**	"	11	n	
Ethylbenzene	ND	0.0050	**	#	11	**	**	"	
Methyl tert-butyl ether	ND	0.0050	19	11	u	"	"	"	
Toluene	ND	0.0050	**	#1	II .	"		**	
Xylenes (total)	ND	0.0050	77	·m	n - 1	2 #	. "	н	
Gasoline Range Organics (C4-C12	2) ND	0.10	"	#		. #	**	**	
Surrogate: 1,2-Dichloroethane-d4	!	75 %	60-	125	"	'n	"	и	
A-8 11-11.5' (MOK0175-02) Soi	l Sampled: 11/03/05 09:	05 Recei	ived: 11/0	4/05 17:15	:				
tert-Amyl methyl ether	ND	0.0050	mg/kg	1	5K09007	11/09/05	11/09/05	EPA 8260B	
Benzene	ND	0.0050	**	Ħ	"	"	II.	tt	
tert-Butyl alcohol	ND	0.020	Ħ	tt	н	11	п	u	
Di-isopropyl ether	ND	0.0050	H	н	11	It	II .	II	
1,2-Dibromoethane (EDB)	ND	0.0050	*	0	**	11	11	II .	
1,2-Dichloroethane	ND	0.0050	H	"	**	"	ш	II .	
Ethanol	ND	0.10	H	IJ	**	II .	ш	п	IC
Ethyl tert-butyl ether	ND	0.0050	a	Ð	77	II .	ш	n	
Ethylbenzene	ND	0.0050	II.	11	tt .	"	ш	11	
Methyl tert-butyl ether	ND	0.0050	"	II .	*	11	11	*	
Toluene	ND	0.0050	II .	U	**	11	11	11	
Xylenes (total)	ND	0.0050	II .	п	tt	11	11	**	
Gasoline Range Organics (C4-C12	2) ND	0.10	n n	11	IF	**	11	11	
Surrogate: 1,2-Dichloroethane-d4	•	65 %	60-	125	"	Ħ	11	н	





Project:BP Heritage #11117,Oakland, CA

Project Number: G07TK-0022
Project Manager: Lynelle Onishi

MOK.0175 Reported: 11/22/05 16:32

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Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
A-8 15.5-16' (MOK0175-03) Soil	Sampled: 11/03/05 09:	10 Recei	ived: 11/0	4/05 17:15	;				
tert-Amyl methyl ether	ND	0.0050	mg/kg	0.99	5K09007	11/09/05	11/09/05	EPA 8260B	
Benzene	ND	0.0050	**	**	11	"	11	п	
tert-Butyl alcohol	ND	0.020	It	**	**	II .	**	п	
Di-isopropyl ether	ND	0.0050	18	**	**	н	11	n	
1,2-Dibromoethane (EDB)	ND	0.0050	11	"	**	н	**	0	
1,2-Dichloroethane	ND	0.0050	**	**	*	U	10	U	
Ethanol	ND	0.099	17	**	**	II .	**	п	IC
Ethyl tert-butyl ether	ND	0.0050	**	tt	н	н	**	н	
Ethylbenzene	ND	0.0050	**	11	"		tt.	H.	
Methyl tert-butyl ether	ND	0.0050	**	**	"	н	**	n	
Toluene	ND	0.0050	**	tt	п	n	n	11	
Xylenes (total)	ND	0.0050	**	н	a j	n .	, <b>n</b>	. 17	
Gasoline Range Organics (C4-C12)	ND	0.099	*	11	a ( )	п	V		
Surrogate: 1,2-Dichloroethane-d4	<del></del>	65 %	60-	125	и	"		"	
A-8 21-21.5' (MOK0175-04) Soil	Sampled: 11/03/05 09:	15 Recei	ived: 11/0	4/05 17:15	;				
tert-Amyl methyl ether	. ND	0.0050	mg/kg	1	5K09007	11/09/05	11/09/05	EPA 8260B	
Benzene	ND	0.0050	u	II .	II .	19	11	**	
tert-Butyl alcohol	ND	0.020	U	ш	II	**	11	n	
Di-isopropyl ether	ND	0.0050	II	11	11	Ħ	11	Ħ	
1,2-Dibromoethane (EDB)	ND	0.0050	п	ш	н	R	17	н	
1,2-Dichloroethane	ND	0.0050		1)	19	н	n	n	
Ethanol	ND	0.10	n	n	17	++	**	n	IC
Ethyl tert-butyl ether	ND	0.0050	n	**	17	II	19	0	
Ethylbenzene	ND	0.0050	19	**	**	п	11	0	
Methyl tert-butyl ether	ND	0.0050	19	**	•	u	**	n	
Toluene	ND	0.0050	11		P	n	n	17	
Xylenes (total)	ND	0.0050	Ħ	**	Ħ	н	н	19	
Gasoline Range Organics (C4-C12)	ND	0.10	11	**	H	н	n	n	
Surrogate: 1,2-Dichloroethane-d4		68 %	60-	125	"	n	"	n	





Project: BP Heritage #11117,Oakland, CA

Project Number: G07TK-0022

Project Manager:Lynelle Onishi

MOK0175 Reported: 11/22/05 16:32

Analyte	Re Result	porting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note.
A-8 (24.6) (MOK0175-05) Water	Sampled: 11/03/05 09:36	Rece	ived: 11/0	4/05 17:15	5				
tert-Amyl methyl ether	ND	0.50	ug/I	1	5K16038	11/16/05	11/16/05	EPA 8260B	
Benzene	ND	0.50	•	O	íi .	"	11	**	
tert-Butyl alcohol	ND	20	**	0	fi	II .	**	11	
Di-isopropyl ether	ND	0.50	tt	n	II	11	*1	**	
1,2-Dibromoethane (EDB)	ND	0.50	H	ı,	II .	н	"	**	
1,2-Dichloroethane	ND	0.50	"	"	"	"	*1	11	
Ethanol	ND	100	*1	19	n	"	u	n	IC
Ethyl tert-butyl ether	ND	0.50	п	#	11	**	II	æ	
Ethylbenzene	ND	0.50	п	19	11	**	п	æ	
Methyl tert-butyl ether	ND	0.50	n .	77	17	**	n	II .	
Toluene	ND	0.50	0	**	**	**	n	II	
Xylenes (total)	ND	0.50	п	**	n	tt .	<b>u</b> , 5 :	+ , <b>u</b>	
Gasoline Range Organics (C4-C12)	ND	50	п	**	11	m ·	n ; ·	ц	
Surrogate: 1,2-Dichloroethane-d4		102 %	60-	135	n	"	, .	"	
A-8 25-25.5' (MOK0175-06) Soil	Sampled: 11/03/05 09:40	Recei	ved: 11/0	4/05 17:15					
tert-Amyl methyl ether	ND 0	.0050	mg/kg	0.99	5K09007	11/09/05	11/09/05	EPA 8260B	
Benzene	ND 0	.0050	n	н	"	"	**	"	
tert-Butyl alcohol	ND	0.020	**	II .	"	II .	**	11	
Di-isopropyl ether	ND 0	.0050	11	II	U	n	Ħ	**	
1,2-Dibromoethane (EDB)	ND 0	.0050	ĸ	II .	U	н	н	**	
1,2-Dichloroethane	ND 0	.0050	n	"	"	II .	tr.	***	
Ethanol	ND	0.099	**	n	"	n	a a	**	1C
Ethyl tert-butyl ether	ND 0	.0050	**	"	н	: 15	n	IF.	
Ethylbenzene	ND 0	.0050	tr.	n	II .	*	n	II	
Methyl tert-butyl ether	ND 0	.0050	FF	17	11	**	II	п	
Toluene	ND 0	.0050	tı	P	**	"	U	II .	
Xylenes (total)	ND 0	.0050	ti	<b>57</b>	**	ц	11	п	
Gasoline Range Organics (C4-C12)	ND	0.099	u	11	*	ti	11	IJ	
Surrogate: 1,2-Dichloroethane-d4		87 %	60-	125	n	"	"	n	





Project:BP Heritage #11117,Oakland, CA Project Number:G07TK-0022

Project Manager:Lynelle Onishi

MOK0175 Reported: 11/22/05 16:32

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
A-8 30-30.5' (MOK0175-07) Soil	Sampled: 11/03/05 09	9:45 Recei	ved: 11/0	4/05 17:15	5				
tert-Amyl methyl ether	ND	0.0050	mg/kg	1	5K09007	11/09/05	11/09/05	EPA 8260B	
Benzene	ND	0.0050	11	"	n	0	ш	II .	
tert-Butyl alcohol	ND	0.020	11	**	1)	D	U	п	
Di-isopropyl ether	ND	0.0050	n	**	n	U	ш	п	
1,2-Dibromoethane (EDB)	ND	0.0050	II.	"	n	II.	ш	II .	
1,2-Dichloroethane	ND	0.0050	11	**	n	II .	ш	II .	
Ethanol	ND	0.10	11	*	н	ŋ	U	D	IC
Ethyl tert-butyl ether	ND	0.0050	11	er	н	II.	D	0	
Ethylbenzene	ND	0.0050	11	Ħ	n	n	0	D	
Methyl tert-butyl ether	ND	0.0050	n	tr	n	U	ш	II .	
Toluene	ND	0.0050	n	tt	n	n	ш	n .	
Xylenes (total)	ND	0.0050	11	**	II.	н	s _m', -	0.	
Gasoline Range Organics (C4-C12)	ND	0.10	11	Ħ	17	ŋ	0;	o	
Surrogate: 1,2-Dichloroethane-d4		86 %	60-	125	"	n	"	"	
A-8 36-36.5' (MOK0175-08) Soil	Sampled: 11/03/05 09	9:50 Recei	ved: 11/0	4/05 17:15	5				
tert-Amyl methyl ether	ND	0.0050	mg/kg	1	5K09007	11/09/05	11/09/05	EPA 8260B	
Benzene	ND	0.0050	**	u	17	11	n	19	
tert-Butyl alcohol	ND	0.020	11	II .	"	17	17	11	
Di-isopropyl ether	ND	0.0050	17	II	**	9	19	It	
1,2-Dibromoethane (EDB)	ND	0.0050	11	11	11	10	19	**	
1,2-Dichloroethane	ND	0.0050	11	n	**	11	"	11	
Ethanol	ND	0.10	11	JF.	н	**	"	**	IC
Ethyl tert-butyl ether	ND	0.0050	**		**	11	"	11	
Ethylbenzene	ND	0.0050	78	Ð	11	**	11	Tr.	
Methyl tert-butyl ether	ND	0.0050	**	II.	**	tt .	"	91	
Toluene	ND	0.0050	"	n	n	**	"	n	
Xylenes (total)	ND	0.0050	**	U	n	**	**	er	
Gasoline Range Organics (C4-C12)	ND	0.10	**	U	н	н	**	tt	
Surrogate: 1,2-Dichloroethane-d4		90 %	60	125	#	"	"	и	





Project:BP Heritage #11117,Oakland, CA

Project Number: G07TK-0022

Project Manager:Lynelle Onishi

MOK0175 Reported: 11/22/05 16:32

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
A-9 6-6.5' (MOK0175-09) Soil	Sampled: 11/03/05 11:15	Receive	d: 11/04/0	5 17:15					
tert-Amyl methyl ether	ND	0.0050	mg/kg	0.99	5K09007	11/09/05	11/09/05	EPA 8260B	
Benzene	ND	0.0050	**	ıı	Ħ	n	II	tt	
tert-Butyl alcohol	ND	0.020	**	II	tt	II	II	ц	
Di-isopropyl ether	ND	0.0050	11	II	Ħ	n	0	tr	
1,2-Dibromoethane (EDB)	ND	0.0050	**	IJ	**	n	U	u	
1,2-Dichloroethane	ND	0.0050	**	п	tt	U	ш	II .	
Ethanol	ND	0.099	**	II	н	n	II	H	IC
Ethyl tert-butyl ether	ND	0.0050	**	II	II	U	Ш	II .	
Ethylbenzene	ND	0.0050	**	II	Ħ	n	II	II .	
Methyl tert-butyl ether	ND	0.0050	**	II	o o	h	n	O	
Toluene	ND	0.0050	+r	U	н	n	II.	п	
Xylenes (total)	ND	0.0050	**	п	u	n	ш ,	. п	
Gasoline Range Organics (C4-C12	) ND	0.099	**	п	n	"	ш	7 · · · · · · · · · · · · · · · · · · ·	
Surrogate: 1,2-Dichloroethane-d4		77 %	60	125	"	n	"	"	
A-9 11-11.5' (MOK0175-10) Soi	Sampled: 11/03/05 11:2	0 Recei	ved: 11/0	4/05 17:15	;				
tert-Amyl methyl ether	ND	0.0050	mg/kg	1	5K09007	11/09/05	11/09/05	EPA 8260B	***************************************
Benzene	ND	0.0050	**	II	a	*	11	II .	
tert-Butyl alcohol	ND	0.020	**	II	н	I†	n	II	
Di-isopropyl ether	ND	0.0050	**	п	II .	IF	19	II	
1,2-Dibromoethane (EDB)	ND	0.0050	R	II .	II .	11	11	п	
1,2-Dichloroethane	ND	0.0050	**	ıı	II .	**	n	n	
Ethanol	ND	0.10	••	II .	o	*	10	11	IC
Ethyl tert-butyl ether	ND	0.0050	**	IJ	n	18	11	19	
Ethylbenzene	ND	0.0050	tr	II	U	**	17	31	
Methyl tert-butyl ether	ND	0.0050	rr ·	n	"	и	17	**	
Toluene	ND	0.0050	rr	n	n	*	17	77	
Xylenes (total)	ND	0.0050	rr	n	n	**	W	**	
Gasoline Range Organics (C4-C12	ND ND	0.10	n	n	U	"	**	n	
Surrogate: 1,2-Dichloroethane-d4		90 %	60-	125	"	n	"	"	





Project:BP Heritage #11117,Oakland, CA

Project Number: G07TK-0022

Project Manager:Lynelle Onishi

MOK0175 Reported: 11/22/05 16:32

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Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
A-9 16-16.5' (MOK0175-11) Soil	Sampled: 11/03/05 11:	:30 Recei	ved: 11/0	4/05 17:15	;				
tert-Amyl methyl ether	ND	0.0050	mg/kg	0.99	5K09007	11/09/05	11/09/05	EPA 8260B	
Benzene	ND	0.0050	**	n	a	tt	11	tt	
tert-Butyl alcohol	ND	0.020	**	U	n	er	11	0	
Di-isopropyl ether	ND	0.0050	#	ti .	п	R	17	Ħ	
1,2-Dibromoethane (EDB)	ND	0.0050	**	n	п	*	17	fi .	
1,2-Dichloroethane	ND	0.0050	**	"	н	**	19	II .	
Ethanol	ND	0.099	n	II .	It	**	19	II .	IC
Ethyl tert-butyl ether	ND	0.0050	n	ш	н	п	11	Ħ	
Ethylbenzene	ND	0.0050	11	ш	ц	**	19	U	
Methyl tert-butyl ether	ND	0.0050	11	II .	н	**	19	u	
Toluene	ND	0.0050	**	п	п	**	n	п	
Xylenes (total)	ND	0.0050	71	п	II	ŧŧ	19	n ·	
Gasoline Range Organics (C4-C12)	ND	0.099	n	II	u	n	11	п	
Surrogate: 1,2-Dichloroethane-d4		87 %	60	125	"	n	"	"	
A-9 21-21.5' (MOK0175-12) Soil	Sampled: 11/03/05 11:	:31 Recei	ved: 11/0	4/05 17:15	5				
tert-Amyl methyl ether	ND	0.0049	mg/kg	0.98	5K09007	11/09/05	11/09/05	EPA 8260B	
Benzene	ND	0.0049	**	"	11	n	"	II .	
tert-Butyl alcohol	ND	0.020	"	"	II .	H	**	п	
Di-isopropyl ether	ND	0.0049	**	II .	п	11	11	u	
1,2-Dibromoethane (EDB)	ND	0.0049		II .	п	Ħ	Ħ	II .	
1,2-Dichloroethane	ND	0.0049	**	1)	Ħ	н	Ħ	U	
Ethanol	ND	0.098	+=	11	u	ш	**	II .	IC
Ethyl tert-butyl ether	ND	0.0049	**	U	II	II	**	II	
Ethylbenzene	ND	0.0049	tr	n	II	II	п	U	
Methyl tert-butyl ether	ND	0.0049	**	п	II	п	**	н	
Toluene	ND	0.0049	"	U	II	IF	**	19	
Xylenes (total)	ND	0.0049	**	11	II	II .	H	11	
Gasoline Range Organics (C4-C12)	ND	0.098	N	п	п	п	н	n	
Surrogate: 1,2-Dichloroethane-d4		80 %	60-	125	"	"	"	"	





Project:BP Heritage #11117,Oakland, CA Project Number:G07TK-0022

Project Manager:Lynelle Onishi

MOK0175 Reported: 11/22/05 16:32

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Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
A-9 (24.2) (MOK0175-13) Water	Sampled: 11/03/05 11:35	Recei	ved: 11/0	4/05 17:15	5				
tert-Amyl methyl ether	ND	0.50	ug/l	1	5K16038	11/16/05	11/17/05	EPA 8260B	
Benzene	ND	0.50	11	"	**	"	II	**	
tert-Butyl alcohol	ND	20	n	19	**	II .	II	11	
Di-isopropyl ether	ND	0.50	11	19	**	D	Ð	Ŧŧ	
1,2-Dibromoethane (EDB)	ND	0.50	11	11	**	11	O	TT:	
1,2-Dichloroethane	ND	0.50	**	**	н	U	н	**	
Ethanol	ND	100	**	**	н		11	tt	IC
Ethyl tert-butyl ether	ND	0.50	**	11	Ħ	11	IJ	tt.	
Ethylbenzene	ND	0.50	78	**	II .	н	19	tt	
Methyl tert-butyl ether	20	0.50	17	**	n	**	19	u	
Toluene	ND	0.50	**	**	n	11	)†	ш	
Xylenes (total)	ND	0.50	10	и	11	**	18	rt .	
Gasoline Range Organics (C4-C12)	68	50	**	11	11	n	P	n	$t_{i} \stackrel{\star}{=} t_{i}$
Surrogate: 1,2-Dichloroethane-d4		104 %	60-	135	"	"	11	"	
A-9 25-25.5' (MOK0175-14) Soil	Sampled: 11/03/05 11:40	Recei	ved: 11/0	4/05 17:15	i				
tert-Amyl methyl ether	ND 0	0.0050	mg/kg	0.99	5K10001	11/10/05	11/10/05	EPA 8260B	
Benzene	ND 0	0.0050	. 11	11	**	**	**	II .	
tert-Butyl alcohol	ND	0.020	rr	"	**	**	**	II .	
Di-isopropyl ether	ND 0	0.0050	Ħ	II .	11	11	H	n	
1,2-Dibromoethane (EDB)	ND 0	0.0050	n	II .	17	11	н	n	
1,2-Dichloroethane	ND (	0.0050	ш	II .	7*	ft	ŧ1	11	
Ethanol	ND	0.099	ш	"	*	11	u u	1+	
Ethyl tert-butyl ether	ND 0	0.0050	ш	II .	**	II	n	11	
Ethylbenzene	ND 0	.0050	II .	II .	**	n	II	71	
Methyl tert-butyl ether	ND 0	0.0050	U	11	Π	II .	II	11	
Toluene	ND 0	0.0050	ш	н	"	п	II .	**	
Xylenes (total)	ND 0	0.0050	U	n	ti	n	II .	**	
Gasoline Range Organics (C4-C12)	ND	0.099	n	n	n	11	п	ęs .	
Surrogate: 1,2-Dichloroethane-d4		87 %	60-1	125	"	"	"	"	



MOK0175



URS Corporation [Arco] 1333 Broadway, Suite 800 Oakland CA, 94612 Project:BP Heritage #11117,Oakland, CA Project Number:G07TK-0022

Project Number:G07TK-0022 Reported:
Project Manager:Lynelle Onishi 11/22/05 16:32

