## RECEIVED



OCT 28 1996

3164 Gold Camp Driver ROTECTION Suite 200 Rancho Cordova, 64 95670 916/638-2085 FAX: 916/638-8385

October 25, 1996

Mr. Terrence A. Fox Ultramar Inc. 525 West Third Street Hanford, California 93232

Subject: Report Summarizing Removal of Underground Equipment and Associated Soil Sampling

Former Beacon Station No. 546 29705 Mission Boulevard Hayward, California

Delta Project No. D095-967

Dear Mr. Fox:

Delta Environmental Consultants, Inc. (Delta), was authorized by Ultramar Inc. (Ultramar) to conduct soil sampling during removal of in-ground equipment associated with the former Beacon Service Station No. 546 located at 29705 Mission Boulevard, Hayward, California (Figures 1 and 2). This report summarizes the results of soil sampling activities performed at the site during June and July 1996. All work conducted at the site by Delta was performed in accordance with the field methods and procedures included in Enclosure A.

#### Site Background

The site is located at the intersection of Mission Boulevard and West Industrial Parkway in Hayward, approximately 1,500 feet northeast of the artificially channelized course of Alameda Creek, and approximately 6.5 miles east of the southern portion of San Francisco Bay. Based on the survey of on-site wells, the elevation of the site is approximately 37 feet above mean sea level.

Hayward is situated in the east San Francisco Bay Area, on the Bay plain at the western edge of Walpert Ridge (Figure 1). Ground surface in the area of the site generally slopes toward the southwest. The site is bound on the northwest by West Industrial Parkway and on the northeast by Mission Boulevard. The surrounding area is occupied predominantly by commercial properties.

A total of ten monitoring wells have been installed on or near the site. Information provided by Ultramar indicates that all underground storage tanks previously used at the property by Ultramar, were removed in April 1988.

A detailed summary of previous phases of hydrogeologic investigations is presented in a report prepared by Acton, Mickelson, van Dam, Inc. entitled, *Problem Assessment Report/Remedial Action Plan*, dated April 26, 1995.

## Product Line Removed and Soil Sampling

The product lines were uncovered and removed prior to Delta's arrival on June 28, 1996. Soil samples PL-1A through PL-1G were collected beneath the former product lines at a depth of approximately 2.5 feet below surface grade (bsg) by Delta personnel on June 28, 1996. A representative from the City of Hayward Fire Department was on-site to direct the sampling activities. The soil samples were submitted to Western Environmental Science and Technology (WEST) laboratory in Davis, California for analysis of benzene, toluene, ethylbenzene, total xylenes (BTEX), and methyl tertiary butyl ether (MTBE) using EPA Method 8020, and total petroleum hydrocarbons (TPH) as gasoline using EPA Method 8015 Modified. Soil samples PL-1A, and PL-1C through PL-1G were reported not to contain detectable concentrations of benzene. Benzene was reported in PL-1B at a concentration of 0.71 milligrams per kilogram (mg/kg). TPH as gasoline was reported in soil samples PL-1A, PL-1B, and PL-1E at concentrations of 1.4, 660, and 1,800 mg/kg, respectively. The location of the product line soil samples are illustrated in Figure 3, and the analytical results are summarized in Table 1. Copies of the analytical reports and chain of custody documentation are included in Enclosure B.

# Unknown Underground Storage Tanks (USTs) Removal and Soil Sampling

During removal of the product lines and canopy support footings, some unknown piping was discovered in the vicinity of the northerly dispenser island (Figure 3). The unknown piping was subsequently uncovered, and traced to three additional, previously unknown USTs, located near the northeast corner of site (Figure 3). The three unknown USTs were excavated and removed from the site on June 28, 1996. The tanks were estimated to be approximately 250, 300, and 500 gallons in size, and were constructed of single-wall steel. Representatives from Delta, Ultramar, City of Hayward Fire Department, and several representatives from Goines Environmental (excavation contractor) were present at the site during tank removal and soil sampling activities. It is Delta's understanding that each tank was triple-rinsed, dry ice was placed in the 250 and 500 gallon tanks, and the tanks were screened in the field for oxygen content and lower explosive limit under the supervision of the City of Hayward Fire Department representative, prior to Delta's arrival. Dry ice was not placed in the 300-gallon tank because large holes were tore in the tank during excavation. The tanks were removed and transported by Erickson Inc. to their facility in Richmond, California, for disposal. After removal of the tanks, the outer surface was inspected for signs of product leakage, holes, pitting or other visual signs of weakness; particular attention was paid to seams and points directly below the fill ports. Following removal of the tanks, small steel cylindrical reservoirs with a capacity of approximately 20 gallons each were discovered beneath the east end of each tank. and appear to have been associated with the pumping system. The reservoirs were subsequently excavated and removed. The 500-gallon tank had riveted top, side and end seams. The 250 and 300-gallon tanks had identification tag numbers NA-547 and 273292, respectively. The ages of tanks and their installation date is unknown at this time. The bottoms of the 250 and 500 gallon tanks were observed to be rusty, but were otherwise in good condition. Each of the tanks contained a small amount of what appeared to be residual, petroleum hydrocarbon product. The product was pumped out and placed in a 55-gallon drum pending laboratory analysis. The 300-gallon tank was damaged during excavation, which allowed approximately one-fourth of the tank to fill with soil. The soil, which had absorbed the residual liquid in the tank, was subsequently removed. The soil was eventually placed in a 55-gallon drum for disposal.

Following the removal of the tanks and associated equipment, Goines excavated approximately 2 feet below the base of pump reservoirs for the 250 and 300-gallon tanks. A representative from Delta collected soil samples for chemical analyses and field screening from soil collected by the excavator bucket. Under the direction of the City of Hayward Fire Department representative, soil samples were collected beneath the ends of the 250 and 300-gallon tanks. Soil samples (TB-1A and TB-1B) from the tank basin were collected at approximately 9 feet bsg at the locations illustrated in Figure 3. The method used to screen the soil samples are presented in Enclosure A. The soil samples were submitted to WEST laboratory in Davis, California for analysis of BTEX and TPH as gasoline using the previously described methods, TPH as diesel using EPA Method 8015 Modified, oil and grease using Standard Method 5520 E,F, and CAM 5 metals (cadmium, chromium, lead, nickel and zinc) using EPA Method 6010.

Analytical results reported that benzene, TPH as gasoline, and total oil and grease were below the laboratory's limits of detection in each sample (TB-1A and TB-1B) collected. TPH as diesel was reported in TB-1B at a concentration of 4.2 mg/kg, and was below the laboratory's limits of detection in soil sample TB-1A. The laboratory's reporting limit for sample TB-1A had to be increased from 1 to 5 mg/kg due to interference from high boiling point compounds, which according to the laboratory may have been asphalt. Analytical results for the soil samples collected beneath the tanks and product lines are summarized in Tables 1 and 2, and a copy of the analytical report with chain of custody documentation is included in Enclosure B.

A soil sample (S-Tank 3) was collected from the soil that was removed from Tank 3 and submitted to WEST Laboratory for analysis of BTEX, MTBE, TPH as gasoline, TPH as diesel, CAM 5 metals and oil and grease using the previously described methods; and volatile halocarbons using EPA Method 8010. Analytical results for the Tank 3 soil sample are summarized in Tables 3 and 4. The soil from Tank 3 was subsequently disposed of by Chemical Waste Management of Buttonwillow, California.

## Hydraulic Floor Lifts and Oil Sump Excavation and Soil Sampling

The two hydraulic floor lifts and associated equipment, and an oil sump located in the service bays of the former station building were removed prior to Delta's arrival on-site on July 11, 1996. Soil samples LB-1 and LB-2 were collected 2 feet below the bottom of the hydraulic fluid reservoirs (10 feet bsg). Soil sample OS-1 was collected 2 feet beneath the bottom of the oil sump (5.5 feet bsg). The soil samples were collected under the direction of a City of Hayward Fire Department representative. The soil samples were submitted to WEST laboratory in Davis, California for analyses of BTEX, TPH as gasoline, TPH as diesel, MTBE, total oil and grease, volatile halocarbons, and CAM 5 metals using the previously described methods. The location of soil samples LB-1, LB-2 and OS-1 are illustrated in Figure 3, and the analytical results are summarized in Tables 1 and 2. Copies of the analytical reports and chain of custody documentation are included in Enclosure C.

#### Overexcavation and Soil Sampling

Between July 29 and 31, 1996, areas identified during the prior sampling events to contain elevated levels of petroleum hydrocarbons were overexcavated. The areas which were overexcavated included the hydraulic lifts and oil sump, the areas around product line soil samples PL-1B and PL-1E, and the area around the canopy support footing located in the former northern-most dispenser island. A

Delta representative was on-site during the overexcavation operations to screen the excavated soil using a photoionization device (PID), direct overexcavation activities, and to collect confirmation soil samples. The locations of the confirmation soil samples collected on July 29 and 31, 1996, are illustrated on Figure 3. To expedite the overexcavation process, soil samples were analyzed in the field using a mobile laboratory, provided by Excelchem laboratory of Roseville, California.

## Hydraulic Lifts and Oil Sump

The area beneath the former hydraulic lifts and oil sump were overexcavated to a depth ranging between 12 and 15 feet bsg between July 29 and 31, 1996. Soil samples collected during overexcavation were submitted to Excelchem laboratory for analysis of BTEX, TPH as gasoline, and total oil and grease using the previously described methods. Soil samples OE-1B and OE-1C which were collected beneath the former hydraulic lifts at a depth of 12 feet bsg were also analyzed for TPH as diesel using the previously described methods. The final limits of overexcavation and confirmation soil sample locations are illustrated in Figure 4. A total of approximately 80 cubic yards of soil were removed during excavation and overexcavation activities. The excavations were reported by Ultramar to have been backfilled with imported fill (silty fine sand).

## Product Lines and Canopy Support Footings

The soil in the vicinity of product line soil samples PL-1B and PL-1E and the northerly dispenser island's canopy footing was overexcavated between July 29 and 31, 1996. Confirmation soil samples were collected during the overexcavation of these areas at depths ranging from 6 to 22 feet bsg. Overexcavation was halted at 22 feet due to the capability of the excavator. The soil samples were submitted to Excelchem laboratory for analyses of BTEX and TPH as gasoline using the previously described methods. A total of approximately 25 cubic yards was excavated from the area in the vicinity of OE-1D (Figure 4); 20 cubic yards from the area in the vicinity of OE-1H (Figure 4); and 150 cubic yards from the larger overexcavation in the vicinity of PL-1E (Figure 3). The excavations were reported by Ultramar to have been backfilled with imported fill (silty fine sand).

#### Soil Stockpile Sampling and Disposal

During the excavation activities, a total of approximately 305 cubic yards of soil was excavated and stockpiled on-site. Four soil samples were collected for approximately each 50 cubic yards of soil excavated on both July 29 and 31, 1996, for waste characterization. The soil samples were submitted to Excelchem laboratory in Roseville, California to be composited and chemically analyzed. Soil samples collected from the stockpiles generated from the hydraulic lifts and oil sump (SP-1 and SP-2), and unknown tanks (SP-6) area were analyzed for BTEX, TPH as gasoline, TPH as diesel, and total oil and grease using the previously described methods, and CAM 17 metals using EPA Methods 7000/6010. Soil samples collected from the stockpiles generated from the product line overexcavations (SP-3, SP-4, and SP-5) were analyzed for BTEX and TPH as gasoline using the previously described methods. Analytical results are summarized in Tables 3 and 4, and copies of the certified laboratory reports with chain of custody documentation are included in Enclosures D and E. In August 1996, Lutrel Trucking, Inc. of Bakersfield, California transported the stockpiled soil to the TPS disposal facility located in Richmond, California.

#### **Site Status**

- Based on the information available all structures and equipment associated with retail sales at Former Beacon Service Station No. 546 have been removed.
- Figure 5 illustrates the status of hydrocarbons in soil as of July 31, 1996.
- ▲ Ultramar plans to have a ground water pumping system installed and operating at the site by the end of the fourth quarter 1996.

### Remarks/Signatures

The interpretations contained in this document represent our professional opinions, and are based in part, on information supplied by the client. These opinions are based on currently available information and are arrived at in accordance with currently accepted hydrogeologic and engineering practices at this time and location. Other than this, no warranty is implied or intended.

It is recommended that a copy of this document be forwarded to:

Mr. Miles J. Perez City of Hayward fire Department 25151 Clawiter Road Hayward, California 94545-2759

If you have any questions regarding this project, please contact Owen Kittredge at (916) 638-2085.

Sincerely,

DELTA ENVIRONMENTAL CONSULTANTS, INC.

Michael A. Berrington

**Project Geologist** 

Owen M. Kittredge, R.G.

California Registered Geologist No. 5853

MAB (LRP001.967)

Enclosures

TABLE 1

SOIL SAMPLE ANALYTICAL RESULTS FOR HYDROCARBONS
Concentrations in milligrams per kilogram (mg/kg)

Sample ID	Date <u>Sampled</u>	Sample Depth (feet)	Веплепе	<u>Toluene</u>	Ethyl- benzene	Total Xylenes	TPH <sup>a</sup> as gasoline	TPH as diesel	MTBE <sup>b</sup>	Oil and <u>Grease</u>	Volatile <u>Halocarbons</u>
Product Lines											
PL-1A	06/28/96	2.5	< 0.005	< 0.005	0.028	0.026	1.4	NAc	<0.05	NA	NA
PL-1B	06/28/96	2.5	0.71	5.8	14	20	660	NA ·	<5.0	NA	NA
PL-1C	06/28/96	2.5	< 0.005	< 0.005	< 0.005	< 0.005	<1.0	NA	< 0.05	NA	NA
PL-1D	06/28/96	2.5	< 0.005	< 0.005	< 0.005	< 0.005	<1.0	NA	< 0.05	NA	NA
PL-1E	06/28/96	2.5	<0.5	19	38	310	1,800	NA	<5.0	NA	NA
PL-1F	06/28/96	2.5	< 0.005	< 0.005	< 0.005	< 0.005	<1.0	NA	< 0.05	NA	NA
PL-1G	06/28/96	2.5	< 0.005	< 0.005	< 0.005	< 0.005	<1.0	NA	<0.05	NA	NA
Old Tanks											
TB-1A	06/28/96	9	< 0.005	< 0.005	< 0.005	0.007	<1.0	<5.0 <sup>d</sup>	< 0.05	<50	NA
TB-1B	06/28/96	9	< 0.005	< 0.005	< 0.005	< 0.005	<1.0	4.2	<0.05	< 50	NA
Hydraulic Lift											
LB-1	07/11/96	10	< 0.005	< 0.005	0.086	0.70	5.3 <sup>8</sup>	58°	< 0.05	350	< 0.005
LB-2	07/11/96	10	< 0.005	< 0.005	0.023	0.16	9.1 <sup>g</sup>	28°	< 0.05	100	< 0.005
Oil Sump											
OS-1	07/11/96	5.5	< 0.005	< 0.005	< 0.005	< 0.005	<1.0	< 10 <sup>h</sup>	< 0.05	120	< 0.005
Overexcavation											
OE-1A	07/29/96	11.75	1.78	4.42	72.4	445	3,070	NA	NA	NA	NA

## TABLE 1-Continued

## SOIL SAMPLE ANALYTICAL RESULTS FOR HYDROCARBONS

Concentrations in milligrams per kilogram (mg/kg)

Sample ID	Date <u>Sampled</u>	Sample Depth (feet)	Benzene	Toluene	Ethyl- <u>benzene</u>	Total <u>Xylenes</u>	TPH* as gasoline	TPH as diesel	MTBE <sup>b</sup>	Oil and Grease	Volatile <u>Halocarbons</u>
OE-1B	07/29/96	12	< 0.025	< 0.025	0.032	0.273	16.1	67 <sup>1</sup>	NA	128	NA
OE-1C	07/29/96	12	< 0.005	< 0.005	< 0.005	< 0.005	<1.0	<10	NA	<50	NA
OE-1D	07/29/96	6	0.041	< 0.025	0.166	0.061	7.36	NA	NA	NA	NA
OE-1E	07/29/96	14.5	<2.5	49.3	96.1	537	3,810	NA	NA	NA	NA
OE-1F	07/29/96	15.5	<2.0	16.7	28.2	158	1,110	NA	NA	NA	NA
OE-1G	07/29/96	13.5	< 0.025	< 0.025	0.031	0.253	18.9	NA	NA	104	NA
OE-1H	07/29/96	14	< 0.005	< 0.005	< 0.005	< 0.005	<1.0	NA	NA	NA	NA
OE-1I	07/31/96	18.5	<0.5	0.78	3.15	17.2	188	NA	NA	NA	NA
OE-1J	07/31/96	15	< 0.005	< 0.005	< 0.005	< 0.005	<1.0	NA	NA	< 50	NA
OE-1K	07/31/96	21	< 0.4	6.89	10.3	57.3	630	NA	NA	NA	NA
OE-1L	07/31/96	10	< 0.05	< 0.05	0.068	0.544	24.8	NA	NA	78	NA
OE-1Mf	07/31/96	10	< 0.025	< 0.025	0.025	0.287	60.9	NA	NA	126	NA
OE-1Nf	07/31/96	22	< 0.05	5.19	8.74	47.4	540	NA	NA	NA	NA
OE-10	07/31/96	12	<0.5	0.602	8.69	44.3	586	NA	NA	NA	NA
OE-1P	07/31/96	12	<1.30	4.14	31.9	181	1,540	· NA	NA	NA	NA
OE-1Q	07/31/96	12	<0.6	< 0.6	2.27	9.06	325	NA	NA	NA	NA

#### **TABLE 1-Continued**

## SOIL SAMPLE ANALYTICAL RESULTS FOR HYDROCARBONS

Concentrations in milligrams per kilogram (mg/kg)

Sample ID	Date <u>Sampled</u>	Sample Depth (feet)	Benzene	Toluene	Ethyl- benzene	Total <u>Xylenes</u>	TPH <sup>a</sup> as gasoline	TPH as diesel	MTBE <sup>b</sup>	Oil and <u>Grease</u>	Volatile <u>Halocarbons</u>
OE-1R	07/31/96	12	< 0.650	0.733	14.5	63.4	1,270	NA	NA	NA	NA
OE-1S	07/31/96	12	< 0.005	< 0.005	< 0.005	0.017	<1.0	NA	NA	NA	NA

- Total petroleum hydrocarbons.
- Methyl tertiary butyl ether.
- o Not analyzed.
- Increased reporting limit due to interference from high boiling point compounds.
- <sup>c</sup> Contains gasoline rage product similar to Stoddard Solvent.
- Poor surrogate recovery due to matrix interference.
- Product not typical of gasoline.
- h Increased reporting limit due to oil range interference.
- Value is approximate, because of interferences.

## TABLE 2

## SOIL SAMPLE ANALYTICAL RESULTS FOR METALS

Concentrations in milligrams per kilogram (mg/kg)

Sample ID	Date <u>Sampled</u>	Sample <u>Depth</u>	<u>Cadmium</u>	Chromium	Lead	Nickel	Zinc
Old Tanks							
TB-1A	06/28/96	9	< 0.40	120	14	160	100
TB-1B	06/28/96	9	< 0.40	120	16	160	80
Hydraulic Lift							
LB-1	07/11/96	10	< 0.80	100	19	140	80
LB-2	07/11/96	10	< 0.40	100	17	140	82
Oil Separator							
OS-1	07/11/96	5.5	< 0.80	85	14	120	81

Sample collected from soil that sluffed into Tank 3 during removal.

## TABLE 3

# SOIL STOCKPILE SAMPLE RESULTS FOR HYDROCARBONS

Concentrations in milligrams per kilogram (mg/kg)

Former Beacon Station No. 546 29705 Mission Boulevard Hayward, California

Sample ID	Date <u>Sampled</u>	<u>Benzene</u>	Toluene	Ethyl- benzene	Total <u>Xylenes</u>	TPH <sup>a</sup> as gasoline	TPH as <u>diesel</u>	Total Oil and Grease	Volatile <u>Halocarbons</u>
S-Tank 3 (Drum)b	06/28/96	9.8	93	32	190	1,600	150	3,400	2.5°
SP-1A,B,C,D	07/29/96	< 0.005	< 0.005	< 0.005	0.006	1.55	66⁴	314	NA°
SP-1E,F,G,H	07/31/96	< 0.005	< 0.005	0.008	0.081	2.26	<1.0	56	NA
SP-2A,B,C,D	07/29/96	<0.005	< 0.005	0.009	0.073	4.34	168 <sup>d</sup>	380	NA
SP-2E,F,G,H	07/31/96	< 0.005	< 0.005	0.006	0.065	4.82	<5.0	292	NA
SP-3A,B,C,D	07/29/96	< 0.275	0.525	3.78	22.6	236	NA	NA	NA
SP-3E,F,G,H	07/31/96	< 0.130	0.198	0.382	2.17	50.0	NA	NA	NA
SP-3I,J,K,L	07/31/96	< 0.650	0.175	2.39	12.6	244	NA	NA	NA
SP-4A,B,C,D	07/29/96	<0.005	0.009	0.025	0.169	2.04	NA	NA	NA
SP-5A,B,C,D	07/29/96	< 0.040	< 0.040	< 0.040	0.076	11.7	NA	NA	NA
SP-6A,B,C,D	07/31/96	0.012	0.094	0.023	0.250	1.48	<2.0	134	NA

Total petroleum hydrocarbon.

Sample collected from soil that sluffed into Tank 3 during removal. 1,2-Dichloroethane. 2.5ppr
Value is approximate, because of interferences.
Not analyzed.

