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FILE

October 21, 2005

Ms. Arghavan Rashidi-Fard
Orange County Health Care Agency
Environmental Health Division
1241 East Dyer Road, Suite 120
Santa Ana, California 92705

Sent via UPS

Subject: Verification Soil Sampling Report
ARCO Facility No. 6131
3201 Harbor Boulevard
Costa Mesa, California
OCHCA Case No. 92UT12

Dear Ms. Rashidi-Fard:

Delta Environmental Consultants, Inc. (Delta) has prepared this *Verification Soil Sampling Report* on behalf of Atlantic Richfield Company. Documented within this report are activities associated with the advancement of three direct-push Geoprobe borings at ARCO Facility No. 6131 (the Site; Figure 1). The direct push borings were advanced to collect verification soil samples as a result of asymptotic inlet conditions for the remediation system. Field activities were conducted in accordance with Delta's *Work Plan for Verification Soil Sampling,* dated April 7, 2005 and the Orange County Health Care Agency's (OCHCA) approval letter dated April 12, 2005 (Attachment A).

SITE DESCRIPTION

The Site is located at 3201 Harbor Boulevard, in the City of Costa Mesa, Orange County, California (Figure 1). The property is an active ARCO retail gasoline service station. Activities at the property include the storage of unleaded gasoline in four USTs, retail gasoline dispensing at three dispenser islands, and auto mechanic services. A site map showing the locations of existing USTs and fuel dispensers is included as Figure 2.

SITE HISTORY

Petroleum hydrocarbon-impacted soil was discovered at the Site in several investigations conducted by EA Engineering, Science, and Technology, Inc. (EA). EA conducted a preliminary tank replacement environmental assessment in January 1991, a tank removal investigation in January 1992, and a soil vapor contaminant assessment in August 1992 (Delta, 1993).

Under EA supervision, four 6,000-gallon steel USTs and one 550-gallon steel waste oil tank were removed by R.D. Builders on January 28, 1992 (EA, 1992).

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On April 16, 1992, the removal of the bottom of the inlet portion of the oil/water separator and separator demolition was conducted under the direction of Delta.

In September 1992, EA installed three groundwater monitoring wells (EA-1 through EA-3) at the Site to depths of approximately 40 feet below grade. Historical groundwater gauging data and analytical results are presented as Tables 1 and 2.

On March 15 and 16, 1993, Delta installed two 4-inch diameter vadose wells, VW-1 and VW-2, two 4-inch diameter groundwater monitoring wells, B-4 and B-5; and a dual purpose vapor extraction/groundwater monitoring well B-6.

On December 21, 1993, two groundwater monitoring wells (B-10 and B-11) were installed at the Site under the direction of Delta.

On July 7, 1994, Delta conducted a groundwater recovery test. Three recovery tests were performed in two of the wells on site, EA-1 and EA-2; one test in EA-1 and two tests in EA-2 (Delta, 1994).

In September 1994, Delta supervised the installation of two air sparge/soil vapor extraction (AS/SVE) wells, SV-1 and SV-2.

In May 1996, Delta supervised the installation of two groundwater monitoring wells, B-8 and B-9.

In November 1996, two AS wells (AS-1 and AS-2) and three AS/SVE wells (SV-3 through SV-5) were installed at the Site under the direction of Delta.

In August, 1999, a Delta representative collected soil samples from beneath eight dispenser locations during dispenser replacement activities. Analytical results from soil samples are present in Table 1.

PHYSIOGRAPHY AND GEOLOGY

The Site is located in the City of Costa Mesa, Orange County, California, within the Peninsular Ranges geomorphic province. More specifically, the Site is located in the Newport Mesa southwest of the Tustin Plain (Herndon, 1992). The site elevation is approximately 30 feet above mean sea level (msl). Site topography is relatively flat. Local topography slopes gently to the northeast toward the Greenville-Banning drainage channel, which flows into the Santa Ana River approximately 1 mile west of the Site (USGS, 1965).

Soil beneath the Site consists of undifferentiated alluvium and marine terrace deposits of Quaternary age (Morton and Miller, 1981). Soil encountered during investigations at the Site consists predominantly of silty and sandy clay from the ground surface to an approximate depth of 15 feet below ground surface (bgs), and is underlain by poor- to well-sorted sand from 15 to 30 feet bgs. Soil consists of layers of sandy clay and silty sand from approximately 30 to 45 feet bgs (total depth investigated).

HYDROGEOLOGY

The Site is located within the Santa Ana Pressure Sub-basin of the Lower Santa Ana River Groundwater Basin, which is located within the Orange County Coastal Plain (SWRCB, 1989). According to the United States Geological Water Supply Paper No. 1109, the principal water bearing zone of the Newport Mesa is comprised of sand and gravel within the San Pedro formation. Piezometric levels of principal basin aquifers in the site vicinity are approximately 60 feet below msl or approximately 90 feet bgs (Herndon, 1992).

There are three production wells located within 0.5 mile of the Site (OCWD, 1999). Two of the wells (MCWD-7 and MCWD-8) are municipal production wells. The remaining well (HMEM-COS) is an agricultural/irrigation production well. Well HMEM-COS is located approximately 1,700 feet southwest of the Site and has a depth to water of approximately 88 feet bgs. The screened interval of the well is unknown. Well MCWD-7 is located approximately 2,500 feet northwest of the Site and has a depth to water of approximately 128 feet bgs. The well is screened from 363 to 753 feet bgs. Well MCWD-8 is located approximately 2,700 feet northeast of the Site and has a depth to water of approximately 140 feet bgs. Well MCWD-8 is screened from 300 to 572 feet bgs.

Depth to groundwater measurements collected at the Site on May 27, 2005, ranged from 21.18 to 24.31 feet bgs. Groundwater flow during the second quarter 2005 was to the southwest at approximately 0.004 feet per foot (Delta, 2004). Historic groundwater elevation data and analytical data are presented in Tables 2 and 3, respectively.

GEOPROBE BORING ADVANCEMENT

On June 7, 2005, and September 6, 2005, a Delta geologist supervised the advancement of three direct push Geoprobe soil borings (B-12 through B-14) at the locations shown on Figure 2. Borings B-12 and B-13 were advanced in the vicinity of the former USTs. Boring B-14 was advanced in the vicinity of the eastern dispenser island. The purpose of these soil borings was to evaluate the vertical extent of dissolved phase fuel oxygenates beneath the former USTs.

Prior to the drilling activities, Delta obtained a soil boring permit from the OCHCA. Advanced Geoscience of Palos Verdes Estates, California was retained to conduct surface geophysics in order to locate potential underground utilities. In addition, the borings were cleared of utilities to approximately five feet bgs with a truck-mounted VacMasters Air Vacuum Extraction System provided by Cascade Drilling, Inc. (Cascade) of Norwalk, California.

In the OCHCA approval letter dated April 12, 2005, the Agency requested that each boring be advanced to 35 ft bgs. Due to subsurface refusal, borings B-12 and B-13 were advanced to 30 feet bgs using a direct-push truck-mounted Geoprobe unit, provided by Cascade Drilling of Norwalk, CA. Boring B-14 was advanced to 35 feet bgs using a direct push truck mounted Geoprobe unit, provided by Strongarm Environmental of Norwalk, CA. Soil samples were collected at five-foot intervals from five to 30 feet bgs. Soil samples were collected using a 1½-inch diameter piston sampler equipped with a 1⅛-inch diameter by 1.5-foot long acetate liner. Soil samples for chemical analyses were collected from the bottom-most 6-inch intact portion of the acetate liner. Each end of the acetate liner was lined with Teflon™ sheets, capped, and sealed. Each sample was labeled, placed in a resealable plastic bag, and stored in an ice-chilled cooler for transport to Del Mar Analytical of Irvine, California, a California Department of Health Services (CADHS)-certified laboratory under chain-of-custody procedures.

LABORATORY ANALYSES

Soil and groundwater samples were submitted to Del Mar Analytical of Irvine, California, a CADHS-certified laboratory for chemical analysis. Each sample was analyzed for total petroleum hydrocarbons as gasoline (TPHg) according to Environmental Protection Agency (EPA) modified Method 8015 and for benzene, toluene, ethylbenzene, xylenes (BTEX), methyl *tert*-butyl ether (MTBE), ethyl *tert*-butyl ether (ETBE), *tert*-amyl methyl ether (TAME), di-isopropyl ether (DIPE), *tert*-butanol (TBA) and ethanol according to EPA Method 8260B. Soil sample analytical results are summarized in Table 1. Copies of the certified laboratory analytical reports are included as Attachment C.

WASTE CONTAINMENT AND DISPOSAL

Soil cuttings and decontamination water generated during this investigation were placed in Department of Transportation-approved, 55-gallon, metal drums. The drums were sealed and properly labeled. Belshire Environmental Services transported the soil to the TPS Technologies, Inc. Facility in Adelanto, California and transported the water to DeMeeno/Kerdoon located in Compton, California for disposal.

RESULTS

Analytical results of soil samples collected from a depth of about 30 feet bgs from borings B-12, B-13, and B-14 demonstrated detectable concentrations of TPHg of 250 mg/kg, 0.58 mg/kg, and 1,200 mg/kg, respectively. Analytical results of soil samples collected from boring B-12 did not exhibit any detectable concentrations of BTEX, MTBE, ETBE, TAME, DIPE, TBA or ethanol. Analytical results of soil samples collected from 30 feet bgs from boring B-13 exhibited concentrations of benzene and MTBE of 0.0025 mg/kg and 0.096 mg/kg, respectively. Analytical results of soil samples collected from 30 feet bgs from boring B-14 exhibited concentrations of toluene, ethyl benzene and total xylenes of 0.12 mg/kg, 9.3 mg/kg, and 9.4 mg/kg, respectively. Analytical results of all other soil samples collected from borings B-13 and B-14 did not exhibit detectable concentrations of BTEX, MTBE, ETBE, TAME, DIPE, TBA or ethanol. Soil sample analytical results are summarized in Table 1.

DISCUSSION

Direct push borings B-12, B-13, and B-14 were advanced in the area of the former USTs and existing eastern dispenser island to explore the potential extent of residual hydrocarbons in the subsurface. Analytical results of soil samples collected during advancement of B-12, B-13, and B-14 did not exhibit any detectable concentrations of TPHg, BTEX, MTBE, DIPE, ETBE, TAME, TBA or ethanol above the capillary fringe.

In October, 2004, Delta initiated a soil vapor rebound test on the existing soil vapor extraction (SVE) system. The remediation system rebound evaluation consisted of three phases. The first phase included collecting vapor samples from system influent, intermediate, effluent, and individual vapor extraction wells (SV-2/B-6, SV-3 through SV-6, VW-1 and VW-2) on October 13, 2004. The second phase included stabilizing site conditions by shutting down the SVE system for a two-week period on October 13 to October 27, 2004. The third phase included restarting the SVE system utilizing wells all vapor extraction wells (SV-2/B-6, SV-3 through SV-6, VW-1 and VW-2) on October 27, 2004, and collecting vapor samples from system influent, intermediate, effluent, and individual vapor extraction wells (SV-2/B-6, SV-3 through SV-6, VW-1 and VW-2). The SVE system would be shutdown after one week of operation from October 27 to November 3, 2004 in order to complete the system evaluation. Due to the automatic shutdowns, the remediation system was never able to operate continuously for a one-week period, and the third phase of the evaluation could not be completed as planned.

Laboratory analytical results of vapor samples collected on October 7, October 13, October 27, and November 30, 2004, indicated VFH influent concentration at 5.0 ppmv, not detected at or below reporting limit (2.4 ppmv), 6.2 ppmv and not detected at or above reporting limit (2.4 ppmv), respectively. VFH effluent concentrations were detected at 3.0 ppmv, 2.6 ppmv, 4.8 ppmv, and 1.6 ppmv (analyzed as hexane) in effluent samples collected on October 7, October 13, October 27, and November 30, 2004. Approximately 6 pounds of vapor-phase petroleum hydrocarbons were extracted from the subsurface and destroyed during this reporting period by the AS/SVE system.

Based on the observed conditions during the rebound test, it appears that the SVE system has reached asymptotic conditions. Combined with the minimal hydrocarbons identified in the confirmation borings B-12 through B-14, the remaining extent of petroleum hydrocarbon impact is limited to groundwater. In order to confirm this, Delta proposes completion of the rebound testing. Additionally, Delta proposes to conduct over-purge events on wells B-6 and EA-2 in order to continue to address the dissolved hydrocarbons. Based on the sharp reduction of hydrocarbon concentrations in the subsurface, Delta will re-evaluate Site conditions and effectiveness of over-purge events on a quarterly basis and prepare a request for closure when appropriate.

REMARKS/SIGNATURES

The recommendations contained in this report represent Delta's professional opinions based upon the currently available information and are arrived at in accordance with currently acceptable professional standards. This report is based upon a specific scope of work requested by the client. The Contract between Delta and its client outlines the scope of work, and only those tasks specifically authorized by that contract or outlined in this report were performed. This report is intended only for the use of Delta's Client and anyone else specifically listed on this report. Delta will not and cannot be liable for unauthorized reliance by any other third party. Other than as contained in this paragraph, Delta makes no express or implied warranty as to the contents of this report.

If you have any questions or comments regarding this report, please contact Steve Pence at (949) 860-0204.

Sincerely,

DELTA ENVIRONMENTAL CONSULTANTS, INC.

for Susan K. Nielsen
Staff Geologist

10/21/05
Date

Steve P. Pence
Project Manager

10/21/05
Date

Dean A. Richesin
California Registered Geologist No. 3587
Certified Engineering Geologist No. 1055

10/21/05
Date

PROFESSIONAL GEOLOGIST
DEAN A. RICHESIN
No. 3587
STATE OF CALIFORNIA

Attachments:	Figure 1	Site Location Map
	Figure 2	Site Map
	Table 1	Historical Soil Analytical Results
	Table 2	Historical Groundwater Gauging Data
	Table 3	Historical Groundwater Analytical Data

Attachment A	OCHCA Correspondence
Attachment B	Soil Boring Logs
Attachment C	Laboratory Analytical Report and Chain-of-Custody Documentation

cc: Mr. Darrell Fah, Atlantic Richfield Company, La Palma, California
Mr. Fabio Minervini, England Geosystem, Inc., Irvine, California

Q:bpwest\socal\6131\vssr.doc

REFERENCES

California Department of Conservation, Division of Mines and Geology (CDMG), 1991, Geologic Map of the Santa Ana 1:100,000 Quadrangle, California: DMG Open-File Report 91-17, DMG, Sacramento, California.

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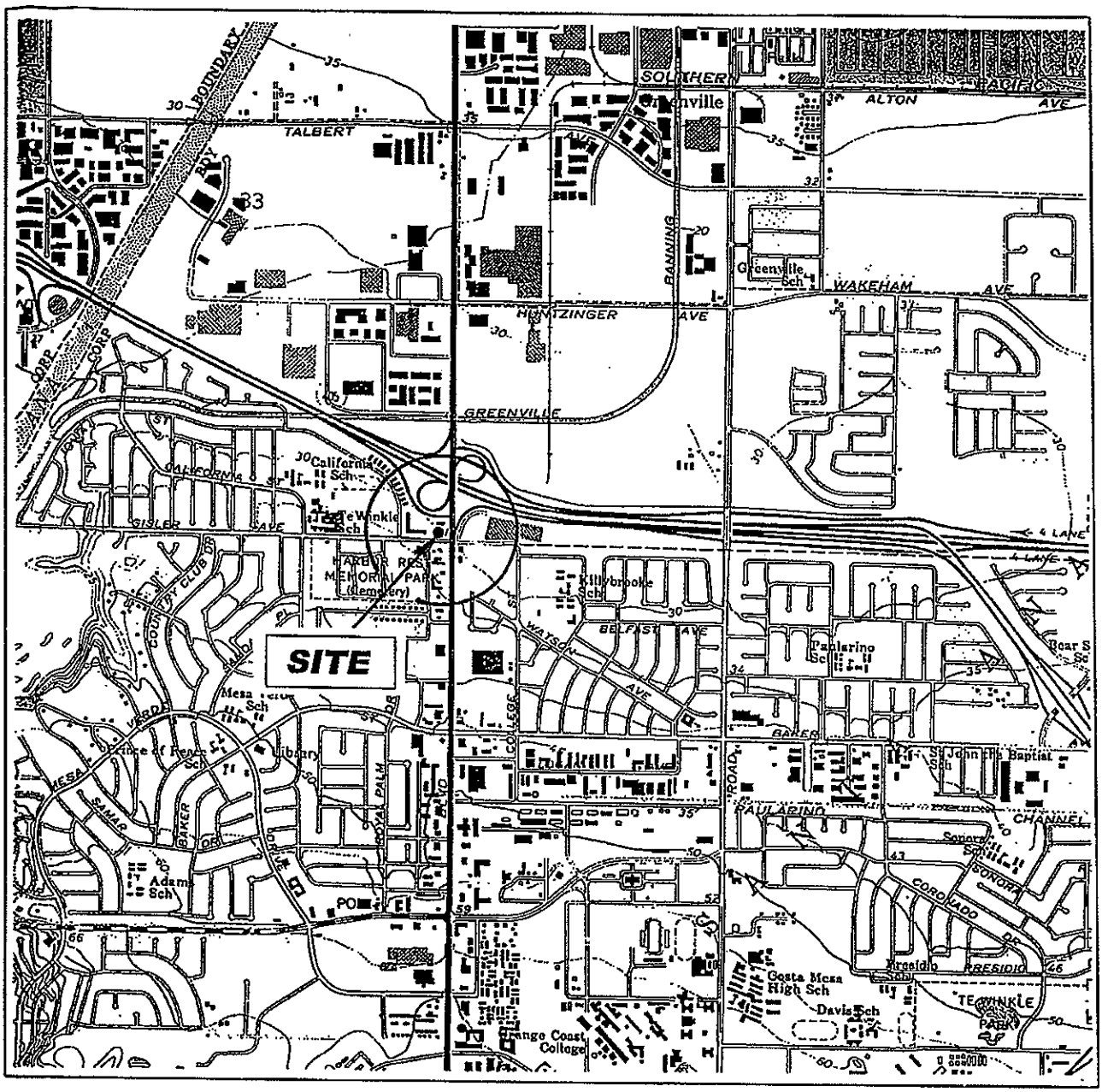
State Water Resources Control Board, Division of Water Quality (SWRCB), 1989, Statewide Report of Water Bodies Designated Municipal or Domestic in the Water Quality Control Plans, Report No. 88-9WQ, report dated February 1989.

United States Geological Survey (USGS), 1965, Newport Beach Quadrangle, California, 7.5 Minute Series (Topographic): Scale 1:24,000, USGS, Denver, Colorado, photorevised 1981.



GENERAL NOTES:
BASE MAP FROM U.S.G.S.
NEWPORT BEACH, CA. QUADRANGLE
7.5 MINUTE TOPOGRAPHIC MAP
1965
PHOTOREVISED 1981

QUADRANGLE LOCATION

N

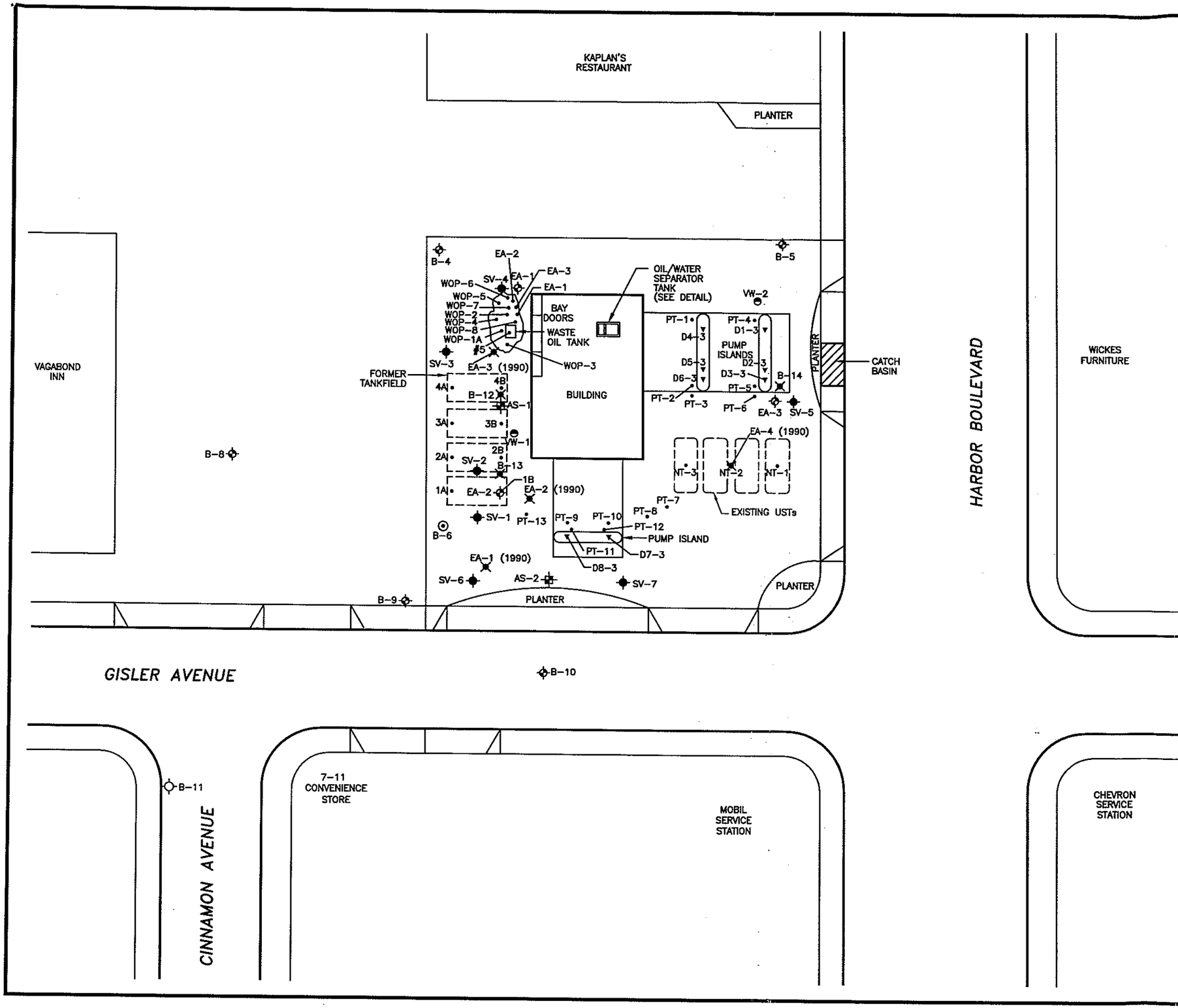
0 2000 FT

SCALE: 1 : 24,000

FIGURE 1
SITE LOCATION MAP
ARCO FACILITY NO. 6131
3201 HARBOR BOULEVARD
COSTA MESA, CA.

PROJECT NO. L092-934		DRAWN BY
FILE NO. 2-934-90		PREPARED BY
DATE 21 JAN 00	REV. A	REVIEWED BY

Delta Environmental Consultants, Inc.



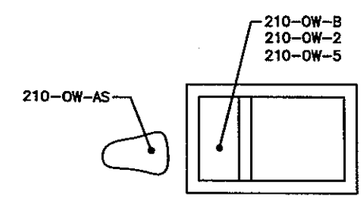
LEGEND

EA-1	GROUNDWATER MONITORING WELL LOCATION
VW-2	VAPOR EXTRACTION WELL LOCATION
B-6	DUAL PURPOSE VAPOR EXTRACTION/ GROUNDWATER MONITORING WELL LOCATION
SV-1	AIR SPARGE/SOIL VAPOR EXTRACTION WELL LOCATION
AS-1	AIR SPARGE WELL LOCATION
B-11	DESTROYED GROUNDWATER MONITORING WELL LOCATION
D4-3	DISPENSER SOIL SAMPLE LOCATION
1A	TANK PULL SOIL SAMPLE LOCATION
NT-1	NEW TANK SOIL SAMPLE LOCATION
PT-1	PIPING TRENCH SOIL SAMPLE LOCATION
WOP-2	WASTE OIL TANK SOIL SAMPLE LOCATION
210-OW-B	OIL/WATER SEPARATOR SOIL SAMPLE LOCATION
B-14	SOIL BORING LOCATION

N

0 40'

SCALE



DETAIL

SCALE: 1" = 6'-0"

FIGURE 2
SITE MAP
ARCO FACILITY NO. 6131
3201 HARBOR BOULEVARD
COSTA MESA, CA.

PROJECT NO. G0B7M	DRAWN BY K. MARTIN	A B D J24 SM1	
FILE NO. A0-586-02	PREPARED BY S. NIELSEN	Delta Environmental Consultants, Inc.	
DATE 28 SEP 05	REV. A	REVIEWED BY	

TABLE 1

HISTORICAL SOIL ANALYTICAL RESULTS

ARCO Facility No. 6131

3201 Harbor Blvd.
Costa Mesa, CA

Sample I.D.	Date Sampled	Sample Depth	TPHg (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-Benzene (mg/kg)	Xylenes (mg/kg)	MTBE (mg/kg)	DIPE (mg/kg)	ETBE (mg/kg)	TAME (mg/kg)	TBA (mg/kg)	Ethanol (mg/kg)
EA-1	12/27/1990	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
EA-2	12/27/1990	30	160	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
EA-3	12/27/1990	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
EA-3	12/27/1990	30	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
EA-4	12/27/1990	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1A	1/28/1992	14	ND<1.0	ND<0.05	ND<0.05	ND<0.05	ND<0.05	NA	NA	NA	NA	NA	NA
2A	1/28/1992	14	ND<1.0	ND<0.05	ND<0.05	ND<0.05	ND<0.05	NA	NA	NA	NA	NA	NA
3A	1/28/1992	14	ND<1.0	ND<0.05	ND<0.05	ND<0.05	ND<0.05	NA	NA	NA	NA	NA	NA
4A	1/28/1992	14	ND<1.0	ND<0.05	ND<0.05	ND<0.05	ND<0.05	NA	NA	NA	NA	NA	NA
1B	1/28/1992	14	5900.0	8.6	160.0	95.0	640.0	NA	NA	NA	NA	NA	NA
2B	1/28/1992	14	620.0	0.14	7.7	11.0	86.0	NA	NA	NA	NA	NA	NA
3B	1/28/1992	14	8900.0	14.0	200.0	100.0	470.0	NA	NA	NA	NA	NA	NA
4B	1/28/1992	14	1.3	ND<0.05	ND<0.05	ND<0.05	ND<0.05	NA	NA	NA	NA	NA	NA
Waste Oil #5	1/28/1992	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NT-1	1/30/1992	15	ND<1.0	ND<0.05	ND<0.05	ND<0.05	ND<0.05	NA	NA	NA	NA	NA	NA
NT-2	1/30/1992	15	ND<1.0	ND<0.05	ND<0.05	ND<0.05	ND<0.05	NA	NA	NA	NA	NA	NA
NT-3	1/30/1992	15	ND<1.0	ND<0.05	ND<0.05	ND<0.05	ND<0.05	NA	NA	NA	NA	NA	NA
PT-1	2/5/1992	NA	ND<1.0	ND<0.05	ND<0.05	ND<0.05	ND<0.05	NA	NA	NA	NA	NA	NA
PT-2	2/5/1992	NA	ND<1.0	ND<0.05	0.07	ND<0.05	ND<0.05	NA	NA	NA	NA	NA	NA
PT-3	2/5/1992	NA	ND<1.0	ND<0.05	ND<0.05	ND<0.05	ND<0.05	NA	NA	NA	NA	NA	NA
PT-4	2/5/1992	NA	1400.0	ND<0.05	0.54	0.51	14.0	NA	NA	NA	NA	NA	NA
PT-5	2/5/1992	NA	8400.0	19.0	200.0	77.0	410.0	NA	NA	NA	NA	NA	NA
PT-6	2/5/1992	NA	ND<1.0	ND<0.05	0.11	ND<0.05	ND<0.05	NA	NA	NA	NA	NA	NA
PT-7	2/5/1992	NA	7.9	ND<0.05	ND<0.05	ND<0.05	0.27	NA	NA	NA	NA	NA	NA
PT-8	2/5/1992	NA	ND<1.0	ND<0.05	ND<0.05	ND<0.05	ND<0.05	NA	NA	NA	NA	NA	NA
PT-9	2/5/1992	NA	ND<1.0	ND<0.05	ND<0.05	ND<0.05	ND<0.05	NA	NA	NA	NA	NA	NA
PT-10	2/5/1992	NA	ND<1.0	ND<0.05	ND<0.05	ND<0.05	ND<0.05	NA	NA	NA	NA	NA	NA
PT-11	2/5/1992	NA	ND<1.0	ND<0.05	ND<0.05	ND<0.05	ND<0.05	NA	NA	NA	NA	NA	NA

TABLE 1

HISTORICAL SOIL ANALYTICAL RESULTS

ARCO Facility No. 6131

3201 Harbor Blvd.
Costa Mesa, CA

Sample I.D.	Date Sampled	Sample Depth	TPHg (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-Benzene (mg/kg)	Xylenes (mg/kg)	MTBE (mg/kg)	DIPE (mg/kg)	ETBE (mg/kg)	TAME (mg/kg)	TBA (mg/kg)	Ethanol (mg/kg)
PT-12	2/5/1992	NA	12.0	ND<0.05	ND<0.05	ND<0.05	0.06	NA	NA	NA	NA	NA	NA
PT-13	2/28/1992	NA	ND<1.0	ND<0.05	ND<0.05	ND<0.05	ND<0.05	NA	NA	NA	NA	NA	NA
WOP-2	2/28/1992	NA	180	0.31	4.1	4.1	17	NA	NA	NA	NA	NA	NA
WOP-3	2/28/1992	NA	ND<1.0	ND<0.05	ND<0.05	ND<0.05	ND<0.05	NA	NA	NA	NA	NA	NA
WOP-4	2/28/1992	NA	ND<1.0	ND<0.05	ND<0.05	ND<0.05	ND<0.05	NA	NA	NA	NA	NA	NA
WOP-1A	2/28/1992	NA	ND<1.0	ND<0.05	ND<0.05	ND<0.05	0.06	NA	NA	NA	NA	NA	NA
WOP-5	3/4/1992	NA	NA	ND<0.05	0.010	0.020	0.180	NA	NA	NA	NA	NA	NA
WOP-6	3/4/1992	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
WOP-7	3/4/1992	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
WOP-8	3/4/1992	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
EA-1	3/13/1992	NA	NA	ND<0.05	ND<0.05	ND<0.05	ND<0.05	NA	NA	NA	NA	NA	NA
EA-2	3/13/1992	NA	NA	ND<0.05	ND<0.05	ND<0.05	ND<0.05	NA	NA	NA	NA	NA	NA
EA-3	3/13/1992	NA	NA	ND<0.05	ND<0.05	ND<0.05	ND<0.05	NA	NA	NA	NA	NA	NA
EA-1	9/9/1992	15	ND<1.0	ND<0.05	ND<0.05	ND<0.05	ND<0.05	NA	NA	NA	NA	NA	NA
EA-1	9/9/1992	30	370	ND<0.05	0.56	2.4	1.6	NA	NA	NA	NA	NA	NA
EA-2	9/9/1992	15	4.4	ND<0.05	0.06	ND<0.05	0.3	NA	NA	NA	NA	NA	NA
EA-2	9/9/1992	30	77	0.36	1.0	1.1	4.3	NA	NA	NA	NA	NA	NA
EA-2	9/9/1992	35	4.1	0.25	0.08	0.11	0.10	NA	NA	NA	NA	NA	NA
EA-3	9/9/1992	20	24	ND<0.05	ND<0.05	ND<0.05	0.18	NA	NA	NA	NA	NA	NA
EA-3	9/9/1992	30	560	2.9	1.4	7.0	24	NA	NA	NA	NA	NA	NA
B-4	3/15/1993	5	ND<1.0	ND<0.05	ND<0.05	ND<0.05	ND<0.05	NA	NA	NA	NA	NA	NA
B-4	3/15/1993	15	ND<1.0	ND<0.05	ND<0.05	ND<0.05	ND<0.05	NA	NA	NA	NA	NA	NA
B-4	3/15/1993	25	ND<1.0	ND<0.05	ND<0.05	ND<0.05	ND<0.05	NA	NA	NA	NA	NA	NA
B-5	3/16/1993	10	ND<1.0	ND<0.05	ND<0.05	ND<0.05	ND<0.05	NA	NA	NA	NA	NA	NA
B-5	3/16/1993	15	ND<1.0	ND<0.05	ND<0.05	ND<0.05	ND<0.05	NA	NA	NA	NA	NA	NA
B-5	3/16/1993	20	ND<1.0	ND<0.05	ND<0.05	ND<0.05	ND<0.05	NA	NA	NA	NA	NA	NA
B-6	3/15/1993	10	ND<1.0	ND<0.05	ND<0.05	ND<0.05	ND<0.05	NA	NA	NA	NA	NA	NA
B-6	3/15/1993	20	ND<1.0	ND<0.05	ND<0.05	ND<0.05	ND<0.05	NA	NA	NA	NA	NA	NA