Analyte	R Result	eporting.	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
A-9 31-31.5' (MOK0175-15) Soil	Sampled: 11/03/05 11:45	Recei	ved: 11/0	4/05 17:15	;	-	· · · · · · · · · · · · · · · · · · ·		
tert-Amyl methyl ether	ND	0.025	mg/kg	1	5K10020	11/10/05	11/15/05	EPA 8260B	
Benzene	ND	0.050	**	**	ir.	rr	n	**	
tert-Butyl alcohol	ND	5.0	**	"	n	н	н	н	
Di-isopropyl ether	ND	0.025	**		11	lt	п	n	
1,2-Dibromoethane (EDB)	ND	0.025	**	17	19	0	II	п	
1,2-Dichloroethane	ND	0.025	•	*	*	"	н	п	
Ethanol	ND	10	**	**	Ħ	н	11	O	
Ethyl tert-butyl ether	ND	0.025	**	tt	19	II .	11	U	
Ethylbenzene	ND	0.050	**	tt	**	II .	11	1)	
Methyl tert-butyl ether	0.16	0.025	"	**	"	11	17	U	
Toluene	ND	0.050	"	II .	**	n	11	U	
Xylenes (total)	ND	0.050	H	ti	Ħ	н	n	D	
Gasoline Range Organics (C4-C12)	· ND	2.5	11	ıt	ti.	U	n	n	
Surrogate: 1,2-Dichloroethane-d4		101 %	60-	125	"	"	"	n	
A-9 36-36.5' (MOK0175-16) Soil	Sampled: 11/03/05 11:50	Recei	ved: 11/0	4/05 17:15	;				
tert-Amyl methyl ether	ND	0.0050	mg/kg	0.99	5K11009	11/11/05	11/11/05	EPA 8260B	
Benzene	ND	0.0050	II .	"	"	**	II .	78	
tert-Butyl alcohol	ND	0.020	II .	II .	II .	**	ır	**	
Di-isopropyl ether	ND	0.0050	II .	n	11	**	II	et	
1,2-Dibromoethane (EDB)	ND	0.0050	II .	D	17	**	II	ęt .	
1,2-Dichloroethane	ND	0.0050	n	17	n	<b>2</b> 7	n	**	
Ethanol	ND	0.099	11	11	17	н	n	u	IC
Ethyl tert-butyl ether	ND	0.0050	U	"	10	a	11	II	
Ethylbenzene	ND	0.0050	11	17	Ħ	u	11	ш	
Methyl tert-butyl ether	ND	0.0050	n	**	**	u	н	n	
Toluene	ND	0.0050	n	*	**	11	11	II .	
Xylenes (total)	ND	0.0050	17	**	**	ıì	**	n	
Gasoline Range Organics (C4-C12)	ND	0.099	*	et	n .	п	19	n	
Surrogate: 1,2-Dichloroethane-d4		81 %	60-	125	"	"	"	"	





Project:BP Heritage #11117,Oakland, CA Project Number:G07TK-0022

Project Manager:Lynelle Onishi

MOK0175 Reported: 11/22/05 16:32

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Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
A-7 6-6.5' (MOK0175-17) Soil	Sampled: 11/03/05 12:55	Receive	d: 11/04/0	5 17:15					
tert-Amyl methyl ether	ND	0.0050	mg/kg	1.01	5K10001	11/10/05	11/10/05	EPA 8260B	
Benzene	ND	0.0050	II .	I†	11	U	**	n	
tert-Butyl alcohol	ND	0.020	II	11	11	II	**	11	
Di-isopropyl ether	ND	0.0050	n	18	11	D	#	n	
1,2-Dibromoethane (EDB)	ND	0.0050	ij	11	n	U	**	n	
1,2-Dichloroethane	ND	0.0050	II .	17	n	U	**	п	
Ethanol	ND	0.10	п	19	U	U	**	n	
Ethyl tert-butyl ether	ND	0.0050	п	17	U	II .	**	n	
Ethylbenzene	ND	0.0050	II .	*	n	U	•	n	
Methyl tert-butyl ether	ND	0.0050	II .	19	11	n	**	19	
Toluene	ND	0.0050	U	11	n	D	**	<b>"</b> .	
Xylenes (total)	ND .	0.0050	U	Ħ	n	n	**	17	
Gasoline Range Organics (C4-C12	) ND	0.10	II .	17	n	II .	n	10	
Surrogate: 1,2-Dichloroethane-d4	,	74 %	60	125	**	"	"	17	
A-7 11-11.5' (MOK0175-18) Soil	Sampled: 11/03/05 13:0	00 Recei	ved: 11/0	4/05 17:15	5				
tert-Amyl methyl ether	ND	0.0050	mg/kg	0.99	5K10001	11/10/05	11/10/05	EPA 8260B	
Benzene	ND	0.0050	0	**	11	н	**	77	
tert-Butyl alcohol	ND	0.020	U	11	17	"	ft	#	
Di-isopropyl ether	ND	0.0050	U	**	11	n	n	#	
1,2-Dibromoethane (EDB)	ND	0.0050	п	**	"	17	n	#	
1,2-Dichloroethane	ND	0.0050	U	**	n	n	ıı .	**	
Ethanol	ND	0.099	п	*	n	n	u	**	
Ethyl tert-butyl ether	ND	0.0050	u	#1	**	11	n	**	
Ethylbenzene	ND	0.0050	н	**	"	11	U	**	
Methyl tert-butyl ether	ND	0.0050	0	Ħ	"	r.	п	ŧŧ	
Toluene	ND	0.0050	n	**	"	**	n	tt	
Xylenes (total)	ND	0.0050	H,	n	**	17	n .	ŧŧ	
Gasoline Range Organics (C4-C12	) ND	0.099	п	u	**	n	п	н	
Surrogate: 1,2-Dichloroethane-d4		77 %	60	125	n	n	"	"	





Project:BP Heritage #11117,Oakland, CA Project Number:G07TK-0022

Project Manager: Lynelle Onishi

MOK0175 Reported: 11/22/05 16:32

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Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
A-7 16-16.5' (MOK0175-19) Soil	Sampled: 11/03/05	13:05 Recei	ved: 11/0	4/05 17:15	;				
tert-Amyl methyl ether	ND	0.0050	mg/kg	1	5K10001	11/10/05	11/10/05	EPA 8260B	
Benzene	ND	0.0050	n	19	II .	n	Ir	**	
tert-Butyl alcohol	ND	0.020	11	19	II	II	n	**	
Di-isopropyl ether	ND	0.0050	Ħ	11	Ħ	D	Œ	h	
1,2-Dibromoethane (EDB)	ND	0.0050	u	17	U	IJ	U	"	
1,2-Dichloroethane	ND	0.0050	fr .	n	u	n	II	11	
Ethanol	ND	0.10	н	n	II	II .	II	11	
Ethyl tert-butyl ether	ND	0.0050	II	11	II	II	11	9	
Ethylbenzene	ND	0.0050	n	и	II .	II	11	11	
Methyl tert-butyl ether	ND	0.0050	IP	17	11	"	п	**	
Toluene	ND	0.0050	н :	11	μ	IJ	(I	11	
Xylenes (total)	ND	0.0050	y = 0	If	п	н	п	9	
Gasoline Range Organics (C4-C12)	ND	0.10		17	II	II .	II	•	
Surrogate: 1,2-Dichloroethane-d4		75 %	60-	125	n	"	"	t)	
A-7 21-21.5' (MOK0175-20) Soil	Sampled: 11/03/05	13:10 Recei	ved: 11/0	4/05 17:15	;				
tert-Amyl methyl ether	ND	0.0049	mg/kg	0.98	5K11009	11/11/05	11/11/05	EPA 8260B	
Benzene	ND	0.0049	Ħ	n	n	n	D	**	
tert-Butyl alcohol	ND	0.020	rt .	17	ti	D	n	**	
Di-isopropyl ether	ND	0.0049	п	17	п	н	II	Ħ	
1,2-Dibromoethane (EDB)	ND	0.0049	n	n	п	n	II.	**	
1,2-Dichloroethane	ND	0.0049	п	n	"	U	n	**	
Ethanol	ND	0.098	11	D	n	D	n	**	IC
Ethyl tert-butyl ether	ND	0.0049	H	*	n	n	n	u	
Ethylbenzene	ND	0.0049	II	19	n	n	n	Œ	
Methyl tert-butyl ether	ND	0.0049	н	11	ıı	17	n	H	
Toluene	ND	0.0049	a	17	II .	17	11	n .	
Xylenes (total)	ND	0.0049	n	11	"	,,	19	u	
Gasoline Range Organics (C4-C12)	ND	0.098	п	п	U	17	19	н	
Surrogate: 1,2-Dichloroethane-d4		69 %	60-	125	"	"	"	"	





Project:BP Heritage #11117,Oakland, CA Project Number:G07TK-0022

Project Manager:Lynelle Onishi

MOK0175 Reported: 11/22/05 16:32

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
A-7 25.5-26' (MOK0175-21) Soil	Sampled: 11/03/05 13:2	0 Recei	ived: 11/0	4/05 17:15	;				VQT
tert-Amyl methyl ether	ND	0.25	mg/kg	10	5K10020	11/10/05	11/15/05	EPA 8260B	
Benzene	ND	0.50	11	"	"	I7	II	11	
tert-Butyl alcohol	ND	50	11	II.	**	11	ш	II	
Di-isopropyl ether	ND	0.25	**	11	*1	**	ш	n	
1,2-Dibromoethane (EDB)	ND	0.25	78	"	**	#	IJ	19	
1,2-Dichloroethane	ND	0.25	"	"	н	**	11	17	
Ethanol	ND	100	++	11	H	. "	U	17	
Ethyl tert-butyl ether	ND	0.25	**	IJ	tt	**	**	17	
Ethylbenzene	ND	0.50	**	ji	н	".	III	**	
Toluene	ND	0.50	77	"	II .	"	11	**	
Xylenes (total)	ND	0.50	*1	"	п	"	11	11	
Gasoline Range Organics (C4-C12)	ND	25	· . ** .	1 (1) (i)	II	tt .	17	Pt .	
Surrogate: 1,2-Dichloroethane-d4		99 %	60-	125	"	"	"	"	
A-7 25.5-26' (MOK0175-21RE1) S	Soil Sampled: 11/03/05	13:20 I	Received:	11/04/05 1	7:15				CL
Methyl tert-butyl ether	0.43	0.025	mg/kg	1	5K10020	11/10/05	11/19/05	EPA 8260B	
Surrogate: 1,2-Dichloroethane-d4		104 %	60-	125	n	"	"	"	
A-7 36-36.5' (MOK0175-22) Soil	Sampled: 11/03/05 13:4	5 Recei	ived: 11/0	4/05 17:15	;				
tert-Amyl methyl ether	ND	0.0050	mg/kg	1	5K11009	11/11/05	11/11/05	EPA 8260B	······································
Benzene	ND	0.0050	11	**	11	n	II.	n	
tert-Butyl alcohol	ND	0.020	n	17	к	n	II	п	
Di-isopropyl ether	ND	0.0050	11	**	#	*	II .	II .	
1,2-Dibromoethane (EDB)	ND	0.0050	n	17	**	9	II	ii.	
1,2-Dichloroethane	ND	0.0050	D	11	**	**	n	II .	
Ethanol	ND	0.10	11	11	u	**	n	"	IC
Ethyl tert-butyl ether	ND	0.0050	"	**	**	**	11	•	
Ethylbenzene	ND	0.0050	**	D	U .	n	11	**	
Methyl tert-butyl ether	0.0064	0.0050	**	n	11		19	11	
Toluene	ND	0.0050	**	a	U	"	**	**	
Xylenes (total)	ND	0.0050	**	п	u	"	**	**	
Gasoline Range Organics (C4-C12)	ND	0.10	**	11	II .	11	**	ıı .	
Surrogate: 1,2-Dichloroethane-d4		66 %	60-	125	"	n	"	#	





Project:BP Heritage #11117,Oakland, CA Project Number:G07TK-0022

MOK0175 Reported: 11/22/05 16:32

Project Manager: Lynelle Onishi

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 5K09007 - EPA 5035 / EPA										
Blank (5K09007-BLK1)	<del> · · · · · · · · · · · · · · · · · ·</del>			Prepared &	& Analyze	ed: 11/09/	05			<del> </del>
tert-Amyl methyl ether	ND	0.0050	mg/kg		<del>.</del>					
Benzene	ND	0.0050	**							
tert-Butyl alcohol	ND	0.020	н							
Di-isopropyl ether	ND	0.0050	н							
1,2-Dibromoethane (EDB)	ND	0.0050	*1							
1,2-Dichloroethane	ND	0.0050	#							
Ethanol	ND	0.10	*1							IC
Ethyl tert-butyl ether	ND	0.0050	**							
Ethylbenzene	ND	0.0050	n							
Methyl tert-butyl ether	ND	0.0050	**							
Toluene	ND	0.0050	U							
Xylenes (total)	ND	0.0050	71							
Gasoline Range Organics (C4-C12)	ND	0.10	**							
Surrogate: 1,2-Dichloroethane-d4	0.00341		"	0.00500	· · · · · · · · · · · · · · · · · · ·	68	60-125			
Laboratory Control Sample (5K0900	7-BS1)			Prepared &	& Analyze	ed: 11/09/	05			
tert-Amyl methyl ether	0.0147	0.0050	mg/kg	0.0150		98	80-130			
Benzene	0.00575	0.0050	ø	0.00516		111	65-125			
tert-Butyl alcohol	0.149	0.020	n	0.143		104	80-165			
Di-isopropyl ether	0.0167	0.0050	ш	0.0151		111	85-115			
1,2-Dibromoethane (EDB)	0.0148	0.0050	**	0.0149		99	85-130			
1,2-Dichloroethane	0.0144	0.0050	п	0.0147		98	63-124			
Ethanol	0.249	0.10	11	0.142		175	35-150			IC, HI
Ethyl tert-butyl ether	0.0150	0.0050		0.0150		100	80-125			
Ethylbenzene	0.00754	0.0050	n n	0.00754		100	80-135			
Methyl tert-butyl ether	0.00659	0.0050	IJ	0.00702		94	75-115			
Toluene	0.0386	0.0050		0.0372		104	85-125			
Xylenes (total)	0.0427	0.0050	U	0.0412		104	80-140			
Gasoline Range Organics (C4-C12)	0.517	0.10	U	0.440		118	53-126			
Surrogate: 1,2-Dichloroethane-d4	0.00406		"	0.00500		81	60-125			





Xylenes (total)

Batch 5K09007 - EPA 5035 / EPA 8260B

Project:BP Heritage #11117,Oakland, CA

Project Number: G07TK-0022

Project Manager:Lynelle Onishi

MOK0175 Reported: 11/22/05 16:32

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

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Matrix Spike (5K09007-MS1)	Source: M	OK0175-01		Prepared	& Analyze			
tert-Amyl methyl ether	0.0140	0.0050	mg/kg	0.0150	0.00013	92	80-130	
Benzene	0.00573	0.0050	n	0.00516	0.00082	95	65-125	
tert-Butyl alcohol	0.134	0.020	**	0.143	ND	94	80-135	
Di-isopropyl ether	0.0163	0.0050	**	0.0151	ND	108	85-115	
1,2-Dibromoethane (EDB)	0.0146	0.0050	**	0.0149	ND	98	85-130	
1,2-Dichloroethane	0.0116	0.0050	**	0.0147	ND	79	63-124	
Ethanol	0.107	0.10	**	0.142	ND	75	35-150	IC
Ethyl tert-butyl ether	0.0146	0.0050	tt.	0.0150	ND	97	80-125	
Ethylbenzene	0.00731	0.0050	17	0.00754	ND	97	80-135	
Methyl tert-butyl ether	0.00583	0.0050	11	0.00702	ND	83	75-115	
Toluene	0.0377	0.0050	17	0.0372	ND	101	85-125	

0.0412

0.0050

0.0408

Gasoline Range Organics (C4-C12)	0.506	0.10	n	0.440	ND	115	53-126			
Surrogate: 1,2-Dichloroethane-d4	0.00344		"	0.00500		69	60-125			
Matrix Spike Dup (5K09007-MSD1)	Source: Me	OK0175-01		Prepared	& Analyze	d: 11/09	/05			
tert-Amyl methyl ether	0.0108	0.0050	mg/kg	0.0150	0.00013	71	80-130	26	25	LN, BA
Benzene	0.00467	0.0050	19	0.00516	0.00082	75	65-125	20	20	
tert-Butyl alcohol	0.108	0.020	11	0.143	ND	76	80-135	21	20	LN, BA
Di-isopropyl ether	0.0128	0.0050	n	0.0151	ND	85	85-115	24	20	RB
1,2-Dibromoethane (EDB)	0.0118	0.0050	n	0.0149	ND	79	85-130	21	15	LN, BA
1,2-Dichloroethane	0.00992	0.0050	n	0.0147	ND	67	63-124	16	25	
Ethanol	0.0927	0.10	n	0.142	ND	65	35-150	14	40	IC
Ethyl tert-butyl ether	0.0115	0.0050	n	0.0150	ND	77	80-125	24	25	LN
Ethylbenzene	0.00590	0.0050	п	0.00754	ND	78	80-135	21	20	LN, BA
Methyl tert-butyl ether	0.00480	0.0050	п	0.00702	ND	68	75-115	19	35	LN
Toluene	0.0292	0.0050	п	0.0372	ND	78	85-125	25	15	LN, BA
Xylenes (total)	0.0324	0.0050	n	0.0412	ND	79	80-140	23	20	LN, BA
Gasoline Range Organics (C4-C12)	0.383	0.10	n	0.440	ND	87	53-126	28	25	RB
Surrogate: 1,2-Dichloroethane-d4	0.00369		"	0.00500		74	60-125			

80-140





Project:BP Heritage #11117,Oakland, CA

Project Number: G07TK-0022

Project Manager:Lynelle Onishi

MOK0175 Reported: 11/22/05 16:32

Analyta	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC	RPD	RPD Limit	Mater
Analyte	Kesult	Limit	Units	Level	Kesuit	%KEC	Limits	KPD	Limit	Notes
Batch 5K10001 - EPA 5035 / EPA	8260B									
Blank (5K10001-BLK1)				Prepared &	& Analyze	ed: 11/10/	05			
tert-Amyl methyl ether	ND	0.0050	mg/kg	<del>-</del>						
Benzene	ND	0.0050	II .							
tert-Butyl alcohol	ND	0.020	н							
Di-isopropyl ether	ND	0.0050								
1,2-Dibromoethane (EDB)	ND	0.0050	u							
1,2-Dichloroethane	ND	0.0050	u							
Ethanol	ND	0.10	u							
Ethyl tert-butyl ether	ND	0.0050	н							
Ethylbenzene	ND	0.0050	11							
Methyl tert-butyl ether	ND	0.0050								
Toluene	ND	0.0050	n		. *					
Xylenes (total)	ND	0.0050	н							
Gasoline Range Organics (C4-C12)	ND	0.10	11							
Surrogate: 1,2-Dichloroethane-d4	0.00360		"	0.00500		72	60-125			
Laboratory Control Sample (5K1000	1-BS1)			Prepared &	& Analyze	ed: 11/10/	05			
tert-Amyl methyl ether	0.0150	0.0050	mg/kg	0.0150		100	80-130			
Benzene	0.00588	0.0050		0.00516		114	65-125			
tert-Butyl alcohol	0.153	0.020		0.143		107	80-165			
Di-isopropyl ether	0.0180	0.0050	,,	0.0151		119	85-115			H
1,2-Dibromoethane (EDB)	0.0158	0.0050	"	0.0149		106	85-130			
1,2-Dichloroethane	0.0144	0.0050	U	0.0147		98	63-124			
Ethanol	0.183	0.10	II.	0.142		129	35-150			
Ethyl tert-butyl ether	0.0155	0.0050	u	0.0150		103	80-125			
Ethylbenzene	0.00776	0.0050	n	0.00754		103	80-135			
Methyl tert-butyl ether	0.00643	0.0050	11	0.00702		92	75-115			
Toluene	0.0393	0.0050	U	0.0372		106	85-125			
Xylenes (total)	0.0448	0.0050	11	0.0412		109	80-140			
Gasoline Range Organics (C4-C12)	0.551	0.10	17	0.440		125	53-126			
Surrogate: 1,2-Dichloroethane-d4	0.00405		"	0.00500		81	60-125	··		