ď

TABLE 4

## SOIL STOCKPILE ANALYTICAL RESULTS FOR METALS

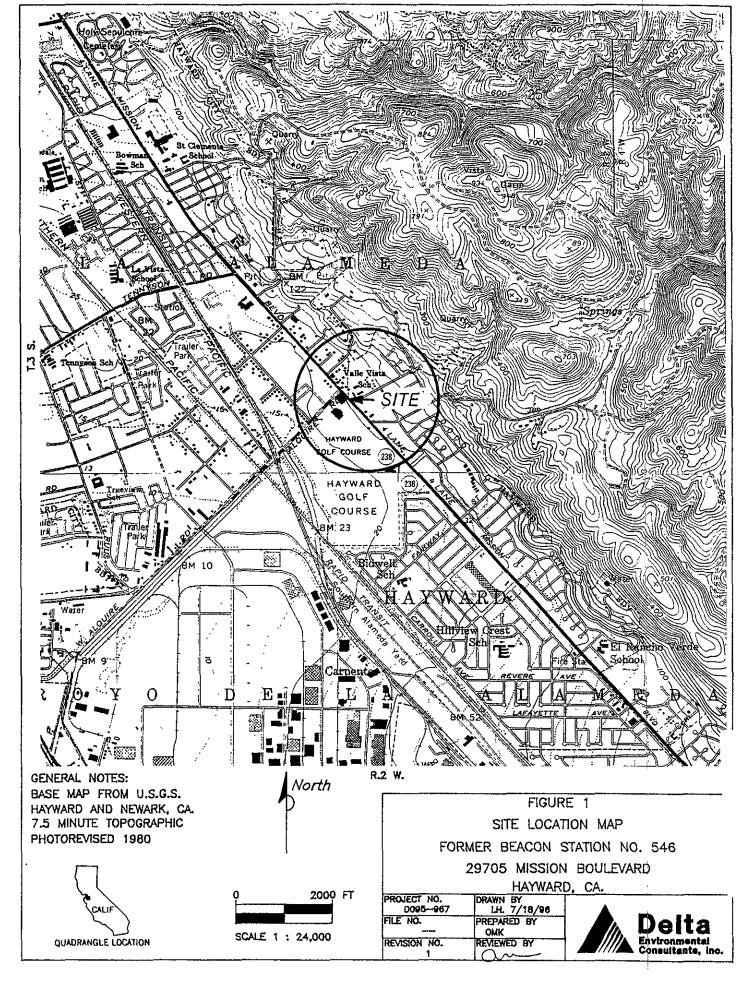
Concentrations in milligrams per kilogram (mg/kg)

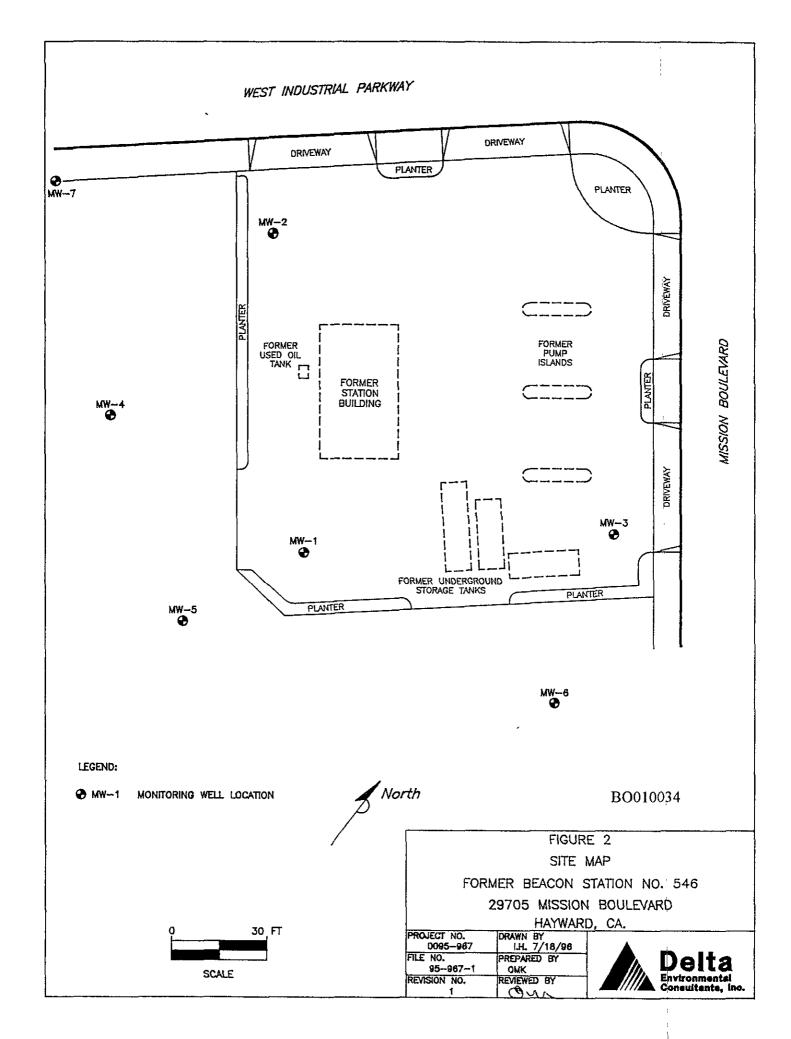
Sample ID	Date Sampled	Antimony	Arsenic	<u>Barium</u>	Beryllium	<u>Cadmium</u>	Chromium	Cobalt	Copper	Total <u>Lead</u>	Mercury	Molybdenum	Nickel	<u>Selenium</u>	Silver	Thallium	<u>Vanadium</u>	Zinc
S-Tank 3 (Drum)	06/28/96	$NA^b$	NA	NA	NA	19	65	NA	NA	220²	NA	NA	75	NA	NA	NA	NA	5,100
SP-1 E,F,G,H	07/31/96	0.67	5.8	182	< 0.05	< 0.15	59	17	49	10ª	< 0.10	1.1	86	0.63	< 0.05	3.8	61	78
SP-2 E,F,G,H	07/31/96	0.75	7.1	145	0.059	< 0.15	51	14	42	8.94	0.11	1.6	67	0.95	0.10	4.1	59	73
SP-3 I,J,K,L	07/31/96	NA	NA	NA	NA	NA	NA	NA	NA	7.8°	NA	NA	NA	NA	NA	NA	NA	NA
SP-4 A,B,C,D	07/29/96	NA	NA	NA	NA	NA	NA	NA	NA	25.4°	NA	NA	NA	NA	NA	NA	NA	NA
SP-5 A,B,C,D	07/29/96	NA	NA	NA	NA	NA	NA	NA	NA	20.8°	NA	NA	NA	NA	NA	NA	NA	NA
SP-6 A B C D	07/31/96	1.2	6.1	192	< 0.05	< 0.15	107	19	42	9.92	< 0.10	0.94	120	0.57	0.32	4.3	71	83

<sup>&</sup>lt;sup>a</sup> Analyzed by EPA Method 6010.

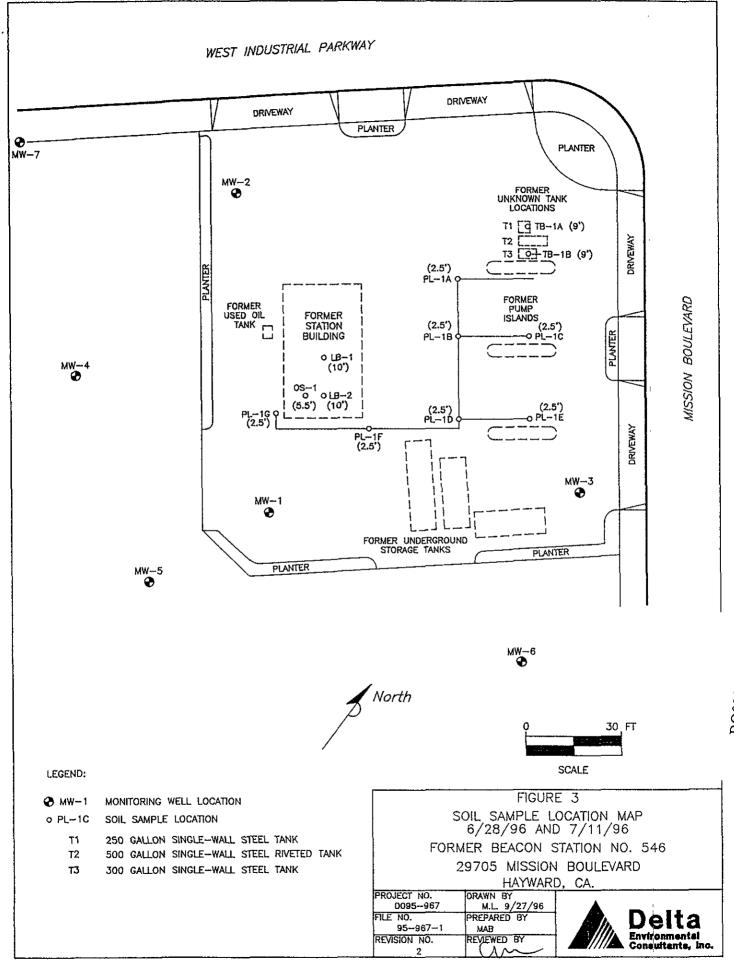
b Not analyzed.

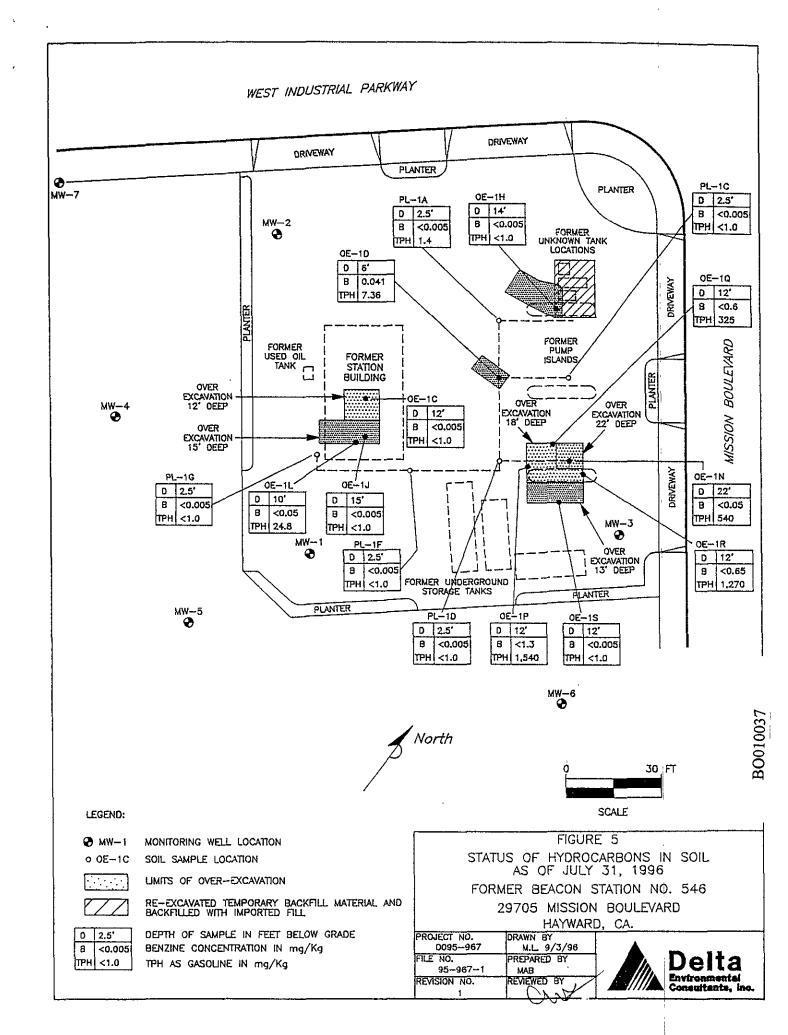
Analyzed by EPA Method 7420.











# ENCLOSURE A

Field Methods and Procedures

#### 1.0 PRE-FIELD WORK ACTIVITIES

#### 1.1 Health and Safety Plan

Field work performed by Delta and subcontractors at the site is conducted according to guidelines established in a Site Health and Safety Plan (SHSP). The SHSP is a document which describes the hazards that may be encountered in the field and specifies protective equipment, work procedures, and emergency information. A copy of the SHSP is at the site and available for reference by appropriate parties during work at the site.

#### 1.2 Locating Underground Utilities

Prior to commencement of any work that is to be below surface grade, the location of the excavation, boring, etc. is marked with white paint as required by law. An underground locating service such as Underground Service Alert (USA) is contacted. The locating USA contacts the owners of the various utilities in the vicinity of the site to have the utility owners mark the locations of their underground utilities. Any invasive work is preceded by manual hand augering to a minimum depth of five feet below surface grade to avoid contact with underground utilities.

#### 2.0 FIELD METHODS AND PROCEDURES

#### 2.1 Soil Excavation Sampling

Excavation and subsequent soil sampling is performed under the direction of a registered geologist or civil engineer. The reduce the potential for cross-contamination, all excavation equipment is either steam-cleaned or washed prior to use and between excavations. Soil samples are typically collected directly from the excavation surface or from material removed from the excavation in a backhoe or excavator bucket. A portion of the sample may be screened in the field, when required. Another portion of the sample may be used to describe the excavated material, according to the Soil Classification Section. According to the soil sample screened method section.

Soil samples for chemical analysis are collected in cleaned, brass or stainless steel tubes of varying diameters and lengths (typically two by six inches) or other appropriate cleaned sample container. A hand-driven sampler holding the sample container may be used. To reduce the potential for cross-contamination between samples, the sampler is cleaned between each sampling event. Upon recovery, the sample container is sealed to minimize the potential of volatilization and cross-contamination prior to chemical analysis. Soil sampling tubes are typically closed at each end with

plastic caps over a Teflon® sheet. The sealed sample is labeled and handled according to the Quality Assurance Plan.

### 2.2 Soil Sample Screening

After the soil samples in Ziploc® type bags have been brought to ambient temperature, the headspace vapors in the bag are screened with a photoionization detector equipped with a 10.2 eV lamp. The corner of the bag is opened and the detector probe immediately placed within the headspace. The highest observed reading is recorded.

## 2.3 Stockpile Soil Sampling

Stockpile soil sampling is performed under the direction of a registered geologist or civil engineer. Prior to collecting soil samples Delta personnel will measure and calculate the volume of soil in the stockpile(s). The stockpile(s) is then divided into sections containing the predetermined volume sampling interval (50, 100, 200, 500 yd³, etc.). Soil samples are typically collected from 0.5 to 2 feet below the surface of the stockpile. In some instances two to four soil samples may be collected from each sampling interval and composited into one prior to laboratory analysis. The soil samples are collected in cleaned, brass or stainless tubes of varying diameter and lengths (typically 2 x 6 inches) or other appropriately cleaned sample containers. A hand-driven sampler holding the sample container may be used.

To reduce the potential for cross-contamination between samples, the sampler is cleaned between each sampling event. Upon recovery, the sample container is sealed to minimize the potential of volatilization and cross-contamination prior to chemical analysis. Soil sampling tubes are typically closed at each end a Teflon® sheet and with plastic caps. The sample is then placed in a Ziploc® type bag and sealed. The sample is labeled and refrigerated at approximately 4° Celsius for delivery, under strict chain-of-custody, to the analytical laboratory.

#### 3.0 QUALITY ASSURANCE PLAN

This section describes the field and analytical procedures to be followed throughout the investigation.

#### 3.1 General Sample Collection and Handling Procedures

Proper collection and handling are essential to ensure the quality of a sample. Each sample is collected in a suitable container, preserved correctly for the intended analysis, and stored prior to

analysis for no longer than the maximum allowable holding time. Details on the procedures for collection and handling of samples used on this project can be found in this section.

### 3.2 Soil and Water Sample Labeling and Preservation

Label information includes a unique sample identification number, job identification number, date, and time. After labeling all soil and water samples are placed in a Ziploc® type bag and placed in a ice chest cooled to 4° Celsius. Upon arriving at Delta's office the samples are transferred to a locked refrigerator cooled to 4° Celsius. Chemical preservation is controlled by the required analysis and is noted on the chain of custody form.

#### 3.3 Sample Identification and Chain-of-Custody Procedures

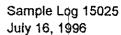
Sample identification and chain-of-custody procedures document sample possession from the time of collection to ultimate disposal. Each sample container submitted for analysis has a label affixed to identify the job number, sampler, date and time of sample collection, and a sample number unique to that sample. This information, in addition to a description of the sample, field measurements made, sampling methodology, names of on-site personnel, and any other pertinent field observations, is recorded on the borehole log or in the field records. Samples are analyzed by a California-certified laboratory.

A chain-of-custody form is used to record possession of the sample from time of collection to its arrival at the laboratory. When the samples are shipped, the person in custody of them relinquishes the samples by signing the chain-of-custody form and noting the time. The sample-control officer at the laboratory verifies sample integrity and confirms that the samples are collected in the proper containers, preserved correctly, and contain adequate volumes for analysis.

If these conditions are met, each sample is assigned a unique log number for identification throughout analysis and reporting. The log number is recorded on the chain-of-custody form and in the legally-required log book maintained by the laboratory in the laboratory. The sample description, date received, client's name, and other relevant information is also recorded.

# ENCLOSURE B

Laboratory Analytical Reports for Soil Samples Collected on June 28, 1996





JUL 2 2 1996

Owen Kittredge
Delta Environmental Consultants
3164 Gold Camp Drive, Suite 200
Rancho Cordova, CA 95670

Subject:

10 soil samples

Project Name:

Beacon 546

Project Number:

DO95-967

Location:

Hayward

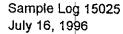
Dear Mr. Kittredge,

Chemical analysis on the samples referenced above has been completed. Summaries of the data are contained on the following pages. Sample(s) were received under documented chain-of-custody. USEPA protocols for sample storage and preservation were followed.

WEST Laboratory is certified by the State of California (# 1346). If you have any questions regarding procedures or results, please call me at 916-753-9500.

Sincerely,

BO010043





Subject:

10 soil samples

Project Name:

Beacon 546

Project Number:

DO95-967

Location:

Hayward

# Case Narrative

Sample S-Tank 3 was analyzed within hold time by EPA Method 8010. Because of high levels of 1,2-Dichloroethane, a methanol extraction of the sample was prepared, also within hold time. The methanol extract was measured to determine the reported values.



# Volatile Halocarbons

Sample Name : S-Tank 3

Project Name : Beacon 546

Project Number : DO95-967 Sample Date : 06/28/96

Date Analyzed : 07/15/96 Analysis Method : EPA 8010 Date Received: 06/28/96

Dilution : 1:100 Sample Matrix : Soil

Lab Number : 15025-10

Parameter	MRL	Measured Conc.	Units
Chloromethane	0.50	<0.50	mg/Kg
Vinyl Chloride	0.50	<0.50	mg/Kg
Bromomethane	0.50	<0.50	mg/Kg
Chloroethane	0.50	<0.50	mg/Kg
Trichlorofluoromethane	0.50	<0.50	mg/Kg
1,1-Dichloroethene	0.50	<0.50	mg/Kg
Dichloromethane	0.50	<0.50	mg/Kg
t-1,2-Dichloroethene	0.50	<0.50	mg/Kg
1,1-Dichloroethane	0.50	<0.50	mg/Kg
c-1,2-Dichloroethene	0.50	<0.50	mg/Kg
Chloroform	0.50	<0.50	mg/Kg
1,1,1-Trichloroethane	0.50	<0.50	mg/Kg
Carbon Tetrachloride	0.50	<0.50	mg/Kg
1,2-Dichloroethane	0.50	2.5	mg/Kg
Trichloroethene	0.50	<0.50	mg/Kg
1,2-Dichloropropane	0.50	<0.50	mg/Kg
Bromodichloromethane	0.50	<0.50	mg/Kg
c-1,3-Dichloropropene	0.50	<0.50	mg/Kg
t-1,3-Dichloropropene	0.50	<0.50	mg/Kg
1,1,2-trichloroethane	0.50	<0.50	mg/Kg
Tetrachloroethene	0.50	<0.50	mg/Kg
Dibromochloromethane	0.50	<0.50	mg/Kg
Chlorobenzene	0.50	<0.50	mg/Kg
Bromoform	0.50	<0.50	mg/Kg
1,1,2,2-Tetrachloroethane	0.50	<0.50	mg/Kg
1,3-Dichlorobenzene	0.50	< 0.50	mg/Kg
1,4-Dichlorobenzene	0.50	<0.50	mg/Kg
1,2-Dichlorobenzene	0.50	<0.50	mg/Kg
2-Chlorotoluene (Surr.)		23.9	% Recovery

MRL = Method Reporting Limit Conc. = Concentration

B = Analyte was detected in Method Blank.

Approved By:

E = Concentration exceeded calibration range. See higher dilution for correct value.