TABLE 1
HISTORICAL SOIL ANALYTICAL RESULTS
ARCO Facility No. 6131
3201 Harbor Blvd.
Costa Mesa, CA

Sample I.D.	Date Sampled	Sample Depth	TPHg (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-Benzene (mg/kg)	Xylenes (mg/kg)	MTBE (mg/kg)	DIPE (mg/kg)	ETBE (mg/kg)	TAME (mg/kg)	TBA (mg/kg)	Ethanol (mg/kg)
B-6	3/15/1993	30	210	ND<0.25	5.1	2.4	7.7	NA	NA	NA	NA	NA	NA
VW-1	3/15/1993	10	23	ND<0.05	ND<0.05	0.14	0.37	NA	NA	NA	NA	NA	NA
VW-1	3/15/1993	20	250	ND<0.5	1.3	1.6	12	NA	NA	NA	NA	NA	NA
VW-1	3/15/1993	25	ND<1.0	ND<0.05	ND<0.05	ND<0.05	ND<0.05	NA	NA	NA	NA	NA	NA
VW-2	3/16/1993	10	ND<1.0	ND<0.05	ND<0.05	ND<0.05	ND<0.05	NA	NA	NA	NA	NA	NA
VW-2	3/16/1993	20	9.2	ND<0.05	ND<0.05	ND<0.05	ND<0.05	NA	NA	NA	NA	NA	NA
VW-2	3/16/1993	25	9.3	ND<0.13	ND<0.13	ND<0.13	ND<0.13	NA	NA	NA	NA	NA	NA
SV-1	9/1/1994	5	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.015	NA	NA	NA	NA	NA	NA
SV-1	9/1/1994	10	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.015	NA	NA	NA	NA	NA	NA
SV-1	9/1/1994	15	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.015	NA	NA	NA	NA	NA	NA
SV-1	9/1/1994	20	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.015	NA	NA	NA	NA	NA	NA
SV-1	9/1/1994	25	2.1	0.059	0.0084	0.16	0.028	NA	NA	NA	NA	NA	NA
SV-1	9/1/1994	30	400	2.1	4	3.60	13.000	NA	NA	NA	NA	NA	NA
SV-1	9/1/1994	35	7.6	0.12	ND<0.020	0.032	ND<0.060	NA	NA	NA	NA	NA	NA
SV-2	9/1/1994	5	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.015	NA	NA	NA	NA	NA	NA
SV-2	9/1/1994	10	80	0.31	0.20	0.54	1.8	NA	NA	NA	NA	NA	NA
SV-2	9/1/1994	15	2.4	ND<0.0050	0.030	0.019	0.15	NA	NA	NA	NA	NA	NA
SV-2	9/1/1994	20	ND<5	ND<0.05	ND<0.05	ND<0.05	ND<0.05	NA	NA	NA	NA	NA	NA
SV-2	9/1/1994	25	2.6	0.14	0.016	0.12	0.10	NA	NA	NA	NA	NA	NA
SV-2	9/1/1994	30	1500	9.5	26	14	62	NA	NA	NA	NA	NA	NA
SV-2	9/1/1994	35	1.1	0.0081	0.0089	ND<0.0050	ND<0.015	NA	NA	NA	NA	NA	NA
B-8	5/29/1996	5	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.015	NA	NA	NA	NA	NA	NA
B-8	5/29/1996	10	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.015	NA	NA	NA	NA	NA	NA
B-8	5/29/1996	15	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.015	NA	NA	NA	NA	NA	NA
B-8	5/29/1996	20	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.015	NA	NA	NA	NA	NA	NA
B-9	5/29/1996	5	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.015	NA	NA	NA	NA	NA	NA
B-9	5/29/1996	10	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.015	NA	NA	NA	NA	NA	NA
B-9	5/29/1996	15	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.015	NA	NA	NA	NA	NA	NA

TABLE 1
HISTORICAL SOIL ANALYTICAL RESULTS
ARCO Facility No. 6131
3201 Harbor Blvd.
Costa Mesa, CA

Sample I.D.	Date Sampled	Sample Depth	TPHg (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-Benzene (mg/kg)	Xylenes (mg/kg)	MTBE (mg/kg)	DIPE (mg/kg)	ETBE (mg/kg)	TAME (mg/kg)	TBA (mg/kg)	Ethanol (mg/kg)
B-9	5/29/1996	20	ND<1.0	ND<0.005	ND<0.005	0.029	0.067	NA	NA	NA	NA	NA	NA
AS-1	11/14/1996	5	ND<1.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.015	NA	NA	NA	NA	NA	NA
AS-1	11/14/1996	10	ND<1.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.015	NA	NA	NA	NA	NA	NA
AS-1	11/14/1996	15	1.1	0.0060	0.023	0.015	0.072	NA	NA	NA	NA	NA	NA
AS-1	11/14/1996	20	8.9	ND<0.020	ND<0.020	0.28	1.4	NA	NA	NA	NA	NA	NA
AS-2	11/15/1996		ND<1.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.015	NA	NA	NA	NA	NA	NA
AS-2	11/15/1996	5	ND<1.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.015	NA	NA	NA	NA	NA	NA
AS-2	11/15/1996	10	ND<1.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.015	NA	NA	NA	NA	NA	NA
AS-2	11/15/1996	15	ND<1.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.015	NA	NA	NA	NA	NA	NA
AS-2	11/15/1996	20	ND<1.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.015	NA	NA	NA	NA	NA	NA
SV-3	11/15/1996	5	ND<1.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.015	NA	NA	NA	NA	NA	NA
SV-3	11/15/1996	10	ND<1.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.015	NA	NA	NA	NA	NA	NA
SV-3	11/15/1996	15	ND<1.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.015	NA	NA	NA	NA	NA	NA
SV-3	11/15/1996	20	ND<1.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.015	NA	NA	NA	NA	NA	NA
SV-4	11/14/1996	5	ND<1.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.015	NA	NA	NA	NA	NA	NA
SV-4	11/14/1996	10	ND<1.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.015	NA	NA	NA	NA	NA	NA
SV-4	11/14/1996	15	ND<1.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.015	NA	NA	NA	NA	NA	NA
SV-4	11/14/1996	20	ND<1.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.015	NA	NA	NA	NA	NA	NA
SV-5	11/14/1996	5	ND<1.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.015	NA	NA	NA	NA	NA	NA
SV-5	11/14/1996	10	ND<1.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.015	NA	NA	NA	NA	NA	NA
SV-5	11/14/1996	15	ND<1.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.015	NA	NA	NA	NA	NA	NA
SV-5	11/14/1996	20	ND<1.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.015	NA	NA	NA	NA	NA	NA
SV-6	11/14/1996	5	ND<1.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.015	NA	NA	NA	NA	NA	NA
SV-6	11/14/1996	10	ND<1.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.015	NA	NA	NA	NA	NA	NA
SV-6	11/14/1996	15	ND<1.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.015	NA	NA	NA	NA	NA	NA
SV-6	11/14/1996	20	ND<1.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.015	NA	NA	NA	NA	NA	NA
SV-7	11/15/1996	5	ND<1.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.015	NA	NA	NA	NA	NA	NA
SV-7	11/15/1996	10	ND<1.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.015	NA	NA	NA	NA	NA	NA

TABLE 1
HISTORICAL SOIL ANALYTICAL RESULTS
ARCO Facility No. 6131
3201 Harbor Blvd.
Costa Mesa, CA

Sample I.D.	Date Sampled	Sample Depth	TPHg (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-Benzene (mg/kg)	Xylenes (mg/kg)	MTBE (mg/kg)	DIPE (mg/kg)	ETBE (mg/kg)	TAME (mg/kg)	TBA (mg/kg)	Ethanol (mg/kg)
SV-7	11/15/1996	15	ND<1.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.015	NA	NA	NA	NA	NA	NA
SV-7	11/15/1996	20	ND<1.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.015	NA	NA	NA	NA	NA	NA
SV-7	11/15/1996	25	ND<1.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.015	NA	NA	NA	NA	NA	NA
D1-3	8/19/1999	3	ND<1.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.015	NA	NA	NA	NA	NA	NA
D2-3	8/19/1999	3	ND<1.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.015	0.220	NA	NA	NA	NA	NA
D3-3	8/19/1999	3	1800	ND<1.7	ND<1.7	ND<1.7	ND<5.0	NA	NA	NA	NA	NA	NA
D4-3	8/19/1999	3	ND<1.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.015	NA	NA	NA	NA	NA	NA
D5-3	8/19/1999	3	ND<1.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.015	NA	NA	NA	NA	NA	NA
D6-3	8/19/1999	3	ND<1.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.015	NA	NA	NA	NA	NA	NA
D7-3	8/19/1999	3	ND<1.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.015	NA	NA	NA	NA	NA	NA
D8-3	8/19/1999	3	ND<1.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.015	NA	NA	NA	NA	NA	NA
P-1-3	4/27/2005	3	ND<1.0	ND<0.0020	ND<0.0020	ND<0.0020	ND<0.0040	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.10	ND<0.20
P-2-3	4/27/2005	3	ND<1.0	ND<0.0024	ND<0.0024	ND<0.0024	ND<0.0049	ND<0.0061	ND<0.0061	ND<0.0061	ND<0.0061	ND<0.12	ND<0.24
P-3-4	4/27/2005	4	ND<1.0	ND<0.0020	ND<0.0020	ND<0.0020	ND<0.0040	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.10	ND<0.20
P-4-3	4/28/2005	3	ND<1.0	ND<0.0020	ND<0.0020	ND<0.0020	ND<0.0040	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.10	ND<0.20
P-5-3	4/28/2005	3	ND<1.0	ND<0.0020	ND<0.0020	ND<0.0020	ND<0.0040	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.10	ND<0.20
P-6-3	4/28/2005	3	ND<1.0	ND<0.0020	ND<0.0020	ND<0.0020	ND<0.0040	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.10	ND<0.20
B-12-5	6/7/2005	5	ND<0.39	ND<0.0020	ND<0.0020	ND<0.0020	ND<0.0040	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.10	ND<0.30
B-12-10	6/7/2005	10	ND<0.38	ND<0.0020	ND<0.0020	ND<0.0020	ND<0.0040	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.10	ND<0.30
B-12-15	6/7/2005	15	ND<0.41	ND<0.0020	ND<0.0020	ND<0.0020	ND<0.0040	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.10	ND<0.30
B-12-20	6/7/2005	20	ND<0.39	ND<0.0020	ND<0.0020	ND<0.0020	ND<0.0040	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.10	ND<0.30
B-12-25	6/7/2005	25	ND<0.37	ND<0.0020	ND<0.0020	ND<0.0020	ND<0.0040	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.10	ND<0.30
B-12-30	6/7/2005	30	250	ND<0.0020	ND<0.0020	ND<0.0020	ND<0.0040	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.10	ND<0.30
B-13-5	6/7/2005	5	ND<0.37	ND<0.0020	ND<0.0020	ND<0.0020	ND<0.0040	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.10	ND<0.30
B-13-10	6/7/2005	10	ND<0.41	ND<0.0020	ND<0.0020	ND<0.0020	ND<0.0040	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.10	ND<0.30
B-13-15	6/7/2005	15	ND<0.40	ND<0.0020	ND<0.0020	ND<0.0020	ND<0.0040	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.10	ND<0.30
B-13-20	6/7/2005	20	ND<0.40	ND<0.0020	ND<0.0020	ND<0.0020	ND<0.0040	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.10	ND<0.30
B-13-25	6/7/2005	25	ND<0.39	ND<0.0020	ND<0.0020	ND<0.0020	ND<0.0040	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.10	ND<0.30
B-13-30	6/7/2005	30	0.58	0.0025	ND<0.0020	ND<0.0020	ND<0.0040	0.096	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.10	ND<0.30

TABLE 1
HISTORICAL SOIL ANALYTICAL RESULTS
ARCO Facility No. 6131
3201 Harbor Blvd.
Costa Mesa, CA

Sample I.D.	Date Sampled	Sample Depth	TPHg (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-Benzene (mg/kg)	Xylenes (mg/kg)	MTBE (mg/kg)	DIPE (mg/kg)	ETBE (mg/kg)	TAME (mg/kg)	TBA (mg/kg)	Ethanol (mg/kg)
B-14-5	8/29/2005	5	ND<0.87	ND<0.0016	ND<0.0016	ND<0.0016	ND<0.0032	ND<0.0040	ND<0.0040	ND<0.0040	ND<0.0040	ND<0.040	ND<0.24
B-14-10	8/29/2005	10	ND<0.84	ND<0.0017	ND<0.0017	ND<0.0017	ND<0.0034	ND<0.0042	ND<0.0042	ND<0.0042	ND<0.0042	ND<0.042	ND<0.25
B-14-15	9/6/2005	15	ND<1.2	ND<0.0023	ND<0.0023	ND<0.0023	ND<0.0046	ND<0.0057	ND<0.0057	ND<0.0057	ND<0.0057	ND<0.057	ND<0.34
B-14-20	9/6/2005	20	ND<1.0	ND<0.0020	ND<0.0020	ND<0.0020	ND<0.0040	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.050	ND<0.30
B-14-25	9/6/2005	25	ND<1.0	ND<0.0020	ND<0.0020	ND<0.0020	ND<0.0040	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.050	ND<0.30
B-14-30	9/6/2005	30	1200	ND<0.10	0.12	9.3	9.4	ND<0.25	ND<0.25	ND<0.25	ND<0.25	ND<5.0	ND<15
B-14-35	9/6/2005	35	ND<1.0	ND<0.0018	ND<0.0018	ND<0.0018	ND<0.0035	ND<0.0044	ND<0.0044	ND<0.0044	ND<0.0044	ND<0.044	ND<0.26

Notes: EPA = Environmental Protection Agency

mg/kg = Milligrams per kilogram

TPHg = Total petroleum hydrocarbons as gasoline

TRPH = Total recoverable petroleum hydrocarbons

MTBE = Methyl tert-butyl ether

DIPE = Di-isopropyl ether

ETBE = Ethyl tert-butyl ether

TAME = Tert-amyl methyl ether

TBA = Tert-butanol

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

NA = Not applicable

TPHg analysis by EPA 8015 Modified; TRPH analysis by EPA 418.1

Benzene, Toluene, Ethylbenzene, Xylenes, MTBE, DIPE, ETBE, TAME, TBA, and Ethanol analyses by EPA 8260B

TABLE 2
HISTORICAL GROUNDWATER GAUGING DATA
ARCO Facility No. 6131
3201 Harbor Blvd.
Costa Mesa, CA

Well	Date Measured	TOC Elevation (feet msl)	Depth to LPH (feet)	Depth to Water (feet)	LPH Thickness (feet)	Water Elevation (feet msl)	Comments
B-4	3/24/1993	30.74	NA	25.02	NA	5.72	
B-4	6/15/1993	30.74	NA	23.50	NA	7.24	
B-4	9/13/1993	30.74	NA	24.41	NA	6.33	
B-4	11/3/1993	30.74	NA	25.02	NA	5.72	
B-4	2/15/1994	30.74	NA	23.24	NA	7.50	
B-4	5/3/1994	30.74	NA	21.20	NA	9.54	
B-4	8/2/1994	30.74	NA	21.93	NA	8.81	
B-4	11/1/1994	30.74	NA	23.20	NA	7.54	
B-4	3/15/1995	30.74	NA	21.71	NA	9.03	
B-4	4/26/1995	30.74	NA	21.20	NA	9.54	
B-4	8/1/1995	30.73	NA	20.74	NA	9.99	
B-4	10/30/1995	30.73	NA	26.45	NA	4.28	
B-4	1/30/1996	30.73	NA	24.29	NA	6.44	
B-4	5/2/1996	30.73	NA	22.09	NA	8.64	
B-4	7/31/1996	30.73	NA	23.20	NA	7.53	
B-4	11/6/1996	30.73	NA	25.63	NA	5.10	
B-4	3/19/1997	30.73	NA	22.88	NA	7.85	
B-4	5/27/1997	30.73	NA	22.70	NA	8.03	
B-4	8/20/1997	30.52	NA	24.90	NA	5.62	
B-4	11/26/1997	30.52	NA	26.79	NA	3.73	
B-4	2/25/1998	30.52	NA	24.52	NA	6.00	
B-4	5/12/1998	30.52	NA	22.20	NA	8.32	
B-4	7/22/1998	30.52	NA	23.69	NA	6.83	
B-4	10/15/1998	30.52	NA	26.02	NA	4.50	
B-4	2/4/1999	30.52	NA	25.20	NA	5.32	
B-4	5/3/1999	30.52	NA	23.57	NA	6.95	
B-4	8/30/1999	30.52	NA	24.08	NA	6.44	
B-4	11/10/1999	30.52	NA	27.48	NA	3.04	
B-4	2/2/2000	30.52	NA	26.68	NA	3.84	
B-4	6/8/2000	30.52	NA	24.83	NA	5.69	
B-4	9/13/2000	30.52	NA	27.18	NA	3.34	
B-4	12/18/2000	30.52	NA	NA	NA	NA	Well not gauged due to sampling error
B-4	3/22/2001	30.52	NA	26.95	NA	3.57	
B-4	6/7/2001	30.52	NA	26.30	NA	4.22	
B-4	9/18/2001	30.52	NA	28.00	NA	2.52	
B-4	12/13/2001	30.52	NA	29.03	NA	1.49	
B-4	3/28/2002	30.52	NA	28.18	NA	2.34	
B-4	6/7/2002	30.52	NA	28.40	NA	2.12	
B-4	9/18/2002	30.52	NA	29.75	NA	0.77	
B-4	12/30/2002	30.52	NA	30.30	NA	0.22	
B-4	3/20/2003	30.52	NA	27.94	NA	2.58	
B-4	5/15/2003	30.52	NA	27.40	NA	3.12	
B-4	11/20/2003	30.52	NA	28.28	NA	2.24	
B-4	2/24/2004	30.52	NA	NA	NA	NA	Sampled semi-annually
B-4	5/25/2004	30.52	NA	25.95	NA	4.57	
B-4	8/26/2004	30.52	NA	26.86	NA	3.66	
B-4	11/19/2004	30.52	NA	26.64	NA	3.88	
B-4	2/25/2005	30.52	NA	24.10	NA	6.42	
B-4	5/27/2005	30.52	NA	22.87	NA	7.65	
B-5	3/24/1993	29.44	NA	23.26	NA	6.18	

TABLE 2
HISTORICAL GROUNDWATER GAUGING DATA
ARCO Facility No. 6131
3201 Harbor Blvd.
Costa Mesa, CA

Well	Date Measured	TOC Elevation (feet msl)	Depth to LPH (feet)	Depth to Water (feet)	LPH Thickness (feet)	Water Elevation (feet msl)	Comments
B-5	6/15/1993	29.44	NA	21.81	NA	7.63	
B-5	9/13/1993	29.44	NA	22.61	NA	6.83	
B-5	11/3/1993	29.44	NA	23.30	NA	6.14	
B-5	2/15/1994	29.44	NA	21.68	NA	7.76	
B-5	5/3/1994	29.44	NA	19.65	NA	9.79	
B-5	8/2/1994	29.44	NA	20.37	NA	9.07	
B-5	11/1/1994	29.44	NA	20.40	NA	9.04	
B-5	3/15/1995	29.44	NA	20.12	NA	9.32	
B-5	4/26/1995	29.44	NA	19.68	NA	9.76	
B-5	8/1/1995	29.42	NA	22.38	NA	7.04	
B-5	10/30/1995	29.42	NA	24.67	NA	4.75	
B-5	1/30/1996	29.42	NA	22.50	NA	6.92	
B-5	5/2/1996	29.42	NA	20.50	NA	8.92	
B-5	7/31/1996	29.42	NA	21.41	NA	8.01	
B-5	11/6/1996	29.42	NA	23.65	NA	5.77	
B-5	3/19/1997	29.42	NA	21.24	NA	8.18	
B-5	5/27/1997	29.42	NA	20.80	NA	8.62	
B-5	8/20/1997	29.21	NA	22.95	NA	6.26	
B-5	11/26/1997	29.21	NA	24.71	NA	4.50	
B-5	2/25/1998	29.21	NA	22.79	NA	6.42	
B-5	5/12/1998	29.21	NA	20.60	NA	8.61	
B-5	7/22/1998	29.21	NA	21.08	NA	8.13	
B-5	10/15/1998	29.21	NA	23.90	NA	5.31	
B-5	2/4/1999	29.21	NA	23.30	NA	5.91	
B-5	5/3/1999	29.21	NA	22.88	NA	6.33	
B-5	8/30/1999	29.21	NA	23.93	NA	5.28	
B-5	11/10/1999	29.21	NA	25.26	NA	3.95	
B-5	2/2/2000	29.21	NA	24.68	NA	4.53	
B-5	6/8/2000	29.21	NA	22.90	NA	6.31	
B-5	9/13/2000	29.21	NA	24.92	NA	4.29	
B-5	12/18/2000	29.21	NA	NA	NA	NA	Well not gauged due to sampling error
B-5	3/22/2001	29.21	NA	24.84	NA	4.37	
B-5	6/7/2001	29.21	NA	24.25	NA	4.96	
B-5	9/18/2001	29.21	NA	25.65	NA	3.56	
B-5	12/13/2001	29.21	NA	26.81	NA	2.40	
B-5	3/28/2002	29.21	NA	26.15	NA	3.06	
B-5	6/7/2002	29.21	NA	26.21	NA	3.00	
B-5	9/18/2002	29.21	NA	27.48	NA	1.73	
B-5	12/30/2002	29.21	NA	28.24	NA	0.97	
B-5	3/20/2003	29.21	NA	25.98	NA	3.23	
B-5	5/15/2003	29.21	NA	25.30	NA	3.91	
B-5	11/20/2003	29.21	NA	26.07	NA	3.14	
B-5	2/24/2004	29.21	NA	NA	NA	NA	Sampled semi-annually
B-5	5/25/2004	29.21	NA	24.00	NA	5.21	
B-5	8/26/2004	29.21	NA	24.83	NA	4.38	
B-5	11/19/2004	29.21	NA	24.61	NA	4.60	
B-5	2/25/2005	29.21	NA	22.42	NA	6.79	
B-5	5/27/2005	29.21	NA	21.18	NA	8.03	
B-6	3/24/1993	31.13	NA	25.77	NA	5.36	
B-6	6/15/1993	31.13	NA	24.06	NA	7.07	

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Costa Mesa, CA

Well	Date Measured	TOC Elevation (feet msl)	Depth to LPH (feet)	Depth to Water (feet)	LPH Thickness (feet)	Water Elevation (feet msl)	Comments
B-6	9/13/1993	31.13	NA	24.98	NA	6.15	
B-6	11/3/1993	31.13	NA	26.41	NA	4.72	
B-6	2/15/1994	31.13	NA	23.88	NA	7.25	
B-6	5/3/1994	31.13	NA	21.83	NA	9.30	
B-6	8/2/1994	31.13	NA	22.42	NA	8.71	
B-6	11/1/1994	31.13	NA	24.10	NA	7.03	
B-6	3/15/1995	31.13	NA	22.30	NA	8.83	
B-6	4/26/1995	31.13	NA	21.70	NA	9.43	
B-6	8/1/1995	31.13	NA	22.86	NA	8.27	
B-6	10/30/1995	31.13	NA	26.93	NA	4.20	
B-6	1/30/1996	31.13	NA	24.80	NA	6.33	
B-6	5/2/1996	31.13	NA	22.66	NA	8.47	
B-6	7/31/1996	31.13	NA	23.63	NA	7.50	
B-6	11/6/1996	31.13	NA	26.16	NA	4.97	
B-6	3/19/1997	31.13	NA	23.74	NA	7.39	
B-6	5/27/1997	31.13	NA	23.16	NA	7.97	
B-6	8/20/1997	31.19	NA	25.60	NA	5.59	
B-6	11/26/1997	31.19	NA	27.46	NA	3.73	
B-6	2/25/1998	31.19	NA	25.98	NA	5.21	
B-6	5/12/1998	31.19	NA	23.00	NA	8.19	
B-6	7/22/1998	31.19	NA	24.35	NA	6.84	
B-6	10/15/1998	31.19	NA	26.89	NA	4.30	
B-6	2/4/1999	31.19	NA	25.95	NA	5.24	
B-6	5/3/1999	31.19	NA	24.35	NA	6.84	
B-6	8/30/1999	31.19	NA	NA	NA	NA	Well not accessible due to construction activities
B-6	11/10/1999	31.19	NA	28.17	NA	3.02	
B-6	2/2/2000	31.19	NA	27.45	NA	3.74	
B-6	6/8/2000	31.19	NA	25.44	NA	5.75	
B-6	9/13/2000	31.19	NA	27.92	NA	3.27	
B-6	12/18/2000	31.19	NA	29.04	NA	2.15	
B-6	3/22/2001	31.19	NA	27.68	NA	3.51	
B-6	6/7/2001	31.19	NA	27.00	NA	4.19	
B-6	9/18/2001	31.19	NA	28.65	NA	2.54	
B-6	12/13/2001	31.19	NA	29.70	NA	1.49	
B-6	3/28/2002	31.19	NA	28.92	NA	2.27	
B-6	6/7/2002	31.19	NA	29.15	NA	2.04	
B-6	9/18/2002	31.19	NA	30.40	NA	0.79	
B-6	12/30/2002	31.19	31.08	31.08	Sheen	0.11	
B-6	3/20/2003	31.19	27.73	27.73	Sheen	3.46	
B-6	5/15/2003	31.19	28.31	28.31	Sheen	2.88	
B-6	8/12/2003	31.19	29.04	29.04	Sheen	2.15	
B-6	11/20/2003	31.19	NA	29.01	NA	2.18	
B-6	2/24/2004	31.19	NA	27.96	NA	3.23	
B-6	5/25/2004	31.19	NA	26.78	NA	4.41	
B-6	8/26/2004	31.19	NA	26.00	NA	5.19	
B-6	11/19/2004	31.19	NA	27.41	NA	3.78	
B-6	2/25/2005	31.19	NA	24..87	NA	7.19	
B-6	5/27/2005	31.19	NA	23.61	NA	7.58	
B-8	8/22/1996	NA	NA	25.40	NA	NA	Well not surveyed
B-8	11/6/1996	NA	NA	27.30	NA	NA	Well not surveyed

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Well	Date Measured	TOC Elevation (feet msl)	Depth to LPH (feet)	Depth to Water (feet)	LPH Thickness (feet)	Water Elevation (feet msl)	Comments
B-8	3/19/1997	NA	NA	24.26	NA	NA	Well not surveyed
B-8	5/27/1997	NA	NA	23.76	NA	NA	Well not surveyed
B-8	8/20/1997	31.67	NA	26.52	NA	5.15	
B-8	11/26/1997	31.67	NA	28.46	NA	3.21	
B-8	2/25/1998	31.67	NA	25.97	NA	5.70	
B-8	5/12/1998	31.67	NA	23.55	NA	8.12	
B-8	7/22/1998	31.67	NA	25.28	NA	6.39	
B-8	10/15/1998	31.67	NA	28.80	NA	2.87	
B-8	2/4/1999	31.67	NA	26.75	NA	4.92	
B-8	5/3/1999	31.67	NA	25.12	NA	6.55	
B-8	8/30/1999	31.67	NA	27.87	NA	3.80	
B-8	11/10/1999	31.67	NA	29.25	NA	2.42	
B-8	2/2/2000	31.67	NA	28.33	NA	3.34	
B-8	6/8/2000	31.67	NA	26.50	NA	5.17	
B-8	9/13/2000	31.67	NA	29.02	NA	2.65	
B-8	12/18/2000	31.67	NA	NA	NA	NA	Well not gauged due to sampling error
B-8	3/22/2001	31.67	NA	28.67	NA	3.00	
B-8	6/7/2001	31.67	NA	27.96	NA	3.71	
B-8	9/18/2001	31.67	NA	29.80	NA	1.87	
B-8	12/13/2001	31.67	NA	30.75	NA	0.92	
B-8	3/28/2002	31.67	NA	29.75	NA	1.92	
B-8	6/7/2002	31.67	NA	30.10	NA	1.57	
B-8	9/18/2002	31.67	NA	31.45	NA	0.22	
B-8	12/30/2002	31.67	NA	31.96	NA	-0.29	
B-8	3/20/2003	31.67	NA	29.57	NA	2.10	
B-8	5/15/2003	31.67	NA	29.11	NA	2.56	
B-8	8/12/2003	31.67	NA	30.01	NA	1.66	
B-8	11/20/2003	31.67	NA	30.00	NA	1.67	
B-8	2/24/2004	31.67	NA	28.75	NA	2.92	
B-8	5/25/2004	31.67	NA	27.58	NA	4.09	
B-8	8/26/2004	31.67	NA	28.57	NA	3.10	
B-8	11/19/2004	31.67	NA	28.30	NA	3.37	
B-8	2/25/2005	31.67	NA	25.50	NA	6.17	
B-8	5/27/2005	31.67	NA	24.31	NA	7.36	
B-9	8/22/1996	NA	NA	24.25	NA	NA	Well not surveyed
B-9	11/6/1996	NA	NA	26.20	NA	NA	Well not surveyed
B-9	3/19/1997	NA	NA	NA	NA	NA	Not accessible; well covered with asphalt
B-9	5/27/1997	NA	NA	NA	NA	NA	Not accessible; well covered with asphalt
B-9	8/20/1997	30.84	NA	25.37	NA	5.47	
B-9	11/26/1997	30.84	NA	27.38	NA	3.46	
B-9	2/25/1998	30.84	NA	24.96	NA	5.88	
B-9	5/12/1998	30.84	NA	22.70	NA	8.14	
B-9	7/22/1998	30.84	NA	24.08	NA	6.76	
B-9	10/15/1998	30.84	NA	26.52	NA	4.32	
B-9	2/4/1999	30.84	NA	25.70	NA	5.14	
B-9	5/3/1999	30.84	NA	24.09	NA	6.75	
B-9	8/30/1999	30.84	NA	26.59	NA	4.25	
B-9	11/10/1999	30.84	NA	27.99	NA	2.85	
B-9	2/2/2000	30.84	NA	27.27	NA	3.57	
B-9	6/8/2000	30.84	NA	25.35	NA	5.49	

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Well	Date Measured	TOC Elevation (feet msl)	Depth to LPH (feet)	Depth to Water (feet)	LPH Thickness (feet)	Water Elevation (feet msl)	Comments
B-9	9/13/2000	30.84	NA	27.74	NA	3.10	
B-9	12/18/2000	30.84	NA	28.78	NA	2.06	
B-9	3/22/2001	30.84	NA	27.48	NA	3.36	
B-9	6/7/2001	30.84	NA	26.73	NA	4.11	
B-9	9/18/2001	30.84	NA	28.46	NA	2.38	
B-9	12/13/2001	30.84	NA	29.51	NA	1.33	
B-9	3/28/2002	30.84	NA	28.67	NA	2.17	
B-9	6/7/2002	30.84	NA	28.93	NA	1.91	
B-9	9/18/2002	30.84	NA	30.23	NA	0.61	
B-9	12/30/2002	30.84	NA	30.92	NA	-0.08	
B-9	3/20/2003	30.84	NA	28.57	NA	2.27	
B-9	5/15/2003	30.84	NA	28.09	NA	2.75	
B-9	8/12/2003	30.84	NA	28.91	NA	1.93	
B-9	11/20/2003	30.84	NA	28.90	NA	1.94	
B-9	2/24/2004	30.84	NA	27.81	NA	3.03	
B-9	5/25/2004	30.84	NA	26.60	NA	4.24	
B-9	8/26/2004	30.84	NA	27.47	NA	3.37	
B-9	11/19/2004	30.84	NA	27.24	NA	3.60	
B-9	2/25/2005	30.84	NA	24.61	NA	6.23	
B-9	5/27/2005	30.84	NA	23.32	NA	7.52	
B-10	11/1/1994	NA	NA	23.19	NA	NA	Well not surveyed
B-10	3/15/1995	NA	NA	22.22	NA	NA	Well not surveyed
B-10	4/26/1995	NA	NA	21.70	NA	NA	Well not surveyed
B-10	8/1/1995	30.98	NA	22.79	NA	8.19	
B-10	10/30/1995	30.98	NA	26.92	NA	4.06	
B-10	1/30/1996	30.98	NA	24.78	NA	6.20	
B-10	5/2/1996	30.98	NA	22.72	NA	8.26	
B-10	7/31/1996	30.98	NA	23.58	NA	7.40	
B-10	11/6/1996	30.98	NA	26.25	NA	4.73	
B-10	3/19/1997	30.98	NA	23.48	NA	7.50	
B-10	5/27/1997	30.98	NA	22.94	NA	8.04	
B-10	8/20/1997	30.77	NA	25.42	NA	5.35	
B-10	11/26/1997	30.77	NA	27.44	NA	3.33	
B-10	2/25/1998	30.77	NA	24.91	NA	5.86	
B-10	5/12/1998	30.77	NA	22.75	NA	8.02	
B-10	7/22/1998	30.77	NA	24.00	NA	6.77	
B-10	10/15/1998	30.77	NA	26.44	NA	4.33	
B-10	2/4/1999	30.77	NA	25.70	NA	5.07	
B-10	5/3/1999	30.77	NA	24.12	NA	6.65	
B-10	8/30/1999	30.77	NA	25.51	NA	5.26	
B-10	11/10/1999	30.77	NA	27.80	NA	2.97	
B-10	2/2/2000	30.77	NA	27.17	NA	3.60	
B-10	6/8/2000	30.77	NA	25.35	NA	5.42	
B-10	9/13/2000	30.77	NA	27.55	NA	3.22	
B-10	12/18/2000	30.77	NA	NA	NA	NA	Well not gauged due to sampling error
B-10	3/22/2001	30.77	NA	27.33	NA	3.44	
B-10	6/7/2001	30.77	NA	26.62	NA	4.15	
B-10	9/18/2001	30.77	NA	28.31	NA	2.46	
B-10	9/18/2001	30.77	NA	28.31	NA	2.46	
B-10	12/13/2001	30.77	NA	NA	NA	NA	Not gauged; city would not allow street sampling