Project:BP Heritage #11117,Oakland, CA

Project Number: G07TK-0022

Project Manager:Lynelle Onishi

MOK0175 Reported: 11/22/05 16:32

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 5K10001 - EPA 5035 / EPA 82	260B									
Matrix Spike (5K10001-MS1)	Source: M	OK0319-01		Prepared &	& Analyze	d: 11/10/0	)5			
ert-Amyl methyl ether	0.0145	0.0050	mg/kg	0.0150	0.00015	96	80-130			
Benzene	0.00587	0.0050	**	0.00516	0.0010	94	65-125			
ert-Butyl alcohol	0.193	0.020	**	0.143	0.042	106	80-135			
Di-isopropyl ether	0.0173	0.0050	H	0.0151	ND	115	85-115			
,2-Dibromoethane (EDB)	0.0149	0.0050	n	0.0149	ND	100	85-130			
,2-Dichloroethane	0.0150	0.0050	п	0.0147	ND	102	63-124			
Ethanol	0.142	0.099	0	0.142	ND	100	35-150			
Ethyl tert-butyl ether	0.0152	0.0050	Ħ	0.0150	ND	101	80-125			
Ethylbenzene	0.0130	0.0050	п	0.00754	0.0039	121	80-135			
Methyl tert-butyl ether	0.00715	0.0050	п	0.00702	ND	102	75-115			
Coluene	0.0421	0.0050	п	0.0372	0.0048	100	85-125			
(ylenes (total)	0.0726	0.0050	U	0.0412	0.023	120	80-140			
Gasoline Range Organics (C4-C12)	0.649	0.099	II	0.440	0.11	122	53-126			
Gurrogate: 1,2-Dichloroethane-d4	0.00451		#	0.00500		90	60-125			
Matrix Spike Dup (5K10001-MSD1)	Source: M	OK0319-01		Prepared &	& Analyze	d: 11/10/0	)5			
ert-Amyl methyl ether	0.0146	0.0050	mg/kg	0.0150	0.00015	96	80-130	0.7	25	
Benzene	0.00582	0.0050	"	0.00516	0.0010	93	65-125	0.9	20	
ert-Butyl alcohol	0.188	0.020	n	0.143	0.042	102	80-135	3	20	
Di-isopropyl ether	0.0172	0.0050	н	0.0151	ND	114	85-115	0.6	20	
,2-Dibromoethane (EDB)	0.0146	0.0050	•	0.0149	ND	98	85-130	2	15	
,2-Dichloroethane	0.0148	0.0050	te	0.0147	ND	101	63-124	1	25	
Ethanol	0.213	0.099	†r	0.142	ND	150	35-150	40	40	
thyl tert-butyl ether	0.0150	0.0050	H	0.0150	ND	100	80-125	1	25	
Ethylbenzene	0.0133	0.0050	н	0.00754	0.0039	125	80-135	2	20	
Aethyl tert-butyl ether	0.00700	0.0050	п	0.00702	ND	100	75-115	2	35	
oluene	0.0444	0.0050	11	0.0372	0.0048	106	85-125	5	15	
(ylenes (total)	0.0762	0.0050	D	0.0412	0.023	129	80-140	5	20	
Gasoline Range Organics (C4-C12)	0.654	0.099	n	0.440	0.11	124	53-126	0.8	25	
iurrogate: 1,2-Dichloroethane-d4	0.00469		"	0.00500		94	60-125			





Project:BP Heritage #11117,Oakland, CA Project Number:G07TK-0022

Project Manager:Lynelle Onishi

MOK0175 Reported: 11/22/05 16:32

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 5K10020 - EPA 5030B/503			<u></u>		***					
Blank (5K10020-BLK1)				Prepared:	11/10/05	Analyzed	l: 11/11/05			
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	n							
1,2-Dibromoethane (EDB)	ND	0.025	17							
1,2-Dichloroethane	ND	0.025	**							
Ethanol	ND	10	**							
Ethyl tert-butyl ether	ND	0.025	п							
Ethylbenzene	ND	0.050	**							
Methyl tert-butyl ether	ND	0.025	**				. :			
Toluene	ND	0.050	**							
Xylenes (total)	ND	0.050	н							
Gasoline Range Organics (C4-C12)	ND	2.5	Ħ							
Surrogate: 1,2-Dichloroethane-d4	0.00442		"	0.00500		88	60-125			
Laboratory Control Sample (5K1002	0-BS1)			Prepared:	11/10/05	Analyzed	l: 11/11/05			
tert-Amyl methyl ether	0.715	0.025	mg/kg	0.564	-	127	80-130			
Benzene	0.188	0.050	н	0.194		97	65-125			
tert-Butyl alcohol	6.87	5.0	н	5.37		128	80-165			
Di-isopropyl ether	0.501	0.025	"	0.567		88	85-115			
1,2-Dibromoethane (EDB)	0.485	0.025	**	0.558		87	85-130			
1,2-Dichloroethane	0.473	0.025	**	0.552		86	63-124			
Ethanol	4.28	10	TP	5.31		81	35-150			
Ethyl tert-butyl ether	0.717	0.025	tt	0.564		127	80-125			Н
Ethylbenzene	0.278	0.050	er	0.283		98	80-135			
Methyl tert-butyl ether	0.367	0.025	ti	0.263		140	75-115			Н
Toluene	1.35	0.050	U	1.39		97	85-125			
Xylenes (total)	1.59	0.050	п	1.55		103	80-140			
Gasoline Range Organics (C4-C12)	19.0	2.5	n	16.5		115	60-140			
Surrogate: 1,2-Dichloroethane-d4	0.00427		"	0.00500		85	60-125			





Project:BP Heritage #11117,Oakland, CA

Project Number:G07TK-0022

MOK0175 Reported: 11/22/05 16:32

Project Manager:Lynelle Onishi

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

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

#### Batch 5K10020 - EPA 5030B/5035A MeOH / EPA 8260B

Laboratory Control Sample Dup (5K	(10020-BSD1)			Prepared: 11/10	0/05 Analyze	d: 11/11/05			
tert-Amyl methyl ether	0.658	0.025	mg/kg	0.564	117	80-130	8	25	
Benzene	0.173	0.050	ш	0.194	89	65-125	8	20	
tert-Butyl alcohol	6.77	5.0	II .	5.37	126	80-165	1	25	
Di-isopropyl ether	0.453	0.025		0.567	80	85-115	10	20	HM
1,2-Dibromoethane (EDB)	0.443	0.025	0	0.558	79	85-130	9	15	HM
1,2-Dichloroethane	0.419	0.025	IJ	0.552	76	63-124	12	25	
Ethanol	4.65	10	D	5.31	88	35-150	8	40	
Ethyl tert-butyl ether	0.658	0.025	n	0.564	117	80-125	9	25	
Ethylbenzene	0,262	0.050	n	0.283	93	80-135	6	20	
Methyl tert-butyl ether	0.341	0.025	11	0.263	130	75-115	· 7 ·	35	HL
Toluene	1.25	0.050	**	1.39	90	85-125	8	15	
Xylenes (total)	1.50	0.050	**	1.55	97	80-140	6	20	
Gasoline Range Organics (C4-C12)	17.1	2.5	"	16.5	104	60-140	11	25	
Surrogate: 1,2-Dichloroethane-d4	0.00413		n	0.00500	83	60-125			

#### Batch 5K11009 - EPA 5035 / EPA 8260B

Blank (5K11009-BLK1)				Prepared & Ana	alyzed: 11/11.	/05	
tert-Amyl methyl ether	ND	0.0050	mg/kg				
Benzene	ND	0.0050	n n				
tert-Butyl alcohol	ND	0.020	п				
Di-isopropyl ether	ND	0.0050	п				
1,2-Dibromoethane (EDB)	ND	0.0050	n				
1,2-Dichloroethane	ND	0.0050	11				
Ethanol	ND	0.10	**				IC
Ethyl tert-butyl ether	ND	0.0050	**				
Ethylbenzene	ND	0.0050	**				
Methyl tert-butyl ether	ND	0.0050	tt				
Toluene	ND	0.0050	**				
Xylenes (total)	ND	0.0050	n				
Gasoline Range Organics (C4-C12)	ND	0.10	n				
Surrogate: 1,2-Dichloroethane-d4	0.00403	•	"	0.00500	81	60-125	





Project:BP Heritage #11117,Oakland, CA Project Number:G07TK-0022

Project Manager:Lynelle Onishi

MOK0175 Reported: 11/22/05 16:32

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 5K11009 - EPA 5035 / EPA	A 8260B									
Laboratory Control Sample (5K1100	9-BS1)	"		Prepared &	& Analyze	d: 11/11/	05			
tert-Amyl methyl ether	0.0140	0.0050	mg/kg	0.0150		93	80-130			
Benzene	0.00551	0.0050	п	0.00516		107	65-125			
tert-Butyl alcohol	0.149	0.020	II .	0.143		104	80-165			
Di-isopropyl ether	0.0158	0.0050	II .	0.0151		105	85-115			
1,2-Dibromoethane (EDB)	0.0145	0.0050	п	0.0149		97	85-130			
1,2-Dichloroethane	0.0133	0.0050	II .	0.0147		90	63-124			
Ethanol	0.185	0.10	n	0.142		130	35-150			IC
Ethyl tert-butyl ether	0.0141	0.0050	17	0.0150		94	80-125			
Ethylbenzene	0.00774	0.0050	19	0.00754		103	80-135			
Methyl tert-butyl ether	0.00620	0.0050	10	0.00702		88	75-115			
Toluene	0.0379	0.0050	**	0.0372		102	85-125			
Xylenes (total)	0.0432	0.0050	**	0.0412		105	80-140			
Gasoline Range Organics (C4-C12)	0.506	0.10	**	0.440		115	53-126			
Surrogate: 1,2-Dichloroethane-d4	0.00385		. 4	0.00500		77	60-125			
Matrix Spike (5K11009-MS1)	Source: M	OK0320-01		Prepared &	& Analyze	d: 11/11/	05			
tert-Amyl methyl ether	0.0128	0.0050	mg/kg	0.0150	0.00014	84	80-130			
Benzene	0.00515	0.0050		0.00516	0.0016	69	65-125			
tert-Butyl alcohol	0.256	0.020	u	0.143	0.011	171	80-135			LM
Di-isopropyl ether	0.0151	0.0050	н	0.0151	ND	100	85-115			
1,2-Dibromoethane (EDB)	0.0131	0.0050	D	0.0149	ND	88	85-130			
1,2-Dichloroethane	0.0129	0.0050	n	0.0147	ND	88	63-124			
Ethanol	0.163	0.10	17	0.142	ND	115	35-150			IC
Ethyl tert-butyl ether	0.0133	0.0050	15	0.0150	ND	89	80-125			
Ethylbenzene	0.00670	0.0050	10	0.00754	0.00055	82	80-135			
Methyl tert-butyl ether	0.00853	0.0050	n	0.00702	ND	122	75-115			LM
Toluene	0.0326	0.0050	•	0.0372	0.00016	87	85-125			
Xylenes (total)	0.0362	0.0050	**	0.0412	0.00049	87	80-140			
Gasoline Range Organics (C4-C12)	0.702	0.10	tt	0.440	0.50	46	53-126			LN
Surrogate: 1,2-Dichloroethane-d4	0.00411		"	0.00500		82	60-125			





Project:BP Heritage #11117,Oakland, CA

Project Number: G07TK-0022 Project Manager:Lynelle Onishi MOK0175 Reported:

11/22/05 16:32

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

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 5K11009 - EPA 5035 / EP	A 8260B									

Matrix Spike Dup (5K11009-MSD1)	Source: M	OK0320-01		Prepared	& Analyze	d: 11/11	/05			
tert-Amyl methyl ether	0.0124	0.0050	mg/kg	0.0150	0.00014	82	80-130	3	25	
Benzene	0.00521	0.0050	**	0.00516	0.0016	70	65-125	1	20	
tert-Butyl alcohol	0.273	0.020	"	0.143	0.011	183	80-135	6	20	LM
Di-isopropyl ether	0.0147	0.0050	"	0.0151	ND	97	85-115	3	20	
1,2-Dibromoethane (EDB)	0.0128	0.0050	IF	0.0149	ND	86	85-130	2	15	
1,2-Dichloroethane	0.0112	0.0050	IF	0.0147	ND	76	63-124	14	25	
Ethanol	0.159	0.10	ш	0.142	ND	112	35-150	2	40	IC
Ethyl tert-butyl ether	0.0128	0.0050	u	0.0150	ND	85	80-125	4	25	
Ethylbenzene	0.00639	0.0050	п	0.00754	0.00055	77	80-135	5	20	LN
Methyl tert-butyl ether	0.00758	0.0050	"	0.00702	ND	108	75-115	12	35	
Toluene	0.0313	0.0050	II .	0.0372	0.00016	84	85-125	4	15	LN
Xylenes (total)	0.0344	0.0050	H	0.0412	0.00049	82	80-140	5	20	
Gasoline Range Organics (C4-C12)	0.657	0.10	11	0.440	0.50	36	53-126	7	25	LN
Surrogate: 1,2-Dichloroethane-d4	0.00383		rr	0.00500		77	60-125			

#### Batch 5K16038 - EPA 5030B P/T / EPA 8260B

Blank (5K16038-BLK1)				Prepared & Ar	nalyzed: 11/16	05		
tert-Amyl methyl ether	ND	0.50	ug/l				, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
Benzene	ND	0.50	77					
tert-Butyl alcohol	ND	20	P					
Di-isopropyl ether	ND	0.50	n					
1,2-Dibromoethane (EDB)	ND	0.50	н					
1,2-Dichloroethane	ND	0.50	11					
Ethanol	ND	100	п					IC
Ethyl tert-butyl ether	ND	0.50	11					
Ethylbenzene	ND	0.50	n					
Methyl tert-butyl ether	ND	0.50	n					
Toluene	ND	0.50	n					
Xylenes (total)	ND	0.50	79					
Gasoline Range Organics (C4-C12)	ND	50	**					
Surrogate: 1,2-Dichloroethane-d4	2.52		"	2.50	101	60-135		





Project:BP Heritage #11117,Oakland, CA Project Number:G07TK-0022

Project Manager:Lynelle Onishi

MOK0175 Reported: 11/22/05 16:32

Analyte	Result	Reporting Limit	Units	Spike Level	Source	0/PEC	%REC	DDD	RPD	Masse
Analyte	Result	Limit	Units	Levei	Result	%REC	Limits	RPD	Limit	Notes
Batch 5K16038 - EPA 5030B P/T	/ EPA 8260B									
Laboratory Control Sample (5K1603	8-BS1)			Prepared	& Analyze	ed: 11/16/	05			
tert-Amyl methyl ether	16.6	0.50	ug/l	15.0		111	80-115			
Benzene	5.17	0.50	11	5.16		100	65-115			
tert-Butyl alcohol	161	20	98	143		113	75-150			
Di-isopropyl ether	17.3	0.50	*1	15.1		115	75-125			
1,2-Dibromoethane (EDB)	15.3	0.50	77	14.9		103	85-120			
1,2-Dichloroethane	14.8	0.50	u	14.7		101	85-130			
Ethanol	161	100		142		113	70-135			IC
Ethyl tert-butyl ether	16.1	0.50	п	15.0		107	75-130			
Ethylbenzene	7.37	0.50	u	7.54		98	75-135			
Methyl tert-butyl ether	7.25	0.50	III	7.02		103	65-125			
Toluene	36.1	0.50	ш	37.2		97	85-120			
Xylenes (total)	42.5	0.50	н	41.2		103	85-125			
Gasoline Range Organics (C4-C12)	624	50	1)	440		142	60-140			HI
Surrogate: 1,2-Dichloroethane-d4	2.40		n	2.50		96	60-135			
Matrix Spike (5K16038-MS1)	Source: M	IOK0585-01		Prepared:	11/16/05	Analyzed	l: 11/17/05			
tert-Amyl methyl ether	88.5	2.5	ug/l	75.2	6.3	109	80-115			
Benzene	25.8	2.5	11	25.8	ND	100	65-115			
tert-Butyl alcohol	828	100	11	716	ND	116	75-120			
Di-isopropyl ether	86.4	2.5	n	75.6	ND	114	75-125			
1,2-Dibromoethane (EDB)	76.2	2.5	п	74.4	ND	102	85-120			
1,2-Dichloroethane	72.5	2.5	n	73.6	ND	99	85-130			
Ethanol	1000	500	н	708	ND	141	70-135			IC, LM
Ethyl tert-butyl ether	78.9	2.5	n n	75.2	ND	105	75-130			
Ethylbenzene	36.0	2.5	D	37.7	ND	95	75-135			
Methyl tert-butyl ether	595	2.5	D.	35.1	640	0	65-125			BB,LN
Toluene	176	2.5	D	186	ND	95	85-120			
Xylenes (total)	207	2.5	19	206	ND	100	85-125			
Gasoline Range Organics (C4-C12)	3530	250	11	2200	720	128	60-140			
Surrogate: 1,2-Dichloroethane-d4	2.48		"	2.50		99	60-135			





Surrogate: 1,2-Dichloroethane-d4

Project:BP Heritage #11117,Oakland, CA Project Number:G07TK-0022

Project Manager:Lynelle Onishi

MOK0175 Reported: 11/22/05 16:32

#### 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 5K16038 - EPA 5030B P/T / E	PA 8260B									
Matrix Spike Dup (5K16038-MSD1)	Source: M	OK0585-01		Prepared:	11/16/05	Analyzed	i: 11/17/05			
tert-Amyl methyl ether	87.4	2.5	ug/l	75.2	6.3	108	80-115	1	15	
Benzene	25.7	2.5	U	25.8	ND	100	65-115	0.4	20	
tert-Butyl alcohol	865	100	U	716	ND	121	75-120	4	25	LM
Di-isopropyl ether	86.4	2.5	17	75.6	ND	114	75-125	0	15	
1,2-Dibromoethane (EDB)	75.6	2.5	19	74.4	ND	102	85-120	0.8	15	
1,2-Dichloroethane	72.6	2.5	11	73.6	ND	99	85-130	0.1	20	
Ethanol	1180	500	11	708	ND	167	70-135	17	35	LM
Ethyl tert-butyl ether	79.6	2.5	Ħ	75.2	ND	106	75-130	0.9	25	
Ethylbenzene	37.4	2.5	**	37.7	ND	99	75-135	4	15	
Methyl tert-butyl ether	587	2.5	**	35.1	640	0	65-125	1	20	BB,LN
Toluene	176	2.5	**	186	ND	95	85-120	0	20	
Xylenes (total)	211	2.5	n	206	ND	102	85-125	2	20	
Gasoline Range Organics (C4-C12)	3550	250	Ħ	2200	720	129	60-140	0.6	25	

2.50

2.37

60-135





·		
URS Corporation [Arco]	Project:BP Heritage #11117,Oakland, CA	MOK0175
1333 Broadway, Suite 800	Project Number:G07TK-0022	Reported:
Oakland CA, 94612	Project Manager: Lynelle Onishi	11/22/05 16:32

#### **Notes and Definitions**

VQT	Val. Qual.: QA/QC protocols not met for instr.12-hr tuning crit.
RB	RPD exceeded method control limit; % recoveries within limits.
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
HM	Analyte recovery below established limit
HL	Analyte recovery above established limit
CL	Initial analysis within holding time but required dilution
BB,LN	Sample > 4x spike concentration.
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

Relative Percent Difference

RPD



& Please tax copy to Lynelle Oniski (510) 874 3268

### Chain of Custody Record

Project Name: Former BP Site 11117 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: Sam Temp: 68°
Off-site Time: 1544 Temp: 7-3°
Sky Conditions: Clouds
Meteorological Events:
Wind Speed: Smph Direction: NW

Lab Name:	Sequoia Analytical					BP/AR Facility No.: 11117 Consultant/Contractor: URS																								
Address:	885 Jarvis Drive				]	BP/AR Facility Add	dress	: 7	7210	Banc	roft.	Ave, Or	ıklan	d, CA	<u> </u>		Ad	dres	s:					way,		800				
	Morgan Hill, CA 95037					Site Lat/Long:											╢			_				A 94						
Lab PM:	Lisa Race				]	California Global II	D No													_				ct No.:		38487				
Tele/Fax:	408-782-8156/408-782-6308					Enfos Project No.:		- (	307T	K-00	22								tant/							Lynell		shi		
BP/AR PM Contact:	Kyle Christie					Provision or RCOP	(cir	cle on	e)	P	rovi	sion						le/Fa			-					1-326	3			
Address: 4 Centerpoin	ite Dr.				_	Phase/WBS:	01-	Asses	men	t														Level						
La Palma, CA								Analy																		rscor	D'COI	<u>n</u>		
Tele/Fax: 714-670-53						Cost Element:	05 -	Subc			_		<del></del>						_	_	Wes	t Co	ast (	Global	Affiai	nce	_	<del>}</del>		
Lab Bottle Order No	):			Mati	ix			<b> </b>	Pr	eserv	ativ	e	ル	<del></del>				-т	naly	/SIS		_	/	ľ,	an i		a	_ )	•	
Item No.	Sample Description	Time	Date	Soil/Solid Water/Liquid	Air	Laboratory No.	No. of Containers	Unpreserved	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	HCI	Methanol	GRO (8260)	BTEX (8260)	Fire Add (8260):	MTBB, 1,2-DCA,	EDB, TBA, TAME,		Ethanol (8260)	Total Lead			(		Sam			at/Long	and	
- 1	A-8 6-6.51	0900	11/3/05	X		n		X					X	X	X	X	2	$\langle   \rangle$	<u> </u>					48	e e	Sp	ere	<u> </u>		
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4	4-8 21-21.5'	0915			П	exp	`	₫/						$\prod$										Do	<u>)</u>	no t	- "	un	- fore	U
- 5	4-8 (24.6)	6936		X		ЬГ	3				X					$\prod$								P	<u>6</u>					
6	A-8 75-25.5	0940			Π	<i>5</i> 4	T	1		[			П	$\prod$									·							
7	A-8 30-30-5	0945			П	67	I	I					П			$\prod_{i}$	$\Pi$	71	П											
. 8	1-8 36-365	0950				e/						'	П		Ι,	TV		П	П			- "								
9	1-9 6-6-51	11:15	-17		П	09					$\Box$		11	$\Pi$	M	11	T	П	17											
10	A-9 11-11.57	11:20	1		1	10	4	W					1 9	4	₩	14			1	7										
Sampler's Name:	Andrew Fowle	10		<del>.   </del>	<u></u>	Reling		ed Byy/	Λffij	lation	المساد		ī	)ate	ī	ime	İ		X	A	ecen	ted J	By / /	Affiliat	ion			D9te,		íme
Sampler's Company	y: UBS					MANA		a	7.5	<u> </u>	_		W.	?103	76	Ó			M	a	1/	ישי	<b>Q</b> 7	<b>~</b>				11/3/2		
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Shipment Tracking									10-11-X																			1		
Special Instructions	: Analyze soil sample with high	est GRO-	eoneen	tration	for T	otal Lead (Pb)																								
Egunning total Pb an	alysis and result are >50ppm, run S	TLC, if ST	LC res	uits are	>5pp	m, run TCLP																								
ndy Seals In P	lace Yes No			Temp	Bla	nk Yes / No		·			Cool	er Ten	pera	ture	on l	Rece	ipt	<b>Y</b> 2	· or	Œ			Tri	p Bla	nk Yo	35	No			<del></del>