July 03, 1996 Sample Log 15025-08

Sample: TB-1A

From : Beacon 546 (Project # D093-967)

Matrix: Soil

Report As: wet weight

Date Sampled: 06/28/96 Date Received: 06/28/96

Units: (mg/kg)

## Metals Analyses by ICP by SW-846

5 LUFT "Waste Oil" Metals

Analyte	Result	MRL	EPA Method	Date Digested	Date Analyzed
Cadmium (Cd) Chromium (Cr) Lead (Pb) Nickel (Ni) Zinc (Zn)	<0.40	0.40	6010	07/02/96	07/02/96
	120	0.70	6010	07/02/96	07/02/96
	14	10	6010	07/02/96	07/02/96
	160	1.5	6010	07/02/96	07/02/96
	100	1.0	6010	07/02/96	07/02/96

MRL = Method Reporting Limit

Michelle L. Anderson Inorganics Supervisor



July 03, 1996 Sample Log 15025-09

Sample: TB-1B

From: Beacon 546 (Project # D093-967)

Matrix: Soil

Report As: wet weight

Date Sampled: 06/28/96 Date Received: 06/28/96

Units: (mg/kg)

# Metals Analyses by ICP by SW-846

5 LUFT "Waste Oil" Metals

Analyte	Result	MRL	EPA Method	Date Digested	Date Analyzed
Cadmium (Cd) Chromium (Cr) Lead (Pb) Nickel (Ni) Zinc (Zn)	<0.40	0.40	6010	07/02/96	07/02/96
	120	0.70	6010	07/02/96	07/02/96
	16	10	6010	07/02/96	07/02/96
	160	1.5	6010	07/02/96	07/02/96
	80	1.0	6010	07/02/96	07/02/96

MRL = Method Reporting Limit

Michelle L. Anderson Inorganics Supervisor

BO010047



July 03, 1996 Sample Log 15025-10

Sample: S-TANK 3

From: Beacon 546 (Project # D093-967)

Matrix : Soil

Report As: wet weight

Date Sampled: 06/28/96 Date Received: 06/28/96

Units: (mg/kg)

# Metals Analyses by ICP by SW-846

5 LUFT "Waste Oil" Metals

Analyte	Result	MRL	EPA Method	Date Digested	Date Analyzed
Cadmium (Cd)	19	0.40	6010	07/02/96	07/02/96
Chromium (Cr)	65	0.70	6010	07/02/96	07/02/96
Lead (Pb)	220	10	6010	07/02/96	07/02/96
Nickel (Ni)	75	1.5	6010	07/02/96	07/02/96
Zinc (Zn)	5100	10	6010	07/02/96	07/02/96

MRL = Method Reporting Limit

Michelle L. Anderson Inorganics Supervisor



July 03, 1996

## Metals QC Report for Sample Log 15025

From: Beacon 546 (Project # D093-967)

Matrix: Soil

Units: (mg/kg)

#### Method Blank

Analyte	Result	MRL	EPA Method	Date <u>Digested</u>	Date Analyzed
Cadmium (Cd)	<0.40	0.40	6010	07/02/96	07/02/96
Chromium (Cr)	< 0.70	0.70	6010	07/02/96	07/02/96
Lead (Pb)	<10	10	6010	07/02/96	07/02/96
Nickel (Ní)	<1.5	1.5	6010	07/02/96	07/02/96
Zinc (Zn)	<1.0	1.0	6010	07/02/96	07/02/96

MRL = Method Reporting Limit

# **Laboratory Control Sample (LCS)**

Analyte	% Recovery	EPA Method	Date Digested	Date Analyzed
Cadmium (Cd)	101	6010	07/02/96	07/02/96
Chromium (Cr)	103	6010	07/02/96	07/02/96
Lead (Pb)	94	6010	07/02/96	07/02/96
Nickel (Ni)	106	6010	07/02/96	07/02/96
Zinc (Zn)	100	6010	07/02/96	07/02/96

LCS Limits are 85 - 115%.

Michelle L. Anderson Inorganics Supervisor



July 03, 1996

# Metals QC Report for Sample Log 15025 (cont'd)

From: Beacon 546 (Project # D093-967) Sample Spiked for MS/MSD: 15025-08

#### **Matrix Spikes**

Analyte	MS % Recov	MSD % Recov	RPD	EPA Method	Date Digested	Date Analyzed	
Cadmium (Cd) Chromium (Cr) Lead (Pb) Nickel (Ni) Zinc (Zn)	97 NA 97 97 99	102 NA 106 92 110	5 NA 9 5	6010 6010 6010 6010 6010	07/02/96 07/02/96 07/02/96 07/02/96 07/02/96	07/02/96 07/02/96 07/02/96 07/02/96 07/02/96	

MS = Matrix Spike

MSD = Matrix Spike Duplicate

RPD = Relative Percent Difference

Spike Recovery Limits for Matrix Spikes are 75 - 125%. RPD Limits are ± 20%.

NA = The concentration of the sample that was spiked was 4 times higher than the spike concentration, so the samples were not analytically spiked.

Michelle L. Anderson Inorganics Supervisor



Sample: TB-1A

From : Beacon 546 (Proj. # D095-967)

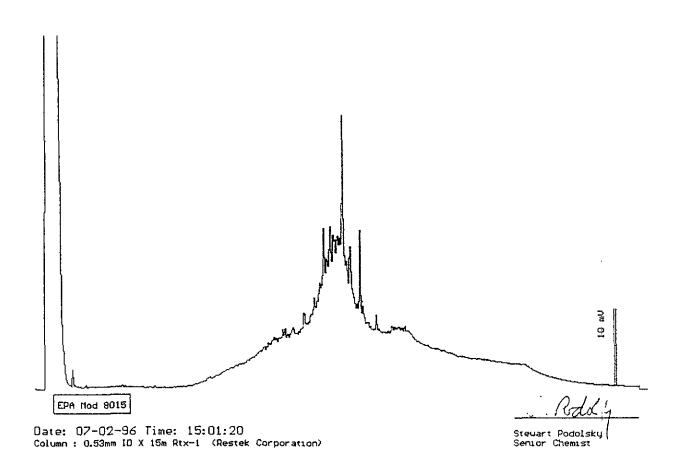
Sampled: 06/28/96

Extracted: 07/01/96 QC Batch: DS960702 Dilution: 1:1 Run Log: 7330A

Matrix : Soil

Parameter	(MRL) mg/kg	Measured Value mg/kg	
TPH as Diesel	(5.0)	<5.0 *	

\* Increased reporting limit due to interference from high boiling point compounds.





Sample Log 15025 15025-09

Sample: TB-1B

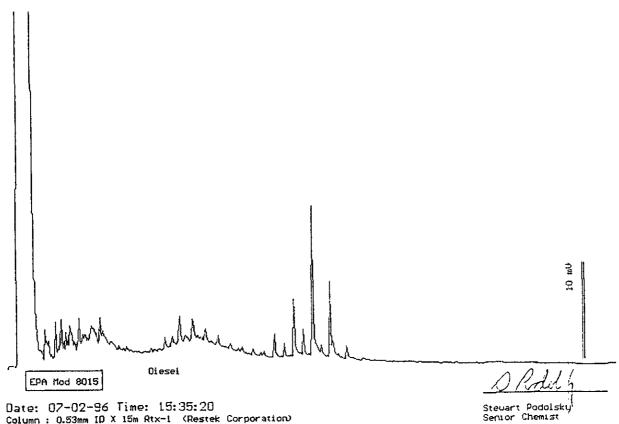
From : Beacon 546 (Proj. # D095-967)

Sampled: 06/28/96

QC Batch : DS960702 Extracted: 07/01/96 Dilution: 1:1 Run Log: 7330A

Matrix : Soil

Parameter	(MRL) mg/kg	Measured Value mg/kg
TPH as Diesel	(1.0)	4.2



Date: 07-02-96 Time: 15:35:20

Column: 0.53mm ID X 15m Rtx-1 (Restek Corporation)

BO010052



Sample: S-Tank 3

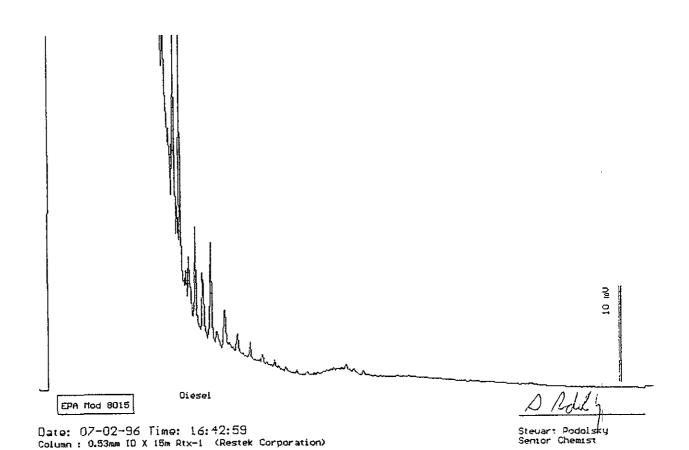
From : Beacon 546 (Proj. # D095-967)

Sampled: 06/28/96

Extracted: 07/01/96 QC Batch : DS960702 Dilution : 1:30 Run Log : 7330B

Matrix : Soil

Parameter	(MRL) mg/kg	Measured Value mg/kg
TPH as Diesel	(30)	150



BO010053



July 2, 1996 Sample Log 15025

Oil and Grease, Hydrocarbons, Gravimetric (SM5520 E,F)

From : Beacon 546 (Proj. # D095-967)

Received: 06/28/96

Matrix : Soil

--all concentrations are units of mg/kg--

Sample	Date Sampled	Date Analyzed	MRL	(5520 E,F) Oil and Grease
TB-1A	06/28/96	07/01/96	(50)	<50
TB-1B	06/28/96	07/01/96	(50)	<50
S-Tank 3	06/28/96	07/01/96	(150)	3400

QC Batch: KS960701

Stewart Podolsky Semior Chemist

BO01 0054



MTBE (Methyl-t-butyl ether) By EPA Method 8020/602

From : Beacon 546 (Proj. # D095-967)

Sampled: 06/28/96 Received: 06/28/96

Matrix : Soil

MTBE	(MRL) mg/kg	Measured Value mg/kg
	<del>-</del> _ <del>-</del> <del>-</del>	,
PL-1A	(.050)	<.050
PL-1B	(5.0)	<5.0
PL1C	(.050)	<.050
PL-1D	(.050)	<.050
PL-1E	(5.0)	<5.0
PL-1F	(.050)	<.050
PL-1G	(.050)	<.050
TB-1A	(.050)	<.050
TB-1B	(.050)	<.050
S-Tank 3	(50)	<50

Approved By:

Joel Kiff

Senior Chemist



Sample: PL-1A

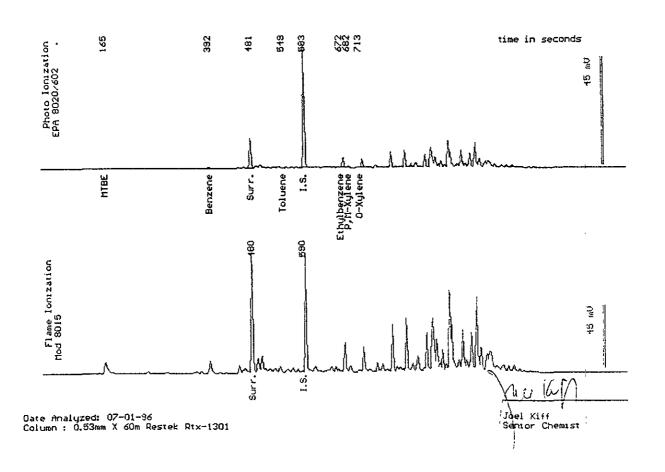
From : Beacon 546 (Proj. # D095-967)

Sampled: 06/28/96

Dilution: 1:1 QC Batch: 2145V

Matrix : Soil

Parameter	(MRL) mg/kg	Measured Value =g/kg
Benzene Toluene Ethylbenzene Total Xylenes TPH as Gasoline	(.0050) (.0050) (.0050) (.0050) (1.0)	<.0050 <.0050 .028 .026 1.4
Surrogate Recovery	Y	101 %





Sample: PL-1B

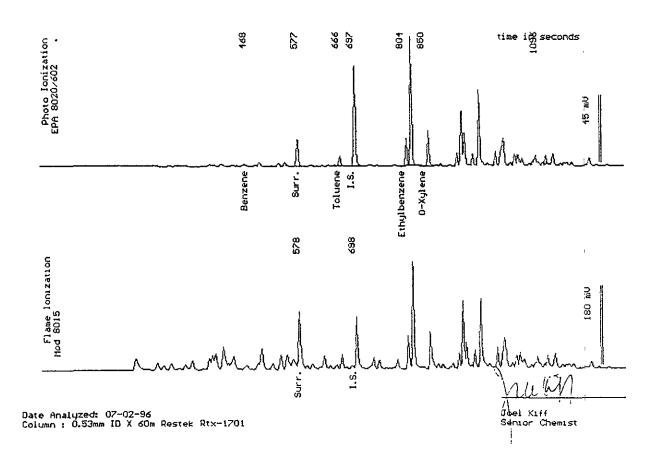
From : Beacon 546 (Proj. # DO95-967)

Sampled: 06/28/96

Dilution: 1:100 QC Batch: 4149A

Matrix : Soil

Parameter	(MRL) mg/kg	Measured Value mg/kg
Benzene Toluene Ethylbenzene Total Xylenes TPH as Gasoline	(.50) (.50) (.50) (.50) (100)	.71 5.8 14 20 660
Surrogate Recovery	7	112 %





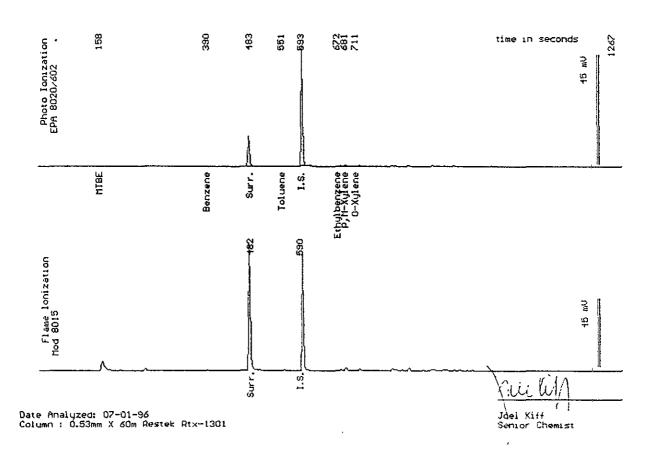
Sample: PL1C

From : Beacon 546 (Proj. # D095-967)

Sampled: 06/28/96

Dilution: 1:1 QC Batch: 2145V

Parameter	(MRL) mg/kg	Measured Value mg/kg
Benzene Toluene Ethylbenzene Total Xylenes TPH as Gasoline	(.0050) (.0050) (.0050) (.0050) (1.0)	<.0050 <.0050 <.0050 <.0050 <1.0
Surrogate Recovery	Y	101 %





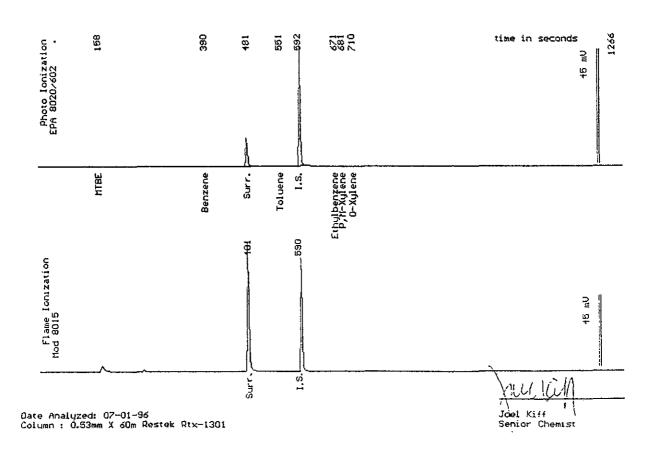
Sample: PL-1D

From : Beacon 546 (Proj. # D095-967)

Sampled: 06/28/96 Dilution: 1:1

Dilution: 1:1 QC Batch: 2145V

Parameter	(MRL) mg/kg	Measured Value =g/kg
ئية وبدية ويون فيهن هي فلان فلت ها فلند أنانات الأنان والآن بريت بست عند أنسان أنسان	- خلاج کائٹ کینے بیٹسے وہیں کیٹسے مشکل وہیں سیان بیٹھا کیٹھ جسٹ جینس بیٹس بیٹس بیٹسے وہیں وہیں وہیں وہیں	
Benzene	(.0050)	<.0050
Toluene	(.0050)	<.0050
Ethylbenzene	(.0050)	<.0050
Total Xylenes	(.0050)	<.0050
TPH as Gasoline	(1.0)	<1.0
Surrogate Recovery	?	100 %





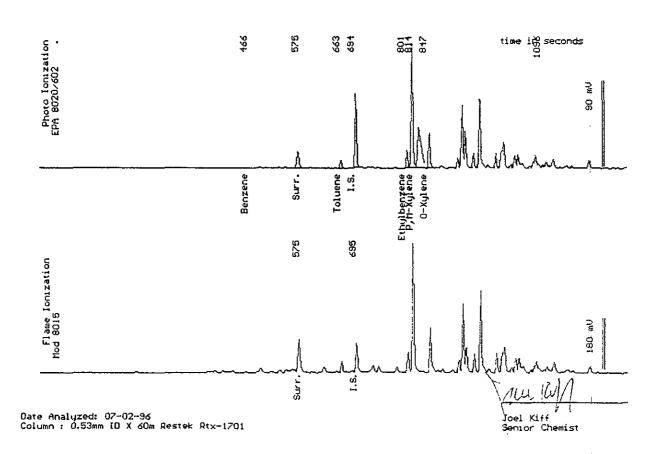
Sample: PL-1E

From : Beacon 546 (Proj. # D095-967)

Sampled: 06/28/96 Dilution: 1:100

Dilution: 1:100 QC Batch: 4149A

Parameter	(MRL) mg/kg	Measured Value mg/kg
Benzene Toluene Ethylbenzene Total Xylenes TPH as Gasoline	(.50) (.50) (.50) (.50) (100)	<.50 19 38 310 1800
Surrogate Recovery	У	107 %





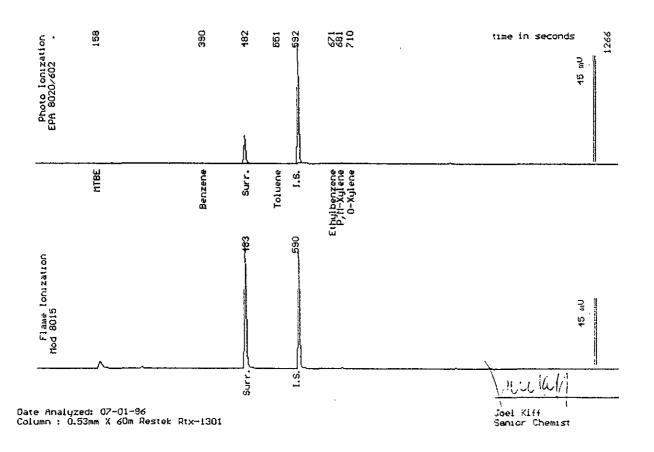
Sample: PL-1F

From : Beacon 546 (Proj. # D095-967)

Sampled: 06/28/96

Dilution: 1:1 QC Batch: 2145V

Parameter	(MRL) mg/kg	Measured Value mg/kg
Benzene Toluene Ethylbenzene Total Xylenes TPH as Gasoline	(.0050) (.0050) (.0050) (.0050) (1.0)	<.0050 <.0050 <.0050 <.0050 <1.0
Surrogate Recovery	7	98 %





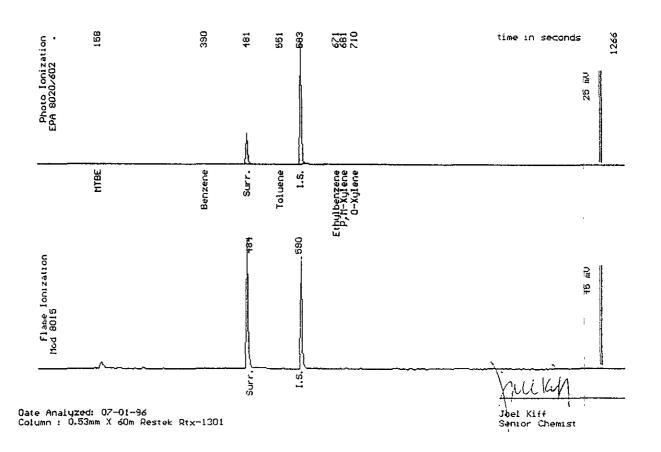
Sample: PL-1G

From : Beacon 546 (Proj. # D095-967)

Sampled: 06/28/96

Dilution: 1:1 QC Batch: 2145V

Parameter	(MRL) mg/kg	Measured Value mg/kg
Benzene Toluene Ethylbenzene Total Xylenes TPH as Gasoline	(.0050) (.0050) (.0050) (.0050) (1.0)	<.0050 <.0050 <.0050 <.0050 <1.0
Surrogate Recovery	¥	93 %





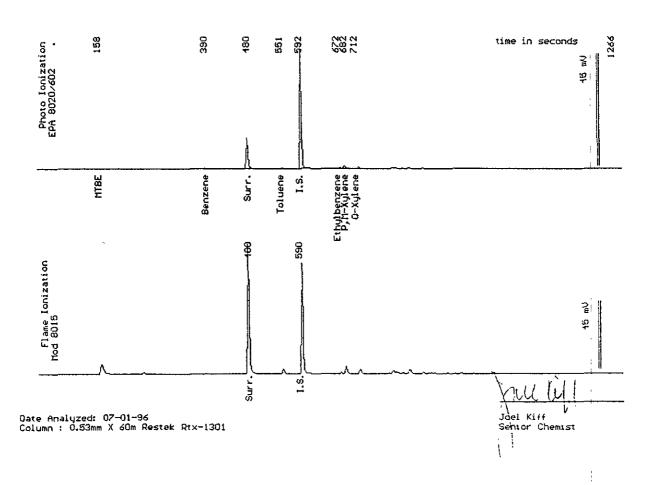
Sample: TB-1A

From : Beacon 546 (Proj. # D095-967)