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Well	Date Measured	TOC Elevation (feet msl)	Depth to LPH (feet)	Depth to Water (feet)	LPH Thickness (feet)	Water Elevation (feet msl)	Comments
B-10	3/28/2002	30.77	NA	28.60	NA	2.17	
B-10	6/7/2002	30.77	NA	28.80	NA	1.97	
B-10	9/18/2002	30.77	NA	30.05	NA	0.72	
B-10	12/30/2002	30.77	NA	NA	NA	NA	Not gauged; city would not allow street sampling
B-10	3/20/2003	30.77	NA	28.72	NA	2.05	
B-10	5/15/2003	30.77	NA	28.00	NA	2.77	
B-10	8/12/2003	30.77	NA	28.77	NA	2.00	
B-10	11/20/2003	30.77	NA	28.81	NA	1.96	
B-10	2/24/2004	30.77	NA	27.72	NA	3.05	
B-10	5/25/2004	30.77	NA	26.53	NA	4.24	
B-10	8/26/2004	30.77	NA	27.38	NA	3.39	
B-10	11/19/2004	30.77	NA	27.13	NA	3.64	
B-10	2/25/2005	30.77	NA	24.55	NA	6.22	
B-10	5/27/2005	30.77	NA	23.34	NA	7.43	
B-11	11/1/1994	NA	NA	NA	NA	NA	Not gauged; well destroyed during sewer construction
EA-1	9/18/1992	30.79	NA	28.07	NA	2.72	
EA-1	3/24/1993	30.96	NA	25.12	NA	5.84	
EA-1	6/15/1993	30.96	NA	23.62	NA	7.34	
EA-1	9/13/1993	30.96	NA	24.42	NA	6.54	
EA-1	11/3/1993	30.96	NA	26.00	NA	4.96	
EA-1	2/15/1994	30.96	NA	23.61	NA	7.35	
EA-1	5/3/1994	30.96	NA	21.68	NA	9.28	
EA-1	8/2/1994	30.96	NA	22.08	NA	8.88	
EA-1	11/1/1994	30.96	NA	22.00	NA	8.96	
EA-1	3/15/1995	30.96	NA	22.28	NA	8.68	
EA-1	4/26/1995	30.96	NA	21.35	NA	9.61	
EA-1	8/1/1995	30.94	NA	22.50	NA	8.44	
EA-1	10/30/1995	30.94	NA	26.52	NA	4.42	
EA-1	1/30/1996	30.94	NA	24.38	NA	6.56	
EA-1	5/2/1996	30.94	NA	22.22	NA	8.72	
EA-1	7/31/1996	30.94	NA	23.26	NA	7.68	
EA-1	11/6/1996	30.94	NA	25.70	NA	5.24	
EA-1	3/19/1997	30.94	NA	23.30	NA	7.64	
EA-1	5/27/1997	30.94	NA	22.50	NA	8.44	
EA-1	8/20/1997	30.75	NA	24.93	NA	5.82	
EA-1	11/26/1997	30.75	NA	26.80	NA	3.95	
EA-1	2/25/1998	30.75	NA	24.73	NA	6.02	
EA-1	5/12/1998	30.75	NA	22.45	NA	8.30	
EA-1	7/22/1998	30.75	NA	23.47	NA	7.28	
EA-1	10/15/1998	30.75	NA	26.00	NA	4.75	
EA-1	2/4/1999	30.75	NA	25.25	NA	5.50	
EA-1	5/3/1999	30.75	NA	23.77	NA	6.98	
EA-1	8/30/1999	30.75	NA	26.02	NA	4.73	
EA-1	11/10/1999	30.75	NA	27.43	NA	3.32	
EA-1	2/2/2000	30.75	NA	26.69	NA	4.06	
EA-1	6/8/2000	30.75	NA	24.85	NA	5.90	
EA-1	9/13/2000	30.75	NA	27.11	NA	3.64	
EA-1	12/18/2000	30.75	NA	NA	NA	NA	Well not gauged due to sampling error
EA-1	3/22/2001	30.75	NA	26.91	NA	3.84	
EA-1	6/7/2001	30.75	NA	26.29	NA	4.46	

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Well	Date Measured	TOC Elevation (feet msl)	Depth to LPH (feet)	Depth to Water (feet)	LPH Thickness (feet)	Water Elevation (feet msl)	Comments
EA-1	9/18/2001	30.75	NA	27.90	NA	2.85	
EA-1	12/13/2001	30.75	NA	28.98	NA	1.77	
EA-1	3/28/2002	30.75	NA	28.17	NA	2.58	
EA-1	6/7/2002	30.75	NA	28.37	NA	2.38	
EA-1	9/18/2002	30.75	NA	29.70	NA	1.05	
EA-1	12/30/2002	30.75	NA	29.42	NA	1.33	
EA-1	3/20/2003	30.75	NA	28.00	NA	2.75	
EA-1	5/15/2003	30.75	NA	27.42	NA	3.33	
EA-1	11/20/2003	30.75	NA	28.25	NA	2.50	
EA-1	2/24/2004	30.75	NA	NA	NA	NA	Sampled semi-annually
EA-1	5/25/2004	30.75	NA	26.00	NA	4.75	
EA-1	8/26/2004	30.75	NA	26.93	NA	3.82	
EA-1	11/19/2004	30.75	NA	26.65	NA	4.10	
EA-1	2/25/2005	30.75	NA	24.23	NA	6.52	
EA-1	5/27/2005	30.75	NA	22.98	NA	7.77	
EA-2	9/18/1992	31.40	NA	28.95	NA	2.45	
EA-2	3/24/1993	31.46	NA	25.94	NA	5.52	
EA-2	6/15/1993	31.46	NA	24.33	NA	7.13	
EA-2	9/13/1993	31.46	NA	25.19	NA	6.27	
EA-2	11/3/1993	31.46	NA	26.38	NA	5.08	
EA-2	2/15/1994	31.46	NA	24.14	NA	7.32	
EA-2	5/3/1994	31.46	NA	22.13	NA	9.33	
EA-2	8/2/1994	31.46	NA	22.71	NA	8.75	
EA-2	11/1/1994	31.46	NA	23.26	NA	8.20	
EA-2	3/15/1995	31.46	NA	22.58	NA	8.88	
EA-2	4/26/1995	31.46	NA	22.00	NA	9.46	
EA-2	8/1/1995	31.44	NA	23.11	NA	8.33	
EA-2	10/30/1995	31.44	NA	27.19	NA	4.25	
EA-2	1/30/1996	31.44	NA	25.07	NA	6.37	
EA-2	5/2/1996	31.44	NA	22.95	NA	8.49	
EA-2	7/31/1996	31.44	NA	23.88	NA	7.56	
EA-2	11/6/1996	31.44	NA	26.40	NA	5.04	
EA-2	3/19/1997	31.44	NA	23.76	NA	7.68	
EA-2	5/27/1997	31.44	NA	23.22	NA	8.22	
EA-2	8/20/1997	31.25	NA	21.45	NA	9.80	
EA-2	11/26/1997	31.25	NA	27.65	NA	3.60	
EA-2	2/25/1998	31.25	NA	25.31	NA	5.94	
EA-2	5/12/1998	31.25	NA	23.02	NA	8.23	
EA-2	7/22/1998	31.25	NA	24.35	NA	6.90	
EA-2	10/15/1998	31.25	NA	26.66	NA	4.59	
EA-2	2/4/1999	31.25	NA	25.96	NA	5.29	
EA-2	5/3/1999	31.25	NA	24.35	NA	6.90	
EA-2	8/30/1999	31.25	NA	NA	NA	NA	Well not accessible due to construction activities
EA-2	11/10/1999	31.25	NA	28.13	NA	3.12	
EA-2	2/2/2000	31.25	NA	27.43	NA	3.82	
EA-2	6/8/2000	31.25	NA	25.57	NA	5.68	
EA-2	9/13/2000	31.25	NA	27.86	NA	3.39	
EA-2	12/18/2000	31.25	NA	29.01	NA	2.24	
EA-2	3/22/2001	31.25	NA	27.65	NA	3.60	
EA-2	6/7/2001	31.25	NA	26.95	NA	4.30	

TABLE 2
HISTORICAL GROUNDWATER GAUGING DATA
ARCO Facility No. 6131
3201 Harbor Blvd.
Costa Mesa, CA

Well	Date Measured	TOC Elevation (feet msl)	Depth to LPH (feet)	Depth to Water (feet)	LPH Thickness (feet)	Water Elevation (feet msl)	Comments
EA-2	9/18/2001	31.25	NA	28.61	NA	2.64	
EA-2	12/13/2001	31.25	NA	29.67	NA	1.58	
EA-2	3/28/2002	31.25	NA	28.87	NA	2.38	
EA-2	6/7/2002	31.25	NA	29.10	NA	2.15	
EA-2	9/18/2002	31.25	NA	30.34	NA	0.91	
EA-2	12/30/2002	31.25	NA	31.09	NA	0.16	
EA-2	3/20/2003	31.25	NA	28.72	NA	2.53	
EA-2	5/15/2003	31.25	NA	28.21	NA	3.04	
EA-2	8/12/2003	31.25	NA	29.00	NA	2.25	
EA-2	11/20/2003	31.25	NA	29.01	NA	2.24	
EA-2	2/24/2004	31.25	NA	27.95	NA	3.30	
EA-2	5/25/2004	31.25	NA	26.78	NA	4.47	
EA-2	8/26/2004	31.25	NA	27.61	NA	3.64	
EA-2	11/19/2004	31.25	NA	27.37	NA	3.88	
EA-2	2/25/2005	31.25	NA	24.89	NA	6.36	
EA-2	5/27/2005	31.25	NA	23.63	NA	7.62	
EA-3	9/18/1992	29.69	NA	26.43	NA	3.26	
EA-3	3/24/1993	29.80	NA	23.80	NA	6.00	
EA-3	6/15/1993	29.80	NA	22.27	NA	7.53	
EA-3	9/13/1993	29.80	NA	23.03	NA	6.77	
EA-3	11/3/1993	29.80	NA	24.00	NA	5.80	
EA-3	2/15/1994	29.80	NA	22.21	NA	7.59	
EA-3	5/3/1994	29.80	NA	20.24	NA	9.56	
EA-3	8/2/1994	29.80	NA	20.81	NA	8.99	
EA-3	11/1/1994	29.80	NA	22.17	NA	7.63	
EA-3	3/15/1995	29.80	NA	20.69	NA	9.11	
EA-3	4/26/1995	29.80	NA	20.15	NA	9.65	
EA-3	8/1/1995	29.79	NA	21.18	NA	8.61	
EA-3	10/30/1995	29.79	NA	25.08	NA	4.71	
EA-3	1/30/1996	29.79	NA	22.96	NA	6.83	
EA-3	5/2/1996	29.79	NA	20.98	NA	8.81	
EA-3	7/31/1996	29.79	NA	21.83	NA	7.96	
EA-3	11/6/1996	29.79	NA	24.10	NA	5.69	
EA-3	3/19/1997	29.79	NA	21.80	NA	7.99	
EA-3	5/27/1997	29.79	NA	21.24	NA	8.55	
EA-3	8/20/1997	29.62	NA	23.33	NA	6.29	
EA-3	11/26/1997	29.62	NA	25.18	NA	4.44	
EA-3	2/25/1998	29.62	NA	24.31	NA	5.31	
EA-3	5/12/1998	29.62	NA	21.50	NA	8.12	
EA-3	7/22/1998	29.62	NA	22.20	NA	7.42	
EA-3	10/15/1998	29.62	NA	24.23	NA	5.39	
EA-3	2/4/1999	29.62	NA	23.75	NA	5.87	
EA-3	5/3/1999	29.62	NA	22.41	NA	7.21	
EA-3	8/30/1999	29.62	NA	24.30	NA	5.32	
EA-3	11/10/1999	29.62	NA	25.64	NA	3.98	
EA-3	2/2/2000	29.62	NA	25.09	NA	4.53	
EA-3	6/8/2000	29.62	NA	23.32	NA	6.30	
EA-3	9/13/2000	29.62	NA	25.34	NA	4.28	
EA-3	12/18/2000	29.62	NA	NA	NA	NA	Well not gauged due to sampling error
EA-3	3/22/2001	29.62	NA	25.26	NA	4.36	

TABLE 2
HISTORICAL GROUNDWATER GAUGING DATA
ARCO Facility No. 6131
3201 Harbor Blvd.
Costa Mesa, CA

Well	Date Measured	TOC Elevation (feet msl)	Depth to LPH (feet)	Depth to Water (feet)	LPH Thickness (feet)	Water Elevation (feet msl)	Comments
EA-3	6/7/2001	29.62	NA	24.62	NA	5.00	
EA-3	9/18/2001	29.62	NA	26.10	NA	3.52	
EA-3	12/13/2001	29.62	NA	27.23	NA	2.39	
EA-3	3/28/2002	29.62	NA	26.57	NA	3.05	
EA-3	6/7/2002	29.62	NA	26.67	NA	2.95	
EA-3	9/18/2002	29.62	NA	27.90	NA	1.72	
EA-3	12/30/2002	29.62	NA	28.73	NA	0.89	
EA-3	3/20/2003	29.62	NA	26.48	NA	3.14	
EA-3	5/15/2003	29.62	NA	25.84	NA	3.78	
EA-3	11/20/2003	29.62	NA	26.63	NA	2.99	
EA-3	2/24/2004	29.62	NA	NA	NA	NA	Sampled semi-annually
EA-3	5/25/2004	29.62	NA	24.50	NA	5.12	
EA-3	8/26/2004	29.62	NA	25.34	NA	4.28	
EA-3	11/19/2004	29.62	NA	25.08	NA	4.54	
EA-3	2/25/2005	29.62	NA	22.89	NA	6.73	
EA-3	5/27/2005	29.62	NA	21.58	NA	8.04	

Notes: TOC = Top of casing (resurveyed 9/24/97; benchmark 1F-126-69; elevation relative to mean sea level = 29.444 feet)

LPH = Liquid-phase hydrocarbons

Water Elevation = (TOC elevation - depth to water) + (LPH thickness x 0.75)

NA = Not applicable

All values are given in feet

msl = mean sea level

TABLE 3

HISTORICAL GROUNDWATER ANALYTICAL RESULTS

ARCO Facility No. 6131
3201 Harbor Blvd.
Costa Mesa, CA

Well	Date Sampled	TPHg (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-Benzene (µg/L)	Xylenes (µg/L)	MTBE 8020/ 8021B (µg/L)	MTBE 8240/ 8260B (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	TBA (µg/L)	Ethanol (µg/L)	Comments
B-4	3/24/1993	1700	38	9.5	9.5	13	NA	NA	NA	NA	NA	NA	NA	
B-4	6/15/1993	1100	12	ND<0.3	2.2	1.5	NA	NA	NA	NA	NA	NA	NA	
B-4	9/13/1993	1200	28	18	11	11	NA	NA	NA	NA	NA	NA	NA	
B-4	11/3/1993	2400	14	ND<3.0	11	4.2	NA	NA	NA	NA	NA	NA	NA	
B-4	2/15/1994	1600	33	0.92	5.7	4.5	NA	NA	NA	NA	NA	NA	NA	
B-4	5/3/1994	990	9.7	1.1	2.1	1.1	NA	NA	NA	NA	NA	NA	NA	
B-4	8/2/1994	1100	6.1	0.85	2.4	1.1	NA	NA	NA	NA	NA	NA	NA	
B-4	11/1/1994	750	4.6	2.3	2.1	ND<0.6	NA	NA	NA	NA	NA	NA	NA	
B-4	3/15/1995	900	1.4	ND<0.3	2.6	ND<0.6	NA	NA	NA	NA	NA	NA	NA	
B-4	4/26/1995	350	1.1	ND<0.30	ND<0.30	ND<0.60	NA	NA	NA	NA	NA	NA	NA	
B-4	8/1/1995	610	0.36	ND<0.30	1.3	ND<0.60	NA	NA	NA	NA	NA	NA	NA	
B-4	10/30/1995	970	ND<0.60	1.0	2.1	1.5	NA	NA	NA	NA	NA	NA	NA	
B-4	1/30/1996	800	ND<0.30	1.2	2.9	ND<0.60	NA	NA	NA	NA	NA	NA	NA	
B-4	5/2/1996	320	ND<0.30	ND<0.30	0.36	ND<0.60	32	NA	NA	NA	NA	NA	NA	
B-4	7/31/1996	500	4.2	ND<0.30	3.0	2.4	32	NA	NA	NA	NA	NA	NA	
B-4	11/6/1996	760	6.7	ND<0.60	2.9	3.3	66	NA	NA	NA	NA	NA	NA	
B-4	3/19/1997	280	ND<0.30	0.52	0.34	ND<0.60	52	NA	NA	NA	NA	NA	NA	No purge sampling
B-4	5/27/1997	140	ND<0.30	ND<0.30	ND<0.30	ND<0.60	150	NA	NA	NA	NA	NA	NA	No purge sampling
B-4	8/20/1997	500	4.7	0.44	1.1	1.5	47	NA	NA	NA	NA	NA	NA	No purge sampling
B-4	11/26/1997	370	3.9	0.43	0.68	2.4	43	NA	NA	NA	NA	NA	NA	No purge sampling
B-4	2/25/1998	140	1.3	ND<0.30	ND<0.30	1.0	180	NA	NA	NA	NA	NA	NA	No purge sampling
B-4	5/12/1998	ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	150	NA	NA	NA	NA	NA	NA	No purge sampling
B-4	7/22/1998	62	ND<0.30	ND<0.30	ND<0.30	ND<0.60	100	NA	NA	NA	NA	NA	NA	No purge sampling
B-4	10/15/1998	450	ND<0.30	6.3	0.52	2.9	64	NA	NA	NA	NA	NA	NA	No purge sampling
B-4	2/4/1999	77	0.73	ND<0.30	0.31	0.67	80	NA	NA	NA	NA	NA	NA	No purge sampling
B-4	5/3/1999	ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	20	NA	NA	NA	NA	NA	NA	No purge sampling
B-4	8/30/1999	100	1.1	ND<0.30	ND<0.30	0.62	NA	ND<5.0	NA	NA	NA	NA	NA	No purge sampling
B-4	11/10/1999	ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	NA	ND<5.0	NA	NA	NA	NA	NA	No purge sampling
B-4	2/2/2000	ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	ND<10	NA	NA	NA	NA	NA	NA	No purge sampling
B-4	6/8/2000	ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	ND<10	NA	NA	NA	NA	NA	NA	No purge sampling
B-4	9/13/2000	ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	NA	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<50	NA	No purge sampling
B-4	12/18/2000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Well not sampled due to sampling error
B-4	3/22/2001	ND<50	0.30	1.5	0.34	1.9	NA	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<50	NA	No purge sampling
B-4	6/7/2001	ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	NA	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<50	NA	No purge sampling
B-4	9/18/2001	ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	NA	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<50	NA	No purge sampling
B-4	12/13/2001	ND<50	0.35	2.1	0.52	3.0	NA	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<50	NA	No purge sampling

TABLE 3

HISTORICAL GROUNDWATER ANALYTICAL RESULTS

ARCO Facility No. 6131
3201 Harbor Blvd.
Costa Mesa, CA

Well	Date Sampled	TPHg (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-Benzene (µg/L)	Xylenes (µg/L)	MTBE 8020/ 8021B (µg/L)	MTBE 8240/ 8260B (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	TBA (µg/L)	Ethanol (µg/L)	Comments
B-4	3/28/2002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
B-4	6/7/2002	ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	NA	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<50	NA	No purge sampling
B-4	9/18/2002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
B-4	12/30/2002	ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	NA	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<50	NA	No purge sampling
B-4	3/20/2003	ND<50	ND<2.0	ND<2.0	ND<2.0	ND<4.0	NA	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<50	ND<150	No purge sampling
B-4	5/15/2003	ND<50	ND<0.500	ND<0.500	ND<0.500	ND<0.500	NA	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<25.0	ND<50.0	No purge sampling
B-4	8/12/2003	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Sampled semi-annually
B-4	11/20/2003	ND<50	ND<2.0	ND<2.0	ND<2.0	ND<4.0	NA	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<50	ND<150	No purge sampling
B-4	2/24/2004	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Sampled semi-annually
B-4	5/25/2004	ND<50	ND<2.0	ND<2.0	ND<2.0	ND<4.0	NA	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<50	ND<150	No purge sampling
B-4	8/26/2004	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Sampled semi-annually
B-4	11/19/2004	ND<50	ND<2.0	ND<2.0	ND<2.0	ND<4.0	NA	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<50	ND<150	No purge sampling
B-4	2/25/2005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Sampled semi-annually
B-4	5/27/2005	ND<50	ND<2.0	ND<2.0	ND<2.0	ND<4.0	NA	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<50	ND<150	No purge sampling
B-5	3/24/1993	1100	220	28	30	32	NA	NA	NA	NA	NA	NA	NA	
B-5	6/15/1993	1400	18	5.7	ND<5.0	9.0	NA	NA	NA	NA	NA	NA	NA	
B-5	9/13/1993	800	100	6.2	14	8.2	NA	NA	NA	NA	NA	NA	NA	
B-5	11/3/1993	2000	140	9.0	36	24	NA	NA	NA	NA	NA	NA	NA	
B-5	2/15/1994	1100	170	3.1	7.3	6.7	NA	NA	NA	NA	NA	NA	NA	
B-5	5/3/1994	260	45	1.2	2.9	24	NA	NA	NA	NA	NA	NA	NA	
B-5	8/2/1994	310	31	1.2	6.4	3.2	NA	NA	NA	NA	NA	NA	NA	
B-5	11/1/1994	460	29	0.98	3.8	2.5	NA	NA	NA	NA	NA	NA	NA	
B-5	3/15/1995	160	6.7	ND<0.3	ND<0.3	ND<0.6	NA	NA	NA	NA	NA	NA	NA	
B-5	4/26/1995	590	37	ND<1.5	3.0	ND<3.0	NA	NA	NA	NA	NA	NA	NA	
B-5	8/1/1995	190	9.5	ND<0.30	1.8	ND<0.60	NA	NA	NA	NA	NA	NA	NA	
B-5	10/30/1995	390	22	ND<0.60	12	ND<1.2	NA	NA	NA	NA	NA	NA	NA	
B-5	1/30/1996	500	19	ND<0.75	11	ND<0.60	NA	NA	NA	NA	NA	NA	NA	
B-5	5/2/1996	160	7.1	ND<0.30	0.34	ND<0.60	230	NA	NA	NA	NA	NA	NA	
B-5	7/31/1996	170	7.7	ND<0.30	2.2	ND<0.60	52	NA	NA	NA	NA	NA	NA	
B-5	11/6/1996	67	5.7	ND<0.30	3.4	ND<0.60	200	NA	NA	NA	NA	NA	NA	
B-5	3/19/1997	53	3.7	ND<0.30	ND<0.30	ND<0.60	230	NA	NA	NA	NA	NA	NA	No purge sampling
B-5	5/27/1997	150	ND<0.30	ND<0.30	0.34	ND<0.60	73	NA	NA	NA	NA	NA	NA	No purge sampling
B-5	8/20/1997	86	7.4	ND<0.30	5.4	ND<0.60	610	NA	NA	NA	NA	NA	NA	No purge sampling
B-5	11/26/1997	ND<50	2.1	ND<0.30	0.50	ND<0.60	310	NA	NA	NA	NA	NA	NA	No purge sampling
B-5	2/25/1998	58	ND<0.30	0.39	ND<0.30	ND<0.60	230	NA	NA	NA	NA	NA	NA	No purge sampling

TABLE 3

HISTORICAL GROUNDWATER ANALYTICAL RESULTS

ARCO Facility No. 6131
3201 Harbor Blvd.
Costa Mesa, CA

Well	Date Sampled	TPHg (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-Benzene (µg/L)	Xylenes (µg/L)	MTBE 8020/ 8021B (µg/L)	MTBE 8240/ 8260B (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	TBA (µg/L)	Ethanol (µg/L)	Comments
B-5	5/12/1998	ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	29	NA	NA	NA	NA	NA	NA	No purge sampling
B-5	7/22/1998	50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	85	NA	NA	NA	NA	NA	NA	No purge sampling
B-5	10/15/1998	ND<50	0.33	0.85	ND<0.30	ND<0.60	92	NA	NA	NA	NA	NA	NA	No purge sampling
B-5	2/4/1999	ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	310	NA	NA	NA	NA	NA	NA	No purge sampling
B-5	5/3/1999	ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	ND<10	NA	NA	NA	NA	NA	NA	No purge sampling
B-5	8/30/1999	ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	NA	ND<5.0	NA	NA	NA	NA	NA	No purge sampling
B-5	11/10/1999	ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	NA	ND<5.0	NA	NA	NA	NA	NA	No purge sampling
B-5	2/2/2000	ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	ND<10	NA	NA	NA	NA	NA	NA	No purge sampling
B-5	6/8/2000	ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	ND<10	NA	NA	NA	NA	NA	NA	No purge sampling
B-5	9/13/2000	ND<50	0.37	0.43	0.34	1.2	NA	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<50	NA	No purge sampling
B-5	12/18/2000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Well not sampled due to sampling error
B-5	3/22/2001	ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	NA	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<50	NA	No purge sampling
B-5	6/7/2001	ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	NA	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<50	NA	No purge sampling
B-5	9/18/2001	ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	NA	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<50	NA	No purge sampling
B-5	12/13/2001	ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	NA	8.6	ND<5.0	ND<5.0	ND<5.0	ND<50	NA	No purge sampling
B-5	3/28/2002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
B-5	6/7/2002	ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	NA	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<50	NA	No purge sampling
B-5	9/18/2002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	No purge sampling
B-5	12/30/2002	ND<50	ND<0.30	ND<0.30	ND<0.30	0.76	NA	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<50	NA	No purge sampling
B-5	3/20/2003	ND<50	ND<2.0	ND<2.0	ND<2.0	ND<4.0	NA	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<50	ND<150	No purge sampling
B-5	5/15/2003	ND<50	ND<0.500	ND<0.500	ND<0.500	ND<0.500	NA	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<25.0	ND<50.0	No purge sampling
B-5	8/12/2003	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Sampled semi-annually
B-5	11/20/2003	ND<50	ND<2.0	ND<2.0	ND<2.0	ND<4.0	NA	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<50	ND<150	No purge sampling
B-5	2/24/2004	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Sampled semi-annually
B-5	5/25/2004	ND<50	ND<2.0	2.1	ND<2.0	ND<4.0	NA	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<50	ND<150	No purge sampling
B-5	8/26/2004	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Sampled semi-annually
B-5	11/19/2004	ND<50	ND<2.0	ND<2.0	ND<2.0	ND<4.0	NA	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<50	ND<150	No purge sampling
B-5	2/25/2005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Sampled semi-annually
B-5	5/27/2005	ND<50	ND<2.0	ND<2.0	ND<2.0	ND<4.0	NA	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<50	ND<150	No purge sampling
B-6	3/24/1993	84000	6800	7900	2400	7600	NA	NA	NA	NA	NA	NA	NA	
B-6	6/15/1993	120000	6500	6400	2200	7400	NA	NA	NA	NA	NA	NA	NA	
B-6	9/13/1993	99000	6700	5400	2100	6100	NA	NA	NA	NA	NA	NA	NA	
B-6	11/3/1993	75000	5300	2300	1000	2800	NA	NA	NA	NA	NA	NA	NA	
B-6	2/15/1994	210000	11000	7700	3100	8200	NA	NA	NA	NA	NA	NA	NA	
B-6	5/3/1994	48000	6000	3300	1500	4100	NA	NA	NA	NA	NA	NA	NA	

TABLE 3

HISTORICAL GROUNDWATER ANALYTICAL RESULTS

ARCO Facility No. 6131
3201 Harbor Blvd.
Costa Mesa, CA

Well	Date Sampled	TPHg (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-Benzene (µg/L)	Xylenes (µg/L)	MTBE 8020/ 8021B (µg/L)	MTBE 8240/ 8260B (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	TBA (µg/L)	Ethanol (µg/L)	Comments
B-6	8/2/1994	64000	6700	5000	2300	7200	NA	NA	NA	NA	NA	NA	NA	
B-6	11/1/1994	53000	5700	4200	2000	5800	NA	NA	NA	NA	NA	NA	NA	
B-6	3/15/1995	58000	6400	3500	2000	4,700	NA	NA	NA	NA	NA	NA	NA	
B-6	4/26/1995	61000	7000	3700	2100	4800	NA	NA	NA	NA	NA	NA	NA	
B-6	8/1/1995	54000	4700	3000	1900	5200	NA	NA	NA	NA	NA	NA	NA	
B-6	10/30/1995	71000	5800	3200	2100	4900	NA	NA	NA	NA	NA	NA	NA	
B-6	1/30/1996	67000	7300	3300	2100	4100	NA	NA	NA	NA	NA	NA	NA	
B-6	5/2/1996	51000	6900	3000	2000	3700	35000	NA	NA	NA	NA	NA	NA	
B-6	7/31/1996	31000	6300	2300	1700	3100	33000	NA	NA	NA	NA	NA	NA	
B-6	11/6/1996	38000	7200	2400	1800	3400	80000	NA	NA	NA	NA	NA	NA	
B-6	3/19/1997	4400	310	14	360	57	24000	NA	NA	NA	NA	NA	NA	No purge sampling
B-6	5/27/1997	3900	360	12	450	31	11000	NA	NA	NA	NA	NA	NA	No purge sampling
B-6	8/20/1997	7800	1300	90	680	120	18000	NA	NA	NA	NA	NA	NA	No purge sampling
B-6	11/26/1997	ND<13,000	410	75	100	ND<150	2000	NA	NA	NA	NA	NA	NA	No purge sampling
B-6	2/25/1998	1700	140	6.2	170	53	28000	NA	NA	NA	NA	NA	NA	No purge sampling
B-6	5/12/1998	3000	390	7.2	310	18	18000	NA	NA	NA	NA	NA	NA	No purge sampling
B-6	7/22/1998	3800	770	17	350	48	20000	NA	NA	NA	NA	NA	NA	No purge sampling
B-6	10/15/1998	6400	780	31	530	70	31000	NA	NA	NA	NA	NA	NA	No purge sampling
B-6	2/4/1999	7900	1500	240	620	240	20000	NA	NA	NA	NA	NA	NA	No purge sampling
B-6	5/3/1999	1000	97	5.0	ND<3.0	47	1700	NA	NA	NA	NA	NA	NA	No purge sampling
B-6	8/30/1999	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Well not accessible due to construction activities
B-6	11/10/1999	1700	240	9.7	200	24	NA	38000	NA	NA	NA	NA	NA	No purge sampling
B-6	2/2/2000	1100	56	ND<6.0	75	ND<12	21,000	NA	NA	NA	NA	NA	NA	No purge sampling
B-6	6/8/2000	5700	1700	150	230	420	13000	13000	NA	NA	NA	NA	NA	No purge sampling
B-6	9/13/2000	1000	70	ND<3.0	56	ND<6.0	NA	35000	ND<2000	ND<2000	ND<2000	ND<20000	NA	No purge sampling
B-6	12/18/2000	4400	410	ND<100	290	590	NA	8100	ND<250	ND<250	ND<250	ND<2500	NA	No purge sampling/BTEX analysis by Method 8260B
B-6	3/22/2001	1200	18	7.9	44	110	NA	610	ND<50	ND<50	ND<50	ND<500	NA	No purge sampling
B-6	6/7/2001	1500	28	3.9	83	84	NA	2900	ND<250	ND<250	ND<250	ND<2500	NA	No purge sampling
B-6	9/18/2001	2900	41	10	240	98	NA	1100	ND<50	ND<50	ND<50	4800	NA	No purge sampling
B-6	12/13/2001	9700	250	9.5	480	1100	NA	2600	ND<100	ND<100	ND<100	2800	NA	No purge sampling
B-6	3/28/2002	5600	230	64	260	250	NA	1300	ND<100	ND<100	ND<100	3800	NA	No purge sampling
B-6	6/7/2002	3700	270	23	280	120	NA	1200	ND<100	ND<100	ND<100	3200	NA	No purge sampling
B-6	9/18/2002	3600	180	14	130	140	NA	600	ND<100	ND<100	ND<100	1500	NA	No purge sampling
B-6	12/30/2002	43000	540	ND<150	270	ND<300	NA	1500	ND<100	ND<100	ND<100	1800	NA	No purge sampling

TABLE 3

HISTORICAL GROUNDWATER ANALYTICAL RESULTS

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3201 Harbor Blvd.
Costa Mesa, CA