Project Name:

BP BU/AR Region/Enfos Segment:

Whelle On Shu Grand Custody Record

Former BP Site 11117 Soil/Groundwater Investigation

BP/Americas/WestCoast/Retail/WCBU/CA/Cent

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age	<u>،</u>	$\subseteq$

Temp:

Temp:

On-site Time:

Off-site Time:

Sky Conditions:

		State	or Lea	d Re		ory Agency:	Al	ame	da C	County	/ En					h		Met	coro	ogica	l Ev	ents:				·		<del></del>
•	_	•••			Req	uested Due Date	(m	n/dd	/yy)	):		Sta	ndar	AT L	T			Wiπ	d Sp	ecd:					Dir	ection:		
Lab Name:	Sequoia Analytical				-	1																						
Address:	885 Jarvis Drive .	<del></del>				BP/AR Facility No				1111								Con	sulta	nt/Co	ontra	ctor:		URS				
Address.		<del></del>	<del></del>			BP/AR Facility Ad	dres	:B:	72	10 Ba	ncro	ft Av	e, Oa	klanc	i, C/	١		Add	ress:		13	33 B	road	way, S	uite 800	)		
Lab PM:	Morgan Hill, CA 95037					Site Lat/Long:																		A 946		··· ·· -··		
Tele/Fax:	Lisa Race 408-782-8156/408-782-6308					California Global I		0.:										Con	sulta	nt/Cc	ntra	tor F	roje	ct No.:	384	87353.0	A034	
BP/AR PM Contact:		<del></del>				Enfos Project No.:				)7TK-	0022	!						Con	sulta	nt/Co	ntra	tor F	M:		Lyn	elle Oni	shi	A
Address: 4 Centerpoir			···			Provision or RCOI					Pro	visior	1					Tele	/Fax		510	)-874	1-17	58/510	-874-32	268		
La Palma, CA	me Dr.					Phase/WBS:		Asse										Rep	ort T	ype 8	۷QC	Leve	ol:	Level 1	& EDF	:	-	
Tele/Fax: 714-670-53	103/714.6705105		·			Sub Phase/Task:		- Ana										E-m	ail E	DD T	0:	lyne	elle	onishi	@ursc	orp.coi	m	
Lab Bottle Order No		<del></del>		1 35		Cost Element:	Q5	- Sub		tracted												st Co	ast (	ilobal A	lliance		·	
Dotte Order IV		I .	<del></del>	Ma	trix				]	Prese	rvati	ive				]	Requ	ieste	l An	alysi:	9				/			$\overline{}$
· Item No.	Sample Description	Тіте	Date	Soil/Solid	w zwa / Luquid Air	Laboratory No.	No. of Containers	Unpreserved	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	HCI	Methanol		3RO (8260)	BIEX (8260)	Fuel Add. (8260):	MTBE, 1,2-DCA,	IPE, ETBE	Ethanol (8260)	Total Lead				I \	10K Ample P	_	t/Long	and
1	A9 16-1651	1130	11/3/05		+ 1		1	长	۳	1	1			끿	<del>7</del>	<del>-</del> "	<u> </u>	<u>, 0</u>	H	F	<u> </u>		_					
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						9								<del></del>				-,				<u> </u>		<del></del>			7 31.0	102.07
Special Instructions!	Analyze soil sample with highes	i GRO v	oncentr	ation-	for Te	tal Lead (Pb)					-,					-,								<del></del>				
Salu Calla I 21	lysis and result are >50ppm, run ST.	LC, if STI																				_						
dy Seals In Pla				Temp	Blan	k Yes / No					Cool	ler T	empe	ratu	re oi	ı Re	ceip	ιΥ	2_0	7/C		7	Trio	Blank	Yes	No		<del></del>
	Distribution: White Copy - Lab	oratory /	Yellow	Сору	- BP	/Atlantic Richfield	d Co	). / P	ink	Сору	/ - C	onsu	ltant	/Con	itrac	tor									Rev. 4 1		-	

# SIO 874 3268



Chain of Custody Record

	Chain of Custon's Indebtu
Project Name:	Former BP Site 11117 Soil/Groundwater Invest

BP BU/AR Region/Enfos Segment: BP/Americas/WestCoast/Retail/WCBU/CA/Cent State or Lead Regulatory Agency: Alameda County Environmental Health

Standard TAT Requested Due Date (mm/dd/yy):

		<u> </u>	·
On-site	Time:	Temp:	
Off-site	Time:	Temp:	
Sky Cond	litions:		
Meteoroli	ogical Events:		
Wind Spe	red.	Direction:	•

Lab Name:	Sequoia Analytical											Consultant/Contractor: URS																
Address:	885 Jarvis Drive				. I	3P/AR Facility Ad	dress	:	721	10 Bar	crof	t Ave,	Oak	land,	ÇA.			Add	ress	:					vay, Suite 80	<u>}</u>		
	Morgan Hill, CA 95037				9	Site Lat/Long:																			94612			
Lab PM:	Lisa Race					California Global I	D No													-					<del>,                                      </del>	487353.		
Tele/Fax:	408-782-8156/408-782-6308				I	Enfos Project No.:			G0	7TK-(	022							Con	sulta	int/C		•				nelle On	ishi	
BP/AR PM Contact:	Kyle Christie				I	Provision or RCOP	(cir	cle o	ne)		Prov	vision						Tele	_						8/510-874-3			
Address: 4 Centerpoi					I	Phase/WBS: 01- Assessment									Report Type & QC Level: Level 1 & EDF													
La Palma, CA						Sub Phase/Task:		Anal										E-mail EDD To: lynelle_onishi@urscorp.com										
	Tele/Fax: 714-670-5303/714-6705195						st Element: 05 - Subcontracted Costs Invoice to: BP West Coast Global Alliance																					
Lab Bottle Order N	Matri	ĸ				]	Presci	vati	ve				Ì	Requ	leste	d A	naiys	is										
Item No.	Sample Description	Тіте	Date	Soil/Solid Water/Liquid	Air	Laboratory No.	No. of Containers	Unpreserved	H <sub>2</sub> SO <sub>4</sub>	HNO3	HCI	Methanol		GRO (8260)	BTEX (8260)	Fuel Add. (8260):	MTBE, 1,2-DCA,	DIPE, ETBE	(0) (0) (0) (1)	Euranoi (e200) Total Lead	200			_		Point L Comm 		and
	A-7 25.5-26'	1320	11/2/16			21	1	<b>/</b>	1			ΠΤ		N	X	X	$\overline{\mathcal{S}}$	$\overline{X}$	$\sqrt{\mathcal{X}}$	$\downarrow$	T			V				
	A-7 36-36-51	1345	12100	╟┸┤═┪	ᅦ	n		什	<del>                                     </del>	1		$\Box$	T	1			1	ΙÍ	1	1	T					T.		
2		/**/			=#		$\forall$		<u> </u>		=		_	#	#	#=	-	-	#	+=	+	#	_					
3	A-7-A	from I		<b>   _</b> _			-	V	ļ.,			1		$\vdash$		1-,	#		4		╬	+			1 16			
4	Temp blank			M			1		<u>L</u>					$\perp \! \! \! \! \! \! \! \! \! \! \! \! \! \! \! \! \! \! \!$	IA	L	I/L	K/L	L	4		_			NO B			
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7					7					1									Τ	Т	Т	Т	Т		٠.			
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9					┪	3 - V -	╫	1-	<del>                                     </del>	+-		П		П				Г	+	$\top$	$\top$	1	$\top$	$\exists$				
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10		<u>   </u>	<u> </u>			C. Delfe	<u>                                     </u>	ad Pro		Mileste	<u></u>	<u> </u>		Dı		Ti	D70	-	<del></del>		Ác	cente	d Rx	. / A	ffillation		Date	Time
Sampler's Name:	Andrew Foule	<del></del>				Relin	THE R	Eu By	4	innann		,			7			╟─	7	ne								1600
Sampler's Compan			Joseph								-4	<i>(</i>	10	<u></u>	╟─	<del>/</del>	2	$\exists$	<u> </u>	1/2		Ø1 S.A		1/4/2	1120			
Shipment Date:								-1		د دی	/		-	11/6	103	ies	Ľ											
Shipment Method:	Course				$\dashv$	- Contains	DC!		•	22				1	(3)	17	9	╟─					<u> </u>				1114-11-0	71.612
Shipment Tracking	atal Lead (Dh)								ļ		<u> </u>		<u></u>			• •••					<del></del>	1	.!!					
	s: Anatyze soil sample with highe												<b></b>											_				
V	nalysis and result are >50ppm, run \$7		np Blank Yes No Cooler Temperature on Receipt					nt i	И.,	Q#/	d)		-	Prir	Blank Yes	/ No	······································											
y Seals In I	Place Yes No	ılan	K res / NO						OTO! 1	A111	- OI AL	W10 1	,,, ,,		<u> </u>	1		<del></del> ,			- 14	3 22111111 7 (2)						

Distribution: White Copy - Laboratory / Yellow Copy - BP/Atlantic Richfield Co. / Pink Copy - Consultant/Contractor

BP COC Rev. 4 10/1/04

## SEQUOIA ANALYTICAL SAMPLE RECEIPT LOG

CLIENT NAME:	1/23-1111		DATE REC'D AT LAB: 11/4105								For Regulatory Purposes?							
REC. BY (PRINT)	E. Falli	4		TIM	E REC'D AT LAB:		1715						902	VATER YES/	- P			
WORKORDER:	: MOKOITE			DAT	TE LÓGGED IN:		11/4	05				WAS	TE WA	TER YES!	NO)			
							•	•		٠.								
CIRCLE THE APPROI	PRIATE RESPONSE	LAB	DASH			CON	TAINER	PRESERV		SAN	MPLE	D/	VTE,.	REMARKS	: .			
		SAMPLE#	#	1	CLIENT ID		RIPTION		pН	MA	TRIX	SAM	PLED	CONDITION (E	ETC.)			
1. Custody Seal(s)	Present / Absent	61	A	A-	-8 6-6.5	M-	core		-	1	8	ii/	4/05					
	Intact / Broken*	vz	1	1	11-11.5		l		1		1	ı	<del></del>					
2. Chain-of-Custody	Present / Absent*	<i>U</i> <sup>2</sup> 7			15-5-(6	•			'			-						
3. Traffic Reports or		wy	1	. ]	21-21-5		/			<u>                                     </u>								
Packing List:	Present / Absent	bs.	1		(24.6)	٧u	a (3)	He(			Ø		·					
4. Airbill:	Airbill / Sticker	69	A		25-25.5	M.	conc				\$							
<u>!</u> .	Present / Absent	67.			34-30.5													
5. Airbill #:		28			26-36.5.					<u> </u>								
6. Sample Labels:	Present / Absent	<i>07.</i>		A	-9 6-6,5'					-								
7. Sample IDs:	Listed / Not Listed	W		نــــــــــــــــــــــــــــــــــــــ	11-11.51													
	on Chain-of-Custody	- 11			7 گ. کا - به ا		<u> </u>			ļ				·				
8. Sample Condition:	Intact)/ Broken*/	12			21-11.51		4				<u> </u>	·						
	Leaking*	17	1-10	<u>- </u>	(24.2)	70	a (3)	Hc(.	· \	1 1	<u>6</u>							
9. Does information on	chain-of-custody,	14	14	<u> </u>	25 - 25 5 '	·М.	core	ن			5_	-						
traffic reports and sa	-	<u> </u>	Λ.	<u> </u>	31-31.51		<u> </u>				<u> </u>			٠.				
. agree?	(Yes / No*	14		ļ	36-365'					<u> </u>								
10. Sample received withir		17		A	-7 6-6.5'					_								
. hold time?	Yesy No*	18		<u> </u>	(1-(1. <del>2</del> )					<b></b>	1		<u> </u>					
<ol> <li>11. Adequate sample volu</li> </ol>		19		<u> </u>	(6-10,5"	٠.				<u> </u>			'-	·				
received?	Yesy No*	.N		<u> </u>	. 21-21.5'	••				<u> </u>	<u> </u>							
12. Proper preservatives u		2.1			25.5-26						<u> </u>							
13. Trip Blank / Temp Blan		w	X 49		36-36.51		<b>/</b>	<u> </u>		<u> </u>	<u> </u>		1					
(circle which, if yes)	. Yes \ No*.	27	160		Thip Blank	N	na (2)	401		1	w_		<u> </u>					
14. Read Temp:	<u> </u>		<u> </u>	+						1		1						
Corrected Temp:	-4-8°C		ļ				····			1								
ls corrected temp 4+/	(アノ・・		ļ			-	1/	4/09		<del> </del>		· · · · · ·						
(Acceptance range for samples r				<del>                                     </del>	51	3/-	- 11/	1		1_								
**Exception (if any): MET.	ALS / DFF ONTCE								<u> </u>	<u> </u>								
or Problem COC		A CONTRACTOR OF THE PARTY OF TH	SALES VIET N							士				•				
A STATE OF THE PARTY OF THE PAR		*IF CIRC	CLED,	CON	TACT PROJECT N	ANAC	ER AND	ATTACH F	RECO	RD OF	FRES	OLU	TION.		( ( ( ( ( ( ( ( ( ( ( ( ( ( ( ( ( ( ( (			

Revision 7 es Rev 5 (07/13/04) 97/19/05

Page of (



23 November, 2005

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

RE: BP Heritage #11117,Oakland, CA

chobad

Work Order: MOK0290

Enclosed are the results of analyses for samples received by the laboratory on 11/07/05 20:35. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jamshid Kekobad Project Manager

CA ELAP Certificate #1210

The results in this laboratory report pertain only to the samples tested in the laboratory. The analyses contained in this report were performed in accordance with the BPGCLN Technical Specifications, applicable Federal, State, local regulations and certification requirements as well as the methodologies as described in laboratory SOPs reviewed by the BPGCLN. This entire report was reviewed and approved for release.





URS Corporation [Arco]	Project:BP Heritage #11117,Oakland, CA	MOK0290
1333 Broadway, Suite 800	Project Number:G07TK-0022	Reported:
Oakland CA, 94612	Project Manager:Lynelle Onishi	11/23/05 14:09

#### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
A10-5.5'	MOK0290-01	Soil	11/07/05 09:48	11/07/05 20:35
A10-10.5'	MOK0290-02	Soil	11/07/05 10:02	11/07/05 20:35
A10-15.5'	MOK0290-03	Soil	11/07/05 10:05	11/07/05 20:35
A10-20.5'	MOK0290-04	Soil	11/07/05 10:10	11/07/05 20:35
A10-25.5'	MOK0290-05	Soil	11/07/05 10:19	11/07/05 20:35
A10 (25')	MOK0290-06	Water	11/07/05 10:20	11/07/05 20:35
A10-30.5'	MOK0290-07	Soil	11/07/05 10:33	11/07/05 20:35
A10-35.5'	MOK0290-08	Soil	11/07/05 10:42	11/07/05 20:35
A10 (39')	MOK0290-09	Water	11/07/05 14:07	11/07/05 20:35

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.





Project:BP Heritage #11117,Oakland, CA Project Number:G07TK-0022

Reported: 11/23/05 14:09

MOK0290

Project Manager:Lynelle Onishi

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
A10-5.5' (MOK0290-01) Soil	Sampled: 11/07/05 09:48	Received:	11/07/05	20:35			· · · · · · · · · · · · · · · · · · ·	***************************************	
tert-Amyl methyl ether	ND	0.0050	mg/kg	1	5K15011	11/15/05	11/15/05	EPA 8260B	
Benzene	ND	0.0050	**	II .	**	II	11	н	
tert-Butyl alcohol	ND	0.020	n	IF	H	II	11	п	
Di-isopropyl ether	ND	0.0050	**	II .	11	D	11	п	
1,2-Dibromoethane (EDB)	ND	0.0050	**	11	n	II.	**	п	
1,2-Dichloroethane	ND	0.0050	**	11	II .	n	**	n	
Ethanol	ND	0.10	ti	"	II	ir	u	11	IC
Ethyl tert-butyl ether	ND	0.0050	Ü	"	ij	17	п	11	
Ethylbenzene	ND	0.0050	a a	"	H	"	п	**	
Methyl tert-butyl ether	ND <sub>.</sub>	0.0050	11	n	"	11	и	**	
Toluene	ND	0.0050	U	U U	**	ŧŧ	n	a	
Xylenes (total)	ND	0.0050	15	н	n	u	11	a	
Gasoline Range Organics (C4-C)	12) ND	0.10	11	IF	Ħ	n	я	II .	
Surrogate: 1,2-Dichloroethane-a	14	83 %	60-1	125	n	U	"	U	
A10-10.5' (MOK0290-02) Soil	Sampled: 11/07/05 10:02	Received	l: 11/07/05	5 20:35					
tert-Amyl methyl ether	ND	0.0050	mg/kg	1	5K15011	11/15/05	11/15/05	EPA 8260B	
Benzene	ND	0.0050	II	*	n	**	U	**	
tert-Butyl alcohol	ND	0.020	II	*	"	Ħ	n	4	
Di-isopropyl ether	ND	0.0050	п	17	17	tl	11	п	
1,2-Dibromoethane (EDB)	ND	0.0050	н	17	**	u	11	II .	
1,2-Dichloroethane	ND	0.0050	n	II*	*1	II .	**	II .	
Ethanol	ND	0.10	#	II	tı	U	**	II .	IC
Ethyl tert-butyl ether	ND	0.0050	11	1)	ш	н	tt	H	
Ethylbenzene	ND	0.0050	11	11	D	n	α	R	
Methyl tert-butyl ether	ND	0.0050	**	"	D	11	II .	**	
Toluene	ND	0.0050	п	•	11	**	II .	et	
	ND	0.0050	н	ri	P	n	н	tı	
Xylenes (total)	ND	0.0000							
Xylenes (total) Gasoline Range Organics (C4-C)		0.10	11		11	0	37	0	





Project:BP Heritage #11117,Oakland, CA Project Number:G07TK-0022 Project Manager:Lynelle Onishi MOK0290 Reported: 11/23/05 14:09

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
A10-15.5' (MOK0290-03) Soil	Sampled: 11/07/05 10:05	Received	l: 11/07/0	5 20:35		•			
tert-Amyl methyl ether	ND	0.0050	mg/kg	1	5K15011	11/15/05	11/15/05	EPA 8260B	
Benzene	ND	0.0050	ıt	**	U	II .	n	II .	
tert-Butyl alcohol	ND	0.020	II .	**	11	II .	n	II .	
Di-isopropyl ether	ND	0.0050	п	tt	n	II .	IJ	11	
1,2-Dibromoethane (EDB)	ND	0.0050	11	II.	n	n	17	**	
1,2-Dichloroethane	ND	0.0050	11	n	"	17	11	**	
Ethanol	ND	0.10	**	II .	**	**	**	tt	IC
Ethyl tert-butyl ether	ND	0.0050	**	17	**	**	n	н	
Ethylbenzene	ND	0.0050	tt	#	н	ti	n	ш	
Methyl tert-butyl ether	ND	0.0050	**	**	U	II .	n	II .	
Toluene	ND	0.0050	11	n	U	· ·	II	D	
Xylenes (total)	ND	0.0050	. п	n	II .	n	11	n	
Gasoline Range Organics (C4-C1	2) ND	0.10	11	н	91	n	11	n	
Surrogate: 1,2-Dichloroethane-d-	1	87 %	60-	125	"	n	n	"	
A10-20.5' (MOK0290-04) Soil	Sampled: 11/07/05 10:10	Received	: 11/07/0	5 20:35					
tert-Amyl methyl ether	ND	0.0050	mg/kg	1	5K15011	11/15/05	11/15/05	EPA 8260B	
Benzene	ND	0.0050	n	•	11	п	II	11	
tert-Butyl alcohol	ND	0.020	11	**	II .	II .	н	n	
Di-isopropyl ether	ND	0.0050	u	II .	н	n	11	11	
1,2-Dibromoethane (EDB)	ND	0.0050	IF	п	19	II.	•	**	
1,2-Dichloroethane	ND	0.0050	II.	п	**	R	**	*1	
Ethanol	ND	0.10	**	n	**	**	**	11	IC
Ethyl tert-butyl ether	ND	0.0050		19	ur .	n	н	U	
Ethylbenzene	ND	0.0050	PF	**	ш	н	II .	U	
Methyl tert-butyl ether	ND	0.0050	H	tr	II	U	Ü	n	
Toluene	ND	0.0050		ŧŧ	11	II	11	11	
Xylenes (total)	ND	0.0050		n	17	n	"	n	
Gasoline Range Organics (C4-C1	2) ND	0.10	11		**	h	*	n	
Surrogate: 1,2-Dichloroethane-d4	<i>t</i>	107 %	60-1	125	#	н	"	"	