Sampled: 06/28/96

Dilution: 1:1 QC Batch: 2145V

Parameter	(MRL) mg/kg	Measured Value mg/kg
Benzene	(.0050)	<.0050
Toluene	(.0050)	<.0050
Ethylbenzene	(.0050)	<.0050
Total Xylenes TPH as Gasoline	(.0050) (1.0)	.0070 <1.0
IFN as Gasoline	(1.0)	1.0
Surrogate Recover	À.	99 %





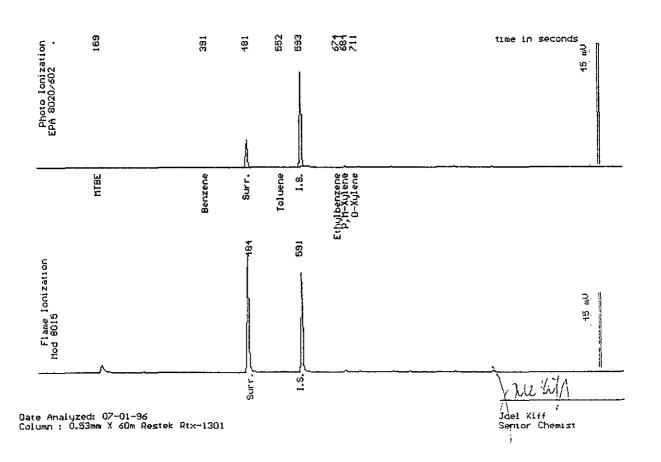
Sample: TB-1B

From : Beacon 546 (Proj. # D095-967)

Sampled: 06/28/96

Dilution: 1:1 QC Batch: 2145V

Parameter	(MRL) mg/kg	Measured Value =g/kg
Benzene Toluene Ethylbenzene Total Xylenes TPH as Gasoline	(.0050) (.0050) (.0050) (.0050) (1.0)	<.0050 <.0050 <.0050 <.0050 <1.0
Surrogate Recover	У	99 %





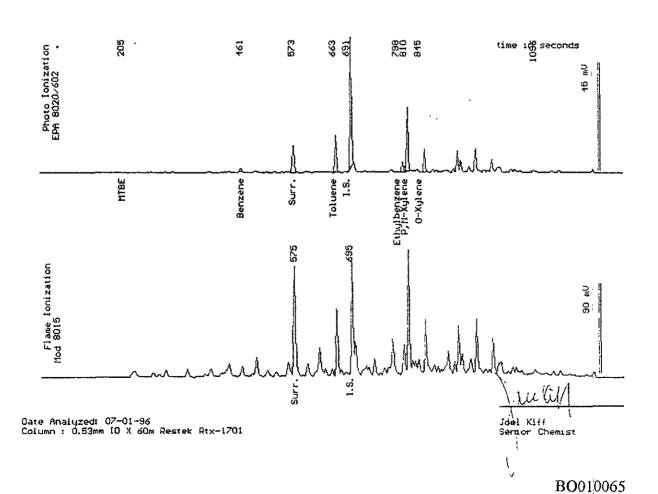
Sample: S-Tank 3

From : Beacon 546 (Proj. # D095-967)

Sampled: 06/28/96

Dilution: 1:1000 QC Batch: 4148XX

Parameter	(MRL) mg/kg	Measured Value =g/kg
Benzene Toluene Ethylbenzene Total Xylenes TPH as Gasoline	(5.0) (5.0) (5.0) (5.0) (1000)	9.8 93 32 190 1600
Surrogate Recovery	7	111 %



**BEACON** 



### Ultramar Inc.

**CHAIN OF CUSTODY REPORT** 

15025

Beacon Station No.	Sampler (Print						IALYS	EQ		6-25-67	Form No.	
546	Chris						ALIS			West	1413	
Project No.	Sampler (8ight	alute)/							,			
D095-967	1/m/11	in			9	<u>(a</u>			Containers	ウスが	TA	T
Project Location	Affiliation				1100	(diesel)			onta	12111	•	
Haywa-d	Delta				X	die (ga			of C	7/2/96 11	es IF Po	<i>5</i> 5.
Sample No./Identification	Date	Tim	ie	Lab No.	BTE				o N	REMAI	RKS	
PL-IA	6.28.96	170	5	15025-01	×>	۲			)			
Pr-1B		171	3	<u>- 02</u>	<b>小</b> :				1			i
PL-1C		1721	0	<u>^03</u>	X,				1			
PL-10		173	3	-04	人,				1			
PL-1F		172	7	- 05	УS	4			1		·····	
PL-IF		174	}	- 06	外				1			
PL-16	L-28-9L	174	6	-07		4			1		<u></u>	
2 2												
Relinquished by (Signature/Affiliation)	Date 6-25	Time	Receiv	ed by: (Signature	e/Afl	iliati	on)				Date	Time
1/10 Veta	9L	2024										
Relinquished by: (Signature/Affiliation)	Date	Time	Receive	ed by: (Signature	e/Aff	iliati	on)				Date	Time
								,			Date	Time
Relinquished by: (Signature/Affiliation)	Date	Time	Receiv	ed by: (Signatur			9n)		_		wasfru	-
				POLITYAMAR	V	$\mathcal{L}$	WE	EST			6/25/14	
Report To: DUEN Kittralige I	Delta		Bill to:	ULTWAMAR 525West Th	ind:	∦ Stre∈	et					
			- 1	11 7 3 04	000	200		 /> v				
				Attention:	U	]						
WHITE: Return to Client with Report	YELLOW: Lab	oratory C	ору	PINK: Origin	alor	Cop	у				17 80	ለት ተማሰ



### Ultramar Inc.

**BEACON** 

CHAIN OF CUSTODY REPORT 15025 No. of Containers

No. of Contai Sampler (Print Name) Beacon Station No. ANALYSES Chris Hill 546 Sampler (Signature) Project No. D095-967 Affiliation Project Location Delta Lab No. Time Date Sample No./Identification 15025.088 XX 62896 1806 T13-1A 1817 6-28-96 TB-1B xxxxxx 01-6-28-96 1844 S-TANK3 Time Date Received by: (Signature/Affiliation) Date 628 Time Relinquished by (Signature/Affiliation) 2028 Time Date Received by: (Signature/Affiliation) Time Refinquished by: (Signature/Affiliation) Date Date Time Received by: (Signature/Affiliation) Time Relinquished by: (Signature/Affiliation) Date WEST Report TO: OWEN F. Howese ULTHAMAR INC. Bill to: 525 West Third Street Hanford, CA 93280
Attention: JEVY FOX

WHITE: Return to Client with Report

YELLOW: Laboratory Copy

PINK: Originator Copy

32 8003 1/90



11/2

### **CHANGE ORDER FORM**

DATE: 7/12/	96 TIME: 11-30 a
COMPANY:	
PROJECT #:	SAMPLE LOG #: 15025
PROJECT NAM	1E: Beacon 546
ORDER TAKE	NBY: Tol ORDERED BY: T. Fox
SAMPLE #	CHANGE REQUESTED TURN-AROUND-TIME (If Applicable)
-10	Add 8010 Run afin Hald time
REMARKS:_	David Williams toll to rea
	_
- Pr	et "70.00" for price
	*********************
UPDATE SEC	CTION: (Initial / Date / Time)
FRONT O	COMPUTER VOLATILES DIESEL SLOC BOOK

### ENCLOSURE C

Copies of Analytical Reports from Soil Samples Collected on July 11, 1996



Sample Log 15111 July 15, 1996



Owen Kittredge Delta Environmental Consultants 3164 Gold Camp Drive, Suite 200 Rancho Cordova, CA 95670

Subject:

3 soil samples

Project Name:

Beacon 546

Project Number: DO95-967

Location:

Hayward

Dear Mr. Kittredge,

Chemical analysis on the samples referenced above has been completed. Summaries of the data are contained on the following pages. Sample(s) were received under documented chain-of-custody. USEPA protocols for sample storage and preservation were followed.

WEST Laboratory is certified by the State of California (# 1346). If you have any questions regarding procedures or results, please call me at 916-753-9500.

Sincerely,

BO010010



July 16, 1996 Sample Log 15111-01

Sample: LB-1

From: Beacon 546 (Project # D093-967)

Matrix: Soil

Report As: wet weight

Date Sampled: 07/11/96 Date Received: 07/12/96

Units: (mg/kg)

### Metals Analyses by ICP by SW-846 5 LUFT "Waste Oil" Metals

<u>Analyte</u>	Result	MRL	EPA Method	Date Digested	Date Analyzed
Cadmium (Cd)	<0.80	0.80	6010	07/15/96	07/16/96
Chromium (Cr)	100	0.70	6010	07/15/96	07/16/96
Lead (Pb)	19	10	6010	07/15/96	07/16/96
Nickel (Ni)	140	1.5	6010	07/15/96	07/16/96
Zinc (Zn)	80	1.0	6010	07/15/96	07/16/96

MRL = Method Reporting Limit

Michelle L. Anderson Inorganics Supervisor

BO010071



July 16, 1996 Sample Log 15111-02

07/16/96

Sample: OS-1

From: Beacon 546 (Project # D093-967)

Matrix: Soil

Zinc (Zn)

Report As: wet weight

Date Sampled: 07/11/96

Date Received: 07/12/96

Units: (mg/kg)

07/15/96

### Metals Analyses by ICP by SW-846 5 LUFT "Waste Oil" Metals

Date Date Digested Analyzed Result MRL **EPA Method** <u>Analyte</u> <0.80 08.0 6010 07/15/96 07/16/96 Cadmium (Cd) Chromium (Cr) 85 0.70 6010 07/15/96 07/16/96 07/15/96 07/16/96 Lead (Pb) 14 10 6010 07/15/96 07/16/96 Nickel (Ni) 120 1.5 6010

6010

1.0

MRL = Method Reporting Limit

81

Michelle L. Anderson Inorganics Supervisor

BO010015



July 16, 1996 Sample Log 15111-03

Sample: LB-2

From: Beacon 546 (Project # D093-967)

Matrix: Soil

Report As: wet weight

Date Sampled: 07/11/96 Date Received: 07/12/96

Units: (mg/kg)

### Metals Analyses by ICP by SW-846 5 LUFT "Waste Oil" Metals

Analyte	Result	MRL	EPA Method	Date Digested	Date Analyzed
Cadmium (Cd)	<0.40	0.40	6010	07/15/96	07/16/96
Chromium (Cr)	100	0.70	6010	07/15/96	07/16/96
Lead (Pb)	17	10	6010	07/15/96	07/16/96
Nickel (Ni)	140	1.5	6010	07/15/96	07/16/96
Zinc (Zn)	82	1.0	6010	07/15/96	07/16/96

MRL = Method Reporting Limit

Michelle L. Anderson Inorganics Supervisor



July 16, 1996

### Metals QC Report for Sample Log 15111

From: Beacon 546 (Project # D093-967)

Matrix: Soil

Units: (mg/kg)

### Method Blank

Analyte	Result	MRL	EPA Method	Date <u>Digested</u>	Date <u>Analyzed</u>	·
Cadmium (Cd)	<0.40	0.40	6010	07/15/96	07/16/96	
Chromium (Cr)	<0.70	0.70	6010	07/15/96	07/16/96	
Lead (Pb)	<10	10	6010	07/15/96	07/16/96	
Nickel (Ni)	<1.5	1.5	6010	07/15/96	07/16/96	
Zinc (Zn)	<1.0	1.0	6010	07/15/96	07/16/96	

MRL = Method Reporting Limit

### **Laboratory Control Sample (LCS)**

Analyte	% Recovery	EPA Method	Date <u>Digested</u>	Date Analyzed
Cadmium (Cd)	107	6010	07/15/96	07/16/96
Chromium (Cr)	103	6010	07/15/96	07/16/96
Lead (Pb)	106	6010	07/15/96	07/16/96
Nickel (Ni)	107	6010	07/15/96	07/16/96
Zinc (Zn)	108	6010	07/15/96	07/16/96

LCS Limits are 85 - 115%.

Michelle L. Anderson

Inorganics Supervisor

B0010074



July 16, 1996

### Metals QC Report for Sample Log 15111 (cont'd)

From: Beacon 546 (Project # D093-967) Sample Spiked for MS/MSD: 15111-01

### **Matrix Spikes**

Analyte	MS % Recov	MSD % Recov	RPD	EPA Method	Date Digested	Date Analyzed
Cadmium (Cd)	104	103	1	6010	07/15/96	07/16/96
Chromium (Cr)	76	84	10	6010	07/15/96	07/16/96
Lead (Pb)	92	95	3	6010	07/15/96	07/16/96
Nickel (Ni)	101	92	9	6010	07/15/96	07/16/96
Zinc (Zn)	104	100	4	6010	07/15/96	07/16/96

MS = Matrix Spike MSD = Matrix Spike Duplicate RPD = Relative Percent Difference Spike Recovery Limits for Matrix Spikes are 75 - 125%. RPD Limits are  $\pm$  20%.

Michelle L. Anderson Inorganics Supervisor



### **Volatile Halocarbons**

Sample Name: LB-1

Project Name : Beacon 546
Project Number : DO95-967

Sample Date : 07/11/96 Date Analyzed : 07/15/96 Analysis Method : EPA 8010 Date Received: 07/12/96

Dilution : 1:1
Sample Matrix : Soil

Lab Number : 15111-01

		Measured	
Parameter	MRL	Conc.	Units
Chloromethane	0.0050	< 0.0050	mg/Kg
Vinyl Chloride	0.0050	< 0.0050	mg/Kg
Bromomethane	0.0050	< 0.0050	mg/Kg
Chloroethane	0,0050	< 0.0050	mg/Kg
Trichlorofluoromethane	0.0050	< 0.0050	mg/Kg
1,1-Dichloroethene	0.0050	< 0.0050	mg/Kg
Dichloromethane	0.0050	< 0.0050	mg/Kg
t-1,2-Dichloroethene	0.0050	< 0.0050	mg/Kg
1,1-Dichloroethane	0.0050	< 0.0050	mg/Kg
c-1,2-Dichloroethene	0.0050	< 0.0050	mg/Kg
Chloroform	0.0050	< 0.0050	mg/Kg
1,1,1-Trichloroethane	0.0050	< 0.0050	mg/Kg
Carbon Tetrachloride	0.0050	< 0.0050	mg/Kg
1,2-Dichloroethane	0.0050	< 0.0050	mg/Kg
Trichloroethene	0.0050	< 0.0050	mg/Kg
1,2-Dichloropropane	0.0050	< 0.0050	mg/Kg
Bromodichloromethane	0.0050	< 0.0050	mg/Kg
c-1,3-Dichloropropene	0.0050	< 0.0050	mg/Kg
t-1,3-Dichloropropene	0.0050	< 0.0050	mg/Kg
1,1,2-trichloroethane	0.0050	< 0.0050	mg/Kg
Tetrachloroethene	0.0050	< 0.0050	mg/Kg
Dibromochloromethane	0,0050	< 0.0050	mg/Kg
Chlorobenzene	0.0050	< 0.0050	mg/Kg
Bromoform	0,0050	< 0.0050	mg/Kg
1,1,2,2-Tetrachloroethane	0.0050	< 0.0050	mg/Kg
1,3-Dichlorobenzene	0.0050	< 0.0050	mg/Kg
1,4-Dichlorobenzene	0.0050	< 0.0050	mg/Kg
1,2-Dichlorobenzene	0.0050	< 0.0050	mg/Kg
2-Chiorotoluene (Surr.)		74.5	% Recovery

MRL = Method Reporting Limit

Conc. = Concentration

Approved By:

E = Concentration exceeded calibration range. See higher dilution for correct value.





### **Volatile Halocarbons**

Sample Name : OS-1

Project Name : Beacon 546
Project Number : DO95-967

Sample Date : 07/11/96
Date Analyzed : 07/15/96
Analysis Method : EPA 8010

Date Received: 07/12/96

Dilution : 1:1 Sample Matrix : Soil

Lab Number : 15111-02

	14501	Measured	Units
Parameter	MRL	Conc.	
Chloromethane	0.0050	< 0.0050	mg/Kg
Vinyl Chloride	0,0050	< 0.0050	mg/Kg
Bromomethane	0.0050	< 0.0050	mg/Kg
Chloroethane	0.0050	< 0.0050	mg/Kg
Trichlorofluoromethane	0.0050	< 0.0050	mg/Kg
1,1-Dichloroethene	0.0050	< 0.0050	mg/Kg
Dichloromethane	0.0050	< 0.0050	mg/Kg
t-1,2-Dichloroethene	0.0050	< 0.0050	mg/Kg
1,1-Dichloroethane	0.0050	< 0.0050	mg/Kg
c-1,2-Dichloroethene	0.0050	< 0.0050	mg/Kg
Chloroform	0.0050	< 0.0050	mg/Kg
1,1,1-Trichloroethane	0.0050	< 0.0050	mg/Kg
Carbon Tetrachloride	0.0050	< 0.0050	mg/Kg
1,2-Dichloroethane	0.0050	< 0.0050	mg/Kg
Trichloroethene	0.0050	< 0.0050	mg/Kg
1,2-Dichloropropane	0.0050	< 0.0050	mg/Kg
Bromodichloromethane	0.0050	< 0.0050	mg/Kg
c-1,3-Dichloropropene	0.0050	< 0.0050	mg/Kg
t-1,3-Dichloropropene	0.0050	< 0.0050	mg/Kg
1,1,2-trichloroethane	0.0050	< 0.0050	mg/Kg
Tetrachloroethene	0.0050	< 0.0050	mg/Kg
Dibromochloromethane	0.0050	< 0.0050	mg/Kg
Chlorobenzene	0.0050	< 0.0050	mg/Kg
Bromoform	0.0050	< 0.0050	mg/Kg
1,1,2,2-Tetrachloroethane	0.0050	< 0.0050	mg/Kg
1,3-Dichlorobenzene	0.0050	< 0.0050	mg/Kg
1,4-Dichlorobenzene	0.0050	< 0.0050	mg/Kg
1,2-Dichlorobenzene	0.0050	< 0.0050	mg/Kg
2-Chlorotoluene (Surr.)		88.6	% Recovery

MRL = Method Reporting Limit

Conc. = Concentration

Approved By

E = Concentration exceeded calibration range. See higher dilution for correct value.





### **Volatile Halocarbons**

Sample Name : LB-2

Project Name : Beacon 546
Project Number : DO95-967

Sample Date : 07/11/96 Date Analyzed : 07/15/96 Analysis Method : EPA 8010 Date Received: 07/12/96

Dilution : 1:1
Sample Matrix : Soil

Lab Number : 15111-03

December	MRL	Measured Conc.	Units
Parameter Chloromethane	0.0050	< 0.0050	mg/Kg
	0.0050	< 0.0050	mg/Kg
Vinyl Chloride Bromomethane	0.0050	< 0.0050	mg/Kg
Chloroethane	0.0050	< 0.0050	mg/Kg
Trichlorofluoromethane	0.0050	< 0.0050	mg/Kg
• • • •	0.0050	< 0.0050	mg/Kg
1,1-Dichloroethene	0.0050	< 0.0050	mg/Kg
Dichloromethane	0.0050	< 0.0050	mg/Kg
t-1,2-Dichloroethene	0.0050	< 0.0050	mg/Kg
1,1-Dichloroethane	0.0050	< 0.0050	<del>-</del> -
c-1,2-Dichloroethene	0.0050	< 0.0050	mg/Kg
Chloroform	•		mg/Kg
1,1,1-Trichloroethane	0.0050	< 0.0050	mg/Kg
Carbon Tetrachloride	0.0050	< 0.0050	mg/Kg
1,2-Dichloroethane	0.0050	< 0.0050	mg/Kg
Trichloroethene	0.0050	< 0.0050	mg/Kg
1,2-Dichloropropane	0.0050	< 0.0050	mg/Kg
Bromodichloromethane	0.0050	< 0.0050	mg/Kg
c-1,3-Dichloropropene	0.0050	< 0.0050	mg/Kg
t-1,3-Dichloropropene	0.0050	< 0.0050	mg/Kg
1,1,2-trichloroethane	0.0050	< 0.0050	mg/Kg
Tetrachloroethene	0.0050	< 0.0050	mg/Kg
Dibromochloromethane	0.0050	< 0.0050	mg/Kg
Chlorobenzene	0.0050	< 0.0050	mg/Kg
Bromoform	0.0050	< 0.0050	mg/Kg
1,1,2,2-Tetrachloroethane	0.0050	< 0.0050	mg/Kg
1,3-Dichlorobenzene	0.0050	< 0.0050	mg/Kg
1,4-Dichlorobenzene	0.0050	< 0.0050	mg/Kg
1,2-Dichlorobenzene	0.0050	< 0.0050	mg/Kg
2-Chlorotoluene (Surr.)		85.6	% Recovery

MRL = Method Reporting Limit

Conc. = Concentration

Approved By:

E = Concentration exceeded calibration range. See higher dilution for correct value.