Well	Date Sampled	TPHg (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-Benzene (µg/L)	Xylenes (µg/L)	MTBE 8020/ 8021B (µg/L)	MTBE 8240/ 8260B (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	TBA (µg/L)	Ethanol (µg/L)	Comments
B-6	3/20/2003	5100	170	7.7	14	130	NA	260	ND<10	ND<10	ND<10	ND<100	ND<300	No purge sampling
B-6	5/15/2003	5400	152	6.35	55.2	76.6	NA	580	ND<20.0	ND<20.0	ND<20.0	ND<500	ND<1000	No purge sampling
B-6	8/12/2003	6500	580	ND<20	290	130	NA	1600	ND<50	ND<50	64	650	ND<1500	
B-6	11/20/2003	5900	660	23	420	150	NA	1600	ND<50	ND<50	86	540	ND<1500	No purge sampling
B-6	2/24/2004	3500	490	ND<20	310	68	NA	570	ND<50	ND<50	ND<50	730	ND<1500	No purge sampling
B-6	5/25/2004	6700	720	42	880	110	NA	1200	ND<50	ND<50	58	800	ND<1500	No purge sampling
B-6	8/26/2004	5600	470	22	930	47	NA	740	ND<50	ND<50	ND<50	ND<500	ND<1500	No purge sampling
B-6	11/19/2004	6400	440	ND<40	820	ND<80	NA	700	ND<100	ND<100	ND<100	ND<1000	ND<3000	No purge sampling
B-6	2/25/2005	1900	200	ND<10	110	ND<20	NA	340	ND<25	ND<25	ND<25	550	ND<750	No purge sampling
B-6	5/27/2005	2900	280	ND<20	93	ND<40	NA	420	ND<50	ND<50	ND<50	670	ND<1500	No purge sampling
B-8	8/22/1996	480	5.8	ND<0.30	0.86	ND<0.60	170	NA	NA	NA	NA	NA	NA	
B-8	11/6/1996	1900	5.9	1.2	14	ND<1.5	310	NA	NA	NA	NA	NA	NA	
B-8	3/19/1997	1100	1.4	3.6	2.1	1.3	260	NA	NA	NA	NA	NA	NA	No purge sampling
B-8	5/27/1997	440	ND<0.30	1.6	ND<0.30	ND<0.60	140	NA	NA	NA	NA	NA	NA	No purge sampling
B-8	8/20/1997	1200	0.34	3.3	1.5	1.8	100	NA	NA	NA	NA	NA	NA	No purge sampling
B-8	11/26/1997	620	7.0	3.6	1.7	0.75	140	NA	NA	NA	NA	NA	NA	No purge sampling
B-8	2/25/1998	800	1.3	2.1	ND<0.30	ND<0.60	94	NA	NA	NA	NA	NA	NA	No purge sampling
B-8	5/12/1998	400	1.8	ND<0.30	0.77	2.6	99	NA	NA	NA	NA	NA	NA	No purge sampling
B-8	7/22/1998	260	1.1	ND<0.30	ND<0.30	0.94	150	NA	NA	NA	NA	NA	NA	No purge sampling
B-8	10/15/1998	1500	13	11	71	7.5	650	NA	NA	NA	NA	NA	NA	No purge sampling
B-8	2/4/1999	1000	35	2.9	3.3	4.8	380	NA	NA	NA	NA	NA	NA	No purge sampling
B-8	5/3/1999	670	12	2.1	0.63	5.1	120	NA	NA	NA	NA	NA	NA	No purge sampling
B-8	8/30/1999	570	10	ND<0.30	0.52	4.7	NA	100	NA	NA	NA	NA	NA	No purge sampling
B-8	11/10/1999	530	11	5.6	0.74	4.5	NA	1300	NA	NA	NA	NA	NA	No purge sampling
B-8	2/2/2000	810	0.73	1.0	2.6	8.3	140	NA	NA	NA	NA	NA	NA	No purge sampling
B-8	6/8/2000	390	1.9	ND<0.30	0.56	1.4	12	NA	NA	NA	NA	NA	NA	No purge sampling
B-8	9/13/2000	580	11	1.7	0.30	ND<0.60	NA	46	ND<5.0	ND<5.0	ND<5.0	ND<50	NA	No purge sampling
B-8	12/18/2000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Well not sampled due to sampling error
B-8	3/22/2001	520	ND<0.30	10	0.89	2.6	NA	73	ND<5.0	ND<5.0	ND<5.0	ND<50	NA	No purge sampling
B-8	6/7/2001	520	10	0.80	0.31	1.2	NA	71	ND<5.0	ND<5.0	ND<5.0	ND<50	NA	No purge sampling
B-8	9/18/2001	810	ND<3.0	12	3.8	ND<6.0	NA	82	ND<5.0	ND<5.0	ND<5.0	ND<50	NA	No purge sampling
B-8	12/13/2001	200	0.76	3.4	0.77	ND<0.60	NA	84	ND<5.0	ND<5.0	ND<5.0	ND<50	NA	No purge sampling
B-8	3/28/2002	350	3.7	0.39	ND<0.30	ND<0.60	NA	38	ND<5.0	ND<5.0	ND<5.0	ND<50	NA	No purge sampling
B-8	6/7/2002	360	0.92	9.7	2.9	ND<0.60	NA	28	ND<5.0	ND<5.0	ND<5.0	ND<50	NA	No purge sampling
B-8	9/18/2002	270	0.60	ND<0.30	0.66	0.84	NA	36	ND<5.0	ND<5.0	ND<5.0	ND<50	NA	No purge sampling

TABLE 3

HISTORICAL GROUNDWATER ANALYTICAL RESULTS

ARCO Facility No. 6131
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Costa Mesa, CA

Well	Date Sampled	TPHg (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-Benzene (µg/L)	Xylenes (µg/L)	MTBE 8020/ 8021B (µg/L)	MTBE 8240/ 8260B (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	TBA (µg/L)	Ethanol (µg/L)	Comments
B-8	12/30/2002	170	0.44	0.32	ND<0.30	1.0	NA	29	ND<5.0	ND<5.0	ND<5.0	ND<50	NA	No purge sampling
B-8	3/20/2003	120	ND<2.0	ND<2.0	ND<2.0	ND<4.0	NA	11	ND<5.0	ND<5.0	ND<5.0	ND<50	ND<150	No purge sampling
B-8	5/15/2003	130	ND<0.500	ND<0.500	ND<0.500	ND<0.500	NA	6.86	ND<1.00	ND<1.00	ND<1.00	ND<25.0	ND<50.0	No purge sampling
B-8	8/12/2003	95	ND<2.0	ND<2.0	ND<2.0	ND<4.0	NA	8.9	ND<5.0	ND<5.0	ND<5.0	ND<50	ND<150	
B-8	11/20/2003	170	ND<2.0	ND<2.0	ND<2.0	ND<4.0	NA	9.3	ND<5.0	ND<5.0	ND<5.0	ND<50	ND<150	No purge sampling
B-8	2/24/2004	ND<50	ND<2.0	ND<2.0	ND<2.0	ND<4.0	NA	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<50	ND<150	No purge sampling
B-8	5/25/2004	ND<50	ND<2.0	ND<2.0	ND<2.0	ND<4.0	NA	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<50	ND<150	No purge sampling
B-8	8/26/2004	ND<50	ND<2.0	ND<2.0	ND<2.0	ND<4.0	NA	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<50	ND<150	No purge sampling
B-8	11/19/2004	ND<50	ND<2.0	ND<2.0	ND<2.0	ND<4.0	NA	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<50	ND<150	No purge sampling
B-8	2/25/2005	ND<50	ND<2.0	ND<2.0	ND<2.0	ND<4.0	NA	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<50	ND<150	No purge sampling
B-8	5/27/2005	ND<50	ND<2.0	ND<2.0	ND<2.0	ND<4.0	NA	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<50	ND<150	No purge sampling
B-9	8/22/1996	45000	5300	3700	3300	4200	65000	NA	NA	NA	NA	NA	NA	
B-9	11/6/1996	ND<100,000	5,500	1700	2500	5000	130000	NA	NA	NA	NA	NA	NA	
B-9	3/19/1997	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Not sampled; well not accessible
B-9	5/27/1997	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Not sampled; well not accessible
B-9	8/20/1997	24000	3400	220	2600	1400	46000	NA	NA	NA	NA	NA	NA	No purge sampling
B-9	11/26/1997	30000	5700	410	2000	2700	120000	NA	NA	NA	NA	NA	NA	No purge sampling
B-9	2/25/1998	19000	3500	150	1500	1600	77000	NA	NA	NA	NA	NA	NA	No purge sampling
B-9	5/12/1998	24000	4100	200	1900	2300	50000	NA	NA	NA	NA	NA	NA	No purge sampling
B-9	7/22/1998	16000	3800	120	1500	1200	71000	NA	NA	NA	NA	NA	NA	No purge sampling
B-9	10/15/1998	16000	3200	ND<30	1600	830	39000	NA	NA	NA	NA	NA	NA	No purge sampling
B-9	2/4/1999	6100	1100	14	580	50	19000	NA	NA	NA	NA	NA	NA	No purge sampling
B-9	5/3/1999	3600	720	14	490	ND<12	12000	NA	NA	NA	NA	NA	NA	No purge sampling
B-9	8/30/1999	4800	570	ND<15	1000	54	NA	23000	NA	NA	NA	NA	NA	No purge sampling
B-9	11/10/1999	13000	2600	79	1400	270	NA	41000	NA	NA	NA	NA	NA	No purge sampling
B-9	2/2/2000	12000	1800	57	1200	360	27000	35000	NA	NA	NA	NA	NA	No purge sampling
B-9	6/8/2000	4600	850	ND<7.5	730	ND<15	12000	NA	NA	NA	NA	NA	NA	No purge sampling
B-9	9/13/2000	5200	530	19	1200	28	NA	14000	ND<500	ND<500	ND<500	ND<5000	NA	No purge sampling
B-9	12/18/2000	3200	190	ND<100	230	ND<100	NA	8500	ND<250	ND<250	ND<250	ND<2500	NA	No purge sampling/BTEX analysis by Method 8260B
B-9	3/22/2001	3000	260	15	220	ND<30	NA	7800	ND<500	ND<500	ND<500	ND<5000	NA	No purge sampling
B-9	6/7/2001	3900	240	ND<15	110	ND<30	NA	7400	ND<500	ND<500	ND<500	ND<5000	NA	No purge sampling
B-9	9/18/2001	3300	210	31	44	ND<30	NA	4900	ND<120	ND<120	ND<120	ND<1200	NA	No purge sampling
B-9	12/13/2001	3800	290	ND<15	67	ND<30	NA	2800	ND<120	ND<120	ND<120	ND<1200	NA	No purge sampling
B-9	3/28/2002	2800	110	45	23	ND<30	NA	2400	ND<120	ND<120	ND<120	ND<1200	NA	No purge sampling

TABLE 3

HISTORICAL GROUNDWATER ANALYTICAL RESULTS

ARCO Facility No. 6131
3201 Harbor Blvd.
Costa Mesa, CA

Well	Date Sampled	TPHg (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-Benzene (µg/L)	Xylenes (µg/L)	MTBE 8020/ 8021B (µg/L)	MTBE 8240/ 8260B (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	TBA (µg/L)	Ethanol (µg/L)	Comments
B-9	6/7/2002	2900	40	32	14	ND<6.0	NA	2200	ND<20	ND<20	36	200	NA	No purge sampling
B-9	9/18/2002	3100	95	5.1	19	ND<6.0	NA	1100	ND<120	ND<120	ND<120	1600	NA	No purge sampling
B-9	12/31/2002	1100	14	2.9	3.5	1.4	NA	120	ND<10	ND<10	ND<10	1900	NA	No purge sampling
B-9	3/20/2003	1800	12	ND<4.0	ND<4.0	ND<8.0	NA	140	ND<10	ND<10	ND<10	1500	ND<300	No purge sampling
B-9	5/15/2003	820	6.63	ND<0.500	ND<0.500	ND<0.500	NA	342	ND<5.00	ND<5.00	ND<5.00	6190	ND<250	No purge sampling
B-9	8/12/2003	940	13	ND<4.0	ND<4.0	ND<8.0	NA	240	ND<10	ND<10	ND<10	1000	ND<300	
B-9	11/20/2003	1000	ND<4.0	ND<4.0	ND<4.0	ND<8.0	NA	150	ND<10	ND<10	ND<10	990	ND<300	No purge sampling
B-9	2/24/2004	750	7.3	ND<4.0	ND<4.0	ND<8.0	NA	71	ND<10	ND<10	ND<10	1300	ND<300	No purge sampling
B-9	5/25/2004	1400	11	ND<4.0	ND<4.0	ND<8.0	NA	62	ND<10	ND<10	ND<10	2000	ND<300	No purge sampling
B-9	8/26/2004	1000	ND<20	ND<20	ND<20	ND<40	NA	ND<50	ND<50	ND<50	ND<50	2100	ND<1500	No purge sampling
B-9	11/19/2004	130	ND<50	ND<50	ND<50	ND<100	NA	ND<120	ND<120	ND<120	ND<120	1300	ND<3800	No purge sampling
B-9	2/25/2005	65	ND<2.0	ND<2.0	ND<2.0	ND<4.0	NA	15	ND<5.0	ND<5.0	ND<5.0	150	ND<150	No purge sampling
B-9	5/27/2005	ND<50	ND<2.0	ND<2.0	ND<2.0	ND<4.0	NA	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<50	ND<150	No purge sampling
B-10	11/1/1994	16000	1400	23	670	66	NA	NA	NA	NA	NA	NA	NA	
B-10	3/15/1995	25000	3600	160	1100	240	NA	NA	NA	NA	NA	NA	NA	
B-10	4/26/1995	37000	4200	370	1100	1400	NA	NA	NA	NA	NA	NA	NA	
B-10	8/1/1995	10000	710	ND<30	85	ND<60	NA	NA	NA	NA	NA	NA	NA	
B-10	10/30/1995	12000	620	ND<30	460	ND<60	NA	NA	NA	NA	NA	NA	NA	
B-10	1/30/1996	9700	180	ND<30	200	ND<60	NA	NA	NA	NA	NA	NA	NA	
B-10	5/2/1996	1900	22	2.0	33	ND<2.0	11000	NA	NA	NA	NA	NA	NA	
B-10	7/31/1996	2600	5.6	ND<0.60	39	5.2	2600	NA	NA	NA	NA	NA	NA	
B-10	11/6/1996	5000	54	ND<6.0	160	12	1900	NA	NA	NA	NA	NA	NA	
B-10	3/19/1997	2500	28	ND<6.0	88	ND<12	2100	NA	NA	NA	NA	NA	NA	No purge sampling
B-10	5/27/1997	4000	76	5.5	260	13	6100	NA	NA	NA	NA	NA	NA	No purge sampling
B-10	8/20/1997	4000	24	4.2	88	5.9	2500	NA	NA	NA	NA	NA	NA	No purge sampling
B-10	11/26/1997	650	ND<0.30	ND<0.30	6.9	0.94	810	NA	NA	NA	NA	NA	NA	No purge sampling
B-10	2/25/1998	ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	14	NA	NA	NA	NA	NA	NA	No purge sampling
B-10	5/12/1998	620	0.80	0.97	8.0	0.74	230	NA	NA	NA	NA	NA	NA	No purge sampling
B-10	7/22/1998	2500	5.5	ND<3.0	38	ND<6.0	660	NA	NA	NA	NA	NA	NA	No purge sampling
B-10	10/15/1998	2200	ND<0.60	15	26	8.1	100	NA	NA	NA	NA	NA	NA	No purge sampling
B-10	2/4/1999	200	1.6	0.37	ND<0.30	ND<0.60	17	NA	NA	NA	NA	NA	NA	No purge sampling
B-10	5/3/1999	690	1.9	1.1	3.0	1.0	310	NA	NA	NA	NA	NA	NA	No purge sampling
B-10	8/30/1999	1100	6.7	ND<0.30	3.0	9.9	NA	180	NA	NA	NA	NA	NA	No purge sampling
B-10	11/10/1999	840	0.32	8.4	2.5	2.5	NA	ND<5.0	NA	NA	NA	NA	NA	No purge sampling
B-10	2/2/2000	1100	13	ND<3.0	3.1	ND<6.0	ND<100	NA	NA	NA	NA	NA	NA	No purge sampling

TABLE 3

HISTORICAL GROUNDWATER ANALYTICAL RESULTS

ARCO Facility No. 6131
3201 Harbor Blvd.
Costa Mesa, CA

Well	Date Sampled	TPHg (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-Benzene (µg/L)	Xylenes (µg/L)	MTBE 8020/ 8021B (µg/L)	MTBE 8240/ 8260B (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	TBA (µg/L)	Ethanol (µg/L)	Comments
B-10	6/8/2000	950	11	4.5	ND<3.0	ND<6.0	310	NA	NA	NA	NA	NA	NA	No purge sampling
B-10	9/13/2000	990	12	1.8	1.5	1.3	NA	490	ND<13	ND<13	ND<13	ND<130	NA	No purge sampling
B-10	12/18/2000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Well not sampled due to sampling error
B-10	3/22/2001	670	ND<0.30	10	0.94	2.4	NA	7.3	ND<5.0	ND<5.0	ND<5.0	ND<50	NA	No purge sampling
B-10	6/7/2001	540	7.5	1.3	1.0	0.67	NA	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<50	NA	No purge sampling
B-10	9/18/2001	700	ND<0.60	10	2.2	2.7	NA	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<50	NA	No purge sampling
B-10	12/13/2001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	City would not allow street sampling
B-10	3/28/2002	450	0.58	1.9	ND<30	0.78	NA	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<50	NA	No purge sampling
B-10	6/7/2002	830	1.4	13	6.0	2.7	NA	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<50	NA	No purge sampling
B-10	9/18/2002	590	1.1	1.9	0.69	0.86	NA	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<50	NA	No purge sampling
B-10	12/30/2002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	City would not allow street sampling
B-10	3/20/2003	ND<50	ND<2.0	ND<2.0	ND<2.0	ND<4.0	NA	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<50	ND<150	
B-10	5/15/2003	370	ND<0.500	ND<0.500	ND<0.500	ND<0.500	NA	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND>25.0	ND<50.0	
B-10	8/12/2003	480	ND<2.0	ND<2.0	ND<2.0	ND<4.0	NA	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<50	ND<150	
B-10	11/20/2003	570	ND<2.0	ND<2.0	ND<2.0	ND<4.0	NA	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<50	ND<150	No purge sampling
B-10	2/24/2004	380	ND<2.0	ND<2.0	ND<2.0	ND<4.0	NA	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<50	ND<150	No purge sampling
B-10	5/25/2004	180	ND<2.0	ND<2.0	ND<2.0	ND<4.0	NA	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<50	ND<150	No purge sampling
B-10	8/26/2004	430	ND<2.0	ND<2.0	ND<2.0	ND<4.0	NA	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<50	ND<150	No purge sampling
B-10	11/19/2004	620	ND<2.0	ND<2.0	ND<2.0	ND<4.0	NA	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<50	ND<150	No purge sampling
B-10	2/25/2005	140	ND<2.0	ND<2.0	ND<2.0	ND<4.0	NA	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<50	ND<150	No purge sampling
B-10	5/27/2005	360	ND<2.0	ND<2.0	ND<2.0	ND<4.0	NA	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<50	ND<150	No purge sampling
B-11	11/1/1994	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Well destroyed during sewer construction
EA-1	9/18/1992	2300	54	5.0	72	52	NA	NA	NA	NA	NA	NA	NA	
EA-1	3/24/1993	35000	2500	2300	890	3100	NA	NA	NA	NA	NA	NA	NA	
EA-1	6/15/1993	13000	290	19	580	69	NA	NA	NA	NA	NA	NA	NA	
EA-1	9/13/1993	21000	ND<0.3	87	860	ND<0.9	NA	NA	NA	NA	NA	NA	NA	
EA-1	11/3/1993	13000	69	13	630	34	NA	NA	NA	NA	NA	NA	NA	
EA-1	2/15/1994	10000	240	19	580	42	NA	NA	NA	NA	NA	NA	NA	
EA-1	5/3/1994	4100	170	4.7	300	5.1	NA	NA	NA	NA	NA	NA	NA	
EA-1	8/2/1994	3900	62	3.7	210	9.6	NA	NA	NA	NA	NA	NA	NA	
EA-1	11/1/1994	5000	24	ND<1.5	76	ND<3.0	NA	NA	NA	NA	NA	NA	NA	
EA-1	3/15/1995	4000	110	ND<6.0	260	ND<12	NA	NA	NA	NA	NA	NA	NA	
EA-1	4/26/1995	4900	140	ND<6.0	380	ND<12	NA	NA	NA	NA	NA	NA	NA	
EA-1	8/1/1995	4500	53	ND<0.30	180	ND<0.60	NA	NA	NA	NA	NA	NA	NA	
EA-1	10/30/1995	6200	90	ND<6.0	240	ND<12	NA	NA	NA	NA	NA	NA	NA	

TABLE 3

HISTORICAL GROUNDWATER ANALYTICAL RESULTS

ARCO Facility No. 6131
3201 Harbor Blvd.
Costa Mesa, CA

Well	Date Sampled	TPHg (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-Benzene (µg/L)	Xylenes (µg/L)	MTBE 8020/ 8021B (µg/L)	MTBE 8240/ 8260B (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	TBA (µg/L)	Ethanol (µg/L)	Comments
EA-1	1/30/1996	3500	43	1.7	150	4.3	NA	NA	NA	NA	NA	NA	NA	
EA-1	5/2/1996	3800	58	4.5	160	ND<2.0	42	NA	NA	NA	NA	NA	NA	
EA-1	7/31/1996	2300	25	ND<0.75	97	8.7	29	NA	NA	NA	NA	NA	NA	
EA-1	11/6/1996	3000	49	ND<1.5	190	5.1	110	NA	NA	NA	NA	NA	NA	
EA-1	3/19/1997	380	4.7	0.44	23	ND<0.60	110	NA	NA	NA	NA	NA	NA	No purge sampling
EA-1	5/27/1997	2300	32	2.4	180	3.3	98	NA	NA	NA	NA	NA	NA	No purge sampling
EA-1	8/20/1997	690	2.2	7.2	6.7	ND<3.0	69	NA	NA	NA	NA	NA	NA	No purge sampling
EA-1	11/26/1997	600	3.6	1.4	2.9	ND<0.60	62	NA	NA	NA	NA	NA	NA	No purge sampling
EA-1	2/25/1998	1100	14	1.3	7.9	4.6	150	NA	NA	NA	NA	NA	NA	No purge sampling
EA-1	5/12/1998	970	8.3	ND<0.60	7.3	3.4	63	NA	NA	NA	NA	NA	NA	No purge sampling
EA-1	7/22/1998	90	0.37	ND<0.30	ND<0.30	ND<0.60	27	NA	NA	NA	NA	NA	NA	No purge sampling
EA-1	10/15/1998	980	1.3	13	4.2	4.4	21	NA	NA	NA	NA	NA	NA	No purge sampling
EA-1	2/4/1999	780	5.6	0.71	6.0	4.9	110	NA	NA	NA	NA	NA	NA	No purge sampling
EA-1	5/3/1999	5000	930	160	430	210	33000	NA	NA	NA	NA	NA	NA	No purge sampling
EA-1	8/30/1999	260	2.6	ND<0.30	1.6	17	NA	ND<5.0	NA	NA	NA	NA	NA	No purge sampling
EA-1	11/10/1999	1000	8.3	4.3	3.7	5.4	NA	19	NA	NA	NA	NA	NA	No purge sampling
EA-1	2/2/2000	530	6.0	0.96	3.0	5.0	25	NA	NA	NA	NA	NA	NA	No purge sampling
EA-1	6/8/2000	430	0.36	0.80	1.4	4.3	25	NA	NA	NA	NA	NA	NA	No purge sampling
EA-1	9/13/2000	1000	1.3	6.8	12	ND<0.60	NA	12	ND<5.0	ND<5.0	ND<5.0	ND<50	NA	No purge sampling
EA-1	12/18/2000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Well not sampled due to sampling error
EA-1	3/22/2001	710	0.98	5.7	26	4.4	NA	13	ND<5.0	ND<5.0	ND<5.0	ND<50	NA	No purge sampling
EA-1	6/7/2001	510	9.5	1.5	0.51	1.1	NA	9.8	ND<5.0	ND<5.0	ND<5.0	ND<50	NA	No purge sampling
EA-1	9/18/2001	840	ND<0.60	2.5	2.9	ND<1.2	NA	9.0	ND<5.0	ND<5.0	ND<5.0	ND<50	NA	No purge sampling
EA-1	12/13/2001	ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	NA	6.3	ND<5.0	ND<5.0	ND<5.0	ND<50	NA	No purge sampling
EA-1	3/28/2002	160	ND<0.30	2.6	0.48	1.2	NA	5.4	ND<5.0	ND<5.0	ND<5.0	ND<50	NA	No purge sampling
EA-1	9/18/2002	340	0.62	0.51	ND<0.30	ND<0.60	NA	7.5	ND<5.0	ND<5.0	ND<5.0	ND<50	NA	No purge sampling
EA-1	12/30/2002	150	1.1	ND<0.30	ND<0.30	0.71	NA	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<50	NA	No purge sampling
EA-1	3/20/2003	210	ND<2.0	ND<2.0	ND<2.0	ND<4.0	NA	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<50	ND<150	No purge sampling
EA-1	5/15/2003	250	ND<0.500	ND<0.500	ND<0.500	ND<0.500	NA	1.67	ND<1.00	ND<1.00	ND<1.00	ND<25.0	ND<50.0	No purge sampling
EA-1	8/12/2003	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Sampled semi-annually
EA-1	11/20/2003	100	ND<2.0	ND<2.0	ND<2.0	ND<4.0	NA	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<50	ND<150	No purge sampling
EA-1	2/24/2004	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Sampled semi-annually
EA-1	5/25/2004	ND<50	ND<2.0	ND<2.0	ND<2.0	ND<4.0	NA	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<50	ND<150	No purge sampling
EA-1	8/26/2004	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Sampled semi-annually
EA-1	11/19/2004	ND<50	ND<2.0	ND<2.0	ND<2.0	ND<4.0	NA	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<50	ND<150	No purge sampling
EA-1	2/25/2005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Sampled semi-annually

TABLE 3

HISTORICAL GROUNDWATER ANALYTICAL RESULTS

ARCO Facility No. 6131
3201 Harbor Blvd.
Costa Mesa, CA

Well	Date Sampled	TPHg (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-Benzene (µg/L)	Xylenes (µg/L)	MTBE 8020/ 8021B (µg/L)	MTBE 8240/ 8260B (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	TBA (µg/L)	Ethanol (µg/L)	Comments
EA-1	5/27/2005	ND<50	ND<2.0	ND<2.0	ND<2.0	ND<4.0	NA	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<50	ND<150	No purge sampling
EA-2	9/18/1992	9100	1300	720	360	890	NA	NA	NA	NA	NA	NA	NA	
EA-2	3/24/1993	7100	170	64	350	160	NA	NA	NA	NA	NA	NA	NA	
EA-2	6/15/1993	48000	2600	5900	2800	14000	NA	NA	NA	NA	NA	NA	NA	
EA-2	9/13/1993	81000	4100	2600	3600	9000	NA	NA	NA	NA	NA	NA	NA	
EA-2	11/3/1993	97000	4200	1800	1300	2200	NA	NA	NA	NA	NA	NA	NA	
EA-2	2/15/1994	74000	3000	4600	3400	5700	NA	NA	NA	NA	NA	NA	NA	
EA-2	5/3/1994	46000	3600	2500	3700	6700	NA	NA	NA	NA	NA	NA	NA	
EA-2	8/2/1994	48000	790	1900	4100	10000	NA	NA	NA	NA	NA	NA	NA	
EA-2	11/1/1994	44000	2800	1200	3400	3100	NA	NA	NA	NA	NA	NA	NA	
EA-2	3/15/1995	30000	1800	710	2500	900	NA	NA	NA	NA	NA	NA	NA	
EA-2	4/26/1995	30000	1800	830	2700	900	NA	NA	NA	NA	NA	NA	NA	
EA-2	8/1/1995	22000	1000	490	3700	950	NA	NA	NA	NA	NA	NA	NA	
EA-2	10/30/1995	57000	3500	2700	4000	7000	NA	NA	NA	NA	NA	NA	NA	
EA-2	1/30/1996	74000	6800	4100	2700	4000	NA	NA	NA	NA	NA	NA	NA	
EA-2	5/2/1996	16000	1800	680	1700	1200	27000	NA	NA	NA	NA	NA	NA	
EA-2	7/31/1996	31000	1600	610	4500	4900	3200	NA	NA	NA	NA	NA	NA	
EA-2	11/6/1996	54000	8600	5400	2300	5500	76000	NA	NA	NA	NA	NA	NA	
EA-2	3/19/1997	15000	2500	740	1100	2100	70000	NA	NA	NA	NA	NA	NA	No purge sampling
EA-2	5/27/1997	20000	2100	1100	1700	3000	22000	27,000	NA	NA	NA	NA	NA	No purge sampling
EA-2	8/20/1997	37000	3000	1500	3700	7000	9300	NA	NA	NA	NA	NA	NA	No purge sampling
EA-2	11/26/1997	36000	4900	6800	2300	7200	37000	NA	NA	NA	NA	NA	NA	No purge sampling
EA-2	2/25/1998	4000	610	120	330	670	46000	NA	NA	NA	NA	NA	NA	No purge sampling
EA-2	5/12/1998	12000	2000	270	1100	1800	27000	NA	NA	NA	NA	NA	NA	No purge sampling
EA-2	7/22/1998	23000	1900	190	3,800	2900	7000	NA	NA	NA	NA	NA	NA	No purge sampling
EA-2	10/15/1998	36000	4800	1600	2600	5000	54000	NA	NA	NA	NA	NA	NA	No purge sampling
EA-2	2/4/1999	13000	3000	100	1600	150	29000	NA	NA	NA	NA	NA	NA	No purge sampling
EA-2	5/3/1999	780	1.7	1.9	5.1	0.63	51	NA	NA	NA	NA	NA	NA	No purge sampling
EA-2	8/30/1999	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Well not accessible due to construction activities
EA-2	11/10/1999	13000	2600	140	1300	510	NA	26000	NA	NA	NA	NA	NA	No purge sampling
EA-2	2/2/2000	4100	670	73	340	140	20000	NA	NA	NA	NA	NA	NA	No purge sampling
EA-2	6/8/2000	8000	1100	76	1400	79	9000	NA	NA	NA	NA	NA	NA	No purge sampling
EA-2	9/13/2000	11000	2700	100	1,500	130	NA	13000	ND<500	ND<500	ND<500	ND<5000	NA	No purge sampling
EA-2	12/18/2000	3900	540	170	390	430	NA	7600	ND<250	ND<250	ND<250	ND<2500	NA	No purge sampling/BTEX analysis by Method 8260B