Project:BP Heritage #11117,Oakland, CA Project Number:G07TK-0022

Project Manager: Lynelle Onishi

MOK0290 Reported: 11/23/05 14:09

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
A10-25.5' (MOK0290-05) Soil	Sampled: 11/07/05 10:19	Received	l: 11/07/0	5 20:35					, , , , , , , ,
tert-Amyl methyl ether	ND	0.0050	mg/kg	1	5K15011	11/15/05	11/15/05	EPA 8260B	
Benzene	ND	0.0050	u	#	H	n	"	17	
tert-Butyl alcohol	ND	0.020	n	**	н	**	tt.	*	
Di-isopropyl ether	ND	0.0050	II	Ħ	п	**	Ш	T	
1,2-Dibromoethane (EDB)	ND	0.0050	11	D	n	**	п	Ħ	
1,2-Dichloroethane	ND	0.0050	D	"	19	tt	II.	II	
Ethanol	ND	0.10	17	U	**	11	17	U	IC
Ethyl tert-butyl ether	ND	0.0050	#	•	**	II .	11	n	
Ethylbenzene	ND	0.0050	**	19	u	U	**	H	
Methyl tert-butyl ether	ND	0.0050	н	"	н	11	n	Ħ	
Toluene	ND	0.0050	п	Ħ		**	II	**	
Xylenes (total)	ND	0.0050			D	н	II.	H	
Gasoline Range Organics (C4-C12	) ND	0.10	·, 0	II	19	H	п	н	
Surrogate: 1,2-Dichloroethane-d4		91 %	60-	125	n	"	"	"	
A10 (25') (MOK0290-06) Water	Sampled: 11/07/05 10:2	0 Receiv	ed: 11/07	/05 20:35					
tert-Amyl methyl ether	ND	0.50	ug/l	1	5K17010	11/17/05	11/17/05	EPA 8260B	
Benzene	ND	0.50	п	n	II .	**	II .	u	
tert-Butyl alcohol	ND	20	п	n	11	*	II .	II .	
Di-isopropyl ether	ND	0.50	n	п	11	II	н	ш	
1,2-Dibromoethane (EDB)	ND	0.50	н	n	n	II	**	11	
1,2-Dichloroethane	ND	0.50	17	19	н	D	R.	"	
Ethanol	ND	100	**	10	U	11	n	H	IC
Ethyl tert-butyl ether	ND	0.50	н	**	п	**	II	tt	
Ethylbenzene	ND	0.50	н	Œ	19	<b>†1</b>	II	п	
Methyl tert-butyl ether	ND	0.50	IJ	11	#	n	n .	п	
Toluene	ND	0.50	11	н	**	II	19	11	
Xylenes (total)	0.50	0.50	19	n	II .	**	*	n	
Gasoline Range Organics (C4-C12	) ND	50	16	11	II .	H	H	**	
Surrogate: 1,2-Dichloroethane-d4		106 %	60	135	rr	#	"	"	





Project:BP Heritage #11117,Oakland, CA Project Number:G07TK-0022

Project Manager:Lynelle Onishi

MOK0290 Reported: 11/23/05 14:09

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
A10-30.5' (MOK0290-07) Soil	Sampled: 11/07/05 10:33	Received	l: 11/07/0	5 20:35					
tert-Amyl methyl ether	ND	0.0050	mg/kg	1	5K15011	11/15/05	11/15/05	EPA 8260B	
Benzene	ND	0.0050	u	*	**	n	п	IF	
tert-Butyl alcohol	ND	0.020	Ü	*	**	**	n	II	
Di-isopropyl ether	ND	0.0050	11	**	**	65	n	D	
1,2-Dibromoethane (EDB)	ND	0.0050	n	н	n	u	"	n	
1,2-Dichloroethane	ND	0.0050	•	ıı	II .	O	n	11	
Ethanol	ND	0.10	**	п	n	II .	lt.	**	IC
Ethyl tert-butyl ether	ND	0.0050	n	11	11	н	n	H	
Ethylbenzene	ND	0.0050	H	17	**	11	n	H	
Methyl tert-butyl ether	ND	0.0050	п	"	**	**	11	II .	
Toluene	ND	0.0050	п	n	**	**	11	Ц	
Xylenes (total)	ND	0.0050	0.00	п	, п	а		II	
Gasoline Range Organics (C4-C1	2) ND	0.10	n :	II	n	II .	tt.	91	
Surrogate: 1,2-Dichloroethane-de	1	92 %	60-	125	"	"	"	n	
A10-35.5' (MOK0290-08) Soil	Sampled: 11/07/05 10:42	Received	l: 11/07/05	5 20:35					
tert-Amyl methyl ether	ND	0.0050	mg/kg	1	5K15011	11/15/05	11/15/05	EPA 8260B	
Benzene	ND	0.0050	п	n	***	**	11	n	
tert-Butyl alcohol	ND	0.020	II .	II .		11	11	11	
Di-isopropyl ether	ND	0.0050	U	II .	II .	н	**	**	
1,2-Dibromoethane (EDB)	ND	0.0050	11	II .	н	Ð	H	71	
1,2-Dichloroethane	ND	0.0050	17	11	n	ı)	įi.	н	
Ethanol	ND	0.10	**	**	37	I†	11	u	IC
Ethyl tert-butyl ether	ND	0.0050	н	**	**	11	19	ti .	
Ethylbenzene	ND	0.0050	п	n	tt	**	17	n	
Methyl tert-butyl ether	ND	0.0050	п	n	11	**	*	II	
Toluene	ND	0.0050		n	II .	H	tt	**	
Xylenes (total)	ND	0.0050	17	n	II .	U	п	Ħ	
Gasoline Range Organics (C4-C1)	2) ND	0.10	11	"	н		11		
Surrogate: 1,2-Dichloroethane-d4	1	93 %	60-1	125	"	n	"	"	





Project:BP Heritage #11117,Oakland, CA Project Number:G07TK-0022 Project Manager:Lynelle Onishi

Reported: 11/23/05 14:09

MOK0290

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

Reporting

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
A10 (39') (MOK0290-09) Water	Sampled: 11/07/05 14:07	Received: 11/07/05 20:35							
tert-Amyl methyl ether	ND	0.50	ug/l	1	5K21013	11/21/05	11/21/05	EPA 8260B	
Benzene	ND	0.50	n	"	**	11	11	п	
tert-Butyl alcohol	ND	20	n	II .	n	17	n	U	
Di-isopropyl ether	ND	0.50	19	II	ū	**	19	11	
1,2-Dibromoethane (EDB)	ND	0.50	17	17	n	Ħ	10	**	
1,2-Dichloroethane	ND	0.50	11	17	II	**	**	**	
Ethanol	ND	100	**	"	n	а	**	**	IC
Ethyl tert-butyl ether	ND	0.50	rr	**	n	li .	н	u ·	
Ethylbenzene	ND	0.50	H	rr	11	D	п	n .	
Methyl tert-butyl ether	27	0.50	п	II .	Ħ	**	II.	n .	
Toluene	ND	0.50	11	"	"	U	D	n .	
Xylenes (total)	ND	0.50	9	υ.		**	n	n	
Gasoline Range Organics (C4-C12	2) 51	50	n ·	u .	II.	tr	n	11	
Surrogate: 1,2-Dichloroethane-d4		79 %	60-	135	"	n	"	n	





Project:BP Heritage #11117,Oakland, CA Project Number:G07TK-0022 Project Manager:Lynelle Onishi MOK0290 Reported: 11/23/05 14:09

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 5K15011 - EPA 5035 / EPA 8260B										
Blank (5K15011-BLK1)				Prepared &	& Analyze	d: 11/15/	05			
tert-Amyl methyl ether	ND	0.0050	mg/kg		<u> </u>					
Benzene	ND	0.0050	n							
tert-Butyl alcohol	ND	0.020	п							
Di-isopropyl ether	ND	0.0050	11							
1,2-Dibromoethane (EDB)	ND	0.0050	11							
1,2-Dichloroethane	ND	0.0050	n							
Ethanol	ND	0.10	11							IC
Ethyl tert-butyl ether	ND	0.0050	**							
Ethylbenzene	ND	0.0050	H							
Methyl tert-butyl ether	ND	0.0050	11	•	•					
Toluene	ND	0.0050	u							
Xylenes (total)	ND	0.0050	n n							
Gasoline Range Organics (C4-C12)	ND	0.10	н							
Surrogate: 1,2-Dichloroethane-d4 (	0.00591		" "	0.00500		118	60-125			
Laboratory Control Sample (5K15011-BS1)				Prepared &	& Analyzed	i: 11/15/0	)5			
tert-Amyl methyl ether	0.0153	0.0050	mg/kg	0.0150		102	80-130			
Benzene (	0.00502	0.0050	п	0.00516		97	65-125			
tert-Butyl alcohol	0.142	0.020	п	0.143		99	80-165			
Di-isopropyl ether	0.0155	0.0050	n	0.0151		103	85-115			
1,2-Dibromoethane (EDB)	0.0156	0.0050	10	0.0149		105	85-130			
1,2-Dichloroethane	0.0153	0.0050	17	0.0147		104	63-124			
Ethanol	0.222	0.10	**	0.142		156	35-150			IC, HL
Ethyl tert-butyl ether	0.0156	0.0050	**	0.0150		104	80-125			,
Ethylbenzene 0	0.00724	0.0050	ш	0.00754		96	80-135			
Methyl tert-butyl ether	0.00734	0.0050	п	0.00702		105	75-115			
Toluene	0.0375	0.0050	11	0.0372		101	85-125			
Xylenes (total)	0.0412	0.0050	11	0.0412		100	80-140			
Gasoline Range Organics (C4-C12)	0.553	0.10	**	0.440		126	53-126			
Surrogate: 1,2-Dichloroethane-d4 (	0.00467		п	0.00500		93	60-125			





Project:BP Heritage #11117,Oakland, CA Project Number:G07TK-0022

Project Number: G071K-0022
Project Manager: Lynelle Onishi

MOK0290 Reported: 11/23/05 14:09

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 5K15011 - EPA 5035 / EPA 8	260B							77.00		
Matrix Spike (5K15011-MS1)	Source: M	IOK0677-01		Prepared	& Analyze	d: 11/15/	05			· · · · · · · · · · · · · · · · · · ·
tert-Amyl methyl ether	0.0165	0.0050	mg/kg	0.0150	0.00016	109	80-130			·
Benzene	0.00523	0.0050	**	0.00516	ND	101	65-125			
tert-Butyl alcohol	0.146	0.020	**	0.143	ND	102	80-135			
Di-isopropyl ether	0.0169	0.0050	**	0.0151	ND	112	85-115			
1,2-Dibromoethane (EDB)	0.0166	0.0050	II.	0.0149	ND	111	85-130			
1,2-Dichloroethane	0.0191	0.0050	п	0.0147	ND	130	63-124			LM
Ethanol	0.190	0.10	"	0.142	0.026	115	35-150			IC
Ethyl tert-butyl ether	0.0171	0.0050	**	0.0150	ND	114	80-125			
Ethylbenzene	0.00582	0.0050	n	0.00754	ND	77	80-135			LN
Methyl tert-butyl ether	0.00883	0.0050	TI-	0.00702	ND	126	75-115			LM
Toluene	0.0302	0.0050	u	0.0372	0.00055	80	85-125			LN
Xylenes (total)	0.0428	0.0050	U	0.0412	0.0027	97	80-140			
Gasoline Range Organics (C4-C12)	0.489	0.10	11	0.440	ND	111	53-126			
Surrogate: 1,2-Dichloroethane-d4	0.00569		η	0.00500		114	60-125			
Matrix Spike Dup (5K15011-MSD1)	Source: M	OK0677-01		Prepared	& Analyze	d: 11/15/0	05			
tert-Amyl methyl ether	0.0158	0.0050	mg/kg	0.0150	0.00016	104	80-130	4	25	
Benzene	0.00465	0.0050	п	0.00516	ND	90	65-125	12	20	
tert-Butyl alcohol	0.145	0.020	n	0.143	ND	101	80-135	0.7	20	
Di-isopropyl ether	0.0162	0.0050	D.	0.0151	ND	107	85-115	4	20	
1,2-Dibromoethane (EDB)	0.0156	0.0050	**	0.0149	ND	105	85-130	6	15	
1,2-Dichloroethane	0.0155	0.0050	+1	0.0147	ND	105	63-124	21	25	
Ethanol	0.172	0.10	**	0.142	0.026	103	35-150	10	40	IC
Ethyl tert-butyl ether	0.0162	0.0050	п	0.0150	ND	108	80-125	5	25	
Ethylbenzene	0.00402	0.0050	п	0.00754	ND	53	80-135	37	20	LN, BA
Methyl tert-butyl ether	0.00748	0.0050	11	0.00702	ND	107	75-115	17	35	
Toluene	0.0217	0.0050	n	0.0372	0.00055	57	85-125	33	15	LN, BA
Xylenes (total)	0.0405	0.0050	**	0.0412	0.0027	92	80-140	6	20	
Gasoline Range Organics (C4-C12)	0.426	0.10	n	0.440	ND	97	53-126	14	25	
Surrogate: 1,2-Dichloroethane-d4	0.00462		"	0.00500		92	60-125	·············		





Project:BP Heritage #11117,Oakland, CA Project Number:G07TK-0022 Project Manager:Lynelle Onishi MOK0290 Reported: 11/23/05 14:09

Batch 5K17010 - EPA 5030B P/T / EP  Blank (5K17010-BLK1)  tert-Amyl methyl ether  Benzene  tert-Butyl alcohol	ND ND ND ND	0.50 0.50 20	ug/l	Prepared of	& Analyze	d: 11/17/0	)5		
tert-Amyl methyl ether Benzene	ND ND ND	0.50		Prepared	& Analyze	d: 11/17/0	)5		
Benzene	ND ND ND	0.50		-			-		
	ND ND		"					 <del>.</del>	
tert-Butyl alcohol	ND	20							
			**						
Di-isopropyl ether		0.50	11						
1,2-Dibromoethane (EDB)	ND	0.50	tr						
1,2-Dichloroethane	ND	0.50	n						
Ethanol	ND	100	п						IC
Ethyl tert-butyl ether	ND	0.50	II .						
Ethylbenzene	ND	0.50	11						
Methyl tert-butyl ether	ND	0.50	**						
Toluene	ND	0.50	78				1		
Xylenes (total)	ND	0.50	**						
Gasoline Range Organics (C4-C12)	ND	50	tr						
Surrogate: 1,2-Dichloroethane-d4	3.00		"	2.50		120	60-135		
Laboratory Control Sample (5K17010-BS	1)			Prepared a	& Analyze	d: 11/1 <b>7</b> /0	15		
tert-Amyl methyl ether	11.3	0.50	ug/l	0.01		113	80-115	 	
Benzene	10.3	0.50	**	10.0		103	65-115		
tert-Butyl alcohol	60.0	20	•	50.0		120	75-150		
Di-isopropyl ether	11.3	0.50	**	10.0		113	75-125		
1,2-Dibromoethane (EDB)	10.8	0.50	n	10.0		108	85-120		
1,2-Dichloroethane	10.9	0.50	п	10.0		109	85-130		
Ethanol	233	100	п	200		116	70-135		IC
Ethyl tert-butyl ether	9.86	0.50	п	0.01		99	75-130		
Ethylbenzene	9.61	0.50	**	10.0		96	75-135		
Methyl tert-butyl ether	10.5	0.50	**	10.0		105	65-125		
Toluene	11.4	0.50	**	10.0		114	85-120		
Xylenes (total)	30.4	0.50	**	30.0		101	85-125		
Surrogate: 1,2-Dichloroethane-d4	2.45		#	2.50		98	60-135	 •	





Project:BP Heritage #11117,Oakland, CA Project Number:G07TK-0022 Project Manager:Lynelle Onishi

MOK0290 Reported: 11/23/05 14:09

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 5K17010 - EPA 5030B P/T	/ EPA 8260B									
Laboratory Control Sample (5K17016	)-BS2)			Prepared	& Analyze	ed: 11/17/	05			
tert-Amyl methyl ether	16.1	0.50	ug/l	15.0		107	80-115			
Benzene	5.21	0.50	11	5.16		101	65-115			
tert-Butyl alcohol	173	20	11	143		121	75-150			
Di-isopropyl ether	15.6	0.50	**	15.1		103	75-125			
1,2-Dibromoethane (EDB)	15.5	0.50	**	14.9		104	85-120			
1,2-Dichloroethane	18.4	0.50	**	14.7		125	85-130			
Ethanol	146	100	Ħ	142		103	70-135			IC
Ethyl tert-butyl ether	15.1	0.50	н	15.0		101	75-130			
Ethylbenzene	6.94	0.50	u	7.54		92	75-135			
Methyl tert-butyl ether	8.19	0.50	II .	7.02		117	65-125			
Toluene	38.3	0.50		37.2		103	85-120			
Xylenes (total)	38.2	0.50		41.2		93	85-125			
Gasoline Range Organics (C4-C12)	607	50	D	440		138	60-140			
Surrogate: 1,2-Dichloroethane-d4	2,76		n	2.50		110	60-135			
Laboratory Control Sample Dup (5Ki	(7010-BSD1)			Prepared a	& Analyze	ed: 11/17/	05			
tert-Amyl methyl ether	11.9	0.50	ug/l	10.0		119	80-115	5	15	н
Benzene	10.6	0.50	н	10.0		106	65-115	3	20	
tert-Butyl alcohol	56.2	20	0	50.0		112	75-150	7	25	
Di-isopropyl ether	11,1	0.50		10.0		111	75-125	2	15	
1,2-Dibromoethane (EDB)	11.0	0.50		10.0		110	85-120	2	15	
1,2-Dichloroethane	11.6	0.50	n	10.0		116	85-130	6	20	
Ethanol	180	100	1†	200		90	70-135	26	35	IC
Ethyl tert-butyl ether	10.2	0.50	**	10.0		102	75-130	3	25	
Ethylbenzene	10.5	0.50	•	10.0		105	75-135	9	15	
Methyl tert-butyl ether	11.9	0.50	**	10.0		119	65-125	12	20	
Toluene	11.7	0.50	u	10.0		117	85-120	3	20	
Xylenes (total)	32,2	0.50	ii .	30.0		107	85-125	6	20	
Surrogate: 1,2-Dichloroethane-d4	2.54		"	2.50		102	60-135			





Project:BP Heritage #11117,Oakland, CA Project Number:G07TK-0022 Project Manager:Lynelle Onishi MOK0290 Reported: 11/23/05 14:09

## 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 5K17010 - EPA 5030B P/T	EPA 8260B									
Laboratory Control Sample Dup (5K1	17010-BSD2)			Prepared a	& Analyze	ed: 11/17/	05			
tert-Amyl methyl ether	16.7	0.50	ug/l	15.0		111	80-115	4	15	
Benzene	5.63	0.50	u	5.16		109	65-115	8	20	
tert-Butyl alcohol	179	20	п	143		125	75-150	3	25	
Di-isopropyl ether	16.3	0.50	II .	15.1		108	75-125	4	15	
1,2-Dibromoethane (EDB)	15.7	0.50	n	14.9		105	85-120	1	15	
1,2-Dichloroethane	19.9	0.50	**	14.7		135	85-130	8	20	HL
Ethanol	137	100	97	142		96	70-135	6	35	IC
Ethyl tert-butyl ether	16.0	0.50	**	15.0		107	75-130	6	25	
Ethylbenzene	7.30	0.50	н	7.54		97	75-135	5	15	
Methyl tert-butyl ether	8.52	0.50	п	7.02		121	65-125	4	20	
Toluene	41.3	0.50	n	37.2		111	85-120	8	20	
Xylenes (total)	40.7	0.50	n	41.2		99	85-125	6	20	
Gasoline Range Organics (C4-C12)	664	50	н	440		151	60-140	9	25	HL
Surrogate: 1,2-Dichloroethane-d4	2.98		#	2.50		119	60-135	12.00		