MTBE (Methyl-t-butyl ether) By EPA Method 8020/602

From : Beacon 546 (Proj. # D095-967)

Sampled: 07/11/96 Received: 07/12/96

Matrix : Soil

MTBE	(MRL) mg/kg	Measured Value <sub>mg/kg</sub>
LB-1	(.050)	<.050
os-1	(.050)	<.050
LB-2	(.050)	<.050

Approved By:

Joel Kifi

Senior Chemist



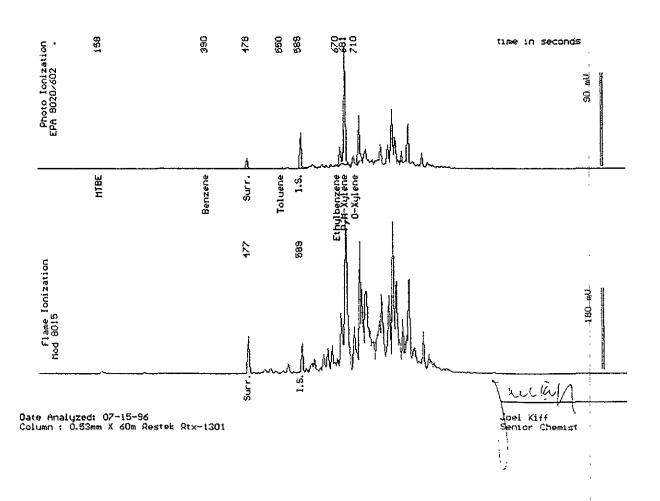
Sample: LB-1

From : Beacon 546 (Proj. # DO95-967)

Sampled: 07/11/96

Dilution: 1:1 QC Batch: 2146K

Parameter	(MRL) mg/kg	Measured Value mg/kg
_	/	
Benzene	(.0050)	<.0050
Toluene	(.0050)	<.0050
Ethylbenzene	(.0050)	.086
Total Xylenes	(.0050)	.70
TPH as Gasoline	(1.0)	5.3 *
Surrogate Recovery		104 %
* Product is not t	ypical gasoline.	





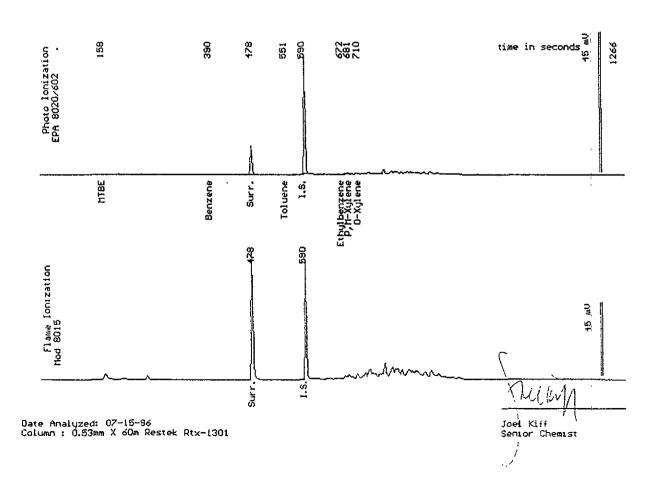
Sample: OS-1

From : Beacon 546 (Proj. # D095-967)

Sampled: 07/11/96

Dilution: 1:1 QC Batch: 2146K

Parameter	(MRL) mg/kg	Measured Value mg/kg
Benzene Toluene Ethylbenzene Total Xylenes TPH as Gasoline	(.0050) (.0050) (.0050) (.0050) (1.0)	<.0050 <.0050 <.0050 <.0050 <1.0
Surrogate Recovery	?	100 %





Sample: LB-2

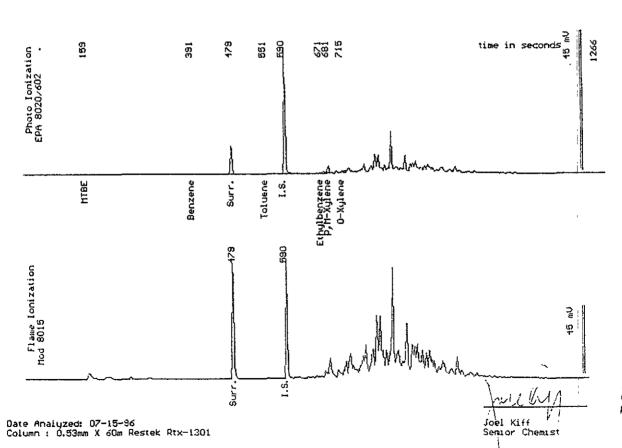
From : Beacon 546 (Proj. # DO95-967)

Sampled : 07/11/96

Dilution: 1:1 QC Batch: 2146K

Matrix : Soil

Parameter	(MRL) mg/kg	Measured Value mg/kg
Benzene	(.0050)	<.0050
Toluene	(.0050)	<.0050
Ethylbenzene	(.0050)	.023
Total Xylenes	(.0050)	.16
TPH as Gasoline	(1.0)	9.1 *
Surrogate Recovery * Product is not t	96 %	



30010082



July 14, 1996 Sample Log 15111

Oil and Grease, Hydrocarbons, Gravimetric (SM5520 E,F) From : Beacon 546 (Proj. # D095-967)

Received: 07/12/96

Matrix : Soil

--all concentrations are units of mg/kg--

Sample	Date Sampled	Date Analyzed	MRL	(5520 E,F) Oil and Grease
LB-1	07/11/96	07/12/96	(50)	350
os-1	07/11/96	07/12/96	(50)	120
LB-2	07/11/96	07/12/96	(50)	100

QC Batch: KS960702



Sample: LB-1

From : Beacon 546 (Proj. # D095-967)

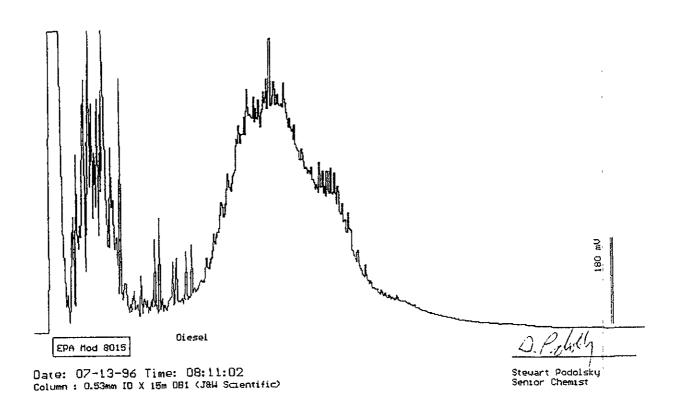
Sampled: 07/11/96

Extracted: 07/12/96 QC Batch: DS960708 Dilution: 1:1 Run Log: 8347C

Matrix : Soil

Parameter	(MRL) mg/kg	Measured Value mg/kg
TPH as Diesel	(1.0)	58

Contains gasoline range product similar to Stoddard Solvent.



 $\mathcal{B}_{\mathrm{Oo}_{loo}_{84}}$ 



Sample: OS-1

From : Beacon 546 (Proj. # D095-967)

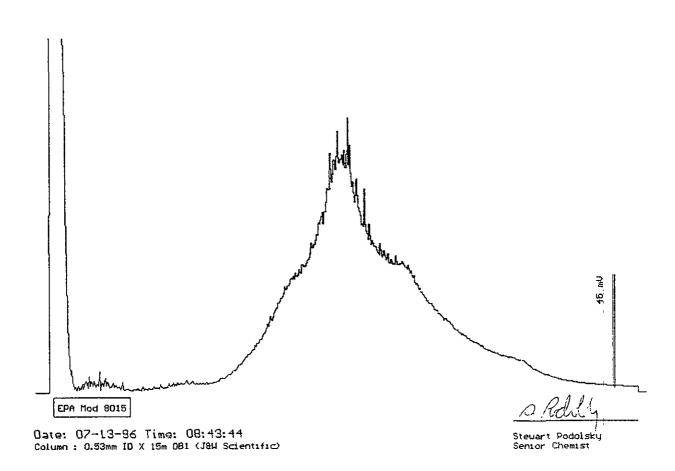
Sampled: 07/11/96

Extracted: 07/12/96 QC Batch : DS960708 Dilution : 1:1 Run Log : 8347C

Matrix : Soil

		Measured
Parameter	(MRL) mg/kg	Value mg/kg
TPH as Diesel	(10)	<10 *

\* Increased reporting limit due to oil range interference.





Sample: LB-2

From : Beacon 546 (Proj. # DO95-967)

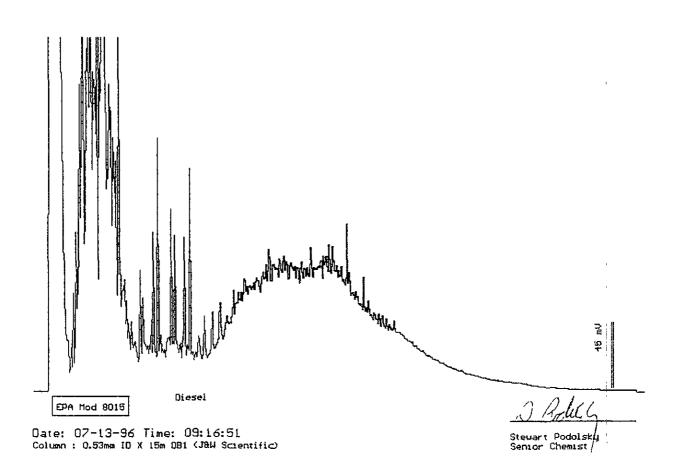
Sampled : 07/11/96

Extracted: 07/12/96 QC Batch : DS960708 Dilution : 1:1 Run Log : 8347C

Matrix : Soil

Parameter	(MRL) mg/kg	Measured Value mg/kg
TPH as Diesel	(1.0)	28

Contains gasoline range product similar to Stoddard Solvent.





### **Uitramar Inc.**CHAIN OF CUSTODY REPORT

### BEACON

Beacon Station No.	Sampler (Print Name)				ANALYSES					Date Form No. / 7-11-96 of /
546	Jim PERRY				1 1		353	1		WEST LAB-DAVIS
Project No.	Sampler (Signa			\$	7.1					
D095-967	Sim.	Perry		a	, )	010 4 68043	76.24	.	Containers	
Project Location	Affiliation			Sign	(jeg	9		.	ontai	
HAYWARD	DELTA E	ENVIRONM	ENTAL	×	die	2 3			ŏ	
/ Sample No./Identification	Date	Time	Lab No.	BTEX TPH (gasoline)	늍	700	ĬŸ		Ö.	REMARKS
LB-/	7-11-26	1405	15/11-01	·×\	44	××	44		l	RESULES BY 8:00 Am
0\$-1	7-11-96	1414	63	Y	yУ,	XX	X		Į	7/15/96
LB-2	7-11-96	1425	63	X	XY)	XX	4 ×		Ţ	
LB-2	11110					1				
				++		+	$\dagger\dagger$	+-		F RECEIVE I
				+	+	+				DATForlo/16:11" 16:45
				-		_	1	-	$\square$	11:0:
										11 18,
										Wrest. B
Refinquished by: (Signature/Affiliation)	Date 7/12/96		red by: (Signature	e/Affi	liatio	n)	· /	/	) _ ,	Date Time
Rélinquished by: (Signeture/Affiliation)	Data	Time Receiv	red by: (Signature	e/Afli	liatio	n)	-/-	12		Date Time
Dect.	A 1796	11 1	. 15.1/	Mi		_				7/2/96 3:120
Relinquished by: (Signature/Affiliation)	Date	1 7 1/1/	red by: (Signa)ur				•			Date Time
	7/17/46	1645	2	201	~~~	<u> </u>	Μ		+	27/13/16 16US
REPORT TO: OWEN KITTREDGE - D	ELTA	Bill to:	ULTRAMAR 525 West Th			!	'		5	
1 ()			Hanford, CA	7932	30					
V			Attention:	7 6	RI	Y	1-0	אל		
WHITE: Return to Client with Report	YELLOW: Labo	ratory Copy	PINK: Origin	alor (	Сору	,	***			37 8003 1/90

### ENCLOSURE D

Copies of Analytical Reports from Soil Samples Collected on July 29, 1996

500 Giuseppe Court, Suite 9 Roseville, CA 95678 Phone#: (916) 773-3664 Fax#: (916) 773-4784



### ANALYSIS REPORT

Attention: Project #:	Mr. Owen Kittredge Delta Environmental 3164 Gold Camp Dr Rancho Cordova, C. D095-967	ive, Suite 200	Date Sampled: Date Received: BTEX Analyzed: TPHg Analyzed: TPHd Analyzed: Matrix:			07-29-96 07-29-96 07-29,30-96 07-29,30-96 07-29,30-96 Soil
Reporting Lim	Benzene PPM it: 0.005	Toluene <u>PPM</u> 0.005	Ethyl- benzene <u>PPM</u> 0.005	Total Xylenes <u>PPM</u> 0.005	TPHg <u>PPM</u> 1.0	TPHd <u>PPM</u> 10
Sample: Laboratory Ide	entification:					•
•						
OE-1C S0796660	ND	ND	ND	ND	ND	ND
	<b>&gt;</b> 75	NT.	) ID	0.006	,	
SP-1A,B,C,D S0796701	ND	ND	ND	0.006	1.55	66*
SP-2A,B,C,D S0796702	ND	ND	0.009	0.073	4.34	168*
SP-4A,B,C,D S0796704		0.009	0.025	0.169	2.04	NR .

ppm = parts per million = mg/Kg = milligrams per Kilogram

ND = Not detected. Compound(s) may be present at concentrations below the reporting limit.

NR = Not requested. Sample analysis not requested.

#### ANALYTICAL PROCEDURES

BTEX—Benzene, toluene, ethylbenzene, and total xylene isomers (BTEX) are measured by extraction using EPA Method 5030 followed by analysis using EPA Method 8020 which utilizes a gas chromatograph (GC) equipped with a photoionization detector (PID).

TPHg-Total petroleum hydrocarbons as gasoline (low to medium boiling points) are measured by extraction using EPA Method 5030, followed by modified EPA Method 8015 which utilizes a GC equipped with a FID.

TPHd--Total petroleum hydrocarbons as diesel (high boiling points) are measured by extraction using EPA Method 3550 followed by modified EPA 8015 with direct sample injection into a GC equipped with an FID

Laboratory Representative

<sup>&</sup>quot; = Vaue is approximate because of interferences.

500 Giuseppe Court, Suite 9 Roseville, CA 95678 Phone#: (916) 773-3664 Fax#: (916) 773-4784



### **ANALYSIS REPORT**

Attention: Project #:	Delta Environmental 3164 Gold Camp Drive, Suite 200 Rancho Cordova, CA 95670			Date Date BTE: TPH TPHO Matri		07+29-96 07-29-96 07-29,30-96 07-29,30-96 07-29-96 Soil	
Reporting Lim	it:	Benzene PPM 0.025	Toluene PPM 0.025	Ethyl- benzene PPM 0.025	Total Xylenes <u>PPM</u> 0.025	TPHg <u>PPM</u> 5.0	ТРНф <u>РРМ</u> 10
Sample: Laboratory Identification:							
OE-1B S0796659		ND	ND	0.032	0.273	16.1	67*
OE-1D S0796661		0.041	ND	0.166	0.061	7.36	NR
OE-1G S0796664		ND	ND	0.031	0.253	18.9	NR

ppm = parts per million = mg/Kg = milligrams per Kilogram

ND = Not detected. Compound(s) may be present at concentrations below the reporting limit.

NR = Not requested. Sample analysis not requested.

\* = Vaue is approximate because of interferences.

#### ANALYTICAL PROCEDURES

BTEX—Benzene, toluene, ethylbenzene, and total xylene isomers (BTEX) are measured by extraction using EPA Method 5030 followed by analysis using EPA Method 8020 which utilizes a gas chromatograph (GC) equipped with a photoionization detector (PID).

TPHg-Total petroleum hydrocarbons as gasoline (low to medium boiling points) are measured by extraction using EPA Method 5030, followed by modified EPA Method 8015 which utilizes a GC equipped with a FID

TP\$Id-Total petroleum hydrocarbons as diesel (high boiling points) are measured by extraction using EPA Method 3550 followed by modified EPA 8015 with direct sample injection into a GC equipped with an FID.

Laboratory Representative

500 Giuseppe Court, Suite 9 Roseville, CA 95678 Phone#: (916) 773-3664 Fax#: (916) 773-4784



#### **ANALYSIS REPORT**

Attention:	Mr. Owen Kittredge Delta Environmental 3164 Gold Camp Dr Rancho Cordova, Ca	Date Date BTE TPH	07-29-96 07-29-96 07-30-96 07-30-96			
Project #:	D095-967	Mat	Soil			
Reporting Lin	nit:	Benzene PPM 2.5	Toluene PPM 2.5	Ethyl- benzene <u>PPM</u> 2.5	Total Xylenes <u>PPM</u> 2.5	TPHg <u>PPM</u> 225
Sample:						
Laboratory Id	entification:					
OE-1E S0796662		ND	49.3	96.1	537	3810

ppm = parts per million = mg/Kg = milligrams per Kilogram

ND = Not detected. Compound(s) may be present at concentrations below the reporting limit.

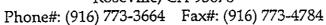
#### ANALYTICAL PROCEDURES

BTEX—Benzene, toluene, ethylbenzene, and total xylene isomers (BTEX) are measured by extraction using EPA Method 5030 followed by analysis using EPA Method 8020 which utilizes a gas chromatograph (GC) equipped with a photoionization detector (PID).

TPHg-Total petroleum hydrocarbons as gasoline (low to medium boiling points) are measured by extraction using EPA Method 5030, followed by modified EPA Method 8015 which utilizes a GC equipped with a FID.

Laboratory Representative

500 Giuseppe Court, Suite 9 Roseville, CA 95678





### ANALYSIS REPORT

Attention:	Mr. Owen Kittred Delta Environmer 3164 Gold Camp Rancho Cordova,	ntal Drive, Suite 200	Date Date BTI TPI		07-29-96 07-29-96 07-30-96 07-30-96		
Project #:	D095-967		Matrix:				
Reporting Lir	nit:	Benzene <u>PPM</u> 2.0	Toluene PPM 2.0	Ethyl- benzene <u>PPM</u> 2.0	Total Xylenes <u>PPM</u> 2.0	TPHg <u>PPM</u> 100	
Sample:	tut.						
Laboratory Ic	lentification:					ı	
OE-1F S0796663		ND	16.7	28.2	158	1110	

ppm = parts per million = mg/Kg = milligrams per Kilogram

ND = Not detected. Compound(s) may be present at concentrations below the reporting limit.

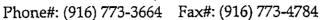
#### ANALYTICAL PROCEDURES

BTEX- Benzene, toluene, ethylbenzene, and total xylene isomers (BTEX) are measured by extraction using EPA Method 5030 followed by analysis using EPA Method 8020 which utilizes a gas chromatograph (GC) equipped with a photoionization detector (PID).

TPHg-Total petroleum hydrocarbons as gasoline (low to medium boiling points) are measured by extraction using EPA Method 5030, followed by modified EPA Method 8015 which utilizes a GC equipped with a FID.

Laboratory Representative

500 Giuseppe Court, Suite 9 Roseville, CA 95678





### **ANALYSIS REPORT**

Attention:	tention: Mr. Owen Kittredge Delta Environmental 3164 Gold Camp Drive, Suite 200 Rancho Cordova, CA 95670			Date Sampled: Date Received: BTEX Analyzed: TPHg Analyzed:				
Project #:	oject #: D095-967			Matrix:				
Reporting Lin	nit:	Benzene PPM 1.5	Toluene PPM 1.5	Ethyl- benzene <u>PPM</u> 1.5	Total Xylenes <u>PPM</u> 2.6	TPHg <u>PPM</u> 150		
Sample: Laboratory Id	lentification:							
OE-1A S0796657		1.78	4.42	72.4	445	3070		

ppm = parts per million = mg/Kg = milligrams per Kilogram

ND = Not detected. Compound(s) may be present at concentrations below the reporting limit.

#### ANALYTICAL PROCEDURES

BTEX—Benzene, toluene, ethylbenzene, and total xylene isomers (BTEX) are measured by extraction using EPA Method 5030 followed by analysis using EPA Method 8020 which utilizes a gas chromatograph (GC) equipped with a photoionization detector (PID).

TPHg—Total petroleum hydrocarbons as gasoline (low to medium boiling points) are measured by extraction using EPA Method 5030, followed by modified EPA Method 8015 which utilizes a GC equipped with a FID.

Laboratory Representative

Date Reported

500 Giuseppe Court, Suite 9 Roseville, CA 95678 Phone#: (916) 773-3664 Fax#: (916) 773-4784



#### **ANALYSIS REPORT**

Attention:	Mr. Owen Kittredge	e	Date Sampled:					
	Delta Environmenta	d	Date	e Received:		07129-9	96	
	3164 Gold Camp D	rive, Suite 200	BTI	EX Analyzed	•	07-30-9	96	
	Rancho Cordova, C	•	TPI		07 <del>-</del> 30-9	96		
Project #:	D095-967		Mat	S	oil			
		Benzene <u>PPM</u>	Toluene <u>PPM</u>	Ethyl- benzene <u>PPM</u>	Total Xylenes <u>PPM</u>	TPHg <u>PPM</u>		
Reporting Lir	nit:	0.040	0.040	0.040	0.040	10		
Sample:								
Laboratory Id	dentification:							
SP-5A,B,C,I S0796705		ND	ND	ND	0.076	11.7	·	

ppm = parts per million = mg/Kg = milligrams per Kilogram

ND = Not detected. Compound(s) may be present at concentrations below the reporting limit.