TABLE 3

HISTORICAL GROUNDWATER ANALYTICAL RESULTS

ARCO Facility No. 6131
3201 Harbor Blvd.
Costa Mesa, CA

Well	Date Sampled	TPHg (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-Benzene (µg/L)	Xylenes (µg/L)	MTBE 8020/ 8021B (µg/L)	MTBE 8240/ 8260B (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	TBA (µg/L)	Ethanol (µg/L)	Comments
EA-2	3/22/2001	6500	1300	55	820	61	NA	8200	ND<500	ND<500	ND<500	ND<5000	NA	No purge sampling
EA-2	6/7/2001	12000	2100	190	1400	300	NA	8600	ND<500	ND<500	ND<500	ND<5000	NA	No purge sampling
EA-2	9/18/2001	8100	1100	46	980	ND<60	NA	8800	ND<500	ND<500	ND<500	ND<5000	NA	No purge sampling
EA-2	12/13/2001	7400	850	47	810	180	NA	8900	ND<500	ND<500	ND<500	ND<5000	NA	No purge sampling
EA-2	3/28/2002	6700	930	62	860	ND<60	NA	5300	ND<500	ND<500	ND<500	ND<5000	NA	No purge sampling
EA-2	6/7/2002	6500	850	38	1000	51	NA	3700	ND<25	ND<25	93	790	NA	No purge sampling
EA-2	9/18/2002	11000	890	110	1200	260	NA	2500	ND<25	ND<25	78	680	NA	No purge sampling
EA-2	12/30/2002	6400	810	60	1000	160	NA	1400	ND<25	ND<25	38	660	NA	No purge sampling
EA-2	3/20/2003	6100	640	55	1200	95	NA	1300	ND<100	ND<100	ND<100	ND<1000	ND<3000	No purge sampling
EA-2	5/15/2003	8200	722	53.8	1040	77.3	NA	2580	ND<100	ND<100	ND<100	ND<2500	ND<5000	No purge sampling
EA-2	8/12/2003	6000	690	47	980	ND<80	NA	1500	ND<100	ND<100	ND<100	1000	ND<3000	
EA-2	11/20/2003	7700	760	51	1100	ND<80	NA	1200	ND<100	ND<100	ND<100	ND<1000	ND<3000	No purge sampling
EA-2	2/24/2004	2800	460	ND<40	560	ND<80	NA	1100	ND<100	ND<100	ND<100	1200	ND<3000	No purge sampling
EA-2	5/25/2004	1800	220	ND<20	280	ND<40	NA	890	ND<50	ND<50	ND<50	ND<500	ND<1500	No purge sampling
EA-2	8/26/2004	830	120	ND<40	190	ND<80	NA	800	ND<100	ND<100	ND<100	ND<1000	ND<3000	No purge sampling
EA-2	11/19/2004	3200	250	ND<10	170	ND<20	NA	540	ND<25	ND<25	35	460	ND<750	No purge sampling
EA-2	2/25/2005	5200	400	ND<40	550	ND<80	NA	770	ND<100	ND<100	ND<100	1300	ND<3000	No purge sampling
EA-2	5/27/2005	2600	190	ND<10	140	ND<20	NA	230	ND<25	ND<25	ND<25	1100	ND<750	No purge sampling
EA-3	9/18/1992	2700	300	63	180	170	NA	NA	NA	NA	NA	NA	NA	
EA-3	3/24/1993	9400	1300	350	490	280	NA	NA	NA	NA	NA	NA	NA	
EA-3	6/15/1993	30000	1000	270	190	400	NA	NA	NA	NA	NA	NA	NA	
EA-3	9/13/1993	8600	210	45	130	120	NA	NA	NA	NA	NA	NA	NA	
EA-3	11/3/1993	10000	520	130	200	160	NA	NA	NA	NA	NA	NA	NA	
EA-3	2/15/1994	12000	420	55	140	ND<60	NA	NA	NA	NA	NA	NA	NA	
EA-3	5/3/1994	16000	1100	150	380	330	NA	NA	NA	NA	NA	NA	NA	
EA-3	8/2/1994	8600	660	23	330	26	NA	NA	NA	NA	NA	NA	NA	
EA-3	11/1/1994	2100	80	9.8	58	8.5	NA	NA	NA	NA	NA	NA	NA	
EA-3	3/15/1995	5800	210	41	110	53	NA	NA	NA	NA	NA	NA	NA	
EA-3	4/26/1995	12000	480	110	190	130	NA	NA	NA	NA	NA	NA	NA	
EA-3	8/1/1995	2400	34	ND<6.0	49	ND<12	NA	NA	NA	NA	NA	NA	NA	
EA-3	10/30/1995	1700	40	4.0	24	7.1	NA	NA	NA	NA	NA	NA	NA	
EA-3	1/30/1996	4600	120	ND<15	69	ND<30	NA	NA	NA	NA	NA	NA	NA	
EA-3	5/2/1996	950	34	0.96	16	4.1	1800	NA	NA	NA	NA	NA	NA	
EA-3	7/31/1996	600	9.5	ND<0.30	5.6	0.67	350	NA	NA	NA	NA	NA	NA	
EA-3	11/6/1996	3000	210	26	170	87	6500	NA	NA	NA	NA	NA	NA	

TABLE 3

HISTORICAL GROUNDWATER ANALYTICAL RESULTS

ARCO Facility No. 6131
3201 Harbor Blvd.
Costa Mesa, CA

Well	Date Sampled	TPHg (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-Benzene (µg/L)	Xylenes (µg/L)	MTBE 8020/ 8021B (µg/L)	MTBE 8240/ 8260B (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	TBA (µg/L)	Ethanol (µg/L)	Comments
EA-3	3/19/1997	130	2.1	0.47	0.56	ND<0.60	4200	NA	NA	NA	NA	NA	NA	No purge sampling
EA-3	5/27/1997	920	ND<0.30	2.0	16	ND<0.60	3200	NA	NA	NA	NA	NA	NA	No purge sampling
EA-3	8/20/1997	300	1.7	ND<0.30	0.34	0.62	2000	NA	NA	NA	NA	NA	NA	No purge sampling
EA-3	11/26/1997	1500	100	4.1	55	5.3	2500	NA	NA	NA	NA	NA	NA	No purge sampling
EA-3	2/25/1998	570	6.6	0.99	2.2	3.5	2100	NA	NA	NA	NA	NA	NA	No purge sampling
EA-3	5/12/1998	550	5.6	0.55	5.0	3.4	500	NA	NA	NA	NA	NA	NA	No purge sampling
EA-3	7/22/1998	330	1.6	ND<0.30	ND<0.30	ND<0.60	11	NA	NA	NA	NA	NA	NA	No purge sampling
EA-3	10/15/1998	330	4.8	12	2.7	1.1	150	NA	NA	NA	NA	NA	NA	No purge sampling
EA-3	2/4/1999	ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	200	NA	NA	NA	NA	NA	NA	No purge sampling
EA-3	5/3/1999	ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	ND<10	NA	NA	NA	NA	NA	NA	No purge sampling
EA-3	8/30/1999	100	0.47	ND<0.30	0.41	0.81	NA	ND<5.0	NA	NA	NA	NA	NA	No purge sampling
EA-3	11/10/1999	1800	61	14	180	23	NA	190	NA	NA	NA	NA	NA	No purge sampling
EA-3	2/2/2000	720	14	2.7	22	4.1	590	NA	NA	NA	NA	NA	NA	No purge sampling
EA-3	6/8/2000	130	1.6	ND<0.30	ND<0.30	1.1	30	NA	NA	NA	NA	NA	NA	No purge sampling
EA-3	9/13/2000	300	ND<0.30	0.37	ND<0.30	ND<0.60	NA	130	ND<5.0	ND<5.0	ND<5.0	ND<50	NA	No purge sampling
EA-3	12/18/2000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Well not sampled due to sampling error
EA-3	3/22/2001	230	ND<0.30	4.9	ND<0.30	0.76	NA	38	ND<5.0	ND<5.0	ND<5.0	ND<50	NA	No purge sampling
EA-3	6/7/2001	ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	NA	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<50	NA	No purge sampling
EA-3	9/18/2001	220	0.73	2.2	0.43	0.90	NA	12	ND<5.0	ND<5.0	ND<5.0	ND<50	NA	No purge sampling
EA-3	12/13/2001	250	0.31	ND<0.30	0.37	1.7	NA	20	ND<5.0	ND<5.0	ND<5.0	ND<50	NA	No purge sampling
EA-3	3/28/2002	210	ND<0.30	0.53	0.49	ND<60	NA	24	ND<5.0	ND<5.0	ND<5.0	ND<50	NA	No purge sampling
EA-3	6/7/2002	240	0.43	9.1	0.80	3.6	NA	9.6	ND<5.0	ND<5.0	ND<5.0	ND<50	NA	No purge sampling
EA-3	9/18/2002	390	1.2	2.7	0.56	2.2	NA	160	ND<5.0	ND<5.0	ND<5.0	ND<50	NA	No purge sampling
EA-3	12/30/2002	210	1.4	ND<0.30	0.38	0.96	NA	190	ND<5.0	ND<5.0	ND<5.0	ND<50	NA	No purge sampling
EA-3	3/20/2003	210	ND<2.0	ND<2.0	ND<2.0	ND<4.0	NA	17	ND<5.0	ND<5.0	ND<5.0	ND<50	ND<150	No purge sampling
EA-3	5/15/2003	240	0.550	ND<0.500	6.88	ND<0.500	NA	3.54	ND<1.00	ND<1.00	ND<1.00	ND<25.0	ND<50.0	No purge sampling
EA-3	8/12/2003	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Sampled semi-annually
EA-3	11/20/2003	310	ND<2.0	ND<2.0	ND<2.0	ND<4.0	NA	5.2	ND<5.0	ND<5.0	ND<5.0	ND<50	ND<150	No purge sampling
EA-3	2/24/2004	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Sampled semi-annually
EA-3	5/25/2004	ND<50	ND<2.0	2.4	ND<2.0	ND<4.0	NA	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<50	ND<150	No purge sampling
EA-3	8/26/2004	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Sampled semi-annually
EA-3	11/19/2004	ND<50	ND<2.0	ND<2.0	ND<2.0	ND<4.0	NA	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<50	ND<150	No purge sampling
EA-3	2/25/2005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Sampled semi-annually
EA-3	5/27/2005	ND<50	ND<2.0	ND<2.0	ND<2.0	ND<4.0	NA	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<50	ND<150	No purge sampling
Trip Blank	4/26/1995	ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	NA	NA	NA	NA	NA	NA	NA	

TABLE 3

HISTORICAL GROUNDWATER ANALYTICAL RESULTS

ARCO Facility No. 6131
3201 Harbor Blvd.
Costa Mesa, CA

Well	Date Sampled	TPHg (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-Benzene (µg/L)	Xylenes (µg/L)	MTBE 8020/ 8021B (µg/L)	MTBE 8240/ 8260B (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	TBA (µg/L)	Ethanol (µg/L)	Comments
Trip Blank	8/1/1995	ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	NA	NA	NA	NA	NA	NA	NA	
Trip Blank	10/30/1995	ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	NA	NA	NA	NA	NA	NA	NA	
Trip Blank	1/30/1996	ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	NA	NA	NA	NA	NA	NA	NA	
Trip Blank	5/2/1996	ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	ND<10	NA	NA	NA	NA	NA	NA	
Trip Blank	7/31/1996	ND<50	ND<0.30	1.8	0.37	3.9	ND<10	NA	NA	NA	NA	NA	NA	
Trip Blank	11/6/1996	ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	ND<10	NA	NA	NA	NA	NA	NA	
Trip Blank	3/19/1997	ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	ND<10	NA	NA	NA	NA	NA	NA	
Trip Blank	5/27/1997	ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	ND<10	NA	NA	NA	NA	NA	NA	
Trip Blank	8/20/1997	ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	ND<10	NA	NA	NA	NA	NA	NA	
Trip Blank	11/26/1997	ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	ND<10	NA	NA	NA	NA	NA	NA	
Trip Blank	2/25/1998	ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	ND<10	NA	NA	NA	NA	NA	NA	
Trip Blank	5/12/1998	ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	ND<10	NA	NA	NA	NA	NA	NA	
Trip Blank	7/22/1998	ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	ND<10	NA	NA	NA	NA	NA	NA	
Trip Blank	10/15/1998	ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	ND<10	NA	NA	NA	NA	NA	NA	
Trip Blank	2/4/1999	ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	ND<10	NA	NA	NA	NA	NA	NA	
Trip Blank	5/3/1999	ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	ND<10	NA	NA	NA	NA	NA	NA	
Trip Blank	8/30/1999	ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	NA	ND<5.0	NA	NA	NA	NA	NA	
Trip Blank	11/10/1999	ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	NA	ND<5.0	NA	NA	NA	NA	NA	
Trip Blank	2/2/2000	ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	ND<10	NA	NA	NA	NA	NA	NA	
Trip Blank	6/8/2000	ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	ND<10	NA	NA	NA	NA	NA	NA	
Trip Blank	9/13/2000	ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	NA	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<50	NA	
Trip Blank	12/18/2000	ND<50	ND<2.0	ND<2.0	ND<2.0	ND<2.0	NA	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<50	NA	BTEX analysis by Method 8260B
Trip Blank	3/22/2001	ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	NA	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<50	NA	
Trip Blank	6/7/2001	ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	NA	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<50	NA	
Trip Blank	9/18/2001	ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	NA	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<50	NA	
Trip Blank	12/13/2001	ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	NA	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<50	NA	
Trip Blank	3/28/2002	ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	NA	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<50	NA	
Trip Blank	6/7/2002	ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	NA	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<50	NA	
Trip Blank	9/18/2002	ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	NA	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<50	NA	
Trip Blank	12/30/2002	ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	NA	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<50	NA	
Trip Blank	3/20/2003	ND<50	ND<2.0	ND<2.0	ND<2.0	ND<4.0	NA	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<50	ND<150	
Trip Blank	5/15/2003	ND<50	ND<0.500	ND<0.500	ND<0.500	ND<0.500	NA	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND>25.0	ND<50.0	
Trip Blank	8/12/2003	ND<50	ND<2.0	ND<2.0	ND<2.0	ND<4.0	NA	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<50	ND<150	
Trip Blank	11/20/2003	ND<50	ND<2.0	ND<2.0	ND<2.0	ND<4.0	NA	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<50	ND<150	
Trip Blank	2/24/2004	ND<50	ND<2.0	ND<2.0	ND<2.0	ND<4.0	NA	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<50	ND<150	
Trip Blank	5/25/2004	ND<50	ND<2.0	ND<2.0	ND<2.0	ND<4.0	NA	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<50	ND<150	

TABLE 3

HISTORICAL GROUNDWATER ANALYTICAL RESULTS

ARCO Facility No. 6131
3201 Harbor Blvd.
Costa Mesa, CA

Well	Date Sampled	TPHg (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-Benzene (µg/L)	Xylenes (µg/L)	MTBE 8020/ 8021B (µg/L)	MTBE 8240/ 8260B (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	TBA (µg/L)	Ethanol (µg/L)	Comments
Trip Blank	8/26/2004	ND<50	ND<2.0	ND<2.0	ND<2.0	ND<4.0	NA	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<50	ND<150	
Trip Blank	11/19/2004	ND<50	ND<2.0	ND<2.0	ND<2.0	ND<4.0	NA	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<50	ND<150	
Trip Blank	2/25/2005	ND<50	ND<2.0	ND<2.0	ND<2.0	ND<4.0	NA	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<50	ND<150	
Trip Blank	5/27/2005	ND<50	ND<2.0	ND<2.0	ND<2.0	ND<4.0	NA	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<50	ND<150	

Notes: µg/L = Micrograms per liter
MTBE = Methyl tertiary butyl ether
DIPE = Di-Isopropyl ether
ETBE = Ethyl tertiary butyl ether
TAME = Tertiary amyl methyl ether
TBA = Tertiary butanol
NA = Not analyzed
ND<Number = Not detected at or above stated reporting limit

BTEX = Benzene, toluene, ethylbenzene, and xylenes
Note: DIPE, ETBE, TAME, TBA, and Ethanol analyses by EPA 8260

ATTACHMENT A

OCHCA Correspondence

COUNTY OF ORANGE
HEALTH CARE AGENCY

REGULATORY HEALTH SERVICES
ENVIRONMENTAL HEALTH

JULIETTE A. POULSON, RN, MN
DIRECTOR

MIKE SPURGEON
DEPUTY AGENCY DIRECTOR
REGULATORY HEALTH SERVICES

STEVEN K. WONG, REHS, MPH
DIRECTOR
ENVIRONMENTAL HEALTH

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SANTA ANA, CA 92705-5611

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Excellence
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APR 14 2005

April 12, 2005

Darrell Fah
ARCO Products Company
4 Centerpointe Drive
La Palma, CA 90623-1066

Subject: **Work Plan for Verification Soil Sampling dated April 7, 2005**

Re: ARCO Station #6131
3201 Harbor Blvd.
Costa Mesa, CA 92626
OCHCA Case #92UT12

Dear Mr. Fah:

This Agency has reviewed the subject workplan prepared by Delta Environmental Consultants, Inc. We have found the workplan adequate to conduct verification borings activities with the following considerations:

1. It is not necessary to drill the proposed verification boring in the former waste oil tank area since results of soil verification samples collected and extending to depth of 16/16.5 feet below grade (fbg) indicated that all know soil contamination was removed from that area during excavation activities conducted in March 1992.

2. However, due to the detection of soil contamination in samples PT-5, EA-3 and high detection limit in sample D3-3, a verification boring in that area is necessary. Location of this requested boring must be approved by this Agency prior to implementation.

3. The workplan indicates that the proposed borings will extend to 25 fbg. Please be advised that due to the detection of soil contaminants down to 35 fbg, the borings must extend to a minimum of 35 fbg.

If you have any questions, please call me at (714) 433-6254.

Sincerely,

Arghavan Rashidi-Fard

Arghavan Rashidi-Fard
Hazardous Waste Specialist
Hazardous Materials Management Section
Environmental Health

cc: Valerie Jahn-Bull, Santa Ana Regional Water Quality Control Board
Steve P. Pence, Delta Environmental Consultants, Inc.

ATTACHMENT B

Boring Logs

Delta Environmental Consultants, Inc.

SOIL BORING LOG

BORING/WELL LOCATION SKETCH MAP

N

BORING/WELL NO. B-12			
PROJECT NO./NAME: GOB7M-RP50-B.01A201/ARCO Facility No. 6131	LOCATION: 3201 Harbor Boulevard, Costa Mesa, California		
DRILLING CONTRACTOR/DRILLER: Cascade Drilling, Inc./Gary			
GEOLOGIST/OFFICE: Susan Nielsen/Orange County	APPROVED BY: Dean A. Richesin, P.G. No. 3587		
DRILLING EQUIPMENT/METHOD: Geoprobe/Direct Push	SIZE/TYPE OF BIT: 1.5"/Soil	SAMPLING METHOD: Direct Push	START/FINISH DATE: 6/7/05-6/7/05
			TOTAL DEPTH: 30.0

Depth, feet	Graphic Log	LITHOLOGY: Visual Description	Sample No. and Interval	Penetration Rate (Blows/ft.)	SAMPLING DATA: PID Values (ppm)
		ASPHALT			
5		SANDY CLAY (CL): brown, fine to medium grained sand, low plasticity, micaceous, soft, moist	5 B-12-5		0
10		SAND (SP): tan, fine to medium grained, trace clay, medium dense, micaceous, slightly moist	10 B-12-10		5.8
15		Yellowish orange, very fine to fine grained, trace silt, slightly micaceous	15 B-12-15		0
20		Trace micas	20 B-12-20		0
25		Orangish brown, fine to medium grained, little silt, trace fine sub-angular gravel to 2 cm dia, medium dense, moist	25 B-12-25		20
30		CLAY (CL): greenish grey, low plasticiy, medium stiff, trace fine micaceous sand, moist	30 B-12-30		208

Boring terminated at 30 feet below ground surface (ft bgs) due to refusal. Groundwater was not encountered during drilling. Boring was backfilled with bentonite grout.

Delta Environmental Consultants, Inc.

SOIL BORING LOG

BORING/WELL LOCATION SKETCH MAP

N

BORING/WELL NO. B-13			
PROJECT NO./NAME: GOB7M-RP50-B.01A201/ARCO Facility No. 6131	LOCATION: 3201 Harbor Boulevard, Costa Mesa, California		
DRILLING CONTRACTOR/DRILLER: Cascade Drilling, Inc./Gary			
GEOLOGIST/OFFICE: Susan Nielsen/Orange County	APPROVED BY: Dean A. Richesin, P.G. No. 3587		
DRILLING EQUIPMENT/METHOD: Geoprobe/Direct Push	SIZE/TYPE OF BIT: 1.5"/Soil	SAMPLING METHOD: Direct Push	START/FINISH DATE: 6/7/05-6/7/05
			TOTAL DEPTH: 30.0

Depth, feet	Graphic Log	Visual Description (LITHOLOGY)	Sample No. and Interval	Penetration Rate (Blows/ft.)	PID Values (ppm) (SAMPLING DATA)
		ASPHALT			
5		CLAY (CL): light brown/reddish brown, low plasticity, soft, trace fine micaceous sand, slightly moist	5 B-13-5		0
10		SAND (SP): brown, fine to medium grained, micaceous, medium dense, little low plastic clay, slightly moist	10 B-13-10		1.7
15		Yellowish orange, very fine to fine grained, trace silt, micaceous, loose	15 B-13-15		6.2
20		Tan, no silt, slightly micaceous	20 B-13-20		0
25	▽ GROUND WATER ENCOUNTERED JUN 7, 2005	Brown, fine to medium grained, trace silt, medium dense, wet	25 B-13-25		0
30		CLAY (CL): greenish grey, low plasticiy, stiff, trace very fine micaceous sand, moist	30 B-13-30		0

Boring terminated at 30 feet below ground surface (ft bgs) due to refusal. Groundwater was encountered at 25 ft bgs during drilling. Boring was backfilled with bentonite grout.

Delta Environmental Consultants, Inc.

SOIL BORING LOG

BORING/WELL LOCATION SKETCH MAP

N

BORING/WELL NO. B-14			
PROJECT NO./NAME: GOB7M-RP50-B.01A201/ARCO Facility No. 6131	LOCATION: 3201 Harbor Boulevard, Costa Mesa, California		
DRILLING CONTRACTOR/DRILLER: Cascade Drilling, Inc./Darren			
GEOLOGIST/OFFICE: Susan Nielsen/Orange County	APPROVED BY: Dean A. Richesin, P.G. No. 3587		
DRILLING EQUIPMENT/METHOD: Geoprobe/Direct Push	SIZE/TYPE OF BIT: 1.5"/Soil	SAMPLING METHOD: Direct Push	START/FINISH DATE: 9/6/05-9/6/05
			TOTAL DEPTH: 35.0

Depth, feet	Graphic Log	Visual Description (LITHOLOGY)	Sample No. and Interval	Penetration Rate (Blows/ft.)	PID Values (ppm) (SAMPLING DATA)
		ASPHALT			
5		CLAY (CL): brown, medium dense, low plasticity, little fine sand, moist	B-14-5		0
10		Little fine sand, micaceous	B-14-10		0
15		SAND (SP): yellowish orange/tan, fine to medium grained, micaceous, loose, slightly moist	B-14-15		0
20		Slightly micaceous	B-14-20		0
25		Trace silt	B-14-25		0
30		Medium dense CLAY (CL): greenish grey, low plasticiy, medium stiff, trace very fine micaceous sand, moist	B-14-30		>3,000
	GROUND WATER ENCOUNTERED SEP 6, 2005				
		SANDY SILT (ML): yellowish brown, very fine grained sand, medium dense, micaceous, wet			
35		Boring terminated at 35 feet below ground surface (ft bgs). Groundwater was encountered at 32 ft bgs during drilling. Boring was backfilled with bentonite grout.	B-14-35		0

ATTACHMENT C

Laboratory Analytical Report and Chain-of-Custody Documentation

Del Mar Analytical

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

LABORATORY REPORT

Prepared For: Delta Env. Consultants - Aliso Viejo
27141 Aliso Creek Road, Suite 270
Aliso Viejo, CA 92656
Attention: Steve Pence

Project: ARCO 6131, Costa Mesa

Sampled: 06/07/05
Received: 06/07/05
Issued: 06/21/05 15:56

NELAP #01108CA California ELAP#1197 CSDLAC #10117

The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. The analyses contained in this report were performed in accordance with the applicable certifications as noted. All soil samples are reported on a wet weight basis unless otherwise noted in the report. This Laboratory Report is confidential and is intended for the sole use of Del Mar Analytical and its client. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical. The Chain(s) of Custody, 2 pages, are included and are an integral part of this report.
This entire report was reviewed and approved for release.

CASE NARRATIVE

SAMPLE RECEIPT: Samples were received intact, at 4°C, on ice and with chain of custody documentation.

HOLDING TIMES: All samples were analyzed within prescribed holding times and/or in accordance with the Del Mar Analytical Sample Acceptance Policy unless otherwise noted in the report.

PRESERVATION: Samples requiring preservation were verified prior to sample analysis.

QA/QC CRITERIA: All analyses met method criteria, except as noted in the report with data qualifiers.

COMMENTS: No significant observations were made.

SUBCONTRACTED: No analyses were subcontracted to an outside laboratory.

LABORATORY ID	CLIENT ID	MATRIX
IOF0489-01	B-12-5	Soil
IOF0489-02	B-12-10	Soil
IOF0489-03	B-12-15	Soil
IOF0489-04	B-12-20	Soil
IOF0489-05	B-12-25	Soil
IOF0489-06	B-12-30	Soil
IOF0489-07	B-13-5	Soil
IOF0489-08	B-13-10	Soil
IOF0489-09	B-13-15	Soil
IOF0489-10	B-13-20	Soil
IOF0489-11	B-13-25	Soil

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Delta Env. Consultants - Aliso Viejo
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Aliso Viejo, CA 92656
Attention: Steve Pence

Project ID: ARCO 6131, Costa Mesa

Report Number: IOF0489

Sampled: 06/07/05
Received: 06/07/05

LABORATORY ID	CLIENT ID	MATRIX
IOF0489-12	B-13-30	Soil

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Sampled: 06/07/05
Received: 06/07/05

VOLATILE FUEL HYDROCARBONS (EPA 5030/CADHS Mod. 8015)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOF0489-01 (B-12-5 - Soil)				**Sampled: 06/07/05**				
Reporting Units: mg/kg								
Volatile Fuel Hydrocarbons (C6-C12)	EPA 8015 Mod.	5F15041	0.39	ND	0.391	6/15/2005	6/16/2005	
Surrogate: 4-BFB (FID) (70-135%)				*77 %*				
Sample ID: IOF0489-02 (B-12-10 - Soil)				**Sampled: 06/07/05**				
Reporting Units: mg/kg								
Volatile Fuel Hydrocarbons (C6-C12)	EPA 8015 Mod.	5F15041	0.38	ND	0.38	6/15/2005	6/16/2005	
Surrogate: 4-BFB (FID) (70-135%)				*91 %*				
Sample ID: IOF0489-03 (B-12-15 - Soil)				**Sampled: 06/07/05**				
Reporting Units: mg/kg								
Volatile Fuel Hydrocarbons (C6-C12)	EPA 8015 Mod.	5F13046	0.41	ND	0.41	6/13/2005	6/13/2005	
Surrogate: 4-BFB (FID) (70-135%)				*90 %*				
Sample ID: IOF0489-04 (B-12-20 - Soil)				**Sampled: 06/07/05**				
Reporting Units: mg/kg								
Volatile Fuel Hydrocarbons (C6-C12)	EPA 8015 Mod.	5F13046	0.39	ND	0.392	6/13/2005	6/13/2005	
Surrogate: 4-BFB (FID) (70-135%)				*95 %*				
Sample ID: IOF0489-05 (B-12-25 - Soil)				**Sampled: 06/07/05**				
Reporting Units: mg/kg								
Volatile Fuel Hydrocarbons (C6-C12)	EPA 8015 Mod.	5F13046	0.37	ND	0.372	6/13/2005	6/13/2005	
Surrogate: 4-BFB (FID) (70-135%)				*93 %*				
Sample ID: IOF0489-06 (B-12-30 - Soil)				**Sampled: 06/07/05**				
Reporting Units: mg/kg								
Volatile Fuel Hydrocarbons (C6-C12)	EPA 8015 Mod.	5F14108	38	**250**	38.4	6/14/2005	6/16/2005	
Surrogate: 4-BFB (FID) (70-135%)				*264 %*				*AZ*
Sample ID: IOF0489-07 (B-13-5 - Soil)				**Sampled: 06/07/05**				
Reporting Units: mg/kg								
Volatile Fuel Hydrocarbons (C6-C12)	EPA 8015 Mod.	5F13046	0.37	ND	0.371	6/13/2005	6/14/2005	
Surrogate: 4-BFB (FID) (70-135%)				*80 %*				
Sample ID: IOF0489-08 (B-13-10 - Soil)				**Sampled: 06/07/05**				
Reporting Units: mg/kg								
Volatile Fuel Hydrocarbons (C6-C12)	EPA 8015 Mod.	5F13046	0.41	ND	0.407	6/13/2005	6/14/2005	
Surrogate: 4-BFB (FID) (70-135%)				*75 %*				

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Project ID: ARCO 6131, Costa Mesa

Report Number: IOF0489

Sampled: 06/07/05
Received: 06/07/05

VOLATILE FUEL HYDROCARBONS (EPA 5030/CADHS Mod. 8015)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOF0489-09 (B-13-15 - Soil)				**Sampled: 06/07/05**				
Reporting Units: mg/kg								
Volatile Fuel Hydrocarbons (C6-C12)	EPA 8015 Mod.	5F13046	0.40	ND	0.4	6/13/2005	6/14/2005	
Surrogate: 4-BFB (FID) (70-135%)				*80 %*				
Sample ID: IOF0489-10 (B-13-20 - Soil)				**Sampled: 06/07/05**				
Reporting Units: mg/kg								
Volatile Fuel Hydrocarbons (C6-C12)	EPA 8015 Mod.	5F13046	0.40	ND	0.398	6/13/2005	6/14/2005	
Surrogate: 4-BFB (FID) (70-135%)				*81 %*				
Sample ID: IOF0489-11 (B-13-25 - Soil)				**Sampled: 06/07/05**				
Reporting Units: mg/kg								
Volatile Fuel Hydrocarbons (C6-C12)	EPA 8015 Mod.	5F13046	0.39	ND	0.394	6/13/2005	6/14/2005	
Surrogate: 4-BFB (FID) (70-135%)				*82 %*				
Sample ID: IOF0489-12 (B-13-30 - Soil)				**Sampled: 06/07/05**				
Reporting Units: mg/kg								
Volatile Fuel Hydrocarbons (C6-C12)	EPA 8015 Mod.	5F13046	0.57	**0.58**	0.567	6/13/2005	6/13/2005	
Surrogate: 4-BFB (FID) (70-135%)				*111 %*				

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Sampled: 06/07/05
Received: 06/07/05

BTEX/OXYGENATES by GC/MS (EPA 8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOF0489-01 (B-12-5 - Soil)				**Sampled: 06/07/05**				
Reporting Units: mg/kg								
Benzene	EPA 8260B	5F13013	0.0020	ND	0.996	6/13/2005	6/13/2005	
Ethylbenzene	EPA 8260B	5F13013	0.0020	ND	0.996	6/13/2005	6/13/2005	
Toluene	EPA 8260B	5F13013	0.0020	ND	0.996	6/13/2005	6/13/2005	
m,p-Xylenes	EPA 8260B	5F13013	0.0020	ND	0.996	6/13/2005	6/13/2005	
o-Xylene	EPA 8260B	5F13013	0.0020	ND	0.996	6/13/2005	6/13/2005	
Xylenes, Total	EPA 8260B	5F13013	0.0040	ND	0.996	6/13/2005	6/13/2005	
Di-isopropyl Ether (DIPE)	EPA 8260B	5F13013	0.0050	ND	0.996	6/13/2005	6/13/2005	
Ethyl tert-Butyl Ether (ETBE)	EPA 8260B	5F13013	0.0050	ND	0.996	6/13/2005	6/13/2005	
tert-Amyl Methyl Ether (TAME)	EPA 8260B	5F13013	0.0050	ND	0.996	6/13/2005	6/13/2005	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	5F13013	0.0050	ND	0.996	6/13/2005	6/13/2005	
tert-Butanol (TBA)	EPA 8260B	5F13013	0.10	ND	0.996	6/13/2005	6/13/2005	
Ethanol	EPA 8260B	5F13013	0.30	ND	0.996	6/13/2005	6/13/2005	
Surrogate: Dibromofluoromethane (80-125%)				*106 %*				
Surrogate: Toluene-d8 (80-120%)				*105 %*				
Surrogate: 4-Bromofluorobenzene (80-120%)				*99 %*				
Sample ID: IOF0489-02 (B-12-10 - Soil)				**Sampled: 06/07/05**				
Reporting Units: mg/kg								
Benzene	EPA 8260B	5F13013	0.0020	ND	1	6/13/2005	6/13/2005	
Ethylbenzene	EPA 8260B	5F13013	0.0020	ND	1	6/13/2005	6/13/2005	LM,AY
Toluene	EPA 8260B	5F13013	0.0020	ND	1	6/13/2005	6/13/2005	LM,AY
m,p-Xylenes	EPA 8260B	5F13013	0.0020	ND	1	6/13/2005	6/13/2005	
o-Xylene	EPA 8260B	5F13013	0.0020	ND	1	6/13/2005	6/13/2005	
Xylenes, Total	EPA 8260B	5F13013	0.0040	ND	1	6/13/2005	6/13/2005	
Di-isopropyl Ether (DIPE)	EPA 8260B	5F13013	0.0050	ND	1	6/13/2005	6/13/2005	
Ethyl tert-Butyl Ether (ETBE)	EPA 8260B	5F13013	0.0050	ND	1	6/13/2005	6/13/2005	
tert-Amyl Methyl Ether (TAME)	EPA 8260B	5F13013	0.0050	ND	1	6/13/2005	6/13/2005	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	5F13013	0.0050	ND	1	6/13/2005	6/13/2005	
tert-Butanol (TBA)	EPA 8260B	5F13013	0.10	ND	1	6/13/2005	6/13/2005	
Ethanol	EPA 8260B	5F13013	0.30	ND	1	6/13/2005	6/13/2005	
Surrogate: Dibromofluoromethane (80-125%)				*107 %*				
Surrogate: Toluene-d8 (80-120%)				*105 %*				
Surrogate: 4-Bromofluorobenzene (80-120%)				*98 %*				

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Project ID: ARCO 6131, Costa Mesa