#### Batch 5K21013 - EPA 5030B P/T / EPA 8260B

Blank (5K21013-BLK1)				Prepared & Ar	nalyzed: 11/21	/05	
tert-Amyl methyl ether	ND	0.50	ug/l				 
Benzene	ND	0.50	17				
tert-Butyl alcohol	ND	20	**				
Di-isopropyl ether	ND	0.50	H				
1,2-Dibromoethane (EDB)	ND	0.50	0				
1,2-Dichloroethane	ND	0.50	n				
Ethanol	ND	100	n .				IC
Ethyl tert-butyl ether	ND	0.50	11				
Ethylbenzene	ND	0.50	**				
Methyl tert-butyl ether	ND	0.50	**				
Toluene	ND	0.50	ц				
Xylenes (total)	ND	0.50	n				
Gasoline Range Organics (C4-C12)	ND	50	n				
Surrogate: 1,2-Dichloroethane-d4	3.91		"	5.00	78	60-135	 





Project:BP Heritage #11117,Oakland, CA Project Number:G07TK-0022 Project Manager:Lynelle Onishi MOK0290 Reported: 11/23/05 14:09

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 5K21013 - EPA 5030B P/T	/EPA 8260B									
Laboratory Control Sample (5K2101	3-BS1)			Prepared	& Analyze	ed: 11/21/	05			
tert-Amyl methyl ether	14.0	0.50	ug/l	15.0		93	80-115			
Benzene	4.49	0.50	U	5.16		87	65-115			
tert-Butyl alcohol	157	20	0	143		110	75-150			
Di-isopropyl ether	13.1	0.50	n	15.1		87	75-125			
1,2-Dibromoethane (EDB)	15.6	0.50	17	14.9		105	85-120			
1,2-Dichloroethane	13.2	0.50	79	14.7		90	85-130			
Ethanol	148	100	**	142		104	70-135			IC
Ethyl tert-butyl ether	13.5	0.50	Ħ	15.0		90	75-130			
Ethylbenzene	6.83	0.50	u	7.54		91	75-135			
Methyl tert-butyl ether	5.49	0.50	U	7.02		78	65-125			
Toluene	32.8	0.50	п	37.2		88	85-120			
Xylenes (total)	39.2	0.50	n	41.2		95	85-125			
Gasoline Range Organics (C4-C12)	431	50	17	440		98	60-140			
Surrogate: 1,2-Dichloroethane-d4	3.90		п	5.00		78	60-135			
Matrix Spike (5K21013-MS1)	Source: M	OK0699-07		Prepared	& Analyze	d: 11/21/	05			
tert-Amyl methyl ether	322	10	ug/l	301	7.4	105	80-115			,,
Benzene	794	10		103	670	120	65-115			LM
tert-Butyl alcohol	3280	400	п	2860	ND	115	75-120			
Di-isopropyl ether	309	10	n	302	3.4	101	75-125			
1,2-Dibromoethane (EDB)	360	10	**	298	ND	121	85-120			LM
1,2-Dichloroethane	298	10	**	294	ND	101	85-130			
Ethanol	2970	2000	Ħ	2830	140	100	70-135			IC
Ethyl tert-butyl ether	296	10	σ	301	ND	98	75-130			
Ethylbenzene	199	10		151	48	100	75-135			
Methyl tert-butyl ether	127	10	n	140	ND	91	65-125			
Toluene	789	10	17	744	16	104	85-120			
Xylenes (total)	855	10	10	824	23	101	85-125			
Gasoline Range Organics (C4-C12)	11700	1000	**	8800	1600	115	60-140			
Surrogate: 1,2-Dichloroethane-d4	4.53		"	5.00		91	60-135	•		





Project:BP Heritage #11117,Oakland, CA Project Number:G07TK-0022 Project Manager:Lynelle Onishi

MOK0290 Reported: 11/23/05 14:09

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 5K21013 - EPA 5030B P/T / E	PA 8260B									
Matrix Spike Dup (5K21013-MSD1)	Source: M	IOK0699-07		Prepared	& Analyze	ed: 11/21/	05			
tert-Amyl methyl ether	317	10	ug/l	301	7.4	103	80-115	2	15	
Benzene	747	10	п	103	670	75	65-115	6	20	
tert-Butyl alcohol	3520	400	n	2860	ND	123	75-120	7	25	LM
Di-isopropyl ether	297	10	11	302	3.4	97	75-125	4	15	
1,2-Dibromoethane (EDB)	341	10	"	298	ND	114	85-120	5	15	
1,2-Dichloroethane	283	10	н	294	ND	96	85-130	5	20	
Ethanol	3670	2000	u	2830	140	125	70-135	21	35	IC
Ethyl tert-butyl ether	300	10	11	301	ND	100	75-130	1	25	·
Ethylbenzene	201	. 10	n	151	48	101	75-135	1	15	
Methyl tert-butyl ether	128	10	19	140	ND	91	65-125	0.8	20	
Toluene	763	10	TF	744	16	100	85-120	3	20	
Xylenes (total)	840	10	**	824	23	99	85-125	2	20	
Gasoline Range Organics (C4-C12)	11000	1000	U	8800	1600	107	60-140	6	25	
Surrogate: 1,2-Dichloroethane-d4	4.35	774.	п	5.00		87	60-135			





URS Corporation [Arco]	Project:BP Heritage #11117,Oakland, CA	MOK0290
1333 Broadway, Suite 800	Project Number:G07TK-0022	Reported:
Oakland CA, 94612	Project Manager:Lynelle Onishi	11/23/05 14:09

#### **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
HL	Analyte recovery above established limit
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: Fw BP 1117 - Oakland
BP BU/AR Region/Enfos Segment:

State or Lead Regulatory Agency:

gulatory Agency: Alameda Co. Heal & Requested Due Date (mm/dd/yy): 10 day 5

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

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Tele/Fax: 408-79	7-8170/408-782-1	<u>0308</u>				Enfos Project No.:	<u>C</u>	0	77	K-	00	22				•		Con	sultan	t/Cor	itract	or PM	1: L	unell	eOr	rishi		
BP/AR PM Contact:	Kyle-Christie					Provision or RCOP							(D)	ጎ				Tele	Fax:	510	-87	4-1	75	8/5	10-8	74-32	268	
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3	A10-15.5'	1605	11/7/09		$\vdash$		1	4			-			╟─			<b> </b>		$\dashv$	-			╬					
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	H10-20.5'		11/1/05		Ш	64	Ш	Χ	_							人						_l_						j.
5	410-25.5'	1019	אטרליי	1		. 6r	1	۱×			1					X						$\Box$	$\neg \Gamma$					
6	A10 (25')	10.50	47/09			64	3		Τ		×		2***			χ						十	1					
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	A10-35,5'		11/105		П	. 08	广	X			_			-		Ŷ		-1	十			+-	╬		<del></del>	<del></del>		
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Sampler's Company:	JURSCOUR			<del>,-</del>	-	Minney Ve &								_	05	141			<i>a</i> ) _	A	CZ Z	a By	#	liliation			Date	Time
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Distribution: White Copy - Laboratory / Yellow Copy - BP/Atlantic Richfield Co. / Pink Copy - Consultant/Contractor

BP COC Rev. 4 10/1/04

## SEQUOIA ANALYTICAL SAMPLE RECEIPT LOG

CLIENT NAME: URS REC. BY (PRINT) WITCOS WORKORDER: 106K 6290			DATE REC'D AT LAB: TIME REC'D AT LAB: DATE LOGGED IN:	2 <b>6</b> :35				DRINKING V WASTE WA	
CIRCLE THE APPROPRIATE RESPONSE	LAB SAMPLE#	DASH #	CLIENT ID	CONTAINER DESCRIPTION	PRESERV ATIVE	рН	SAMPLE MATRIX	DATE . SAMPLED	REMARKS: CONDITION (ETC.)
Custody Seal(s) Present / Absent     Intact / Broken*									
2. Chain-of-Custody Present / Absent*		- <del></del>				· ` .			
3. Traffic Reports or Packing List: Present Absent									
4. Airbill: Airbill / Sticker Present (Absent)		·							
5. Airbill #:									
6. Sample Labels: Present/ Absent							-		
7. Sample IDs: Listed / Not Listed						-		<u>-</u>	
on Chain-of-Custody	•			1	2	· /	<u> </u>	,	
8. Sample Condition: Intact / Broken* / Leaking*		·		12/	$\langle \langle \rangle \rangle$	<u> </u>		-	
9. Does information on chain-of-custody,							-		
traffic reports and sample labels agree? Yes/No*	. 416								
10. Sample received within		-					<del> </del>		
hold time? (Yes) No*	rice		N/A					-	
11. Adequate sample volume	•						ļ. <u></u>	•.	,
received? Yes/No*				**					
12. Proper preservatives used? (Yes/ No* 13. Trip Blank / Temp Blank Received?		<u> </u>	<del>  /  </del>				<del> </del>		
(circle which, if yes) (Yes/No*	··			<u>;;;;;</u>		<del></del>	<del> </del>		
14. Read Temp:			<del>-/</del>				<del></del>	1 .	· · · · · · · · · · · · · · · · · · ·
Corrected Temp: 4.3	<u> </u>				-				
Is corrected temp 4 +/-2°C? (Yes)No**									
(Acceptance range for samples requiring thermal pres.)								·	
**Exception (if any): METALS / DFF ON ICE				·		•			
or Problem COC		A CONTRACTOR OF THE CONTRACTOR	cuid Miss. Lawrence (ip)	and the second second second	armena de la companya	Services in the	400×4047		NT AND DESCRIPTION OF THE PROPERTY OF THE PROP

Revision 7 res Rev 5 (07/13/04) 07/19/05 Page of



18 November, 2005

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

RE: BP Heritage #11117,Oakland, CA

Keholad

Work Order: MOK0184

Enclosed are the results of analyses for samples received by the laboratory on 11/04/05 11:31. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jamshid Kekobad Project Manager

CA ELAP Certificate #1210

The results in this laboratory report pertain only to the samples tested in the laboratory. The analyses contained in this report were performed in accordance with the BPGCLN Technical Specifications, applicable Federal, State, local regulations and certification requirements as well as the methodologies as described in laboratory SOPs reviewed by the BPGCLN. This entire report was reviewed and approved for release.





URS Corporation [Arco] 1333 Broadway, Suite 800	Project:BP Heritage #11117,Oakland, CA Project Number:G07TK-0022	MOK0184 Reported:
Oakland CA, 94612	Project Manager:Lynelle Onishi	11/18/05 15:53

#### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
TB-11117-11032005	MOK0184-01	Water	11/03/05 00:00	11/04/05 11:31
MW-2	MOK0184-02	Water	11/03/05 15:00	11/04/05 11:31
MW-4	MOK0184-03	Water	11/03/05 15:25	11/04/05 11:31
MW-7	MOK0184-04	Water	11/03/05 14:15	11/04/05 11:31
MW-10	MOK0184-05	Water	11/03/05 14:35	11/04/05 11:31
EX-1	MOK0184-06	Water	11/03/05 15:50	11/04/05 11:31
EX-2	MOK0184-07	Water	11/03/05 16:20	11/04/05 11:31

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.





Project:BP Heritage #11117,Oakland, CA Project Number:G07TK-0022 Project Manager:Lynelle Onishi MOK0184 Reported: 11/18/05 15:53

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-2 (MOK0184-02) Water 5	Sampled: 11/03/05 15:00	Received	: 11/04/0:	5 11:31					
tert-Amyl methyl ether	100	100	ug/l	200	5K14041	11/14/05	11/14/05	EPA 8260B	
Benzene	7400	100	**	It	**	II.	**	ir.	
tert-Butyl alcohol	ND	4000	u	ц	**	11	10	11	
Di-isopropyl ether	ND	100	п	11	11	**	u	**	
1,2-Dibromoethane (EDB)	ND	100	11	**	п	**	п	tf	
1,2-Dichloroethane	ND	100	**	**	11	H	**	ır	
Ethanol	ND	20000	**	п	**	u	"	n .	
Ethyl tert-butyl ether	ND	100	tr.	11	17	11	"	**	
Ethylbenzene	3300	100	н	**	п	**	н	**	
Methyl tert-butyl ether	3700	100	н	**	ii	17	**	it	
Toluene	3700	100	**	11	17	11	I t	п	
Xylenes (total)	10000	100	TF	11	**	п	II .	**	
Gasoline Range Organics (C4-C	12) 63000	10000	ti	11	***	**	п	**	
Surrogate: 1,2-Dichloroethane-d4		91 %	60-	135	"	#	и	н	
MW-4 (MOK0184-03) Water 8	Sampled: 11/03/05 15:25	Received:	11/04/05	5 11:31					
tert-Amyl methyl ether	ND	500	ug/l	1000	5K14041	11/14/05	11/14/05	EPA 8260B	
Benzene	4700	500	fr	11	***	**	Ħ	u	
tert-Butyl alcohol	ND	20000	Ħ	tt	п	***	**	11	
Di-isopropyl ether	ND	500	11	**	11	rt	lt	**	
1,2-Dibromoethane (EDB)	ND	500	19	IP.	**	II .	n	**	
1,2-Dichloroethane	ND	500	**	п	**	**	"	if .	
Ethanol	ND	100000	11	**	31	**	**	11	
Ethyl tert-butyl ether	ND	500	u	"	н	n	u ·	**	
Ethylbenzene	10000	500	11	tr .	**	н	"	11	
Methyl tert-butyl ether	1500	500	11	u	**	**	#	п	
Toluene	11000	500	**	11	11	**	**	n	
Xylenes (total)	49000	500	**	**	n	**	u	**	
Gasoline Range Organics (C4-C1	12) 490000	50000	IF.	**	11	"	II .	tę	
Surrogate: 1,2-Dichloroethane-d4		87 %	60-	135	"	"	n	и	





Project:BP Heritage #11117,Oakland, CA Project Number:G07TK-0022 Project Manager:Lynelle Onishi

MOK0184 Reported: 11/18/05 15:53

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
MW-7 (MOK0184-04) Water Sa	mpled: 11/03/05 14:15	Received	: 11/04/0	5 11:31					
tert-Amyl methyl ether	ND	1.0	ug/l	2	5K14041	11/14/05	11/15/05	EPA 8260B	
Benzene	ND	1.0	11	IF	II.	11	Ħ	**	
tert-Butyl alcohol	ND	40	**	n	11	II	u	**	
Di-isopropyl ether	ND	1.0	**	#	"	н	11	u u	
1,2-Dibromoethane (EDB)	ND	1.0	**	*	**	n	11	н	
1,2-Dichloroethane	ND	1.0	ti.	11	**	11	**	**	
Ethanol	ND	200	п	п	ú	rt .	Ħ	**	
Ethyl tert-butyl ether	ND	1.0	11	11	l†	II .	U	н	
Ethylbenzene	ND	1.0	**	"	**	n	**	п	
Methyl tert-butyl ether	130	1.0	**	17	**	**	**	Ħ	
Toluene	ND	1.0	IF	Iţ	Ħ	**	tt	11	
Xylenes (total)	1.0	1.0	11	IJ	P	11	, U.	**	
Gasoline Range Organics (C4-C12	130	100	n	**	н	н	A 1 A 10 A	n .	PV
Surrogate: 1,2-Dichloroethane-d4		80 %	60-	·135	"	"	#	"	
MW-10 (MOK0184-05) Water S	ampled: 11/03/05 14:35	Received	i: 11/04/	05 11:31					
tert-Amyl methyl ether	ND	5.0	ug/l	10	5K15009	11/15/05	11/15/05	EPA 8260B	
Benzene	ND	5.0	11	11	u	lt .	н	li .	
tert-Butyl alcohol	ND	200	#	11	н	11	*	**	
Di-isopropyl ether	ND	5.0	**	17	**	н	**	**	
1,2-Dibromoethane (EDB)	ND	5.0	**	#	**	**	**	II.	
1,2-Dichloroethane	ND	5.0	17	"	rt .	**	"	п	
Ethanol	ND	1000	11	11	ц	u	U	n	
Ethyl tert-butyl ether	ND	5.0	11	11	11	II.	17	17	
Ethylbenzene	ND	5.0	17	11	"	11	11	**	
Methyl tert-butyl ether	770	5.0	**	*	"	"	н	It	
Toluene	ND	5.0	IF	11	It	11	ш	п	
Xylenes (total)	7.0	5.0	п	н	п	п	Ħ	**	
Gasoline Range Organics (C4-C12	800	500	н	11	II.	IJ	#	**	PV
Surrogate: 1,2-Dichloroethane-d4		82 %	60-	135	"	n	п	н	***





Project:BP Heritage #11117,Oakland, CA Project Number:G07TK-0022 Project Manager:Lynelle Onishi

MOK0184 Reported: 11/18/05 15:53

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
EX-1 (MOK0184-06) Water Samp	pled: 11/03/05 15:50	Received:	11/04/05	11:31			•••		
tert-Amyl methyl ether	87	25	ug/l	50	5K14041	11/14/05	11/15/05	EPA 8260B	<u></u>
Benzene	3200	25	**	11	**	**	Ħ	ц	
tert-Butyl alcohol	ND	1000	H	11	II.	**	п	n	
Di-isopropyl ether	ND	25	U	"	11	п	**	**	
1,2-Dibromoethane (EDB)	ND	25	**	**	**	n	**	D .	
1,2-Dichloroethane	ND	25	**	ır	***	17	u	11	
Ethanol	ND	5000	н	11	ш	71	11	11	
Ethyl tert-butyl ether	ND	25	n	**	11	n	**	ur .	
Ethylbenzene	550	25	**	11	**	**	11	н	
Methyl tert-butyl ether	3000	25	**	11	**	**	H	**	
Toluene	640	25	II.	"	U	п	**	Te.	
Xylenes (total)	3300	25	n,	**	**	п	**	11	
Gasoline Range Organics (C4-C12)	22000	2500	#1	11	**	11	п	**	
Surrogate: 1,2-Dichloroethane-d4		93 %	60-	135	"	"	#	н	
EX-2 (MOK0184-07) Water Samp	oled: 11/03/05 16:20	Received: 1	11/04/05	11:31					
tert-Amyl methyl ether	0.80	0.50	ug/l	1	5K14041	11/14/05	11/15/05	EPA 8260B	
Benzene	0.50	0.50	17		ti ti	tr	**	"	
tert-Butyl alcohol	ND	20	н	+1	11	11	tr	11	
Di-isopropyl ether	ND	0.50	11	н	**	**	0	**	
1,2-Dibromoethane (EDB)	ND	0.50	7*	11	**		n	ır	
1,2-Dichloroethane	ND	0.50	**	,,	11	1*	*	11	
Ethanol	ND	100	п	**	n	11	št	**	
Ethyl tert-butyl ether	ND	0.50	11	11	**	**	п	н	
Ethylbenzene	ND	0.50	11	п	11	**	11	11	
Methyl tert-butyl ether	39	0.50	11	**		п	#	**	
Toluene	ND	0.50	n	te.	**	11	(I	ŧr .	
Xylenes (total)	1.4	0.50	**	11	**	**		11	
Gasoline Range Organics (C4-C12)	ND	50	**	11	11	II.	**	**	
Surrogate: 1,2-Dichloroethane-d4		84 %	60-	135	"	"	H	n	





Project:BP Heritage #11117,Oakland, CA Project Number:G07TK-0022

Project Manager:Lynelle Onishi

MOK0184 Reported: 11/18/05 15:53

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 5K14041 - EPA 5030B P/T /	EPA 8260B									
Blank (5K14041-BLK1)				Prepared a	& Analyze	ed: 11/14/	05			
tert-Amyl methyl ether	ND	0.50	ug/l							
Benzene	ND	0.50	"							
tert-Butyl alcohol	ND	20	77							
Di-isopropyl ether	ND	0.50	п							
1,2-Dibromoethane (EDB)	ND	0.50	**							
1,2-Dichloroethane	ND	0.50	**							
Ethanol	ND	100	er e							
Ethyl tert-butyl ether	ND	0.50	U							
Ethylbenzene	ND	0.50	H							
Methyl tert-butyl ether	ND	0.50	*							
Toluene	ND	0.50	Ħ							
Xylenes (total)	ND	0.50	n.							
Gasoline Range Organics (C4-C12)	ND	50	17							
Surrogate: 1,2-Dichloroethane-d4	4.26		"	5.00		85	60-135			
Laboratory Control Sample (5K14041-	BS1)			Prepared &	& Analyze	d: 11/14/	05			
tert-Amyl methyl ether	15.3	0.50	ug/l	15.0		102	80-115			
Benzene	4.82	0.50	"	5.16		93	65-115			
tert-Butyl alcohol	160	20	n .	143		112	75-150			
Di-isopropyl ether	14.6	0.50	11	15.1		97	75-125			
1,2-Dibromoethane (EDB)	16.1	0.50	11	14.9		108	85-120			
1,2-Dichloroethane	14.9	0.50	0	14.7		101	85-130			
Ethanol	173	100	н	142		122	70-135			
Ethyl tert-butyl ether	15.0	0.50	n	15.0		100	75-130			
Ethyl <b>benz</b> ene	6.76	0.50	**	7.54		90	75-135			
Methyl tert-butyl ether	6.43	0.50	**	7.02		92	65-125	λ		
l'oluene	36.0	0.50	U	37.2		97	85-120	,,		
Xylenes (total)	38.9	0.50	19	41.2		94	85-125			
Gasoline Range Organics (C4-C12)	479	50	**	440		109	60-140			
Surrogate: 1,2-Dichloroethane-d4	4.57	····	н	5.00	72	91	60-135			