#### ANALYTICAL PROCEDURES

BTEX—Benzene, toluene, ethylbenzene, and total xylene isomers (BTEX) are measured by extraction using EPA Method 5030 followed by analysis using EPA Method 8020 which utilizes a gas chromatograph (GC) equipped with a photoionization detector (PID).

TPHg—Total petroleum hydrocarbons as gasoline (low to medium boiling points) are measured by extraction using EPA Method 5030, followed by

modified EPA Method 8015 which utilizes a GC equipped with a FID.

Laboratory Representative

500 Giuseppe Court, Suite 9 Roseville, CA 95678 Phone#: (916) 773-3664 Fax#: (916) 773-4784



#### ANALYSIS REPORT

Attention: Mr. Owen Kittredge			Date	07- 29	<del>-</del> 96		
	Delta Environmen	tai	Date	e Received:		07+29	<b>-</b> 96
	3164 Gold Camp	Drive, Suite 200	BTI	EX Analyzed		07+30	-96
	Rancho Cordova,		TPF	07+30	-96		
Project #: D095-967			Mat	;	Soil		
		Benzene <u>PPM</u>	Toluene <u>PPM</u>	Ethyl- benzene <u>PPM</u>	Total Xylenes <u>PPM</u>	TPHg <u>PPM</u>	
Reporting Lim	it:	0.275	0.275	0.275	0.275	30	<u> </u>
Sample:							
Laboratory Ide	entification:					•	
SP-3A,B,C,D S0796703		ND	0.525	3.78	22.6	236	

ppm = parts per million = mg/Kg = milligrams per Kilogram

ND = Not detected. Compound(s) may be present at concentrations below the reporting limit.

#### ANALYTICAL PROCEDURES

BTEX—Benzene, toluene, ethylbenzene, and total xylene isomers (BTEX) are measured by extraction using EPA Method 5030 followed by analysis using EPA Method 8020 which utilizes a gas chromatograph (GC) equipped with a photoionization detector (PID).

TPHg—Total petroleum hydrocarbons as gasoline (low to medium boiling points) are measured by extraction using EPA Method 5030, followed by modified EPA Method 8015 which utilizes a GC equipped with a FID.

08-01-96

500 Giuseppe Court, Suite 9 Roseville, CA 95678 Phone#: (916) 773-3664 Fax#: (916) 773-4784



#### **ANALYSIS REPORT**

Attention:	Mr. Owen Kittredge Delta Environmental 3164 Gold Camp Drive, Suite 200 Rancho Cordova, CA 95670	Date Sampled: Date Received: TOG Analyzed:	07+29-96 07+29-96 07-29,30-96
Project #:	D095-967	Matrix:	Soil
Reporting Li	mit:	TOG <u>PPM</u> 50	
Sample:			!
Laboratory I	dentification:		ı
OE-1B S0796659		128	
OE-1C S0796660		ND	·
OE-1G S0796664		104	
SP-1A,B,C, S0796701	D	314	:
SP-2A,B,C, S0796702	D	380	!

ppm = parts per million = mg/Kg = milligrams per Kilogram

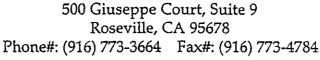
ND = Not detected. Compound(s) may be present at concentrations below the reporting limit.

ANALYTICAL PROCEDURES

TOG-- Total oil and grease is measured by Standard Method 5520B, 18th Edition.

Laboratory Representative

500 Giuseppe Court, Suite 9 Roseville, CA 95678





#### OA/OC REPORT

Attention:

Mr. Owen Kittredge

Date Analyzed:

07-29-96

Delta Environmental

Matrix:

Soil

3164 Gold Camp Drive, Suite 200 Rancho Cordova, CA 95670

Project #:

D095-967

Reporting Limit:	Benzene PPM 0.005	Toluene <u>PPM</u> 0,005	Ethyl- benzene <u>PPM</u> 0.005	Total Xylenes <u>PPM</u> 0.005	
QA/QC PARAMETER					
Matrix Blank	ND	ND	ND	ND	
PERCENT RECOVERIES	** **				
Laboratory Control Spike	116%	117%	117%	119%	
Laboratory Control Spike Duplicate	112%	113%	113%	115%	

ppm = parts per million = mg/Kg = milligram per kilogram

All surrogate recoveries were within 30% of target values. Spikes & Spike Duplicates were each spiked with 250 ng BTEX standard.

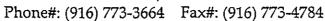
#### ANALYTICAL PROCEDURES

BTEX-- Benzene, toluene, ethylbenzene, and total xylene isomers (BTEX) are measured by extraction using EPA Method 5030 followed by analysis using EPA Method 8020 which utilizes a gas chromatograph (GC) equipped with a photoionization detector (PID).

aboratory Representative

ND = Not detected. Compound(s) may be present at concentrations below the reporting limit.

500 Giuseppe Court, Suite 9 Roseville, CA 95678





#### **QA/QC REPORT**

Attention:  Project #:	Mr. Owen Kittredge Delta Environmental 3164 Gold Camp Drive, Suite Rancho Cordova, CA 95670 D095-967	200	Date Analyzed: Matrix:	07-29-96 Soil
Reporting Limit		TPHd <u>PPM</u> 1.0		1
QA/QC PARA	<del></del>			
Matrix Blank		ND		
PERCENT RE	COVERIES			
Matrix Spike		93%		1
Matrix Spike D	uplicate	86%		

ppm = parts per million = mg/Kg = milligram per kilogram
ND = Not detected. Compound(s) may be present at concentrations below the reporting limit.

Spikes & Spike Duplicates were each spiked with 5000 ug of diesel standard.

#### ANALYTICAL PROCEDURES

TPHd-Total petroleum hydrocarbons as diesel (high boiling points) are measured by extraction using EPA Method 3550, followed by modified EPA Method 8015, with direct sample injection into a GC equipped with an FID.

08-01-90

500 Giuseppe Court, Suite 9 Roseville, CA 95678 Phone#: (916) 773-3664 Fax#: (916) 773-4784



#### **QA/QC REPORT**

Attention:  Project #:	Delta Environmental 3164 Gold Camp Drive, Suite 200 Rancho Cordova, CA 95670		07†29-96 Soil
Reporting Limi	t:	TOG <u>PPM</u> 50	
QA/QC PARA	METER		:
Matrix Blank		ND	
PERCENT RE	COVERIES		
Matrix Spike		86%	
Matrix Spike Duplicate		94%	

ppm = parts per million = mg/Kg = milligram per kilogram

ND = Not detected. Compound(s) may be present at concentrations below the reporting limit.

Spikes & Spike Duplicates were each spiked with 50mg of motor oil.

ANALYTICAL PROCEDURES

TOG-- Total oil and grease is measured gravimetrically by Standard Method 5520B, 18th Edition.

Laboratory Representative

500 Giuseppe Court, Suite 9 Roseville, CA 95678 Phone#: (916) 773-3664 Fax#: (916) 773-4784



#### **ANALYSIS REPORT**

Attention:	Mr. Owen Kittredge	Date Sampled:	07∔29-96
	Delta Environmental	Date Received:	07+29-96
	3164 Gold Camp Drive, Suite	200 Date Digested:	08+16-96
	Rancho Cordova, CA 95670	Date Analyzed:	08+16-96
Project #:	D095-967	Matrix:	Soil
	Lead		
	<u>PPN</u>	<u>Í</u>	
Reporting Li	mit: 2.5		
SAMPLE			
Laboratory Idea	ntification		
SP-4A,B,C,I	D 25.4	<b>!</b>	
S0796704			
CD CAD CO	20.0	,	
SP-5A,B,C,1	D 20.8	3	•
S0796705			
SP-3 I,J,K,L	.* 7.8	0	
S0796751	771		

PPM = Parts per million = mg/Kg = milligram per Kilogram

ND = Not detected. Compound(s) may be present at concentrations below the reporting limit.

\* = Date sampled: 07-31-96 Date Received: 07-31-96

ANALYTICAL PROCEDURES

LEAD- is measured by digestion using EPA Method 3050 followed by EPA Method 7420.

Laboratory Representative

500 Giuseppe Court, Suite 9 Roseville, CA 95678 Phone#: (916) 773-3664 Fax#: (916) 773-4784



#### **QA/QC REPORT**

Attention:	Mr. Owen Kittredge Delta Environmental 3164 Gold Camp Drive, Suite Rancho Cordova, CA 95670		Date Analyzed: Matrix:	08-1	6-96 Soil
Project #:	D095-967				
		Lead <u>PPM</u>			
Reporting Limi	t:	2.5			
QA/QC PARA	METER				
Matrix Blank		ND			
PERCENT RE	COVERIES				
Laboratory Co	ntrol Spike	101%			
Laboratory Co	ntrol Spike Duplicate	103%			

ND = Not detected. Compound(s) may be present at concentrations below the reporting limit.

ppm = parts per million = mg/Kg = milligram per kilogram

ANALYTICAL PROCEDURES

Lead- is measured by digestion using EPA Method 3050, followed by EPA Method 7420.

Laboratory Representative

500 Giuseppe Court, Suite 9 Roseville, CA 95678 Phone#: (916) 773-3664 Fax#: (916) 773-4784



#### QA/QC REPORT

Attention:	
AHENIUNI	
* 700011010111	

Mr. Owen Kittredge

Date Analyzed:

08-16-96

Delta Environmental

Matrix:

Soil

3164 Gold Camp Drive, Suite 200 Rancho Cordova, CA 95670

Project #:

D095-967

Lead

PPM

Reporting Limit:

2.5

QA/QC PARAMETER

Matrix Blank

ND

PERCENT RECOVERIES

Matrix Spike

110%

Matrix Spike Duplicate

61%\*

ppm = parts per million = mg/Kg = milligram per kilogram

ND = Not detected. Compound(s) may be present at concentrations below the reporting limit.

#### ANALYTICAL PROCEDURES

Lead- is measured by digestion using EPA Method 3050, followed by EPA Method 7420.

laboratory Representative

08-16-96

<sup>\* =</sup> QA/QC RPD is high due to sample homogeneity.



3164 Gold Camp Drive, Suite 200 Rancho Cordova, California 95670 Phone: (916) 638-2085 Fax: (916) 638-8385

### FAX TRANSMITTAL FORM

DATE: August 14, 1996

RECIPIENT: Mr. John Somers and/or Jason

COMPANY: Excelchem Environmental Lab

Mike Berrington

RECIPIENT FAX NO: (916) 773-4784

(220) ....

NO. OF PAGES TO FOLLOW:

SENDER:

SUBJECT: Additional Analyses of Soil Stockpile

Samples

Former Beacon Station No. 546

Hayward, California

DELTA PROJECT NO: D095-967

MESSAGE: Per my telephone conversation with

Jason this afternoon, Ultramar needs some additional laboratory analyses performed on the soil

stockpile samples collected at this site on 7/31/96. The samples, Excelchem's lab ID number, and

analyses required are as follows:

Delta Sample No.	Lab ID No.	Analyses Requested
SP-1E,F,G,H	S0796748	EPA 8240 and CAM 17 Metals
SP-2E,F,G,H	S0796749	•
SP-6A,B,C,D	S0796752	*
SP-3I,J,K,L	\$0796751	Total Lead
SP-4A,B,C,D	S0796704	я •
SP-5A,B,C,D	S0796705	

The 8240 analysis need to be conducted today to meet the 14 day hold time requirement. Need a 48 hour TAT, or sooner if possible. Please fax results to Terry Fox at Ultramar (209-583-3282) and Owen Kittredge at Delta.

**BEACON** 



### Ultramar Inc. **CHAIN OF CUSTODY REPORT**

Beacon Station No.	Sampler (Print	Name)							orm ivo.	
Former No. 546			PRINGTON		1/1/1/1/1	Ĭ		12/1/		"
Project No. 964	Sampler (Signa	ture)	/				,,	EXCRLCH	Eu	1
D095-00-1 (100)	11/m/all	WKet	5	(e)		M	of Containers	(MOBILE		
	Affiliation			Sel)	N <sub>2</sub>	coneas	uta	Mode		
Project Location 29 705 MISSION BUD.	DEITH	_		BTEX TPH (gasoline) TPH (diesel)	8	10/2	Ö	ROSEVIL	EC	$\mathcal{A}$ .
Hayward, cof.	1			되되의	0.88	177	No.	DEMARK		
Sample No./Identification	Date,	Time	Lab No.		W See	12)	Z	REMARK	5	
OE-1A (11.751)	7/29/96	1025	50796657	XX	人族	<u> </u>	1	- SOIL		<del>-</del>
Œ-1B (12')	7/20/96	1055	SOMULTO	XXX		X	1			
E-16 (121)	72996	1100	5079101060	XXX		M	1	Sa	سجامه	
DE-10 (6')	7/29/96	1205	101010191702	XX			1	·		
OE-1E (14.5')	7 kg/96	1250	5079662	XX		100	7	these	hout	
OE-IF (15.5')	4/20/9/2	1340	50796663	M		W A	1	day	bu	
	7/29/96	1350		XIX		X	1	Mobile	طما	
	17/1/	<del></del>	50796664			-		N. 183115	<u>15-61.</u>	
0E-1H (14')	7/29/96	1430	507914065	XX			1_	7	7- <u></u> 2ე Date	-9U Time
Relinguished by: (Signature/Affiliation)	Date	Time Receiv	ved by: (Signature	e/Affiliàti	on)				-	
1 July Sk. To	7/29/96			Tran	·				1/29/96	
Relinquished by: (Signature/Affiliation)	Date	Time (Recel	ed by: (Signature	e/Affiliati	ion)				Date	Time
		`	ر							
Relinquished by: (Signature/Affiliation)	Date	Time Receiv	ved by: (Signatur	e/Affiliati	on)			<del></del> -	Date	Time
Report To:		Bill to:								
CWEN RITTREDO	1E		525 West Th Hanford, CA		el		_			
Report To: OWEN KITTREDG DELTA			Attention:		/.	1	2			
									37 AC	חפו כמכ
WHITE: Return to Client with Report	YELLOW: Labo	ratory Copy	PINK: Origin	ator Cop	ру					



### **Uitramar Inc.**CHAIN OF CUSTODY REPORT

**BEACON** 

Beacon Station No.	Sampler (Print	Name)	Λ							Date	POHI NO	1
Former No. 546	Michael	de	le de	ine for			IALYSE	:S 				<del>'</del>
Project No.	Sampler (Signa	uture)	<u>۱ ( سعر</u>	Jyo.c			13			Excel Rose (24 H)	/_	/./
	7.1//	M F	) -#				3		ပ္သ	Excell	nem	Cas
D\$95-967		4/)	راسم	<u> </u>	a	(diesel)	12		aŭ	14060	INE, C	H
Project Location	Affiliation / /				9	ese	7		le E		1-1	
Project Location 29705 Mission Bud Hayward, A.	Helto	<u>ر</u>			×	DE	1		of Containers	1/2A H	V. 24	1 )
<b>'</b>	D-1-	T':-		Lab No	BTE Tou	田	8		Š.	- REMAP		
Sample No./Identification	Date	Tir	_	Lab No.		7	Ä	- -	7	7 ,		1/2
51-1A,B,C,D	7/29/96	15	<u>5                                    </u>	507910701	$\Delta$	$\Delta$	1/		1	2011-1	ongo.	5146
SP-ZABCD	'\\	15	30	50796702	N۸	$\langle X  $	X		4	. 5		
SP-34 B.C.D		150	40	50796703	М				4			
SI-AHBUD			50	50796704	MD				4	/		
50-54 BCD			00	50794705	$N \Lambda N$				A	- 1	***	
71-3N/NGP		10		301911102		-						
								+	-			
		-										
Belinquis/led by: (Signature/Affiliation)	,Date	Time	Receiv	red by: (Signature	e/Aff	iliatio	on)	J		<u> </u>	Date	Time
WI JAK DINGHA	7/29/1/	1615	A	en D	Ð.,	<u>.</u>	_				7/29/56	1615
Reinquished by: (Signature/Affliation)	Date	Time	Receiv	ed by: (Signature	e/Aff	iliatio	on)				Date	Time
	:											
Relinquished by: (Signature/Affiliation)	Date	Time	Receiv	red by: (Signature	e/Aff	iliatio	on)				Date	Time
Report To: O. 12 Wathrolm	L	<u> </u>	Bill to:									
Report To: Owen Kottredge				525 West Th			et					
Welta U				Hanford, CA Attention:				- Z	0	X		
			<u></u>								12 50	03 1/90
WHITE: Return to Client with Report	YELLOW: Labo	oratory C	ору	PINK: Origina	ator	Cop	у				32 40	V4 1170

### **ENCLOSURE E**

Copies of Analytical Reports from Soil Samples Collected on July 31, 1996

500 Giuseppe Court, Suite 9

Roseville, CA 95678 Phone#: (916) 773-3664 Fax#: (916) 773-4784



#### **ANALYSIS REPORT**

Attention: Mr. Owen Kittredge Delta Environmental 3164 Gold Camp Dr. Rancho Cordova, Ca		ental p Drive, Suite 200	Date Sampled : Date Received: TPHd Analyzed:	07-31-96 07-31-96 07-31-96
Project #: D095-967			Matrix:	
		TPHd REPORTING LIMIT <u>PPM</u>	TPHd ANALYSIS RESULT <u>PPM</u>	
Sample:	4 .:0 .:			
Laboratory I	dentification:			1
SP-1E,F,G,I S0796748	H	1.0	ND	•
SP-2E,F,G,I S0796749	H	5.0	ND	
SP-6A,B,C, S0796752	D	2.0	ND	

TPHd-Total petroleum hydrocarbons as diesel (high boiling points) are measured by extraction using EPA Method 3550 followed by modified EPA 8015 with direct sample injection into a GC equipped with an FID.

ANALYTICAL PROCEDURES

ND = Not detected. Compound(s) may be present at concentrations below the reporting limit.

Laboratory Representative

Date Reported

08-02-96

### EXCELCHEM

#### **ENVIRONMENTAL LABS**

500 Giuseppe Court, Suite 9 Roseville, CA 95678





Attention:	Delta Environme 3164 Gold Camp	Mr. Owen Kittredge Delta Environmental 3164 Gold Camp Drive, Suite 200 Rancho Cordova, CA 95670		Date Sampled : Date Received: BTEX Analyzed: TPHg Analyzed:			1-96 1-96 1-96 1-96
Project #:	D095-967	Matrix:			Soil		
Reporting Li	mit:	Benzene PPM 0.50	Toluene PPM 0,50	Ethyl- benzene <u>PPM</u> 0.50	Total Xylenes <u>PPM</u> 0.50	TPHg <u>PPM</u> 50	
Sample: Laboratory I	dentification:						
OE-10 S0796743		ND	0.602	8.69	44.3	586	

ppm = parts per million = mg/Kg = milligrams per Kilogram

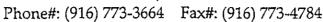
Laboratory Representative

#### ANALYTICAL PROCEDURES

BTEX- Benzene, toluene, ethylbenzene, and total xylene isomers (BTEX) are measured by extraction using EPA Method 5030 followed by analysis using EPA Method 8020 which utilizes a gas chromatograph (GC) equipped with a photoionization detector (PID). TPHg-Total petroleum hydrocarbons as gasoline (low to medium boiling points) are measured by extraction using EPA Method 5030. followed by modified EPA Method 8015 which utilizes a GC equipped with a FID.

ND = Not detected. Compound(s) may be present at concentrations below the reporting limit.

500 Giuseppe Court, Suite 9 Roseville, CA 95678





#### **ANALYSIS REPORT**

Attention:	Mr. Owen Kittredge Delta Environmental 3164 Gold Camp Drive, Suite 200 Rancho Cordova, CA 95670		Date Sampled: Date Received: BTEX Analyzed: TPHg Analyzed:			07-31-96 07-31-96 07-31-96 07-31-96		
Project #:	D095-967		Mat	Matrix:				
Reporting Lin	nit:	Benzene <u>PPM</u> 1.30	Toluene PPM 1.30	Ethylbenzene PPM 1.30	Total Xylenes <u>PPM</u> 1.30	TPHg <u>PPM</u> 130		
Sample:								
Laboratory Id	lentification:							
OE-1P S0796744		ND	4.14	31.9	181	1540		

ppm = parts per million = mg/Kg = milligrams per Kilogram

aboratory Representative

#### ANALYTICAL PROCEDURES

BTEX—Benzene, toluene, ethylbenzene, and total xylene isomers (BTEX) are measured by extraction using EPA Method 5030 followed by analysis using EPA Method 8020 which utilizes a gas chromatograph (GC) equipped with a photoionization detector (PID).

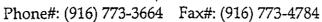
TPHg—Total petroleum hydrocarbons as gasoline (low to medium boiling points) are measured by extraction using EPA Method 5030, followed by

modified EPA Method 8015 which utilizes a GC equipped with a FID.

<u>08-01-96</u>

ND = Not detected. Compound(s) may be present at concentrations below the reporting limit.