Report Number: IOF0489

Sampled: 06/07/05
Received: 06/07/05

BTEX/OXYGENATES by GC/MS (EPA 8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOF0489-03 (B-12-15 - Soil)				**Sampled: 06/07/05**				
Reporting Units: mg/kg								
Benzene	EPA 8260B	5F13013	0.0020	ND	0.996	6/13/2005	6/13/2005	
Ethylbenzene	EPA 8260B	5F13013	0.0020	ND	0.996	6/13/2005	6/13/2005	
Toluene	EPA 8260B	5F13013	0.0020	ND	0.996	6/13/2005	6/13/2005	
m,p-Xylenes	EPA 8260B	5F13013	0.0020	ND	0.996	6/13/2005	6/13/2005	
o-Xylene	EPA 8260B	5F13013	0.0020	ND	0.996	6/13/2005	6/13/2005	
Xylenes, Total	EPA 8260B	5F13013	0.0040	ND	0.996	6/13/2005	6/13/2005	
Di-isopropyl Ether (DIPE)	EPA 8260B	5F13013	0.0050	ND	0.996	6/13/2005	6/13/2005	
Ethyl tert-Butyl Ether (ETBE)	EPA 8260B	5F13013	0.0050	ND	0.996	6/13/2005	6/13/2005	
tert-Amyl Methyl Ether (TAME)	EPA 8260B	5F13013	0.0050	ND	0.996	6/13/2005	6/13/2005	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	5F13013	0.0050	ND	0.996	6/13/2005	6/13/2005	
tert-Butanol (TBA)	EPA 8260B	5F13013	0.10	ND	0.996	6/13/2005	6/13/2005	
Ethanol	EPA 8260B	5F13013	0.30	ND	0.996	6/13/2005	6/13/2005	
Surrogate: Dibromofluoromethane (80-125%)				*105 %*				
Surrogate: Toluene-d8 (80-120%)				*107 %*				
Surrogate: 4-Bromofluorobenzene (80-120%)				*102 %*				
Sample ID: IOF0489-04 (B-12-20 - Soil)				**Sampled: 06/07/05**				
Reporting Units: mg/kg								
Benzene	EPA 8260B	5F13013	0.0020	ND	0.971	6/13/2005	6/13/2005	
Ethylbenzene	EPA 8260B	5F13013	0.0020	ND	0.971	6/13/2005	6/13/2005	
Toluene	EPA 8260B	5F13013	0.0020	ND	0.971	6/13/2005	6/13/2005	
m,p-Xylenes	EPA 8260B	5F13013	0.0020	ND	0.971	6/13/2005	6/13/2005	
o-Xylene	EPA 8260B	5F13013	0.0020	ND	0.971	6/13/2005	6/13/2005	
Xylenes, Total	EPA 8260B	5F13013	0.0040	ND	0.971	6/13/2005	6/13/2005	
Di-isopropyl Ether (DIPE)	EPA 8260B	5F13013	0.0050	ND	0.971	6/13/2005	6/13/2005	
Ethyl tert-Butyl Ether (ETBE)	EPA 8260B	5F13013	0.0050	ND	0.971	6/13/2005	6/13/2005	
tert-Amyl Methyl Ether (TAME)	EPA 8260B	5F13013	0.0050	ND	0.971	6/13/2005	6/13/2005	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	5F13013	0.0050	ND	0.971	6/13/2005	6/13/2005	
tert-Butanol (TBA)	EPA 8260B	5F13013	0.10	ND	0.971	6/13/2005	6/13/2005	
Ethanol	EPA 8260B	5F13013	0.30	ND	0.971	6/13/2005	6/13/2005	
Surrogate: Dibromofluoromethane (80-125%)				*102 %*				
Surrogate: Toluene-d8 (80-120%)				*105 %*				
Surrogate: 4-Bromofluorobenzene (80-120%)				*100 %*				

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Project ID: ARCO 6131, Costa Mesa

Report Number: IOF0489

Sampled: 06/07/05
Received: 06/07/05

BTEX/OXYGENATES by GC/MS (EPA 8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOF0489-05 (B-12-25 - Soil)				**Sampled: 06/07/05**				
Reporting Units: mg/kg								
Benzene	EPA 8260B	5F13013	0.0020	ND	1	6/13/2005	6/13/2005	
Ethylbenzene	EPA 8260B	5F13013	0.0020	ND	1	6/13/2005	6/13/2005	
Toluene	EPA 8260B	5F13013	0.0020	ND	1	6/13/2005	6/13/2005	
m,p-Xylenes	EPA 8260B	5F13013	0.0020	ND	1	6/13/2005	6/13/2005	
o-Xylene	EPA 8260B	5F13013	0.0020	ND	1	6/13/2005	6/13/2005	
Xylenes, Total	EPA 8260B	5F13013	0.0040	ND	1	6/13/2005	6/13/2005	
Di-isopropyl Ether (DIPE)	EPA 8260B	5F13013	0.0050	ND	1	6/13/2005	6/13/2005	
Ethyl tert-Butyl Ether (ETBE)	EPA 8260B	5F13013	0.0050	ND	1	6/13/2005	6/13/2005	
tert-Amyl Methyl Ether (TAME)	EPA 8260B	5F13013	0.0050	ND	1	6/13/2005	6/13/2005	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	5F13013	0.0050	ND	1	6/13/2005	6/13/2005	
tert-Butanol (TBA)	EPA 8260B	5F13013	0.10	ND	1	6/13/2005	6/13/2005	
Ethanol	EPA 8260B	5F13013	0.30	ND	1	6/13/2005	6/13/2005	
Surrogate: Dibromofluoromethane (80-125%)				*112 %*				
Surrogate: Toluene-d8 (80-120%)				*108 %*				
Surrogate: 4-Bromofluorobenzene (80-120%)				*103 %*				
Sample ID: IOF0489-06 (B-12-30 - Soil)				**Sampled: 06/07/05**				
Reporting Units: mg/kg								
Benzene	EPA 8260B	5F17008	0.0020	ND	0.986	6/17/2005	6/17/2005	
Ethylbenzene	EPA 8260B	5F17008	0.0020	ND	0.986	6/17/2005	6/17/2005	
Toluene	EPA 8260B	5F17008	0.0020	ND	0.986	6/17/2005	6/17/2005	
m,p-Xylenes	EPA 8260B	5F17008	0.0020	ND	0.986	6/17/2005	6/17/2005	
o-Xylene	EPA 8260B	5F17008	0.0020	ND	0.986	6/17/2005	6/17/2005	
Xylenes, Total	EPA 8260B	5F17008	0.0040	ND	0.986	6/17/2005	6/17/2005	
Di-isopropyl Ether (DIPE)	EPA 8260B	5F17008	0.0050	ND	0.986	6/17/2005	6/17/2005	
Ethyl tert-Butyl Ether (ETBE)	EPA 8260B	5F17008	0.0050	ND	0.986	6/17/2005	6/17/2005	
tert-Amyl Methyl Ether (TAME)	EPA 8260B	5F17008	0.0050	ND	0.986	6/17/2005	6/17/2005	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	5F17008	0.0050	ND	0.986	6/17/2005	6/17/2005	
tert-Butanol (TBA)	EPA 8260B	5F17008	0.10	ND	0.986	6/17/2005	6/17/2005	
Ethanol	EPA 8260B	5F17008	0.30	ND	0.986	6/17/2005	6/17/2005	IO
Surrogate: Dibromofluoromethane (80-125%)				*94 %*				
Surrogate: Toluene-d8 (80-120%)				*107 %*				
Surrogate: 4-Bromofluorobenzene (80-120%)				*102 %*				

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Project ID: ARCO 6131, Costa Mesa

Report Number: IOF0489

Sampled: 06/07/05
Received: 06/07/05

BTEX/OXYGENATES by GC/MS (EPA 8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOF0489-07 (B-13-5 - Soil)				**Sampled: 06/07/05**				
Reporting Units: mg/kg								
Benzene	EPA 8260B	5F13013	0.0020	ND	0.988	6/13/2005	6/13/2005	
Ethylbenzene	EPA 8260B	5F13013	0.0020	ND	0.988	6/13/2005	6/13/2005	
Toluene	EPA 8260B	5F13013	0.0020	ND	0.988	6/13/2005	6/13/2005	
m,p-Xylenes	EPA 8260B	5F13013	0.0020	ND	0.988	6/13/2005	6/13/2005	
o-Xylene	EPA 8260B	5F13013	0.0020	ND	0.988	6/13/2005	6/13/2005	
Xylenes, Total	EPA 8260B	5F13013	0.0040	ND	0.988	6/13/2005	6/13/2005	
Di-isopropyl Ether (DIPE)	EPA 8260B	5F13013	0.0050	ND	0.988	6/13/2005	6/13/2005	
Ethyl tert-Butyl Ether (ETBE)	EPA 8260B	5F13013	0.0050	ND	0.988	6/13/2005	6/13/2005	
tert-Amyl Methyl Ether (TAME)	EPA 8260B	5F13013	0.0050	ND	0.988	6/13/2005	6/13/2005	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	5F13013	0.0050	ND	0.988	6/13/2005	6/13/2005	
tert-Butanol (TBA)	EPA 8260B	5F13013	0.10	ND	0.988	6/13/2005	6/13/2005	
Ethanol	EPA 8260B	5F13013	0.30	ND	0.988	6/13/2005	6/13/2005	
Surrogate: Dibromofluoromethane (80-125%)				*97 %*				
Surrogate: Toluene-d8 (80-120%)				*107 %*				
Surrogate: 4-Bromofluorobenzene (80-120%)				*94 %*				
Sample ID: IOF0489-08 (B-13-10 - Soil)				**Sampled: 06/07/05**				
Reporting Units: mg/kg								
Benzene	EPA 8260B	5F13013	0.0020	ND	0.99	6/13/2005	6/13/2005	
Ethylbenzene	EPA 8260B	5F13013	0.0020	ND	0.99	6/13/2005	6/13/2005	
Toluene	EPA 8260B	5F13013	0.0020	ND	0.99	6/13/2005	6/13/2005	
m,p-Xylenes	EPA 8260B	5F13013	0.0020	ND	0.99	6/13/2005	6/13/2005	
o-Xylene	EPA 8260B	5F13013	0.0020	ND	0.99	6/13/2005	6/13/2005	
Xylenes, Total	EPA 8260B	5F13013	0.0040	ND	0.99	6/13/2005	6/13/2005	
Di-isopropyl Ether (DIPE)	EPA 8260B	5F13013	0.0050	ND	0.99	6/13/2005	6/13/2005	
Ethyl tert-Butyl Ether (ETBE)	EPA 8260B	5F13013	0.0050	ND	0.99	6/13/2005	6/13/2005	
tert-Amyl Methyl Ether (TAME)	EPA 8260B	5F13013	0.0050	ND	0.99	6/13/2005	6/13/2005	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	5F13013	0.0050	ND	0.99	6/13/2005	6/13/2005	
tert-Butanol (TBA)	EPA 8260B	5F13013	0.10	ND	0.99	6/13/2005	6/13/2005	
Ethanol	EPA 8260B	5F13013	0.30	ND	0.99	6/13/2005	6/13/2005	
Surrogate: Dibromofluoromethane (80-125%)				*100 %*				
Surrogate: Toluene-d8 (80-120%)				*106 %*				
Surrogate: 4-Bromofluorobenzene (80-120%)				*100 %*				

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Delta Env. Consultants - Aliso Viejo
27141 Aliso Creek Road, Suite 270
Aliso Viejo, CA 92656
Attention: Steve Pence

Project ID: ARCO 6131, Costa Mesa

Report Number: IOF0489

Sampled: 06/07/05
Received: 06/07/05

BTEX/OXYGENATES by GC/MS (EPA 8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOF0489-09 (B-13-15 - Soil)				**Sampled: 06/07/05**				
Reporting Units: mg/kg								
Benzene	EPA 8260B	5F13013	0.0020	ND	0.973	6/13/2005	6/13/2005	
Ethylbenzene	EPA 8260B	5F13013	0.0020	ND	0.973	6/13/2005	6/13/2005	
Toluene	EPA 8260B	5F13013	0.0020	ND	0.973	6/13/2005	6/13/2005	
m,p-Xylenes	EPA 8260B	5F13013	0.0020	ND	0.973	6/13/2005	6/13/2005	
o-Xylene	EPA 8260B	5F13013	0.0020	ND	0.973	6/13/2005	6/13/2005	
Xylenes, Total	EPA 8260B	5F13013	0.0040	ND	0.973	6/13/2005	6/13/2005	
Di-isopropyl Ether (DIPE)	EPA 8260B	5F13013	0.0050	ND	0.973	6/13/2005	6/13/2005	
Ethyl tert-Butyl Ether (ETBE)	EPA 8260B	5F13013	0.0050	ND	0.973	6/13/2005	6/13/2005	
tert-Amyl Methyl Ether (TAME)	EPA 8260B	5F13013	0.0050	ND	0.973	6/13/2005	6/13/2005	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	5F13013	0.0050	ND	0.973	6/13/2005	6/13/2005	
tert-Butanol (TBA)	EPA 8260B	5F13013	0.10	ND	0.973	6/13/2005	6/13/2005	
Ethanol	EPA 8260B	5F13013	0.30	ND	0.973	6/13/2005	6/13/2005	
Surrogate: Dibromofluoromethane (80-125%)				*97 %*				
Surrogate: Toluene-d8 (80-120%)				*99 %*				
Surrogate: 4-Bromofluorobenzene (80-120%)				*103 %*				
Sample ID: IOF0489-10 (B-13-20 - Soil)				**Sampled: 06/07/05**				
Reporting Units: mg/kg								
Benzene	EPA 8260B	5F13013	0.0020	ND	0.982	6/13/2005	6/14/2005	
Ethylbenzene	EPA 8260B	5F13013	0.0020	ND	0.982	6/13/2005	6/14/2005	
Toluene	EPA 8260B	5F13013	0.0020	ND	0.982	6/13/2005	6/14/2005	
m,p-Xylenes	EPA 8260B	5F13013	0.0020	ND	0.982	6/13/2005	6/14/2005	
o-Xylene	EPA 8260B	5F13013	0.0020	ND	0.982	6/13/2005	6/14/2005	
Xylenes, Total	EPA 8260B	5F13013	0.0040	ND	0.982	6/13/2005	6/14/2005	
Di-isopropyl Ether (DIPE)	EPA 8260B	5F13013	0.0050	ND	0.982	6/13/2005	6/14/2005	
Ethyl tert-Butyl Ether (ETBE)	EPA 8260B	5F13013	0.0050	ND	0.982	6/13/2005	6/14/2005	
tert-Amyl Methyl Ether (TAME)	EPA 8260B	5F13013	0.0050	ND	0.982	6/13/2005	6/14/2005	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	5F13013	0.0050	ND	0.982	6/13/2005	6/14/2005	
tert-Butanol (TBA)	EPA 8260B	5F13013	0.10	ND	0.982	6/13/2005	6/14/2005	
Ethanol	EPA 8260B	5F13013	0.30	ND	0.982	6/13/2005	6/14/2005	
Surrogate: Dibromofluoromethane (80-125%)				*101 %*				
Surrogate: Toluene-d8 (80-120%)				*107 %*				
Surrogate: 4-Bromofluorobenzene (80-120%)				*99 %*				

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Delta Env. Consultants - Aliso Viejo
27141 Aliso Creek Road, Suite 270
Aliso Viejo, CA 92656
Attention: Steve Pence

Project ID: ARCO 6131, Costa Mesa

Report Number: IOF0489

Sampled: 06/07/05
Received: 06/07/05

BTEX/OXYGENATES by GC/MS (EPA 8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOF0489-11 (B-13-25 - Soil)				**Sampled: 06/07/05**				
Reporting Units: mg/kg								
Benzene	EPA 8260B	5F13013	0.0020	ND	0.988	6/13/2005	6/14/2005	
Ethylbenzene	EPA 8260B	5F13013	0.0020	ND	0.988	6/13/2005	6/14/2005	
Toluene	EPA 8260B	5F13013	0.0020	ND	0.988	6/13/2005	6/14/2005	
m,p-Xylenes	EPA 8260B	5F13013	0.0020	ND	0.988	6/13/2005	6/14/2005	
o-Xylene	EPA 8260B	5F13013	0.0020	ND	0.988	6/13/2005	6/14/2005	
Xylenes, Total	EPA 8260B	5F13013	0.0040	ND	0.988	6/13/2005	6/14/2005	
Di-isopropyl Ether (DIPE)	EPA 8260B	5F13013	0.0050	ND	0.988	6/13/2005	6/14/2005	
Ethyl tert-Butyl Ether (ETBE)	EPA 8260B	5F13013	0.0050	ND	0.988	6/13/2005	6/14/2005	
tert-Amyl Methyl Ether (TAME)	EPA 8260B	5F13013	0.0050	ND	0.988	6/13/2005	6/14/2005	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	5F13013	0.0050	ND	0.988	6/13/2005	6/14/2005	
tert-Butanol (TBA)	EPA 8260B	5F13013	0.10	ND	0.988	6/13/2005	6/14/2005	
Ethanol	EPA 8260B	5F13013	0.30	ND	0.988	6/13/2005	6/14/2005	
Surrogate: Dibromofluoromethane (80-125%)				*102 %*				
Surrogate: Toluene-d8 (80-120%)				*106 %*				
Surrogate: 4-Bromofluorobenzene (80-120%)				*99 %*				
Sample ID: IOF0489-12 (B-13-30 - Soil)				**Sampled: 06/07/05**				
Reporting Units: mg/kg								
Benzene	EPA 8260B	5F13013	0.0020	**0.0025**	0.996	6/13/2005	6/14/2005	
Ethylbenzene	EPA 8260B	5F13013	0.0020	ND	0.996	6/13/2005	6/14/2005	
Toluene	EPA 8260B	5F13013	0.0020	ND	0.996	6/13/2005	6/14/2005	
m,p-Xylenes	EPA 8260B	5F13013	0.0020	ND	0.996	6/13/2005	6/14/2005	
o-Xylene	EPA 8260B	5F13013	0.0020	ND	0.996	6/13/2005	6/14/2005	
Xylenes, Total	EPA 8260B	5F13013	0.0040	ND	0.996	6/13/2005	6/14/2005	
Di-isopropyl Ether (DIPE)	EPA 8260B	5F13013	0.0050	ND	0.996	6/13/2005	6/14/2005	
Ethyl tert-Butyl Ether (ETBE)	EPA 8260B	5F13013	0.0050	ND	0.996	6/13/2005	6/14/2005	
tert-Amyl Methyl Ether (TAME)	EPA 8260B	5F13013	0.0050	ND	0.996	6/13/2005	6/14/2005	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	5F13013	0.0050	**0.096**	0.996	6/13/2005	6/14/2005	
tert-Butanol (TBA)	EPA 8260B	5F13013	0.10	ND	0.996	6/13/2005	6/14/2005	
Ethanol	EPA 8260B	5F13013	0.30	ND	0.996	6/13/2005	6/14/2005	
Surrogate: Dibromofluoromethane (80-125%)				*107 %*				
Surrogate: Toluene-d8 (80-120%)				*108 %*				
Surrogate: 4-Bromofluorobenzene (80-120%)				*102 %*				

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Delta Env. Consultants - Aliso Viejo
27141 Aliso Creek Road, Suite 270
Aliso Viejo, CA 92656
Attention: Steve Pence

Project ID: ARCO 6131, Costa Mesa

Report Number: IOF0489

Sampled: 06/07/05
Received: 06/07/05

METHOD BLANK/QC DATA

VOLATILE FUEL HYDROCARBONS (EPA 5030/CADHS Mod. 8015)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5F13046 Extracted: 06/13/05										
Blank Analyzed: 06/13/2005 (5F13046-BLK1)										
Volatile Fuel Hydrocarbons (C6-C12)	ND	1.0	mg/kg							
Surrogate: 4-BFB (FID)	*0.0468*		*mg/kg*	*0.0500*		*94*	*70-135*			
LCS Analyzed: 06/13/2005 (5F13046-BS1)										
Volatile Fuel Hydrocarbons (C6-C12)	3.90	1.0	mg/kg	4.00		98	65-135			
Surrogate: 4-BFB (FID)	*0.170*		*mg/kg*	*0.150*		*113*	*70-135*			
Matrix Spike Analyzed: 06/13/2005 (5F13046-MS1)					**Source: IOF0489-05**					
Volatile Fuel Hydrocarbons (C6-C12)	0.499	0.39	mg/kg	0.424	ND	118	55-145			
Surrogate: 4-BFB (FID)	*0.0179*		*mg/kg*	*0.0193*		*93*	*70-135*			
Matrix Spike Dup Analyzed: 06/13/2005 (5F13046-MSD1)					**Source: IOF0489-05**					
Volatile Fuel Hydrocarbons (C6-C12)	0.512	0.38	mg/kg	0.423	ND	121	55-145	3	35	
Surrogate: 4-BFB (FID)	*0.0181*		*mg/kg*	*0.0192*		*94*	*70-135*			
Batch: 5F14108 Extracted: 06/14/05										
Blank Analyzed: 06/15/2005 (5F14108-BLK1)										
Volatile Fuel Hydrocarbons (C6-C12)	ND	20	mg/kg							
Surrogate: 4-BFB (FID)	*1.60*		*mg/kg*	*2.00*		*80*	*70-135*			
LCS Analyzed: 06/14/2005 (5F14108-BS1)										
Volatile Fuel Hydrocarbons (C6-C12)	169	40	mg/kg	160		106	65-135			
Surrogate: 4-BFB (FID)	*6.82*		*mg/kg*	*6.00*		*114*	*70-135*			
LCS Dup Analyzed: 06/15/2005 (5F14108-BSD1)										
Volatile Fuel Hydrocarbons (C6-C12)	168	40	mg/kg	160		105	65-135	1	20	
Surrogate: 4-BFB (FID)	*6.65*		*mg/kg*	*6.00*		*111*	*70-135*			

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Received: 06/07/05

METHOD BLANK/QC DATA

VOLATILE FUEL HYDROCARBONS (EPA 5030/CADHS Mod. 8015)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5F14108 Extracted: 06/14/05										
Matrix Spike Analyzed: 06/15/2005 (5F14108-MS1)					**Source: IOF0617-01**					
Volatile Fuel Hydrocarbons (C6-C12)	11600	2000	mg/kg	43.5	11000	1380	55-145			*BB*
Surrogate: 4-BFB (FID)	*342*		*mg/kg*	*1.98*		*17300*	*70-135*			*AX*
Matrix Spike Dup Analyzed: 06/15/2005 (5F14108-MSD1)					**Source: IOF0617-01**					
Volatile Fuel Hydrocarbons (C6-C12)	10300	2000	mg/kg	44.2	11000	-1580	55-145	12	35	*BB*
Surrogate: 4-BFB (FID)	*317*		*mg/kg*	*2.01*		*15800*	*70-135*			*AX*
Batch: 5F15041 Extracted: 06/15/05										
Blank Analyzed: 06/15/2005 (5F15041-BLK1)										
Volatile Fuel Hydrocarbons (C6-C12)	ND	0.40	mg/kg							
Surrogate: 4-BFB (FID)	*0.0207*		*mg/kg*	*0.0200*		*104*	*70-135*			
LCS Analyzed: 06/15/2005 (5F15041-BS1)										
Volatile Fuel Hydrocarbons (C6-C12)	1.53	0.40	mg/kg	1.60		96	65-135			
Surrogate: 4-BFB (FID)	*0.0694*		*mg/kg*	*0.0600*		*116*	*70-135*			
Matrix Spike Analyzed: 06/15/2005 (5F15041-MS1)					**Source: IOF0513-07**					
Volatile Fuel Hydrocarbons (C6-C12)	0.511	0.39	mg/kg	0.430	ND	119	55-145			
Surrogate: 4-BFB (FID)	*0.0202*		*mg/kg*	*0.0195*		*104*	*70-135*			
Matrix Spike Dup Analyzed: 06/15/2005 (5F15041-MSD1)					**Source: IOF0513-07**					
Volatile Fuel Hydrocarbons (C6-C12)	0.511	0.39	mg/kg	0.431	ND	119	55-145	0	35	
Surrogate: 4-BFB (FID)	*0.0194*		*mg/kg*	*0.0196*		*99*	*70-135*			

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Project ID: ARCO 6131, Costa Mesa

Report Number: IOF0489

Sampled: 06/07/05
Received: 06/07/05

METHOD BLANK/QC DATA

BTEX/OXYGENATES by GC/MS (EPA 8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5F13013 Extracted: 06/13/05										
Blank Analyzed: 06/13/2005 (5F13013-BLK1)										
Benzene	ND	0.0020	mg/kg							
Ethylbenzene	ND	0.0020	mg/kg							
Toluene	ND	0.0020	mg/kg							
m,p-Xylenes	ND	0.0020	mg/kg							
o-Xylene	ND	0.0020	mg/kg							
Xylenes, Total	ND	0.0040	mg/kg							
Di-isopropyl Ether (DIPE)	ND	0.0050	mg/kg							
Ethyl tert-Butyl Ether (ETBE)	ND	0.0050	mg/kg							
tert-Amyl Methyl Ether (TAME)	ND	0.0050	mg/kg							
Methyl-tert-butyl Ether (MTBE)	ND	0.0050	mg/kg							
tert-Butanol (TBA)	ND	0.10	mg/kg							
Ethanol	ND	0.30	mg/kg							
Surrogate: Dibromofluoromethane	*0.0515*		*mg/kg*	*0.0500*		*103*	*80-125*			
Surrogate: Toluene-d8	*0.0531*		*mg/kg*	*0.0500*		*106*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*0.0500*		*mg/kg*	*0.0500*		*100*	*80-120*			
LCS Analyzed: 06/13/2005 (5F13013-BS1)										
Benzene	0.0540	0.0020	mg/kg	0.0500		108	65-120			
Ethylbenzene	0.0588	0.0020	mg/kg	0.0500		118	70-125			
Toluene	0.0559	0.0020	mg/kg	0.0500		112	70-125			
m,p-Xylenes	0.111	0.0020	mg/kg	0.100		111	70-125			
o-Xylene	0.0545	0.0020	mg/kg	0.0500		109	70-125			
Xylenes, Total	0.165	0.0040	mg/kg	0.150		110	70-125			
Di-isopropyl Ether (DIPE)	0.0420	0.0050	mg/kg	0.0500		84	60-135			
Ethyl tert-Butyl Ether (ETBE)	0.0469	0.0050	mg/kg	0.0500		94	60-135			
tert-Amyl Methyl Ether (TAME)	0.0520	0.0050	mg/kg	0.0500		104	60-140			
Methyl-tert-butyl Ether (MTBE)	0.0508	0.0050	mg/kg	0.0500		102	55-140			
tert-Butanol (TBA)	0.287	0.10	mg/kg	0.250		115	65-135			
Ethanol	0.437	0.30	mg/kg	0.500		87	35-160			
Surrogate: Dibromofluoromethane	*0.0537*		*mg/kg*	*0.0500*		*107*	*80-125*			
Surrogate: Toluene-d8	*0.0542*		*mg/kg*	*0.0500*		*108*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*0.0554*		*mg/kg*	*0.0500*		*111*	*80-120*			

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Delta Env. Consultants - Aliso Viejo
27141 Aliso Creek Road, Suite 270
Aliso Viejo, CA 92656
Attention: Steve Pence

Project ID: ARCO 6131, Costa Mesa

Report Number: IOF0489

Sampled: 06/07/05
Received: 06/07/05

METHOD BLANK/QC DATA

BTEX/OXYGENATES by GC/MS (EPA 8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5F13013 Extracted: 06/13/05										
Matrix Spike Analyzed: 06/13/2005 (5F13013-MS1)					**Source: IOF0489-02**					
Benzene	0.0617	0.0020	mg/kg	0.0488	ND	126	65-130			
Ethylbenzene	0.0643	0.0020	mg/kg	0.0488	ND	132	70-130			*LM,AY*
Toluene	0.0627	0.0020	mg/kg	0.0488	ND	128	70-125			*LM,AY*
m,p-Xylenes	0.120	0.0020	mg/kg	0.0977	ND	123	70-125			
o-Xylene	0.0585	0.0020	mg/kg	0.0488	ND	120	70-125			
Xylenes, Total	0.178	0.0040	mg/kg	0.146	ND	122	70-125			
Di-isopropyl Ether (DIPE)	0.0502	0.0050	mg/kg	0.0488	ND	103	60-145			
Ethyl tert-Butyl Ether (ETBE)	0.0589	0.0050	mg/kg	0.0488	ND	121	60-140			
tert-Amyl Methyl Ether (TAME)	0.0701	0.0050	mg/kg	0.0488	ND	144	60-145			
Methyl-tert-butyl Ether (MTBE)	0.0713	0.0050	mg/kg	0.0488	ND	146	55-150			
tert-Butanol (TBA)	0.225	0.10	mg/kg	0.244	ND	92	65-140			
Ethanol	0.197	0.30	mg/kg	0.488	ND	40	25-160			
Surrogate: Dibromofluoromethane	*0.0538*		*mg/kg*	*0.0488*		*110*	*80-125*			
Surrogate: Toluene-d8	*0.0520*		*mg/kg*	*0.0488*		*107*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*0.0526*		*mg/kg*	*0.0488*		*108*	*80-120*			
Matrix Spike Dup Analyzed: 06/13/2005 (5F13013-MSD1)					**Source: IOF0489-02**					
Benzene	0.0507	0.0020	mg/kg	0.0498	ND	102	65-130	20	20	
Ethylbenzene	0.0541	0.0020	mg/kg	0.0498	ND	109	70-130	17	25	
Toluene	0.0517	0.0020	mg/kg	0.0498	ND	104	70-125	19	20	
m,p-Xylenes	0.102	0.0020	mg/kg	0.0996	ND	102	70-125	16	25	
o-Xylene	0.0502	0.0020	mg/kg	0.0498	ND	101	70-125	15	25	
Xylenes, Total	0.152	0.0040	mg/kg	0.149	ND	102	70-125	16	25	
Di-isopropyl Ether (DIPE)	0.0422	0.0050	mg/kg	0.0498	ND	85	60-145	17	25	
Ethyl tert-Butyl Ether (ETBE)	0.0473	0.0050	mg/kg	0.0498	ND	95	60-140	22	30	
tert-Amyl Methyl Ether (TAME)	0.0557	0.0050	mg/kg	0.0498	ND	112	60-145	23	25	
Methyl-tert-butyl Ether (MTBE)	0.0549	0.0050	mg/kg	0.0498	ND	110	55-150	26	35	
tert-Butanol (TBA)	0.236	0.10	mg/kg	0.249	ND	95	65-140	5	30	
Ethanol	0.302	0.30	mg/kg	0.498	ND	61	25-160	42	40	*RA*
Surrogate: Dibromofluoromethane	*0.0529*		*mg/kg*	*0.0498*		*106*	*80-125*			
Surrogate: Toluene-d8	*0.0536*		*mg/kg*	*0.0498*		*108*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*0.0537*		*mg/kg*	*0.0498*		*108*	*80-120*			

Del Mar Analytical, Irvine
Pat Abe
Project Manager

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Delta Env. Consultants - Aliso Viejo
27141 Aliso Creek Road, Suite 270
Aliso Viejo, CA 92656
Attention: Steve Pence

Project ID: ARCO 6131, Costa Mesa

Report Number: IOF0489

Sampled: 06/07/05
Received: 06/07/05

METHOD BLANK/QC DATA

BTEX/OXYGENATES by GC/MS (EPA 8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5F17008 Extracted: 06/17/05										
Blank Analyzed: 06/17/2005 (5F17008-BLK1)										
Benzene	ND	0.0020	mg/kg							
Ethylbenzene	ND	0.0020	mg/kg							
Toluene	ND	0.0020	mg/kg							
m,p-Xylenes	ND	0.0020	mg/kg							
o-Xylene	ND	0.0020	mg/kg							
Xylenes, Total	ND	0.0040	mg/kg							
Di-isopropyl Ether (DIPE)	ND	0.0050	mg/kg							
Ethyl tert-Butyl Ether (ETBE)	ND	0.0050	mg/kg							
tert-Amyl Methyl Ether (TAME)	ND	0.0050	mg/kg							
Methyl-tert-butyl Ether (MTBE)	ND	0.0050	mg/kg							
tert-Butanol (TBA)	ND	0.10	mg/kg							
Ethanol	ND	0.30	mg/kg							
Surrogate: Dibromofluoromethane	*0.0451*		*mg/kg*	*0.0500*		*90*	*80-125*			
Surrogate: Toluene-d8	*0.0513*		*mg/kg*	*0.0500*		*103*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*0.0481*		*mg/kg*	*0.0500*		*96*	*80-120*			
LCS Analyzed: 06/17/2005 (5F17008-BS1)										
Benzene	0.0484	0.0020	mg/kg	0.0500		97	65-120			
Ethylbenzene	0.0486	0.0020	mg/kg	0.0500		97	70-125			
Toluene	0.0483	0.0020	mg/kg	0.0500		97	70-125			
m,p-Xylenes	0.0960	0.0020	mg/kg	0.100		96	70-125			
o-Xylene	0.0455	0.0020	mg/kg	0.0500		91	70-125			
Xylenes, Total	0.142	0.0040	mg/kg	0.150		95	70-125			
Di-isopropyl Ether (DIPE)	0.0342	0.0050	mg/kg	0.0500		68	60-135			
Ethyl tert-Butyl Ether (ETBE)	0.0350	0.0050	mg/kg	0.0500		70	60-135			
tert-Amyl Methyl Ether (TAME)	0.0387	0.0050	mg/kg	0.0500		77	60-140			
Methyl-tert-butyl Ether (MTBE)	0.0368	0.0050	mg/kg	0.0500		74	55-140			
tert-Butanol (TBA)	0.226	0.10	mg/kg	0.250		90	65-135			
Ethanol	0.405	0.30	mg/kg	0.500		81	35-160			
Surrogate: Dibromofluoromethane	*0.0445*		*mg/kg*	*0.0500*		*89*	*80-125*			
Surrogate: Toluene-d8	*0.0523*		*mg/kg*	*0.0500*		*105*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*0.0487*		*mg/kg*	*0.0500*		*97*	*80-120*			