Project:BP Heritage #11117,Oakland, CA Project Number:G07TK-0022 Project Manager:Lynelle Onishi

MOK0184 Reported: 11/18/05 15:53

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Lîmit	Notes
Batch 5K14041 - EPA 5030B P/T / 1	EPA 8260B									
Matrix Spike (5K14041-MS1)	Source: M	IOK0182-01		Prepared	& Analyze	ed: 11/14/	05			
tert-Amyl methyl ether	3970	120	ug/l	3760	85	103	80-115	·		
Benzene	15500	120	11	1290	15000	39	65-115			BB,LN
tert-Butyl alcohol	39200	5000	u	35800	960	107	75-120			55,52
Di-isopropyl ether	3800	120	**	3780	ND	101	75-125			
1,2-Dibromoethane (EDB)	4200	120	u	3720	ND	113	85-120			
1,2-Dichloroethane	3880	120	**	3680	60	104	85-130			
Ethanol	37600	25000	**	35400	ND	106	70-135			
Ethyl tert-butyl ether	3910	120	u ·	3760	ND	104	75-130			
Ethylbenzene	3750	120		1880	2200	82	75-135			
Methyl tert-butyl ether	2080	120	17	1760	ND	118	65-125			
Toluene	13300	120	11	9300	4500	95	85-120			
Xylenes (total)	18400	120	11	10300	8600	95	85-125			
Gasoline Range Organics (C4-C12)	178000	12000	**	110000	59000	108	60-140			
Surrogate: 1,2-Dichloroethane-d4	4.91		"	5.00		98	60-135	<del></del>		
Matrix Spike Dup (5K14041-MSD1)	Source: M	OK0182-01			& Analyze					
tert-Amyl methyl ether	4010	120	ug/l	3760	85	104	80-115	1	15	
Benzene	16200	120	"	1290	15000	93	65-115	4	20	
tert-Butyl alcohol	41900	5000	H	35800	960	114	75-120	7	25	
Di-isopropyl ether	3730	120	"	3780	ND	99	75-125	2	15	
1,2-Dibromoethane (EDB)	4340	120	11	3720	ND	117	85-120	3	15	
1,2-Dichloroethane	3860	120	11	3680	60	103	85-130	0.5	20	
Ethanol	50400	25000	**	35400	ND	142	70-135	29	35	LM
Ethyl tert-butyl ether	3840	120	**	3760	ND	102	75-130	2	25	LiVI
Ethylbenzene	3980	120		1880	2200	95	75-135	6	23 15	
Methyl tert-butyl ether	1960	120	".	1760	ND	111	65-125	6	20	
Toluene .	13400	120	17	9300	4500	96	85-120	0.7	20	
Xylenes (total)	18600	120	II.	10300	8600	97	85-125	1	20	
Gasoline Range Organics (C4-C12)	180000	12000	11	110000	59000	110	60-140	1	20 25	
Surrogate: 1,2-Dichloroethane-d4	4.65	······································	"	5.00		93	60-135			
							00-133			





Project:BP Heritage #11117,Oakland, CA Project Number:G07TK-0022

Project Manager:Lynelle Onishi

MOK0184 Reported: 11/18/05 15:53

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 5K15009 - EPA 5030B P/T	/ EPA 8260B									
Blank (5K15009-BLK1)	·			Prepared	& Analyze	ed: 11/15/	05			
tert-Amyl methyl ether	ND	0.50	ug/l					7	·	
Benzene	ND	0.50	11							
tert-Butyl alcohol	ND	20	**							
Di-isopropyl ether	ND	0.50	**							
1,2-Dibromoethane (EDB)	ND	0.50	n							
1,2-Dichloroethane	ND	0.50	77							
Ethanol	ND	100	**							
Ethyl tert-butyl ether	ND	0.50	**							
Ethylbenzene	ND	0.50	IF							
Methyl tert-butyl ether	ND	0.50	11							
Toluene	ND	0.50	+1							
Xylenes (total)	ND	0.50	11							
Gasoline Range Organics (C4-C12)	ND	50	H							
Surrogate: 1,2-Dichloroethane-d4	4.53		"	5.00		91	60-135	<del></del>		
Laboratory Control Sample (5K15009	P-BS1)			Prepared &	& Analyze	d: 11/15/0	05			
tert-Amyl methyl ether	15.3	0.50	ug/l	15.0		102	80-115	-	·	
Benzene	5.00	0.50	ir.	5.16		97	65-115			
tert-Butyl alcohol	165	20	n.	143		115	75-150			
Di-isopropyl ether	15.2	0.50	"	15.1		101	75-125			
1,2-Dibromoethane (EDB)	17.1	0.50		14.9		115	85-120			
1,2-Dichloroethane	15.5	0.50	11	14.7		105	85-130			
Ethanol	180	100	n .	142		127	70-135			
Ethyl tert-butyl ether	15.1	0.50	**	15.0		101	75-130			
Ethylbenzene	7.18	0.50	**	7.54		95	75-135			
Methyl tert-butyl ether	7.17	0.50	"	7.02		102	65-125			
l'oluene	36.5	0.50	n .	37.2		98	85-120			
Xylenes (total)	42.5	0.50	11	41.2		103	85-125			
Gasoline Range Organics (C4-C12)	509	50	н	440		116	60-140			
Surrogate: 1,2-Dichloroethane-d4	4.70		"	5.00		94	60-135			





Project:BP Heritage #11117,Oakland, CA Project Number:G07TK-0022

Project Manager:Lynelle Onishi

MOK0184 Reported: 11/18/05 15:53

Matrix Spike Dup (5K15009-MSD1)         Source: MOK0182-04         Prepared & Analyzed: 11/15/05           tert-Amyl methyl ether         1650         50         ug/l         1500         33         108         80-115         3         15           Benzene         8070         50         "         516         7400         130         65-115         4         20           tert-Butyl alcohol         16700         2000         "         14300         ND         117         75-120         7         25           Di-isopropyl ether         1540         50         "         1510         ND         102         75-125         3         15           1,2-Dibromoethane (EDB)         1750         50         "         1490         ND         117         85-120         2         15           1,2-Dichloroethane         1540         50         "         1470         19         103         85-130         3         20           Ethanol         18200         10000         "         14200         1100         120         70-135         11         35           Ethyl tert-butyl ether         1560         50         "         1500         ND         104         75-130	Notes	RPD Limit	RPD	%REC Limits	%REC	Source Result	Spike Level	Units	Reporting Limit	Result	Analyte
Serial Content										EPA 8260B	Batch 5K15009 - EPA 5030B P/T /
Benizene   7780   50				)5	d: 11/15/0	& Analyze	Prepared &		OK0182-04	Source: M	Matrix Spike (5K15009-MS1)
tert-Butyl alcohol 15500 2000 " 14300 ND 108 75-120 Di-isopropyl ether 1490 50 " 1510 ND 99 75-125 1,2-Dibromoethane (EDB) 1710 50 " 1490 ND 115 85-120 1,2-Dichloroethane 1500 50 " 1470 19 101 85-130 Ethyl tert-butyl ether 1510 50 " 1500 ND 101 75-130 Ethyl tert-butyl ether 1510 50 " 754 1300 88 75-125 Ethyl tert-butyl ether 1960 50 " 754 1300 88 75-125 Ethyl tert-butyl ether 5930 50 " 754 1300 88 75-125 Toluene 5930 50 " 3720 2500 92 85-120 Xylenes (total) 10100 50 " 44000 42000 107 60-140  Surrogate: 1,2-Dichloroethane-d4 4,97 " 5,00 99 60-135  Matrix Spike Dup (5K15009-MSD1) Source: MOK0182-04 Prepared & Analyzed: 11/15/05  tert-Butyl alcohol 16700 2000 " 14300 ND 117 75-120 7 25 Di-isopropyl ether 1540 50 " 1510 ND 102 75-125 3 15 Ethyl tert-butyl alcohol 16700 2000 " 14900 ND 117 75-120 7 25 Di-isopropyl ether 1540 50 " 1490 ND 117 85-120 2 15 1,2-Dichloroethane (EDB) 1750 50 " 1490 ND 117 85-120 2 15 1,2-Dichloroethane 18200 10000 " 14900 ND 117 85-120 2 15 1,2-Dichloroethane 18200 10000 " 14900 ND 117 75-120 7 25 Ethyl tert-butyl ether 1560 50 " 1470 ND 102 75-125 3 15 Ethyl tert-butyl ether 1540 50 " 1510 ND 102 75-125 3 15 Ethyl tert-butyl ether 1540 50 " 1510 ND 102 75-125 3 15 1,2-Dichloroethane 18200 10000 " 14900 ND 117 85-120 2 15 1,2-Dichloroethane 18200 10000 " 14900 ND 117 85-120 2 15 1,2-Dichloroethane EDB) 1750 50 " 1490 ND 117 85-120 2 15 1,2-Dichloroethane 18200 10000 " 14700 ND 104 75-130 3 20 Ethyl tert-butyl ether 1560 50 " 1500 ND 104 75-130 3 20 Ethyl tert-butyl ether 1560 50 " 1500 ND 104 75-130 3 25 Ethyl tert-butyl ether 1560 50 " 1500 ND 104 75-130 3 25 Ethyl tert-butyl ether 1560 50 " 1500 ND 104 75-130 3 20 Ethyl tert-butyl ether 1560 50 " 1500 ND 104 75-130 3 25 Ethyl tert-butyl ether 1560 50 " 1500 ND 104 75-130 3 20 Ethyl tert-butyl ether 1560 50 " 1500 ND 104 75-130 3 20 Ethyl tert-butyl ether 1560 50 " 1500 ND 104 75-130 3 20 Ethyl tert-butyl ether 1560 50 " 1470 19 103 85-120 2 20 Xylenes (total) 10400 50 " 44000 42000 106 60-140 0.7 25				80-115	104	33	1500	ug/l	50	1600	tert-Amyl methyl ether
Di-isopropyl ether 1490 50 " 1510 ND 99 75-125   1,2-Dibromoethane (EDB) 1710 50 " 1490 ND 115 85-120   1,2-Dichloroethane (EDB) 1710 50 " 1470 19 101 85-130   1,2-Dichloroethane 1500 1600 " 14200 1100 107 70-135   1,2-Dichloroethane 1510 50 " 1500 ND 101 75-130   1,2-Dichloroethane 1510 50 " 1500 ND 101 75-130   1,2-Dichloroethane 1960 50 " 754 1300 88 75-135   1,2-Dichloroethane 1960 50 " 754 1300 88 75-135   1,2-Dichloroethane 1960 50 " 3720 2500 92 85-120   1,2-Dichloroethane 1960 50 " 3720 2500 92 85-120   1,2-Dichloroethane-44 4.97 " 3.00 89 60-135   1,2-Dichloroethane-44 4.97 " 3.00 89 60-135   1,2-Dichloroethane-44 4.97 " 3.00 89 60-135   1,2-Dichloroethane-44 4.97 " 3.00 89 60-135   1,2-Dichloroethane-44 8.07 80 80 80-115 3 15   1,2-Dichloroethane (EDB) 1750 50 " 14300 ND 117 75-120 7 25   1,2-Dichloroethane (EDB) 1750 50 " 14300 ND 117 85-120 2 15   1,2-Dichloroethane (EDB) 1750 50 " 1490 ND 117 85-120 2 15   1,2-Dichloroethane (EDB) 1750 50 " 1490 ND 117 85-120 2 15   1,2-Dichloroethane (EDB) 18200 10000 " 14300 ND 117 85-120 2 15   1,2-Dichloroethane (EDB) 1750 50 " 1490 ND 100 100 100 100 100 100 100 100 100 10				65-115	74	7400	516	**	50	7780	Benzene
1,2-Dibromoethane (EDB) 1710 50 " 1490 ND 115 85-120 1,2-Dichloroethane 1500 50 " 1470 19 101 85-130 10000 " 14200 1100 107 70-135 125 125 125 125 125 125 125 125 125 12				75-120	108	ND	14300	**	2000	15500	tert-Butyl alcohol
1,2-Dichloroethane   1500   50   "   1470   19   101   85-130				75-125	<b>9</b> 9	ND	1510	**	50	1490	Di-isopropyl ether
Ethanol 16300 10000 " 14200 1100 107 70-135 Ethyl tert-butyl ether 1510 50 " 1500 ND 101 75-130 Ethyl tert-butyl ether 1510 50 " 1500 ND 101 75-130 Ethyl tert-butyl ether 1960 50 " 754 1300 88 75-135 Methyl tert-butyl ether 738 50 " 702 120 88 65-125 Toluene 5930 50 " 3720 2500 92 85-120 Xylenes (total) 10100 50 " 4120 7000 75 85-125 Gasoline Range Organics (C4-C12) 89200 5000 " 44000 42000 107 60-140 Surrogate: I,2-Dichloroethane-d4 4.97 " 5.00 99 60-135 Ethyl tert-butyl ether 1650 50 ug" 516 7400 130 65-115 4 20 tert-Butyl alcohol 16700 2000 " 14300 ND 117 75-120 7 25 Di-isopropyl ether 1540 50 " 1510 ND 102 75-125 3 15 1,2-Dichloroethane (EDB) 1750 50 " 1490 ND 117 85-120 2 15 1,2-Dichloroethane (EDB) 1750 50 " 1490 ND 117 85-120 2 15 1,2-Dichloroethane (EDB) 18200 10000 " 14200 1100 120 70-135 11 35 Ethyl tert-butyl ether 1560 50 " 1470 19 103 85-130 3 20 Ethyl tert-butyl ether 1560 50 " 1470 19 103 85-130 3 20 Ethyl tert-butyl ether 1560 50 " 1470 19 103 85-130 3 20 Ethyl tert-butyl ether 1560 50 " 1470 19 103 85-130 3 20 Ethyl tert-butyl ether 1560 50 " 1500 ND 104 75-130 3 25 Ethyl tert-butyl ether 1560 50 " 1500 ND 104 75-130 3 25 Ethyl tert-butyl ether 1560 50 " 1500 ND 104 75-130 3 25 Ethyl tert-butyl ether 774 50 " 702 120 93 65-125 5 20 Toluene 6080 50 " 3720 2500 96 85-120 2 20 Xylenes (total) 10400 50 " 4120 7000 83 85-125 3 20 Gasoline Range Organics (C4-C12) 88600 5000 " 44000 42000 106 60-140 0.7 25				85-120	115	ND	1490	n	50	1710	1,2-Dibromoethane (EDB)
Ethyl tert-butyl ether 1510 50 " 1500 ND 101 75-130 Ethylbenzene 1960 50 " 754 1300 88 75-135 Methyl tert-butyl ether 738 50 " 702 120 88 65-125 Toluene 5930 50 " 3720 2500 92 85-120 Xylenes (total) 10100 50 " 4120 7000 75 85-125 Surveyate: 1,2-Dichloroethane-d4 4.97 " 5.00 99 60-135 Matrix Spike Dup (5K15009-MSD1) Source: MOK0182-04 Prepared & Analyzed: 11/15/05 Tetrt-Amyl methyl ether 1650 50 ug/l 1500 33 108 80-115 3 15 Benzene 8070 50 " 516 7400 130 65-115 4 20 tetr-Butyl alcohol 16700 2000 " 14300 ND 117 75-120 7 25 Di-isopropyl ether 1540 50 " 1510 ND 102 75-125 3 15 1,2-Dichloroethane (EDB) 1750 50 " 1490 ND 117 85-120 2 15 1,2-Dichloroethane (EDB) 1750 50 " 1470 19 103 85-130 3 20 Ethyl tert-butyl ether 1560 50 " 1500 ND 104 75-130 3 25 Ethyl tert-butyl ether 1560 50 " 1500 ND 104 75-130 3 25 Ethyl tert-butyl ether 1560 50 " 1500 ND 104 75-130 3 25 Ethyl tert-butyl ether 1560 50 " 1500 ND 104 75-130 3 25 Ethyl tert-butyl ether 1560 50 " 1570 ND 104 75-130 3 25 Ethyl tert-butyl ether 1560 50 " 1500 ND 104 75-130 3 25 Ethyl tert-butyl ether 1560 50 " 1500 ND 104 75-130 3 25 Ethyl tert-butyl ether 774 50 " 702 120 93 65-125 5 20 Toluene 6080 50 " 3720 2500 96 85-120 2 20 Xylenes (total) 10400 50 " 44000 42000 106 60-140 0.7 25				85-130	101	19	1470	**	50	1500	1,2-Dichloroethane
Ethylbenzene         1960         50         "         754         1300         88         75-135           Methyl tert-butyl ether         738         50         "         702         120         88         65-125           Toluene         5930         50         "         3720         2500         92         85-120           Xylenes (total)         10100         50         "         4120         7000         75         85-125           Gasoline Range Organics (C4-C12)         89200         5000         "         44000         42000         107         60-140           Surrogate: 1,2-Dichloroethane-d4         4.97         "         5.00         99         60-135           Matrix Spike Dup (5K15009-MSD1)         Source: MOK0182-04         Prepared & Analyzed: 11/15/05         50           tert-Amyl methyl ether         1650         50         ug/l         1500         33         108         80-115         3         15           Benzene         8070         50         "         516         7400         130         65-115         4         20           tert-Butyl alcohol         16700         2000         "         14300         NID         107         75-125 </td <td></td> <td></td> <td></td> <td>70-135</td> <td>107</td> <td>1100</td> <td>14200</td> <td>11</td> <td>10000</td> <td>16300</td> <td>Ethanol</td>				70-135	107	1100	14200	11	10000	16300	Ethanol
Methyl tert-butyl ether 738 50 " 702 120 88 65-125 Toluene 5930 50 " 3720 2500 92 85-120 Xylenes (total) 10100 50 " 4120 7000 75 85-125 Gasoline Range Organics (C4-C12) 89200 5000 " 44000 42000 107 60-140 \$\text{Surrogate: 1,2-Dichloroethane-d4} \text{4.97} " 5.00 99 60-135 \$\text{Matrix Spike Dup (5K15009-MSD1)} \text{Source: MOK0182-04} \text{Prepared & Analyzed: 11/15/05} \$\text{tert-Amyl methyl ether} \text{1650} 50 ug/l 1500 33 108 80-115 3 15 Benzene 8070 50 " 516 7400 130 65-115 4 20 tert-Butyl alcohol 16700 2000 " 14300 ND 117 75-120 7 25 Di-isopropyl ether 1540 50 " 1510 ND 102 75-125 3 15 1,2-Dichloroethane (EDB) 1750 50 " 1490 ND 117 85-120 2 15 1,2-Dichloroethane (EDB) 1750 50 " 1470 19 103 85-130 3 20 Ethanol 18200 10000 " 14200 1100 120 70-135 111 35 Ethyl tert-butyl ether 1560 50 " 1500 ND 104 75-130 3 25 Ethyl tert-butyl ether 1560 50 " 754 1300 97 75-135 4 15 Methyl tert-butyl ether 774 50 " 702 120 93 65-125 5 20 Toluene 6080 50 " 3720 2500 96 85-120 2 20 Xylenes (total) 10400 50 " 44000 42000 106 60-140 0.7 25 Gasoline Range Organics (C4-C12) 88600 5000 " 44000 42000 106 60-140 0.7 25				75-130	101	ND	1500	77	50	1510	Ethyl tert-butyl ether
Toluene 5930 50 " 3720 2500 92 85-120 Xylenes (total) 10100 50 " 4120 7000 75 85-125 Gasoline Range Organics (C4-C12) 89200 5000 " 44000 42000 107 60-140  Surrogate: 1,2-Dichloroethane-d4 4.97 " 5.00 99 60-135  Matrix Spike Dup (5K15009-MSD1) Source: MOK0182-04 Prepared & Analyzed: 11/15/05  tert-Amyl methyl ether 1650 50 ug/l 1500 33 108 80-115 3 15  Benzene 8070 50 " 516 7400 130 65-115 4 20  tert-Butyl alcohol 16700 2000 " 14300 ND 117 75-120 7 25  Di-isopropyl ether 1540 50 " 1510 ND 102 75-125 3 15  1,2-Dibromoethane (EDB) 1750 50 " 1490 ND 117 83-120 2 15  1,2-Dichloroethane 1540 50 " 1470 19 103 85-130 3 20  Ethanol 18200 10000 " 14200 1100 120 70-135 11 35  Ethyl tert-butyl ether 1560 50 " 1500 ND 104 75-130 3 25  Ethyl tert-butyl ether 1560 50 " 754 1300 97 75-135 4 15  Methyl tert-butyl ether 774 50 " 702 120 93 65-125 5 20  Toluene 6080 50 " 3720 2500 96 85-120 2 20  Xylenes (total) 10400 50 " 4400 4200 106 60-140 0.7 25				75-135	88	1300	754		50	1960	Ethylbenzene
Xylenes (total)				65-125	88	120	702	tt	50	738	Methyl tert-butyl ether
Surrogate: 1,2-Dichloroethane-d4   4.97   5.00   99   60-135				85-120	92	2500	3720	18	50	5930	Toluene
Surrogate: 1,2-Dichloroethane-d4         4.97         " 5.00         99 60-135           Matrix Spike Dup (5K15009-MSD1)         Source: MOK0182-04         Prepared & Analyzed: 11/15/05           tert-Amyl methyl ether         1650         50 ug/l         1500         33 108 80-115 3 15           Benzene         8070         50 " 516 7400 130 65-115 4 20         4 20           tert-Butyl alcohol         16700 2000 " 14300 ND 117 75-120 7 25         7 25           Di-isopropyl ether         1540 50 " 1510 ND 102 75-125 3 15         15           1,2-Dibromoethane (EDB)         1750 50 " 1490 ND 117 85-120 2 15         2 15           1,2-Dichloroethane         1540 50 " 1470 19 103 85-130 3 20         3 20           Ethanol         18200 10000 " 14200 1100 120 70-135 11 35         35           Ethyl tert-butyl ether         1560 50 " 1500 ND 104 75-130 3 25         25           Ethylbenzene         2030 50 " 754 1300 97 75-135 4 15         15           Methyl tert-butyl ether         774 50 " 702 120 93 65-125 5 20         20           Toluene         6080 50 " 3720 2500 96 85-120 2 20           Xylenes (total)         10400 50 " 4120 7000 83 85-125 3 20           Gasoline Range Organics (C4-C12)         88600 5000 " 44000 42000 106 60-140 0.7 25	LN			85-125	75	7000	4120	и	50	10100	Xylenes (total)
Matrix Spike Dup (5K15009-MSD1)         Source: MOK0182-04         Prepared & Analyzed: 11/15/05           tert-Amyl methyl ether         1650         50         ug/l         1500         33         108         80-115         3         15           Benzene         8070         50         "         516         7400         130         65-115         4         20           tert-Butyl alcohol         16700         2000         "         14300         ND         117         75-120         7         25           Di-isopropyl ether         1540         50         "         1510         ND         102         75-125         3         15           1,2-Dibromoethane (EDB)         1750         50         "         1490         ND         117         85-120         2         15           1,2-Dichloroethane         1540         50         "         1470         19         103         85-130         3         20           Ethanol         18200         10000         "         14200         1100         120         70-135         11         35           Ethyl tert-butyl ether         1560         50         "         1500         ND         104         75-130				60-140	107	42000	44000	0	5000	89200	Gasoline Range Organics (C4-C12)
tert-Amyl methyl ether 1650 50 ug/l 1500 33 108 80-115 3 15 Benzene 8070 50 " 516 7400 130 65-115 4 20 tert-Butyl alcohol 16700 2000 " 14300 ND 117 75-120 7 25 Di-isopropyl ether 1540 50 " 1510 ND 102 75-125 3 15 1,2-Dibromoethane (EDB) 1750 50 " 1490 ND 117 85-120 2 15 1,2-Dichloroethane 1540 50 " 1470 19 103 85-130 3 20 Ethanol 18200 10000 " 14200 1100 120 70-135 11 35 Ethyl tert-butyl ether 1560 50 " 1500 ND 104 75-130 3 25 Ethyl tert-butyl ether 2030 50 " 754 1300 97 75-135 4 15 Methyl tert-butyl ether 774 50 " 702 120 93 65-125 5 20 Toluene 6080 50 " 3720 2500 96 85-120 2 20 Xylenes (total) 10400 50 " 4120 7000 83 85-125 3 20 Gasoline Range Organics (C4-C12) 88600 5000 " 44000 42000 106 60-140 0.7 25				60-135	99		5.00	"		4.97	Surrogate: 1,2-Dichloroethane-d4
Benzene 8070 50 " 516 7400 130 65-115 4 20 tert-Butyl alcohol 16700 2000 " 14300 ND 117 75-120 7 25 Di-isopropyl ether 1540 50 " 1510 ND 102 75-125 3 15 1,2-Dibromoethane (EDB) 1750 50 " 1490 ND 117 85-120 2 15 1,2-Dichloroethane 1540 50 " 1470 19 103 85-130 3 20 Ethanol 18200 10000 " 14200 1100 120 70-135 11 35 Ethyl tert-butyl ether 1560 50 " 1500 ND 104 75-130 3 25 Ethylbenzene 2030 50 " 754 1300 97 75-135 4 15 Methyl tert-butyl ether 774 50 " 702 120 93 65-125 5 20 Toluene 6080 50 " 3720 2500 96 85-120 2 20 Xylenes (total) 10400 50 " 4120 7000 83 85-125 3 20 Gasoline Range Organics (C4-C12) 88600 5000 " 44000 42000 106 60-140 0.7 25				)5	d: 11/15/0	& Analyze	Prepared &		OK0182-04	Source: M	Matrix Spike Dup (5K15009-MSD1)
tert-Butyl alcohol 16700 2000 " 14300 ND 117 75-120 7 25  Di-isopropyl ether 1540 50 " 1510 ND 102 75-125 3 15  1,2-Dibromoethane (EDB) 1750 50 " 1490 ND 117 85-120 2 15  1,2-Dichloroethane 1540 50 " 1470 19 103 85-130 3 20  Ethanol 18200 10000 " 14200 1100 120 70-135 11 35  Ethyl tert-butyl ether 1560 50 " 1500 ND 104 75-130 3 25  Ethylbenzene 2030 50 " 754 1300 97 75-135 4 15  Methyl tert-butyl ether 774 50 " 702 120 93 65-125 5 20  Toluene 6080 50 " 3720 2500 96 85-120 2 20  Xylenes (total) 10400 50 " 4120 7000 83 85-125 3 20  Gasoline Range Organics (C4-C12) 88600 5000 " 44000 42000 106 60-140 0.7 25		15	3	80-115	108	33	1500	ug/l	50	1650	tert-Amyl methyl ether
Di-isopropyl ether 1540 50 " 1510 ND 102 75-125 3 15 1,2-Dibromoethane (EDB) 1750 50 " 1490 ND 117 85-120 2 15 1,2-Dichloroethane (EDB) 1540 50 " 1470 19 103 85-130 3 20 Ethanol 18200 10000 " 14200 1100 120 70-135 11 35 Ethyl tert-butyl ether 1560 50 " 1500 ND 104 75-130 3 25 Ethylbenzene 2030 50 " 754 1300 97 75-135 4 15 Methyl tert-butyl ether 774 50 " 702 120 93 65-125 5 20 Toluene 6080 50 " 3720 2500 96 85-120 2 20 Xylenes (total) 10400 50 " 4120 7000 83 85-125 3 20 Gasoline Range Organics (C4-C12) 88600 5000 " 44000 42000 106 60-140 0.7 25	BB.LM	20	4	65-115	130	7400	516	11	50	8070	Benzene
1,2-Dibromoethane (EDB) 1750 50 " 1490 ND 117 85-120 2 15 1,2-Dichloroethane 1540 50 " 1470 19 103 85-130 3 20 Ethanol 18200 10000 " 14200 1100 120 70-135 11 35 Ethyl tert-butyl ether 1560 50 " 1500 ND 104 75-130 3 25 Ethylbenzene 2030 50 " 754 1300 97 75-135 4 15 Methyl tert-butyl ether 774 50 " 702 120 93 65-125 5 20 Toluene 6080 50 " 3720 2500 96 85-120 2 20 Xylenes (total) 10400 50 " 4120 7000 83 85-125 3 20 Gasoline Range Organics (C4-C12) 88600 5000 " 44000 42000 106 60-140 0.7 25	•	25	7	75-120	117	ND	14300	H	2000	16700	tert-Butyl alcohol
1,2-Dichloroethane       1540       50       " 1470       19       103       85-130       3       20         Ethanol       18200       10000       " 14200       1100       120       70-135       11       35         Ethyl tert-butyl ether       1560       50       " 1500       ND       104       75-130       3       25         Ethylbenzene       2030       50       " 754       1300       97       75-135       4       15         Methyl tert-butyl ether       774       50       " 702       120       93       65-125       5       20         Toluene       6080       50       " 3720       2500       96       85-120       2       20         Xylenes (total)       10400       50       " 4120       7000       83       85-125       3       20         Gasoline Range Organics (C4-C12)       88600       5000       " 44000       42000       106       60-140       0.7       25		15	3	75-125	102	ND	1510	rr	50	1540	Di-isopropyl ether
Ethanol 18200 10000 " 14200 1100 120 70-135 11 35  Ethyl tert-butyl ether 1560 50 " 1500 ND 104 75-130 3 25  Ethylbenzene 2030 50 " 754 1300 97 75-135 4 15  Methyl tert-butyl ether 774 50 " 702 120 93 65-125 5 20  Toluene 6080 50 " 3720 2500 96 85-120 2 20  Xylenes (total) 10400 50 " 4120 7000 83 85-125 3 20  Gasoline Range Organics (C4-C12) 88600 5000 " 44000 42000 106 60-140 0.7 25		15	2	85-120	±17	ND	1490	**	50	1750	1,2-Dibromoethane (EDB)
Ethyl tert-butyl ether 1560 50 " 1500 ND 104 75-130 3 25  Ethylbenzene 2030 50 " 754 1300 97 75-135 4 15  Methyl tert-butyl ether 774 50 " 702 120 93 65-125 5 20  Toluene 6080 50 " 3720 2500 96 85-120 2 20  Xylenes (total) 10400 50 " 4120 7000 83 85-125 3 20  Gasoline Range Organics (C4-C12) 88600 5000 " 44000 42000 106 60-140 0.7 25		20	3	85-130	103	19	1470	**	50	1540	1,2-Dichloroethane
Ethylbenzene 2030 50 " 754 1300 97 75-135 4 15  Methyl tert-butyl ether 774 50 " 702 120 93 65-125 5 20  Toluene 6080 50 " 3720 2500 96 85-120 2 20  Xylenes (total) 10400 50 " 4120 7000 83 85-125 3 20  Gasoline Range Organics (C4-C12) 88600 5000 " 44000 42000 106 60-140 0.7 25			11	70-135	120	1100	14200	**	10000	18200	Ethanol
Ethylbenzene       2030       50       "       754       1300       97       75-135       4       15         Methyl tert-butyl ether       774       50       "       702       120       93       65-125       5       20         Toluene       6080       50       "       3720       2500       96       85-120       2       20         Xylenes (total)       10400       50       "       4120       7000       83       85-125       3       20         Gasoline Range Organics (C4-C12)       88600       5000       "       44000       42000       106       60-140       0.7       25		25	3	75-130	104	ND	1500	**	50	1560	Ethyl tert-butyl ether
Methyl tert-butyl ether     774     50     " 702     120     93     65-125     5     20       Toluene     6080     50     " 3720     2500     96     85-120     2     20       Xylenes (total)     10400     50     " 4120     7000     83     85-125     3     20       Gasoline Range Organics (C4-C12)     88600     5000     " 44000     42000     106     60-140     0.7     25				75-135	97	1300	754	**	50	2030	Ethylbenzene
Toluene 6080 50 " 3720 2500 96 85-120 2 20 Xylenes (total) 10400 50 " 4120 7000 83 85-125 3 20 Gasoline Range Organics (C4-C12) 88600 5000 " 44000 42000 106 60-140 0.7 25				65-125	93	120	702	n.	50	774	Methyl tert-butyl ether
Xylenes (total)     10400     50     " 4120     7000     83     85-125     3     20       Gasoline Range Organics (C4-C12)     88600     5000     " 44000     42000     106     60-140     0.7     25			2	85-120	96	2500	3720	п	50	6080	Toluene
Gasoline Range Organics (C4-C12) 88600 5000 " 44000 42000 106 60-140 0.7 25	LN				83	7000	4120	**	50	10400	Xylenes (total)
					106	42000	44000	***	5000	88600	Gasoline Range Organics (C4-C12)
Surrogate: 1,2-Dichloroethane-d4 5.10 " 5.00 102 60-135				60-135	102	•	5.00	"		5.10	Surrogate: 1,2-Dichloroethane-d4