500 Giuseppe Court, Suite 9 Roseville, CA 95678





#### **ANALYSIS REPORT**

Mr. Owen Kittred	lge	Date	e Sampled :		07+31-	-96
Delta Environmen	ıtal	Date	e Received:		07-31-	-96
3164 Gold Camp	Drive, Suite 200	BTI	EX Analyzed	<b>:</b>	07-31-	-96
•	•	TPI	Ig Analyzed:	:	07-31-	-96
D095-967	Matrix:				Soil	
	Benzene	Toluene	Ethyl- benzene	Total Xylenes	TPHg	
Reporting Limit:		<u>PPM</u> 0.60	<u>PPM</u> 0.60	<u>PPM</u> 0.60	60	
				<del></del>		
dentification:						
	ND	ND	2.27	9.06	325	
	Delta Environmer 3164 Gold Camp Rancho Cordova, D095-967 mit:	Delta Environmental 3164 Gold Camp Drive, Suite 200 Rancho Cordova, CA 95670  D095-967  Benzene PPM 0.60  dentification:	Delta Environmental Date 3164 Gold Camp Drive, Suite 200 BTT Rancho Cordova, CA 95670 TPF D095-967 Mar Benzene Toluene PPM PPM pPM 0.60 0.60 dentification:	Delta Environmental  3164 Gold Camp Drive, Suite 200 Rancho Cordova, CA 95670  D095-967  Matrix:  Ethyl- Benzene Toluene benzene PPM PPM PPM D0.60  dentification:	Delta Environmental  3164 Gold Camp Drive, Suite 200 Rancho Cordova, CA 95670  D095-967  Matrix:  Ethyl- Total Benzene Toluene benzene Xylenes PPM PPM PPM PPM D.60 0.60 0.60 0.60  dentification:	3164 Gold Camp Drive, Suite 200 BTEX Analyzed: 07-31 Rancho Cordova, CA 95670 TPHg Analyzed: 07-31  D095-967 Matrix: 5  Ethyl- Total Benzene Toluene benzene Xylenes TPHg  PPM PPM PPM PPM PPM PPM 0.60 0.60 0.60 0.60 60  dentification:

ppm = parts per million = mg/Kg = milligrams per Kilogram

ND = Not detected. Compound(s) may be present at concentrations below the reporting limit.

#### ANALYTICAL PROCEDURES

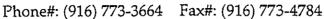
BTEX—Benzene, toluene, ethylbenzene, and total xylene isomers (BTEX) are measured by extraction using EPA Method 5030 followed by analysis using EPA Method 8020 which utilizes a gas chromatograph (GC) equipped with a photoionization detector (PID).

TPHg—Total petroleum hydrocarbons as gasoline (low to medium boiling points) are measured by extraction using EPA Method 5030, followed by modified EPA Method 8015 which utilizes a GC equipped with a FID.

Laboratory Representative

\_\_\_\_

500 Giuseppe Court, Suite 9 Roseville, CA 95678





#### **ANALYSIS REPORT**

Attention:	Mr. Owen Kittredge	•	Date Sampled:			07+31-96	
	Delta Environmenta	1	Date Received:			07+31-9	6
3164 Gold Camp D		rive, Suite 200	BTI	EX Analyzed		07+31-96	
	Rancho Cordova, C	A 95670	TPHg Analyzed:			07+31-96	
Project #:	D095-967		Mat	Sc	oil		
		Benzene <u>PPM</u>	Toluene <u>PPM</u>	Ethyl- benzene <u>PPM</u>	Total Xylenes <u>PPM</u>	TPHg PPM	
Reporting Lin	nit:	0.650	0.650	0.650	0.650	65.0	
Sample:							
Laboratory Id	lentification:					,	
OE-1R S0796746		ND	0.733	14.5	63.4	1270	

ppm = parts per million = mg/Kg = milligrams per Kilogram

ND = Not detected. Compound(s) may be present at concentrations below the reporting limit.

#### ANALYTICAL PROCEDURES

BTEX- Benzene, toluene, ethylbenzene, and total xylene isomers (BTEX) are measured by extraction using EPA Method 5030 followed by analysis using EPA Method 8020 which utilizes a gas chromatograph (GC) equipped with a photoionization detector (PID).

TPIIg-Total petroleum hydrocarbons as gasoline (low to medium boiling points) are measured by extraction using EPA Method 5030, followed by modified EPA Method 8015 which utilizes a GC equipped with a FID.

Laboratory Representative

08-02-96
Date Reported

500 Giuseppe Court, Suite 9 Roseville, CA 95678

Phone#: (916) 773-3664 Fax#: (916) 773-4784



#### ANALYSIS REPORT

Date Sampled: Mr. Owen Kittredge Attention: 07-31-96 Date Received: Delta Environmental 07-31-96 3164 Gold Camp Drive, Suite 200 BTEX Analyzed: 07-31,08-01-96 Rancho Cordova, CA 95670 TPHg Analyzed: 07-31,08-01-96

Project #:

D095-967

Matrix:

Soil

Reporting Limit:	Benzene PPM 0.005	Toluene PPM 0.005	Ethyl- benzene <u>PPM</u> 0.005	Total Xylenes <u>PPM</u> 0.005	TPHg <u>PPM</u> 1.0
Sample:					r
Laboratory Identification: OE-1J S0796738	ND	ND	ND	ND	ND
OE-1H S0796665	ND	ND	ND	ND	ND
OE-1S S0796747	ND	ND	ND	0.017	ND
SP-1E,F,G,H S0796748	ND	ND	0.008	0.081	2.26
SP-2E.F.G,H S0796749	ND	ИD	0.006	0.065	4.82
SP-6A,B,C,D S0796752	0.012	0.094	0.023	0.250	1.48 -

ppm = parts per million = mg/Kg = milligrams per Kilogram

#### ANALYTICAL PROCEDURES

BTEN- Benzene, toluene, ethylbenzene, and total sylene isomers (BTEN) are measured by extraction using EPA Method 5030 followed by analysis using EPA Method 8020 which utilizes a gas chromatograph (GC) equipped with a photoionization detector (PID). TPHIg-Total petroleum hydrocarbons as gasoline (low to medium boiling points) are measured by extraction using EPA Method 5030, followed by modified EPA Method 8015 which utilizes a GC equipped with a FID.

aboratory Representative

08-02-96 Date Reported

EXCELCHEM ENVIRONMENTAL LABS IS CERTIFIED BY THE STATE OF CALIFORNIA DEPARTMENT OF HEALTH SERVICES AS A HAZARDOUS WASTE TESTING LABORATORY (Certification No. 1760, 2119)

ND = Not detected. Compound(s) may be present at concentrations below the reporting limit.

500 Giuseppe Court, Suite 9 Roseville, CA 95678

Phone#: (916) 773-3664 Fax#: (916) 773-4784



#### **ANALYSIS REPORT**

Attention:	Mr. Owen Kittredge		Date Sampled:			07-31-96		
	Delta Environmental		Date	Received:		07+3	1-96	
	3164 Gold Camp Drive, Suite 200		BTE	X Analyzed:		08-01-96		
	Rancho Cordova, C.	•	TPHg Analyzed:			0840	1-96	
Project #:	D095-967	Matrix:				Soil		
		Benzene <u>PPM</u>	Toluene <u>PPM</u>	Ethyl- benzene <u>PPM</u>	Total Xylenes <u>PPM</u>	TPHg PPM		
Reporting Lim	it:	0.130	0.130	0.130	0.130	13.0		
Sample:		-						
Laboratory Ide	entification:							
SP-3E,F,G,H S0796750		ND	0.198	0.382	2.17	50.0	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	

ppm = parts per million = mg/Kg = milligrams per Kilogram

ND = Not detected. Compound(s) may be present at concentrations below the reporting limit.

#### ANALYTICAL PROCEDURES

BTEX- Benzene, toluene, ethylbenzene, and total xylene isomers (BTEX) are measured by extraction using EPA Method 5030 followed by analysis using EPA Method 8020 which utilizes a gas chromatograph (GC) equipped with a photoionization detector (PID).

TPHg-Total petroleum hydrocarbons as gasoline (low to medium boiling points) are measured by extraction using EPA Method 5030, followed by modified EPA Method 8015 which utilizes a GC equipped with a FID.

Laboratory Representative

08-02-96
Date Reported

### EXCELCHEM

#### **ENVIRONMENTAL LABS**

500 Giuseppe Court, Suite 9 Roseville, CA 95678 Phone#: (916) 773-3664 Fax#: (916) 773-4784



#### **ANALYSIS REPORT**

Attention:	Mr. Owen Kittredge		Date Sampled:			07+31-96	
	Delta Environmental		Date	Received:		07+31-96	
	3164 Gold Camp Drive, Suite 200		BTE	X Analyzed:		08-01-96	
Rancho Cordova,		•				08-01-96	
Project #:	D095-967 Matrix:				Soil		
		Benzene <u>PPM</u>	Toluene <u>PPM</u>	Ethyl- benzene <u>PPM</u>	Total Xylenes <u>PPM</u>	TPHg <u>PPM</u>	
Reporting Lim	it:	0.650	0.650	0.650	0.650	65.0	
Sample:							
Laboratory Ide	entification:					,	
SP-3I,J,K,L S0796751		ND	0.175	2.39	12.6	244	

ppm = parts per million = mg/Kg = milligrams per Kilogram

Laboratory Representative

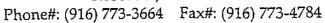
ND = Not detected. Compound(s) may be present at concentrations below the reporting limit.

#### ANALYTICAL PROCEDURES

BTEX- Benzene, toluene, ethylbenzene, and total xylene isomers (BTEX) are measured by extraction using EPA Method 5030 followed by analysis using EPA Method 8020 which utilizes a gas chromatograph (GC) equipped with a photoionization detector (PID). TPHg-Total petroleum hydrocarbons as gasoline (low to medium boiling points) are measured by extraction using EPA Method 5030, followed by

modified EPA Method 8015 which utilizes a GC equipped with a FID.

500 Giuseppe Court, Suite 9 Roseville, CA 95678





#### **ANALYSIS REPORT**

Attention:	Mr. Owen Kittredge Delta Environmental 3164 Gold Camp Drive, Suite 200 Rancho Cordova, CA 95670		Date Sampled: Date Received: BTEX Analyzed: TPHg Analyzed:			07-31-96 07-31-96 07-31-96 07-31-96
Project #:	D095-967	Matrix:				Soil
December 1 in	:	Benzene PPM 0.50	Toluene PPM 0.50	Ethylbenzene PPM 0.50	Total Xylenes <u>PPM</u> 0.50	TPHg <u>PPM</u> 50
Reporting Lim Sample:	<u> </u>	0.50	0.50	0.50	0.50	<del>- 50</del>
Laboratory Ide	entification:					
OE-11 S0796737		ND	0.78	3.15	17.2	188

ppm = parts per million = mg/Kg = milligrams per Kilogram

aboratory Representative

ND = Not detected. Compound(s) may be present at concentrations below the reporting limit.

#### ANALYTICAL PROCEDURES

BTEX—Benzene, toluene, ethylbenzene, and total xylene isomers (BTEX) are measured by extraction using EPA Method 5030 followed by analysis using EPA Method 8020 which utilizes a gas chromatograph (GC) equipped with a photoionization detector (PID).

TPHg—Total petroleum hydrocarbons as gasoline (low to medium boiling points) are measured by extraction using EPA Method 5030, followed by modified EPA Method 3015 which utilizes a GC equipped with a FID.

08-02-96

500 Giuseppe Court, Suite 9 Roseville, CA 95678

Phone#: (916) 773-3664 Fax#: (916) 773-4784



#### **ANALYSIS REPORT**

Attention:	Mr. Owen Kittredge Delta Environmental 3164 Gold Camp Drive, Suite 200 Rancho Cordova, CA 95670		Date Sampled: Date Received: BTEX Analyzed: TPHg Analyzed:			07-31-96 07-31-96 07-31-96 07-31-96	
Project #:	D095-967		Mat	! ! !	Soil		
Reporting Li	mit:	Benzene PPM 0.40	Toluene PPM 0.40	Ethyl- benzene <u>PPM</u> 0.40	Total Xylenes <u>PPM</u> 0.40	TPHg PPM 25	,
Sample:							
Laboratory I	dentification:						
OE-1K S0796739		ND	6.89	10.3	57.3	630	

ppm = parts per million = mg/Kg = milligrams per Kilogram

aboratory Representative

ND = Not detected. Compound(s) may be present at concentrations below the reporting limit.

#### ANALYTICAL PROCEDURES

BTEX—Benzene, toluene, ethylbenzene, and total xylene isomers (BTEX) are measured by extraction using EPA Method 5030 followed by analysis using EPA Method 8020 which utilizes a gas chromatograph (GC) equipped with a photoionization detector (PID).

TPHg—Total petroleum hydrocarbons as gasoline (low to medium boiling points) are measured by extraction using EPA Method 5030, followed by modified EPA Method 8015 which utilizes a GC equipped with a FID.

08-02-96

500 Giuseppe Court, Suite 9 Roseville, CA 95678

Phone#: (916) 773-3664 Fax#: (916) 773-4784



#### **ANALYSIS REPORT**

Attention:  Project #:	Delta Environmental 3164 Gold Camp Drive, Suite 200 Rancho Cordova, CA 95670		Date Sampled: Date Received: BTEX Analyzed: TPHg Analyzed: Matrix:			07-31-96 07-31-96 07-31-96 07-31-96		
Reporting Lir	nit:	Benzene PPM 0.050	Toluene <u>PPM</u> 0.050	Ethyl- benzene <u>PPM</u> 0.050	Total Xylenes <u>PPM</u> 0.050	TPHg PPM 10		
Sample: Laboratory Id						,		
OE-1L S0796740		ND	ND	0.068	0.544	24.8		
OE-1N* S0796742		ND	5.19	8.74	47.4	540		

ppm = parts per million = mg/Kg = milligrams per Kilogram

aboratory Representative

#### ANALYTICAL PROCEDURES

BTEX—Benzene, toluene, ethylbenzene, and total xylene isomers (BTEX) are measured by extraction using EPA Method 5030 followed by analysis using EPA Method 8020 which utilizes a gas chromatograph (GC) equipped with a photoionization detector (PID).

TPHg—Total petroleum hydrocarbons as gasoline (low to medium boiling points) are measured by extraction using EPA Method 5030 followed by modified EPA Method 8015 which utilizes a GC equipped with a FID.

<u>08-02-96</u>

ND = Not detected. Compound(s) may be present at concentrations below the reporting limit.

 <sup>=</sup> Poor surrogate recovery due to matrix interferences

500 Giuseppe Court, Suite 9 Roseville, CA 95678 Phone#: (916) 773-3664 Fax#: (916) 773-4784



#### ANALYSIS REPORT

Attention:	Mr. Owen Kittredge		Date Sampled:			07-31-96	
	Delta Environmental	Date Received:				07 <sub>1</sub> -31-96	
3164 Gold Camp D Rancho Cordova, C		ve, Suite 200	BTE	X Analyzed:		07-31-96	
		95670	TPHg Analyzed:			07-31-96	
Project #:	D095-967		Mati	Soil			
		Benzene <u>PPM</u>	Toluene <u>PPM</u>	Ethyl- benzene <u>PPM</u>	Total Xylenes <u>PPM</u>	TPHg <u>PPM</u>	
Reporting Lin	nit:	0.025	0.025	0.025	0.025	5.0	
Sample:							
Laboratory Id	entification:						
OE-1M* S0796741		ND	NDD	0.025	0.287	60.9	

ppm = parts per million = mg/Kg = milligrams per Kilogram

ND = Not detected. Compound(s) may be present at concentrations below the reporting limit.

#### ANALYTICAL PROCEDURES

BTEX- Benzene, toluene, ethylbenzene, and total xylene isomers (BTEX) are measured by extraction using EPA Method 5030 followed by analysis using EPA Method 8020 which utilizes a gas chromatograph (GC) equipped with a photoionization detector (PID).

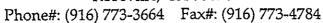
TPHg-Total petroleum hydrocarbons as gasoline (low to medium boiling points) are measured by extraction using EPA Method 5030, followed by modified EPA Method 8015 which utilizes a GC equipped with a FID.

Laboratory Representative

\_\_08-02-96 Date Reported

<sup>\* =</sup> Poor surrogte recovery due to matrix interferences.

500 Giuseppe Court, Suite 9 Roseville, CA 95678





### **ANALYSIS REPORT**

Attention:	Mr. Owen Kittredge Delta Environmental 3164 Gold Camp Drive, Suite 200 Rancho Cordova, CA 95670	Date Sampled: Date Received: TOG Analyzed:	07±31-96 07±31-96 07-31-96
Project #:	D095-967	Matrix:	Soil
		TOG <u>PPM</u>	
Reporting Lir	nit:	50	<u> </u>
Sample:			
Laboratory Id	lentification:		
OE-1J S0796738		ND	
OE-1L S0796740		78	
OE-1M S0796741		126	1
SP-1E.F,G.H S0796748		56	
SP-2E,F,G,H S0796749		292	
SP-6A,B,C,D S0796752	illion = mark a = millioname nec Kilogram	134	

ppm = parts per million = mg/Kg = milligrams per Kilogram

ND = Not detected. Compound(s) may be present at concentrations below the reporting limit.

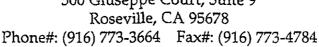
#### ANALYTICAL PROCEDURES

TOG- Total oil and grease is measured by Standard Method 5520B, 18th Edition.

aboratory Representative

08-02-96
Date Reported

500 Giuseppe Court, Suite 9 Roseville, CA 95678





#### QA/QC REPORT

Attention:

Mr. Owen Kittredge

Date Analyzed:

07-31-96

Delta Environmental

Matrix:

Soil

3164 Gold Camp Drive, Suite 200 Rancho Cordova, CA 95670

Project #:

D095-967

Reporting Limit:	Benzene PPM 0.005	Toluene PPM 0.005	Ethyl- benzene <u>PPM</u> 0.005	Total Xylenes PPM 0.005
QA/QC PARAMETER				,
Matrix Blank	ND	ND	ND	ND
PERCENT RECOVERIES				
Matrix Spike	98%	99%	97%	98%
Matrix Spike Duplicate	104%	104%	103%	104%

ppm = parts per million = mg/Kg = milligram per kilogram

All surrogate recoveries were within 30% of target values.

Spikes & Spike Duplicates were each spiked with 250 ng BTEX standard.

#### ANALYTICAL PROCEDURES

BTEX- Benzene, toluene, ethylbenzene, and total xylene isomers (BTEX) are measured by extraction using EPA Method 5030 followed by analysis using EPA Method 8020 which utilizes a gas chromatograph (GC) equipped with a photoionization detector (PID).

ND = Not detected. Compound(s) may be present at concentrations below the reporting limit.

500 Giuseppe Court, Suite 9 Roseville, CA 95678 Phone#: (916) 773-3664 Fax#: (916) 773-4784



#### **QA/QC REPORT**

Attention:	Mr. Owen Kittredge Delta Environmental 3164 Gold Camp Drive, Suite 200 Rancho Cordova, CA 95670	Date Analyzed: Matrix:	08-01-96 Soil
Project #:	D095-967		
Reporting Li	imit·	TOG <u>PPM</u> 50	
Kepol thig Li	HIRL.		······································
QA/QC PA	RAMETER		
Matrix Blank	k	ND	
PERCENT	RECOVERIES		
Laboratory	Control Spike	130%	
Laboratory Duplicate	Control Spike	126%	

ppm = parts per million = mg/Kg = milligram per kilogram

aboratory Representative

ND = Not detected. Compound(s) may be present at concentrations below the reporting limit.

Spikes & Spike Duplicates were each spiked with 50mg of motor oil.

ANALYTICAL PROCEDURES

TOG- Total oil and grease is measured gravimetrically by Standard Method 5520B, 18th Edition.

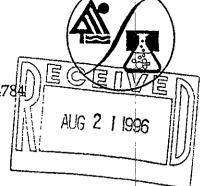
08-02-96
Date Reported

### EXCELCHEM

#### **ENVIRONMENTAL LABS**

500 Giuseppe Court, Suite 9 Roseville, CA 95678

Phone#: (916) 773-3664 Fax#: (916) 773-4



#### ANALYSIS REPORT

Attention:

Mr. Owen Kittredge

Date Sampled:

07-31-96

Delta Environmental

Date Received:

07-31-96

3164 Gold Camp Drive, Suite 200

Date Analyzed:

08-14-96

Rancho Cordova, CA 95670

Project #:

D095-967

Matrix:

Soil

Sample:

SP-1 E,F,G,H

Lab Id:

S0796748

8240 GCMS	Measured Value (ug/Kg)	Reporting Limit (ug/Kg)		Measured Value (ug/Kg)	Reporting Limit (ug/Kg)
1.1 Diahlamathana	NID	•	Carbon Disulfide	ND	:
1,1-Dichloroethane	ND				بر ج
1,1-Dichloroethene	ND	2	Carbon Tetrachloride	ND	Ą
1,1,1-Trichloroethane	ND	5	Chlorobenzene	ND	5
Dichlorodifluoromethane	ND	5	Chloroethane	ND	5
1,1,2,2-Tetrachloroethane	ND	5	Chloroform	ND	5
1,2-Dichloroethane	ND	5	4-Methyl-2-pentanone	ND	5
1,2-Dichloropropane	ND	5	cis-1,3-Dichloropropene	ND	3
trans-1,2-Dichloroethene	ND	5	Dibromochloromethane	ND	5
1,2-Dichlorobenzene	ND	5	Ethylbenzene	19	5
1,3-Dichlorobenzene	ND	5	Methylene chloride	ND	3
1,4-Dichlorobenzene	ND	5	Styrene	ND	\$
Iodomethane	ND	5	Tetrachloroethene	ND	\$
M+P-Xylene	56	5	Toluene	9	\$
O-Xylene	67	5	trans-1,3-Dichloropropene	ND	\$
Benzene	ND	5	Trichloroethene	ND	\$
Bromodichloromethane	ND	5	Trichlorofluoromethane	ND	\$
Bromoform	ND	5	Vinyl chloride	ND	\$
Bromomethane	ND	5	·		

ppb = Parts per billion= ug/Kg = micrograms per Kilogram

ND = Not detected. Compound(s) may be present at concentrations below the reporting limit.