Del Mar Analytical, Irvine
Pat Abe
Project Manager

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Delta Env. Consultants - Aliso Viejo
27141 Aliso Creek Road, Suite 270
Aliso Viejo, CA 92656
Attention: Steve Pence

Project ID: ARCO 6131, Costa Mesa

Report Number: IOF0489

Sampled: 06/07/05
Received: 06/07/05

METHOD BLANK/QC DATA

BTEX/OXYGENATES by GC/MS (EPA 8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5F17008 Extracted: 06/17/05										
Matrix Spike Analyzed: 06/17/2005 (5F17008-MS1)					**Source: IOF0382-12**					
Benzene	0.0456	0.0020	mg/kg	0.0478	ND	95	65-130			
Ethylbenzene	0.0460	0.0020	mg/kg	0.0478	ND	96	70-130			
Toluene	0.0449	0.0020	mg/kg	0.0478	ND	94	70-125			
m,p-Xylenes	0.0887	0.0020	mg/kg	0.0956	ND	93	70-125			
o-Xylene	0.0428	0.0020	mg/kg	0.0478	ND	90	70-125			
Xylenes, Total	0.131	0.0040	mg/kg	0.143	ND	92	70-125			
Di-isopropyl Ether (DIPE)	0.0338	0.0050	mg/kg	0.0478	ND	71	60-145			
Ethyl tert-Butyl Ether (ETBE)	0.0356	0.0050	mg/kg	0.0478	ND	74	60-140			
tert-Amyl Methyl Ether (TAME)	0.0400	0.0050	mg/kg	0.0478	ND	84	60-145			
Methyl-tert-butyl Ether (MTBE)	0.0397	0.0050	mg/kg	0.0478	ND	83	55-150			
tert-Butanol (TBA)	0.211	0.10	mg/kg	0.239	ND	88	65-140			
Ethanol	0.181	0.30	mg/kg	0.478	ND	38	25-160			
Surrogate: Dibromofluoromethane	*0.0443*		*mg/kg*	*0.0478*		*93*	*80-125*			
Surrogate: Toluene-d8	*0.0489*		*mg/kg*	*0.0478*		*102*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*0.0467*		*mg/kg*	*0.0478*		*98*	*80-120*			
Matrix Spike Dup Analyzed: 06/17/2005 (5F17008-MSD1)					**Source: IOF0382-12**					
Benzene	0.0458	0.0020	mg/kg	0.0503	ND	91	65-130	0	20	
Ethylbenzene	0.0459	0.0020	mg/kg	0.0503	ND	91	70-130	0	25	
Toluene	0.0441	0.0020	mg/kg	0.0503	ND	88	70-125	2	20	
m,p-Xylenes	0.0880	0.0020	mg/kg	0.101	ND	87	70-125	1	25	
o-Xylene	0.0423	0.0020	mg/kg	0.0503	ND	84	70-125	1	25	
Xylenes, Total	0.130	0.0040	mg/kg	0.151	ND	86	70-125	1	25	
Di-isopropyl Ether (DIPE)	0.0327	0.0050	mg/kg	0.0503	ND	65	60-145	3	25	
Ethyl tert-Butyl Ether (ETBE)	0.0333	0.0050	mg/kg	0.0503	ND	66	60-140	7	30	
tert-Amyl Methyl Ether (TAME)	0.0383	0.0050	mg/kg	0.0503	ND	76	60-145	4	25	
Methyl-tert-butyl Ether (MTBE)	0.0349	0.0050	mg/kg	0.0503	ND	69	55-150	13	35	
tert-Butanol (TBA)	0.221	0.10	mg/kg	0.252	ND	88	65-140	5	30	
Ethanol	0.313	0.30	mg/kg	0.503	ND	62	25-160	53	40	*RA*
Surrogate: Dibromofluoromethane	*0.0458*		*mg/kg*	*0.0503*		*91*	*80-125*			
Surrogate: Toluene-d8	*0.0517*		*mg/kg*	*0.0503*		*103*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*0.0491*		*mg/kg*	*0.0503*		*98*	*80-120*			

Del Mar Analytical, Irvine
Pat Abe
Project Manager

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Delta Env. Consultants - Aliso Viejo
27141 Aliso Creek Road, Suite 270
Aliso Viejo, CA 92656
Attention: Steve Pence

Project ID: ARCO 6131, Costa Mesa

Report Number: IOF0489

Sampled: 06/07/05
Received: 06/07/05

DATA QUALIFIERS AND DEFINITIONS

AX	Sample too dilute to quantify surrogate
AZ	Surr. recovery outside of acceptance limits due to matrix interf.
BB	Sample > 4x spike concentration
IG	Contract limits originate from BP-GCLN Technical Requirements
LM,AY	The MS and/or MSD were above the acceptance limits due to sample matrix interference. See Blank Spike (LCS).
RA	RPD exceeds limit due to matrix interf.; % recovs. within limits
ND	Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
RPD	Relative Percent Difference

ADDITIONAL COMMENTS

For 8260 analyses:

Due to the high water solubility of alcohols and ketones, the calibration criteria for these compounds is <30% RSD. The average % RSD of all compounds in the calibration is 15%, in accordance with EPA methods.

For Volatile Fuel Hydrocarbons (C6-C12):

Volatile Fuel Hydrocarbons (C6-C12) are quantitated against a gasoline standard.

8015 Analysis EDF Parlabel Cross Reference

Analyte	EDF Parlabel
Volatile Fuel Hydrocarbons (C6-C12)	GROC6C12

Del Mar Analytical, Irvine
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Aliso Viejo, CA 92656
Attention: Steve Pence

Project ID: ARCO 6131, Costa Mesa

Report Number: IOF0489

Sampled: 06/07/05
Received: 06/07/05

Certification Summary

Del Mar Analytical, Irvine

Method	Matrix	Nelac	California
EPA 8015 Mod.	Soil	X	X
EPA 8015 Mod.	Soil-extr	X	X
EPA 8260B	Soil	X	X

Nevada and NELAP provide analyte specific accreditations. Analyte specific information for Del Mar Analytical may be obtained by contacting the laboratory or visiting our website at www.dmalabs.com.

Del Mar Analytical, Irvine
Pat Abe
Project Manager

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Chain of Custody Record

Project Name	ARCO 6131
BP BU/AR Region/Enfos Segment:	Remediation Management, WEST, Orange
State or Lead Regulatory Agency	OCHCA
YEAR	2005
Requested Due Date (mm/dd/yy)	standard 10 day
COC TRACKING No.	

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

Lab Name:	del mar analytical	BP/AR Facility No.:	6131	Consultant/Contractor:	delta evironmental consultants
Lab Address:	17461 derian avenue, irvine, ca	BP/AR Facility Address:	3201 Harbor Boulevard	Address:	27141 aliso creek road
		Site Lat/Long:	Costa Mesa, CA		aliso viejo, ca, 92656
Lab PM:	pat abe	California Global ID #:		e-mail EDD to:	ckuhlmann@deltaenv.com
Tele/Fax:	949-*261-1022	Enfos Project No.	g0b7m	Consultant/Contractor Project No.:	
BP/AR PM Contact Name	Darrel Fah	Provision or RCOP	(Circle one)	Consultant/Contractor Tele/Fax:	949.860.0204
Address	6 Centerpointe Drive, La Palma, CA	Phase/WBS:		Consultant/Contractor PM:	Steve Pence
		Sub Phase/Task	03	Invoice to: Consultant or BP or AR Co (Circle one)	
Tele/Fax:	(714) 378-5105	Cost Element	05	Report Type & QC level	BP level 1

Lab Bottle Order No: 10F0489

Item No.	Sample Description	Time	Date	Matrix: Soil/Solid	Water/Liquid	Air	Laboratory Tracking No.	No. of containers	Preservatives: Unpreserved	H_2SO_4	ICE	HCl	Methanol		Requested Analysis: BTEX 8021	BTEX/TPH	BTEX/Oxy/TPH	EPA 8260 btex	EPA 8270	EPA 8015M tphg	EPA 8260 oxy/etoh				Sample Point Lat/Long and Comments
1	B-12-5	7.43	6/7/05	X				4			X							X		X	X				
2	B-12-10	7.48																							
3	B-12-15	7.54																							
4	B-12-20	8.07																							
5	B-12-25	8.21																							
6	B-12-30	8.49																							PID ≈400ppm
7	B-13-5	9.07																							
8	B-13-10	9.14																							
9	B-13-15	9.23																							
10	B-13-20	9.33																							

		Relinquished By / Affiliation (Sign)	Date	Time	Accepted By / Affiliation (Sign)	Date	Time
Sampler's Full Name:	Susan Nielsen						
Sampler's Company:	Delta Env.		6/7/05	1221		6-7-05	1221
Shipment Date:	6/7/05						
Shipment Method:	Delivery						
Shipment Tracking No:							
Special Instructions:							

Custody Seals In Place (circle one) Y (N) | Temp Blank (circle one) Y (N) | Cooler Temperature on Receipt 4 °F/C (circle one) | Trip Blank Y / (N) (Circle one)

Distribution: White Copy - Laboratory / Yellow Copy - BP/GEM / Pink Copy - Consultant/Contractor

BP COC Rev. 4 10/1/04

Chain of Custody Record

Project Name	ARCO 6131
BP BU/AR Region/Enfos Segment:	Remediation Management, WEST, Orange
State or Lead Regulatory Agency	OCHCA
YEAR	2005
Requested Due Date (mm/dd/yy)	standard 10 day
COC TRACKING No.	

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

Lab Name:	del mar analytical	BP/AR Facility No.:	6131	Consultant/Contractor:	delta evironmental consultants
Lab Address:	17461 derian avenue, irvine, ca	BP/AR Facility Address:	3201 Harbor Boulevard	Address:	27141 aliso creek road
		Site Lat/Long:	Costa Mesa, CA		aliso viejo, ca, 92656
Lab PM:	pat abc	California Global ID #:		e-mail EDD to:	ckuhlmann@deltaenv.com
Tele/Fax:	949-*261-1022	Enfos Project No.	g0b7m	Consultant/Contractor Project No.:	
BP/AR PM Contact Name	Darrel Fah	Provision or RCOP	(Circle one)	Consultant/Contractor Tele/Fax:	949.860.0204
Address	6 Centerpointe Drive, La Palma, CA	Phase/WBS:		Consultant/Contractor PM:	Steve Pence
		Sub Phase/Task	03	Invoice to: Consultant or BP or AR Co (Circle one)	
Tele/Fax:	(714) 378-5105	Cost Element	05	Report Type & QC level	BP level 1

Lab Bottle Order No:

Item No.	Sample Description	Time	Date	Matrix: Soil/Solid	Water/Liquid	Air	Laboratory Tracking No.	No. of containers	Preservatives: Unpreserved	H_2SO_4	ICE	HCl	Methanol		Requested Analysis: BTEX 8021	BTEX/TPH	BTEX/Oxy/TPH	EPA 8260 btex	EPA 8270	EPA 8015M tphg	EPA 8260 oxy/etoh				Sample Point Lat/Long and Comments
							IOF0489																		
1	B-13-25	9.44	6/7/05	X				A			X							X		X	X				
2	B-13-30	10.12	↓	↓				1			↑							↓		↓	↓				
3																									
4																									
5																									
6																									
7																									
8																									
9																									
10																									

		Relinquished By / Affiliation (Sign)	Date	Time	Accepted By / Affiliation (Sign)	Date	Time
Sampler's Full Name:	Susan Nielsen						
Sampler's Company:	Delta Env.		6/7/05	1221		6/7/05	1221
Shipment Date:	6/7/05						
Shipment Method:	Delivery						
Shipment Tracking No:							

Special Instructions:

Custody Seals In Place (circle one) Y (N) | Temp Blank (circle one) Y (N) | Cooler Temperature on Receipt 4 °F/C (circle one) | Trip Blank Y (N) (Circle one)

Distribution: White Copy - Laboratory / Yellow Copy - BP/GEM / Pink Copy - Consultant/Contractor

BP COC Rev. 4 10/1/04

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LABORATORY REPORT

Prepared For: Delta Env. Consultants - Aliso Viejo
27141 Aliso Creek Road, Suite 270
Aliso Viejo, CA 92656
Attention: Steve Pence

Project: ARCO 6131, Costa Mesa

Sampled: 08/29/05
Received: 08/29/05
Issued: 09/13/05 13:51

NELAP #01108CA California ELAP#1197 CSDLAC #10117

The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. The analyses contained in this report were performed in accordance with the applicable certifications as noted. All soil samples are reported on a wet weight basis unless otherwise noted in the report. This Laboratory Report is confidential and is intended for the sole use of Del Mar Analytical and its client. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical. The Chain of Custody, 1 page, is included and is an integral part of this report.
This entire report was reviewed and approved for release.

CASE NARRATIVE

SAMPLE RECEIPT:	Samples were received intact, at 16°C, on ice and with chain of custody documentation.
HOLDING TIMES:	All samples were analyzed within prescribed holding times and/or in accordance with the Del Mar Analytical Sample Acceptance Policy unless otherwise noted in the report.
PRESERVATION:	Samples requiring preservation were verified prior to sample analysis.
QA/QC CRITERIA:	All analyses met method criteria, except as noted in the report with data qualifiers.
COMMENTS:	No significant observations were made.
SUBCONTRACTED:	No analyses were subcontracted to an outside laboratory.

LABORATORY ID	CLIENT ID	MATRIX
IOH2377-01	B-14-5	Soil
IOH2377-02	B-14-10	Soil

Reviewed By:

Del Mar Analytical, Irvine
Pat Abe
Project Manager

Del Mar Analytical

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Delta Env. Consultants - Aliso Viejo
27141 Aliso Creek Road, Suite 270
Aliso Viejo, CA 92656
Attention: Steve Pence

Project ID: ARCO 6131, Costa Mesa

Report Number: IOH2377

Sampled: 08/29/05
Received: 08/29/05

VOLATILE FUEL HYDROCARBONS (EPA 5035B/CADHS Mod. 8015)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOH2377-01 (B-14-5 - Soil)								
Reporting Units: mg/kg								
Volatile Fuel Hydrocarbons (C6-C12)	EPA 8015B	5H31037	0.87	ND	0.865	8/31/2005	8/31/2005	
Surrogate: 4-BFB (FID) (70-135%)				*113 %*				
Sample ID: IOH2377-02 (B-14-10 - Soil)								
Reporting Units: mg/kg								
Volatile Fuel Hydrocarbons (C6-C12)	EPA 8015B	5H31037	0.84	ND	0.839	8/31/2005	8/31/2005	
Surrogate: 4-BFB (FID) (70-135%)				*115 %*				

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Project Manager

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Attention: Steve Pence

Project ID: ARCO 6131, Costa Mesa

Report Number: IOH2377

Sampled: 08/29/05
Received: 08/29/05

BTEX/OXYGENATES by GC/MS (EPA 5035/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOH2377-01 (B-14-5 - Soil)								
Reporting Units: mg/kg								
Benzene	EPA 8260B	5I01007	0.0016	ND	0.799	9/1/2005	9/1/2005	
Ethylbenzene	EPA 8260B	5I01007	0.0016	ND	0.799	9/1/2005	9/1/2005	
Toluene	EPA 8260B	5I01007	0.0016	ND	0.799	9/1/2005	9/1/2005	
o-Xylene	EPA 8260B	5I01007	0.0016	ND	0.799	9/1/2005	9/1/2005	
m,p-Xylenes	EPA 8260B	5I01007	0.0016	ND	0.799	9/1/2005	9/1/2005	
Xylenes, Total	EPA 8260B	5I01007	0.0032	ND	0.799	9/1/2005	9/1/2005	
Di-isopropyl Ether (DIPE)	EPA 8260B	5I01007	0.0040	ND	0.799	9/1/2005	9/1/2005	
Ethyl tert-Butyl Ether (ETBE)	EPA 8260B	5I01007	0.0040	ND	0.799	9/1/2005	9/1/2005	
tert-Amyl Methyl Ether (TAME)	EPA 8260B	5I01007	0.0040	ND	0.799	9/1/2005	9/1/2005	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	5I01007	0.0040	ND	0.799	9/1/2005	9/1/2005	
tert-Butanol (TBA)	EPA 8260B	5I01007	0.040	ND	0.799	9/1/2005	9/1/2005	
Ethanol	EPA 8260B	5I01007	0.24	ND	0.799	9/1/2005	9/1/2005	IO
Surrogate: Dibromofluoromethane (80-125%)				*102 %*				
Surrogate: Toluene-d8 (80-120%)				*102 %*				
Surrogate: 4-Bromofluorobenzene (80-120%)				*95 %*				
Sample ID: IOH2377-02 (B-14-10 - Soil)								
Reporting Units: mg/kg								
Benzene	EPA 8260B	5I01007	0.0017	ND	0.843	9/1/2005	9/1/2005	
Ethylbenzene	EPA 8260B	5I01007	0.0017	ND	0.843	9/1/2005	9/1/2005	
Toluene	EPA 8260B	5I01007	0.0017	ND	0.843	9/1/2005	9/1/2005	
o-Xylene	EPA 8260B	5I01007	0.0017	ND	0.843	9/1/2005	9/1/2005	
m,p-Xylenes	EPA 8260B	5I01007	0.0017	ND	0.843	9/1/2005	9/1/2005	
Xylenes, Total	EPA 8260B	5I01007	0.0034	ND	0.843	9/1/2005	9/1/2005	
Di-isopropyl Ether (DIPE)	EPA 8260B	5I01007	0.0042	ND	0.843	9/1/2005	9/1/2005	
Ethyl tert-Butyl Ether (ETBE)	EPA 8260B	5I01007	0.0042	ND	0.843	9/1/2005	9/1/2005	
tert-Amyl Methyl Ether (TAME)	EPA 8260B	5I01007	0.0042	ND	0.843	9/1/2005	9/1/2005	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	5I01007	0.0042	ND	0.843	9/1/2005	9/1/2005	
tert-Butanol (TBA)	EPA 8260B	5I01007	0.042	ND	0.843	9/1/2005	9/1/2005	
Ethanol	EPA 8260B	5I01007	0.25	ND	0.843	9/1/2005	9/1/2005	IO
Surrogate: Dibromofluoromethane (80-125%)				*100 %*				
Surrogate: Toluene-d8 (80-120%)				*103 %*				
Surrogate: 4-Bromofluorobenzene (80-120%)				*96 %*				

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Project Manager

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Delta Env. Consultants - Aliso Viejo
27141 Aliso Creek Road, Suite 270
Aliso Viejo, CA 92656
Attention: Steve Pence

Project ID: ARCO 6131, Costa Mesa

Report Number: IOH2377

Sampled: 08/29/05
Received: 08/29/05

METHOD BLANK/QC DATA

VOLATILE FUEL HYDROCARBONS (EPA 5035B/CADHS Mod. 8015)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5H31037 Extracted: 08/31/05										
Blank Analyzed: 08/31/2005 (5H31037-BLK1)										
Volatile Fuel Hydrocarbons (C6-C12)	ND	1.0	mg/kg							
Surrogate: 4-BFB (FID)	*0.0241*		*mg/kg*	*0.0200*		*120*	*70-135*			
LCS Analyzed: 08/31/2005 (5H31037-BS1)										**DU**
Volatile Fuel Hydrocarbons (C6-C12)	1.59	1.0	mg/kg	1.60		99	65-135			
Surrogate: 4-BFB (FID)	*0.0700*		*mg/kg*	*0.0600*		*117*	*70-135*			
LCS Dup Analyzed: 08/31/2005 (5H31037-BSD1)										
Volatile Fuel Hydrocarbons (C6-C12)	1.59	1.0	mg/kg	1.60		99	65-135	0	20	
Surrogate: 4-BFB (FID)	*0.0685*		*mg/kg*	*0.0600*		*114*	*70-135*			

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Received: 08/29/05

METHOD BLANK/QC DATA

BTEX/OXYGENATES by GC/MS (EPA 5035/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5I01007 Extracted: 09/01/05										
Blank Analyzed: 09/01/2005 (5I01007-BLK1)										
Benzene	ND	0.0020	mg/kg							
Ethylbenzene	ND	0.0020	mg/kg							
Toluene	ND	0.0020	mg/kg							
o-Xylene	ND	0.0020	mg/kg							
m,p-Xylenes	ND	0.0020	mg/kg							
Xylenes, Total	ND	0.0040	mg/kg							
Di-isopropyl Ether (DIPE)	ND	0.0050	mg/kg							
Ethyl tert-Butyl Ether (ETBE)	ND	0.0050	mg/kg							
tert-Amyl Methyl Ether (TAME)	ND	0.0050	mg/kg							
Methyl-tert-butyl Ether (MTBE)	ND	0.0050	mg/kg							
tert-Butanol (TBA)	ND	0.050	mg/kg							
Ethanol	ND	0.30	mg/kg							
Surrogate: Dibromofluoromethane	*0.0507*		*mg/kg*	*0.0500*		*101*	*80-125*			
Surrogate: Toluene-d8	*0.0513*		*mg/kg*	*0.0500*		*103*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*0.0486*		*mg/kg*	*0.0500*		*97*	*80-120*			
LCS Analyzed: 09/01/2005 (5I01007-BS1)										
Benzene	0.0514	0.0020	mg/kg	0.0500		103	65-120			
Ethylbenzene	0.0469	0.0020	mg/kg	0.0500		94	70-125			
Toluene	0.0469	0.0020	mg/kg	0.0500		94	70-125			
o-Xylene	0.0525	0.0020	mg/kg	0.0500		105	70-125			
m,p-Xylenes	0.0997	0.0020	mg/kg	0.100		100	70-125			
Xylenes, Total	0.152	0.0040	mg/kg	0.150		101	70-125			
Di-isopropyl Ether (DIPE)	0.0592	0.0050	mg/kg	0.0500		118	60-135			
Ethyl tert-Butyl Ether (ETBE)	0.0548	0.0050	mg/kg	0.0500		110	60-135			
tert-Amyl Methyl Ether (TAME)	0.0593	0.0050	mg/kg	0.0500		119	60-140			
Methyl-tert-butyl Ether (MTBE)	0.0559	0.0050	mg/kg	0.0500		112	55-140			
tert-Butanol (TBA)	0.262	0.050	mg/kg	0.250		105	65-135			
Ethanol	0.695	0.30	mg/kg	0.500		139	35-160			
Surrogate: Dibromofluoromethane	*0.0521*		*mg/kg*	*0.0500*		*104*	*80-125*			
Surrogate: Toluene-d8	*0.0516*		*mg/kg*	*0.0500*		*103*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*0.0524*		*mg/kg*	*0.0500*		*105*	*80-120*			

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Aliso Viejo, CA 92656
Attention: Steve Pence

Project ID: ARCO 6131, Costa Mesa

Report Number: IOH2377

Sampled: 08/29/05
Received: 08/29/05

METHOD BLANK/QC DATA

BTEX/OXYGENATES by GC/MS (EPA 5035/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5I01007 Extracted: 09/01/05										
Matrix Spike Analyzed: 09/01/2005 (5I01007-MS1)					**Source: IOH2417-02**					
Benzene	0.0576	0.0020	mg/kg	0.0494	ND	117	65-130			
Ethylbenzene	0.0525	0.0020	mg/kg	0.0494	ND	106	70-130			
Toluene	0.0526	0.0020	mg/kg	0.0494	ND	106	70-125			
o-Xylene	0.0583	0.0020	mg/kg	0.0494	ND	118	70-125			
m,p-Xylenes	0.112	0.0020	mg/kg	0.0988	ND	113	70-125			
Xylenes, Total	0.170	0.0040	mg/kg	0.148	ND	115	70-125			
Di-isopropyl Ether (DIPE)	0.0627	0.0050	mg/kg	0.0494	ND	127	60-145			
Ethyl tert-Butyl Ether (ETBE)	0.0544	0.0050	mg/kg	0.0494	ND	110	60-140			
tert-Amyl Methyl Ether (TAME)	0.0567	0.0050	mg/kg	0.0494	ND	115	60-145			
Methyl-tert-butyl Ether (MTBE)	0.0517	0.0050	mg/kg	0.0494	ND	105	55-150			
tert-Butanol (TBA)	0.247	0.050	mg/kg	0.247	ND	100	65-140			
Ethanol	0.794	0.30	mg/kg	0.494	ND	161	25-160			*LM,AY*
Surrogate: Dibromofluoromethane	*0.0514*		*mg/kg*	*0.0494*		*104*	*80-125*			
Surrogate: Toluene-d8	*0.0508*		*mg/kg*	*0.0494*		*103*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*0.0506*		*mg/kg*	*0.0494*		*102*	*80-120*			
Matrix Spike Dup Analyzed: 09/01/2005 (5I01007-MSD1)					**Source: IOH2417-02**					
Benzene	0.0562	0.0020	mg/kg	0.0497	ND	113	65-130	2	20	
Ethylbenzene	0.0498	0.0020	mg/kg	0.0497	ND	100	70-130	5	25	
Toluene	0.0506	0.0020	mg/kg	0.0497	ND	102	70-125	4	20	
o-Xylene	0.0549	0.0020	mg/kg	0.0497	ND	110	70-125	6	25	
m,p-Xylenes	0.105	0.0020	mg/kg	0.0994	ND	106	70-125	6	25	
Xylenes, Total	0.160	0.0040	mg/kg	0.149	ND	107	70-125	6	25	
Di-isopropyl Ether (DIPE)	0.0628	0.0050	mg/kg	0.0497	ND	126	60-145	0	25	
Ethyl tert-Butyl Ether (ETBE)	0.0571	0.0050	mg/kg	0.0497	ND	115	60-140	5	30	
tert-Amyl Methyl Ether (TAME)	0.0610	0.0050	mg/kg	0.0497	ND	123	60-145	7	25	
Methyl-tert-butyl Ether (MTBE)	0.0573	0.0050	mg/kg	0.0497	ND	115	55-150	10	35	
tert-Butanol (TBA)	0.245	0.050	mg/kg	0.249	ND	98	65-140	1	30	
Ethanol	0.701	0.30	mg/kg	0.497	ND	141	25-160	12	40	
Surrogate: Dibromofluoromethane	*0.0509*		*mg/kg*	*0.0497*		*102*	*80-125*			
Surrogate: Toluene-d8	*0.0520*		*mg/kg*	*0.0497*		*105*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*0.0503*		*mg/kg*	*0.0497*		*101*	*80-120*			

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Project Manager

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Attention: Steve Pence

Project ID: ARCO 6131, Costa Mesa

Report Number: IOH2377

Sampled: 08/29/05
Received: 08/29/05

DATA QUALIFIERS AND DEFINITIONS

DU	Insufficient sample quantity for matrix spike/dup matrix spike
IO	Contract limits originate from BP-GCLN Technical Requirements
LM,AY	The MS and/or MSD were above the acceptance limits due to sample matrix interference. See Blank Spike (LCS).
ND	Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
RPD	Relative Percent Difference

ADDITIONAL COMMENTS

For 8260 analyses:

Due to the high water solubility of alcohols and ketones, the calibration criteria for these compounds is <30% RSD. The average % RSD of all compounds in the calibration is 15%, in accordance with EPA methods.

For Volatile Fuel Hydrocarbons (C6-C12):

Volatile Fuel Hydrocarbons (C6-C12) are quantitated against a gasoline standard.

8015 Analysis EDF Parlabel Cross Reference

Analyte	EDF Parlabel
Volatile Fuel Hydrocarbons (C6-C12)	GROC6C12

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Attention: Steve Pence

Project ID: ARCO 6131, Costa Mesa

Report Number: IOH2377

Sampled: 08/29/05
Received: 08/29/05

Certification Summary

Del Mar Analytical, Irvine

Method	Matrix	Nelac	California
EDD	Soil		
EPA 5035	Soil		
EPA 8015B	Soil	X	X
EPA 8260B	Soil	X	X

Nevada and NELAP provide analyte specific accreditations. Analyte specific information for Del Mar Analytical may be obtained by contacting the laboratory or visiting our website at www.dmalabs.com.

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Project Manager

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Chain of Custody Record

bp

Project Name	ARCO 6131	Page 1 of 1	
BP BU/AR Region/Enfos Segment:	Remediation Management, WEST, Orange	On-site Time:	Temp:
State or Lead Regulatory Agency	OCHCA	Off- site Time:	Temp:
YEAR 2005	Requested Due Date (mm/dd/yy) standard 10 day	Sky Conditions:	
	COC TRACKING No.	Meteorological Events:	
		Wind Speed:	Direction:

Lab Name:	del mar analytical	BP/AR Facility No.:	6131	Consultant/Contractor:	delta evironmental consultants
Lab Address:	17461 derian avenue, irvine, ca	BP/AR Facility Address:	3201 Harbor Boulevard	Address:	27141 aliso creek road
		Site Lat/Long:	Costa Mesa, CA		aliso viejo, ca, 92656
Lab PM:	pat abe	California Global ID #:		e-mail EDD to:	ckuhlmann@deltaenv.com
Tele/Fax:	949-*261-1022	Enfos Project No.	g0b7m	Consultant/Contractor Project No.:	
BP/AR PM Contact Name	Darrel Fah	Provision or RCOP	(Circle one)	Consultant/Contractor Tele/Fax:	949.860.0204
Address	6 Centerpointe Drive, La Palma, CA	Phase/WBS:		Consultant/Contractor PM:	Steve Pence
		Sub Phase/Task	03	Invoice to: Consultant or BP or AR Co (Circle one)	
Tele/Fax:	(714) 378-5105	Cost Element	05	Report Type & QC level	BP level 1

Lab Bottle Order No:

Item No.	Sample Description	Time	Date	Matrix: Soil/Solid	Water/Liquid	Air	Laboratory Tracking No.	No. of containers	Preservatives: Unpreserved	H_2SO_4	ICE	HCl	Methanol	Requested Analysis: BTEX 8021	BTEX/TPH	BTEX/Oxy/TPH	EPA 8260 btex	EPA 8270	EPA 8015M tphg	EPA 8260 oxy/etoh				Sample Point Lat/Long and Comments
1	B-14-5	10:54	8/29/05	X			IOH2377	1			X						X		X	X				
2	B-14-10	11:20	↓	X				1			X						X		X	X				
3																								
4																								
5																								
6																								
7																								
8																								
9																								CR
10																								

		Relinquished By / Affiliation(Sign)	Date	Time	Accepted By / Affiliation(Sign)	Date	Time
Sampler's Full Name:	Susan Nielsen						
Sampler's Company:	Delta Env.		8/29/05	12:38		8/29/05	12:38
Shipment Date:	8/29/05						
Shipment Method:	Delivery						
Shipment Tracking No:							

Special Instructions:

Custody Seals In Place (circle one) Y N | Temp Blank (circle one) Y N | Cooler Temperature on Receipt 16 °F/C (circle one) | Trip Blank Y / N (Circle one)

Distribution: White Copy - Laboratory / Yellow Copy - BP/GEM / Pink Copy - Consultant/Contractor

BP COC Rev. 4 10/1/04

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LABORATORY REPORT

Prepared For: Delta Env. Consultants - Aliso Viejo
27141 Aliso Creek Road, Suite 270
Aliso Viejo, CA 92656
Attention: Steve Pence

Project: ARCO 6131, Costa Mesa

Sampled: 09/06/05
Received: 09/06/05
Issued: 09/20/05 10:19

NELAP #01108CA California ELAP#1197 CSDLAC #10117

The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. The analyses contained in this report were performed in accordance with the applicable certifications as noted. All soil samples are reported on a wet weight basis unless otherwise noted in the report. This Laboratory Report is confidential and is intended for the sole use of Del Mar Analytical and its client. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical. The Chain of Custody, 1 page, is included and is an integral part of this report.
This entire report was reviewed and approved for release.

CASE NARRATIVE

SAMPLE RECEIPT:	Samples were received intact, at 4°C, on ice and with chain of custody documentation.
HOLDING TIMES:	All samples were analyzed within prescribed holding times and/or in accordance with the Del Mar Analytical Sample Acceptance Policy unless otherwise noted in the report.
PRESERVATION:	Samples requiring preservation were verified prior to sample analysis.
QA/QC CRITERIA:	All analyses met method criteria, except as noted in the report with data qualifiers.
COMMENTS:	No significant observations were made.
SUBCONTRACTED:	No analyses were subcontracted to an outside laboratory.