URS Corporation [Arco]	Project:BP Heritage #11117,Oakland, CA	MOK0184
1333 Broadway, Suite 800	Project Number:G07TK-0022	Reported:
Oakland CA, 94612	Project Manager:Lynelle Onishi	11/18/05 15:53

#### Notes and Definitions

PV	Hydrocarbon result partly due to individ. peak(s) in quant. range										
LN	$\ensuremath{MS}$ and/or $\ensuremath{MSD}$ below acceptance limits. See Blank Spike(LCS).										
LM	$\operatorname{MS}$ and/or $\operatorname{MSD}$ above acceptance limits. See Blank Spike(LCS).										

BB,LN Sample > 4x spike concentration.

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



## **Chain of Custody Record**

Project Name: Analytical for QMR sampling

BP BU/AR Region/Enfos Segment:

BP > Americas > West Coast > Retail > WCBU > CA > Central > 11117 > HistoricalBL

State or Lead Regulatory Agency:

California Regional Water Quality Control Board - San Fre

Requested Due Date (mm/dd/yy):

10 Day TAT

	Page_1_of_1
On-site Time: 12-15	Temp: 63*
Off-site Time:	Temp:
Sky Conditions: Clear	
Meteorological Events:	WE.
Wind Speed:	Direction:

_	Traine, Sequilia					BP/AR Facility N	lo.:	1111	7								Congrelend	· · · · ·			×					<del></del>
Add	ress: 885 Jarvis Drive	BP/AR Facility Address: 7210 Barcroft Ave., Oakland, CA 94605									Consultant/Contractor: URS Address: 1333 Broadway, Suite 800															
<u> </u>	Morgan Hill, CA 95037	Site Lat/Long: 37.766285 / -122.176									Address:						:00									
Lab	PM: Lisa Race / Jamshid Kekobad	California Global ID No.: T0600100201													A 9461			. <u>.                                   </u>								
	/Fax: 408.782.8156 / 408.782.6308	Enfos Project No.: G07TK-0017									Consultant/Contractor Project No.: 38487127															
	AR PM Contact: Kyle Christic	Provision or RCOP: Provision										Consultant/Contractor PM: Lynclle Onishi														
Add	ress: 4 Centerpointe Dr.	Dhaga (MDD)										Tele/Fax: 510.874.1758 / 510.874.3268														
<u> </u>	La Palma, CA 90623	Sub Phase/Task:	03	- Analy	Relie	хі бу	Natur	al A	nennan	on			Report Type	Report Type & QC Level: Level 1 with EDF  3-mail EDD To: Donna Cosper@urscorp.com												
	/Rax: (714) 670-5303 / (714) 670-5	195				Cost Blement:		- Subce		toA C	<sup>7</sup> oole						E-mail EDI	To:	<u>Do</u>	nna	Cospe	er@ı	ursco	p.com		
Lab	Bottle Order No: 11117				Matrix		T	7			ative	<del></del>	7			<del></del>	Invoice to:	At	antic	Ric	hfield (	Comp	my			
Item No.	Sample Description	Time	, Date	Soil/Solid	Water/Liquid	Laboratory No.	No. of Containers	Unpreserved	H,SO,		Isnol		GRO / BTEX (8260) ATER TAME RIBE	IPE TBA (8260)			tested Analy	sis			? <b>\</b>			&Y that/L	ong:	) and
1	TB-11117-11032005		43/0	त	×	p)	么		1			<del>i -</del>				Ω .	<del>-                                    </del>	<del> -</del> -	<u> </u>							
2	+ 10W-2	1500	- Trajec	1	x		3	<b> </b>	+	×		-		_		×		<u> </u>			"HO	<u>ر</u>	<i>y</i>			
3	+ NW-4	1524		╢	×	9-7	3			X			1	Ť		×		ļ	_	_						
4	+ MW-7	1415	1		×	<i>b</i> 3	1			<del></del>		-	<u> </u>		٧	·	<del>-</del>	<b> </b>		_						·
5	+ MW-10	1436		╫	4	- uy	3	-		<u>                                     </u>				_	X.		_ _									
6	+ Ex-1	1550	<del>                                     </del>	-	×	01	5	<b></b>		12			4 >	_	K	16										
7	+ Ex-2	100		╢-	K	67		<del>                                     </del>	-	Y			X		X	<u>y</u>										· ·
8		W. FO.	- <del>V</del> -	-	-	07	3		+-	X	4		Ϋ́	د اع	4	٤										
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Samp	ler's Name: Mi LTs/	L	<u></u>	_!	ــــــــــــــــــــــــــــــــــــــ			<u></u> _						L		╝			ı							
Samp	ler's Company: Blaine Tools					Relingt	ishe			lon			Date		Tim	c	1	Accep	ted B	y/Ai	filigtion			Date		
Shipn	nent Date:	-74pl	year	<u>:</u>		nottall	4	M	<u> </u>				اطول	7	107			7	30	أفاسط	lelw	11		4/3/0		Time
	nent Method:							Spyre	C (1	USZ.9	rant		Wypr	9	01		full	7					<del>-</del> -			
	nent Tracking No:	Myre Custonal Wife 901							C. tul 1/1/2 187																	
	al Instructions:				/							[												The All	7 150	اا
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	Seals In Place Yes No				F. 1	<del> / - /</del>																		<del></del>	—	
	ution Radhite Com. 1-1	owate	132 11	1 en	ip B(ai	ık Yes No				Coc	oler T	emp	erature	on	Rec	ceip	Y.( 9/C	-	7	'rin I	Blank Y		No			
	ution Righite Copy - Lah	erajory .	rello	w Co	ру - В	PAAtlanti多為作hfiel	d Co	. / Pir	ık Co	ру -	Cons	ul(ar	nt/Cón	raci	hr	12.	1.7									
										•			2011				tti		A 4.2 4	,B	6 COC	Rev. 4	10/1/0	14 -ic	. 3	Athf:

# SEQUOIA ANALYTICAL SAMPLE RECEIPT LOG

	CLIENT NAME: REC. BY (PRINT) WORKORDER:	URS 11117 E-Fallin MOKDIRY		- -	DATE REC'D AT LAB TIME REC'D AT LAB: DATE LOGGED IN:			•			tory Purposes? WATER YES / ÑO ATER YES / ÑO
	CIRCLE THE APPROP		LAB SAMPLE#	DASH #	CL(ENT ID	CONTAINER DESCRIPTION	PRESERV ATIVE	pH ·	SAMPLE MATRIX	DATE	Remarks: Condition (etc.)
1.	Custody Seal(s)	Present / Absent	6/	AB	TB-1117-113205	Von (2)	tte(		W	11/3/05	
_	Chain of Ocatada	Intact / Broken*	ov	1-0	WW-2	Nov (3)				1	· · · · · · · · · · · · · · · · · · ·
_	Chain-of-Custody Traffic Reports or	Present / Absent*	09		MW>4						
. J.	Packing List:	Duran and Alexandra	64	<del>'</del>	MW-7				·		
-	Airbill:	Present / Absent	- 01		NM-10						
7.	ABDIB	Alrbill / Sticker	04	1-2-	EX-1						
5	Airbill #:	Present / Absent	68	1/	EX-2	<u> </u>		V	V		
	Sample Labels:	Present / Absent									
<u> </u>	Sample IDs:	Listed / Not Listed	<del></del>	<del></del>							
1	annpio ibo.	on Chain-of-Custody		· · · · · · · · · · · ·							
8.	Sample Condition:	dritact / Broken*/			*				<u> </u>		
		Leaking*				•			]		
9.	Does information on c	hain-of-custody.		~	······································			<u> </u>			
	traffic reports and sar	nple labels	+4,							-	·
	agree?	Yes / No*			<u> </u>			-4			
10.	Sample received within					1.		$\leftarrow$			
	rold time?	Y@s / No*	, , , , , , , , , , , , , , , , , , ,								
	Adequate sample volum	e									
	eceived?					2				···	
	Proper preservatives us		``								
	Pip Blank / Temp Blank	Received?					<u> </u>				
	circle which, if yes)	<ul> <li>Y(eş / No*</li> </ul>			/		<del></del>  -			· -	<del></del>
	Read Temp:	4-1						<del></del> -			
	Corrected Temp:	4.1 = 0								<del></del>	
	s corrected temp 4 +/-2									·	in and the second
Acce	ptance range for samples req	uling thermal pres.)						<del> </del> -			
∵ <b>⊢</b> Χ ∴.	ception (if any): METAL	S / DFF ON LOE				·		<del></del>	<del></del>		
. 19	r Problem COC	A CONTRACTOR OF THE PARTY OF TH									
			*iF CIRCL	ED. CO	ONTACT PROJECT MA	NACED AND			de la company	Children Marchael	

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