Surrogate Recovery -

1,2-Dichloroethane d-4 = 87%

Toluene d-8

= 99%

4-Bromotluorobenzene = 92%

Date Reported

Labokatory Representative

500 Giuseppe Court, Suite 9 Roseville, CA 95678

Phone#: (916) 773-3664 Fax#: (916) 773-4784



#### **ANALYSIS REPORT**

Attention:

Mr. Owen Kittredge

Date Sampled:

07-31-96

Delta Environmental

Date Received:

07-31-96

3164 Gold Camp Drive, Suite 200

Date Analyzed:

08-14-96

Rancho Cordova, CA 95670

D095-967

Matrix:

Soil

Sample:

Project #:

SP-2 E,F,G,H

Lab Id:

S0796749

8240 GCMS	Measured Value (ug/Kg)	Reporting Limit (ug/Kg)		Measured Value (ug/Kg)	Reporting Limit (ug/Kg)
1,1-Dichloroethane	ND	10	Carbon Disulfide	ND	10
l, I-Dichloroethene	ND	10	Carbon Tetrachloride	ND	10
1,1,1-Trichloroethane	ND	10	Chlorobenzene	+15	10
Dichlorodifluoromethane	ND	10	Chloroethane	ND	10
1,1,2,2-Tetrachloroethane	+185	10	Chioroform	ND	10
1,2-Dichloroethane	ND	10	4-Methyl-2-pentanone	ND	10
1,2-Dichloropropane	ND	10	cis-1,3-Dichloropropene	ND	10
trans-1,2-Dichloroethene	ИD	10	Dibromochloromethane	ND	10
1,2-Dichlorobenzene	ND	10	Ethylbenzene	54	10
1,3-Dichlorobenzene	ND	10	Methylene chloride	ND	10
1,4-Dichlorobenzene	ND	10	Styrene	ИD	10
Iodomethane	ND	10	Tetrachloroethene	ND	10
M+P-Xylene	199	10	Toluene	ND	10
O-Xylene	#417	10	trans-1,3-Dichloropropene	ND	10
Benzene	ND	10	Trichloroethene	ND	10
Bromodichloromethane	ND	10	Trichlorotluoromethane	ND	10
Bromoform	ND	10	Vinvl chloride	ND	10
Bromomethane	ND	10			- T

ppb = Parts per billion= ug/Kg = micrograms per Kilogram

Surrogate Recovery -

1,2-Dichloroethane d-4 = 87%

Toluene d-8

= 98%

4-Bromotluorobenzene = 199%\*

aboratory Representative

ND = Not detected. Compound(s) may be present at concentrations below the reporting limit.

<sup># =</sup> Beyond linear range of detection.

<sup>- =</sup> Qualifier ions present but not in the proper rations due to hydrocarbon contamination.

<sup>=</sup> Surrogate recovery beyond QA/QC limits due to matrix interferences.

500 Giuseppe Court, Suite 9 Roseville, CA 95678

Phone#: (916) 773-3664 Fax#: (916) 773-4784



#### **ANALYSIS REPORT**

Attention:	Mr. Owen Kittredge	Date Sampled:	07-31-96
	Delta Environmental	Date Received:	07-31-96
	3164 Gold Camp Drive, Suite 200	Date Analyzed:	08-14-96
	Rancho Cordova, CA 95670		
Project #:	D095-967	Matrix:	Soil

Sample:

SP-6 A,B,C,D

Lab Id:

S0796752

8240 GCMS	Measured Value (ug/Kg)	Reporting Limit (ug/Kg)		Measured Value (ug/Kg)	Reporting Limit (ug/Kg)
5:11	\ <b>T</b> D	-	Out Divisi	<b>.</b>	· -
1,1-Dichloroethane	ND	2	Carbon Disulfide	ND	2
1,1-Dichloroethene	ND	2	Carbon Tetrachloride	ND	5
1,1,1-Trichloroethane	ND	)	Chlorobenzene	ND	5
Dichlorodifluoromethane	ND	2	Chloroethane	ND	5
1,1,2,2-Tetrachloroethane	ND	5	Chloroform	ND	5
1,2-Dichloroethane	ND	5	4-Methyl-2-pentanone	ND	5
1,2-Dichloropropane	ND	5	cis-1,3-Dichloropropene	ND	5
trans-1,2-Dichloroethene	ND	5	Dibromochloromethane	ND	15
1,2-Dichlorobenzene	ND	5	Ethylbenzene	ND	5
1,3-Dichlorobenzene	ND	5	Methylene chloride	ND	.5
1.4-Dichlorobenzene	ИD	5	Styrene	ND	5
Iodomethane	ИD	5	Tetrachloroethene	ND	5
M+P-Xylene	15	5	Toluene	5	5
O-Xylene	44	5	trans-1,3-Dichloropropene	ND	5
Benzene	ND	5	Trichloroethene	ND	5
Bromodichloromethane	ND	5	Trichlorofluoromethane	ND	5
Bromotorm	ND	5	Vinyl chloride	ND	5
Bromomethane	ND	5	•		

ppb = Parts per billion= ug/Kg = micrograms per Kilogram

ND = Not detected. Compound(s) may be present at concentrations below the reporting limit.

Surrogate Recovery -

1,2-Dichloroethane d-4 = 86%

Toluene d-8 = 100% 4-Bromotluorobenzene = 93%

aboratory Representative

500 Giuseppe Court, Suite 9 Roseville, CA 95678 Phone#: (916) 773-3664 Fax#: (916) 773-4784



#### **QA/QC REPORT**

Attention:

Mr. Owen Kittredge

Date Analyzed:

08-14-96

Delta Environmental

Matrix:

Soil

3164 Gold Camp Drive, Suite 200

Rancho Cordova, CA 95670

Project #:

D095-967

Compound	Matrix Spike % Recovery	Matrix Spike Duplicate % Recovery
1,1-dichloroethene	87%	85%
trichloroethene	92%	93%
chlorobenzene	90%	93%
toluene	92%	94%
benzene	89%	93%

#### ANALYTICAL PROCEDURES

HV—Halogenated Volatiles are measured using EPA Method 8240 which utilizes a purge and trap interfaced to a gas chromatograph ( $\oplus$ C) equipped with a mass spectrometer.

Laboratory Representative

500 Giuseppe Court, Suite 9 Roseville, CA 95678

Phone#: (916) 773-3664 Fax#: (916) 773-4784



#### **ANALYSIS REPORT**

Attention: Mr. Owen Kittredge Date Sampled: 07-31-96
Delta Environmental Date Received: 07-31-96
3164 Gold Camp Drive, Suite 200 Date Analyzed: 08-15-96
Rancho Cordova, CA 95670
Project #: D095-967 Matrix: Soil

Sample Id#: SP-1 E,F,G,H Lab Id: S0796748

EPA METHOD 6010	Measured Value (mg/Kg)	Reporting Limit (mg/Kg)	
Antimony (Sb)	0.67	0.25	
Arsenic (As)	5.8	0.25	
Barium (Ba)	182	0.05	
Beryllium (Be)	ND	0.05	
Cadmium (Cd)	ND	0.15	
Chromium (Cr)	59	0.15	
Cobalt (Co)	17	0.15	
Copper (Cu)	49	0.15	
Lead (Pb)	10	0.25	
Mercury (Hg)*	ND	0.10	
Molybdenum (Mo)	1.1	0.25	
Nickel (Ni)	86	0.15	
Selenium (Se)	0.63	0.25	
Silver (Ag)	ИD	0.05	
Thallium (Tl)	3.8	0.25	
Vanadium (V)	61	0.15	
Zinc (Zn)	78	0.50	

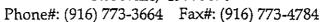
ppm = Parts per million = mg/Kg = milligram per Kilogram

ND = Not detected. Compound(s) may be present at concentrations below the reporting limit.

\* = Analysis by EPA Method 7471.

Laboratory Representative

500 Giuseppe Court, Suite 9 Roseville, CA 95678





#### ANALYSIS REPORT

Attention:	Mr. Owen Kittredge	Date Sampled:	07-31 <b>-</b> 96
	Delta Environmental	Date Received:	07-31-96
	3164 Gold Camp Drive, Suite 200	Date Analyzed:	08⊦15-96
	Rancho Cordova, CA 95670	•	
Project #:	D095-967	Matrix:	Soil

Sample Id#: SP-2 E,F,G,H Lab Id: S0796749

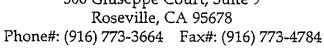
EPA METHOD 6010	Measured Value (mg/Kg)	Reporting Limit (mg/Kg)	
Antimony (Sb)	0.75	0.25	
Arsenic (As)	7.1	0.25	
Barium (Ba)	145	0.05	
Beryllium (Be)	0.059	0.05	
Cadmium (Cd)	ND	0.15	
Chromium (Cr)	51	0.15	
Cobalt (Co)	14	0.15	
Copper (Cu)	42	0.15	
Lead (Pb)	8.9	0.25	
Mercury (Hg)*	0.11	0.10	
Molybdenum (Mo)	1.6	0.25	
Nickel (Ni)	67	0.15	
Selenium (Se)	0.95	0.25	
Silver (Ag)	0.10	0.05	
Thallium (Tl)	4.1	0.25	
Vanadium (V)	59	0.15	1
Zinc (Zn)	73	0.50	

ppm = Parts per million = mg/Kg = milligram per Kilogram
ND = Not detected. Compound(s) may be present at concentrations below the reporting limit.

\* = Analysis by EPA Method 7471.

Laboratory Representative

500 Giuseppe Court, Suite 9 Roseville, CA 95678





#### **ANALYSIS REPORT**

Attention:	Mr. Owen Kittredge	Date Sampled :	07-31-96
	Delta Environmental	Date Received:	07-31-96
	3164 Gold Camp Drive, Suite 200	Date Analyzed:	08-15-96
	Rancho Cordova, CA 95670		i
Project #:	D095-967	Matrix:	Soil
0 1 7 1 11	an cun an		

Sample Id#:

SP-6 A,B,C,D

Lab Id:

S0796752

EPA METHOD 6010	Measured Value (mg/Kg)	Reporting Limit (mg/Kg)	
Antimony (Sb)	1.2	0.25	! !
Arsenic (As)	6.1	0.25	
Barium (Ba)	192	0.05	1
Beryllium (Be)	ND	0.05	
Cadmium (Cd)	ND	0.15	
Chromium (Cr)	107	0.15	
Cobalt (Co)	19	0.15	!
Copper (Cu)	42	0.15	
Lead (Pb)	9.9	0.25	
Mercury (Hg)*	ND	0.10	!
Molybdenum (Mo)	0.94	0.25	
Nickel (Ni)	120	0.15	
Selenium (Se)	0.57	0.25	1
Silver (Ag)	0.32	0.05	:
Thallium (Tl)	4.3	0,25	!
Vanadium (V)	71	0.15	!
Zine (Zn)	83	0.50	

ppm = Parts per million = mg/Kg = milligram per Kilogram

ND = Not detected. Compound(s) may be present at concentrations below the reporting limit.

\* = Analysis by EPA Method 7471.

Laboratory Representative

500 Giuseppe Court, Suite 9 Roseville, CA 95678 Phone#: (916) 773-3664 Fax#: (916) 773-4784



#### OA/OC REPORT

Attention:

Mr. Owen Kittredge

Date Analyzed:

08+15-96

Unit =  $mg\Kg$ 

7%

6%

Delta Environmental

Matrix:

Soil

3164 Gold Camp Drive, Suite 200

Rancho Cordova, CA 95670

Project #:

 $(\nabla)$ 

(Zn)

D095-967

MS/MSD RECOVERIES

	Sample	Spike		MS%	<u> </u>	MSD%	%
Element	Conc.	Conc.	MS	Recovery	MSD	Recovery	RPD
(Sb)	0.67	125	78	62%	77	61%	1%
(As)	5.8	125	104	79%	110	83%	6%
(Ba)	182	125	320	110%	340	126%	14%
(Be)	ND	125	98	78%	100	80%	2%
(Cd)	ND	125	94	75%	97	78%	3%
(Cr)	59	125	168	87%	223	131%	40%
(Co)	17	125	116	79%	122	84%	6%
(Cu)	49	125	161	90%	170	97%	8%
(Pb)	10	125	103	74%	108	78%	5% ,
(Mo)	1.1	125	104	82%	108	86%	4%
(Ni)	86	125	191	84%	201	92%	9%
(Se)	0.63	125	86	68%	91	72%	6%
(Ag)	ND	125	124	99%	129	103%	4%
(T1)	3.8	125	102	79%	107	83%	5%

94%

66%

ppm = parts per million = mg/Kg = milligram per kilogram

61

78

ND = Not detected. Compound(s) may be present at concentrations below the reporting limit.

178

161

125

125

Labdratory Representative

08-16-96 Date Reported

186

166

100%

70%

500 Giuseppe Court, Suite 9 Roseville, CA 95678

Phone#: (916) 773-3664 Fax#: (916) 773-4784



#### QA/QC REPORT

Attention:

Mr. Owen Kittredge

Date Analyzed:

08+15-96

Delta Environmental

Matrix:

Soil

3164 Gold Camp Drive, Suite 200

Rancho Cordova, CA 95670

Project #:

(Hg)

D095-967

MS/MSD RECOVERIES

aboratory Representative

Unit =  $mg\Kg$ 

MS% MSD% % Sample Spike Element Conc. Conc. MS Recovery MSD Recovery RPD 7% ND 0.83 0.93 112% 1.00 120%

ppm = parts per million = mg/Kg = milligram per kilogram

ND = Not detected. Compound(s) may be present at concentrations below the reporting limit.

08-16-96

Excelchem  Environmental Labs  500 Giuseppe Court, Suite 9 Roseville, Ca. 95678 (916) 773-3664										CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST																		
Project Manager: Pho Wen Kathredgo, (916)						one #: (2)638-2085					A	NA	LYS	YSIS REQUEST									908	[	TAT			
Company Address: A., Le 200 FA 31 A Grad Condon, A B670 (9)																				1 1		TAL (*						1 wk)
Project Number:	4	P.O.#:			ject Na					800			<u>r.</u>							<u>≩</u>		1					4 h.	٥
D\$95-96=	7	······································	Fe	mer	···		546			2/80		E.	0 B/6							nitib	of c to	Gla					01(2)	24 8 28 A
Project Location	15510n Blu CAT-	el	2/	/ Sa	mpler S	Signature:	5			Gasoline (602/8020/8015)		Total Oil & Grease (5520 B/E,F)	Total Oil & Grease IR (5520 B/E, F, C) 96 - Hour Fish Bioassav			Pesticides	28s			Reactivity, Corrosivity, Ignitibility	CAM - 17 Metals  FPA - Priority Pollutant Metals	/239.2)					RUSH SERVICE (12 hr) or (24 hr)	SERVICE (48 hr SERVICE (2wk)
Sample	Samp	oling	Container		1	ethod served	Matrix	ζ	32/8020)	Has Ga	)ii (8015)	& Greas	Total Oil & Grease IR (55 96 - Hour Fish Bioassav	/8010	/8020 /8150	'	EPA 608/8080-PCBs	/8270	ORGANIC LEAD	Reactivity, Corre	/ Metals	LEAD(7420/7421/239.2)	b, Zn, Ni				SERVIC	TED SE ARD SE
ID	DATE	TIME	VOA	1L GLASS	H HOS	ICE	WATER	(a	(602/8020)	BTEX/TPH as	TPH as Oil (8015)	Total Oil	Total Oil	EPA 601/8010	EPA 602/8020	EPA 608/8080	EPA 608/8080	EPA 625/8270	ORGAN	Reactivi	EDA D	LEAD(74	Cd, Cr, Pb,				RUSH	EXPEDITED STANDARD
9E-1I(185)	7/31/9/0	0100	ュ			X		(*)					_							30	> 7	9	6	7/3	17			
	7/3/196	1035	1			X				$X_{-}$		X												73	8			
DE-1K(21)	7/3/196	1050	Z			X				X_							_	<u> </u>				_		73	,9			
7. 7	9/3/96	1215	1							<u> </u>		X.	_ _				_ _	_		_ _	$\perp$	_		7 4	D			$\perp \downarrow$
DE-1M (10')	731/16	1235	1			X	K			XL.		XI.	_ _							_	1	1_		74		_ _		$\perp$
E-IN (22')	73196	1220	1						(	XI_		$\perp$	_ _				_ _			<u>5 0</u>	2/	19		14	2	_ _		_ _
E-10 (12)	73196	1310	1						_  }	$X_{\perp}$			1				$\perp$	1		$\perp$	1	<u> </u>		74	3		<u> </u>	<b>↓</b>
E-1P (121)	7/31/96	1330	1						/	Χ[_			_ _			-	_ _	_ _			_	- -		74	141	_	.  _	_ _
-10(12)	7/3/96	1335	1			X,	X			X _		_ _	_ _	Ш				-		_	_ _		_	7 4	5	_ _	_ _	
-1R(121)	7/3/196	1340	1	.     _		X_			_{	<u> </u>	_	_	_ _				_ _	_		_ _	- -	1_		14	9			_ _
-15 (12')	7/31/96	1575	エ						_{_}}	$\mathbb{Q}_{-}$										Sc	2 /	19	<u> </u>	/ 4	]_/			_L
Relinquished b		7/31/	Date Time Received by:							<del></del>	<del></del> -		Remarks: Mobile Lab Ou-Fire										1e	· •				
Relinquished b	у	1, 1		Received by:							Serples rec'd throughout day bey make BILLTO: 7- FOX 2300 C											ا (.ما <sub>د</sub>	و_لي	 				
Relinquished b	·Y	D	ate Ti	me	Rec	eived by	Laboratory	 /:					В	iu T	o:	7	- ,	Eo	V	•		J-		2 30	0	clai	lon	DR.
,	<u>,                                      </u>	7/31/	,	<del>-</del>		. J.	Jan.	<u> </u>	·							, (	Ü	410	r M	101	<u>ک</u> ر	Zi.	2		_			

Excelchem  Environmental Labs  500 Giuseppe Court, Suite 9 Roseville, Ca. 95678 (916) 773-3664										CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST																				
Project Manager: Phone #:  Quen Kithredge (916) 638-2085							_	ANALYSIS REQUEST														TAT								
Co					V #.																-		E.T.(	I					<i>,</i>	T wk)
Project Number: DØ95-96		P.O.#:	£.	Pro	ject N	lame:	546			050/80			JE,F,C								ibility	1	SIR					14	(24 hr	(F) (S)
Project Location:		hod .	U	Sai	npler	Signature:			0,000,	Gasoline (602/8020/8015)		Total Oil & Grease (5520 B/E,F)	Total Oil & Grease IR (5520 B/E,F,C)	loassay			Pesticides				Reactivity, Corrosivity, Ignitibility	1000	EFA - Priority Pollutant Metals				BO010132		RUSH SERVICE (12 hr) ok(24 hr)	EXPEDITED SERVICE (48 hr) Or (1 wk) STANDARD SERVICE (2wk)
/ Sample	Samp		Cont	ainer		lethod eserved	Matrix	Matrix		as Ga	(8015)	k Greas	& Grea	8010	8020		8080 - P	8240	8270	CLEAD	ly, Corr	Metals	20/7421	b, Zn, N			BO		ERVIC	TED SI
ID	DATE	TIME	VOA SLEEVE	1L GLASS	H S S S S S S	ICE	WATER		BTEX (602/8020)	TPH as Diesel	TPH as OII (8015)	Total Oil	Total Oil & Grease IR (55	EPA 601/8010	EPA 602/8020	EPA 615/	EPA 608/8080 - Pest	EPA 624/8240	EPA 625/8270	ORGANIC LEAD	Reactivi	CAM - 17 Metals	LEAD(74	Cd, Cr, Pb, Zn, Ni			]_		i 1	EXPEDI STAND,
-15F,6,H	7/31/14	1570	48							XX		X									50	) -	79	عا	7	4	8	-	X	_
-25FGH -35FGH	43196	1545 VoVD	48		-				/  X		<del> </del>	V		-		$\dashv$	-	<del> </del>			+	#	<del> </del>	-	7	<del>  _</del>	0	_	+	-
325 KL	43196	1610	4						X												5		79	وا	7	5	1			
1 ( 1 ( 1 )								_ .	-	/		M		_			-				ر ح	_ _	70	-	7	6	_ -	- -		_
-6ABGD	7/31/96	1730	4-						- Z				_	-		+	-		H	-	<u>5</u>	2 _	<u>79</u>	<u></u>	1	5	<u> </u>	-	Y	
																_ -											_			
					-			_	$\perp$							+	+	-		$\dashv$	_	- -	- -	-	-		-	-		-
		-				111-			_	-	$\left  \cdot \right $					-		-		-	-	_	_					-		1-1
Relinquished by:  Date Time Received by:								Remarks:  Samples recid throughout day by																						
Relinquished b	y y	D.	ate Ti	me	Re	ceived by:						╡.	c.	الهسد	حعا	7	وده	J	<b>th</b>	( ØJ4	المحا	.1.	J.	درم)	U b~					
Rolinguished h				ma	- Ba	Descined by Laboratory							BILL TO: Torm FOX																	
Relinquished by Date Time					Received by Laboratory:									BIII TO: Terry Fox cutramar, Tuc.																