LABORATORY ID	CLIENT ID	MATRIX
IOI0250-01	B-14-15	Soil
IOI0250-02	B-14-20	Soil
IOI0250-03	B-14-25	Soil
IOI0250-04	B-14-30	Soil
IOI0250-05	B-14-35	Soil

Reviewed By:

Del Mar Analytical, Irvine
Pat Abe
Project Manager

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Delta Env. Consultants - Aliso Viejo
27141 Aliso Creek Road, Suite 270
Aliso Viejo, CA 92656
Attention: Steve Pence

Project ID: ARCO 6131, Costa Mesa

Report Number: IOI0250

Sampled: 09/06/05
Received: 09/06/05

VOLATILE FUEL HYDROCARBONS (EPA 5035B/CADHS Mod. 8015)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOI0250-01 (B-14-15 - Soil)				**Sampled: 09/06/05**				
Reporting Units: mg/kg								
Volatile Fuel Hydrocarbons (C6-C12)	EPA 8015B	5I08039	1.2	ND	1.24	9/8/2005	9/8/2005	
Surrogate: 4-BFB (FID) (70-135%)				*115 %*				
Sample ID: IOI0250-02 (B-14-20 - Soil)				**Sampled: 09/06/05**				
Reporting Units: mg/kg								
Volatile Fuel Hydrocarbons (C6-C12)	EPA 8015B	5I08039	1.0	ND	1.05	9/8/2005	9/8/2005	
Surrogate: 4-BFB (FID) (70-135%)				*100 %*				
Sample ID: IOI0250-03 (B-14-25 - Soil)				**Sampled: 09/06/05**				
Reporting Units: mg/kg								
Volatile Fuel Hydrocarbons (C6-C12)	EPA 8015B	5I10023	1.0	ND	1.02	9/10/2005	9/10/2005	
Surrogate: 4-BFB (FID) (70-135%)				*126 %*				
Sample ID: IOI0250-04 (B-14-30 - Soil)				**Sampled: 09/06/05**				
Reporting Units: mg/kg								
Volatile Fuel Hydrocarbons (C6-C12)	EPA 8015B	5I12056	500	**1200**	507	9/13/2005	9/13/2005	
Surrogate: 4-BFB (FID) (70-135%)				*1200 %*				*AX*
Sample ID: IOI0250-05 (B-14-35 - Soil)				**Sampled: 09/06/05**				
Reporting Units: mg/kg								
Volatile Fuel Hydrocarbons (C6-C12)	EPA 8015B	5I10023	1.0	ND	1.01	9/10/2005	9/10/2005	
Surrogate: 4-BFB (FID) (70-135%)				*112 %*				

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Project Manager

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Attention: Steve Pence

Project ID: ARCO 6131, Costa Mesa

Report Number: IOI0250

Sampled: 09/06/05
Received: 09/06/05

BTEX/OXYGENATES by GC/MS (EPA 5035/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOI0250-01 (B-14-15 - Soil)				**Sampled: 09/06/05**				
Reporting Units: mg/kg								
Benzene	EPA 8260B	5I08006	0.0023	ND	1.15	9/8/2005	9/8/2005	
Ethylbenzene	EPA 8260B	5I08006	0.0023	ND	1.15	9/8/2005	9/8/2005	
Toluene	EPA 8260B	5I08006	0.0023	ND	1.15	9/8/2005	9/8/2005	
o-Xylene	EPA 8260B	5I08006	0.0023	ND	1.15	9/8/2005	9/8/2005	
m,p-Xylenes	EPA 8260B	5I08006	0.0023	ND	1.15	9/8/2005	9/8/2005	
Xylenes, Total	EPA 8260B	5I08006	0.0046	ND	1.15	9/8/2005	9/8/2005	
Di-isopropyl Ether (DIPE)	EPA 8260B	5I08006	0.0057	ND	1.15	9/8/2005	9/8/2005	
Ethyl tert-Butyl Ether (ETBE)	EPA 8260B	5I08006	0.0057	ND	1.15	9/8/2005	9/8/2005	
tert-Amyl Methyl Ether (TAME)	EPA 8260B	5I08006	0.0057	ND	1.15	9/8/2005	9/8/2005	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	5I08006	0.0057	ND	1.15	9/8/2005	9/8/2005	
tert-Butanol (TBA)	EPA 8260B	5I08006	0.057	ND	1.15	9/8/2005	9/8/2005	
Ethanol	EPA 8260B	5I08006	0.34	ND	1.15	9/8/2005	9/8/2005	
Surrogate: Dibromofluoromethane (80-125%)				*117 %*				
Surrogate: Toluene-d8 (80-120%)				*100 %*				
Surrogate: 4-Bromofluorobenzene (80-120%)				*97 %*				
Sample ID: IOI0250-02 (B-14-20 - Soil)				**Sampled: 09/06/05**				
Reporting Units: mg/kg								
Benzene	EPA 8260B	5I08006	0.0020	ND	1.03	9/8/2005	9/8/2005	
Ethylbenzene	EPA 8260B	5I08006	0.0020	ND	1.03	9/8/2005	9/8/2005	
Toluene	EPA 8260B	5I08006	0.0020	ND	1.03	9/8/2005	9/8/2005	
o-Xylene	EPA 8260B	5I08006	0.0020	ND	1.03	9/8/2005	9/8/2005	
m,p-Xylenes	EPA 8260B	5I08006	0.0020	ND	1.03	9/8/2005	9/8/2005	
Xylenes, Total	EPA 8260B	5I08006	0.0040	ND	1.03	9/8/2005	9/8/2005	
Di-isopropyl Ether (DIPE)	EPA 8260B	5I08006	0.0050	ND	1.03	9/8/2005	9/8/2005	
Ethyl tert-Butyl Ether (ETBE)	EPA 8260B	5I08006	0.0050	ND	1.03	9/8/2005	9/8/2005	
tert-Amyl Methyl Ether (TAME)	EPA 8260B	5I08006	0.0050	ND	1.03	9/8/2005	9/8/2005	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	5I08006	0.0050	ND	1.03	9/8/2005	9/8/2005	
tert-Butanol (TBA)	EPA 8260B	5I08006	0.050	ND	1.03	9/8/2005	9/8/2005	
Ethanol	EPA 8260B	5I08006	0.30	ND	1.03	9/8/2005	9/8/2005	
Surrogate: Dibromofluoromethane (80-125%)				*113 %*				
Surrogate: Toluene-d8 (80-120%)				*100 %*				
Surrogate: 4-Bromofluorobenzene (80-120%)				*95 %*				

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Attention: Steve Pence

Project ID: ARCO 6131, Costa Mesa

Report Number: IOI0250

Sampled: 09/06/05
Received: 09/06/05

BTEX/OXYGENATES by GC/MS (EPA 5035/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOI0250-03 (B-14-25 - Soil)				**Sampled: 09/06/05**				
Reporting Units: mg/kg								
Benzene	EPA 8260B	5I08006	0.0020	ND	0.911	9/8/2005	9/8/2005	
Ethylbenzene	EPA 8260B	5I08006	0.0020	ND	0.911	9/8/2005	9/8/2005	
Toluene	EPA 8260B	5I08006	0.0020	ND	0.911	9/8/2005	9/8/2005	
o-Xylene	EPA 8260B	5I08006	0.0020	ND	0.911	9/8/2005	9/8/2005	
m,p-Xylenes	EPA 8260B	5I08006	0.0020	ND	0.911	9/8/2005	9/8/2005	
Xylenes, Total	EPA 8260B	5I08006	0.0040	ND	0.911	9/8/2005	9/8/2005	
Di-isopropyl Ether (DIPE)	EPA 8260B	5I08006	0.0050	ND	0.911	9/8/2005	9/8/2005	
Ethyl tert-Butyl Ether (ETBE)	EPA 8260B	5I08006	0.0050	ND	0.911	9/8/2005	9/8/2005	
tert-Amyl Methyl Ether (TAME)	EPA 8260B	5I08006	0.0050	ND	0.911	9/8/2005	9/8/2005	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	5I08006	0.0050	ND	0.911	9/8/2005	9/8/2005	
tert-Butanol (TBA)	EPA 8260B	5I08006	0.050	ND	0.911	9/8/2005	9/8/2005	
Ethanol	EPA 8260B	5I08006	0.30	ND	0.911	9/8/2005	9/8/2005	
Surrogate: Dibromofluoromethane (80-125%)				*113 %*				
Surrogate: Toluene-d8 (80-120%)				*99 %*				
Surrogate: 4-Bromofluorobenzene (80-120%)				*96 %*				
Sample ID: IOI0250-04 (B-14-30 - Soil)				**Sampled: 09/06/05**				
Reporting Units: mg/kg								
Benzene	EPA 8260B	5I07029	0.10	ND	102	9/7/2005	9/9/2005	
Ethylbenzene	EPA 8260B	5I07029	0.10	**9.3**	102	9/7/2005	9/9/2005	
Toluene	EPA 8260B	5I07029	0.10	**0.12**	102	9/7/2005	9/9/2005	
o-Xylene	EPA 8260B	5I07029	0.10	**0.99**	102	9/7/2005	9/9/2005	
m,p-Xylenes	EPA 8260B	5I07029	0.10	**8.5**	102	9/7/2005	9/9/2005	
Xylenes, Total	EPA 8260B	5I07029	0.20	**9.4**	102	9/7/2005	9/9/2005	
Di-isopropyl Ether (DIPE)	EPA 8260B	5I07029	0.25	ND	102	9/7/2005	9/9/2005	
Ethyl tert-Butyl Ether (ETBE)	EPA 8260B	5I07029	0.25	ND	102	9/7/2005	9/9/2005	
tert-Amyl Methyl Ether (TAME)	EPA 8260B	5I07029	0.25	ND	102	9/7/2005	9/9/2005	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	5I07029	0.25	ND	102	9/7/2005	9/9/2005	
tert-Butanol (TBA)	EPA 8260B	5I07029	5.0	ND	102	9/7/2005	9/9/2005	
Ethanol	EPA 8260B	5I07029	15	ND	102	9/7/2005	9/9/2005	IO, LP
Surrogate: Dibromofluoromethane (55-140%)				*61 %*				
Surrogate: Toluene-d8 (60-140%)				*67 %*				
Surrogate: 4-Bromofluorobenzene (65-140%)				*74 %*				

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Attention: Steve Pence

Project ID: ARCO 6131, Costa Mesa

Report Number: IOI0250

Sampled: 09/06/05
Received: 09/06/05

BTEX/OXYGENATES by GC/MS (EPA 5035/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOI0250-05 (B-14-35 - Soil)				**Sampled: 09/06/05**				
Reporting Units: mg/kg								
Benzene	EPA 8260B	5I08006	0.0018	ND	0.876	9/8/2005	9/8/2005	
Ethylbenzene	EPA 8260B	5I08006	0.0018	ND	0.876	9/8/2005	9/8/2005	
Toluene	EPA 8260B	5I08006	0.0018	ND	0.876	9/8/2005	9/8/2005	
o-Xylene	EPA 8260B	5I08006	0.0018	ND	0.876	9/8/2005	9/8/2005	
m,p-Xylenes	EPA 8260B	5I08006	0.0018	ND	0.876	9/8/2005	9/8/2005	
Xylenes, Total	EPA 8260B	5I08006	0.0035	ND	0.876	9/8/2005	9/8/2005	
Di-isopropyl Ether (DIPE)	EPA 8260B	5I08006	0.0044	ND	0.876	9/8/2005	9/8/2005	
Ethyl tert-Butyl Ether (ETBE)	EPA 8260B	5I08006	0.0044	ND	0.876	9/8/2005	9/8/2005	
tert-Amyl Methyl Ether (TAME)	EPA 8260B	5I08006	0.0044	ND	0.876	9/8/2005	9/8/2005	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	5I08006	0.0044	ND	0.876	9/8/2005	9/8/2005	
tert-Butanol (TBA)	EPA 8260B	5I08006	0.044	ND	0.876	9/8/2005	9/8/2005	
Ethanol	EPA 8260B	5I08006	0.26	ND	0.876	9/8/2005	9/8/2005	
Surrogate: Dibromofluoromethane (80-125%)				*115 %*				
Surrogate: Toluene-d8 (80-120%)				*100 %*				
Surrogate: 4-Bromofluorobenzene (80-120%)				*97 %*				

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Project ID: ARCO 6131, Costa Mesa

Report Number: IOI0250

Sampled: 09/06/05
Received: 09/06/05

METHOD BLANK/QC DATA

VOLATILE FUEL HYDROCARBONS (EPA 5035B/CADHS Mod. 8015)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5I08039 Extracted: 09/08/05										
Blank Analyzed: 09/08/2005 (5I08039-BLK1)										
Volatile Fuel Hydrocarbons (C6-C12)	ND	1.0	mg/kg							
Surrogate: 4-BFB (FID)	*0.0235*		*mg/kg*	*0.0200*		*118*	*70-135*			
LCS Analyzed: 09/08/2005 (5I08039-BS1)										**DU**
Volatile Fuel Hydrocarbons (C6-C12)	1.64	1.0	mg/kg	1.60		102	65-135			
Surrogate: 4-BFB (FID)	*0.0671*		*mg/kg*	*0.0600*		*112*	*70-135*			
LCS Dup Analyzed: 09/08/2005 (5I08039-BSD1)										
Volatile Fuel Hydrocarbons (C6-C12)	1.70	1.0	mg/kg	1.60		106	65-135	4	20	
Surrogate: 4-BFB (FID)	*0.0685*		*mg/kg*	*0.0600*		*114*	*70-135*			
Batch: 5I10023 Extracted: 09/10/05										
Blank Analyzed: 09/10/2005 (5I10023-BLK1)										
Volatile Fuel Hydrocarbons (C6-C12)	ND	1.0	mg/kg							
Surrogate: 4-BFB (FID)	*0.0250*		*mg/kg*	*0.0200*		*125*	*70-135*			
LCS Analyzed: 09/10/2005 (5I10023-BS1)										**DU**
Volatile Fuel Hydrocarbons (C6-C12)	1.70	1.0	mg/kg	1.60		106	65-135			
Surrogate: 4-BFB (FID)	*0.0717*		*mg/kg*	*0.0600*		*120*	*70-135*			
LCS Dup Analyzed: 09/10/2005 (5I10023-BSD1)										
Volatile Fuel Hydrocarbons (C6-C12)	1.71	1.0	mg/kg	1.60		107	65-135	1	20	
Surrogate: 4-BFB (FID)	*0.0741*		*mg/kg*	*0.0600*		*124*	*70-135*			
Batch: 5I12056 Extracted: 09/12/05										
Blank Analyzed: 09/13/2005 (5I12056-BLK1)										
Volatile Fuel Hydrocarbons (C6-C12)	ND	50	mg/kg							
Surrogate: 4-BFB (FID)	*2.40*		*mg/kg*	*2.00*		*120*	*70-135*			

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Report Number: IOI0250

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METHOD BLANK/QC DATA

VOLATILE FUEL HYDROCARBONS (EPA 5035B/CADHS Mod. 8015)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5I12056 Extracted: 09/12/05										
LCS Analyzed: 09/13/2005 (5I12056-BS1)										**DU**
Volatile Fuel Hydrocarbons (C6-C12)	124	100	mg/kg	160		78	65-135			
Surrogate: 4-BFB (FID)	*5.12*		*mg/kg*	*6.00*		*85*	*70-135*			
LCS Dup Analyzed: 09/13/2005 (5I12056-BSD1)										
Volatile Fuel Hydrocarbons (C6-C12)	158	100	mg/kg	160		99	65-135	24	20	*RB*
Surrogate: 4-BFB (FID)	*6.96*		*mg/kg*	*6.00*		*116*	*70-135*			

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Report Number: IOI0250

Sampled: 09/06/05
Received: 09/06/05

METHOD BLANK/QC DATA

BTEX/OXYGENATES by GC/MS (EPA 5035/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5I07029 Extracted: 09/07/05										
Blank Analyzed: 09/07/2005 (5I07029-BLK1)										
Benzene	ND	0.10	mg/kg							
Ethylbenzene	ND	0.10	mg/kg							
Toluene	ND	0.10	mg/kg							
o-Xylene	ND	0.10	mg/kg							
m,p-Xylenes	ND	0.10	mg/kg							
Xylenes, Total	ND	0.20	mg/kg							
Di-isopropyl Ether (DIPE)	ND	0.25	mg/kg							
Ethyl tert-Butyl Ether (ETBE)	ND	0.25	mg/kg							
tert-Amyl Methyl Ether (TAME)	ND	0.25	mg/kg							
Methyl-tert-butyl Ether (MTBE)	ND	0.25	mg/kg							
tert-Butanol (TBA)	ND	5.0	mg/kg							
Ethanol	ND	15	mg/kg							
Surrogate: Dibromofluoromethane	*2.51*		*mg/kg*	*2.50*		*100*	*55-140*			
Surrogate: Toluene-d8	*2.49*		*mg/kg*	*2.50*		*100*	*60-140*			
Surrogate: 4-Bromofluorobenzene	*2.49*		*mg/kg*	*2.50*		*100*	*65-140*			
LCS Analyzed: 09/07/2005 (5I07029-BS1)										
Benzene	2.44	0.10	mg/kg	2.50		98	65-120			
Ethylbenzene	2.64	0.10	mg/kg	2.50		106	80-120			
Toluene	2.56	0.10	mg/kg	2.50		102	80-120			
o-Xylene	2.56	0.10	mg/kg	2.50		102	70-125			
m,p-Xylenes	5.17	0.10	mg/kg	5.00		103	70-125			
Xylenes, Total	7.72	0.20	mg/kg	7.50		103	70-125			
Di-isopropyl Ether (DIPE)	2.59	0.25	mg/kg	2.50		104	60-140			
Ethyl tert-Butyl Ether (ETBE)	2.78	0.25	mg/kg	2.50		111	60-140			
tert-Amyl Methyl Ether (TAME)	2.84	0.25	mg/kg	2.50		114	60-145			
Methyl-tert-butyl Ether (MTBE)	2.79	0.25	mg/kg	2.50		112	55-145			
tert-Butanol (TBA)	13.9	5.0	mg/kg	12.5		111	65-140			
Ethanol	44.7	15	mg/kg	25.0		179	35-160			*LP*
Surrogate: Dibromofluoromethane	*2.65*		*mg/kg*	*2.50*		*106*	*55-140*			
Surrogate: Toluene-d8	*2.62*		*mg/kg*	*2.50*		*105*	*60-140*			
Surrogate: 4-Bromofluorobenzene	*2.63*		*mg/kg*	*2.50*		*105*	*65-140*			

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Delta Env. Consultants - Aliso Viejo
27141 Aliso Creek Road, Suite 270
Aliso Viejo, CA 92656
Attention: Steve Pence

Project ID: ARCO 6131, Costa Mesa

Report Number: IOI0250

Sampled: 09/06/05
Received: 09/06/05

METHOD BLANK/QC DATA

BTEX/OXYGENATES by GC/MS (EPA 5035/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5I07029 Extracted: 09/07/05										
LCS Dup Analyzed: 09/07/2005 (5I07029-BSD1)										
Benzene	2.30	0.10	mg/kg	2.50		92	65-120	6	20	
Ethylbenzene	2.47	0.10	mg/kg	2.50		99	80-120	7	20	
Toluene	2.40	0.10	mg/kg	2.50		96	80-120	6	20	
o-Xylene	2.41	0.10	mg/kg	2.50		96	70-125	6	20	
m,p-Xylenes	4.82	0.10	mg/kg	5.00		96	70-125	7	20	
Xylenes, Total	7.22	0.20	mg/kg	7.50		96	70-125	7	20	
Di-isopropyl Ether (DIPE)	2.37	0.25	mg/kg	2.50		95	60-140	9	20	
Ethyl tert-Butyl Ether (ETBE)	2.45	0.25	mg/kg	2.50		98	60-140	13	20	
tert-Amyl Methyl Ether (TAME)	2.48	0.25	mg/kg	2.50		99	60-145	14	25	
Methyl-tert-butyl Ether (MTBE)	2.38	0.25	mg/kg	2.50		95	55-145	16	25	
tert-Butanol (TBA)	13.4	5.0	mg/kg	12.5		107	65-140	4	20	
Ethanol	21.0	15	mg/kg	25.0		84	35-160	72	30	*BA*
Surrogate: Dibromofluoromethane	*2.40*		*mg/kg*	*2.50*		*96*	*55-140*			
Surrogate: Toluene-d8	*2.42*		*mg/kg*	*2.50*		*97*	*60-140*			
Surrogate: 4-Bromofluorobenzene	*2.41*		*mg/kg*	*2.50*		*96*	*65-140*			
Matrix Spike Analyzed: 09/07/2005 (5I07029-MS1)					**Source: IOH2512-02**					
Benzene	2.09	0.10	mg/kg	2.52	ND	83	55-140			
Ethylbenzene	2.30	0.10	mg/kg	2.52	0.044	90	50-150			
Toluene	2.32	0.10	mg/kg	2.52	0.12	87	55-140			
o-Xylene	2.23	0.10	mg/kg	2.52	0.050	87	55-145			
m,p-Xylenes	4.57	0.10	mg/kg	5.03	0.15	88	60-145			
Xylenes, Total	6.80	0.20	mg/kg	7.55	0.20	87	55-145			
Di-isopropyl Ether (DIPE)	2.27	0.25	mg/kg	2.52	ND	90	60-150			
Ethyl tert-Butyl Ether (ETBE)	2.39	0.25	mg/kg	2.52	ND	95	60-150			
tert-Amyl Methyl Ether (TAME)	2.41	0.25	mg/kg	2.52	ND	96	60-150			
Methyl-tert-butyl Ether (MTBE)	2.28	0.25	mg/kg	2.52	ND	90	55-155			
tert-Butanol (TBA)	13.1	5.0	mg/kg	12.6	ND	104	60-155			
Ethanol	13.5	15	mg/kg	25.2	ND	54	30-160			
Surrogate: Dibromofluoromethane	*2.05*		*mg/kg*	*2.52*		*81*	*55-140*			
Surrogate: Toluene-d8	*2.09*		*mg/kg*	*2.52*		*83*	*60-140*			
Surrogate: 4-Bromofluorobenzene	*2.11*		*mg/kg*	*2.52*		*84*	*65-140*			

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Delta Env. Consultants - Aliso Viejo
27141 Aliso Creek Road, Suite 270
Aliso Viejo, CA 92656
Attention: Steve Pence

Project ID: ARCO 6131, Costa Mesa

Report Number: IOI0250

Sampled: 09/06/05
Received: 09/06/05

METHOD BLANK/QC DATA

BTEX/OXYGENATES by GC/MS (EPA 5035/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5I07029 Extracted: 09/07/05										
Matrix Spike Dup Analyzed: 09/07/2005 (5I07029-MSD1)					**Source: IOH2512-02**					
Benzene	2.01	0.10	mg/kg	2.57	ND	78	55-140	4	25	
Ethylbenzene	2.27	0.10	mg/kg	2.57	0.044	87	50-150	1	25	
Toluene	2.25	0.10	mg/kg	2.57	0.12	83	55-140	3	25	
o-Xylene	2.19	0.10	mg/kg	2.57	0.050	83	55-145	2	25	
m,p-Xylenes	4.51	0.10	mg/kg	5.14	0.15	85	60-145	1	25	
Xylenes, Total	6.71	0.20	mg/kg	7.72	0.20	84	55-145	1	25	
Di-isopropyl Ether (DIPE)	2.06	0.25	mg/kg	2.57	ND	80	60-150	10	25	
Ethyl tert-Butyl Ether (ETBE)	2.11	0.25	mg/kg	2.57	ND	82	60-150	12	25	
tert-Amyl Methyl Ether (TAME)	2.05	0.25	mg/kg	2.57	ND	80	60-150	16	25	
Methyl-tert-butyl Ether (MTBE)	1.90	0.25	mg/kg	2.57	ND	74	55-155	18	30	
tert-Butanol (TBA)	12.2	5.0	mg/kg	12.9	ND	95	60-155	7	25	
Ethanol	33.0	15	mg/kg	25.7	ND	128	30-160	84	40	*RA*
Surrogate: Dibromofluoromethane	*1.89*		*mg/kg*	*2.57*		*74*	*55-140*			
Surrogate: Toluene-d8	*1.98*		*mg/kg*	*2.57*		*77*	*60-140*			
Surrogate: 4-Bromofluorobenzene	*1.98*		*mg/kg*	*2.57*		*77*	*65-140*			
Batch: 5I08006 Extracted: 09/08/05										
Blank Analyzed: 09/08/2005 (5I08006-BLK1)										
Benzene	ND	0.0020	mg/kg							
Ethylbenzene	ND	0.0020	mg/kg							
Toluene	ND	0.0020	mg/kg							
o-Xylene	ND	0.0020	mg/kg							
m,p-Xylenes	ND	0.0020	mg/kg							
Xylenes, Total	ND	0.0040	mg/kg							
Di-isopropyl Ether (DIPE)	ND	0.0050	mg/kg							
Ethyl tert-Butyl Ether (ETBE)	ND	0.0050	mg/kg							
tert-Amyl Methyl Ether (TAME)	ND	0.0050	mg/kg							
Methyl-tert-butyl Ether (MTBE)	ND	0.0050	mg/kg							
tert-Butanol (TBA)	ND	0.050	mg/kg							
Ethanol	ND	0.30	mg/kg							
Surrogate: Dibromofluoromethane	*0.0551*		*mg/kg*	*0.0500*		*110*	*80-125*			
Surrogate: Toluene-d8	*0.0492*		*mg/kg*	*0.0500*		*98*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*0.0478*		*mg/kg*	*0.0500*		*96*	*80-120*			

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Project Manager

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Delta Env. Consultants - Aliso Viejo
27141 Aliso Creek Road, Suite 270
Aliso Viejo, CA 92656
Attention: Steve Pence

Project ID: ARCO 6131, Costa Mesa

Report Number: IOI0250

Sampled: 09/06/05
Received: 09/06/05

METHOD BLANK/QC DATA

BTEX/OXYGENATES by GC/MS (EPA 5035/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5I08006 Extracted: 09/08/05										
LCS Analyzed: 09/08/2005 (5I08006-BS1)										**DU**
Benzene	0.0418	0.0020	mg/kg	0.0500		84	65-120			
Ethylbenzene	0.0427	0.0020	mg/kg	0.0500		85	70-125			
Toluene	0.0429	0.0020	mg/kg	0.0500		86	70-125			
o-Xylene	0.0431	0.0020	mg/kg	0.0500		86	70-125			
m,p-Xylenes	0.0868	0.0020	mg/kg	0.100		87	70-125			
Xylenes, Total	0.130	0.0040	mg/kg	0.150		87	70-125			
Di-isopropyl Ether (DIPE)	0.0465	0.0050	mg/kg	0.0500		93	60-135			
Ethyl tert-Butyl Ether (ETBE)	0.0440	0.0050	mg/kg	0.0500		88	60-135			
tert-Amyl Methyl Ether (TAME)	0.0491	0.0050	mg/kg	0.0500		98	60-140			
Methyl-tert-butyl Ether (MTBE)	0.0480	0.0050	mg/kg	0.0500		96	55-140			
tert-Butanol (TBA)	0.225	0.050	mg/kg	0.250		90	65-135			
Ethanol	0.479	0.30	mg/kg	0.500		96	35-160			
Surrogate: Dibromofluoromethane	*0.0552*		*mg/kg*	*0.0500*		*110*	*80-125*			
Surrogate: Toluene-d8	*0.0492*		*mg/kg*	*0.0500*		*98*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*0.0480*		*mg/kg*	*0.0500*		*96*	*80-120*			
LCS Dup Analyzed: 09/08/2005 (5I08006-BSD1)										
Benzene	0.0472	0.0020	mg/kg	0.0500		94	65-120	12	20	
Ethylbenzene	0.0513	0.0020	mg/kg	0.0500		103	70-125	18	20	
Toluene	0.0486	0.0020	mg/kg	0.0500		97	70-125	12	20	
o-Xylene	0.0503	0.0020	mg/kg	0.0500		101	70-125	15	20	
m,p-Xylenes	0.104	0.0020	mg/kg	0.100		104	70-125	18	20	
Xylenes, Total	0.154	0.0040	mg/kg	0.150		103	70-125	17	20	
Di-isopropyl Ether (DIPE)	0.0480	0.0050	mg/kg	0.0500		96	60-135	3	20	
Ethyl tert-Butyl Ether (ETBE)	0.0429	0.0050	mg/kg	0.0500		86	60-135	3	20	
tert-Amyl Methyl Ether (TAME)	0.0460	0.0050	mg/kg	0.0500		92	60-140	7	20	
Methyl-tert-butyl Ether (MTBE)	0.0435	0.0050	mg/kg	0.0500		87	55-140	10	25	
tert-Butanol (TBA)	0.261	0.050	mg/kg	0.250		104	65-135	15	20	
Ethanol	0.616	0.30	mg/kg	0.500		123	35-160	25	30	
Surrogate: Dibromofluoromethane	*0.0526*		*mg/kg*	*0.0500*		*105*	*80-125*			
Surrogate: Toluene-d8	*0.0493*		*mg/kg*	*0.0500*		*99*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*0.0487*		*mg/kg*	*0.0500*		*97*	*80-120*			

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Project Manager

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Attention: Steve Pence

Project ID: ARCO 6131, Costa Mesa

Report Number: IOI0250

Sampled: 09/06/05
Received: 09/06/05

DATA QUALIFIERS AND DEFINITIONS

AX	Sample too dilute to quantify surrogate
BA	Relative percent difference out of control
DU	Insufficient sample quantity for matrix spike/dup matrix spike
IO	Contract limits originate from BP-GCLN Technical Requirements
LP	Laboratory Control Sample recovery was above method control limits. Analyte not detected, data not impacted.
RA	RPD exceeds limit due to matrix interf.; % recovs. within limits
RB	RPD exceeded method control limit; % recoveries within limits.
ND	Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
RPD	Relative Percent Difference

ADDITIONAL COMMENTS

For 8260 analyses:

Due to the high water solubility of alcohols and ketones, the calibration criteria for these compounds is <30% RSD. The average % RSD of all compounds in the calibration is 15%, in accordance with EPA methods.

For Volatile Fuel Hydrocarbons (C6-C12):

Volatile Fuel Hydrocarbons (C6-C12) are quantitated against a gasoline standard.

8015 Analysis EDF Parlabel Cross Reference

Analyte	EDF Parlabel
Volatile Fuel Hydrocarbons (C6-C12)	GROC6C12

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Report Number: IOI0250

Sampled: 09/06/05
Received: 09/06/05

Certification Summary

Del Mar Analytical, Irvine

Method	Matrix	Nelac	California
EDD	Soil		
EPA 5035	Soil		
EPA 8015B	Soil	X	X
EPA 8260B	Soil	X	X
EPA 8260B	Soil-extr	X	X

Nevada and NELAP provide analyte specific accreditations. Analyte specific information for Del Mar Analytical may be obtained by contacting the laboratory or visiting our website at www.dmalabs.com.

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Pat Abe
Project Manager

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#4-13

Page 1 of 1

Chain of Custody Record

bp

Project Name	ARCO 6131
BP BU/AR Region/Enfos Segment:	Remediation Management, WEST, Orange
State or Lead Regulatory Agency	OCHCA
YEAR	2005
Requested Due Date (mm/dd/yy)	standard 10 day
COC TRACKING No.	

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

Lab Name:	del mar analytical	BP/AR Facility No.:	6131	Consultant/Contractor:	delta evironmental consultants
Lab Address:	17461 derian avenue, irvine, ca	BP/AR Facility Address:	3201 Harbor Boulevard	Address:	27141 aliso creek road
		Site Lat/Long:	Costa Mesa, CA		aliso viejo, ca, 92656
Lab PM:	pat abe	California Global ID #:		e-mail EDD to:	ckuhlmann@deltaenv.com
Tele/Fax:	949-*261-1022	Enfos Project No.	g0b7m	Consultant/Contractor Project No.:	
BP/AR PM Contact Name	Darrel Fah	Provision or RCOP	(Circle one)	Consultant/Contractor Tele/Fax:	949.860.0204
Address	6 Centerpointe Drive, La Palma, CA	Phase/WBS:		Consultant/Contractor PM:	Steve Pence
		Sub Phase/Task	03	Invoice to: Consultant or BP or AR Co (Circle one)	
Tele/Fax:	(714) 378-5105	Cost Element	05	Report Type & QC level	BP level 1
Lab Bottle Order No:					

Item No.	Sample Description	Time	Date	Matrix: Soil/Solid	Matrix: Water/Liquid	Matrix: Air	Laboratory Tracking No.	No. of containers	Preservatives: Unpreserved	Preservatives: H_2SO_4	Preservatives: ICE	Preservatives: HCl	Preservatives: Methanol	Requested Analysis: BTEX 8021	BTEX/TPH	BTEX/Oxy/TPH	EPA 8260 btex	EPA 8270	EPA 8015M tphg	EPA 8260 oxy/etoh	Sample Point Lat/Long and Comments
							IOI0250														Brass Sleeve
1	B-14-15	9.08	9/6/05	X				1			X						✓		✓	✓	PID = 0
2	B-14-20	9.27		X																	PID = 0
3	B-14-25	9.11		X																	PID = 0
4	B-14-30	10.00		X				1													PID = >3000
5	B-14-35	10.21		X				1													PID = 9.1
6																					
7																					
8																					
9																					
10																					

9/6/05 per S.N.

VB

		Relinquished By / Affiliation(Sign)	Date	Time	Accepted By / Affiliation(Sign)	Date	Time
Sampler's Full Name:	Susan Nielsen		9/6/05	12:44	Un Bank	9-6-05	12:44
Sampler's Company:	Delta Env.						
Shipment Date:	9/6/05						
Shipment Method:	Delivery						
Shipment Tracking No:							
Special Instructions:							

Custody Seals In Place (circle one) Y N | Temp Blank (circle one) Y N | Cooler Temperature on Receipt 4 °F/C (circle one) | Trip Blank Y/N (Circle one)

BP COC Rev. 4 10/1/04

Distribution: White Copy - Laboratory / Yellow Copy - BP/GEM / Pink Copy - Consultant/Contractor